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## Water Resources Management as an Issue in Environmental Diplomacy

The United States and Canada share a 5,000 mile border which includes significant quantities of water in the form of rivers and lakes of considerable importance, as well as subsurface groundwater reserves. Water forms the international boundary in many areas and crosses the boundary in both directions, making each nation at one and the same time both upstream and downstream riparians in the same river basin. The two nations share conditions of water shortage and, sometimes, of water excess. Instances of flooding and drainage problems illustrate the conditions of water excess. As well, they share areas of water scarcity, both outright scarcity on the western plains and in certain far western valleys, and relative scarcity in areas otherwise blessed with abundance but where demand and conflicting usage are outstripping supply, as in the Great Lakes.

Geography, physical and human, thus ensures the existence of bilateral water management challenges and opportunities for both countries and the constant presence of this subject, therefore, on the bilateral diplomatic agenda. This article examines the origin of the problem, the steps that have thus far been taken to resolve the problem, and the realities deriving from geopolitics. It addresses the question of what can be learned from the experience, and concludes with a prescription for change.

### ORIGIN OF THE PROBLEM

The era of Canadian-United States transboundary water relations began in the 1890s. The first issues to emerge at that time were quantitative, relating to supply, and involved apportionment disputes over irrigation water in the western plains of Montana and Alberta. Almost simultaneously apportionment disputes arose over eastern water, albeit for a very different purpose, hydroelectricity, and in an area of water abundance: Niagara Falls, involving New York and Ontario. Transboundary irrigation conflicts in the West, although involving very small quantities of water and small numbers of people in rather isolated areas, were nevertheless important and recognized as such in Washington and Ottawa, since water in such areas is the single common denominator. In the West, water is viewed as the key to settlement and development, the difference between

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life and death. Likewise, the allocation of Niagara Falls hydropower directly influences the levels and circumstances of potential industrialization in the Great Lakes industrial heartlands of Ontario and western New York. Both national governments recognized these realities early and worked to achieve joint resolution of the outstanding problems and to avoid future conflicts. In this, they succeeded.<sup>1</sup>

Recognition of the value of joint efforts to control the problem of costly flooding also came early, as did the realization that each nation, if left completely to its own devices, could harm the other by structural river basin changes which would cause flooding in its neighbor's territory. Actual joint planning to tackle common flood problems, and joint decisionmaking to consciously avoid the transborder flooding repercussions of domestic projects, did not develop until relatively recently. But it was the early principles and agreements laid down in the late 19th and early 20th century period, on the prairies, at Lake of the Woods,<sup>2</sup> and elsewhere, all in response to small local situations, which enabled the much more significant efforts of mid-century and beyond to succeed.<sup>3</sup>

Matters of flooding, hydroelectricity generation, navigation, and in more recent times ecosystem protection in the international Great Lakes Basin, cannot realistically be separated. The interrelationship of all these values, with the exception of ecosystem protection, was recognized early, leading to a number of significant and necessary bilateral agreements and treaties which have largely continued to this day.<sup>4</sup> The significance of these Great Lakes apportionment issues to regional and even national economies is indeed great, and it is a tribute to the wisdom and foresight of leaders of both nations that they acted when and as they did to recognize and use the natural linkages to achieve accord, insuring bilateral stability in this vast and critical international lakes basin.

Water quantity and water pollution concerns were not as early on the

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1. See generally J. CARROLL, *ENVIRONMENTAL DIPLOMACY: AN EXAMINATION AND PROSPECTIVE OF CANADIAN-U.S. TRANSBOUNDARY ENVIRONMENTAL RELATIONS* (1983).

2. The Agreement of Lake of the Woods, 1912, reprinted in International Joint Commission, 1912, Ottawa and Washington, D.C., Docket 3R, secured agreed bilateral management of the level of Lake of the Woods (Ontario, Manitoba, Minnesota), allocating water for hydroelectric power, fisheries, recreation, navigation and municipal supply, and assigned jurisdiction to the International Joint Commission, the very first assignment to that new bilateral body. The Commission had come into being just one year earlier as a result of the Boundary Waters Treaty, Jan. 11, 1909, United States-United Kingdom, 36 Stat. 2448, 2451, T.S. No. 548 [hereinafter cited as Boundary Waters Treaty].

