# THE BOUNDARY WATERS TREATY: AHEAD OF ITS TIME, AND OURS

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## I. INTRODUCTION

Seen in the light of modern international environmental law, most of the 1909 Boundary Waters Treaty[1] seems very much of its time. The great majority of its provisions concern not environmental protection, but freedom of navigation and regulation of diversions, the concerns of the early twentieth century. Although the treaty was remarkably innovative in how it addressed those concerns, especially through the mandates it provided the International Joint Commission (IJC), its goal was to allow Canada and the United States to use their boundary waters in ways that would not unduly interfere with one another, not to ensure that the ecosystems they shared remained healthy.[2]

The exception to the Treaty's general lack of attention to the environment is Article IV, which provides "that the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other."[3] On its face, the prohibition on transboundary environmental harm in Article IV looks like a harbinger of the international environmental movement that began six decades later. Transboundary

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1. Treaty Between the United States and Great Britain Relating to Boundary Waters between the United States and Canada, Jan. 11, 1909, 36 Stat. 2449 (hereinafter Boundary Waters Treaty).

2. *See* Stephen J. Toope & Jutta Brunnée, *Freshwater Regimes: The Mandate of the International Joint Commission*, 15 ARIZ. J. INT'L & COMP. L. 273, 278 (1998); Richard B. Bilder, *Controlling Great Lakes Pollution: A Study in United States-Canadian Environmental Cooperation*, 70 MICH. L. REV. 469, 481 (1972).

3. Boundary Waters Treaty, *supra* note 1, art. IV.

harm has been the subject of almost all international environmental treaties in the last forty years, from those addressing threats to the environment of the entire planet, such as climate change and ozone depletion, to those addressing regional environmental degradation, such as long-range air pollution and pollution of shared bodies of water, to bilateral agreements focusing on harm crossing a single international boundary.[4]

The norm underlying these agreements may have been best expressed in Principle 21 of the 1972 Stockholm Declaration:

> States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, *and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.*[5]

This prohibition on transboundary environmental harm has been echoed in subsequent declarations and treaties.[6] Many scholars consider

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4. *See, e.g.*, United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107; Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997; Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, 1513 U.N.T.S. 293 (hereinafter Vienna Convention); Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 1522 U.N.T.S. 3; UNECE Convention on Long-Range Transboundary Air Pollution, Nov. 13, 1979, 1302 U.N.T.S. 217; Espoo Convention on Environmental Impact Assessment in a Transboundary Context, Feb. 25, 1991, 30 I.L.M. 800 (1991) (hereinafter Espoo Convention); Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution, Feb. 16, 1976; La Paz Agreement on Cooperation for the Protection and Improvement of the Environment in the Border Area, Aug. 14, 1983, U.S.-Mex., 22 I.L.M. 1025 (1983); Agreement on Air Quality, Mar. 13, 1991, U.S.-Can., 30 I.L.M. 676 (1991) (hereinafter Air Quality Agreement).

5. United Nations Conference on the Human Environment, June 5-16, 1972, Declaration of the United Nations Conference on the Human Environment, U.N. Doc. A/CONF.48/14, Principle 21 (June 16, 1972) (hereinafter Stockholm Declaration) (emphasis added). Although the two clauses might be thought to cancel one another out, the second is read as limiting the first, not only because doing so is necessary to make sense of the language, but also because that appears to have been the negotiators' intent. *See* Louis B. Sohn, *The Stockholm Declaration on the Human Environment*, 14 HARV. INT'L L. J. 423, 492 (1973).

6. *See, e.g.*, United Nations Conference on Environment and Development, June 3-14, 1992, Rio Declaration on Environment and Development, Principle 2, U.N. DOC. A/CONF.151/5/Rev.1, Principle 2 (June 14, 1992), 31 I.L.M. 874 (1992); Framework Convention on Climate Change, *supra* note 4, pmbl.; Vienna Convention, *supra* note 4, pmbl.; UNECE Convention on Long-Range Transboundary Air Pollution, *supra* note 4,

it to be not only part of customary international law,[7] but the cornerstone of all of international environmental law.[8]

Principle 21 is undoubtedly given pride of place because of its adoption at the first major UN conference on the environment at the dawn of the modern environmental movement. However, it has antecedents, the most important being the 1941 decision of the tribunal in the *Trail Smelter* arbitration between Canada and the United States.[9] The governments had asked the tribunal to determine, *inter alia*, whether a smelter in British Columbia should refrain from causing transboundary damage in Washington State.[10] Its famous reply was that "no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence."[11]

If *Trail Smelter* is a parent of Principle 21, then Article IV of the Boundary Waters Treaty is a grandparent. The provisions are not identical. Article IV is limited to water pollution, and its specification that injury must occur to "health or property" strongly suggests that the drafters were concerned only with pollution that causes identifiable harm to human interests, rather than to the environment *qua* environment. In both respects, Principle 21 is broader, applying to all types of environmental damage. Nevertheless, there is a strong resemblance. Article IV's strict prohibition on harmful transboundary water pollution foreshadows Principle 21's prohibition on all transboundary environmental harm. In fact, Principle 21 and Article IV may seem to resemble one another more closely than either resembles *Trail Smelter*,

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pmbl.; Espoo Convention, *supra* note 6, art. 2(1); United Nations Convention on the Law of the Sea, Dec. 10, 1982, arts. 193, 194(2), 1833 U.N.T.S. 3; Convention on Biological Diversity, art. 3, June 5, 1992, 31 I.L.M. 818 (1992).

