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Management of the Great Lakes-St. Lawrence Maritime Transportation System

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MANAGEMENT OF THE GREAT LAKES-ST. LAWRENCE MARITIME TRANSPORTATION SYSTEM

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ABSTRACT: The Great Lakes-St. Lawrence Maritime Transportation System ("MTS") bears critical importance to the economic competitiveness of Canada and the United States ("US"). Maritime transportation comprises both a major economic driver and job creator for both countries. As a cost-effective and highly efficient means of transporting raw materials and finished products to market, the MTS is essential to agricultural, mining, and manufacturing supply chains that frequently stretch across the US-Canada border and beyond. Yet management of the MTS is fragmented, with responsibility for various system components scattered across numerous federal agencies in both the US and Canada. This fragmentation results in a dearth of transparency, confusing and disjointed governmental authority, higher user costs, barriers to establishing new markets, and overall reduced system competitiveness. The development of a treaty that commits both nations to integrate system management, harmonize regulations, and promote more effective coordination will bring clarity regarding authority over key system aspects, increase accountability, and improve performance.

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I. INTRODUCTION

A. Overview of the Great Lakes-St. Lawrence Maritime Transportation System

The Great Lakes-St. Lawrence Maritime Transportation System ("MTS") is the longest deep-draft inland navigation system in the world. The MTS includes the five Great Lakes (Superior, Michigan, Huron, Ontario, and Erie), their connecting channels, and the St. Lawrence River. Four of the lakes and the river are shared between Canada and the United States ("US"), while Lake Michigan falls entirely within the US. The MTS extends 2,300 miles (3,680 km) from the Gulf of St. Lawrence on the Atlantic Ocean to the North American heartland, and serves more than 100 ports in the eight US states bordering the Great Lakes, and the Canadian bordering provinces of Ontario and Québec.

Lock infrastructure enables vessels to navigate the roughly 600-foot (180-meter) elevation change between the St. Lawrence River and Lake Superior. The section of the MTS between Montréal and the Gulf of St. Lawrence enables shipping year-round, while the other portions of the system are seasonal. A fleet of more than 100 US and Canadian lake vessels have been specially built to serve the system and its customers. Maritime is a cost-effective and highly efficient means of transporting raw materials and finished products to market. Ocean-going vessels also trade between MTS ports and global markets, enabling "virtually every commodity imaginable [to] mov[e]" through this vital trade artery.[1] Primary commodities include iron ore, coal, and limestone, which are used in the steel industry, along with grain, cement, and general cargo.[2] Responsible for an estimated $6 trillion dollars (US) of economic output,[3] the Great Lakes-St. Lawrence "region accounts for 30% of combined Canadian and US economic activity."[4]

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[1] *The Great Lakes–St. Lawrence Seaway System*, ST. LAWRENCE SEAWAY DEV. CORP., https://www.seaway.dot.gov/about/great-lakes-st-lawrence-seaway-system (last updated Dec. 31, 2014).

[2] *Id*.

[3] Robert Kavcic, *Driving North American Growth and Trade*, BMO CAPITAL MARKETS (2017), https://economics.bmocapitalmarkets.com/economics/reports/20170425/sr20170425.pdf.

[4] Robert Kavcic, *Connecting Across Borders: A Special Report on the Great Lakes and St. Lawrence Regional Economy* 3 (June 2016), http://www.gsgp.org/media/1818/2016-cglslgp-bmo-economic-report.pdf.

B. The Single System MTS and its Unique Challenges

The MTS comprises a single, comprehensive system that spans two nations. Accordingly, it bears fundamental differences from other coastal regions in the US and Canada and, therefore, must be managed in a way that recognizes and takes advantage of these specific characteristics. Until recently, US federal law failed to recognize the unique nature of the MTS and funding programs pitted the region's ports against one another. Unlike ocean coastal ports that compete directly against one another, however, MTS ports depend upon each other's success. For example, ports in the southern portion of the MTS, such as Cleveland, Ohio, and Burns Harbor, Indiana, where steel production occurs, depend on the flow of raw materials like iron ore from northern ports, like that of Duluth, Minnesota. Several factors, such as inadequate dredging or ice clearance, that impact one part of the system can create ripple effects throughout the MTS. These factors have the potential to limit the flow of cargo between ports, thereby reducing economic activity not just for a specific port but for the MTS and the entire regional economy.

Figure 1. Map of the Great Lakes-St. Lawrence Maritime System[5]

C. A Patchwork of Federal Government Agencies

A complicated patchwork of government agencies, authorities, and other entities manage the MTS as a fragmented collection of component parts. In the US, authority resides with the federal government, local governments, and port authorities, while state governments traditionally have played little or no role in managing the MTS. Several federal government agencies oversee various facets

[5] http://greatlakesseaway.org/wp-content/uploads/2015/06/GL-Ports-map-complete.pdf.

of the MTS, in many instances without formalized coordination. Only beginning in 2014 did the US federal government officially refer to the MTS as a system rather than a fractured agglomeration of ports and channels. This recognition has yet to be formalized by Canadian law, where various government agencies and other entities share MTS management duties. An overview of the governmental agencies in the US and Canada that have authority over individual aspects of the MTS can be found in Figure 2.

	Functional Areas of Safety Responsibility/Participation									
Agencies	*Ship Safety*	*Port/ Facility*	*Emergency Response*	*Aids to Navigation*	*Ice Breaking*	*Dredging/ Water Levels*	*Environment*	*Mariner Safety/ Health*	*Licencing/ Pilotage*	*Other*
Canadian Agencies										
Transport Canada	X	X	X			X	X		X	
Canadian Coast Guard			X	X	X	X	X			X
Canadian Border Services Agency										X
Canadian Hydrographic Services										X
Department of National Defence										X
Environment Canada			X				X			X
Human Resources and Skills Development								X		
Labour Canada		X						X		
St. Lawrence Seaway Management Corp.	X	X	X				X			
Transportation Safety Board	X							X		
Provincial Governments		X	X				X			
Local Governments		X	X				X			
U.S. Agencies										
U.S. Coast Guard	X	X	X	X	X		X	X	X	
Army Corps of Engineers		X				X	X			
Centers for Disease Control and Prevention								X		
Customs and Border Protection	X									
Department of Agriculture										X
Department of Labor								X		
Environmental Protection Agency			X				X			
Federal Communications Commission										X
National Oceanic and Atmospheric Administration						X				X
Saint Lawrence Seaway Development Corp	X	X	X				X			
State Governments		X	X				X			
Local Governments		X	X				X			

Figure 2. Governmental Participation by Functional Area[6]

This disjointed governance is characterized by decentralized authority, regulatory disharmony, ad hoc arrangements, informal agreements, and a general lack of accountability for key aspects of system management. These factors often result in higher costs for system users, a lack of transparency for essential system maintenance, insufficient planning, and an overall failure to manage the MTS as a truly binational system. Consequently, a durable international agreement would serve to better integrate the work of federal agencies and to consolidate management and oversight. Furthermore, in order to progress toward the

[6] Gordon English, et al., *Safety Profile of the Great Lakes-St. Lawrence Seaway System: Executive Summary*, RESEARCH AND TRAFFIC GROUP, 2 (March 2014) http://www.greatlakes-seaway.com/en/pdf/Safety-Profile-ExSum.pdf.

overarching goal of significantly improving system performance, the harmonization of regulations, and the promotion of more effective coordination across the entire MTS, should be prioritized to the greatest extent possible.

D. Treaty: A Potential Solution to end the Confusion

A treaty between Canada and the US, while challenging to develop and implement, presents the best opportunity to address these problems and institute these changes. Treaties such as the US-Canada Boundary Waters Treaty and the Mannheim Convention for the Rhine River, are durable instruments, which have endured for decades, possessing the unique ability to institutionalize international coordination and foster uniform laws and regulations. Furthermore, absent a durable, legally binding mechanism to institute crucial reforms, the fractured nature of MTS management and governance, and the problems that hinder the competitiveness of the MTS, will persist. Specifically, a treaty could:

- Explicitly define the navigable waters of the Great Lakes and St. Lawrence River as a single, comprehensive navigation system, fostering recognition of the unique, interconnected nature of the MTS and help to ensure effective system management;
- Define basic uniform system dimensions as implemented through dredging, lock infrastructure, and icebreaking, creating predictability for system users and enabling them to make long-term capital investments while, more generally, improving MTS management and overall efficiency;
- Foster greater coordination and cooperation among the governments, system users, and the public, and increase system competitiveness, by harmonizing regulations such as customs and pilotage, improving transparency and information sharing, and improving accountability; and
- Institutionalize binational coordination through an entity charged with functional responsibilities such as system oversight, planning, reporting, and research to help ensure that the various government agencies meet their obligations and that critical system needs are considered on an ongoing basis.

The following sections discuss these various components in turn, and present the case for developing a treaty to cooperatively manage the MTS.

