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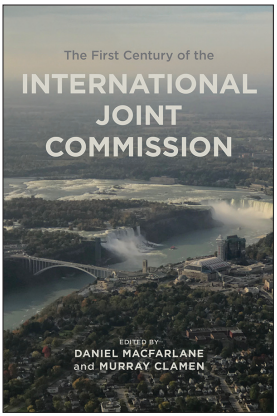

THE FIRST CENTURY OF THE INTERNATIONAL JOINT COMMISSION

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Conclusion

Murray Clamen and Daniel Macfarlane

In the Conclusion to their 1958 book *Boundary Waters Problems of Canada and the United States*, L. M. Bloomfield and G. F. FitzGerald wrote: "There is no doubt that the International Joint Commission has successfully discharged the high functions entrusted to it by the Boundary Waters Treaty. It has acted successfully as judge, adviser and administrator for two great neighbours during a period of unparalleled expansion when conflicts of important interests were bound to arise. In playing its triple role the Commission has developed techniques of continuous consultation which are a model for the world."[1] More than twenty years later, in the 1981 volume *The International Joint Commission Seventy Years On*, Kim Richard Nossal wrote in the concluding chapter: "It is inevitable that the IJC with its seventy-year history of problem-solving will be used to point to the success and pitfalls of utilizing bi-national mechanisms to bring to Canadian-American transboundary relations a certain civility and, over the long haul, tranquility."[2]

Both volumes were framed by their respective "issues of the day." In the case of Bloomfield and Fitzgerald, the St. Lawrence Seaway and Power Project and Niagara remedial works were just being completed, while the "unfinished tasks which stagger the imagination" included the Columbia, the Passamaquoddy, and, ultimately, the rivers of the far Northwest. For *The International Joint Commission Seventy Years On*, there were of course important issues involving the Great Lakes–St. Lawrence River basin in

terms of water levels and water quality (1972 Great Lakes Water Quality Agreement) and also, for some, the question of long-range airborne acid precipitation, which "could have far-reaching implications for both the mandate of the Commission and its effectiveness"[3]—something that really never came to pass.

So here we are, almost forty years after that seventieth birthday, more than a century after the creation of the Boundary Waters Treaty (BWT) and the establishment of the International Joint Commission (IJC), trying to take another objective look back at, and consider future prospects for, this remarkable institution and the 1909 treaty that created it to provide a regime for managing transboundary and border waters between Canada and the United States. In this concluding chapter we want to reflect on what the various authors have written and also to talk about the future of the IJC. We are fortunate that the preceding chapters in this volume have been written by noted scholars, experts, and practitioners who have presented an array of viewpoints, including both the successes and failures of the organization, from which to draw conclusions. Granted, we should add the caveat that the arguments presented in this conclusion reflect only our personal opinions as co-authors of this chapter and co-editors of this collection. What do the contributions that make up this volume collectively teach us about the past of the IJC, and what are the conclusions we should draw about where it goes in the future? What will be key to the success of the IJC moving forward? Is the greatest threat to the future of the IJC likely that the Canadian and American governments will ignore it? If so, what does the IJC need to do and provide to remain, or become more, relevant?

Structure and Governance

One way to measure the success of the IJC and the BWT is the number of references and applications it has dealt with and the results, keeping in mind the overall goal or purpose is to "prevent and resolve disputes." In the case of applications it would not just be the number but also the success (or not) of projects that were applied for, built, and operated. In the case of references, it would be the number of references sent to the IJC from governments, the recommendations made by the commissioners,

and then, ultimately, whether these recommendations were in fact accepted and implemented by either or both governments. While that may seem relatively straightforward, this kind of reference "score card" does not officially exist, so the only answers are for the most part impressionistic. The current perception is that most but not all IJC recommendations are accepted and acted on by governments. Another measure is the administrative responsibilities attached to the St. Mary–Milk Rivers apportionments (see the chapter by Heinmiller). Here the results appear to be quite good, except if you are in Montana, which continues to raise arguments against the current formulae. Still another measure is the ongoing recommendation and implementation cycle under the Great Lakes Water Quality Agreement (GLWQA) and its various renewals since 1972. This standing reference, dealing with one of the world's more important and precious resources, occupies about half of all the IJC's time and workload and involves a great many bureaucrats and others, yet it is difficult to determine the success or not of the GLWQA over the past almost fifty years (see the chapters by Read, Krantzberg, and Van Nijnatten and Johns).

But we also need to keep in mind that simply tallying up the number of references or applications can be misleading since the two countries tend to not send references or applications to the IJC if it doesn't appear that this is likely to produce an acceptable result for those involved. If the federal and sub-federal governments aren't in agreement about invoking the IJC and don't think utilizing the commission will produce a mutually agreeable outcome, then they simply don't utilize the IJC. Thus, good prospects for success are usually key to explaining the IJC's track record when it comes to crafting references and approving/disapproving applications that both countries are satisfied with. But, as noted earlier, this can also skew the so-called success rate of the IJC—that is, if a matter is likely to break down along national lines, then it is unlikely that both nations will agree to take the issue to the commission.

The procedural and institutional consequences of the IJC and the BWT are also relevant. For example, the IJC has evolved from a body that almost always used to call on government bureaucrats to help with references and applications into one that now seconds experts from various jurisdictions outside government such as universities, the private sector, First Nations and Tribes, non-government organizations, and civil society. And these

various disciplines as well as their local knowledge have created a tremendous pool of talent from which commissioners can draw when looking for suitable candidates for IJC boards, task forces, initiatives, etc. Moreover, these members, some of whom serve for many years consecutively, form bonds with their counterparts in other jurisdictions and these spill over into areas far beyond the work of the IJC. This incalculable benefit continues to grow each year the IJC makes new appointments and, coupled with the dictum that members operate in "their personal and professional" capacity while they seek the best science-based objective advice, creates a very powerful tool that governments can call on.

Of course, it wasn't always this way—the early IJC certainly did not have these important principles and ways of working to guide it—but it evolved and, as one commentator put it, succeeded "out of sheer luck."[4] The IJC started off as an agreement between two countries aimed at the most efficient exploitation of their shared natural resources—the BWT was a conservationist agreement with a dash of preservationist mindset thrown in. The IJC's first few decades, when it was finding its feet and evolving, reflect that. In the middle third of the twentieth century, the IJC was generally captured by an engineering mentality that saw nature as something to be dominated and controlled—granted, this reflected the prevailing ethos in North American society during this period—resulting in megaprojects and hard-path water infrastructures that are now considered ecologically dubious.[5] Ironically, the first decades of the Cold War were also the IJC's heyday in terms of its prominence and influence—as we have seen, environmental diplomacy was vitally important to Canadian-American relations, and the two national governments took a strong interest and direct involvement in the IJC's activities (though the bilateral agreements on the St. Lawrence Seaway, Niagara Falls, and the Columbia River all took place outside the IJC). But this also resulted in the overt politicization of the IJC for an extended stretch, during which chairmen such as General A. G. L. McNaughton and Roger McWhorter prioritized their respective nationalist interests.

However, the megaproject era also overlapped with the studies that would produce in the 1970s what is arguably the IJC's greatest success: the Great Lakes Water Quality Agreements. Although the IJC had paid attention to water (and air) pollution since the early twentieth century, it was

not until the post–Second World War period that the commission really began to take a leading role in addressing pollution (or perhaps it was more the case that the governments now took pollution concerns more seriously). It shouldn't necessarily be surprising that, once the commission became preoccupied with efforts that tended to interfere with industrial and economic expansion (and one of its main consequences—pollution), rather than fostering this expansion, the national governments have marginalized the IJC by avoiding it, reducing its funding, and ignoring its recommendations. Moreover, since the 1980s the IJC's role seems to have been reduced by the proliferation of a range of other transboundary governance mechanisms. But even if the IJC is sometimes ignored or not utilized, it often still plays an important supporting role by providing scientific knowledge and legitimacy to the policy process. Indeed, the IJC's ability to create, gather, synthesize, harmonize, mobilize, and share environmental and scientific information has only increased since the 1980s, and its reports, findings, and recommendations carry weight precisely because the IJC is widely perceived as objective, impartial, and expert.