3. For a discussion of Milk River and Sage Creek issues, see International Joint Commission, 1946, Ottawa and Washington D.C., Docket 53R; see also CANADA-UNITED STATES TREATY RELATIONS (D. Deener ed. 1963), and P. CORBETT, *THE SETTLEMENT OF CANADIAN-AMERICAN DISPUTES: A CRITICAL STUDY OF METHODS AND RESULTS* (1970).

4. See THE INTERNATIONAL JOINT COMMISSION: SEVENTY YEARS ON (R. Spencer, J. Kirton & K.R. Nossal ed. 1981) [hereinafter cited as THE INTERNATIONAL JOINT COMMISSION], and CARROLL, *supra* note 1.

scene as were supply and apportionment issues. Nevertheless, by shortly after the turn of the century they were entering the consciousness of the Canadian and U.S. water negotiators, if not the consciousness of the public of the day. The reason was two-fold. First, quality conditions in confined areas of the Great Lakes, particularly in the "connecting channels"—the St. Clair, Detroit, and Niagara Rivers, and later the St. Mary's River—had seriously deteriorated, becoming health and aesthetic problems to large numbers of people. Secondly, while there was imbalance in the national quantity of pollutants entering these waters, both sides were contributing and thus there was a basis for joint reduction and joint cost sharing. Furthermore, transiting vessels which were dumping or emitting fuel oil were convenient and focused targets for both countries.<sup>5</sup> For these reasons, one finds not only unusually strong attention to water pollution some sixty or more years before widespread national attention to such pollution in either country as a whole, but also the inclusion of broadly defined pollution control goals in the first significant treaty, the Boundary Waters Treaty of 1909.<sup>6</sup> That treaty contains wording which continues to be used and to affect conditions today. It would not be correct, however, to assume equal attention to or concern over quality and quantity. Qualitative concerns did not become a significant part of the bilateral agenda until the late 1960s, some six decades later. Quantitative concerns, such as allocation, apportionment, supply, and control of excess, held sole sway over the bilateral agenda until much more recent times. However, by the late 1960s pollution had become perhaps as significant in the lakes themselves, especially in the lower lakes of Erie and Ontario, as it had in the connecting channels decades earlier. The public, becoming aware, was more willing to organize and to demand action. Similarly and simultaneously, public pollution concern was growing in other border waters outside the Great Lakes Basin; such as the St. John and St. Croix Rivers and Lake Memphremagog in the East, the Red and Souris Rivers on the prairies, and, more recently, the Flathead River in the Rockies.<sup>7</sup> Thus, water quality issues now commonly emerge along the entire length of the border, and even in some distant nonborder regions which influence border waters.

Pursuant to the generally increased societal concerns over toxics in the environment, the issue of toxic wastes and hazardous substances in the Great Lakes and other border waters is now so intense that it forms an issue area of its own, almost separate from and even subsuming other

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5. See CARROLL, *supra* note 1.

6. See Boundary Waters Treaty, *supra* note 2, and Questions Arising Between the United States and Canada, Jan. 11, 1909, An Act, 1911, 1 & 2 George 5, ch. 28, art 8.

7. See CARROLL, *supra* note 1.

more conventional transboundary water pollution concerns of perhaps a less toxic nature. The Great Lakes are, of course, very much in focus in the toxics arena, domestically and internationally, given their enormous industrial productivity. Unfortunately for U.S. diplomats, who must defend their country's industrial effluent, Canadian toxic introduction to the lakes is much less significant, enabling Canada to more easily demand strict effluent controls of the more recalcitrant United States. Because the imbalance is not as extreme with "conventional pollution" (municipal waste, general industrial effluent, and run-off from land and other non-point sources), a binational *quid pro quo* is easier to achieve than with toxics. Although the toxics issue has largely focused on the lakes, it is not restricted thereto, as witness the recent Canadian spillage of mercury into the Columbia River. Potential also exists at other sites for future toxics problems. As long as the two national societies remain "toxics conscious," there will be a clear place for toxic water pollution on the menu of bilateral challenges.

#### STEPS TAKEN TO RESOLVE THE PROBLEM

Many factors coalesced at the turn of the last century to provide a foundation for treaty-making and institution building whose legacy carries on to this day.

