Introduction to Special Issue: Assessing Adaptive Transboundary Governance Capacity in the Great Lakes Basin

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1. Situating the Laurentian Great Lakes Transboundary Governance Challenge in a Global Context

The Great Lakes St. Lawrence River Basin is the largest international freshwater basin on earth (Waples et al., 2008) containing roughly 20 percent of the world's freshwater supply. It is home to nearly 104 million people, including more than one-tenth of the population of the United States and one-quarter of the population of Canada. Collectively, the five lakes and their draining river systems span two nations, eight states, two provinces, more than forty First Nations, and hundreds of municipalities. This transboundary basin plays a major role in the economic development of the United States and Canada, and continues to provide water for domestic consumption, industry, transportation, power, recreation, and a host of other uses.

Yet the Laurentian Great Lakes are under siege—and have been for some time. Invasive species, climate change (Bartolai et al., 2015), economic restructuring (Campbell, Cooper, Friedman, & Anderson, 2015), urban sprawl, and chemical and biological contaminants (Cornwell et al., 2015) threaten the health and vitality of the ecosystem and region. Additionally, although current transboundary institutions are long-standing and exist in multiple forms—including international agreements, binational boards and commissions, and advisory bodies—these mechanisms are not generally seen as adequate in addressing simultaneous, multiple stressors (Jetoo, Thorn, Friedman, Gosman, & Krantzberg, 2015). The Great Lakes Basin, therefore, presents an anomaly of sorts. Despite long-standing efforts and millions of dollars spent to remedy these varying threats, the environmental sustainability of the Basin remains an important public policy and transboundary governance challenge.

This challenge comes at a time when water is increasingly viewed as key to global prosperity and its scarcity is one of the most critical challenges we face in the twenty-first century. Transboundary water systems throughout the world confront similar complex

governance challenges, and governments, non-governmental organizations, and international organizations alike have clearly outlined the central role of good governance in overcoming these challenges in the future (International Network of Basin Organizations, 2012). In our view, this Special Issue focus on the Great Lakes Basin in North America can advance knowledge on transboundary water governance more generally by looking at the respective and mutually reinforcing roles of institutions, as sets of rules and practices governing the behavior of those in the Great Lakes Basin, vis-à-vis networks, which link agency officials, civil society and experts through more informal shared channels of information exchange and discussion. It is our intention that this scholarship leads to a better understanding of the ways in which the increasingly multi-scalar nature of institutions and networks—international, national and subnational—can contribute to more effective governance.

In this respect, we pose several important questions vis-à-vis the Great Lakes basin, which are of broader relevance: What factors or attributes contribute to effective governance of transboundary resources in the Basin and how can we measure them? What is the role of institutions and networks in contributing to governance success or failure? Further, what lessons can we learn from the Great Lakes case which might help in understanding and assessing the governance of other water basins?

2. The Need for a Framework

The authors in this Special Issue of the *Journal of International Water Governance* worked collaboratively under the auspices of a Canadian Social Sciences and Humanities Research Council (SSHRC) Partnership Development Grant to construct a conceptual framework for thinking about Transboundary Governance Capacity (TGC) in the Great Lakes Basin (Friedman, Johns, Krantzberg, & VanNijnatten, 2013). We define TGC as the conditions which promote effective transboundary decision-making and implementation, such that the environmental health and sustainability of shared waters is promoted. Friedman et al. (2013) argue that TGC can be assessed by measuring the following key attributes: institutional and network basis, leadership, participation, mutual discourse/understanding, and budgetary and staff capacity. This Special Issue focuses on one of these attributes—institutions and networks. We argue that the presence of a strong institutional basis, while not more important than other attributes, is foundational in terms of TGC.

This Special Issue has three goals. First, it comprises novel scholarship that sets forth a new conceptual framework for thinking about and measuring institutions and networks with respect to TGC. The first article (VanNijnatten, Johns, Friedman, & Krantzberg, 2016) focuses directly on identifying gaps in current literature dealing with transboundary governance and sets forth the conditions necessary for effective transboundary governance. Drawing on the international relations, global governance and public policy literatures, as well as international water governance indices already in use at the global level, the article delineates a set of four indicators to measure the function and strength of institutions and

networks—nature of compliance, functional intensity, stability and resilience, and degree of legitimacy—each with associated measures designed to elicit greater detail into the extent and nature of governance capacity. The authors argue that such a systemic approach can help to identify capacity gaps that may run across different environmental problems characteristic of transboundary water basins.

3. Testing the Framework

The second goal of this Special Issue is to empirically test the strength of institutional foundations to better assess those TGC attributes that are necessary and sufficient for better governance in water basins and identify gaps in current institutional frameworks (VanNijnatten et al., 2016). In keeping with our argument regarding the foundational nature of institutions for TGC, the authors in this Special Issue assume that if institutions fare well across our four indicators, other attributes—relating to leadership, participation, mutual discourse/understanding and resources—are more likely to be in place.

We adopt a "medium-N and multi–level" approach to investigating TGC in this Special Issue, applying the four institutional indicators and their measures to six cases in order to facilitate comparative insights into the nature of transboundary water governance. We focus initially on intra-Great Lakes comparisons, on issues including fisheries (Gaden, 2016), designated Areas of Concern (Greitens, 2016), aquatic invasive species (VanNijnatten et al., 2016) and irrigation/water-takings (Heinmiller, 2016). We then proceed "stepwise" to inter-Basin comparisons of the Great Lakes, Columbia River, Murray-Darling, and Colorado River Basins (Garrick, Krantzberg, & Jetoo, 2016), and further "up" to a case study of Arctic governance. We believe, as Van Nijnatten et al. (2016) note, that the TGC framework offers key insights into transboundary water governance systems across governance scales—in particular, the critical role that networks play in fostering and revitalizing the more formal institutional components of transboundary governance systems.

4. Conclusion

When we embarked on this journey, it was our third goal to develop a multidisciplinary understanding of the way that institutions and networks contribute to effective transboundary environmental governance and, ultimately, the sustainability of the Great Lakes and other transboundary water systems as highly-valued ecosystems. Our contributers—who are lawyers, political scientists, public policy experts, geographers and engineers—draw on insights from the international relations, comparative politics, public policy and policy capacity literatures as well as conceptual work on socio-ecological systems and sustainability to examine the role that institutions and networks play in the Great Lakes Basin and tease out lessons for other complex water governance systems. Thus, the insights of this Special Issue are relevant not only for the Basin—a critical global water resource—but

for many transboundary water systems, as well as environmental policy and governance research in other parts of the world. Although we humbly submit that we have contributed insight to water governance scholarship by meeting all three goals, we leave it up to the reader to determine the same.

5. Acknowledgements

We gratefully acknowledge support from the Social Sciences and Humanities Research Council of Canada provided by two research grants: 1) A Partnership Development Grant to establish a Great Lakes Policy Research Network; and 2) a Partnership Grant entitled Borders in Globalization.

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