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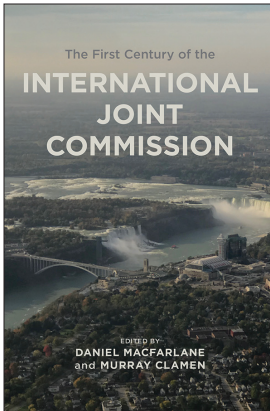
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THE FIRST CENTURY OF THE INTERNATIONAL JOINT COMMISSION

Edited by Daniel Macfarlane and Murray Clamen

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Introduction

Murray Clamen and Daniel Macfarlane

It was the summer of 2008 and the commissioners of the International Joint Commission (IJC) and their cadre of advisers were meeting to discuss the next steps in the evolving process of revising the plan of regulation for Lake Ontario and the upper St. Lawrence River. This regulation plan has long been one of the IJC's most controversial activities, since different interests want very different water regimes: some property owners want levels kept low, while the shipping and hydro-power sectors benefit from higher water flows; environmentalists, meanwhile, hope that the lake and upper portions of the river can be regulated in a way that allows for more natural fluctuations.

In summer 2008 the IJC had just completed an extensive public consultation process of ten public information sessions and ten formal public hearings on a proposed new regulation plan called Plan 2007, which had evolved from a five year, US\$20 million study by a binational team of experts. Heading into these public sessions, commissioners and their advisers were confident they had found a new plan that would satisfy most of the diverse stakeholders in this important watershed by bringing in new environmental values, assisting recreational boaters, and preserving all the existing benefits to hydro-power, commercial navigation, and riparians that had been created when the original St. Lawrence Power Project had been approved by the IJC in the 1950s. However, the proposed plan was widely criticized by almost all who attended the public sessions, either

for not providing sufficient environmental benefits or for not preserving enough of the existing benefits.

As the commissioners and their staff debated these unanticipated results, some commissioners were so discouraged they wanted to halt the process completely and continue with the current regulation plan (Plan 1958D), even though they knew it was not performing satisfactorily. Feelings in the room were quite high as other commissioners and IJC officials knew the opportunity to make a significant change in regulation was before them and they wanted to continue and find a new plan of regulation. As various ideas were batted around, someone suggested that a new, smaller working group composed solely of senior representatives of the federal and provincial governments and IJC advisers might be able to resurrect Plan 2007 and develop a slightly better version. That working group, which was eventually accepted by the governments, met several times starting in December 2009. It ultimately came up with Plan Bv7, which the IJC—after further consultation, deliberations, and refinement—developed as a new proposal called Plan 2014.¹

In the summer of 2013, the IJC invited public comment and convened public hearings on the proposed Plan 2014. More than 5,500 comments were received in total. This included 206 oral testimonies at the twelve hearings and public teleconferences; over 3,500 signatures on four different petitions; more than 700 postcards and form letters; and nearly 1,000 written website, email, and unique letter responses. This latter group of responses ranged from short endorsements or rejections of Plan 2014 to formal responses from local governments, governmental departments, and non-governmental organizations.²

Although there was opposition, there seemed to be generally strong support for the new plan. After more than fifteen years of intensive analysis and extensive consultation (serious talks about a new regulation plan dated back at least to the 1990s) with governments, experts, Lake Ontario and St. Lawrence River interests, and the public, the IJC concluded Plan 2014 should be implemented as soon as possible, and recommended as much in their June 2014 report to the two federal governments. On 6 December 2016, the governments of Canada and the United States agreed with the IJC's December 2016 Supplementary Order of Approval and the proposed regulation plan in accordance with certain undertakings, as

outlined in their letter of concurrence.³ Part of the delay, on both sides, in achieving government agreement was the complexity of interests involved and the range of government departments and agencies that needed to be consulted and give their individual concurrences. In December the commissioners signed the Supplementary Order implementing Plan 2014, which went into effect in January 2017.

A few months later, however, the Lake Ontario-St. Lawrence system experienced record-setting flooding stemming from natural causes. Riparian owners were up in arms because of the extensive damage to their property, especially on the south shore of Lake Ontario. Some politicians, such as New York governor Andrew Cuomo, irresponsibly used the matter for partisan purposes and began attacking the IJC. Then, in spring 2019, Lake Ontario levels surpassed even those of 2017. Consequently, there is very strong pressure to reopen the method of regulation for the upper St. Lawrence River.

This Lake Ontario-St. Lawrence regulation saga is just one of the most recent episodes in a history of ups and downs for the IJC. It illustrates the challenges faced regularly by the IJC in trying to predict natural forces, use engineering structures to provide some control, balance interests upstream and downstream, and address both water quantity and quality, as well as air pollution and other transborder environmental issues—all while adhering to the principles enshrined in the Boundary Waters Treaty of 1909. The IJC also faces many political challenges. While the commission does much of its work in obscurity, away from the glare of the media spotlight, when it comes to certain hot-button topics (such as regulation of Lake Ontario and the upper St. Lawrence River) different constituents are often diametrically opposed about outcomes and water levels, and they aren't afraid to make their complaints public. The IJC has to balance a range of interests, some of which are narrow but loud and well-funded, since making technically and scientifically sound choices often benefits some more than others. When advocating for a policy position, commissioners must be ever cognizant of how far they can go without alienating the federal governments, other levels of government, and various stakeholders; adjudicating between the sometimes competing interests of two sovereign federal nations is challenging. The IJC can technically only deal with environmental issues referred to it by the federal governments, which

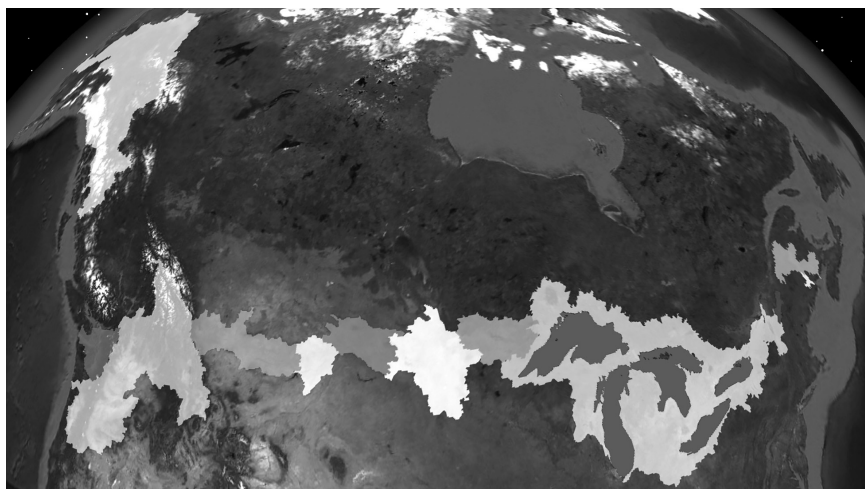


FIGURE 0.1. Canada-US border watersheds. Used with permission of the IJC.

puts limits on the commission's ability to be proactive—even though anticipation is a best practice when it comes to dealing with ecological issues.

The contributors to this edited collection take up these challenges, and many others. We collectively examine important aspects of the history of the IJC and the 1909 Boundary Waters Treaty (whose formal title is the Treaty Between the United States and Great Britain Relating to Boundary Waters, and Questions Arising Between the United States and Canada) over the first century of its existence, and we explain how this unique organization came to be, how it was supposed to work, and how it has actually worked for more than a hundred years. We have brought together leading scholars on the IJC in a consciously multidisciplinary way, so that hydraulic engineers, water resources professionals, and policy practitioners can ideally get as much from this volume as historians, lawyers, and political scientists. Not only have we amassed an impressive roster of contributors, we have attempted, as much as possible, to cover various thematic and geographic aspects: water quality and quantity, air pollution, past and future, east and west, etc. As editors, we are very satisfied with the chronological, geographic, thematic, and disciplinary breadth of this

collection, with the various contributions providing a history of the IJC that is both wide and deep.