Such matters as the drive to establish a St. Lawrence Seaway for navigation; the unilateral (U.S.) construction of the Chicago Diversion Canal; the St. Mary River-Milk River Irrigation dispute on the western prairies; hydroelectric project disposals for the St. Mary's River at Sault Ste. Marie, Michigan, and Ontario, which required bilateral action; concern over protection of Niagara Falls and interest in hydroelectricity diversions from the Falls; and a proposed damming of the outlet of Lake Erie all demonstrated the need for concerted joint binational action . . .<sup>8</sup>

Institutionally, it was the early irrigation congresses and conferences of the 1890s that ultimately promoted movement toward consideration of bilateral agreements and treaties and then to their products, the institutional vehicles necessary to implement their conditions. And although irrigation congresses focused on just that, astute diplomats recognized the thin line of difference between economic development on the prairies founded on irrigation, and further economic development in the industrial regions founded on assured and inexpensive hydroelectricity and cheap shipping costs through improved navigation. Thus, prairie streams and Niagara Falls, and other St. Lawrence River hydro sites and shipping

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8. CARROLL, *supra* note 1, at 40.

channels, were conceptually linked. Also, the weak but symbolically significant, and politically necessary, International Waterways Commission (IWC) was established in 1905. Although only advisory in nature, importantly it enabled the emergence of new ideas on bilateral boundary water relations and had access to top government levels.<sup>9</sup>

Sometimes the promulgation and acceptance of concepts leads to the formation of institutions. But at other times, the work of institutions leads to the development of new concepts. The work of the IWC was important in this regard, for it established and gained acceptance for the concepts of equitable distribution of water between the two countries, including: the paramountcy of navigation to all other water uses after domestic supply needs were met; the extension of bilateral institutional jurisdiction beyond the Great Lakes-St. Lawrence System to encompass all boundary waters; certain prohibitions on the diversion of streams crossing the boundary; and, most innovatively, opposition to any pollution in one country that would cause injury in the other.<sup>10</sup>

With the acceptance of these tenets and with the sufficient foresight of powerful men, the modern-day International Joint Commission (IJC) was born in 1911, a result of the Boundary Waters Treaty of 1909.<sup>11</sup> The best known institution active in the Canadian-U.S. bilateral environmental relationship, the IJC is now more than seventy-five years old. Smaller than most realize, in theory it has a wide mandate, in practice a constrained but broadening one. It continues to study, decide, monitor, and advise on a varied number of transboundary environmental problems from the Atlantic to the Pacific.

The IJC is the only permanent joint public institution operating in Canadian-U.S. environmental relations. It has been a key actor playing a central role in the countries' relationship. Furthermore, its successes and failures may foreshadow successes and failures of other institutional mechanisms that may be created. It is a model to the world and unique not only by definition, being a joint, unitary, yet bilateral body, but also because it stands as an exception to traditional U.S. repugnance toward placing limitations on its sovereignty.<sup>12</sup>

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9. Dreiziger, *Peace on this Continent: Dreams and Disappointments in Planning for an International Joint Commission Between the United States and Canada*, in THE INTERNATIONAL JOINT COMMISSION, *supra* note 4.

10. See *id.*, and CARROLL, *supra* note 1.

11. Boundary Waters Treaty, *supra* note 2, arts. VII and VIII.

12. The story of the IJC has been told and retold in many places. In addition to the description and analysis presented in CARROLL, *supra* note 1, at 39-58, the reader is referred to a number of sources. Perhaps the best and most comprehensive study to date on the origins and early days of both the treaty and the IJC is N. Dreiziger, *The International Joint Commission of the United States and Canada, 1895-1920: A Study in Canadian-American Relations* (1974) (Ph.D. dissertation). The same author, who is Professor of History at the Royal Military College, Kingston, Ontario, has also

The IJC, through its long and generally successful history, has introduced and secured acceptance for many concepts which now govern the U.S.-Canadian transboundary water relationship. To the extent it has been able to maintain the high degree of respect it has thus far gained, it stands ready to be the purveyor of many more such governing concepts. It may yet resolve the continuing failure to reach agreement on ultimate equitable apportionment of the pollution assimilative capacity of the Great Lakes. Should that assimilative capacity be allocated on a fifty-fifty basis along geographical lines, giving each nation equal assimilative capacity and thus equal opportunity to pollute the lakes, and thereby economically develop at lower cost (as favored by Canada)? Or, should the allocation of such capacity be based on population density and ability to make use of the Lakes' water as a pollution sink, thus giving the larger of the two nations greater benefits (as favored by the United States)? In view of the fact that the international boundary essentially bisects the lakes (except Lake Michigan), and that the boundary's location is accepted by all with no overlapping claims, it would seem that Canada's geographically based claim should prove the stronger. However, the matter is by no means settled, and it undoubtedly represents a future challenge for the IJC and for the two nations.