II. ESTABLISHING BINATIONAL COMMITMENT TO MANAGING THE MTS AS A SYSTEM

In 2014, the US Congress demonstrated its intent to regulate the MTS as a single system through the Water Resources Reform and Development Act of

2014 (the "WRRDA").[7] In the WRRDA, Congress defines the term "Great Lakes Navigation System" to include:

> A.
>
> i. Lake Superior;
>
> ii. Lake Huron;
>
> iii. Lake Michigan;
>
> iv. Lake Erie; and
>
> v. Lake Ontario;
>
> B. all connecting waters between the lakes referred to in subparagraph (A) used for commercial navigation;
>
> C. any navigation features in the lakes referred to in subparagraph (A) or waters described in subparagraph (B) that are a Federal operation or maintenance responsibility; and
>
> D. areas of the Saint Lawrence River that are operated or maintained by the Federal Government for commercial navigation.[8]

Regarding the management of the Great Lakes Navigation System, Congress emphasized the integrity of the Great Lakes—St. Lawrence River system, stating:

> To sustain effective and efficient operation and maintenance of the Great Lakes Navigation System, including any navigation feature in the Great Lakes that is a Federal responsibility with respect to operation and maintenance, the Secretary shall manage all of the individually authorized projects in the Great Lakes Navigation System as components of a single, comprehensive system, recognizing the interdependence of the projects.[9]

In Canada, the Great Lakes Pilotage Regulations, federal regulations enacted under the Pilotage Act, do not explicitly state the waters of the Great Lakes and St. Lawrence River constitute a single system, but they do imply such a definition. The regulations aim to establish, operate, maintain, and administer efficient pilotage services within the Great Lakes Pilotage Authority Region for commercial vessels, further dividing the region into six areas, including:

> A. Cornwall District, being the Canadian waters of the St. Lawrence River between the northern entrance to St. Lambert Lock and the pilot boarding station near St. Regis in the Province of Québec;

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[7] Pub. L. No. 113–121, 128 Stat. 1193 (2014) (codified as amended at 33 U.S.C. 2201).
[8] *Id.* § 2102 (f)(4).
[9] *Id.* § 2102 (c)(4).

B. International District 1, being the Canadian waters of the St. Lawrence River between the pilot boarding station near St. Regis, in the Province of Québec, and a line drawn from Carruthers Point light in the Port of Kingston, in the Province of Ontario, on a true bearing of 127° through Wolfe Island south side light and extended to the shore of the State of New York;

C. International District 2, being:

i. all the waters of the Welland Canal between the following geographic limits:

a. in the southern approach, within an arc drawn one mile southward of the outer light on the western breakwater at Port Colborne; and

b. in the northern approach, within an arc drawn one mile northward of the western breakwater light at Port Weller;

ii. the Canadian waters of Lake Erie westward of a line running approximately 206° true from the Southeast Shoal light to Sandusky Pierhead light at Cedar Point in the State of Ohio; and

iii. the Canadian waters of the connecting channels between Lake Erie and Lake Huron;

D. International District 3, being the Canadian waters of St. Mary's River connecting Lake Huron and Lake Superior as far as, in the northern approach, longitude 84° 33' W;

E. the Canadian waters of Lakes Ontario, Erie, Huron and Superior other than the waters in the compulsory pilotage areas established under paragraphs (A) to (D); and

F. the navigable waters within the limits of the Port of Churchill, Manitoba.[10]

Given the purpose of the regulations, the text seems to imply that the waters of the Great Lakes and St. Lawrence River are not only part of a single region, but a single maritime system. The only source of law in either country to define the term "Great Lakes Navigation System," however, is the WRRDA. No agreements or Canadian legislation provide a definition for this term. The WRRDA is also the only source of law to explicitly refer to the waters of the Great Lakes and St. Lawrence as a "single, comprehensive system." No Canadian legislation explicitly defines the waters of the Great Lakes and St. Lawrence River as part of a single system.

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[10] *Great Lakes Pilotage Regulations*, C.R.C. 2011, at ¶ 1.

A treaty can define the MTS as a "single, comprehensive system" in both countries. This will institutionalize the unique, interconnected nature of the system into legislation and policy, affecting MTS operations and maintenance, thereby ensuring that critical system components are managed to maximize system performance across both countries.

Beyond the need for holistic, systemic management, however, a series of specific, functional challenges hamper MTS performance and could be addressed through a treaty. Addressed individually, each of these issues could take years to overcome and only bring incremental improvement. Approached collectively, a treaty could address these issues simultaneously, transforming system performance, and providing a durable, long-term mechanism for future success.

III. SYSTEM OPERATIONS AND DIMENSIONS

The safe navigation of vessels from the Atlantic Ocean to the North American heartland via the Great Lakes, the St Lawrence River, and various connecting channels bears critical importance to the health of the regional and national economies. This movement depends on the consistent dimensions and attributes of the MTS including the maintenance of a navigable depth in ports, harbors, and shipping channels; construction and maintenance of the system's 19 locks; and icebreaking operations to ensure navigation during icy conditions. Any treaty or agreement should create common dimensions and coordinated management for the topics addressed below, thereby enabling supply chain and logistical planning for system users as well as reducing risk to foster long-term capital investments.

A. Dredging

Commercial navigation on the MTS depends on regular dredging of ports, harbors, channels, and shipping lanes. Dredging involves the removal of obstructions, including the natural build-up of "rock, sand, mud, [and] clay" resulting from natural water flows to ensure navigational depth throughout the MTS.[11]

In the US, the federal government collects a Harbor Maintenance Tax from system users to fund system maintenance for commercial ports and for channels connecting the lakes.[12] For many years, funds made available for MTS dredging have been insufficient to meet system needs, creating safety hazards and forcing commercial vessels to carry lighter cargo load: thereby increasing the cost and air emissions per ton to move cargo, as well as creating a significant backlog of un-removed sediment; this has resulted in bottlenecks that can hinder commercial navigation throughout the system. Funding has improved in recent years, particularly through the WRRDA that directed federal agencies to manage

[11] Dredging on the Great Lakes, US ARMY CORPS OF ENGINEERS, http://www.lre.usace.army.mil/Portals/69/doc/Navigation/GreatLakesDredging/Introduction%20to%20Dredging% 20Methods%20on%20the%20Great%20Lakes.pdf.

[12] 26 U.S.C. Subtitle D, CHAPTER 36, Subchapter A: Harbor Maintenance Tax (1965) (codified as amended at 26 U.S.C. § 4661–62).

the MTS as a single unified system rather than force commercial ports to compete against one another for funding.[13]

Dredging in Canadian ports and harbors has been functionally de-federalized and is largely managed and funded by system users. The Minister of Transport maintains authority over dredging, but generally delegates this responsibility to ports and private industries. Maintaining a minimum navigational depth of 27 feet (8.2 meters) throughout the MTS has become the aspirational norm to facilitate commercial navigation.[14] However, many of the agencies responsible for dredging in both countries are not bound by law to do so.

In the US, a variety of federal and state entities work to ensure a consistent navigable depth throughout the MTS.[15] The responsibility for maintaining this consistent depth throughout most of the MTS lies with the United States Army Corps of Engineers ("USACE").[16] The St. Lawrence Seaway Development Corporation ("SLSDC") maintains responsibility for ensuring navigability throughout its area of responsibility in the St. Lawrence Seaway ("SLS").[17]

Congress vests the USACE with the authority to approve "excavat[ion]" and any "alter[ations] or modif[ications]" of any "port, . . . harbor, . . . canal, lake, . . . or of the channel of any navigable water of the United States . . . "[18] and with maintaining the MTS, primarily through "dredging . . . and construction and maintenance of coastal infrastructure."[19] As stated above, maintenance of a minimum depth of 27 feet (8.2 meters) throughout the MTS has become the aspirational norm to facilitate commercial navigation; however, no statute or regulation specifies that the USACE ensure this depth. Rather, broad language requires the USACE to "ensure minimal operation depths consistent with original authorized depths of the channels and harbors when water levels in the Great Lakes are, or are forecast to be, below the International Great Lakes Datum of 1985."[20] While this language seemingly creates a level at which the USACE must dredge, the language fails to provide for an easily discernable level signaling a statutory need for dredging. This has resulted in historical variability of channel depth that requires system users to constantly monitor system dimensions and to maintain ships and equipment that can operate under different scenarios.

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[13] Water Resources Reform and Development Act of 2014, Pub. L. No. 113-121, § 2102 (f)(4).

[14] *Great Lakes Navigation System*, US ARMY CORPS OF ENGINEERS, http://www.lre.usace.army.mil/Missions/Great-Lakes-Navigation/. *See* 33 USC. § 426o-2(a) (2016) ("Using available funds, the Secretary shall expedite the operation and maintenance, including dredging, of the navigation features of the Great Lakes and Connecting Channels for the purpose of supporting commercial navigation to authorized project depths.").

[15] GREAT LAKES DREDGING TEAM, *About Us*, https://greatlakesdredging.net/about-us/ (last visited January 29, 2018).

[16] *Dredging on the Great Lakes*, *supra* note 12.

[17] 33 U.S.C. § 981 (2016).

[18] Rivers and Harbors Act of 1899, Section 10, 30 Stat. 1151 (codified at 33 U.S.C. § 403 (2016)).

[19] *Great Lakes Navigation System*, *supra* note 11.

[20] 33 U.S.C. § 426o-1(b) (2016).

The St. Lawrence Seaway Act of 1954 established the SLSDC as a wholly owned corporation of the US Department of Transportation.[21] This Act tasked the SLSDC with collaborating with its Canadian counterpart, the St. Lawrence Seaway Management Corporation ("SLSMC"), to "construct, operate and maintain that part of the [St. Lawrence Seaway] between the Port of Montreal and Lake Erie, within the territorial limits of the United States."[22] Today, the SLSDC lists its mission as "to serve the US intermodal and international transportation system by improving the operation and maintenance of a safe, reliable, efficient, and environmentally responsible deep-draft waterway, in cooperation with [the SLSMC]."[23] The SLSDC's statutory maintenance responsibilities further includes maintaining the waterway at a depth consistent for commercial navigation.[24] Differing from the statutory authority governing dredging by the USACE, however, 33 USC. § 983(a) directs the SLSDC to maintain the area of MTS subject to its control at "a depth of twenty-seven feet [(8.2 m.)] in channels and canals . . . ."[25]

In Canada, dredging requirements include statutes and regulations governing the maintenance and depth of any dredged channels in the system, and the user's right to enforce the maintenance of these channels against the government. The Canada Marine Act authorizes the Minister of Transport to delegate authority to dredge any area of the MTS to the SLSMC.[26] The Minister may also authorize any private corporation or entity to dredge the MTS if the corporation requests to do so, although any denial of a request by the Minister must be due to an enumerated reason found in the Natural and Man-Made Harbour Navigation and Use Regulations.[27] Additional regulations further complicate this authorization. The Port Authorities Operation Regulation authorizes designated Port Authority Areas, the largest ports along the seaway,[28] to dredge their respective ports.[29] This process effectively functions to pre-approve port authorities for any dredging activities within their harbor limits, while requiring approval for any dredging activity outside of those limits, ultimately affording the Ministry of Transport relatively broad rights to authorize private companies to dredge the MTS and related harbors as they see fit.