The Boundary Waters Treaty and the IJC

Canada and the United States share a particularly fluid border: around 150 waterbodies comprising about 40 per cent of the 8,800 kilometre international frontier. In the early twentieth century, boundary water issues such as the Chicago Diversion, sharing the waters of the St. Mary and Milk Rivers in the Western Prairies, and dividing the hydroelectric generating capacity of Niagara Falls and the St. Lawrence River, led to the creation of an institution called the International Waterways Commission (IWC). In 1906 and 1907 the IWC made a series of recommendations calling on Canada and the United States to adopt principles of law governing uses of international waters along the border and to create an international body with authority to study and regulate the use of these waters. In the ensuing negotiations, Canada wanted a powerful body, while the United States sought a weaker one; the eventual result was a compromise. The Boundary Waters Treaty (BWT) was signed on 11 January 1909 by James Bryce, the British ambassador to the United States, and by Elihu Root, the US secretary of state.

Securing the agreement was a significant coup for Canada, since it resulted in the much more powerful United States agreeing to a commission within which the two countries were equal. Though Great Britain technically signed the treaty for Canada, the Canadian government did much of the negotiating, and it was therefore an important nation-building step for Canada. Among other features, the BWT settled the outstanding water issues mentioned in the previous paragraph (aside from the Chicago Diversion) and brought about the creation of the IJC, which held its first meeting in Washington, DC, on 10 January 1912.

The BWT was a pioneering piece of water resource management. The treaty was also an initial step in the rapprochement that characterized Canadian-American eco-politics for most of the twentieth century. The IJC is the key to the regime established by the 1909 treaty. It is a unique kind of international institution that combines interstate and supranational functions. As an adaptable governance form, it has evolved over time

FIGURE 0.2. Current logo of the IJC. Used with permission of the International Joint Commission.



(both as an organization and the way it has been used and approached), and it has increasingly incorporated transnational policy networks, public feedback, and scientific/engineering expertise. It has succeeded in providing a framework and ground rules that have, for the most part, prevented or resolved bilateral disputes over boundary and transboundary waters for over a century. It has been said that the dispute-settlement and conflict-avoidance philosophies enshrined in the BWT were far more sophisticated than perhaps any comparable piece of bilateral machinery then existing in Western society. As one former Canadian IJC chairman pointed out, its pioneering anti-pollution obligations fashioned a multiple-use instrument that went beyond any similar measures in other countries and perhaps even beyond the full appreciation of the draftsmen themselves; even the use of the word “pollution” was novel at the time.⁴ That said, the commission’s focus on pollution was intermittent, for aside of some studies on the connecting channels of the Great Lakes, until after the Second World War the IJC was much more concerned about issues dealing with navigation, hydro-power, and apportioning each country’s share of boundary waters.

The BWT, which is reproduced in full in Appendix 1, notably granted equal navigation access to the waters covered by the treaty—including Lake Michigan for Canadian citizens and flag vessels—and regulations were adopted concerning water diversions and changes to water levels. Essentially, any changes in the level of a boundary water needed agreement through the IJC (or a special agreement between the federal governments, which was the case for the St. Lawrence, Niagara, and Columbia Rivers in the early Cold War, though the IJC still had to approve the construction and maintenance of any resulting infrastructure that affected boundary waters). The BWT outlined an order of precedence for how border waters could be used: 1) for domestic and sanitary purposes; 2) for navigation; and 3) for power and irrigation. However, no reference was made to industrial, recreational, or environmental uses, though these were recognized and incorporated over time, particularly in the quarter-century after the Second World War. The treaty assigned the IJC four categories of function that it was expected to discharge, which can be summarized as *administrative* (articles v and vi): directing the measurement and division of the waters of the Niagara River and the St. Mary–Milk Rivers; *quasi-judicial* (articles iii, iv, and viii): passing on applications for permission to use, divert, or obstruct treaty waters (commission approval with relevant conditions is typically given in an Order of Approval, which the commission then monitors for compliance); *investigative* (article ix): examining and making recommendations on any differences arising along the common boundary (these investigations are called “references” and recommendations are non-binding); and *arbitral* (article x): making binding decisions with respect to *any* questions arising between the two countries, regardless of whether it was a boundary question—a function that has never been used.⁵ A fifth function, *monitoring*, is arguably implicit in the text of the BWT, achieving formal function status beginning in the 1970s through the IJC’s involvement in the Great Lakes Water Quality Agreement (GLWQA) and the International Air Quality Advisory Board.

The 1909 treaty established the IJC as a six-member body in which there is parity between Canada and the United States (i.e., three commissioners per nation, with one commissioner from each section serving as chair). The IJC is not an arm of government and commissioners are technically independent from the government that appointed them. The IJC

is meant to deliberate as a joint, collegial body that normally acts by consensus and seeks win-win solutions in the common interest of both countries. Commissioners are supported in their work by two section offices in Ottawa and Washington, DC (the Secretariat) and, since the signing of the Great Lakes Water Quality Agreement in 1972, by a Great Lakes Regional Office in Windsor, Ontario, which supports the work of the commission's Great Lakes water quality and science advisory boards. The staffs in Ottawa and Washington currently total about thirty individuals, and there are about the same number of permanent employees in Windsor.

Much of the commission's work, which takes place in transboundary watersheds from coast to coast, is performed by international boards or task forces. Boards of control are appointed to report on compliance with orders while study or advisory boards assist in references. Commissioners select and appoint board members to serve in their personal and professional capacity, much like the commissioners themselves. Board members are often senior officials of state, provincial, or federal agencies, and are able to contribute financial and human resources to the work of the IJC (although this is less often the case in current times); the departments are, however, in no way bound by the opinion of a board member. Trust, which is crucial to the effective operation of the IJC, is arguably the most important aspect of the commission's operation.

The BWT provided for public-input mechanisms, such as public hearings that take place in the area concerned (rather than just in national and provincial/state capitals), so that locals affected by a particular docket—each separate issue the IJC deals with, whether a reference or application, is given a docket number—could have their voice heard, which was significant in the early twentieth century. That said, initially the IJC was only responsible to the various levels of government. However, the “spirit” of the treaty has evolved (particularly after the signing of the Great Lakes Water Quality Agreement) in such a way that the commission also came to see itself as responsible to other public authorities, as well as the public itself. The 1909 treaty has been amended only once: the third, fourth, and fifth paragraphs of article v were terminated when the Niagara River Diversion Treaty of 1950 was signed. Concerns about developments around Niagara Falls (as well as interpretations of article vi concerning the St. Mary–Milk) led both countries to seriously consider amending the treaty in the 1910s,

and at that time the BWT, and thus the IJC, was almost abandoned. That the treaty would persist and the IJC become an important institution was not a foregone conclusion; the BWT could well have ended up as an agreement that merely solved some specific disputes before being jettisoned after a half-decade or so.

The IJC has historically been limited in its ability to go beyond the wishes of the two federal governments. The commission's reports are advisory, not binding, and, with some exceptions (e.g., under the GLWQA standing reference), the IJC cannot initiate investigations, since the federal governments must initiate references (though this is changing somewhat with the advent of international watershed boards). By convention, both federal governments need to agree to a reference in order for it to move forward, though according to the BWT either government *could* technically submit a unilateral reference (indeed, at various points in the past there were concerns that such a reference might be forthcoming, such as in the Passamaquoddy case in the 1950s). When it came to investigations under article ix, historically both nations have agreed to the requests of the other. To be fair, it is likely that the treaty and the IJC would never have been achieved if the treaty's drafters had been more ambitious and included stronger enforcement capabilities.