Overall most Canada-U.S. water allocation and adjudication problems, the kind that so heavily dominated the IJC agenda in its first six decades, are resolved or, if ongoing, are governed by a mutually agreed managerial regime. This is not to say that future serious problems may not emerge—for example, further proposals to divert the Great Lakes, directly or by water substitution, to drier regions of the United States or to divert other

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written Peace on This Continent: Dreams and Disappointments in Planning for an International Joint Commission Between the United States and Canada (June 1979) (paper prepared for the 70th anniversary of the IJC's establishment, celebrated at the University of Toronto). See also L. BLOOMFIELD & G. FITZGERALD, *BOUNDARY WATERS PROBLEMS OF CANADA AND THE UNITED STATES* (1958); M. Cohen, *The Regime of Boundary Waters—The Canadian-United States Experience* (1977) (lectures to the Hague Academy) [hereinafter cited as *The Hague Lectures*]; Heeney, *Along the Common Frontier: The International Joint Commission*, 5 *BEHIND THE HEADLINES* 1 (1980); Jordan, *The IJC and Canada-United States Boundary Relations*, in *CANADIAN PERSPECTIVES ON INTERNATIONAL LAW AND ORGANIZATION* 522 (R. MacDonald ed. 1974); W. WILLOUGHBY, *THE JOINT ORGANIZATIONS OF CANADA AND THE UNITED STATES* (1979); *RESOURCES AND THE ENVIRONMENT: POLICY PERSPECTIVES FOR CANADA* (O. Dwivedi ed. 1980); and *The Work of the IJC*, 23 *EXTERNAL AFFAIRS BULL.* 208 (1971). Former IJC commissioners have also written papers, including Maxwell Cohen; Anthony Scott; Christian Herter, Jr.; Matthew Welsh; A.D.P. Heeney; Eugene Weber; Bernard Beaupre; A.G.L. McNaughton; and Charles Ross. Other writers on the topic are Professors Donald Munton; N.F. Dreiziger; William Willoughby; Richard Bilder; Charles B. Bourne; Kim Nossal; and John E. Carroll. Finally, one should not overlook the works of the Commission itself, and particularly the annual reports which were begun in the early 1970s. Works on the Boundary Waters Treaty and the IJC are largely Canadian in origin, reflecting the greater Canadian interest in these matters, a bias which is reflected in the citations in this note. Most recently, *THE INTERNATIONAL JOINT COMMISSION*, *supra* note 4, is invaluable as an IJC source.

Canadian water systems for a similar purpose. But all in all, the agenda of the past decade-and-a-half will undoubtedly continue far into the future, an agenda dominated by numerous water quality controversies, large and small, and by the insidious problem of toxics and the strong public reaction to them. Likely only along the Alaska-Canada border will new apportionment questions of a conventional nature (such as diversions, impoundments, flooding, etc.) emerge, but even there qualitative and pollution issues are likely to find a high place in the public's mind, and therefore, on the agenda of diplomats.

### GEOPOLITICAL REALITIES

The geopolitics of the Canadian-U.S. boundary are complex. Both nations are sometimes, as mentioned, both upstream and downstream on the very same river—for example, the Souris and Columbia Rivers. Both have conflicting needs at various times and places. In matters of pollution, both are “sinners” and both are “sinned against.” Both have enormous ability and, sometimes, incentive to work together to achieve mutually beneficial ends. Both have great ability to harm each other, to damage environments across the border, and to slow or stifle economic development across the border. And yet the societies and economies of both are so intertwined, so interdependent, that the benefits of collaborative and cooperative work, especially over the long term, are enormous.