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[21] Pub. L. No. 106-580 (codified as amended at 33 USC. § 981 (2016)).

[22] *What Does the SLSDC Do?,* ST. LAWRENCE SEAWAY DEV. CORP., https://www.seaway.dot.gov/about/what-does-slsdc-do (last updated Jan. 24, 2017). During the construction of the SLS, the SLSDC relied heavily on the assistance of the USACE. William H. Becker, *From the Atlantic to the Great Lakes: A History of the US Army Corps of Engineers and the St. Lawrence Seaway* 41 (1987), http://www.publications.usace.army.mil/Portals/76/Publications/EngineerPamphlets/EP_870-1-20.pdf.

[23] *What Does the SLSDC Do?*, *supra* note 23.

[24] *Id*.

[25] 33 U.S.C. § 983(a) (2016).

[26] Canada Marine Act, S.C. 1998, c 10, s 79(d).

[27] SOR/2005-73, s.3 and 15 (Can.).

[28] The Port Authorities within the MTS possessing this authority include: Toronto, Hamilton, Oshawa, Windsor, Trois-Rivieres, Thunder Bay, and Montreal.

[29] SOR/2000-55, Schedule 2 (Can.).

The SLSMC seeks to maintain a depth of 8.2 meters (27 ft.) throughout the MTS system.[30] However, no legislation or regulation explicitly states that shipping lanes must be maintained at this depth. Further, while the Ministry of Transport possesses the ability to authorize dredging, the responsibility to maintain the 8.2-meter (27-ft.) depth lies with the Canadian Coast Guard ("CCG"), which operates under the Ministry of Fisheries and Oceans.[31] Thus, two federal ministries are tasked with managing dredge depths, yet no statute or regulation binds either to maintain the stated depth.

B. Locks

The approximately 600-foot (180-meter) elevation change between Lake Superior and the St. Lawrence River necessitated the construction and continued maintenance of locks to ensure navigability throughout the MTS. Scheduled and unscheduled maintenance affects the available capacity of any given lock. This need for maintenance increases with the age of the lock, dam, and operating equipment, and delayed repairs can result in closures disrupting all traffic moving through the locks and can create major bottlenecks for the entire MTS.

The locks within the MTS can be split into three groups: the Soo Locks; Welland Canal; and the Montreal–Lake Ontario ("MLO") Section. The Soo Locks, located on the St. Mary's River at Sault Ste. Marie, Michigan, allow vessels to traverse the 21-foot (7-meter) elevation difference between Lake Superior and Lake Huron. The Soo Locks include four "side-by-side lock chambers" owned and operated by the USACE, the: Poe, MacArthur, Davis, and Sabin. Commercial vessels primarily use the deeper Poe (32 feet/9.8 meters deep) and MacArthur (31 feet/9.4 meters deep) locks.[32] The canal that services these locks is maintained at 27.5 feet (8.4 m) deep.[33] The Davis lock allows small vessel traffic and the Sabin lock does not currently operate. A smaller lock on the Canadian side of the river also permits usage by recreational vessels, but commercial vessels must utilize the US locks.[34]

The Welland Canal includes eight uniformly sized locks that "enable maritime commerce to bypass Niagara Falls"[35] by allowing vessels to traverse the 99.5-meter (326.5-ft.) elevation difference between Lake Erie and Lake Ontario.[36] Owned by the Canadian government and managed by the SLSMC, the canal spans 43.4 kilometers (27 mi.), from Port Colborne, Ontario, to Port

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[30] *The Seaway Handbook*, ST. LAWRENCE SEAWAY MGMT. CORP. (2016), at 29(1) [hereinafter *Seaway Handbook*]. The onus remains on ship captains to maintain acceptable draught limits. *Id*.

[31] *Oceans Act,* S.C. 1996, c 31, at s 41(1)(iv) (Can.).

[32] *MacArthur Lock Features*, US ARMY CORPS OF ENGINEERS, http://www.lre.usace.army.mil/Missions/Civil-Works/Dam-Safety-Program/Soo-Locks/MacArthur-Lock/.

[33] *Id*.

[34] *Sault Ste. Marie Canal National Historic Site*, PARKS CANADA, http://www.pc.gc.ca/eng/lhn-nhs/on/ssmarie/natcul/natcul1.aspx (last updated Nov. 29, 2016).

[35] *Id*.

[36] *Id*.; *The Welland Canal Section of the St. Lawrence Seaway*, ST. LAWRENCE SEAWAY MGMT. CORP. (Mar. 2003), http://www.greatlakes-seaway.com/en/pdf/welland.pdf.

Weller, Ontario.[37] Although the eight locks have a depth of 9.1 meters (30 ft.), the channel between the locks is maintained at a depth of 8.2 meters (27 ft.).[38]

The MLO Section comprises the portion of the St. Lawrence River between Montréal and Lake Ontario. The area consists of four canals, three of which are owned by the Canadian federal government and maintained by the SLSMC, the: (1) South Shore Canal; (2) Beauharnois Canal; and (3) Iroquois Canal.[39] Two locks, the St. Lambert and Cote Ste. Catherine, fall in the South Shore Canal, which spans from the Port of Montreal to Lake St. Louis.[40] Connecting Lake St. Louis to Lake St. Francis, the Beauharnois Canal contains two locks, the Upper and Lower Beauharnois.[41] The Iroquois Canal contains only one lock: the Iroquois.[42] The US based SLSDC owns and manages the Wiley-Dondero Canal, which contains the Snell and Eisenhower Locks.[43] The dimensions of all of the locks throughout the MTS system are listed in Table 1 below.

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[37] *Great Lakes Lock Infrastructure,* CHAMBER OF MARINE. COM., http://www.marinedelivers.com/great-lakes-lock-infrastructure; *Seaway Fact Sheet*, ST. LAWRENCE SEAWAY DEV. CORP. (July 2011), https://www.seaway.dot.gov/sites/seaway.dot.gov/files/docs/Seaway%20Fact%20Sheet.pdf.

[38] *The Welland Canal Section of the St. Lawrence Seaway*, *supra* note 37. For more information regarding the structure of the Canal, see *id.*

[39] *Great Lakes Lock Infrastructure*, *supra* note 38; *The Seaway: Locks, Canals & Channels*, ST. LAWRENCE SEAWAY MGMT. CORP. (2008), http://greatlakes-seaway.com/en/seaway/locks/index.html.

[40] *The Seaway: Locks, Canals & Channels*, *supra* note 40.

[41] *Id.*; *Great Lakes Lock Infrastructure*, *supra* note 38.

[42] *The Seaway: Locks, Canals & Channels*, *supra* note 40; *Great Lakes Lock Infrastructure*, *supra* note 38.

[43] *The Seaway: Locks, Canals & Channels*, *supra* note 40; *Great Lakes Lock Infrastructure*, *supra* note 38.

Table 1: GLSLS Lock Dimensions[44]

LOCK SYSTEM BODY	LOCK NAME	LENGTH	WIDTH	DEPTH	GOVERNING BODY
SOO LOCKS	POE	366 M. (1,200 FT.)	34 M. (110 FT.)	10 M. (32 FT.)	USACE
	MACARTHUR	224 M. (800 FT.)	24 M. (80 FT.)	9 M. (29.5 FT.)	
	DAVIS	411 M. (1350 FT.)	24 M. (80 FT.)	7 M. (23.1 FT.)	
	SABIN	411 M. (1350 FT.)	24 M. (80 FT.)	7 M. (23.1 FT.)	
WELLAND CANAL	LOCKS 1-8	233.5 M. (766 FT.)	24 M. (80 FT.)	9.14 M. (30 FT.)	SLSMC
MONTREAL-LAKE ONTARIO SECTION	IROQUOIS	233.5 M. (766 FT.)	24 M. (80 FT.)	9.14 M. (30 FT.)	SLSMC
	UPPER BEAUHARNOIS	233.5 M. (766 FT.)	24 M. (80 FT.)	9.14 M. (30 FT.)	
	LOWER BEAUHARNOIS	233.5 M. (766 FT.)	24 M. (80 FT.)	9.14 M. (30 FT.)	
	COTE STE. CATHERINE	233.5 M. (766 FT.)	24 M. (80 FT.)	9.14 M. (30 FT.)	
	ST. LAMBERT	233.5 M. (766 FT.)	24 M. (80 FT.)	9.14 M. (30 FT.)	
	EISENHOWER	233.5 M. (766 FT.)	24 M. (80 FT.)	9.14 M. (30 FT.)	SLSDC
	SNELL	233.5 M. (766 FT.)	24 M. (80 FT.)	9.14 M. (30 FT.)	

While the US federal government maintains only six MTS locks, the four Soo Locks and the Eisenhower and Snell locks in the MLO Section, the USACE and the SLSDC share responsibility for maintaining these locks.[45] No comprehensive federal regulation governs both sets of locks, but a variety of statutes and regulations affect each set of locks individually.

The USACE possesses the authority to approve the construction of any dam or dike in any navigable water of the United States.[46] Together, the features of the St. Mary's River Complex, including the Soo Locks, and the connecting dikes, "function as a dam."[47] While no regulation governs the size of each of the Soo Locks, 33 C.F.R. § 207.440–41 govern the lock's operations. The regulation places the District Engineer, Engineer Department at Large, in charge of the "use, administration, and navigation" of the portion of the St. Mary's River

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[44] All dimensions were obtained from *Great Lakes Lock Infrastructure*, *supra* note 38. The Canadian lock at Sault Ste. Marie, open only to recreational vessel traffic, is 77 meters (252.6 ft.) long, and 15.4 meters (50.5 ft.) wide. *Sault Ste. Marie Canal National Historic Site*, *supra* note 35.