Any person or interest who wishes to use, divert, or obstruct boundary or transboundary waters must submit an application to the government within whose territorial jurisdiction such use, diversion, or obstruction is contemplated. This requirement in effect allows the governments to determine whether a particular project falls within those provisions of the BWT requiring approval by the IJC. This guidance also applies to existing structures that may not be compliant with the BWT. The IJC then acts as a quasi-judicial body by deciding whether these projects can be built and, if so, under what conditions (which are contained in an IJC Order of Approval).

The BWT distinguishes between projects built in boundary waters that form the border, waters flowing from boundary waters, and waters flowing across the boundary. In particular, article ii deals with jurisdiction and control over the use and diversion of waters that subsequently flow across the boundary or into boundary waters. Articles iii and iv set out requirements for binational approval, either by the governments or

the IJC, for: 1) certain projects in boundary waters that would affect levels or flows in the other country; and 2) certain projects in transboundary rivers or in waters flowing from boundary waters that would raise levels across the boundary in the upstream country. In cases where the IJC is asked to provide approval, the commission must follow certain principles that have been agreed to by Canada and the United States as set out in article viii: each country shall have equal and similar rights in the use of boundary waters on its own side of the border; an order of precedence shall be observed among municipal, navigation, power, and irrigation uses; and where obstructions in one country will raise the natural level in the other country, the commission “shall require, as a condition of its approval thereof, that suitable and adequate provision, approved by it, be made for the protection and indemnity of all interests on the other side of the line which may be injured thereby.”

Of the 50 cases handled by the commission prior to 1944, 39 were applications for approval of specific works under the quasi-judicial power of article viii, while only 11 were references under article ix, the investigative function. During the second half of the twentieth century, the ratio was reversed: between 1944 and 1979 there were 35 references and 20 applications,⁶ while between 1979 and 2017 there were 16 references and 3 applications. However, the IJC has been very busy since 2000 reviewing its Orders of Approval for Lake Superior and Lake Ontario.

The number and type of references varies considerably over time and depends on various factors, including natural phenomena such as floods and droughts; project proposals that might affect water levels, flows, or quality; and to some extent the political climate at the national and sub-national levels, and particularly whether there exists concurrence that the IJC is the appropriate organization to address the concerns related to these factors. These points are noted and discussed elsewhere in this volume. The commission is funded by the United States and Canada directly through the two national section offices, subject to the normal appropriations procedures of each country. The US commissioners are appointed by the president and subject to confirmation by the US Senate, while Canadian commissioners are appointed by the governor in council (in practice this is done by the prime minister). Terms of office vary but initial appointments are typically for three or four years and can be extended.

The IJC in History

Political scientists, international relations scholars, geographers, legal scholars, and water resources scholars have produced most of the academic research and writing on the IJC—and scholars from those fields are well represented in this volume. The IJC has received little focused attention from historians, however, particularly in those areas where the IJC is very relevant: Canada-US relations, borderlands, and environmental history.⁷ An animating purpose of this collection is that a sustained historical perspective can bring fresh insights on the first century of the BWT and the IJC. Moreover, we equally hope that this collection can be a valuable tool for present and future border environmental governance and policy-making.

Monographs, or lengthy studies, focused on the IJC are few and far between. The earliest book-length analysis, *The International Joint Commission between the United States of America and the Dominion of Canada*, was published in 1932 by Chirakairkan Joseph Chacko.⁸ Chacko fits the historiographical trend identified above in that he was a law scholar. But, given that he was based in the United States, Chacko bucked what has been another major historiographical trend: the tendency of Canadians—in both government and academia—to pay more attention to the IJC than their American counterparts. Chacko was followed several decades later by L. M. Bloomfield and Gerald F. FitzGerald's *Boundary Waters Problems of Canada and the United States* (1958), though this volume was, much like Chacko's, predominantly a legal compendium of IJC activities to date.⁹

N. F. Dreisziger, whose 1974 PhD dissertation was about the BWT's creation, is one of the few historians to focus on the IJC's origins.¹⁰ Dreisziger also contributed to *The International Joint Commission Seventy Years On*, which was published in 1981.¹¹ Stemming from a 1979 conference, this brief collection has been the pre-eminent academic text on the IJC, combining expert contributions from both inside and outside the commission, including from the likes of William Willoughby, who had recently published *The Joint Organizations of Canada and the United States*, and Maxwell Cohen, who as a former Canadian chairman of the IJC spilled a good deal of ink discussing the commission.¹² In many ways this present volume sees itself as the successor to that 1981 book. Providing some continuity,

three of the authors from that 1981 volume are contributors to this book. Other lengthy publications that should be mentioned here are the 2001 memoir *The Making of a Conservative Environmentalist* by former US Section chair Gordon Durnil, and the 2008 special symposium issue of the *Wayne Law Review* commemorating the centennial of the BWT.¹³

The lack of book-length studies on the IJC may speak to the propensity of many social scientists to disseminate their research results through journal articles. Since the BWT's inception a range of scholars have written articles and book chapters about particular events, issues, or cases that involved the treaty or commission—e.g., the Chicago Diversion, navigation on the St. Lawrence River, hydro-power on the Niagara and Columbia Rivers, water pollution in the Detroit River, air pollution from the Trail Smelter, among others.¹⁴ If one spends the copious amounts of time necessary to identify and collect all these writings produced over the course of the last century, a substantial body of literature on the IJC can be amassed. But these publications often do not speak to each other across disciplinary divides: for example, the legal scholars were often interested in water law or natural resource precedents (and thus more interested in historical dimensions), whereas political scientists and international relations scholars understandably paid more attention to the current/future policy and governance implications.

The number of academics directly addressing the IJC has proliferated in the last few decades because of rising interest in environmental issues in general, and transboundary environmental issues in particular. For example, the Great Lakes Water Quality Agreements of 1972 and 1978, and subsequent additions to the 1978 GLWQA, were central to the growth in interest in the IJC. At the same time, the rise of other binational and multilateral transboundary governance mechanisms that don't include the IJC or that give it a reduced role—e.g., 1991 Canada-US Air Quality Agreement, the IJC's decreasing role in the GLWQA, the Great Lakes-St. Lawrence River Water Basin Resources Compact and the companion international agreement—suggests the policy “submergence” of the IJC since the 1980s.¹⁵ Granted, contributors to this volume point out that the IJC played an invaluable role in creating many of the aforementioned transboundary mechanisms and institutions. Nonetheless, the question undoubtedly remains as to why these separate processes arose when the

following: Is the BWT/IJC a pioneering model of bilateral environmental co-operation? Is there evidence that other institutions and countries have looked to the IJC as a model? Does the IJC have such a limited mandate, or has its role been so circumscribed, that it has been of limited importance for much of the past century? Is there a “myth of the IJC” that exaggerates its importance, and if so, what contributes to that myth? What have been the IJC’s major accomplishments, and its major failures?