Personnel

One can argue that it is IJC board and task force members who are in fact the real success of the IJC. Why is this so when it is commissioners who sign reports and orders and IJC staff that assists them? One of the editors of this volume served as a staff member himself for over three decades, and he can attest to the importance of commissioners and their advisers; however, if one were handing out awards for accomplishment, the members of IJC boards should be given them first. They more often than not have to find time to devote to IJC work when their employers (whoever they are) cannot sacrifice them from their day jobs. They have to spend countless hours travelling to and from meetings, often away from family, analyzing data, writing reports, and negotiating under often very difficult circumstances in tight time frames on recommendations that many times are not in conformity with the desired outcome of their respective government. This calls for real professionalism and integrity and the IJC is fortunate to have found people ready and willing to serve under such trying conditions. Without their science-based judgment, the

IJC commissioners would have little on which to base their findings, conclusions, and recommendations. Why are people willing to serve the IJC under such conditions? Certainly not because of the money—no one gets rich working for the IJC. Possibly because of the prestige—one can say they were appointed to this "illustrious" international body and put that on their resume. Some may actually want to grow professionally and take on a new challenge. Some may be altruistic and see working on Canada-US issues as being very important, especially in these days of heightened environmental sensitivity. Whatever the reason, the IJC is truly fortunate that it has continued to find good people to serve.

That is not to say that the character, background, and expertise of the appointed commissioners themselves are unimportant. While there have been few studies of this issue, aside from Stephen Brooks's work, first-hand experience would tend to suggest some relevant points.[6] The best commissioners (however that may be defined) appear to be those who are the most willing to take an open mind to what they are being called upon to adjudicate and who have, by way of their background and character, a definite willingness and even desire to seek solutions in "the common interest." Commissioners, just like the board members they appoint, operate in their personal and professional capacities and, on their appointment, take an oath to uphold the BWT. They are certainly aware of their respective governments' positions on most if not all matters before the commission and while that may guide them it does not dictate the decisions they make and the consensus they strive for.

One of the editors had the opportunity to interview some commissioners in 2012 on matters surrounding their appointments, IJC administrative issues, the successes and failures of the commission during their tenures, and key challenges ahead. Their responses present a very cogent and perceptive view that can only be obtained from having served as a commissioner. All agreed that IJC appointments are important and that governments should show care in selecting a commissioner. While certain training (legal, scientific, engineering) may be helpful, everyone pointed to other characteristics, such as being earnest and seriously dedicated to the task and concept of the IJC. Good commissioners should have the ability to ask questions, listen carefully, and talk last! Interpersonal skills and lateral thinking abilities were also mentioned. Most felt the

current administrative architecture (secretariats, board structure, lead commissioners, public involvement, etc.) worked well and they opposed significant changes. The "IJC personality" has evolved over the years and is neither the chief problem nor the solution in dealing with any internal issues. Everyone agreed it will be vital to preserve the independence of the commission at all costs and that collegiality and consensus are critical. While it is healthy to make some board and task force appointments outside government circles, it is important to preserve balance so that IJC recommendations can filter back to government decision-makers and be more easily implemented. On the question of IJC relevance and importance heading into the future, everyone believed the commission will be more relevant in the coming century than the previous one.

It does not appear that any particular educational background or profession has much influence on commissioners' expertise and their ability to make decisions and work collegially with their counterparts, both from their own country and from their neighbour. And collegiality is another important point often not realized. When six people who are appointed (sometimes all at the same time but more often staggered) are asked to work together "in the common good" of both countries on water issues and broad environmental ones, it does take a special kind of person to really make this work. They must be open-minded, able to read carefully and critically and to consider scientific and other relevant facts, be open to suggestions, be willing to work with and listen to the public, be innovative yet mindful of useful precedents, and above all considerate of fellow commissioners' views and opinions. If someone has these characteristics then they likely have the makings of a good commissioner. Interestingly enough, even if not all commissioners fit this unique mould (and there have been some commissioners who have definitely not fit this mould), the IJC still manages to survive and, more often than not, to thrive. And that is due to another important part of the equation—the IJC's cadre of advisers.

In the early years of the IJC up until about the 1960s, the number and expertise of its Canadian and US Section staff in Ottawa and Washington was quite limited. In the 1970s, however, Canadian Section chair Maxwell Cohen, deciding that commissioners needed a broader base from which to draw advice than just board members and their own experience, started to

expand the number and types of positions in the Ottawa office. This was met by quite a bit of criticism from the US Section, fellow Canadian commissioners, and Canadian government bureaucrats who did not see such a need. Nevertheless, Cohen persisted and managed to secure funds for several new positions. Eventually, the US Section followed suit—creating the fear among several IJC watchers of an IJC bureaucracy that would not be helpful to the overall process.

And yet now, some forty years later, a strong cadre of advisers in both sections is, and will continue to be, helpful and important. For one thing, it provides continuity and helps with the education of newly appointed commissioners when they can rely on staff who have served the organization well for so many years. Although IJC commissioners take an oath to be objective and to prioritize the wider interest, realistically an IJC commissioner is at least in part a type of appointed politician; thus, having trained and expert staff who are more removed from the pressures of partisanship is important and useful. Secondly, it has allowed, and likely will continue to allow, the IJC to take on more new work and to experiment with new techniques (GIS, computer modelling, shared vision models, etc.). Finally, it helps commissioners with outreach and liaison with governments and other players when knowledgeable and experienced advisers are in the offices and trusted by government bureaucrats and board members.

Indeed, this notion of "trust" is so important it needs to be dealt with separately. One of the co-editors of this book initially envisaged this volume being called "A similar letter, etc." because this phrase enshrined for him the notion of trust. A word of explanation is perhaps in order. When advisers in both national section offices draft letters or other IJC documents outlining a certain decision, the ending almost always says: "A similar letter has been sent to the Department of Foreign Affairs/ State Department by the Secretary of the Canadian/US Section of the Commission." This signifies that both governments are being sent this identical communication. But rather than write all this out in every draft the adviser would typically put at the end "A similar letter, etc." to signify this trust—not only that the drafts would be identical when finally agreed to, signed, and sent, but that one could trust the other section to do so every time. Without this trust, which had to pervade the entire organization from top to bottom, likely nothing meaningful would ever get done.

One should also realize that the IJC is, as one adviser often said, just "one of the tools in the governmental toolbox." Governments can and often do choose which process to use depending on the issue and a wide variety of political and other factors. Sometimes the confidence the governments have in the IJC at any given time (whether it is the commissioners themselves or other factors) precludes using that institution, even if it appears to be the best tool for the job. Sometimes a sub-federal jurisdiction like a state or province may distinctly say it does not want to involve the IJC, even if both federal governments do. As we have seen, British Columbia tends to be wary of the IJC, while Ontario and New York State are sub-federal jurisdictions likely to seek IJC involvement. Sometimes the timing is off, or the cost is too high, or the proposed reference has not evolved to the point where good scientific data can be obtained.

Qualities

At the very least, the IJC has made a valuable, tangible contribution to economic prosperity (for some more than others) and environmental security (again, in selective ways) in North America, and it continues to offer a much-needed diplomatic safety valve for Canada-US relations. Some have speculated about whether the IJC model could be applied to other Canada-US natural resource questions or to other countries with boundary/transboundary issues—with the quotation opening this chapter just one such example. The authors included in this volume are of different viewpoints about whether the IJC, or certain aspects or programs of the commission, are replicable across the globe, and they differ in their optimism about the IJC's role in the twenty-first century. However, taking all the contributions to this volume collectively, we contend that the IJC is a unique governance institution between two countries that have a similar culture, language, history, and border, where no country is predominantly upstream or downstream, and that a similar treaty and organization would be difficult to create elsewhere in the world. Thus, the IJC probably isn't a replicable model. The lack of institutions or countries that have directly used the BWT and IJC as a model testify to that. Nevertheless, there are some aspects of the IJC and the BWT (including techniques, approaches, and programs) that other transboundary water-governance

organizations and mechanisms use as a model, or at least borrow as best practices, including: sound science, equality, acting in a personal and professional manner, involving the public and providing opportunities to be heard, openness, flexibility, and stable funding.

Sound science is at the foundation of the IJC's work, and obviously the commission has evolved considerably over its first century as the ability of scientists and related professions has improved with advanced data gathering and analytical techniques, including modelling and computer technology. The inclusion of transboundary pollution in the 1909 BWT, even if it was a bit of an aside, seems to have been the earliest stricture ever in the world against such activity harming another political jurisdiction. The two chapters on the creation of the BWT and IJC, by Meredith Denning and David Whorley, speak to this. Jamie Benidickson's chapter suggests that the IJC's earliest pollution references in the Great Lakes area were important precedents. The GLWQAs are potentially the earliest environmental policy initiative to have incorporated an ecosystem approach, and as the wide range of chapters on the Great Lakes indicate, the GLWQAs are a program that deserves to be used as a model. Regardless of what the future brings, it is important that the IJC scientific process remains open, transparent, shared, and verifiable. Those working on IJC studies have the ability to call into question information from the opposite country and to ask that new data be collected or that existing data be discarded, depending on the circumstances. This way of working is now firmly rooted in the IJC tradition, and other countries would do well to emulate this methodology.