Imbalance and asymmetries are, however, inevitable. Some states, some provinces, are almost exclusively upstream or downstream and, therefore, behave in an upstream or downstream manner. Each nation has different interests in resource allocation and, importantly, different abilities to change, protect, and utilize the water resources of the trans-border region. These geopolitical realities present great challenges but also great opportunities to balance, to achieve symmetry, a condition so necessary for successful diplomacy. It is necessary in conditions of such interdependency and complexity, however, to give great thought to the concepts and tenets to be adopted, not solely to protect one's own national interests, but rather to protect the joint interests of both nations.

The infamous Harmon Doctrine,<sup>13</sup> once espoused by the United States,

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13. Named after the former U.S. Attorney General Judson Harmon, the Harmon Doctrine espouses the sovereignty of each state to do as it wills with water on its side of the border. In practice it more often than not favors the United States, which is upstream of Canada on important transboundary rivers. For a detailed explanation of the Doctrine, see CARROLL, *supra* note 1, at 43-44, and McDougall, *The Development of International Law With Respect to Trans-Boundary Water Resources: Cooperation for Mutual Advantage or Continentalism's Thin Edge of the Wedge?*, 9 OSGOODE HALL L. J. 261, 264 (1971). See also The Hague Lectures, *supra* note 12, and Boundary Waters Treaty, *supra* note 2, at arts. II and III.



is a case in point. Probably developed more with the Mexican rather than the Canadian border in mind, this highly nationalistic doctrine is designed to exclusively favor upstream nations at the expense of nations downstream. On the southern border, the United States is upstream in the only two river basins of significance: the Rio Grande and the Colorado. Therefore, the only potential for the doctrine to backfire against U.S. interests is in other aspects of Mexico-U.S. relations, or perhaps in the U.S. image before the world in terms of how it treats a weaker neighbor. Although at some times and places the upstream United States would benefit narrowly along the northern border, for example, the Red River and Lake Champlain, the United States is very often downstream in the North, including in all the watersheds crossing the Alaska-Canada border. In a narrow sense, the United States would likely suffer from a strict application of the doctrine. Much more importantly, however, both nations would suffer, for anything which detracts from a spirit of collaboration and sharing, joint partaking of resource values and benefits, and joint absorption of costs, ultimately damages and denies opportunities to both parties. While the Harmon Doctrine in the narrow sense shows foresight in the protection of traditional national interests, it demonstrates, at least in the Canadian-U.S. context, a lack of appreciation of the true national interest and the dependence of that interest on a spirit of collaboration.

#### WHAT CAN BE LEARNED FROM THE EXPERIENCE?

It is invariably national self-interest which underlies and dictates the stance of a nation in transboundary water relations. This is perhaps a truism, but not as explicit as it may seem. Distinctions must be made between long and short timeframes. The term also assumes a national consensus, or at least a consensus within the leadership, of what constitutes the nation's self-interest. The decision of Canadian and U.S. leadership made many years ago to move forward with the development of precepts and tenets governing transboundary water relations was a product of foresight. The nations realized that with such precepts and tenets much of joint value and, hence, of national value, would be made possible. Self-interest is not only natural, but can be used as a vehicle to achieve much that is good, if used with foresight and imagination.

In the practice of such foresight, however, it is important to recognize that times change and different conditions evolve. Witness recent Canadian-U.S. environmental history. By the early 1970s the people of the United States, having suffered from increasing amounts of pollution, threats to the nation's health and environmental integrity, and loss of wilderness values and many wildlife species, were ready to restrict themselves from doing much further harm to the environment and to launch

a social and political movement to preserve and protect it. Thus, lip service and rhetoric gave way to big commitment in the form of expenditures of dollars to achieve an acceptable level of environmental quality. Evidence of this includes the nation's largest publicly funded peacetime construction effort ever, the national system of sewage treatment plants; the passage of the world's most stringent regulatory statutes controlling air and water pollution; establishment of new national parks, wilderness areas and wild and scenic rivers; and in general, a great increase in national consciousness regarding environmental matters. This became evident in new laws, new institutions, new public sector jobs, new university degrees, and in many other ways.