A survey of the extant literature reveals disparate and competing interpretations of the BWT’s and IJC’s saliency. As an organization the IJC has been lauded as a pioneering model of bilateral environmental co-operation, which should be extended to other Canada-US issues, and indeed exported to other nations.¹⁶ Others contend that it is more important symbolically and for “legitimacy building” than it is in directly shaping policy. Still others deem the commission irrelevant and powerless outside the wishes of the two federal governments.¹⁷ Between those opposing poles, there are more measured assessments recognizing both positive and negative aspects of the BWT and IJC. For example, consider the following:

The Boundary Waters Treaty of 1909 and the treaty’s vehicle for implementation, the International Joint Commission, have built a foundation that has underlain bilateral environmental relations between Canada and the United States. . . . Touted world-wide as a unique model of what can be accomplished by two nations with sufficient will, the treaty and the commission have long been respected for their unusual spirit of collegiality, for their long record of sound scientific and technical findings; for the unique nature of their organization and approaches; and, perhaps most significantly, for their success in conflict avoidance. Recognition on all of these grounds is justified, though a caveat is in order: the commission’s task under the treaty has been narrow and specialized; its work has been relegated to noncontroversial areas where there was already diplomatic recognition that agreement could be achieved and most of its efforts, especially in recent years, have led to nonbinding recommendations that the two governments can (and often

do) ignore. Hence the work of this in many respects admirable treaty and vehicle is confined and its impact limited.¹⁸

The IJC has had a higher profile in Canada—but even that is mostly limited to the Great Lakes–St. Lawrence basin, outside of some particular border hotspots.¹⁹ Are there significant differences in the national and ideological outlooks of Canadians and Americans, and between the commissioners from each country? There is certainly a tendency on the part of Canadians to extol the virtues of the IJC. This is partly because the BWT can be regarded as an extremely important part of the smaller nation's grappling with the North Atlantic triangle and the American empire. In that sense, the BWT could be considered a peace treaty.²⁰ Another overarching question our contributors address is the extent to which the IJC is key to the Canadian-American relationship, either symbolically or practically. A case can be made that the BWT was one of the key steps in fostering the spirit of rapprochement that characterized northern North American relations in the early twentieth century, establishing a pattern of co-operation that has continued ever since while establishing a basis for direct Canadian-American relations that removed the British middleman. Did the IJC establish a pattern of pragmatic “functionalism” in bilateral relations that would come to full fruition after the Second World War?²¹ Or is this part of the “myth” of the IJC, fed by a “propaganda campaign aimed at bolstering the Commission's image,” in which the IJC “gradually acquired attributes and power it never really possessed”?²² There is probably some truth to speculation that self-servingly lecturing the rest of the world about the need to follow the BWT/IJC model harmonizes with Canada's smug self-image as a power broker, middle power, and peacekeeper.

Since historical knowledge about the IJC before the 1950s is rather incomplete, there is a tendency on the part of many contemporary commentators to read history backwards and to assume that the IJC operated much the same in its first half-century as it has in its second. Many of the positive virtues attributed to the IJC—equality; common vision and common objectives; different scales of action; strong scientific foundation; active community participation; good governance mechanisms in the form of accountability and adaptability; partnerships; binationalism²³—are more apparent in the post-1960s period, and these positive assessments

do not necessarily apply equally to the first half-century, when the IJC was finding its feet and evolving. This volume shows that the IJC's behaviour, role, and function has indeed evolved and changed over time. The IJC's narrative arc has often been presented as one of intergenerational stability, but in a number of respects this arc doesn't match the historical record. Drawing from some of our previous research on the IJC and the Great Lakes, we asked the contributors to respond to, and argue for or against, the following historical periodization: an initial half-century of mixed results, followed by a period, lasting from the 1940s to the 1960s, of partisan politics resulting in large-scale endeavours with dubious environmental impacts, followed by a period of more noticeable success up to the 1990s, and then a period of marginalization continuing into the twenty-first century.²⁴

Some further fleshing out of that periodization might be helpful for the reader. Both the originators and the first members of the IJC assumed that the commission's quasi-judicial role would be much more important than its investigative role, and for three decades this assumption seemed correct.²⁵ The IJC was initially reluctant to settle legal issues and establish precedents, but generally adopted pragmatic solutions. Up to about the Great Depression, high-calibre officials were not often appointed to the IJC; those with relevant experience were often treated to patronage appointments or their various positions created conflicts of interest (though such conflicts were quite standard at the time in North America, and patronage appointments still happen). Take C. A. McGrath, for example, who was chairman of the Canadian Section of the IJC from 1914 to 1935. Not only was McGrath largely a patronage appointment by Robert Borden after McGrath lost his seat in the 1911 federal election, but while serving on the IJC he was also the chairman of the Hydro-Electric Power Commission of Ontario between 1926 and 1931. This was a clear conflict-of-interest scenario.

In addition, over its first half-century of existence there were numerous cases where the IJC did not operate smoothly, such as when the Canadian and US sides of the IJC split along national lines; when the respective federal governments ignored the IJC's recommendations; or when the IJC failed to make a timely recommendation or made a flawed recommendation. Up to about the time of the Second World War, the IJC

focused mainly on apportioning water resources. A number of large-scale water control megaprojects, during which the politicization of the IJC was apparent, characterized the two postwar decades.²⁶ Then, beginning with such notable successes as addressing Great Lakes water pollution, the IJC transitioned into a period in which it successfully dealt with a wide range of issues. However, at the tail end of the twentieth century, the role of the IJC was increasingly circumscribed by the two federal governments, at least in part because of perceptions that the IJC had engaged in policy overreach and/or was too activist in the post-1970 period (e.g., the IJC called out the federal government for insufficient support for the GLWQA, and in chapter 10 of this volume Temby and Munton point out several other cases where the IJC was perceived by government as overly activist). This may well be linked to the increase in multi-level environmental-governance approaches, which can potentially serve to marginalize a national-level organization like the IJC, but which also provided new opportunities that the IJC has moved to embrace (such as the International Watersheds Initiative). But it should be noted that environmental governance, and the cumulative impact of pollution and human activities, has become much more complex over the last half-century, making the IJC's job today inherently more complicated.

The IJC has displayed elements of both a capacity-building and a regulatory institution: soliciting for public input, helping shape consensus, and collaborating widely. Yet it has regulatory functions that involve a gate-keeper role when it comes to approving project applications and handling references, and a role in implementation oversight.²⁷ In the context of key North American transboundary governance themes and theories, the IJC is an example of "fragmented bilateralism."²⁸ Without the consent of the Canadian and American federal governments, the IJC has little legal and regulatory capacity, as it has no enforcement mechanism, though it can use its reputation and symbolic authority to influence environmental issues. (That said, in theory at least, once the IJC passes an Order of Approval it retains continuing jurisdiction over it such that its provisions, once accepted by the applicant, are not appealable, even by governments.) The IJC has wielded technocratic expertise and has been successful in framing scientific information with policy applicability; though that is a

trend that was less noticeable during the first half of its existence, when it dealt largely with applications rather than references.²⁹

During and after our 2017 conference in Ottawa, additional focal themes emerged. One of the overarching questions that became apparent was the difference between the IJC on paper (i.e., what the BWT technically prescribes) and the IJC in reality (i.e., the IJC's approach is partially dictated by convention). Put another way, even though the BWT has not changed since 1909 (aside from several of the Niagara provisions), the "spirit" of the treaty has evolved. The outlooks of specific provinces and states also emerged as a factor—for example, Ontario has frequently asked the federal government to refer matters to the IJC, while British Columbia has, since the commission's report on the Flathead Reference, been adverse to IJC involvement in its border-water affairs. Thus, on the surface, the ways in which the IJC actually operates (e.g., only the federal governments can ask the IJC to undertake a reference under the BWT) would appear to counter the "sub-state actor hypothesis." On the other hand, it is apparent that provinces and states, such as Ontario and New York, have played key roles in the evolution of major issues related to the IJC and have membership on various engineering and scientific boards within the IJC. Moreover, subnational actors, such as activist organizations, have since the 1950s inspired or contributed to IJC investigations, a trend which is only increasing in the twenty-first century.³⁰

The IJC as a Model?