In a number of key respects, it is today simply much more difficult to manage environmental resources than was the case when the BWT was first signed. For example, the populations—and thus the environmental footprints—of both countries are much larger. It was much easier to come to a transborder agreement about a particular waterbody when the various stakeholders weren't consulted. Environmental knowledge, and thus expectations and beliefs about true sustainability, are also quite different. Even though uncertainty still defines many problems, scientifically we know far more than did past IJC decision-makers. But in some ways we are victims of this success—many of the "wicked" environmental problems we now have to deal with weren't even known a half-century ago.

As environmental requirements pile up, and the legacy of past pollution and mistakes becomes even greater, managing them becomes that much more difficult and complex. We have created all sorts of amazing new synthetic products, but now we have to deal with the legacy of toxins, like the emerging "forever" chemicals PFAS/PFOA. It was much easier to address point-source pollution, as the 1972 GLWQA did, than to address non-point-source pollution, which was the case for the 1978 GLWQA and subsequent iterations. Or consider the current renegotiation of the Columbia River Treaty: complex ecological and stakeholder questions that weren't at play in the early Cold War period now have to be taken into account.

The complexity of environmental governance has been a key factor in the trend toward multi-level and sub-national governance forms and approaches, which is partly related to greater emphasis on the ecosystem and the associated importance of local and multiple stakeholders. While this trend has involved a devolvement of responsibility and funding away from national-level governance bodies such as the IJC, arguably some of the greatest achievements of the IJC policy nexus include: helpful aid to the development of policy communities, state and non-state based, across various levels of governance and interaction. The IJC has never *de jure* updated its precedence of uses, though it has *de facto* incorporated industrial, recreational, and environmental elements in its decision-making, particularly since 1945. This situation has resulted in calls to update or modernize the BWT. That said, amending the terms of the treaty, particularly in the current political climate, could do more harm than good if certain interests use the opportunity to water down the BWT (pun intended). Incremental changes, with the International Watersheds Initiative as an example, may be the preferred route over altering the treaty.

In many respects, the IJC is emblematic of the history of the larger Canada-US diplomatic relationship—though with some important exceptions. Had the BWT been signed today it is difficult to imagine that it would enshrine as a central tenet equality of operation, but it has proven to be extremely valuable when IJC commissioners consider report conclusions and recommendations or when passing orders. Such equality may not be achievable between other countries wary of relinquishing sovereignty, especially if there are more than just two involved, but some sort of equality could be helpful, especially if there is power asymmetry. When

IJC commissioners as well as board and task force members act in their "personal and professional" capacity, this tends to depoliticize many situations. This is a difficult thing to imagine, let alone act upon, but this practice has and is being implemented time and time again and it helps make the IJC process successful—though not always. As a number of the chapters in this volume have demonstrated, there are numerous cases where the IJC has broken down along national lines and where different commissioners have prioritized national self-interest or otherwise not lived up to the IJC's lofty reputation (see, for example, chapters by Kenny, Moy and O'Riordan, Nossal, and Clamen and Macfarlane). In his chapter on the St. Mary–Milk basin, Timothy Heinmiller argues that the IJC has contained, if not resolved, conflict there, and Owen Temby and Don Munton's chapter on air quality shows that the IJC was instrumental to good outcomes, even if it has been marginalized as of late. This marginalization is also true in several cases on the plains, as Norman Brandson and Allen Olson show in their chapter, as well as the realm of Great Lakes water quality, though the authors of our various chapters on this subject (Read, Krantzberg, VanNijnatten and Johns, and Hall, Tarlock, and Valiante) generally paint the IJC's activities in this basin in a positive light. The synthetic overviews (section 3) also mostly frame the BWT and IJC as successful in such areas as environmental law and Canadian-American relations—though the IJC's treatment of Indigenous Peoples, even if it has been improving, has contributed to the two federal government's colonial legacy.

One cannot emphasize enough the importance of the public in the IJC's work and the value that outside voices can bring to a dispute-finding and resolution process. Someone could write a whole volume on this topic, looking at the evolution over the last century of the IJC's public consultation, involvement, communication, and methodologies, and what has worked and what has not, and why. Writing the words "and all parties interested therein shall be given convenient opportunity to be heard" directly into the BWT (article xii) placed an added emphasis on this aspect of the IJC process such that today board members are drawn from all sectors of civil society, not just government agencies (as in the past), and the IJC commissioners and advisers continually improve communication and information methodologies by taking advantage of the latest technologies and trends.

Openness, trust, and flexibility are critical characteristics, as has been noted and demonstrated in the various chapters. In chapters on the Pacific Northwest (Moy and O'Riordan); the St. Mary–Milk (Heinmiller); environmental law in the Great Lakes (Hall, Tarlock, and Valiante); Indigenous-IJC relations (Ettawageshik and Norman); Great Lakes water levels (Clamen and Macfarlane); and the long-term importance of the IJC (Kirton and Warren), the authors directly note the importance of trust (or distrust). In addition to most of these chapters, several others directly cite the importance of "flexibility" for the IJC, including those by Krantzberg, Whorley, Pentland and Yuzyk, and Read. Clearly the ability of the IJC to study and make recommendations about the need for an agreement on Great Lakes water quality, and then for governments to assign the commission ongoing oversight responsibilities in 1972 under the GLWQA—which continues through numerous updates to this day—is an indication of treaty and institutional flexibility. This is clearly demonstrated by the initiation and implementation of the International Watersheds Initiative over the last twenty years or so.

Stable funding and a commitment by the signatories to implement the BWT, as well as the creation and support of a permanent institutional mechanism (in this case the IJC) is clearly needed for success. While there is no obvious reason why six commissioners works well, history has shown that, with a few exceptions, this may be a "magic number." It allows for good dialogue, diverse opinions without unwieldy speeches and rhetoric by numerous players, gives geographic diversity from both countries, and allows for decent social interaction between commissioners of both countries outside of formal meetings, which often is a key aspect of decision-making and consensus.

The Future

We noted at the beginning of this conclusion that previous studies of the International Joint Commission were framed by the major issues of their day. As this book was in preparation between 2016 and 2019, the remarkable relationship that has existed between Canada and the United States for so many years in so many areas was being threatened, primarily but not exclusively, by disputes over trade. While a draft North American free trade agreement

has been produced, the Trump administration's demonstrated penchant for reducing or eliminating environmental protections and policies, such as in the Great Lakes–St. Lawrence basin, will certainly impact border waters. However, until Trump's gutting of the Environmental Protection Agency and attempts to eliminate the Great Lakes Restoration Initiative, Canada was arguably the weaker link when comparing the two nations' environmental regulations concerning border waters; Canada needs to step its game up, regardless of what is happening south of the border.

Currently, negotiations for a new Columbia River Treaty are underway between Canada and the United States. In their chapter discussing three case studies in the Pacific Northwest, Rich Moy and Jon O'Riordan describe the role the IJC played in developing the technical and policy foundation for the original Columbia River Treaty of 1961. Borrowing from Moy and O'Riordan's suggestions for the future negotiation of the Columbia matter, which they shared separately with us, as well as Pentland and Yuzyk's chapter in this volume, we propose the following prescriptions for how the IJC can be successful in not only the transnational Columbia River basin, but along the length of the border, moving forward.

The "Shared Vision Model"

Under this approach, the IJC brings together decision-makers, experts, and stakeholders to create a system model that connects science, public preferences, and decision-making criteria. The process is very transparent. First, the IJC establishes binational technical, science-based, and stakeholder working groups that would first define the issues and options it would like to see addressed. Second, these working groups would become comfortable with the technical information and the methods used. Third, they would operate the models to show the trade-offs between the various economic values for uses and important environmental indicators. And lastly, they would make sure the process is transparent and open to the public. For example, in the Great Lakes, the IJC used this model approach to define and show the trade-offs for a number of important indicators, which included municipal and industrial water use, commercial navigation, hydro-power generation, coastal flooding, recreational boating, flood control and mitigation, and a large number of environmental indicators including wetland enhancement.