7. *See, e.g.*, DAVID HUNTER, JAMES SALZMAN & DURWOOD ZAELKE, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 321, 345 (West 1998); EDITH BROWN WEISS, STEPHEN C. MCCAFFREY, DANIEL BARSTOW MAGRAW, PAUL C. SZASZ & ROBERT E. LUTZ, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 317 (Aspen 1998). *See also* PHILIPPE SANDS, PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW 190 (Cambridge Univ. Press 1995); ALEXANDRE KISS & DINAH SHELTON, INTERNATIONAL ENVIRONMENTAL LAW 130 (Hotei Publ'g 1991).

8. *See* SANDS, *supra* note 7, at 186; BROWN WEISS, *supra* note 7, at 316.

9. *Trail Smelter Arbitral Tribunal Decision*, 35 AM. J. INT'L 684 (1941) (hereinafter *Trail Smelter*).

10. Convention between the United States of America and the Dominion of Canada relative to the Establishment of a Tribunal to Decide Questions on Indemnity & Future Regime Arising From the Operation of Smelter at Trail, British Columbia, Apr. 15, 1935, 49 Stat. 3245.

11. *See Trail Smelter*, *supra* note 9, at 716.

since neither includes *Trail Smelter's* procedural requirement for "clear and convincing evidence" or its substantive standard of "serious consequence."[12]

Article IV and Principle 21 have more in common than their apparently absolute prohibitions on transboundary harm. Both receive less than full compliance from states, which continue to allow pollution to cross borders. With respect to Principle 21, states have responded to this gap between prohibition and performance by making clear that, as a general matter, it requires states only to exercise due diligence and states may decide for themselves what diligence is due. States have also supplanted Principle 21 with more specific obligations in the context of particular types of transboundary harm, which limit the scope of states' self-judgment as to whether they have undertaken due diligence.

Canada and the United States have also elaborated Article IV by adopting a due diligence approach and more specific obligations. But they have combined the two, creating standards that are more specific than Article IV but that states need exercise only due diligence to meet. Worse, they have failed to apply even these standards to boundary waters other than the Great Lakes. As a result, their performance remains far short of the standard set by Article IV. Article IV seems not only ahead of its time, but ahead of ours as well.

## II. THE DISCREPANCY BETWEEN POLLUTION AND PROHIBITION

Scholars have noted for years that a problem with the view of Principle 21 as a norm of customary international law is that states' customary practice does not support it, at least not if it is read literally as an obligation to *ensure* that activities within states' jurisdiction do not cause transboundary harm to the environment. Pollution routinely crosses borders without states' acting as if international law has been violated as a result.[13] Similarly, Canada and the United States have failed to meet the terms of Article IV if it is read as an absolute requirement to prevent all injury to health or property resulting from transboundary water pollution. But there is an important difference between the two types of failure: a general failure by states to prevent transboundary environmental harm merely undercuts the status of Principle 21 as a norm of customary law; a failure to prevent harmful transboundary water

12. Boundary Waters Treaty, *supra* note 1, art. IV.

13. *See* Daniel Bodansky, *Customary (and Not So Customary) International Environmental Law*, 3 IND. J. GLOBAL LEG. STUD. 105, 110-11 (1995); Oscar Schachter, *The Emergence of International Environmental Law*, 44 J. INT'L AFFAIRS 457, 462-63 (1991).

pollution seems to place both Canada and the United States in violation of their obligations under the Boundary Waters Treaty.

Despite serious efforts by the governments to address water quality in the Great Lakes, most importantly through the Great Lakes Water Quality Agreement,[14] transboundary pollution continues. In its most recent comprehensive report on Great Lakes water quality, the IJC concluded that while "the Lakes today are less polluted than they were decades ago . . . toxic, human, animal, and industrial wastes, as well as pharmaceuticals and airborne substances, continue to pollute our Lakes. Ongoing urban development, invasive species and climate change present additional challenges."[15] The IJC has concluded that the Water Quality Agreement is inadequate to address these problems and has recommended that the governments replace it "with a new, more action-oriented Agreement . . . [that would] address a broader array of stressors that impact on the quality of the waters of the Great Lakes basin ecosystem."[16]