Is the IJC a model? And if so, for whom? Canadian officials have on numerous occasions urged other nations to copy the BWT/IJC, such as in the League of Nations, debates about the post-First World War European settlement, or Middle Eastern water disputes. In a similar vein, it is clear that over the years many foreign dignitaries and experts from myriad nations came to North America to inspect IJC-sanctioned projects and meet with IJC officials; but few, if any, of them went back to their home countries and actually applied the BWT/IJC model to their activities.³¹ There are cases where scholars from outside of Canada have promoted the BWT and IJC as something worthy of emulation—for example, the IJC has been lauded in United Nations publications.³² Nonetheless, given the limited

extent of these “model” examples, this collection suggests that it is probably time to retire the trope of the BWT/IJC as a direct model.

That is not to say that the BWT/IJC hasn’t been an indirect model, or that elements of the treaty and commission shouldn’t be a model in the future. The longevity of both the treaty and the commission helped prove the viability of not just transboundary environmental governance mechanisms, but joint commissions in general, potentially paving the way for similar agreements and institutions. For example, it is possible to conjecture that the creation of such bodies as the Permanent Joint Board of Defense were partly based on the IJC. There are certainly cases where specific recommendations or findings of the IJC have been highly valued, such as in the Trail Smelter arbitration, the Garrison Diversion, and Red River flooding. Moreover, there are ways that the IJC should be a model that are often overlooked. Many of the IJC’s reports, such as on water supplies, natural cycles, and consumptive usage in the Great Lakes basin, are heralded as seminal studies. Theo Colborn’s groundbreaking studies on endocrine disruptors, as a further example, came out of work commissioned by the IJC.³³ And, in a connected vein, the GLWQA was arguably the first large-scale policy application of the ecosystem principle. Thus, the IJC might be considered a model for incorporating science into policy.

Nonetheless, the findings showcased in this volume might suggest that the IJC worked primarily because of its specific North American context, and thus can’t really be imported whole cloth by other water borders around the world. But we can consider what aspects of the BWT/IJC specifically were most responsible for its successes. Was it the terms of the BWT itself and the resulting institutional structure of the IJC? Was it the unique Canadian-American relationship (or, in a chicken-and-egg scenario, did the IJC help foster comity in the relationship)? Was it the unique geographic setting—in other words, the fact that across the length of the whole shared border neither country is the predominant upstream or downstream riparian? How much do individual personalities and leadership styles contribute to the operation of the commission?

Going back to the origins of the IJC, the various contributors to this collection look at the key steps and driving factors in the process that created the BWT. Was the treaty a progressive, anticipatory step in international environmental law and governance—or actually a

fairly pragmatic, conservative approach meant to allow the two nations to co-operatively exploit, rather than protect, their shared water resources? Looking at water quantity and control for dams, irrigation, and navigation—as a number of contributors to this volume do—this would appear to be the case. But on the axis of water quality and pollution, which a set of chapters in these pages address, there is evidence that from the beginning the IJC was at least somewhat concerned with protecting public health (protecting ecological health would come later on). Over time, pollution emerged as one of the commission's primary concerns. The last line of article iv of the BWT reads: "It is further agreed that the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other." This may well have been a reluctant compromise that did not have the backing of the majority of those involved in the crafting of the accord, but it has turned out to be perhaps the most important legacy of the treaty.

It is apparent that the IJC operates differently along a resource axis—that is, whether it is dealing with water quantity or quality, or air pollution. It also operates along a geographic axis. During the 2017 workshop these different axes led several participants to aver that the IJC essentially has two different regimes, particularly after the implementation of the GLWQAs: it acts like a treaty institution in the Great Lakes, but elsewhere like a binational organization.

Moreover, cutting across both resource and geographic axes, and running like a thread though the IJC's 122 (and counting) dockets, are thematic issues like science and colonialism. The IJC's application of objective and cutting-edge science in policy has been exemplary, and is one of those areas where the IJC should be considered a model. But expertise can easily be turned to imperialist ends. Water resource development in North America has often taken place at the disproportionate expense of Indigenous Peoples because of the propensity for dams to be placed at water sites frequented by Indigenous communities, which were considered expendable and their use of waterways unproductive compared to hydro installations or irrigation works. The IJC has undoubtedly been a part of the settler-colonial apparatus. A number of our chapters touch on the relationship between the IJC and Indigenous communities, with one chapter in particular focusing on that relationship. It should be noted that

in May 2019 Henry Lickers was appointed to the Canadian Section of the IJC, making him the first Indigenous commissioner.

A strong case can be made that the BWT does directly address the potential transboundary harms stemming from taking and diverting boundary waters. From a legal perspective, it is worth asking: Does the BWT and IJC create a legal foundation for co-operation and a duty to avoid harm? And, if the answer is in the affirmative, when and to what extent did avoidance of harm extend past human interests and to ecological interests?³⁴ Several leading legal scholars grapple with such questions, as well as the issue of the infamous Harmon Doctrine: US attorney general Judson Harmon's 1895 opinion, originally made about American water flows into Mexico, holding that the upstream country is absolutely sovereign over those parts of international watercourses within its borders. It is worth pointing out that the BWT and IJC would not likely have succeeded if the United States had not abandoned its initial insistence on the Harmon Doctrine. Perhaps the United States did so in this instance because spatial reality indicated that application of the doctrine vis-à-vis Canada would not often be beneficial stateside.

Scholars of Canadian-American relations and borderlands, particularly historians, need to take better cognizance of the IJC. In the early Cold War period, the IJC was heavily involved in shaping some of the issues key to the general bilateral relationship, such as the St. Lawrence Seaway and Power Project, the Columbia River Treaty, and the GLWQA. But there is also an irony in that the era during which the federal governments most trusted the IJC was also the era of the commission's most overt partisanship, and the period when it created what are now recognized as ecologically harmful projects. Thus, the IJC's visibility may be a double-edged sword: the more the IJC is perceived as relevant, the greater the chance it might be used for partisan purposes. The history of the IJC would, on the one hand, affirm claims that the Canadian-American relationship is a unique or special one within the context of international affairs; at the same time, delving into the intricate workings of IJC issues, it appears that linkage politics were frequently deployed by both nations.³⁵

If the bar of success for the IJC is to avoid significant state-to-state conflict over border resources, then the IJC has been quite successful. But the argument has been made that the IJC is generally only given relatively

unimportant issues to handle, except where the federal governments are in agreement about what they want to result. The federal governments have often avoided using the IJC in the second half of the twentieth century when they didn't think the commission would provide an answer they would like. According to some, the IJC was a place to send a problem so that it could be defused, but at times it may also have been used as a place to bury a problem or provide political cover. And the federal governments have also often disregarded the IJC's conclusions or recommendations. Moreover, as has been mentioned, some of the IJC's major accomplishments are, in hindsight, quite unsustainable, and the IJC has been guilty in the past of promoting an engineering mindset in which nature should be controlled and commodified.