[45] *The Seaway: Locks, Canals & Channels*, *supra* note 40; *Great Lakes Lock Infrastructure*, *supra* note 38.

[46] 33 U.S.C. 401 (2016).

[47] *Soo Lock Information*, US ARMY CORPS OF ENGINEERS, http://www.lre.usace.army.mil /Missions/Civil- Works/Dam-Safety-Program/Soo-Locks/.

containing the Soo Locks.[48] The regulation also provides lock users with detailed information governing maximum vessel size for lock usage, which differs according to which lock the vessel seeks to use.[49] Further, the regulation provides approaching vessels with detailed procedures to follow while approaching the lock, while in the lock, and while exiting the lock.[50] The regulation also provides system users with the Soo Locks' annual opening and closing dates. Unless otherwise "authorized by the Division Engineer," the locks close no later than January 15, and at least one lock opens no later than March 25.[51] The USACE conducts maintenance while the locks are closed to vessel traffic.[52] As no regulation governs the type of maintenance to be performed each winter, maintenance remains at the discretion of the USACE District Engineer.[53]

Congress mandated that the SLSDC ensure the locks under its authority are "at least eight hundred feet long, eighty feet wide, and thirty feet over the sills."[54] Accordingly, US locks located in the MLO Section are uniform in dimension. Further, Congress mandated the SLSDC collaborate with the SLSMC to "construct, operate and maintain that part of the St. Lawrence Seaway between the Port of Montreal and Lake Erie, within the territorial limits of the United States."[55] In accordance with this mandate, the SLSDC and SLSMC collaborated on the Seaway Regulations, which concerns vessel transit of the St. Lawrence Seaway ("SLS"), including minimum and maximum vessel size, procedures while transiting through the SLS, and types of permissible cargo.[56] SLS users can find these regulations along with toll schedules and additional information in the *Seaway Handbook*.[57] This often confuses users because although the *Seaway Handbook*'s regulations are legally binding in the United States, they are not necessarily binding in Canada. Additionally, unlike the Soo Locks, the MLO Section's open season is not specifically defined. Rather, the SLSDC and the SLSMC determine the date of opening and closing each year, which poses difficulty for planning purposes.[58]

In Canada, the Minister of Transport grants the SLSMC exclusive authority to manage the locks and any real property involved in the functioning of the MTS.[59] The Canada Marine Act specifies the SLSMC's objectives and expected operating procedures, namely to: "(d) protect the long-term operation and

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[48] 33 C.F.R. § 207.440(a) (2017).

[49] 33 C.F.R. § 207.440(v)–(w) (2017).

[50] 33 C.F.R. §§ 207.440(b)–(t), 207.441 (2017).

[51] 33 C.F.R. § 207.440(u)(1)–(2) (2017).

[52] *Winter Work at the Soo Locks*, US ARMY CORPS OF ENGINEERS, http://www.lre.usace.army.mil/Missions/Recreation/Soo-Locks-Visitor-Center/Winter-Work-at-the-Soo-Locks/.

[53] *See* 33 C.F.R. § 207.440(a) (2017).

[54] 33 U.S.C. § 983 (2017).

[55] *What Does the SLSDC Do?*, *supra* note 23.

[56] 33 C.F.R. § 401 (2017), et. seq. Though jointly created, the SLSMC calls the identical Canadian regulations the *Seaway Practices and Procedures*. *See Seaway Handbook*, *supra* note 31.

[57] *Seaway Handbook*, *supra* note 31.

[58] 33 C.F.R. § 401.96(b) (2017).

[59] *Canada Marine Act, supra* note 27.

viability of the MTS system as an integral part of Canada's national transportation infrastructure; (e) promote the competitiveness of the Seaway; [and] (f) protect the significant investment that the Government of Canada has made in respect of the Seaway . . . "[60] No further legislation directs lock functionality for the SLSMC. Instead, the SLSMC manages functionality through its own directives and communiqués to users. The SLSMC's procedures are presumed to correspond with the objectives set out in s.78 of the Canada Marine Act, and the SLSMC has not been challenged for failing to comply with these objectives.

The SLSMC provides direction to users through the *Seaway Handbook*. While no Canadian regulation defines MTS lock size, the SLSMC provides maximum dimensions for vessels seeking to use the locks, which, on a practical level, defines the system's limitations.[61] No regulation, however, defines the operating season of the SLS, vesting the SLSMC's Corporate Manager with the ability to dictate the locks' opening and closing dates in collaboration with the SLSDC.[62] The SLSMC outlines a detailed 72-hour procedure leading up to the closing date, which typically falls in late December.[63] Further, the SLSMC publishes lists of previous years' opening and closing dates, as well as reports to aid private forecasting.[64]

Ultimately, as no statutory provisions govern the operating season or lock dimensions, users lack options if the SLSMC fails to follow these procedures, thereby limiting accountability. Users may, however, request an investigation by the Minister of Transport. As a non-profit corporation the Crown bears no liability, and through the SLSMC's communication, they avoid a direct contract with their users. As such, legal action against the SLSMC for failure to maintain lock functionality is effectively limited to a compensatory tort action, severed from broader Crown liability.[65]

Although locks within the MTS have clearly defined governing entities and regulations governing their use, ambiguity remains. Some MTS users seek clarity through petitions for notice and comment rulemaking in the US. For example, an organization sought rulemaking on the "process and criteria the [SLSDC] uses to set the season open date for the [SLS]."[66] In denying the petition, the administrator relied on several factors, including the fact that there was already a "process" in place: a factor analysis conducted jointly between the SLSDC and

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[60] *Canada Marine Act*, *supra* note 27, s.78(d)–(f).

[61] *See Seaway Handbook*, *supra* note 31, Appendix 1 for exact dimensions.

[62] *Id*.

[63] *Id*

[64] *See, e.g., St. Lawrence Seaway: Traffic Report*, ST. LAWRENCE SEAWAY MGMT. CORP. 11 (2015).

[65] It should also be noted that a lawsuit regarding the SLSMC's failing to follow through with its objectives outlined in section 78 of the Canada Marine Act is not likely to succeed. Typically included as aids for statutory interpretation in most other legislation, however, this has not been judicially tried with respect to these objectives.

[66] *Response Letter to Save the River's Petition for Rulemaking*, ST. LAWRENCE SEAWAY DEV. CORP. (Apr. 20, 2010), https://www.seaway.dot.gov/sites/seaway.dot.gov/files/docs/Petition%20for%20Rulemaking%20Decision.pdf.

SLSMC.[67] This attempt at bilateral collaboration, however, often results in confusion and uncertainty for MTS users. Furthermore, as infrastructure ages, a formalized, systematic maintenance schedule would prove beneficial.[68]

C. Icebreaking

The winter season generally leaves large sections of the MTS blocked with ice each year, which can prohibit transit along the MTS during the winter months. Icebreaking, however, enables commercial transit to continue despite harsh winter conditions.[69] Though the exact dates of the icebreaking season vary from year to year, the season "typically begins in mid-December when ice is determined to impede navigation, and ends in late March or early April when ice no longer impedes navigation and temperatures are not expected to return to levels that would facilitate ice formation."[70]

Especially harsh winter conditions can create extensive ice coverage on the MTS. For example, ice covered 93 percent of the five Great Lakes in 2014 and 89 percent in 2015. Ice coverage and inadequate icebreaking decreases the amount of cargo moved on the MTS and reduces subsequent economic activity. During the 2013-14 winter season, ice coverage resulted in seven million fewer tons of cargo moving on US-flagged vessels alone, compared to the prior year.[71] While ice coverage serves an important purpose for sensitive ecosystems, and the costs and benefits of icebreaking must be considered holistically, more formalized coordination between the two countries can improve navigational conditions on the MTS and benefit system users.

In 1936, an executive order directed the United States Coast Guard ("USCG") to conduct icebreaking operations to "assist in keeping open to navigation . . . channels and harbors in accordance with the reasonable demands of commerce."[72] Congress later codified this authority by authorizing the USCG to "develop, establish, maintain, and operate . . . aids to maritime navigation, icebreaking facilities, and rescue facilities for the promotion of safety on, under, and over . . . waters subject to the jurisdiction of the United States . . . ."[73] Congress also authorized the USCG to act in accordance with international

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[67] *Id*.

[68] For a more detailed discussion regarding the current GLSLS infrastructure, *see*., *Great Lakes St. Lawrence Seaway Study,* TRANSPORT CANADA, ET. AL (2007), https://www.seaway.dot.gov/sites/seaway.dot.gov/files/docs/Army%20Corps%20-%20Great%20Lakes%20Seaway%20Study.pdf.

[69] Icebreaking is one variation of the word used to indicate the clearing of ice to facilitate navigation. For a more detailed examination of icebreaking procedures and operations, *see* Tim Heffernan, *Ice Breakers: The Coast Guard Crews That Keep the Great Lakes Open for Business*, POPULAR MECHANICS (Feb. 25, 2016), http://www.popularmechanics.com/adventure/outdoors/a19228/ice-breakers-coast-guard-great-lakes/.

[70] *Commandant Instruction 16151.1D, Domestic Icebreaking Operations Policy*, US COAST GUARD ¶ 7(m)(1) (Dec. 21, 2011), https://www.uscg.mil/directives/ci/16000-16999/CI_16151_1D.pdf [hereinafter *USCG Icebreaking Policy*].

[71] *Adequate Icebreaking Resources*, LAKE CARRIERS' ASS'N. (Jan. 11, 2018), http://www.lcaships.com/2016/07/13/adequate-icebreaking-resources/.