The IJC has often identified problems with waters outside the Great Lakes as well, even though they are outside the scope of the Great Lakes Water Quality Agreement and regular IJC monitoring. For example, the IJC recently studied the water quality of the Missisquoi Bay, on the border of Vermont and Quebec, and concluded that it "presents an unacceptable situation that is adversely affecting health and property in both countries and constitutes a threat to the health of Lake Champlain."[17] The problem is due primarily to phosphorous pollution, about sixty percent of which is thought to come from the United States side of the border.[18] Many instances of pollution of transboundary waters similarly involve pollution from both countries, but some are more one-

14. Agreement on Great Lakes Water Quality, Nov. 22, 1978, U.S.-Can., 30 U.S.T. 1383, *reprinted in* 30 I.L.M. 676 (as amended 1983) (hereinafter Great Lakes Water Quality Agreement).

15. International Joint Commission, *Thirteenth Biennial Report on Great Lakes Water Quality*, at 1, Dec. 2006, *available at* http://www.ijc.org/php/publications/pdf/ID1601.pdf (last visited on Apr. 27, 2009).

16. *Advice to Governments on Their Review of the Great Lakes Water Quality Agreement*, at 1, Aug. 2006, *available at* http://www.ijc.org/rel/pdf/advicefinalwc.pdf (last visited on Apr. 27, 2009).

17. *Transboundary Impacts of the Missisquoi Bay Causeway and the Missisquoi Bay Bridge Project* (Feb. 2005), at 1, *available at* http://www.ijc.org/php/publications-/pdf/ID1570.pdf (last visited on Apr. 27, 2009). *See also id.* at 10 ("It is clear that water quality in Missisquoi Bay is of extremely poor quality. Indeed, the water is of such poor quality that it poses a hazard to the health and property of the residents of the bay.").

18. International Missisquoi Bay Task Force, *Final Report to the International Joint Commission*, at 9, *in Transboundary Impact of the Missisquoi Bay Causeway and the Missisquoi Bay Bridge Project*, *supra* note 17, app. 3.

sided. A recent example is the pollution of the Columbia River by the same smelter in Trail, British Columbia, whose air emissions were the subject of the arbitration in the 1930s and 1940s.[19] For about ninety years, until 1995, the smelter annually discharged thousands of tons of slag that flowed across the border to Washington State, where it now decays and "releases arsenic, cadmium, copper, zinc, and lead into the environment, causing harm to human health and the environment."[20] Perhaps surprisingly, most of the scholarly attention devoted to *Trail Smelter II* has focused on the attempt to subject the smelter to liability under domestic U.S. law, rather than the apparent decades-long violation of Article IV.[21]

Transboundary air pollution continues as well. IJC reports indicate that despite some success in reducing certain types of pollution under the Canada-U.S. Air Quality Agreement, much more remains to be done.[22] For example, Ontario attributes more than half of its air pollution to U.S. sources, and blames the transboundary air pollution for 14,000 emergency room visits, more than $5.2 billion in health and

19. Pakootas v. Teck Cominco Metals, Ltd., 452 F.3d 1066 (9th Cir. 2006). *See* Austen L. Parrish, *Trail Smelter Deja Vu: Extraterritoriality, International Environmental Law, and the Search for Solutions to Canadian-U.S. Transboundary Water Pollution Disputes*, 85 B.U. L. REV. 363, 366 (2005) ("As a result of the dumping, in the early 1990s the Trail smelter discharged more toxic waste into the Columbia River than all other polluters combined discharged into all other Washington State rivers.").

20. *Pakootas*, 452 F.3d at 1070.

21. *See, e.g.*, Austen L. Parrish, *The Effects Test: Extraterritoriality's Fifth Business*, 61 VAND. L. REV. 1455, 1475-76 (2008); Randall S. Abate, *Dawn of a New Era in the Extraterritorial Application of U.S. Environmental Statutes: A Proposal for an Integrated Judicial Standard Based on the Continuum of Context*, 31 COLUM. J. ENVTL. L. 87, 120-24, 134 (2006); Shi-Ling Hsu & Austen L. Parrish, *Litigating Canada-U.S. Transboundary Harm: International Environmental Lawmaking and the Threat of Extraterritorial Reciprocity*, 48 VA. J. INT'L L. 1, 37-39 (2007); Noah D. Hall, *Transboundary Pollution: Harmonizing International and Domestic Law*, 40 U. MICH. J. L. REFORM 681, 732-36 (2007); Michael J. Robinson-Dorn, *The Trail Smelter: Is What's Past Prologue? EPA Blazes a New Trail for CERCLA*, 14 N.Y.U. ENVTL. L. J. 233 (2006). *But see* Parrish, *supra* note 19, at 423 (stating that if the United States brought a claim against Canada to arbitration under the Boundary Waters Treaty, the only issue would be the amount of damages, because liability under the Treaty is clear).