We could certainly measure the IJC against the wishes of its creators and the BWT itself—but this is only fruitful to a limited extent since institutions evolve and change over time. A frequently used method of measuring the success of the IJC is statistical evaluation. For example, the IJC has successfully approved 49 applications, with no action or deferred action on 6 applications, while 6 were withdrawn or had technical concerns. This 80 per cent success rate is impressive, though less so when compared to the more grandiose claims about the IJC. We often hear that the IJC has only in a few cases made non-unanimous decisions, and has virtually never split along national lines. A 2006 presentation made by a former US Section chair included a slide showing that in only 2 per cent of all cases resolved by the IJC did the commissioners split on national lines.³⁶ But this is an extremely misleading, if not outright false, statistic. For one thing, many controversial cases were kept out of the IJC's ambit (a recent example is Devils Lake). For another, it only measures cases resolved: when cases weren't resolved, it was sometimes precisely because of such Canada-US splits. In other cases, commissioners agreed to go along with a unanimous recommendation more or less for the sake of saying that it was unanimous, or resigned or were replaced when they objected. Moreover, unanimous approval of a project at the commissioner level might cover up the fact that on-the-ground engineering decisions for that project splintered along politicized national lines.³⁷

Moreover, these statistics don't indicate whether the federal governments effectively implemented or funded the commission's recommendations—

in many cases they did not, although this is generally not the fault of the IJC. It is clear that IJC appointees sometimes also saw the writing on the wall, so to speak, censoring themselves or changing their decisions in advance to correspond with the political wishes of Ottawa and Washington. Thus, it is important to be objective about the IJC. One could selectively put together a resume of the IJC's activities from examples in this book that cast the commission in quite a poor light. Exaggerating what the IJC can do is counterproductive because it undermines trust in the commission and creates unrealistic expectations.

Though the IJC was intended to be apolitical, its members are appointed by the prime minister and president, and this process involves some inherent politicization. As many contributions to this volume show, a number of issues have become politicized within the IJC.³⁸ This politicization was most pronounced in the early Cold War period and was epitomized by General A. G. L. McNaughton, the Canadian chairman who pushed for solutions based on Canadian nationalism. McNaughton was selected for the IJC by the St. Laurent government precisely because he would prioritize Canadian self-interest in a period—the 1950s and '60s—when the issues before the IJC were also top diplomatic concerns between the Canadian and American governments.

Chapter Organization

The contributors to this volume bring a variety of different perspectives and backgrounds. One of the two editors, Murray Clamen, is a water resources engineer who spent three decades in the IJC—as an engineering adviser from 1977 to 1997, and secretary of the Canadian Section from 1997 to 2011—while his co-editor, Daniel Macfarlane, is an academic historian and political ecologist who has spent many years in the archives researching IJC projects, primarily those in the Great Lakes–St. Lawrence basin. Many of the contributing authors come from academic backgrounds, including political science, history, and law, while several contributors are policy practitioners who have direct experience with the IJC.

The volume has been divided into four sections. Section 1 looks at the creation of the 1909 BWT and the IJC. David Whorley addresses Canadian and US actions from the creation of the IWC through to the finalization of

the BWT, which demonstrate how institutional creation and change can be a messy, complex, and not entirely predictable affair. Whorley describes one of the treaty drafts that, though ultimately not accepted, would have created quite a different treaty and commission. Meredith Denning explores why this cornerstone treaty and commission were created in 1909, rather than earlier or later, and why they took the forms that they did.

Section 2 looks at various cases in which the IJC has been involved from coast to coast (though with the exception of one chapter, this section excludes the Great Lakes–St. Lawrence basin) and which have contributed significantly to its history and the history of Canada and the United States. Jamie Benidickson writes about the IJC's fourth docket, showing that although the IJC's earliest pollution reference did not resolve the water quality challenges of the early twentieth century, the initiative contributed significantly to greater awareness of bacterial contamination of boundary waters and potential responses. Timothy Heinmiller provides a focused study of the historic St. Mary–Milk Rivers apportionment, how it evolved over the twentieth century, and what issues are at play today. Allen Olson and Norman Brandson look at some of the most important references (and a non-reference) over the last forty years in the middle of the continent—i.e., the Prairie/Plains region—and how the conclusions and recommendations have played, and continue to play, such an important role for the IJC in those watersheds. Richard Moy and Jonathan O'Riordan provide a comprehensive study of the role of the IJC in the Far West with respect to the Columbia, Flathead, and Skagit Rivers. Kim Richard Nossal looks at one of the so-called failures of the IJC, the Point Roberts Reference, and suggests why it failed and how it could have been successful (and how that failure brings into sharper relief the success of the IJC). The history of the IJC and hydro-power development in the northeastern borderlands is the subject of James Kenney's chapter, which shows that while the IJC investigations did not result in a tangible international megaproject on the East Coast, they did play an important role in shaping the orientation of New Brunswick's power utility.

Section 3 focuses on one region—the Great Lakes–St. Lawrence basin—which has had the central role in the history of the IJC's water management activities. The editors of this volume, Murray Clamen and Daniel Macfarlane, provide a historical survey of the evolution of the

IJC's transboundary water governance in the Great Lakes basin over the course of the twentieth century, with a focus on water quantity (diversions, canals, hydroelectric developments, remedial works, etc.). Owen Temby and Don Munton provide a unique chapter on the role of the IJC in the field of transboundary air pollution, from the landmark Trail Smelter case to the various studies in the Great Lakes. Jennifer Read traces the evolution of ideas and structures incorporated into the GLWQA from the initial pollution reference in 1912 through to the GLWQA's conclusion, noting important antecedents to the agreement in the commission's early days. Gail Krantzberg discusses the creation of the Areas of Concern, the Remedial Action Plan, and the Lakewide Action Management Plan processes—novel and significant experiments in collaborative management that have had mixed results to date. Deborah VanNijnatten and Carolyn Johns take a critical look at the role of the IJC over the course of successive revisions to the GLWQA in 1978 and 1987, wherein the commission was given a more supportive role (and additional help in the form of advisory boards), but it also became enmeshed in monitoring and reporting on the commitments made by both governments in the agreement.

Section 4 takes a long view of the history of the BWT and the IJC. Frank Ettawageshik and Emma Norman examine the involvement of Indigenous communities in the IJC process using several historical case studies, including the establishment of the International Watershed Initiative in 2000. The chapter by Noah Hall, Dan Tarlock, and Marcia Valiante shows how the treaty and the commission have played an important role in the evolution of transboundary environmental law and governance, both in North America and globally. John Kirton and Brittany Warren argue that the treaty and the commission embodied, entrenched, and expanded several of Canada's six distinctive national values. In their chapter, Ralph Pentland and Ted Yuzyk suggest that the commission's success relates both to its formal functions and also to a number of other attributes that have appeared over the past century, but which are continuing to change. Clamen and Macfarlane's concluding chapter offers insights about what the historical lessons can teach us about the IJC and its future.

It is our hope that this book will make a contribution to the analysis of water management in Canada and the United States, to the environmental and water history of both countries, and to environmental policy, law,

and governance in North America. As we approach the end of the second decade of the twenty-first century, water is being talked and written about more and more by media, politicians, academics, entrepreneurs, and society in general. It is now a truism to say that water is the new oil. While such an observation is meant to highlight the importance of water, it is also a misnomer, since oil is not central to life and ecological health in the same way that water is (and comparing water to oil risks commodifying the former). There is no getting around the fact that “water is life,” and there is a pressing need for more, rather than less, education and awareness of all things related to this most precious resource. The end result of this book, we hope, will not just be awareness of an institution that has existed since 1909 and is a key part of the Canadian-American relationship, but a greater understanding of water and border environmental issues, and a desire to ensure politicians and decision-makers appreciate water’s importance now and in the years to come. Along the way some very valuable lessons about institution building, dispute prevention and resolution, and international water law and governance have been learned, some of which may be applicable to other organizations, and even countries, around the globe.