[72] Exec. Order No. 7521, 1 Fed. Reg. 2527 (Dec. 21, 1936).

[73] 14 U.S.C. § 2(4) (2016).

agreements facilitating icebreaking on waters not subject to US jurisdiction.[74] Further, Congress authorized the USCG to "utilize its personnel and facilities . . . to assist any Federal agency, State, Territory . . . or political subdivision thereof."[75] This permits the USCG to assist federal and state agencies in "conduct[ing] icebreaking in harbors and channels to relieve flooding conditions."[76] While the USCG has not promulgated any further federal regulation pertaining to MTS icebreaking, it has issued internal directives regarding icebreaking policies and procedures.[77]

Recognizing the importance of USCG icebreaking operations throughout the MTS, the USCG Domestic Icebreaking Operations Policy "encourages District Commanders to coordinate icebreaking efforts with other government agencies."[78] The policy vests the responsibility of coordinating the exchange of icebreaking resources with the Canadian Coast Guard ("CCG") to the Ninth District Commander in accordance with existing bilateral agreements between Canada and the US.[79] The policy further tasks the Ninth District Commander with "[c]oordinat[ing] with the USACE to support later lock closing or early lock opening at Sault Ste Marie . . . ."[80]

Currently, the US has two MTS icebreaking operations: Operation Taconite and Operation Coal Shovel.[81] Tasked with the "primary responsib[ility] [to] ensur[e] the successful transfer" of iron ore to the steel mills throughout the MTS, Operation Taconite's area of responsibility includes "the Straits of Mackinac, Whitefish Bay and the St. Mary's River," and "Canadian waters such as Georgian Bay or the port of Thunder Bay," should the CCG request assistance.[82] Operation Coal Shovel "encompasses domestic ice-breaking operations in southern Lake Huron, Lake St. Clair, the St. Clair/Detroit River system, Lake Erie, Lake Ontario and the [SLS]."[83] Ultimately, the statutory authorization and subsequent USCG policy issuances have permitted the USCG wide latitude to conduct icebreaking operations as it sees fit, affording little, if any, recourse for users seeking to mandate or enjoin USCG icebreaking operations.

Much like the legislation authorizing the CCG to manage channel maintenance, the Oceans Act confers authority upon the CCG and the Fisheries and Ocean Minister, stating:

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[74] *Id*. § 2(5).

[75] *Id*. § 141(a).

[76] *US Coast Guard Historic Documents: Coast Guard Ice Operations*, US COAST GUARD, https://www.uscg.mil/history/docs/IceOps.asp (last modified Dec. 21, 2016).

[77] *USCG Icebreaking Policy*, *supra* note 71.

[78] *Id*. at ¶ 8(i).

[79] *Id*. at ¶ 9(d)(1). The Ninth Coast Guard District bears responsibility for the GLSLS.

[80] *Id*. at ¶ 9(d)(2).

[81] *"Operation Taconite" Overview*, US COAST GUARD, https://www.uscg.mil/d9/sectSault SteMarie/docs/VTS/TACONITE%20Overview%20.pdf.

[82] *Id*.

[83] *Coast Guard Begins Operation Coal Shovel*, COAST GUARD NEWS (Dec. 21, 2016), http://coastguardnews.com/coast-guard-begins-operation-coal-shovel/2016/12/21/.

> As the Minister responsible for coast guard services, the powers, duties and functions of the Minister extend to and include all matters over which Parliament has jurisdiction, not assigned by law to any other department, board or agency of the Government of Canada, relating to: (a) services for the safe, economical and efficient movement of ships in Canadian waters through the provision of . . . (iii) ice breaking and ice management services.[84]

Despite the all-encompassing language of s.41(1)(a)(iii), exceptions have been carved out to delegate duties pertaining to actual ice clearing to the CCG, while delegating monitoring and management to other ministries. For example, Environment Canada operates services and notifications to determine ice coverage on the Great Lakes, and the SLSMC (and the Ministry of Transport) governs the use of the real property of the Seaway, while the CCG manages the safe passage of ships along it.[85]

Canada v. M.V. Stormont paints a sharper image of this division.[86] The case hinges on a breach of contract between a truck ferry business in Windsor, Ontario, and the CCG, which sought fees for providing icebreaking services. The truck ferry business argued the CCG could not levy icebreaking fees for work completed within the boundaries of the Windsor Port Authority, but the court ruled that unless the CCG is relieved of the overall duty of icebreaking, not simply the ability to complete it, the CCG retains all icebreaking responsibilities in principle, ultimately holding:

> In my view, section 41[of the *Oceans Act*] is not an enabling section that gives the Minister a discretion as to whether or not to provide icebreaking services; it is a charging section which provides that the matters referred to in paragraphs 41(1)(*a*) to (*e*) are not only powers but are also duties of the Minister. If Parliament saw fit to impose on the Minister the duty to provide icebreaking services, it can only be because it regarded icebreaking services as a necessary service. In order for this duty to be assigned to another entity so as to relieve the Minister of the obligation, then that other entity must also be under a duty to provide icebreaking services.[87]

Stormont also stands for an additional proposition: that the CCG's *Fee Schedule* and related documents constitute the CCG's contractual terms in the event of a dispute, and even if said documents do not comprise legislation, the documents delineate the CCG's terms of use. If an MTS user requires icebreaking services, the user must contact the CCG for the services to be delivered within stated times, and the private carrier must pay for the service.[88]

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[84] *Oceans Act, supra* note 32, s.41(1)(a)(iii) (Can.).

[85] *Canadian Ice Service*, http://iceweb1.cis.ec.gc.ca/Prod/page2.xhtml?CanID=11080&lang=en&title=Great+Lakes (last visited Mar. 13, 2017).

[86] Canada v. M.V. Stormont, 2012 F.C.A. 93 [hereinafter *Stormont*].

[87] *Id*. at ¶ 29.

[88] *Fee Schedule for Icebreaking Services,* CANADA GAZETTE (January 16, 1999). All Great Lakes except for Lake Ontario allow for icebreaking throughout the winter, from December 21–April 15. Lake Ontario has a shorter window, from December 21–24 to April 1–15.

This service is provided separately from lock services; theoretically, icebreaking can occur on Lake Huron in the middle of January even if every lock has been closed for several weeks.

In many instances, however, a user seeking icebreaking services must also coordinate with the relevant US Port Authority or Coast Guard if the ship is to pass over international waters. Although the CCG and USCG collaborate in icebreaking operations, the CCG provides little publicly available information pertaining to coordinated international responses on the MTS.

As court hearings and regulations demonstrate, the CCG's responsibility for icebreaking services is formed by a patchwork of concessions and responsibilities based on the CCG's duty to provide the service under the Oceans Act. *Stormont* also demonstrates, at minimum, the difficulty of understanding the relationship between these service providers for users of the system. Furthermore, little regulation governs the specific times when icebreaking services are to be provided, and breach of contract lawsuits are not available in these instances since the CCG chooses when to provide its services (its "offer" to the user) and when not to. Users cannot currently compel the CCG to provide a service at a specific time.

D. Cooperative Efforts and Agreements

Canada and the US have cooperatively managed icebreaking responsibilities on the MTS for decades. In 1980, the relationship was codified in the *Treaty Between the Government of Canada and the Government of the United States Constituting an Agreement Providing for Coordination of the Icebreaking Activities of Canada and the United States on the Great Lakes and St. Lawrence Seaway*.[89] This treaty named the USCG and the CCG as the "designated agencies" for the purposes of the agreement, and provided for binational coordination and cooperation of icebreaking procedures where possible, as an "endeavor to keep [the MTS system] open for maritime commerce."[90] While this agreement did not detail firm procedures for collaboration between the USCG and the CCG, it further solidified the countries' intent regarding cooperation throughout the MTS.[91] Made effective by the exchange of notes between the Canadian Secretary of State for External Affairs, Mark MacGuigan, and Kenneth M. Curtis, US Secretary of State for External Affairs, Ottawa, the Treaty was effective for 10 years from the exchange, with the option to renew for an

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[89] Treaty Between the Government of Canada and the Government of the United States Constituting an Agreement Providing for Coordination of the Icebreaking Activities of Canada and the United States on the Great Lakes and St. Lawrence Seaway, Can.-US (Dec. 5, 1980) 1266 U.N.T.S. 87.

[90] *Id*. at ¶¶ 1(A), 4, 5.

[91] It is important to note, however, that joint operations have persisted following the lapse of the treaty. *See Coast Guard Begins Operation Coal Shovel*, *supra* note 84 ("US and Canadian Coast Guard icebreakers work together to break ice in these waterways as conditions worsen throughout the winter.").

additional five years.[92] These exchanges, with renewal periods of five years, continued until 2010, when Edward A. Lee, representing the US Secretary of State, and Gary Doer, Ambassador of Canada, exchanged notes confirming commitment to the treaty for a period of five additional years, set to expire on December 5, 2015.[93] This treaty has since lapsed, however, with no exchange of notes since 2010.

In sum, icebreaking responsibilities are spread across different entities in the US and Canada, with ongoing collaboration via ad hoc arrangements absent a formalized process. With the volume and value of cargo traversing the MTS system each year, maintaining a navigable system is imperative. Ensuring an adequately dredged navigation depth, functioning locks, and icebreaking to maintain open shipping channels for as many of the winter months as possible is necessary to maintain commercial navigation. System users and stakeholders would benefit from improved transparency and predictability.

E. Regulatory Harmonization

Effective management of the MTS requires cooperation among various government entities. System-wide harmonization of federal regulations can minimize transaction costs and maximize economic value for the region. Opportunities to harmonize regulations include safety, customs, pilotage, and information sharing. The federal government enacts and enforces safety regulations pertaining to Great Lakes maritime transit in the US. Similarly, Canadian safety regulations are enacted and enforced by the federal government. Customs regulations in both countries are managed by federal agencies. Both nations also have strict pilotage requirements to ensure the safe shipping of goods throughout the MTS.