22. Canada-U.S. Air Quality Agreement Progress Report 2006, *available at* http://www.ec.gc.ca/cleanair-airpur/caol/canus/report/2006canus/toc_e.cfm (last visited on Apr. 27, 2009) ("[B]oth countries recognize that additional efforts are necessary to address ongoing human health and environmental problems, particularly in highly sensitive areas and within the Canada-United States transboundary region.") (hereinafter 2006 Air Quality Progress Report); International Joint Commission, Synthesis of Public Comment on the 2006 Progress Report under the Canada-United States Air Quality Agreement, at v, *available at* http://www.ijc.org/php/publications/pdf/ID1606.pdf (last visited on Apr. 27, 2009) ("[M]ost [commentators] agreed that much more needs to be accomplished to mitigate transboundary air pollution, as stated in the report itself.").

environmental damages, and over 2700 premature deaths every year.[23] Transboundary air pollution is not subject to Article IV, of course, and in that sense differs from the continuing water pollution across the U.S.-Canada border, which does seem to place both countries in violation of their obligation under the Boundary Waters Treaty.

## III. PRINCIPLE 21 AND INTERNATIONAL ENVIRONMENTAL LAW

To try to salvage Principle 21 as a norm of customary international law, scholars have softened it in two ways: they have read the prohibition as speaking only to harm that is "significant"[24] or "substantial,"[25] and "as reflecting an obligation of performance . . . rather than an obligation of result."[26] In other words, they have read the norm as requiring states to undertake due diligence to prevent significant or substantial transboundary harm from activities within their jurisdiction or control, rather than ensuring that no such harm occurs. While these formulations leave many questions unanswered, they indicate that not all transboundary environmental degradation is prohibited,[27] which has the effect of closing, at least partially, the gap between the continuing presence of transboundary environmental degradation and the apparent prohibition on it.

The Stockholm Declaration that included Principle 21 is not itself a binding legal instrument, and when governments have included versions of Principle 21 in later instruments that are binding, they have often softened it by placing it in a preambular paragraph rather than in the

23. Ontario Ministry of the Environment News Release, *Government of Ontario Joins Legal Fight to Protect the Province's Air Quality*, May 10, 2006, *available at* http://www.ene.gov.on.ca/envision/news/2006/051001.pdf (last visited on Apr. 27, 2009) *See generally* Hsu & Parrish, *supra* note 21, at 25-28.

24. *See e.g.*, RESTATEMENT (THIRD) OF THE FOREIGN RELATIONS LAW OF THE UNITED STATES § 601 (1987); Kamen Sachariew, *The Definition of Thresholds of Tolerance for Transboundary Environmental Injury Under International Law: Development and Present Status*, 37 NETH. INT'L L. REV. 193, 196 (1990).

25. *See e.g.*, Experts Group on Environmental Law of the World Commission on Environment and Development, *Our Common Future: Summary of Proposed Legal Principles for Environmental Protection and Sustainable Development*, 75 (art. 10) (1987); International Law Association, Rules of International Law Applicable to Transfrontier Pollution, art. 3(1), *Report of the 60th Conference* (1982).

26. John H. Knox, *The Myth and Reality of Transboundary Environmental Impact Assessment*, 96 AM. J. INT'L L. 291, 293 (2002).

27. *See* Owen McIntyre, *The Role of Customary Rules and Principles of International Environmental Law in the Protection of Shared International Freshwater Resources*, 46 NAT. RESOURCES J. 157, 170 (2006) ("[F]ew who support the status of this obligation as a rule of customary international law would argue that it prohibits all transboundary harm.").

operative provisions of the agreement,[28] including it in the text as a "principle,"[29] or rewriting the language to give countries more discretion. In the Espoo Convention on Transboundary Environmental Impact Assessment, for example, the parties agreed that they "shall, *either individually or jointly*, take all *appropriate* and *effective* measures to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities."[30] Similarly, in the La Paz Agreement on protection of the Mexico-U.S. border environment, the parties undertook "*to the fullest extent practical*, to adopt the *appropriate* measures to prevent, reduce and eliminate sources of pollution in their respective territory which affect the border area of the other."[31]

The effect is to make clear that the obligation as one of due diligence rather than of result. If these standards were subject to interpretations that were legally binding, or even non-binding but authoritative, they might become more concrete and specific. But states have been very reluctant to provide for such interpretations.[32] The intended result is that each state has a great deal of discretion to decide for itself what level of diligence is due. Unsurprisingly, states usually find that they are not required to do more than they are already doing.

This is not the entire story of international environmental law, however. In particular instances, states have elaborated on this general, inchoate duty to prevent transboundary harm by negotiating much more detailed obligations in binding agreements. States have developed a regime to address depletion of the ozone layer, for example, that does not depend on their simply undertaking due diligence to prevent transboundary harm to the ozone layer. Instead, the Montreal Protocol sets out very specific steps parties must take to reduce and eliminate their production of certain ozone-depleting substances. It includes timetables, deadlines, differentiated obligations for developed and developing countries, restrictions on trade, provisions for exceptions, funds for

28. *E.g.*, United Nations, Framework Convention on Climate Change, *supra* note 4; Vienna Convention, *supra* note 4; Convention on Long-Range Transboundary Air Pollution, *supra* note 4; Air Quality Agreement, *supra* note 4.