During the same period Canada was arriving at a point in its history when it could, for the first time on its own, launch major new capital intensive and large-scale resource development projects, many of which were coincidentally to be close to the U.S. border. Hydroelectric development, coal mining, electricity generation, and large timber harvesting projects all fell into this category. The result: an increasingly environmentally sensitive U.S. population becoming concerned about a Canadian assault on the U.S. northern border environment and a Canadian population feeling threatened by its fear that U.S. environmentalists and border states might restrict its development plans and job creation. Canadians spoke resentfully of a U.S. tendency to designate rivers flowing from Canada to the United States as "national wild and scenic," and rivers flowing from the United States to Canada as public sewers.<sup>14</sup>

Canada began to view its border region as its "development corridor." Canada was achieving a higher level of economic and energy independence and finding ways to create jobs in, and to develop underdeveloped regions of, British Columbia, Saskatchewan, Ontario, and elsewhere. True, Canada passed much environmental legislation and developed government bureaucracies in the environmental area,<sup>15</sup> but the real thrust, at least to Americans along the border, was development at all cost. The threat to some of the border states seemed so tangible that several, including Montana and Minnesota, called upon Washington to negotiate transboundary environmental agreements which would protect them from the Canadian assault on their environments.<sup>16</sup>

Then, by mid-1978, the tables began to turn. Increased U.S. concern over energy independence and national security began to put energy

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14. See CARROLL, *supra* note 1.

15. The principal example of these government bureaucracies would be Environment Canada, with its subdivisions, the Environmental Protection Service, the Environmental Management Service, the Atmospheric Environment Service, the Canadian Wildlife Service, and others. Each province developed its provincial level counterpart.

16. See CARROLL, *supra* note 1.

development, particularly coal, before environmental protection, a shift later intensified by the recessionary period of high unemployment in the early 1980s.

Simultaneously, Canadians were coming to realize the environmental and economic threat posed to Canada by both U.S. air pollution emissions—mainly acid rain—and by toxics discharged into the Great Lakes. These two issues of enormous public concern and economic magnitude soon superceded the many smaller near-border Canadian threats to local and regional U.S. environments. The election in the United States of the development-oriented Reagan administration soon completed the circle, and the two nations reversed roles—all within the same five-year period. Today, the United States continues on a relatively strong economic development orientation in conjunction with economic recovery. While Canada is, under the Mulroney government, showing stronger tendencies in this direction, the seriousness and the one-sidedness of both the acid rain and Great Lakes toxics threats will not readily disappear, and some tangible movement by the United States toward resolution remains necessary.

The lesson to be learned in this turnabout is that changing times and changing conditions demand flexibility. Interests and needs of one nation not only can change rapidly relative to those of a neighbor, but even relative to itself. Also, the complexity of changing socio-economic and socio-political movements domestically in either nation alone or in both nations simultaneously, can often bring unpredictable results. The "sinned against" may quickly become the "sinner," and vice-versa. Even the impact of differing jurisdictional authorities, such as that of states versus provinces, can change dramatically, depending on whether the federal and provincial governments are acting in concert or in opposition to one another. This is also true of federal-state relations, but to a lesser extent.

Furthermore, inherently different national pollution control strategies must be recognized and respected. With the advent in the United States of the Water Pollution Control Act Amendments of 1972 and roughly concurrent federal clean air legislation,<sup>17</sup> the United States clearly set out on a course of point source standards for clean water and clean air. Point source standards emphasize acceptable pollution emission levels at the emission source, rather than overall levels in the receiving body of air or water. Canadian standards, on the other hand, relate to the conditions of the receiving water or air. In addition, Canadian objectives are negotiable between government, provincial or federal as the case may be, and industry, while U.S. standards are much less flexible. The concept of considering the quality of the recipient water or air, the use currently

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17. Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. §§ 1251-1376 (1976); Clean Air Act Amendments of 1977, 42 U.S.C. §§ 7401-7642 (1976 & Supp. IV 1980).

being made of those bodies, and the idea of negotiation on a case by case basis, while sometimes given informal consideration in the states, is by no means integral or required by U.S. law, as it is in Ontario and elsewhere in Canada. Furthermore, what often passes for guidelines and recommendations without the force of law north of the border often bears the full force of law south of the border. Hence, a given province may actually have a stricter environmental criterion than a neighboring state, but the question one must ask is whether that stricter criterion has the force of law behind it and, if so, is it litigable in court. In summary, Canada chooses control by objectives involving overall ambient standards judged acceptable for each body of water, arrived at by negotiation among all interested parties. The United States chooses effluent standards governed largely at the federal level with appeal by interested parties only in the courts. All meaningful attempts at bilateral negotiation over water quality must accept and work with these differences in philosophy and approach or they are doomed to failure. There is some evidence that the United States is gradually moving toward the Canadian objectives approach, as evidenced by informal discussions by negotiators and in the 1978 Great Lakes Agreement. The movement may, in time, narrow the gap between the two systems and make negotiation a less rigorous challenge.