While safety regulations are an example of successful binational coordination, fragmented and confusing customs and pilotage regulations hinder system performance. Overall, formalizing and strengthening coordination between the two nations would improve accountability and predictability for system users. A treaty adopted by the US and Canada should institutionalize and create an ongoing means for effective regulatory harmonization in these areas.

F. Safety Regulations

In the US, the federal government, primarily through the USCG and the SLSDC, promulgates and enforces maritime safety regulations. The USCG enforces safety regulations created by the Department of Transportation and the SLSDC.[94] It does so, for example, through regular inspections of vessels moving through the SLS and the Great Lakes. Sixteen other agencies, however, also play

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[92] Exchange of Notes Constituting an Agreement Relating to Ice-breaking Operations in the Great Lakes and St. Lawrence Seaway System, Ottawa, 28 October and 5 December 1980, Can.-US, 1266 U.N.T.S. 87.

[93] Exchange of Notes Constituting an Agreement Relating to Ice-breaking Operations in the Great Lakes and St. Lawrence Seaway System, 30 November and 2 December 2010, Can.-US, 1266 U.N.T.S. 87.

[94] *Ninth Coast Guard District Units,* US COAST GUARD (11 January 2017), https://www.uscg.mil/d9/units.asp.

a role in enforcing maritime safety regulations, including the US Environmental Protection Agency and Department of Labor.[95] In Canada, responsibility for safety regulations resides with Transport Canada and the SLSMC.

As with other areas of responsibility, the SLSDC works with the SLSMC to enforce safety regulations in the portions of the MTS where these entities bear responsibility. The SLSMC's "Seaway Practices and Procedures" are established pursuant to section 99 of the Canada Marine Act.[96] The Canada Marine Act provides that the SLSMC may act jointly with the appropriate authorities in the United States with respect to the SLS in Canada.[97] The regulations in the joint *Seaway Handbook* focus largely on traffic control, procedures for traversing locks, length of mooring lines, types of anchors and pollution from ships. These regulations establish a level of organization and standard practices that aim to create a safe environment for ships travelling through the SLS.

Safety regulations underscore the importance of successful cooperative effort between the two countries. The proper framework, as created by a binational treaty, has the potential to institutionalize system-wide coordination and harmonization of the issues described in this section and throughout this paper.

G. Customs

The federal governments are responsible for administering customs regulations in the MTS. In the United States, customs enforcement is largely the responsibility of US Customs and Border Protection ("CBP"). Although other federal agencies may enact restrictions on the import or export of particular goods, CBP promulgates many restrictions and has the primary role of enforcing these laws and regulations.

Similarly, Canadian customs are managed by the Canada Border Services Agency ("CBSA"). Discussing an evaluation of marine security operations in the Great Lakes and St. Lawrence Seaway, the Royal Canadian Mounted Police explained that, "CBSA identifies and interdicts high-risk individuals and goods, works with other law enforcement agencies to maintain border integrity, and engages in criminal and regulatory enforcement activities, including the seizure of goods, arrests, detentions, investigations, hearings and removals."[98] While the US and Canadian border agencies primarily function independently, a program of Integrated Border Enforcement Teams ("IBET") was created in 2001 as a measure to "enhance border integrity and security along the shared Canada/US

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[95] Gordon English et al, *Safety Profile of the Great Lakes-St Lawrence Seaway System: Executive Summary*, RESEARCH AND TRAFFIC GROUP (March 2014), http://www.greatlakes-seaway.com/en/pdf/Safety-Profile- ExSum.pdf.

[96] *Canada Marine Act*, *supra* note 27, at c10, s 99.

[97] *Id*., s 100.

[98] *Horizontal Evaluation of the Great Lakes and St Lawrence Seaway Marine Security Operations Centre,* ROYAL CANADIAN MOUNTED POLICE (April 10, 2015), http://www.rcmp-grc.gc.ca/en/horizontal-evaluation-great-lakes-and-st-lawrence-seaway-marine-security-operations-centre#a1.

border, between designated ports of entry."[99] This partnership involves several agencies including both the CBSA and CBP.

H. Pilotage

In the US, Chapter 93 of Title 46, titled *Great Lakes Pilotage*, governs pilotage on the Great Lakes.[100] The Canadian equivalent is the Pilotage Act, enacted in 1972.[101] While the Canadian Pilotage Act delegates powers to regulate Great Lakes pilotage to a series of local authorities, the US Great Lakes pilotage statute reserves authority to the federal government through the USDOT, which subsequently delegated this responsibility to the USCG.[102]

A pilot is defined as "any person who does not belong to a ship and who has the conduct of it."[103] Furthermore, the concept of compulsory pilotage is defined as, "in respect of a ship, the requirement that the ship be under the conduct of a licensed pilot or the holder of a pilotage certificate."[104] Central to these regulations is the creation of compulsory pilotage districts. Not all ports and harbors require pilotage, and even in compulsory pilotage areas certain classes of vessels may be exempt.

In the United States, Great Lakes pilots are required on "each vessel of the United States operating on register and each foreign vessel."[105] On waters designated by the President of the United States under § 9302(a)(2), pilots "direct the navigation of the vessel subject to the customary authority of the master."[106] In all other waters, pilots are required to be on board and be available to direct the navigation of the vessel subject to the authority of the master.[107] Vessels may operate without a pilot only if: "(1) the master is notified that no registered pilot is available; or (2) the vessel or its cargo is in distress or jeopardy."[108] However, a "documented vessel" which operates regularly between the Great Lakes and St. Lawrence River is not required to obtain a pilot under §9302(a)(1).[109] Members of the complement of US registered vessels and Canadian vessels may serve as pilots in all waters not designated under § 9302(a)(2), if they are licensed to so do under § 7101 of this title, or the equivalent Canadian law.[110] Pilotage reciprocity with Canada will continue until Canada stops granting reciprocity for US pilots.[111]

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[99] *Id*.
[100] 46 U.S.C. § 9302 (1996).
[101] *Canadian Maritime Law* 730 (Aldo Chircop et al eds., 2d ed. 2016).
[102] Paul G. Kirchner, et al, *Unique Institutions, Indispensable Cogs, and Hoary Figures: Understanding Pilotage Regulation in the United States,* 23.1 USF MARITIME L. J. 168, (2010-11).
[103] *Pilotage Act*, RSC 1985, c P-14, s 1.1.
[104] *Id.* s 2.
[105] 46 USC. § 9302(a)(1) (1996).
[106] *Id.* § 9302(a)(1)(A).
[107] *Id*. § 9302(a)(1)(B).
[108] *Id.* § 9302(d).
[109] *Id.* § 9302(e).
[110] *Id.* § 9302(b).
[111] *Id.* § 9302(c).

The MTS pilotage system in the US is divided into three districts. District 1, regulated by the Saint Lawrence Seaway Pilots Association, encompasses the Saint Lawrence Seaway and Lake Ontario.[112] District 2, governed by the Lake Pilots Association, encompasses the area from Lake Erie through the St. Clair Rivers.[113] District 3, governed by the Western Great Lakes Pilots Association, encompasses Lakes Superior, Michigan, and Huron, as well as the St. Mary's River and the Soo Locks.[114] The Secretary of Transportation has established the Great Lakes Pilotage Advisory Committee to review and make recommendations on potential pilotage regulations.[115] Further, states may not regulate pilots on the Great Lakes.[116]

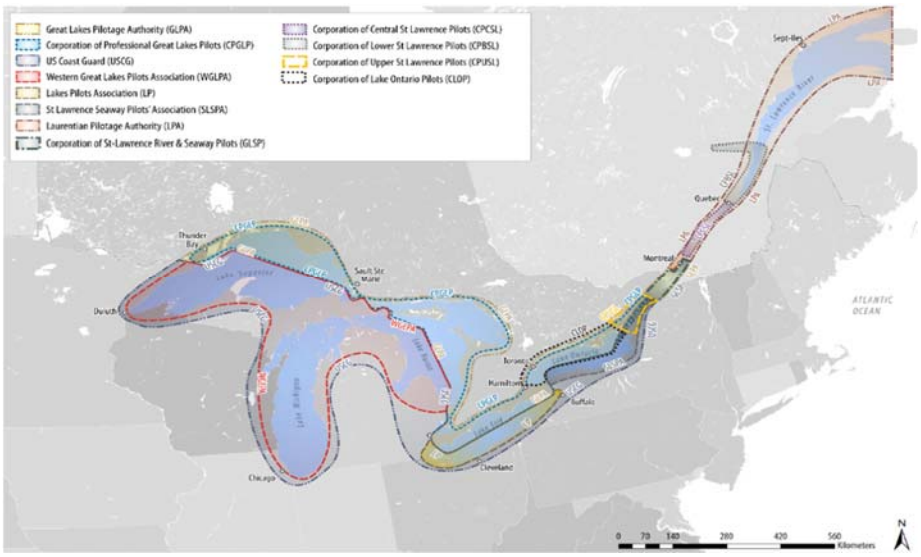

Figure 3. Great Lakes-St. Lawrence maritime system pilotage jurisdictions[117]

In 1960, President Eisenhower enacted 46 U.S.C. § 9302(a)(2), which required ships to use pilots in designated waters. The regulations provide:

Table 2. US Great Lakes-St. Lawrence Pilotage Districts[118]

DISTRICT	REGULATION	REQUIREMENT
DISTRICT 1	PILOTS REQUIRED TO BE USED ON	REGULATION REQUIRES LICENSED

[112] *Our Mission*, ST LAWRENCE SEAWAY PILOTS ASS'N (2017), http://seawaypilots.com/?page_id=7.
[113] *About Us,* LAKES PILOTS ASS'N (2017), http://www.lakespilots.com/.
[114] *About Us,* WESTERN GREAT LAKES PILOTS ASS'N, http://www.wglpa.com/about-us/.
[115] 46 USC § 9307 (1996).
[116] *Id.* § 9306.
[117] CPCS TRANSCOM, http://www.cpcstrans.com/en/.
[118] Proc. No. 3385, Designation of Restricted Waters (1996) (codified as amended at 46 USC § 9302).