29. Convention on Biological Diversity, *supra* note 6, art. 3.

30. Espoo Convention, *supra* note 4, art. 2(1) (emphasis added).

31. La Paz Agreement, *supra* note 4, art. 2.

32. *See* John H. Knox, *A New Approach to Compliance with International Environmental Law: The Submissions Procedure of the NAFTA Environmental Commission*, 28 ECOLOGY L.Q. 1, 5-6 (2001).

countries that need assistance, and mechanisms to penalize countries that do not comply.[33]

International environmental law has thus developed Principle 21 through subsequent agreement on more specific standards, rather than through judicial adjudication or interpretation of Principle 21 itself or subsequent restatements of its language. The effect is to avoid the due-diligence escape hatch that allows states to judge for themselves how much diligence is due. States are willing to agree to specific standards only when the political and technical conditions are right, and a complete assessment of those conditions is beyond the scope of this essay.[34] Moreover, international environmental regimes may be useful even if they do not contain such specific, binding commitments, as Stephen Toope and Jutta Brunnée, among others, have explained.[35] The point here is merely that even though governments have been unwilling to agree to a concrete commitment in international law to prevent all transboundary environmental harm and have resisted third-party oversight of even a softer obligation to undertake due diligence to that end, they have nevertheless agreed to specific, verifiable obligations that prevent certain types of transboundary harm.

## IV. ARTICLE IV AND THE LAW OF THE U.S.-CANADIAN BORDER

At first sight, the U.S.-Canadian norms on transboundary harm appear to have followed a similar trajectory to the norms in international environmental law: an apparently absolute prohibition later elaborated by more specific standards. The standards developed in the North American context differ from those exemplified by the Montreal Protocol, however, in that Canada and the United States are required only to undertake due diligence to meet them. In this respect, they remain softer obligations. Moreover, Canada and the United States have applied detailed standards for water pollution only to the Great Lakes, leaving other transboundary waters subject to Article IV alone. This creates a strange dichotomy, in which the later, more detailed rules governing the Great Lakes appear less rigorous than the older, more general norm that continues to apply to all waters along the border.

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33. *See* U.N. Environmental Programme, Handbook for the Montreal Protocol on Substances That Deplete the Ozone Layer (7th ed. 2006), *available at* http://ozone.unep.org/Publications/Handbooks/MP_Handbook_2006.pdf (last visited Apr. 27, 2009).

34. For an important effort in that direction focusing on the Montreal Protocol, see Scott Barrett, ENVIRONMENT AND STATECRAFT (Oxford Univ. Press 2005).

35. Jutta Brunnée & Stephen J. Toope, *Environmental Security and Freshwater Resources: Ecosystem Regime Building*, 91 AM. J. INT'L L. 26 (1997).

Like Principle 21, Article IV provides a basis for limiting its scope to significant or substantial harm. Where Principle 21 refers to "damage," Article IV refers to "the injury of health or property." Like "damage," the term "injury" may be read as requiring something more than *de minimus* harm. Also, like Principle 21, Article IV does not offer a clear basis for reading the obligation as one of due diligence rather than of result. Nevertheless, due diligence norms have emerged as the Canadian and U.S. governments have agreed on more specific standards.

These standards have developed largely as a result of requests from the governments that the IJC investigate and report on particular questions involving pollution of boundary waters pursuant to Article IX of the treaty, which provides for the referral of issues to the IJC by the governments.[36] While IJC reports "shall in no way have the character of an arbitral award," Article IX authorizes the IJC to make conclusions and recommendations.[37] The first of the references concerning transboundary pollution occurred only a few years after the treaty entered into force. In 1912, the governments asked the IJC to examine transboundary pollution of boundary waters, apparently in connection with outbreaks of typhoid fever in communities along the Great Lakes and connecting waters.[38] In its report, the IJC concluded that pollution was "very intense along the shores of the Detroit and Niagara Rivers," imperiling "the health and welfare of the citizens of both countries in direct contravention of the treaty."[39] At the same time, the IJC read the language of Article IV as less than absolute. It made clear that the reference to "injury" in Article IV:

> does not mean mere harm or damage, but harm or damage which is in excess of the amount of harm or damage which the sufferer, in view of all the circumstances of the case, and of all the coexistent rights . . . and of the paramount importance of human health and life, should reasonably be called upon to bear.[40]

The report indicated that under some circumstances, the reasonable approach would be for the "injured" state to remedy the harm by

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36. Boundary Waters Treaty, *supra* note 1, art. IX (providing for the referral of border issues arising between the countries to the IJC "for examination and report," at the request of either government).