Notes

- 1 On the evolution of the method of regulation see Murray Clamen and Daniel Macfarlane, “Plan 2014: The Historical Evolution of Lake Ontario-St. Lawrence River Regulation,” *Canadian Water Resources Journal / Revue canadienne des ressources hydriques* vol. 43, no. 4 (December 2018): 416–31.
- 2 International Joint Commission, “Lake Ontario-St. Lawrence River Plan 2014: A Report to the Governments of Canada and the United States by the International Joint Commission (June 2014), http://www.ijc.org/files/tinymce/uploaded/LOSLR/IJC_LOSR_EN_Web.pdf.
- 3 International Joint Commission, “Supplementary Order of Approval 2016 (International Joint Commission in the Matter of the Regulation of Lake Ontario)” (December 2016), <https://ijc.org/en/loslr/who/orders>.
- 4 Maxwell Cohen, “The Commission From the Inside,” in *The International Joint Commission Seventy Years On*, ed. Richard Spencer, John Kirton, and Kim Richard Nossal (Toronto: Centre For International Studies, University of Toronto, 1981), 108.
- 5 William Willoughby, “Expectations and Experience, 1909–1979,” in Spencer, Kirton, and Nossal, *The International Joint Commission Seventy Years On*.
- 6 Ibid.

- 7 To be fair, legal scholars in particular often bring a nuanced and sophisticated historical analysis to bear. Part of the reason that the IJC has been ignored by historians is that the general importance of environmental diplomacy to the Canada-US relationship has also been ignored by historians. See Daniel Macfarlane, "Natural Security: Canada-US Environmental Diplomacy" in *Undiplomatic History: Rethinking Canada in the World*, ed. Asa McKercher and Phil Van Huizen (Montreal: McGill-Queen's University Press, 2019). In addition to the sources already mentioned or cited elsewhere in this introduction, the historical scholarship on the IJC includes Alan O. Gibbons, "Sir George Gibbons and the Boundary Waters Treaty of 1909," *Canadian Historical Review* 34, no. 2 (June 1953): 124–38; Harriet Eleanor Whitney, "Sir George C. Gibbons and the Boundary Waters Treaty of 1909" (PhD diss., Michigan State University, 1968); Alvin Gluek, "The Lake Carriers Association and the Origins of the International Waterways Commission," *Inland Seas* (Q.J. Great Lakes Historical Society) 36, no. 4 (1980): 236–45; Peter Neary, "Grey, Bryce, and the Settlement of Canadian American Differences, 1905–11," *Canadian Historical Review* 49 (1968): 357–80; Joseph T. Jockel and Alan M. Schwartz, "The Changing Role of the Canada-United States International Joint Commission," *Environmental Review* 8, no. 3 (Autumn 1984): 236–51; Jennifer Read, "Addressing 'A quiet horror': The Evolution of Ontario Pollution Control Policy in the International Great Lakes, 1909–1972," (PhD diss., University of Western Ontario, 1999); Kurkpatrick Dorsey, *The Dawn of Conservation Diplomacy: U.S.-Canadian Wildlife Protection Treaties in the Progressive Era* (Seattle: University of Washington Press, 1998); Brittany Flaherty, Raul Pacheco-Vega, and Judy Isaac-Renton, "Moving Forward in Canada-United States transboundary water management: an analysis of historical and emerging concerns," *Water International* (36:7): 924–936; Daniel Macfarlane, "Fluid Relations: Hydro Developments, the International Joint Commission, and Canada-US Border Waters," in *Towards Continental Environmental Policy? North American Transnational Environmental Networks and Governance*, ed. Peter Stoett and Owen Temby (Albany: SUNY Press, 2017); Lynne Heasley and Daniel Macfarlane, eds., *Border Flows: A Century of the Canadian-American Water Relationship* (Calgary: NiCHE-University of Calgary Press Environmental History Series, 2016); Daniel Macfarlane, "'A Completely Man-Made and Artificial Cataract': The Transnational Manipulation of Niagara Falls," *Environmental History* 18, no. 4 (October 2013): 759–84; John D. Wirth, *Smelter Smoke in North America: The Politics of Transborder Pollution* (Lawrence: University of Kansas Press, 2000); Meredith Denning, "Connections and Consensus: Changing Goals for Transnational Water Management on Lake Erie and Lake Ontario, 1900–1972" (PhD Dissertation: Georgetown University, 2018); Shannon Stunden Bower, *Wet Prairie: People, Land, and Water in Agricultural Manitoba* (Vancouver: UBC Press, 2011); Nancy Langston, *Sustaining Lake Superior: An Extraordinary Lake in a Changing World* (New Haven, CN: Yale University Press, 2017); Jamie Benidickson, *Leveling the Lake: Transboundary Resource Management in the Lake of the Woods Watershed* (Vancouver: UBC Press, 2019).
- 8 J. C. Chacko, *The International Joint Commission between the United States of America and the Dominion of Canada* (New York: Columbia University Press, 1932).
- 9 L. M. Bloomfield and G. F. FitzGerald, *Boundary Waters Problems of Canada and the United States* (Toronto: Carswell, 1958). The IJC in the specific context of the Great Lakes is featured in Don Courtney Piper, *The International Law of the Great Lakes: A*

- Study of Canadian-United States Cooperation* (Durham, NC: Duke University Press, 1967). The IJC is discussed to varying degrees, though generally not enough, in the various survey histories of Canadian-American relations.
- 10 N. F. Dreisziger, "The International Joint Commission of the United States and Canada, 1895–1920: A Study in Canadian-American Relations" (PhD diss., University of Toronto, 1974). Though it wasn't subsequently released as a book, many of the chapters in this dissertation became journal articles; see for example N. F. Dreisziger, "The Great Lakes in United States-Canadian Relations: The First Stock-Taking," *Inland Seas* (Q.J. Great Lakes Historical Society) 28, no. 4 (1972): 259–71; "The Campaign to Save Niagara Falls and the Settlement of United States-Canadian Differences, 1906–1911," *New York History* 55, no. 4 (October 1974): 437–58.
 - 11 Spencer, Kirton, and Nossal, *The International Joint Commission Seventy Years On*.
 - 12 William Willoughby, *The Joint Organizations of Canada and the United States* (Toronto: University of Toronto Press, 1979).
 - 13 Gordon Durnil, *The Making of a Conservative Environmentalist* (Bloomington: Indiana University Press, 2001). The contributions to the Boundary Waters Treaty Centennial Symposium are reprinted in a theme issue of the *Wayne Law Review* 54, no. 4 (Winter 2008).
 - 14 For a list of publications on the IJC up to 1966 see F. J. E. Jordan, *An Annotated Digest of Materials Relating to the Establishment and Development of the International Joint Commission* (Ottawa: Report Prepared for the Canadian Section of the International Joint Commission, August 1966).
 - 15 For more on the composition and backgrounds of IJC appointees see Brooks, "The Promise and Limits of an Ambitious Model."
 - 16 A. D. P. Heeney, a former member of the IJC, is one of the most notable proponents of expanding the IJC's functions; See A. D. P. Heeney and Livingston Merchant, *Canada and the United States: Principles for Partnership* (Washington, DC: Department of State, 1965), and A. D. P. Heeney, *Along the Common Frontier: The International Joint Commission* (Toronto: Canadian Institute for International Affairs, 1967). For a list of nine key reason for the enduring success of the IJC, see Willoughby, *The Joint Organizations of Canada and the United States*, 52–58; see also Kim Richard Nossal's chapter in this volume for this list.
 - 17 Some others include David LeMarquand, "The International Joint Commission and Changing Canada-United States Boundary Relations," *Natural Resources Journal* 33 (1993): 59–91; Alan Schwartz, "The Management of Shared Waters," in *Bilateral Ecopolitics: Continuity and Change in Canadian-American Environmental Relations*, ed. Peter Stoett and Philippe LePrestre (New York: Routledge, 2006).
 - 18 Kenneth M. Curtis and John E. Carroll, *Canadian-American Relations: The Promise and the Challenge* (Toronto: D.C. Heath and Company, 1983), 27–8.
 - 19 It should be pointed out that the IJC has a negative profile on the south shore of Lake Ontario because of the history there of riparian flooding due to natural causes (though this reputation is arguably undeserved). Stephen Brooks notes that "most volumes of the Canadian Institute of International Affairs longstanding 'Canada in World Affairs'