International Watershed Initiative Approach

The IJC has been taking the approach that water resources and environmental problems can best be anticipated, prevented, and resolved at the local watershed or basin level before developing into international issues. The IJC has successfully used the International Watersheds Initiative approach and its guiding principles in a number of our shared river basins.[7] In these watersheds, the IJC creates a different governance system. It brings together the best minds from academia, governments, Native American and First Nations communities, and the private sector from both countries to build the science and policy considerations in its recommendations to governments for solving cross-border issues and problems. It uses an integrated, ecosystem-based approach that recognizes the complex interrelationships within each watershed. It also develops a common database to understand the science of each watershed, including a better understanding of the aquatic, riparian, and land-based ecosystems and how anthropogenic uses affect them. Further, the IJC develops and uses compatible hydrographic and geospatial data and develops balanced water quality, hydrologic, and other ecosystem-based models. But the IJC also needs to better respect and incorporate traditional ecological knowledge and to effect reconciliation. As part of the destructive legacy of settler colonialism, and its continuing perpetuation and reverberations, First Nations and Native American communities have been disproportionately affected and burdened by hydroelectric and water-control developments—what can be termed "hydraulic imperialism."[8] Like North American societies and governments at large, the IJC will need to find ways of moving forward that both addresses past injustices and gives better voice to those who have lived within watersheds for millennia. In their chapter, Frank Ettawageshik and Emma Norman provide a range of concrete suggestions toward that end.

A Better Governance Structure

Outside of the Great Lakes–St. Lawrence basin governments may wish to consider the oversight framework in the Great Lakes Water Quality Agreement. The governments, and specifically the US EPA and Environment and Climate Change Canada, share responsibility for

implementing the agreement. The IJC's role is to oversee and evaluate how well governments are doing in implementing their responsibilities under the GLWQA. The IJC's Great Lakes Water Quality Board reviews and assesses the progress of the governments in implementing the GLWQA; identifies emerging issues; and recommends strategies and approaches for preventing and resolving complex challenges facing the Great Lakes. The key strength of this twenty-eight-member binational board is that the local members push the governmental members to take appropriate actions in implementing the provisions of the agreement. The board is an effective partnership between the federal government agencies and the local stakeholders and community governments.

A Better Science Foundation

The IJC's Great Lakes Science Advisory Board is made up of two binational committees: the Science Priority Committee (SPC) and the Resource Coordinating Committee (RCC). The SPC, consisting primarily of academic research scientists from universities in both countries, identifies required research for addressing critical water quality issues. The RCC consists primarily of leaders of key federal government agencies from both countries. These agencies monitor and assess the state of water quality within the Great Lakes. These two committees within the Science Advisory Board continually work together in defining and conducting Great Lakes scientific research and comprehensive water quality and aquatic ecosystem monitoring. They provide valuable recommendations and oversight to the IJC and governments on the implementation of the agreement. A key function of the IJC liaisons with these boards is to ensure that their activities are coordinated.

Addressing a Changing Climate

Within the Great Lakes and its other international watersheds, the IJC has put a strong emphasis on refining and improving its process of "adaptive management." In the Great Lakes, the IJC has built in an adaptive management framework for reviewing and determining ways to continually improve the operations of dams in light of a changing climate, especially extreme events like flooding and drought. Flooding, as was seen recently

in Lake Ontario and the upper St. Lawrence, will likely become a flashpoint given uncertainty about climate change. Thus, water quantity and lake level issues may attract a greater share of the commission's attention in the future. The IJC historically has had little involvement with the areas of biodiversity and invasive species, but considering Annex 6 of the 2012 update to the GLWQA, this is a direction in which the commission might wish to move in the future. The same can be said of micro-plastics and plastics, which could fit under the aegis of water quality.

Conclusion

The inability of the IJC to initiate or get involved in issues that commissioners believe are important, or that the IJC could help "prevent and resolve," is both a strength and a weakness. On the one hand, this has allowed the federal governments to avoid using the commission. In the last few decades, transnational environmental governance in North America has increasingly taken place outside of, and has circumscribed, the IJC: the Great Lakes–St. Lawrence Compact (and the companion agreement) is just one of the most recent and prominent examples. On the other hand, the inability to initiate applications and references has given the commission a reputation for objectivity and neutrality. The role of the individual commissioners can be extremely important here. The BWT and IJC can foster a unique collegial body that puts commissioners in a position to make the best choices for all involved, which in the last half-century has increasingly included the ecosystem. But the structure of the treaty and the commission doesn't guarantee that this collegiality and group decision-making happens—it is still up to the individual commissioners to buy into that. Looking at the past century of the IJC it is apparent that its emphasis, focus, and approach has changed over time, so to assume that the IJC of today, or of the 1970s, reflects how it has always been, would be a mistake. The upside is that the IJC can continue to change and adapt in the future.

Likely the best explanation for the IJC's success is its pragmatism and geographic position, along with its institutional structure and culture. To the extent that the IJC has worked well, it is largely because Canada and the United States share a water border where neither one is the predominant

upstream or downstream riparian. Waterbodies like those in the Great Lakes basin *form* rather than *cross* the border; and even though there are many rivers where one nation is downstream from the other, there are plenty of others where that relationship is reversed, and thus each nation would have an opportunity for retribution. That is not to say that the countries have not historically engaged in linkage—there are numerous examples just within the realm of the IJC where the politics of border waters on one side of the continent are politically linked to those on the other—but that the national self-interests commonly align, while other aspects of the shared border act as shock absorbers. But if Canadian-American relations perpetually become stressed or fractured—and there are signs of that happening with Donald Trump in office—and if the atmosphere of bilateral co-operation is undermined, then an unfortunate but not impossible future direction for the IJC is drifting into irrelevancy.

In the introduction to this volume we posed the question of whether there is an "IJC myth"? The answer is a measured "yes." The IJC is not always objective or effective, it is limited in what areas it can have an impact, and it is not really seen as a direct model by the rest of the world. The era when the IJC was the most politically relevant—the 1950s and into the 1960s—is also the era when it was most politicized and advocated for destructive megaprojects. The GLWQA was, on paper, an enormous success—but the IJC's role within that agreement has been marginalized, the federal governments have proven unwilling to put the necessary money into the agreement's stipulations, and many of the problems that motivated the initial GLWQAs seem to be returning. However the IJC has also built up scientific expertise networks, is trusted by the public and in many environmentalist circles, its policy and scientific expertise lend legitimacy to its activities, and the IWI indicates that the commission is adjusting its approach.

Looking back at the first century of the IJC and BWT has allowed us to make some observations about how the IJC has changed over time, what has made it successful, and what limitations and obstacles it has faced and might face in the future. Scholars of North American history and policy, particularly in the environmental and transborder relations fields, would be wise to pay attention to the commission—as would any members of the public concerned about the environments in which they reside. There is no

question that the IJC has played a significant role in the history of northern North America. Moreover, given the tricky future of climate change, the IJC is well equipped to play a significant role in the future of Canada-US border eco-politics—and we believe that it should.

Notes

1 L. M. Bloomfield and G. F. FitzGerald, *Boundary Waters Problems of Canada and the United States* (Toronto: Carswell, 1958), 63.

2 Kim Richard Nossal, "The IJC in Retrospect," in *The International Joint Commission Seventy Years On*, ed. Richard Spencer, John Kirton, Kim Richard Nossal (Toronto: Centre For International Studies, University of Toronto, 1981), 130.

3 Ibid., 126.

4 William R. Willoughy, "Expectations and Experience, in Spencer, Kirton, and Nossal, *The International Joint Commission Seventy Years On*, 39.

5 Peter H. Gleick writes of "a 'hard path' that will rely almost exclusively on centralized infrastructure to capture, treat, and deliver water supplies; and a 'soft path' that will complement the former by investing in decentralized facilities, efficient technologies and policies, and human capital. This soft path will seek to improve overall productivity rather than to find new sources of supply. It will deliver water services that are matched to the needs of end users, on both local and community scales." See Gleick, "Water Management: Soft Water Paths," *Nature* 418 (25 July 2002), https://www.nature.com/articles/418373a**;** Oliver M. Brandes and David B. Brooks, "The Soft Path for Water in a Nutshell," (Victoria, BC: Friends of the Earth and POLIS Project on Ecological Governance, University of Victoria, 2005).