37. *Id.*

38. *See* Bilder, *supra* note 2, at 489-90.

39. *Id.* at 490 (quoting IJC, *Final Report on the Pollution of Boundary Waters Reference* 51 (1918)).

40. *Final Report on the Pollution of Boundary Waters Reference*, *supra* note 39, at 34.

assuming the financial burden, in which case there would be no "injury" at all within the meaning of the treaty.[41] It thus incorporated an interest-balancing, rule-of-reason approach reminiscent of domestic nuisance law, according to which whether an activity is a nuisance calls for the consideration of several factors, of which the severity of the harm is only one.

This first report thus indicated a possible way that the absolute language of Article IV might be relaxed. In later references, however, the IJC took a very different approach to transboundary water pollution. In the 1940s, the governments asked the IJC to investigate pollution of the channels connecting the Great Lakes: Lake St. Clair and the St. Clair, Detroit, St. Marys, and Niagara Rivers.[42] The investigation revealed pollution from the discharge of domestic and industrial waste.[43] But rather than couch its recommendations in the general, interest-balancing language it had used thirty years earlier, the IJC recommended specific "Objectives for Boundary Water Quality Control."[44] These "objectives" were water quality standards, which in the IJC's view had to be met in order to maintain the waters "in a satisfactory condition."[45] As Richard Bilder has said, this approach was a major advance in the treatment of water pollution; the U.S. government later adopted it in the Water Quality Act of 1965, a precursor to the 1972 amendments to federal law that became the Clean Water Act.[46] The IJC continued to adopt water quality standards in later references involving transboundary water pollution,[47] and the standards became more detailed. For example, in its 1968 report on pollution of the Red River, the IJC sought water quality:

> [S]uch that after treatment by conventional purification processes, it will be safe for human consumption; will not cause damage to property; will permit its use for industrial cooling . . . will permit the propagation and life of fish species . . . will

41. *Id.* at 33-34. *See* Duncan B. Hollis, *Disaggregating Devils Lake: Can Non-State Actors, Hegemony, or Principal-Agent Theory Explain the Boundary Waters Treaty?*, *in* RESPONSIBILITY OF INDIVIDUALS, STATES AND INTERNATIONAL ORGANIZATIONS 32, 54 (Canadian Council on International Law ed., 2007).

42. In 1946, the governments agreed on a reference to the IJC for the water bodies other than the Niagara River; they added the Niagara in 1948. Bilder, *supra* note 2, at 492-93.

43. *Id.*

44. International Joint Commission, *Report on the Pollution of Boundary Waters* 4 (1951).

45. Bilder, *supra* note 2, at 493.

46. *Id.* at 492-93.

47. *See id.* at 494-95 (describing references to IJC concerning pollution in St. Croix River Basin, Rainy River, and the Lake of the Woods).

> permit its use by livestock and wildlife without inhibition or injurious effects; will permit its use for irrigation without adverse effects upon crops or vegetation; and will be suitable for boating and fishing.[48]

Perhaps the most important of all the IJC reports on transboundary water pollution was its comprehensive evaluation of pollution in Lake Erie, Lake Ontario, and the international section of the St. Lawrence River, which was issued in response to a 1964 reference.[49] After "the most extensive water pollution study to be undertaken anywhere to date," involving the work of twelve government agencies and several hundred experts, the IJC issued a final report in 1970 that included not only a comprehensive evaluation of the problem, but also specific recommendations and a list of proposed "water quality objectives."[50] The report's recommendations and standards became the basis for the 1972 Great Lakes Water Quality Agreement.[51] Through the expansion of the agreement in 1978 and its amendments in 1983 and 1987, water quality standards have remained at its core. Article III of the agreement sets out general objectives, such as keeping the waters "[f]ree from materials . . . that alone, or in combination with other materials, will produce conditions that are toxic or harmful to human, animal, or aquatic life."[52] Article IV refers to and Annex 1 sets out specific objectives, expressed in numeric terms, for particular substances. For example, Annex 1 provides that "[t]he concentration of chlordane in water should not exceed 0.06 micrograms per litre for the protection of aquatic life."[53]

In effect, the IJC reports and the Great Lakes Water Quality Agreement replaced the absolute prohibition of Article IV with more specific water quality standards. This shift was beneficial in many ways. It would not have been realistic for the IJC to insist that the governments prevent all transboundary pollution, regardless of the technical and economic feasibility of doing so. The adoption of specific standards gave the governments workable goals and made it possible for others, including the IJC, to assess whether the governments were meeting those goals. These advantages came at a cost. The specific standards replaced an (admittedly unworkable) obligation of result with an obligation of

48. Hollis, *supra* note 41, at 18 n.90 (quoting International Joint Commission, *Report on the Pollution of the Red River* 27 (1968)).

49. International Joint Commission, *Pollution of Lake Erie, Lake Ontario and the International Section of the St. Lawrence River* (1970).