The length of the border and the complexity of border water interdependency insure that international water problems and otherwise purely domestic issues will have a strong impact on the border water relationship. Internal political pressures related to environmental protection, growth and development, energy policies, and a host of other matters will continue to cause differences and will continue to have an impact on transborder water relations. The interest, ability to focus, and relative strength of citizens' organizations and many kinds of special interest groups will also be factors suggesting inequality and conditions leading to asymmetry and imbalance. Finally, structural differences in government and, most importantly, the very significant differences between the power of states and provinces, will continue to insure long-term future problems.

Some would say that these problems are inevitable. But must they be? A will to collaborate premised on a realization of the value of collaboration, not to both societies, but to one's own society,<sup>18</sup> can be invaluable in overcoming all kinds of so-called structural differences, including the always potentially serious one of inherent differences in the power and roles of states and provinces within their respective nations. The will to maintain and promote transborder cooperation and collaboration, and to

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18. National self-interest always rules. The problem arises in national interpretation of that self-interest.

maintain the climate to support such transborder joint endeavors, is paramount. The Canadian-U.S. experience can be seen as a linear progression of eras of great collaboration and great joint works, evolving into eras of caution, hesitancy, sniping, argument, disagreement, and threats, and then again into eras of amity and cooperation. History has much to teach us, if we will but listen.

### PRESCRIPTION FOR CHANGE

Although some flexibility in bilateral negotiation must be maintained to accept the reality of changing conditions, nevertheless, there is need for an end to the almost complete "ad hocery" which has too simplistically governed in recent years what is in reality a most complex relationship. There is need for additional principles, additional "rules of the road," so as to guide the bilateral water relationship, provide stability and even to preserve room for necessary flexibility.

Maxwell Cohen, distinguished Canadian legal scholar and former IJC Chairman, has suggested five rules for Canada and the United States to follow in any program to avoid conflict. They are: (1) do not catch the other side by surprise on a real or perceived interest—give reasonable notice and provide for meaningful consultation before any serious moves are made; (2) do not prolong by unilateral rhetoric any disagreement over basic facts—set up joint fact-finding instruments as early as possible to obtain agreement on disputed facts; (3) try to institutionalize common factfinding, thus assuring a continuity of tradition and of personnel in the particular dispute settlement process or area; (4) try to anticipate, wisely, through binational perspectives, what soon may be threatening both the national and binational interest of the two countries; and (5) where the facts are not in issue and there is a defined legal claim, consider resort to binding arbitration or the International Court of Justice.<sup>19</sup>

In accepting these rules, Canada and the United States might well consider the institution of a bilateral governing regime which insures that there will be: (1) a program of common factfinding similar to but expanded beyond that of the IJC; (2) diplomatic early notice and consultation; (3) pollution control mechanisms as common as possible; (4) allowance for transborder litigation by afflicted parties on either side of the border; (5) allowance where practicable for international environmental mediation; (6) provision and encouragement for subnational relationships under general federal supervision, for example, state to province, municipality to municipality, etc.; (7) methodology to enable direct active involvement of interested and expert non-governmental bodies, including business, labor and citizens' organizations, also under federal supervision; (8) the

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19. M. Cohen, *The Patterns of Settlement—Canada, the United States and the International Joint Commission* (Nov. 9, 1976) (remarks to the Conference Board in Canada), cited in CARROLL, *supra* note 1, at 279-80.

development of small select new institutions, as necessary; and (9) a general bilateral environmental treaty, including all aspects of the transboundary water relationship, placing water in the overall environmental, natural resource, and economic development context which it occupies in nature.