6 Stephen Brooks "The International Joint Commission: Convergence, Divergence, or Submergence?" in *Transboundary Environmental Governance in Canada and the United States* (Washington, DC: Woodrow Wilson International Center for Scholars, Canada Institute, Occasional Paper Series, 2005), 3–18; Stephen Brooks, "The International Joint Commission: The Promise and Limits of an Ambitious Model," in *Transboundary Environmental Governance Across the World's Longest Border*, ed. Stephen Brooks and Andrea Olive (Lansing: Michigan State University Press, 2018).

7 International Joint Commisison, *The International Watersheds Inititiatve: From Concept to Cornerstone of the IJC (Fourth IWI Report to Governments)* (Ottawa/Washington: International Joint Commission, October 2015).

8 Daniel Macfarlane and Peter Kitay, "Hydraulic Imperialism: Hydro-electric Development and Treaty 9 in the Abitibi Region," *American Review of Canadian Studies* 47, no. 3 (Fall 2016): 380–97.

APPENDICES

Appendix 1: Boundary Waters Treaty

TREATY BETWEEN THE UNITED STATES AND GREAT BRITAIN RELATING TO BOUNDARY WATERS, AND QUESTIONS ARISING BETWEEN THE UNITED STATES AND CANADA

The United States of America and His Majesty the King of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, Emperor of India, being equally desirous to prevent disputes regarding the use of boundary waters and to settle all questions which are now pending between the United States and the Dominion of Canada involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along their common frontier, and to make provision for the adjustment and settlement of all such questions as may hereafter arise, have resolved to conclude a treaty in furtherance of these ends, and for that purpose have appointed as their respective plenipotentiaries:

The President of the United States of America, Elihu Root, Secretary of State of the United States; and His Britannic Majesty, the Right Honourable James Bryce, O.M., his Ambassador Extraordinary and Plenipotentiary at Washington;

Who, after having communicated to one another their full powers, found in good and due form, have agreed upon the following articles:

PRELIMINARY ARTICLE

For the purpose of this treaty boundary waters are defined as the waters from main shore to main shore of the lakes and rivers and connecting waterways, or the portions thereof, along which the international boundary between the United States and the Dominion of Canada passes,

including all bays, arms, and inlets thereof, but not including tributary waters which in their natural channels would flow into such lakes, rivers, and waterways, or waters flowing from such lakes, rivers, and waterways, or the waters of rivers flowing across the boundary.

ARTICLE I

The High Contracting Parties agree that the navigation of all navigable boundary waters shall forever continue free and open for the purposes of commerce to the inhabitants and to the ships, vessels, and boats of both countries equally, subject, however, to any laws and regulations of either country, within its own territory, not inconsistent with such privilege of free navigation and applying equally and without discrimination to the inhabitants, ships, vessels, and boats of both countries.

It is further agreed that so long as this treaty shall remain in force, this same right of navigation shall extend to the waters of Lake Michigan and to all canals connecting boundary waters, and now existing or which may hereafter be constructed on either side of the line. Either of the High Contracting Parties may adopt rules and regulations governing the use of such canals within its own territory and may charge tolls for the use thereof, but all such rules and regulations and all tolls charged shall apply alike to the subjects or citizens of the High Contracting Parties and the ships, vessels, and boats of both of the High Contracting Parties, and they shall be placed on terms of equality in the use thereof.

ARTICLE II

Each of the High Contracting Parties reserves to itself or to the several State Governments on the one side and the Dominion or Provincial Governments on the other as the case may be, subject to any treaty provisions now existing with respect thereto, the exclusive jurisdiction and control over the use and diversion, whether temporary or permanent, of all waters on its own side of the line which in their natural channels would flow across the boundary or into boundary waters; but it is agreed that any interference with or diversion from their natural channel of such waters on either side of the boundary, resulting in any injury on the other side

of the boundary, shall give rise to the same rights and entitle the injured parties to the same legal remedies as if such injury took place in the country where such diversion or interference occurs; but this provision shall not apply to cases already existing or to cases expressly covered by special agreement between the parties hereto.

It is understood however, that neither of the High Contracting Parties intends by the foregoing provision to surrender any right, which it may have, to object to any interference with or diversions of waters on the other side of the boundary the effect of which would be productive of material injury to the navigation interests on its own side of the boundary.

ARTICLE III

It is agreed that, in addition to the uses, obstructions, and diversions heretofore permitted or hereafter provided for by special agreement between the Parties hereto, no further or other uses or obstructions or diversions, whether temporary or permanent, of boundary waters on either side of the line, affecting the natural level or flow of boundary waters on the other side of the line shall be made except by authority of the United States or the Dominion of Canada within their respective jurisdictions and with the approval, as hereinafter provided, of a joint commission, to be known as the International Joint Commission.

The foregoing provisions are not intended to limit or interfere with the existing rights of the Government of the United States on the one side and the Government of the Dominion of Canada on the other, to undertake and carry on governmental works in boundary waters for the deepening of channels, the construction of breakwaters, the improvement of harbours, and other governmental works for the benefit of commerce and navigation, provided that such works are wholly on its own side of the line and do not materially affect the level or flow of the boundary waters on the other, nor are such provisions intended to interfere with the ordinary use of such waters for domestic and sanitary purposes.

ARTICLE IV

The High Contracting Parties agree that, except in cases provided for by special agreement between them, they will not permit the construction or maintenance on their respective sides of the boundary of any remedial or protective works or any dams or other obstructions in waters flowing from boundary waters or in waters at a lower level than the boundary in rivers flowing across the boundary, the effect of which is to raise the natural level of waters on the other side of the boundary unless the construction or maintenance thereof is approved by the aforesaid International Joint Commission.

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.

ARTICLE V

The High Contracting Parties agree that it is expedient to limit the diversion of waters from the Niagara River so that the level of Lake Erie and the flow of the stream shall not be appreciably affected. It is the desire of both Parties to accomplish this object with the least possible injury to investments which have already been made in the construction of power plants on the United States side of the river under grants of authority from the State of New York, and on the Canadian side of the river under licences authorized by the Dominion of Canada and the Province of Ontario.

So long as this treaty shall remain in force, no diversion of the waters of the Niagara River above the Falls from the natural course and stream thereof shall be permitted except for the purposes and to the extent hereinafter provided.

- The United States may authorize and permit the diversion within the State of New York of the waters of said river above the Falls of Niagara, for power purposes, not exceeding in the aggregate a daily diversion at the rate of twenty thousand cubic feet of water per second.

- The United Kingdom, by the Dominion of Canada, or the Province of Ontario, may authorize and permit the diversion within the Province of Ontario of the waters of said river above the Falls of Niagara, for the power purposes, not exceeding in the aggregate a daily diversion at the rate of thirty-six thousand cubic feet of water per second.
- The prohibitions of this article shall not apply to the diversion of water for sanitary or domestic purposes, or for the service of canals for the purposes of navigation.

Note: The third, fourth, and fifth paragraphs of article v were terminated by the Canada–United States Treaty of 27 February 1950 concerning the diversion of the Niagara River.

ARTICLE VI

The High Contracting Parties agree that the St. Mary and Milk Rivers and their tributaries (in the State of Montana and the Provinces of Alberta and Saskatchewan) are to be treated as one stream for the purposes of irrigation and power, and the waters thereof shall be apportioned equally between the two countries, but in making such equal apportionment more than half may be taken from one river and less than half from the other by either country so as to afford a more beneficial use to each. It is further agreed that in the division of such waters during the irrigation season, between the 1st of April and 31st of October, inclusive, annually, the United States is entitled to a prior appropriation of 500 cubic feet per second of the waters of the Milk River, or so much of such amount as constitutes three-fourths of its natural flow, and that Canada is entitled to a prior appropriation of 500 cubic feet per second of the flow of St. Mary River, or so much of such amount as constitutes three-fourths of its natural flow.

The channel of the Milk River in Canada may be used at the convenience of the United States for the conveyance, while passing through Canadian territory, of waters diverted from the St. Mary River. The provisions of

Article II of this treaty shall apply to any injury resulting to property in Canada from the conveyance of such waters through the Milk River.

The measurement and apportionment of the water to be used by each country shall from time to time be made jointly by the properly constituted reclamation officers of the United States and the properly constituted irrigation officers of His Majesty under the direction of the International Joint Commission.

ARTICLE VII

The High Contracting Parties agree to establish and maintain an International Joint Commission of the United States and Canada composed of six commissioners, three on the part of the United States appointed by the President thereof, and three on the part of the United Kingdom appointed by His Majesty on the recommendation of the Governor in Council of the Dominion of Canada.