50. Bilder, *supra* note 2, at 496, 499. *See id.*

51. Great Lakes Water Quality Agreement, *supra* note 14.

52. *Id.* art. III.

53. *Id.* Annex 1.

performance. The Water Quality Agreement does not place the parties under an absolute obligation to meet the water quality standards it sets out. It does require the parties to take certain steps, but on the whole their duty to meet the standards is one of due diligence. For example, Article VI of the agreement provides: "The Parties, in cooperation with State and Provincial Governments, shall continue to develop and implement programs and other measures to fulfill the purpose of this Agreement and to meet the General and Specific Objectives."[54] Although Article VI lists the types of programs to be developed, it leaves the details, including the emissions standards necessary to meet the water quality standards, to the parties themselves to determine.[55] The Air Quality Agreement of 1991 similarly employs "air quality objectives," which are even less stringent, since they do little more than require each party to comply with its own domestic laws.[56]

The difference between this approach and the one taken by agreements like the Montreal Protocol is enormous. While the Montreal Protocol requires governments to reduce production of certain harmful substances by specific amounts (and even to ban production of some substances entirely), the Great Lakes Water Quality Agreement requires states only to try to achieve certain standards of water quality. Under the former approach, states' duties are effectively obligations of result: if they fail to reduce the production of the specified substances by the set amounts, then they fail to meet their legal obligation. Under the latter approach, if the water quality standards are not met, then the states have not necessarily failed to meet their legal obligations; they can argue that they tried in good faith to do so but were unsuccessful.

Governments could, of course, invest the due diligence obligation with more specificity if they chose to enter into more specific agreements. Alternatively, they could allow their obligations to be interpreted by an authoritative body, such as the IJC. The governments have shown little or no interest in either approach. The IJC has regularly

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54. *Id.* art. VI.

55. *Id. See also id* art. IV(1)(f) (recognizing that there are areas in the Great Lakes where one or more of the objectives of the agreement are not being met, and stating that "the Parties . . . shall *identify and work toward* the elimination of [certain areas of concern and critical pollutants listed in Annex 2]"); *id.* art. V ("The Parties shall use their *best efforts* to ensure that water quality standards and other regulatory requirements of the State and Provincial Government shall . . . be consistent with the achievement of these Objectives.") (emphasis added); David LeMarquand, *The International Joint Commission and Changing Canada-United States Boundary Relations*, 33 NAT'L RESOURCES J. 59, 71 (1993) (stating that the agreement allows each side to "formulate its own program using its best efforts to meet the objectives.").

56. Air Quality Agreement, *supra* note 4.

urged the governments to give it a greater role in overseeing their compliance with their obligations to prevent transboundary harm, and the governments have just as regularly declined. In the negotiation of the Boundary Waters Treaty itself, Canada suggested that the IJC be given authority to police Article IV; the United States refused. In the IJC's report on the first reference involving transboundary pollution, it recommended that the governments adopt a new agreement that would "clothe the Commission with authority and power . . . to make such orders, rules and regulations . . . as may be proper and necessary to maintain boundary waters in as healthful a condition as practicable."[57] The agreement was not adopted. The IJC has not been completely shut out of a supervisory role, however. At the same time that it began to recommend water quality standards, it also began to establish, with the consent of the governments, standing advisory bodies to oversee whether the standards are being met.[58] Its biennial reports on the Great Lakes Water Quality Agreement (as well as its reports on the Air Quality Agreement) give it regular opportunities to urge the governments to take more effective steps to meet existing standards, and to adopt new, stricter ones. As noted above, the IJC has taken advantage of the opportunity to press the governments to negotiate an entirely new agreement to protect the Great Lakes.[59]

Outside the Great Lakes, however, the norms regarding transboundary water pollution are both less well developed and less well overseen. With respect to such pollution, the Canadian and U.S. governments have yet to adopt an agreement more detailed than Article IV of the Boundary Waters Treaty, and the IJC has been unable to duplicate the evolution from Article IV to detailed water quality standards. The standard applying to transboundary water pollution outside the Great Lakes therefore remains only Article IV, which seems to prohibit injurious pollution entirely.

Perhaps unsurprisingly, given governments' general reluctance to have outside bodies review their compliance with such a general standard, Canada and the United States have become less and less willing to refer transboundary water questions to the IJC.[60] Their reluctance is often attributed to IJC reports in response to referrals in the 1970s and 1980s involving projects that could have caused transboundary pollution outside the Great Lakes. These reports refused to countenance projects with a potential for "significant injurious pollution" unless the projects

57. Bilder, *supra* note 2, at 490.
58. *Id.* at 493.
59. *See* discussion, *supra* note 22.
60. *See* Hollis, *supra* note 41; LeMarquand, *supra* note 55.

had "zero risk of resulting in the identified pollution *or* both the United States and Canada agree that the risk of pollution is acceptable."[61] The "zero risk" standard is a particularly strict interpretation of Article IV. Duncan Hollis argues that it is far more stringent than the language of the article supports and points out that, if the interpretation were accepted, it would greatly increase the leverage of the potentially "injured" party, giving it an effective veto over projects with any risk of transboundary pollution.[62] Moreover, in response to a more recent reference on pollution in Missisquoi Bay, the IJC appeared to adopt an even stricter standard, suggesting that Vermont not go ahead with a project even though it would result in no transboundary harm at all, merely because it has been perceived on the Canadian side of the border as causing such harm. This might be called a "zero perception of risk" standard, and is even less likely to be embraced by the governments.