	"ALL WATERS OF THE ST. LAWRENCE RIVER BETWEEN THE INTERNATIONAL BOUNDARY AT ST. REGIS AND A LINE AT THE HEAD OF THE RIVER RUNNING BETWEEN CARRUTHERS POINT LIGHT AND SOUTH SIDE LIGHT EXTENDED TO THE NEW YORK SHORE."	PILOTS TO NAVIGATE VESSELS BETWEEN THE EASTERNMOST US BOUNDARY IN THE ST. LAWRENCE RIVER, WHICH BEGINS NEAR ST. REGIS, AND WHERE THE ST. LAWRENCE RIVER OPENS INTO LAKE ONTARIO, JUST SOUTH OF KINGSTON.
DISTRICT 2	PILOTS REQUIRED IN ALL AREAS WEST OF "LAKE ERIE [FROM ONE MILE EAST] OF… SANDUSKY PIERHEAD LIGHT AT CEDAR POINT TO SOUTHEAST SHOAL LIGHT… [THROUGH THE] ST. CLAIR RIVER."	REGULATION REQUIRES LICENSED PILOTS TO NAVIGATE VESSELS FROM JUST EAST OF SANDUSKY THROUGH THE MOUTH OF LAKE HURON.
DISTRICT 3	PILOTS REQUIRED IN ALL "WATERS OF THE ST. MARYS RIVER [AND] SAULT SAINTE MARIE LOCKS."	REGULATION REQUIRES LICENSED PILOTS TO NAVIGATE VESSELS FROM THE END OF LAKE HURON THROUGH THE BEGINNING OF LAKE SUPERIOR.

In Canada, two local authorities established under the Pilotage Act regulate pilotage on the MTS. The Laurentian Pilotage Authority bears responsibility for "all Canadian waters in and around the Province of Québec, north of the northern entrance to St. Lambert Lock, except the waters of Chaleur Bay, south of Cap d'Espoir in latitude 48 degrees 25 minutes 08 seconds N., longitude 64 degrees 19 minutes 06 seconds W."[119] The Great Lakes Pilotage Authority bears responsibility for "all Canadian waters in the Province of Québec, south of the northern entrance to St. Lambert Lock," as well as, "all Canadian waters in and around the Provinces of Ontario and Manitoba."[120]

The Great Lakes Pilotage Authority lists the compulsory pilotage areas within its boundaries, and specifies the type of vessel subject to these requirements. The compulsory pilotage areas under the Great Lakes Pilotage Authority include: Cornwall District; International District 1; International District 2; International District 3; the Canadian waters of Lakes Ontario, Erie, Huron and Superior; and the navigable waters within the limits of the Port of Churchill, Manitoba.[121] Ships are subject to compulsory pilotage in these areas if they total more than 1500 gross tons, are not registered in Canada, and are over 35 meters in length.[122] Ferries and tugboats are subject to different rules. Ferries that operate on a regular schedule are generally not required to use a pilot.[123] Tugboats, even if smaller in size and tonnage than specified in the general rule, may be required to use a pilot depending on the type of ship being towed or pushed.[124]

The Laurentian Pilotage Authority establishes the following as compulsory pilotage areas: all the navigable waters of the St. Lawrence River between the

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119 *Pilotage Act*, *supra* note 105.
120 *Id*.
121 *Great Lakes Pilotage Regulations*, CRC, c.1266, s.3 [hereinafter *GLP Regulations*].
122 *Id.* s 4.
123 *Id.* s 4.1.
124 *Id.* ss 4.2-4.3.

northern entrance to St. Lambert Lock and a line drawn across the river approximately at latitude 48°N, longitude 69°W; all the navigable waters lying within the limits of any harbor situated within the area previously referred to; and all the navigable waters of the Saguenay River to the western limits of Baie des Ha! Ha!, and the Harbor of Chicoutimi.[125] These designated areas are further divided into different districts (i.e. District 1; District 1.1; and District 2) which are sometimes subject to different vessel qualifications.[126] Ships registered in Canada will generally require pilotage if they are over 70 meters in length and 2400 gross tons (Districts 1, and 1.1); or over 80 meters in length and 3300 gross tons (District 2).[127] On the other hand, ships that are not registered in Canada will require pilotage if they are over 35 meters in length.[128] US pilots are recognized to some extent in Canadian legislation. The Great Lakes Pilotage Authority provides that where Canadian waters abut the waters of the United States, a ship subject to compulsory pilotage is permitted to be under the conduct of a pilot duly licensed by the appropriate US authority.[129] There is no equivalent Canadian provision in the regulations created under the Laurentian Pilotage Authority.

A different set of procedures governs foreign-flagged vessels on the St Lawrence Seaway. A "notice-of-arrival" must be submitted to the Marine Communications and Traffic Service in Halifax, Nova Scotia, 96 hours before entering North American waters.[130] Once the vessel has entered the SLS system, it must employ a licensed Canadian pilot during its travel through the boundaries of the Laurentian Pilotage Authority. This area, extending approximately from Les Escoumins to Montreal, is subject to compulsory pilotage under the Laurentian Pilotage Regulations, and specifies that the pilot must be accredited in Canada. Past Montreal, the vessel then moves into the boundaries of the Great Lakes Pilotage Authority, which extends all the way to Duluth. This also marks the beginning of shared waters between Canada and the United States. At this point, the vessel has the choice of engaging either a US or a Canadian pilot. If the vessel chooses to employ a US pilot, they will have to employ three different pilots as the ship travels through the boundaries of the three associations that manage pilotage along the route to Duluth. It may be simpler to use a Canadian pilot if travelling the full length of the waterway, to avoid switching between pilots frequently, considering there is only one authority regulating pilotage for the remaining length of the voyage.

Overall, pilotage requirements are complex, spreading across the two national sets of requirements and multiple pilot authorities and districts. This complexity creates an impediment to new users and higher costs for all users as compared to a more streamlined system.

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125 *Laurentian Pilotage Authority Regulations*, CRC, c 1268 Schedule I.
126 *Id.* at Schedule II.
127 *Id.* s 4(1)(a).
128 *Id.* s 4(1)(b).
129 *GLP Regulations*, *supra* note 123, at s 6.
130 William Baumgartner & John Oliver, *Conditions of Entry of Foreign-Flag Vessels into US Ports to Promote Maritime Security*, 84:1 INTL L. STUDIES 33, 49 (2008).

I. Institutionalizing Binational Coordination

Overall, both improved binational coordination and the management of the MTS as a single, integrated system are needed to address issues like those listed above, while providing a more comprehensive framework to durably enhance system performance and competitiveness. Potential mechanisms to accomplish these goals each bring unique advantages and disadvantages. Despite the challenges of successful implementation, the durability and scope of a treaty make it the most attractive option for institutionalizing binational management and regulatory harmonization in the MTS.

IV. TREATIES AND EXECUTIVE AGREEMENTS

A. Treaties

A treaty is "an international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation."[131] Most treaties require ratification in accordance with the procedures of domestic law to come into effect.[132] For example, in the US, a treaty must be approved by a two-thirds vote of the US Senate. In Canada, the Constitution does not expressly provide for a federal power to implement treaties. Therefore, either the provincial or federal government will bear responsibility for the implementation of treaties, depending on which jurisdiction the treaty falls under.

Treaties enumerate how the parties will jointly exercise their sovereignty in a manner designed to be mutually beneficial. A treaty goes into force on the date applied to all ratifying parties, although the effective date for specific countries may differ.[133] "The effective date for a country will be identical to that on which the treaty comes into force for all parties if the country has by then completed its ratification procedures and served notice to that effect."[134] In countries where the treaty is already in effect, the date of ratification determines the effective date for countries that subsequently assent to it.[135]

B. Executive Agreements

Unlike treaties, executive agreements in the US do not need Senate advice and consent to become binding. This has only domestic significance, since international law regards both executive agreements and treaties as binding.[136]

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[131] Vienna Convention on the Law of Treaties, 1969, 8 ILM, 679, Art. 2(1)(a). Canada is a party to this Convention. In this context, "state" refers to national governments.

[132] UN Charter, Art. 110(1) ("The present Charter shall be ratified by the signatory states in accordance with their respective constitutional processes").

[133] Daniel Dupras, *International Treaties: Canadian Practice*, http://publications.gc.ca/Collection- R/LoPBdP/BP/prb0004-e.htm#(9)txt.

[134] *Id*.

[135] *Id*.

[136] *Treaties*, United States Senate (Mar. 13, 2017, 5:00 PM), https://www.senate.gov/artandhistory/history/common/briefing/Treaties.htm.

Most international agreements entered into by the US are executive agreements. In 2015, it was estimated that the US concluded more than 18,500 executive agreements since 1789, 17,300 of which were concluded after 1939.[137] There are also many executive agreements dealing with "minor or trivial undertakings" not included in those figures.[138] By contrast, the US ratified just 1,100 treaties over the same timeframe.[139]

The difficulty of obtaining a two-thirds Senate vote to ratify of treaties, however, has resulted in the increased use of executive agreements.[140] Moreover, the "sheer volume" of business conducted between the US and other countries and the already heavy workload of the Senate has increased the use of executive agreements.[141] Additionally, Congress's passage of legislation authorizes the executive branch to "conclude international agreements in certain fields, such as foreign aid, agriculture, and trade."[142]

C. Existing US-Canada Treaties and Agreements

The Boundary Waters Treaty of 1909 and the Great Lakes Water Quality Agreement are two existing binational agreements that exemplify cooperation between Canada and the US in the Great Lakes and St. Lawrence region.