ARTICLE VIII

This International Joint Commission shall have jurisdiction over and shall pass upon all cases involving the use or obstruction or diversion of the waters with respect to which under Article III or IV of this treaty the approval of this Commission is required, and in passing on such cases the Commission shall be governed by the following rules or principles which are adopted by the High Contracting Parties for this purpose:

The High Contracting Parties shall have, each on its own side of the boundary, equal and similar rights in the use of the waters hereinbefore defined as boundary waters.

The following order of precedence shall be observed among the various uses enumerated hereinafter for these waters, and no use shall be permitted which tends materially to conflict with or restrain any other use which is given preference over it in this order of precedence:

1. Uses for domestic and sanitary purposes;
2. Uses for navigation, including the service of canals for the purposes of navigation;

3. Uses for power and for irrigation purposes.

The foregoing provisions shall not apply to or disturb any existing uses of boundary waters on either side of the boundary.

The requirement for an equal division may in the discretion of the Commission be suspended in cases of temporary diversions along boundary waters at points where such equal division can not be made advantageously on account of local conditions, and where such diversion does not diminish elsewhere the amount available for use on the other side.

The Commission in its discretion may make its approval in any case conditional upon the construction of remedial or protective works to compensate so far as possible for the particular use or diversion proposed, and in such cases may require that suitable and adequate provision, approved by the Commission, be made for the protection and indemnity against injury of all interests on the other side of the line which may be injured thereby.

In cases involving the elevation of the natural level of waters on either side of the line as a result of the construction or maintenance on the other side of remedial or protective works or dams or other obstructions in boundary waters flowing there from or in waters below the boundary in rivers flowing across the boundary, 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.

The majority of the Commissioners shall have power to render a decision. In case the Commission is evenly divided upon any question or matter presented to it for decision, separate reports shall be made by the Commissioners on each side to their own Government. The High Contracting Parties shall thereupon endeavour to agree upon an adjustment of the question or matter of difference, and if an agreement is reached between them, it shall be reduced to writing in the form of a protocol, and shall be communicated to the Commissioners, who shall take such further proceedings as may be necessary to carry out such agreement.

ARTICLE IX

The High Contracting Parties further agree that any other questions or matters of difference arising between them involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along the common frontier between the United States and the Dominion of Canada, shall be referred from time to time to the International Joint Commission for examination and report, whenever either the Government of the United States or the Government of the Dominion of Canada shall request that such questions or matters of difference be so referred.

The International Joint Commission is authorized in each case so referred to examine into and report upon the facts and circumstances of the particular questions and matters referred, together with such conclusions and recommendations as may be appropriate, subject, however, to any restrictions or exceptions which may be imposed with respect thereto by the terms of the reference.

Such reports of the Commission shall not be regarded as decisions of the questions or matters so submitted either on the facts or the law, and shall in no way have the character of an arbitral award.

The Commission shall make a joint report to both Governments in all cases in which all or a majority of the Commissioners agree, and in case of disagreement the minority may make a joint report to both Governments, or separate reports to their respective Governments.

In case the Commission is evenly divided upon any question or matter referred to it for report, separate reports shall be made by the Commissioners on each side to their own Government.

ARTICLE X

Any questions or matters of difference arising between the High Contracting Parties involving the rights, obligations, or interests of the United States or of the Dominion of Canada either in relation to each other or to their respective inhabitants, may be referred for decision to

the International Joint Commission by the consent of the two Parties, it being understood that on the part of the United States any such action will be by and with the advice and consent of the Senate, and on the part of His Majesty's Government with the consent of the Governor General in Council. In each case so referred, the said Commission is authorized to examine into and report upon the facts and circumstances of the particular questions any matters referred, together with such conclusions and recommendations as may be appropriate, subject, however, to any restrictions or exceptions which may be imposed with respect thereto by the terms of the reference.

A majority of the said Commission shall have power to render a decision or finding upon any of the questions or matters so referred. If the said Commission is equally divided or otherwise unable to render a decision or finding as to any questions or matters so referred, it shall be the duty of the Commissioners to make a joint report to both Governments, or separate reports to their respective Governments, showing the different conclusions arrived at with regard to the matters or questions referred, which questions or matters shall thereupon be referred for decision by the High Contracting Parties to an umpire chosen in accordance with the procedure prescribed in the fourth, fifth and sixth paragraphs of Article XLV of the Hague Convention for the pacific settlement of international disputes, dated October 18, 1907. Such umpire shall have power to render a final decision with respect to those matters and questions so referred on which the Commission fail to agree.

ARTICLE XI

A duplicate original of all decisions rendered and joint reports made by the Commission shall be transmitted to and filed with the Secretary of State of the United States and the Governor General of the Dominion of Canada, and to them shall be addressed all communications of the Commission.

ARTICLE XII

The International Joint Commission shall meet and organize at Washington promptly after the members thereof are appointed, and when

organized the Commission may fix such times and places for its meetings as may be necessary, subject at all times to special call or direction by the two Governments. Each Commissioner upon the first joint meeting of the Commission after his appointment, shall, before proceeding with the work of the Commission, make and subscribe a solemn declaration in writing that he will faithfully and impartially perform the duties imposed upon him under this treaty, and such declaration shall be entered on the records of the proceedings of the Commission.

The United States and Canadian sections of the Commission may each appoint a secretary, and these shall act as joint secretaries of the Commission at its joint sessions, and the Commission may employ engineers and clerical assistants from time to time as it may deem advisable. The salaries and personal expenses of the Commission and of the secretaries shall be paid by their respective Governments, and all reasonable and necessary joint expenses of the Commission, incurred by it, shall be paid in equal moieties by the High Contracting Parties.

The Commission shall have power to administer oaths to witnesses, and to take evidence on oath whenever deemed necessary in any proceeding, or inquiry, or matter within its jurisdiction under this treaty, and all parties interested therein shall be given convenient opportunity to be heard, and the High Contracting Parties agree to adopt such legislation as may be appropriate and necessary to give the Commission the powers above mentioned on each side of the boundary, and to provide for the issue of subpoenas and for compelling the attendance of witnesses in proceedings before the Commission before the Commission. The Commission may adopt such rules of procedure as shall be in accordance with justice and equity, and may make such examination in person and through agents or employees as may be deemed advisable.

ARTICLE XIII

In all cases where special agreements between the High Contracting Parties hereto are referred to in the foregoing articles, such agreements are understood and intended to include not only direct agreements between the High Contracting Parties, but also any mutual arrangement between

the United States and the Dominion of Canada expressed by concurrent or reciprocal legislation on the part of Congress and the Parliament of the Dominion.

ARTICLE XIV

The present treaty shall be ratified by the President of the United States of America, by and with the advice and consent of the Senate, thereof, and by His Britannic Majesty. The ratifications shall be exchanged at Washington as soon as possible and the treaty shall take effect on the date of the exchange of its ratifications. It shall remain in force for five years, dating from the day of exchange of ratifications, and thereafter until terminated by twelve months' written notice given by either High Contracting Party to the other.

In faith whereof the respective plenipotentiaries have signed this treaty in duplicate and have hereunto affixed their seals.

Done at Washington the 11th day of January, in the year of our Lord one thousand and nine hundred and nine.

(Signed) ELIHU ROOT [SEAL]

(Signed) JAMES BRYCE [SEAL]

And WHEREAS the Senate of the United States by their resolution of March 3, 1909, (two thirds of the Senators present concurring therein) did advise and consent to the ratification of the said Treaty with the following understanding to wit:

"Resolved further, (as a part of this ratification), that the United States approves this treaty with the understanding that nothing in this treaty shall be construed as affecting, or changing, any existing territorial or riparian rights in the water, or rights of the owners of lands under, on either side of the international boundary at the rapids of the St. Mary's river at Sault Ste. Marie, in the use of water flowing over such lands, subject to the requirements of navigation in boundary water and of navigation canals, and without prejudice to the existing right of the United States and Canada,

each to use the waters of the St. Mary's river, within its own territory, and further, that nothing in the treaty shall be construed to interfere with the drainage of wet swamp and overflowed lands into streams flowing into boundary waters, and that this interpretation will be mentioned in the ratification of this treaty as conveying the true meaning of the treaty, and will in effect, form part of the treaty;"

AND WHEREAS the said understanding has been accepted by the Government of Great Britain, and the ratifications of the two Governments of the said Treaty were exchanged in the City of Washington, on the 5th day of May, one thousand nine hundred and ten;

NOW THEREFORE, be it known that I, William Howard Taft, President of the United States of America, have caused the said Treaty and the said understanding, as forming a part thereof, to be made public, to the end that the same and every article and clause thereof may be observed and fulfilled with good faith by the United States and the citizens thereof.