The 1980s reality along the Canadian-U.S. border is a situation of fast increasing transborder, transnational networks and coalition building by countless individuals, and by many hundreds of non-governmental organizations and institutions. Such transnational networking is also occurring in Europe and, to a lesser extent, globally. But the long and open Canada-U.S. border is especially conducive to the success of these endeavors. The great interdependency and interconnectedness of the American and Canadian societies lends further support to transnational planning by the non-government sector of society, much to the chagrin of diplomats, legalists, and many politicians. Within the area of transboundary water resources, the parties have already agreed upon many quantitative water allocation issues. Therefore, the non-government sector will probably be most valued in water quality and water pollution issues, especially in the area of toxic waste and hazardous substance dumping, spillage and leakage, whether intended or accidental.

Acid rain and more conventional water pollution of a less toxic but still damaging nature will also continue to be subject to transnational pressures which will be exacerbated by non-governmental networking. The only way that government—public policy makers and diplomats—can hope to exercise any control or management over this non-governmental sector is through the establishment of specific, focused, and clear rules of the road where such do not now exist. This will necessitate further treaties, agreements, and institutional mechanisms, not big governmental bureaucracies as envisioned by some. The arrangements must be sufficient to monitor and thoroughly assess in an objective and binationally acceptable manner the scientific information fundamental to an understanding and resolution of transnational environmental differences.

In a recent paper, Professor Lynton Caldwell argues powerfully and convincingly that there are advantages to both countries from a coordinated, binational system for monitoring and assessing trends in that part of the environment shared by the two countries. Caldwell writes, "politics, in some sense, being the major obstacle to binational cooperation, *a decision support system* for the governments responsible for the transboundary region must be designed to influence and transform political opinion and political behavior" (emphasis added).<sup>20</sup>

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20. L. Caldwell, From Fact-Finding to Policy Formulation. Considerations for a Systems Approach to Binational Decision-Making (paper presented to the IJC Workshop, "Ecologically . . . A More Perfect Union," Academy of Natural Sciences, Philadelphia, Pa., Oct. 10-11, 1984).

This decision support system of which Caldwell writes, a reasonably complete transnational, jointly operated, and bilaterally standardized environmental monitoring system along the length of the 5,000 mile Canada-U.S. border, will become in a sense the one constituency that diplomats and bureaucrats can rely on for support amidst the non-governmental transnational networks, which will by then be completely outside of their control or ability to manage. Conversely, diplomats and public policy makers may themselves ultimately form a strong constituency to support the development of such an elaborate transborder, transnational monitoring effort as that proposed by Caldwell, especially if they become convinced that they will lose control by not going this route. He who has the knowledge—that is, the means, the systems—to obtain it, has the power. With systems control, government will *have* the knowledge and *keep* the power. Without such systems control, government will lose control over transborder events to those amorphous transnational networks. In recent decades the United States and Canada have been forced to accept the reality that flowing waters, air currents, ocean currents, and fish and wildlife do not respect political borders. The two nations will now be forced to accept the reality that ideas, concepts, thoughts, wills—that is, the human psyche, also fails to accept the border as real. Such failure of acceptance soon finds expression outside government, outside the public sector, in fast developing new networks of people and institutions. The flow of power will not be far behind.

Transboundary water issues will always play a significant role in Canadian-U.S. relations. Water is abundant in many border areas, overabundant in a few, scarce or absent in others; always in demand; always valuable; often fragile and easily damaged; and constantly crossing, re-crossing or forming the border. Investment now in jointly managing and adjudicating this so valuable resource will pay rich dividends long into the future. In the words of Canadian economist Anthony Scott:

We must grow up to a new phase of our boundary relations, and be prepared to improve the environment while at the same time compensating the losers from the necessary steps and policies. The issue is whether Canada and the U.S. are going to depend on general goodwill or generosity to bring about improvements or deal with new threats, or are going to be more hard-nosed, demanding quality and paying for it.<sup>21</sup>

Transboundary environmental relations, and transboundary water relations as a major element thereof, will form a class of bilateral concern whose importance will not likely be exceeded by other concerns in Canadian-U.S. relations during the remaining years of this century. Attention to their resolution, therefore, will justify the investment made.

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21. Letter from Anthony Scott, University of British Columbia, to John E. Carroll (Dec. 19, 1980).