- series make only brief and passing mention of the IJC. In no annual issue of Carleton University's prestigious 'Canada Among Nations' series, between 1996 and 2016, is there a single mention of the IJC, despite the fact that every year there are chapters devoted to aspects of Canada-US relations. On the other side of the border, leading textbooks on American foreign policy make no or only passing mention of the IJC." Brooks also looked at mentions of the IJC in the *New York Times* as a proxy for the public relevance of the IJC, with the 1950s being the decade in which the IJC was mentioned the most. See Brooks, "The Promise and Limits of an Ambitious Model," 40, 45.
- 20 Gordon Walker, "The Boundary Water Treaty 1909—A Peace Treaty?," *Canada-US Law Journal* 170 (2015): 1–17.
 - 21 Robert Bothwell, *Your Country, My Country: A Unified History of the United States and Canada* (Toronto: Oxford University Press, 2015). According to A. D. P. Heeney, within the Canadian Department of External Affairs "the commission was highly regarded both by senior officials such as O. D. Skelton and John Read as well as by more junior colleagues who had a good deal to do with the references to the commission over the years." A. D. P. Heeney, *The Things That are Caesar's: Memoirs of a Canadian Public Servant* (Toronto: University of Toronto Press, 1973), 183.
 - 22 Dreisziger, "The International Joint Commission of the United States and Canada, 1895–1920," 380–1.
 - 23 Marcia Valiante, "Management of the North American Great Lakes," in *Management of Transboundary Rivers and Lakes*, ed. O. Varis, C. Tortajada, and A. K. Biswas (Berlin: Springer, 2008), 258–60.
 - 24 Murray Clamen and Daniel Macfarlane, "The International Joint Commission, Water Levels, and Transboundary Governance in the Great Lakes," *Journal of Policy Research* 32, no. 1 (January 2015): 40–59.
 - 25 Willoughby, "Expectations and Experience, 1909–1979."
 - 26 For a study on the selection of IJC members see William R. Willoughby, "The Appointment and Removal of Members of the International Joint Commission," *Canadian Public Administration* 12, no. 3 (Sept. 1969): 411–26.
 - 27 From a political theory perspective, we suggest that the IJC moved from a bureaucratic to a post-bureaucratic model (though it could be said to blend the two categories and retain aspects of the bureaucratic model).
 - 28 S. P. Mumme and P. Duncan, "The Commission for Environmental Cooperation and environmental management in the Americas," *Journal of Interamerican Studies and World Affairs* 39, no. 4 (1997): 41–62.
 - 29 The approach employed in this study ultimately aligns with the "rational-legal authority" approach stemming from the constructivist camp of international relations theory. In line with this theory, the IJC theoretically has a great deal of autonomy and has developed its own bureaucratic culture and internal processes, and it has gained a reputation among many for effectiveness, expertise, and impartiality because of these processes. As such, it wields symbolic and tangible power to frame issues, orient problems, and identify actors and solutions (often holding itself up as the impartial repository of expertise). See M. Barnett and M. Finnemore, *Rules for the World*:

- International Organizations in Global Politics* (Ithaca, NY: Cornell University Press, 2004); F. Biermann and B. Siebenhuner, eds., *Managers of Global Change: The Influence of International Environmental Bureaucracies* (Cambridge, MA: MIT Press, 2009).
- 30 See for example Noah D. Hall, "Toward A New Horizontal Federalism: Interstate Water Management in the Great Lakes Region," *Colorado Law Review* 77 (2006): 405–56, and Daniel Macfarlane, "Watershed Decisions: The St. Lawrence Seaway and Sub-National Water Diplomacy," *Canadian Foreign Policy Journal* 21, no. 3 (2015): 212–23.
 - 31 There is at least one minor example of other Canadians employing the BWT as a model: the 2009 amendment to the 1981 Canada-US Pacific Albacore Tuna Treaty. In fact, the BWT's article IX was used as a model for this 2009 treaty's dispute resolution mechanism by a negotiating delegation that included David Whorley, who was then at the Department of Foreign Affairs and International Trade, and who is a contributor to this volume.
 - 32 Canadian-US boundary waters management is commonly regarded as one of the most successful ventures of international co-operation in the world according to a UN publication *Management of International Water Resources: Institutional and Legal Aspects. Report of panel of experts on legal and institutional implications of water resources development* (New York: United Nations Publication St/ESA/5, 1975). A. Dan Tarlock, a contributor to this collection, was also a contributor to the UN Economic Commission for Europe's 2015 report "Water and Climate Change Adaptation in Transboundary Basins: Lessons Learned and Good Practices," which cites the Great Lakes Compact and IJC's work as a example of good practice. A copy of this report is available at https://www.unece.org/fileadmin/DAM/env/water/publications/WAT_Good_practices/ece.mp.wat.45.pdf. Our thanks to Stephen Brooks for pointing out several publications that promote the IJC/BWT: Zigurds Zile, *Binational land resource management for the Great Lakes area: Powers of the International Joint Commission* (Canada-US University Seminar Great Lakes Management Series, no.1, 1974); J. Isaac and H. Shuval, eds., *Water and Peace in the Middle East*, 1st ed. (Amsterdam: Elsevier Science, 1994), vol. 58: 237–8; Clive Lipchin, Eric Pallant, Danielle Saranga, and Allyson Amster, eds., *Integrated Water Resources Management and Security in the Middle East* (New York: Springer, 2007), 226–8.
 - 33 Theo Colborn, Dianne Dumanoski, and John Peterson Myers, *Our Stolen Future: Are We Threatening Our Fertility, Intelligence, and Survival? A Scientific Detective Story* (New York: Plume, 1997).
 - 34 Daniel Macfarlane and Noah Hall, "Transborder Water Management and Governance in the Great Lakes-St. Lawrence Basin," in Brooks and Olive, eds., *Transboundary Environmental Governance*.
 - 35 Daniel Macfarlane, "'Caught Between Two Fires': St. Lawrence Seaway and Power Project, Canadian-American Relations, and Linkage," *International Journal* 67, no. 2 (Summer 2012): 465–82.
 - 36 Cited in Brooks, "The Promise and Limits of an Ambitious Model," 30. See also Dennis Schornack, "The International Joint Commission: A Case Study in the Management of International Waters" (paper presented at the Rosenberg International Forum on Water Policy, Banff, AB, 10 September 2006).

- 37 See Daniel Macfarlane, *Negotiating a River: Canada, the US, and the Creation of the St. Lawrence Seaway* (Vancouver: UBC Press, 2014); see also the chapter 9 in this volume.
- 38 To provide just one example, Jane Elder, formerly the Sierra Club Midwest representative, stated in a 1998 interview: "Look at the International Joint Commission. There was a body that was considered to be learned, independent—and *useful*. Their scientific reports were groundbreaking for the Great Lakes. They drove the agenda. But in the last ten years the IJC has become a very different animal. It's extremely politicized, in terms of appointees. Industry has discovered it. So the instruments have changed." Cited in William Ashworth, *Great Lakes Journey: A New Look at America's Freshwater Coast* (Detroit: Wayne State University Press, 2000), 63.