In testimony whereof, I have hereunto set my hand and caused the seal of the United States to be affixed. Done at the City of Washington this thirteenth day of May in the year of our Lord one thousand nine hundred and ten, [SEAL] and of the Independence of the United States of America the hundred and thirty-fourth.

Wm. H. Taft

By the President:
P C Knox
Secretary of State

PROTOCOL OF EXCHANGE

On proceeding to the exchange of the ratifications of the treaty signed at Washington on January 11, 1909, between the United States and Great Britain, relating to boundary waters and questions arising along the boundary between the United States and the Dominion of Canada, the undersigned plenipotentiaries, duly authorized thereto by their respective Governments, hereby declare that nothing in this treaty shall be construed

as affecting, or changing, any existing territorial, or riparian rights in the water, or rights of the owners of lands under water, on either side of the international boundary at the rapids of St. Mary's River at Sault Ste. Marie, in the use of the alters flowing over such lands, subject to the requirements of navigation in boundary waters and of navigation canals, and without prejudice to the existing right of the United States and Canada, each to use the waters of the St. Mary's River, within its own territory; and further, that nothing in this treaty shall be construed to interfere with the drainage of wet, swamp, and overflowed lands into streams flowing into boundary waters, and also that this declaration shall be deemed to have equal force and effect as the treaty itself and to form an integral part thereto.

The exchange of ratifications then took place in the usual form.

IN WITNESS WHEREOF, they have signed the present Protocol of Exchange and have affixed their seals thereto.

DONE at Washington this 5th day of May, one thousand nine hundred and ten.

PHILANDER C KNOX [SEAL]
JAMES BRYCE [SEAL]

Appendix 2: The Clinton-Gibbons Draft, 1907

TO

THE HONORABLE THE SECRETARY OF STATE

OF THE UNITED STATES, and

THE HONORABLE THE PRIME MINISTER

OF THE DOMINION OF CANADA:

The undersigned have the honor to most respectfully submit for your consideration the attached draft of a proposed treaty.

Dated September 24, 1907.

(Signed) GEORGE CLINTON

" GEO. C. GIBBONS

PROPOSED TREATY CLAUSES.

ARTICLE I

WHEREAS questions have arisen and may hereafter arise involving the use and diversion of the boundary waters of the United States and Canada, and in relation to the protection of the fisheries therein, the

improvement of navigable channels, the location of the boundary line, the construction of new channels for navigation, the improvement and maintenance of the levels therein, and the protection of the banks and shores of such waters; and whereas it is desirable that the rules of navigation upon navigable waters forming a part of the boundary between the United States and the Dominion of Canada, and the use of signal lights of vessels navigating said waters should be uniform, and whereas the use of said waters for power and other purposes should be regulated by joint rules of the United States and the Dominion of Canada, and such rules must be enforced by joint action of said countries; and whereas it is deemed wise by the high contracting parties, in order to settle all such questions now existing, or which may hereafter arise, and to dispose of all other matters above mentioned, that a permanent international commission be appointed with full powers in the premises: therefore the high contracting parties agree that all such questions and matters as they may arise shall be referred by them to a commission to consist of six commissioners, three to be appointed by the President of the United States, and three by His Britannic Majesty; and the high contracting parties agree to appoint the commissioners as soon after the ratification hereof as may be convenient. In case of the death, absence or incapacity of a commissioner, or in the event of a commissioner omitting or ceasing to act as such, the President of the United States, or His Britannic Majesty, respectively, shall name another person to act as commissioner in the place or stead of the Commissioner originally named.

ARTICLE II

The Commissioners shall meet in Washington at the earliest convenient time after they shall have been named, and shall, before proceeding to do any business, make and subscribe a solemn declaration that they will impartially and carefully examine and decide, to the best of their judgment and according to justice and equity, without feeling, favor or affection to their country, upon all such matters as shall be laid before them on the part of the governments of the United States and of His Britannic

Majesty, respectively, and such declaration shall be entered on the record of their proceedings.

After having organized the commissioners may meet at such times and places as they may appoint. They shall give all parties interested in matters which come before them, convenient opportunity to be heard, and may take evidence on oath when deemed necessary. They may adopt such rules of procedure as may be in accordance with justice and equity and may make such examinations in person and through agents, or employees, as they may deem advisable.

The majority of the commission shall have power to render a decision, but in case a majority do not agree, the commission shall select an arbitrator or arbitrators to whom the matters in difference may be referred and whose decision shall be final.

The Commission may employ secretaries, engineers and other assistants, from time to time as it may deem advisable. The salaries and personal expenses of the Commissioners shall be paid by their respective governments, and all other expenses, including the pay of arbitrators, shall be paid equally by the high contracting parties, who shall make proper provision therefor.

ARTICLE III

The Commission shall have the power to consider and determine all questions and matters related to the subject specified in Article I which may be referred to it by the High Contracting Parties.

The decision of the Commission upon any matters submitted to it shall be enforced by the High Contracting Parties; and for the purpose of enforcing any rules and regulations, which may be adopted by the Commission, pursuant to the powers conferred upon it by this treaty, the Commission may exercise such police powers as may be vested in it by concurrent legislation of the United States and the Dominion of Canada.

ARTICLE IV

It is agreed as follows: -

1. The expression "boundary waters" as used in this treaty includes the following described waters, to wit: Lake Superior, Michigan, Huron including Georgian Bay, St. Clair, Erie and Ontario; the connecting and tributary waters of said lakes, the river St. Lawrence from its source to the ocean; the Columbia River and all rivers and streams which cross the boundary line between the Dominion of Canada and the United States, and their tributaries.

2. All navigable boundary waters, and all canals and channels connecting the same or aiding in their navigation, now existing or which may hereafter be constructed are and shall be forever free for navigation by the citizens and subjects of both countries, ascending and descending, subject to such just rules and regulations as either of the High Contracting Parties may, within its own territory, impose, provided that such rules and regulations shall not discriminate between the citizens or subjects of the high contracting parties.

3. The right to use said waters for navigation is paramount to all other rights, except that of use for necessary domestic and sanitary purposes and the service of canals for purposes of navigation.

4. Where diversions of water are permitted for the purpose of generating power, upon waters along the line of the international boundary, the interests of navigation must be fully protected, and, as far as possible, the right to use on half of surplus waters available for power purposes shall be preserved to each country, its citizens or subjects.

5. Where diversion for irrigation is permitted the paramount right of navigation must be preserved and the rights of each country affected and of its citizens or subjects must be equitably protected.

6. The said waters must not be polluted in one country to the injury of health or property in the other.

7. No water shall be diverted from the Niagara River or from Lake Erie by way of the Niagara Peninsula in excess of 18,500 cubic feet per second in the United States, and 36,000 cubic feet per second in the Dominion of Canada, except for necessary domestic and sanitary uses, and for service of canals for purposes of navigation.

8. Solely for the purposes of this treaty, the expression "Navigable boundary waters" shall be taken to mean all such boundary waters as are subject to public use for the transportation of property, in accordance with the common law as recognized in the Dominion of Canada and in the United States; and the Commission is authorized and empowered to determine the navigability of streams, as matter of fact, when it becomes necessary to do so in matters referred to it.

9. No diversion or obstruction of boundary waters in, or by, either country, which shall materially interfere with the natural flow thereof, to the injury of the other country, or of its citizens or subjects shall be permitted without the consent of such other country.

10. The words "citizens" and "subjects" as used in this treaty shall be deemed to include individuals, corporations, joint stock companies, associations and partnerships.

ARTICLE V

The Commission is hereby empowered and directed to ascertain the boundary line between the United States and the Dominion of Canada through lakes Ontario, Erie, St. Clair, and Huron, and the waters connecting the same as laid down by the Commissioners appointed under the treaty of Ghent, as nearly as possible, and to delineate the same upon modern charts and to describe it in writing, and, so far as practical, by reference to fixed monuments which the Commission may locate and erect and which shall be so described that they can be readily found.

The Commission shall by report, signed by the Commissioners, designate the boundary line so ascertained by it and shall cause to be

prepared proper maps delineating the same. They shall file their report together with such maps, in duplicate with the Secretary of State of the United States and with the Minister of Public Works of the Dominion of Canada.

The boundary line as ascertained and reported by the Commission shall be the boundary line between the United States of America and the Dominion of Canada, through the waters last above mentioned.