Hollis believes the problem is that the IJC is moving away from the terms of Article IV in ways that make the governments uncomfortable.[63] It is certainly true that the governments are unlikely to accept a "zero risk" standard. A deeper problem is that the governments are still uncomfortable with Article IV itself. The IJC cannot simply return to the original language of Article IV, as Hollis appears to suggest, because that language would seem to require an absolute prohibition on injurious transboundary water pollution, a standard that neither government is willing to meet.

Indeed, it is questionable whether either government would be in compliance with Article IV for waters outside the Great Lakes even if Article IV were read to require only due diligence. Neither country, for example, has even implemented Article IV in its domestic law. This failure was brought into sharp relief in 2006. A submission to the North American Commission for Environmental Cooperation (CEC), which has the authority to hear complaints alleging that a NAFTA party has failed to effectively enforce its laws,[64] argued that Canada and the United

61. Hollis, *supra* note 41, at 19 (characterizing the 1977 *Report on Transboundary Implications of the Garrison Diversion Unit* and the 1988 *Report on Impacts of a Proposed Coal Mine in the Flathead River Basin*). *See also* LeMarquand, *supra* note 68, at 75 (attributing the government "disinterest in further expanding the role of the IJC" more generally to IJC efforts in the 1970s to expand its responsibilities and jurisdiction).

62. Hollis, *supra* note 41, at 20.

63. *Id.* at 21, 25-26. Hollis analyzes two different ways of seeing these IJC reports: as an agent's "slippage" from the original terms of the governments' agreement; and as a trustee's efforts to maintain its role as a protector of the border environment in light of the adoption of a more precautionary approach to potential environmental problems. *Id.*

64. North American Agreement on Environmental Cooperation, Sept. 14, 1993, art. 14, 32 I.L.M. 1480 (1993). *See generally* Knox, *supra* note 32.

States had failed to enforce Article IV of the Boundary Waters Treaty by failing to prevent the possibility of transboundary pollution from Devils Lake in North Dakota.[65] The CEC Secretariat did not reach the merits; instead, it dismissed the submission because the CEC's jurisdiction is limited to non-enforcement of *domestic* environmental law, and it concluded that neither country had transformed the international obligation into domestic law by implementing statute or regulation.[66]

The challenge for the IJC and the governments, then, is to duplicate for waters outside the Great Lakes what they have done for waters within the Great Lakes: that is, to move beyond the Article IV standard. In the Great Lakes context, as described above, the IJC and governments did so by adopting more detailed standards and, at the same time, converting their obligation to meet those standards from a duty of result to a duty of due diligence. It is possible to imagine the governments adopting a similar approach to other watersheds. Despite the weaknesses of that approach, it would be an improvement over the existing situation, which combines an apparently firm prohibition with a failure to take effective steps to comply with it.

## V. CONCLUSION

At the time of the negotiation of the Boundary Waters Treaty, the chief U.S. negotiator described Article IV to the Secretary of State as "perhaps . . . too strong."[67] The succeeding years have demonstrated that it has certainly been too strong for the Canadian and U.S. governments to implement as it is. It may nevertheless have had influence as a kind of exhortation. The ideal it expresses—that transboundary harm should be avoided and mitigated—has undoubtedly affected the resolution of specific disputes between Canada and the United States over transboundary pollution.[68] Nevertheless, like Principle 21, Article IV is more of a capstone than a cornerstone: in order to be able to place it,

65. Submission to the Commission for Environmental Cooperation, Mar. 24 & July 7, 2006, *available at* http://www.cec.org/files/pdf/sem/06-2-RSUB_en.pdf (last visited Apr. 27, 2009).

66. Secretariat of the Commission for Environmental Cooperation, Determination in Accordance with Article 14(1) of the North American Agreement on Environmental Cooperation, SEM-06-002 (Devils Lake), at 5-7, *available at* http://www.cec.org/files/pdf/sem/06-2-DETN_en.pdf (last visited Apr. 27, 2009). *See* Hall, *supra* note 21, at 721-23.

67. LeMarquand, *supra* note 55, at 67.

68. In Toope's and Brunnée's terms, it may have been an important part of the contextual regime of U.S.-Canada border environmental protection. *See* Toope & Brunnée, *supra* note 2.

countries must do much more to address the problems whose cessation it envisages.