In case a majority of the commission shall not be able to agree on the location of the boundary line through the waters last above mentioned, in whole or in any part, they shall make joint or several reports in duplicate, to the government of His Britannic Majesty and to that of the United States, stating in detail the points on which they differ.

ARTICLE VI

AND WHEREAS it is desirable that the said Commission, when formed, shall have authority to deal with all other matters, which shall, by consent of both the contracting parties, be submitted to it for decision or which shall with such consent, be referred to it with a view to having the said Commission consider and report thereon with such recommendations as they may think advisable,

NOW THEREFORE the High Contracting Parties agree that the said Commission shall, as to all matters so referred to them for decision, have the same powers as given them with respect to the subjects mentioned in Article I of this treaty.

As to such matters as are not referred to them for decision the said commission shall consider and report upon the facts, with such recommendations as they may see fit.

In case a majority of the Commission cannot, in matters so referred to the for decision, agree upon findings, they shall appoint one or more arbitrators as provided in Article I, but as to all other subjects

referred to them if the majority cannot agree upon conclusions, the views of the members shall be embodied in separate reports to be submitted to both the High Contracting Parties.

ARTICLE VII

The Commission with all its powers conferred and duties imposed by this treaty shall continue during the pleasure of both the high contracting parties; but if either of the parties desires to terminate the treaty it shall give to the other at least one year's notice in writing before doing so. For all the purposes of these articles the Dominion of Canada shall be deemed to represent His Britannic Majesty.

All reports and communications of the Commission are to be made to the Secretary of State of the United States and to the Prime Minister of the Dominion of Canada.

Appendix 3: List of IJC Commissioners

List supplied by and used with the permission of the IJC.

Commissioners of the International Joint Commission / Commissaires de la Commission mixte internationale

UNITED STATES SECTION / SECTION AMÉRICAINE

Thomas H. Carter	1911 (co-chair/co-président)
James A. Tawney	1911—1919 (1912—1914 co-chair/co-président)
Frank S. Streeter	1911—1913
George Turner	1911—1914
Obadiah Gardner	1913—1923 (1914—1923 co-chair/co-président)
Robert B. Glenn	1914—1920
Clarence D. Clark	1919—1929 (1923—1929 co-chair/co-président)
Marcus Smith	1921—1924
William Bauchop Wilson	1921—1921
Charles E. Townsend	1923—1924
Fred T. Dubois	1924—1930
Porter J. McCumber	1925—1933
John H. Bartlett	1929—1933 (co-chair/co-président)
Augustus Owsley Stanley	1933—1954 (co-chair/co-président)
Eugene Lorton	1933—1939
Roger B. McWhorter	1939—1958
Ralph Walton Moore	1939—1941
Eugene W. Weber	1948—1973
Leonard Jordan	1955—1957 (co-chair/co-président)
Douglas McKay	1957—1959 (co-chair/co-président)
Francis L. Adams	1958—1962
Edward Bacon	1960—1961 (co-chair/co-président)
Teno Roncalio	1961—1964 (co-chair/co-président)

UNITED STATES SECTION / SECTION AMÉRICAINE *continued*

Charles R. Ross	1962—1981
Matthew E. Welsh	1965—1970 (1966—1970 co-chair/co-président)
Christian A. Herter Jr.	1970—1975 (co-chair/co-président)
Henry P. Smith III	1973—1978 (1975—1978 co-chair/co-president)
Robert J. Sugarman	1978—1981 (co-chair/co-président)
Kenneth Curtis	1978—1979
Jean L Hennessey	1979—1981
Lawrence Keith Bulen	1981—1990
Donald Totten	1981—1990
Robert C. McEwen	1981—1989 (co-chair/co-président)
Gordon K. Durnil	1989—1994 (co-chair/co-president)
Hilary P. Cleveland	1990—1994
Robert F. Goodwin	1990—1993
Susan B. Bayh	1994—2001
Alice Chamberlin	1994—2001
Thomas L. Baldini	1994—2002 (co-chair/co-president)
Dennis L. Schornack	2002—2008 (co-chair/co-président)
Irene B. Brooks	2002—2011 (2008—2010 co-chair/co-présidente)
Allen I. Olson	2002—2010
Sam Speck	2008—2010
Lana Pollack	2010—2019
Dereth Glance	2011—2016
Rich Moy	2011—2019
Jane Corwin	2019—present/jusqu'à present (co-chair/co-president)
Robert Sisson	2019—present/jusqu'à present
Lance Yohe	2019— present/jusqu'à présent

CANADIAN SECTION / SECTION CANADIENNE

Thomas Chase Casgrain	1911—1914 (co-chair/co-président)
Henry A. Powell	1911—1928
Pierre-Basile Mignault	1914—1918
Charles A. Magrath	1915—1936 (co-chair/co-président)
William H. Hearst	1920 – 1940
George W. Kyte	1928—1940
Charles Stewart	1936—1946 (co-chair/co-président)
Joseph E. Perrault	1940—1948 (1947—1948 co-chair/co-président)
James Allison Glen	1943—1950 (1948—1950 co-chair/co-président)
Georges Spencer	1947—1957
Andrew G. L. McNaughton	1950—1962 (co-chair/co-président)
J. Lucien Dansereau	1950—1961
Donald M. Stephens	1958—1968
René Dupuis	1962—1969
Arnold D. P. Heeney	1962—1970 (co-chair/co-président)
Andy D. Scott	1968—1972
Bernard Beaupré	1969—1980
Louis J. Robichaud	1971—1973 (co-chair/co-president)
Keith A. Henry	1972—1979
Maxwell Cohen	1974—1979 (co-chair/co-président)
Jean R. Roy	1979—1981
Stuart M. Hodgson	1979—1981 (co-chair/co-président)
Charles M. Bédard	1981—1984
E. Richmond Olson	1981—1985 (1981—1982 co-chair/co-président)
James Blair Seaborn	1982—1985 (co-chair/co-président)
Pierre-André Bissonnette	1985—1989 (co-chair/co-président)
Edmond Davie Fulton	1986—1992 (1989—1992 co-chair/co-président)
Robert S. K. Welch	1986—1992
Claude Lanthier	1990—1995 (1992 to 1995 co-chair/co-président)
James A. Macaulay	1992—1995

CANADIAN SECTION / SECTION CANADIENNE *continued*

Gordon Walker	1992—1995
Pierre Béland	1995—1997 (1996—1997 co-chair/co-président)
Francis C. Murphy	1995—2000
Adèle M. Hurley	1995—1996 (co-chair/co-présidente)
Leonard H. Legault	1997—2001 (co-chair/co-president)
Robert Gourd	1998—2007
Jack P. Blaney	2001—2009
Mary M. Gusella	2001—2002 (co-chair/co-présidente)
Herb Gray	2002—2010 (co-chair/co-président)
Pierre Trépanier	2008—2012
Lyall D. Knott	2009—2013
Joseph Comuzzi	2010—2014 (co-chair/co-président)
Benoît Bouchard	2013—2017
Gordon Walker	2013—2018 (co-chair/co-président)
Richard A. Morgan	2014—2018
Pierre Béland	2019—present/jusqu'à present (co-chair/co-president)
Henry Lickers	2019—present/jusqu'à present
Merrell-Ann Phare	2019— present/jusqu'à présent

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This is one of the most valuable contributions to the study of Canadian-American relations in several decades.

—Peter Stoett, Dean, Faculty of Social Science and Humanities, Ontario Tech University

This book will be the standard introduction to the IJC.

—Kurk Dorsey, Professor & Chair, History, University of New Hampshire

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The International Joint Commission oversees and protects the shared waters of Canada and the United States. Created by the Boundary Waters Treaty of 1909, it is one of the world's oldest international environmental bodies. A pioneering piece of transborder water governance, the IJC has been integral to the modern Canada-United States relationship.

This is the definitive history of the International Joint Commission. Separating myth from reality and uncovering the historical evolution of the IJC from its inception to its present, this collection features an impressive interdisciplinary group of scholars and practitioners. Examining the many aspects of border waters from east to west *The First Century of the International Joint Commission* traces the three major periods of the IJC, detailing its early focus on water flow, its middle period of growth and increasing politicization, and its modern emphasis on ecosystems.

Informative, detailed, and fascinating, *The First Century of the International Joint Commission* is essential reading for academics, contemporary policy makers, governments, and all those interested in sustainability, climate change, pollution, and resiliency along the Canada-US Border.

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