1. The Boundary Waters Treaty of 1909

The Boundary Waters Treaty of 1909 ("BWT") was created to address boundary water disputes between Canada and the US.[143] The BWT was an Empire Treaty, signed by Great Britain signed on Canada's behalf. The BWT also established the International Joint Commission ("IJC"), which continues to play a role in dispute resolution between the two nations. The BWT has been

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[137] Michael John Garcia, *International Law and Agreements: Their Effect Upon US Law*, Congressional Research Service, 4–5 (C.R.S. RL32528, 2015). This estimate is based on multiple sources which rely on data provided by the State Department, including *Treaties and Other International Agreements*, US SEN. FOREIGN REL. COMM. 39 (Jan. 2001) https://www.gpo.gov/fdsys/pkg/CPRT-106SPRT66922/pdf/CPRT-106SPRT66922.pdf39 (providing figures from 1789 through 1999) and William R. Slomanson, *Fundamental Perspectives On International Law* 376 (5th ed. 2007) (discussing published executive agreements and treaties concluded between 1789 and 2004). Data from 2005 onward was collected by the State Department's TIAS website (concerning executive agreements reported to Congress) and the Legislative Information System database (identifying treaties submitted to the US Senate for consideration).

[138] Garcia, *supra* note 139, at 5.

[139] *Id*.

[140] *Treaties*, United States Senate (Mar. 13, 2017, 5:00 PM), https://www.senate.gov/artandhistory/history/common/briefing/Treaties.htm.

[141] *Id*.

[142] *Id.*

[143] Treaty Between The United States And Great Britain Relating To Boundary Waters, And Questions Arising Between
The United States And Canada, 36 Stat. 2448, T.S. No. 548 (Jan. 11, 1909) [hereinafter the *Boundary Waters Treaty of 1909*].

considered a model agreement between nations for the prevention and resolution of disputes.[144]

The BWT was established in response to the prospect of unilateral actions by one nation that could affect the water levels and cause economic and environmental impacts to the other nation. Canada previously expressed concern that the US could act unilaterally and divert water out of Lake Michigan, which would lower the water levels of Lake Huron, reducing the generating hydropower at Niagara Falls and economically resulting in lost revenues. Even though Lake Michigan is wholly located within the US, Canada felt that it should be able to limit the lowering of water levels in Lake Michigan when such action would impact Lake Huron.

It has been suggested that the BWT was formed as a peace treaty, with the primary purpose of establishing and maintaining peace over shared boundary waters between two nations.[145] The parties are "resolved to conclude a treaty . . . being equally desirous *to prevent disputes* regarding the use of boundary waters . . . and to *settle all questions* which are now pending . . . and to *make provision for the adjustment and settlement* of all such questions as hereafter arise . . . ."[146]

The BWT defines "boundary waters" to limit which waters are subject to the Treaty. Some have suggested that this term was intended to limit disputes. However, the definition does not actually limit disputes, but rather limits the disputes that can be resolved by the BWT.[147] For example, Article I provides that the treaty *does not* affect free navigation on boundary waters and Lake Michigan. Lake Michigan is referred separately from "boundary waters," suggesting that it is generally not to be included in the definition of boundary waters.[148]

Moreover, Article I addresses vessel navigation on the boundary waters. The two nations:

> 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

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[144] Gordon Walker Q.C., *The Boundary Water Treaty 1909—A Peace Treaty?*, 39 CAN.-U.S. L.J. 170 (2015), http://scholarlycommons.law.case.edu/cuslj/vol39/iss/14.

[145] *Id.*

[146] *Id.*

[147] "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, inlets thereof, but not including tributary waters which in their natural channels would flow into such lakes, rivers, and waterways, or waters flowing from across the boundary." *The International Boundary Water Treaty 1909,* NIAGARA FALLS INFO (2018) https://www.niagarafallsinfo.com/niagara-falls-history/niagara-falls-municipal-history/boundary-waters-treaty/the-international-boundary-water-treaty/.

[148] Likewise, the Fraser River in British Columbia and the Ottawa River in Ontario lie within Canada and are not considered boundary waters.

> and without discrimination to the inhabitants, ships, vessels, and boats of both countries.[149]

Article II extends the rights and access to legal remedies for an action taken in one country on boundary waters to citizens of the other nation. Article III provides:

> [N]o further obstructions or diversions, of boundary waters . . . affecting the natural level of 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 of . . . The International Joint Commission.[150]

The BWT is concerned with protecting the rights of the other nation, not the nation that takes action. It does not provide additional rights to the country that takes an action. For example, if the US proposes a structure that will affect boundary waters, then the Treaty protects Canadian interests. The Treaty does not provide rights to either nation to undertake a project within the other nation without the authorization of the other government. Rights are only extended to both countries when a structure or diversion affects both countries equally. The BWT also provides specific provisions for dispute resolution.

Article 8 prioritizes the use of the boundary waters as follows: (i) domestic and sanitary purposes; (ii) navigation, including the service of canals for the purposes of navigation; and (iii) power and for irrigation purposes.[151] The BWT does not limit the use of boundary waters to these uses, however. Instead, "the forgoing provisions shall not apply to or disturb any existing uses of boundary waters on either side of the boundary."[152]

Article 9 allows for either government to refer a matter to the IJC, to examine and analyze specific matters or problems and make findings and non-binding recommendations for action by the two governments to resolve a specific issue.[153] By custom, the two governments have typically given the IJC their references with the same wording. The IJC's recommendations are also influenced by public opinion on the matter. Both governments also respect an implied obligation to deal with recommendations in a responsive way.

It is important to note that the BWT is not self-activating. This means that the governments decide to invoke the Treaty, not the IJC or the public. The governments decide if a proposed project may affect levels and flows, whether it should be sent to the IJC, and if the IJC should investigate an issue on the boundary.

Article 12, as a dispute resolution mechanism, established the IJC.[154] The IJC is made up of six Commissioners: three named by the US President,

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[149] *Boundary Water Treaty of 1909*, *supra* note 145.
[150] *Id.*
[151]
[152] *Id.*
[153] *Id.*
[154] *Id*.

three named by the Prime Minister of Canada. The Commissioners pledge allegiance to the IJC and are not seen as representatives of their respective countries. The IJC was seen as a way to ensure the peaceful resolution of the many existing disputes and the inevitable ones to come. The IJC has two chairs, one American and one Canadian, who serve simultaneously and work together. The Commissioners are required to reach decisions by consensus, as has been established by long standing custom, not by a formal vote. Unanimity is not required, however, every decision requires a quorum of four. Therefore, at least one Commissioner from the other country must be in the quorum, and votes cannot comprise only those from one country.[155]

The IJC can also establish rules of procedure, but such rules must be in accordance with the principles of justice and equity. It must ensure that "all parties interested therein shall be given convenient opportunity to be heard." This is done by requiring that the IJC hold public hearings for both references and applications—an added measure that will help keep the peace on contentious issues.

The BWT, particularly provisions concerning commercial navigation, grant the IJC a certain set of powers for the Great Lakes-St. Lawrence region, including over navigable waters and the management of water levels and flows throughout the MTS. This mandate, however, does not include a specific maritime component beyond this. As a result, the IJC generally has not played a major role in management of the MTS, and the BWT is generally not regarded as a maritime treaty.

2. Great Lakes Water Quality Agreement

The Great Lakes Water Quality Agreement ("GLWQA") "is a commitment between the United States and Canada to restore and protect the waters of the Great Lakes."[156] The GLWQA establishes the framework for "identifying binational priorities and implementing actions that improve water quality."[157] Environment and Climate Change Canada and the US's Environmental Protection Agency administer the GLWQA for their respective countries.

The GLWQA provides the US and Canada with principles and approaches for achieving the agreement's purpose. To help ensure accountability, the GLWQA establishes objectives for the parties to meet, requires the parties to make progress on the agreement's purpose accessible to the public and requires transparency in evaluating the effectiveness of the parties' work in achieving the agreement's objectives.[158]

The GLWQA also articulates a set of general and specific objectives for the U.S. and Canada.[159] It establishes several bodies to ensure that the agreement's objectives are met. Recognizing the importance of public involvement, the

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[155] *Id.*

[156] *What is GLWQA?*, US EPA (Mar. 9, 2017, 6:00 PM) https://www.epa.gov/glwqa/what-glwqa.

[157] *Id.*

[158] Great Lakes Water Quality Agreement 6, Sep. 7, 2012.

[159] *Id.* at 7-10.

GLWQA established the Great Lakes Public Forum, which is required to meet every three years to discuss and receive public input. As a means to implement the agreement, the two nations established the Great Lakes Executive Committee to "help coordinate, implement, review and report on programs, practices and measures undertaken to achieve the purpose" of the GLWQA. The parties also convene a Great Lakes Summit in conjunction with the Great Lakes Public Forum to promote coordination among the parties, the IJC, and "other binational and international governmental organizations," and to increase their effectiveness in managing the Great Lakes.[160]

The BWT and the GLWQA depict examples of binational coordination between the US and Canada, further illustrating the differences in legal standing between a treaty and an executive agreement. While the BWT and the IJC that it created are supported by the legal strength of a treaty, the GLWQA and the various committees established by the GLWQA are not.

D. Central Commission for the Navigation of the Rhine

The Central Commission for the Navigation of the Rhine ("CCNR") provides a maritime-focused model for binational coordination in the MTS. Established by the Mannheim Convention of 1868,[161] which directs regulation for navigation of the Rhine River,[162] the CCNR comprises five member countries: Germany, Belgium, France, the Netherlands and Switzerland.[163] The CCNR has established a comprehensive regulatory framework to ensure freedom of navigation on the Rhine River that has been uniformly applied by the member countries.[164] This regulatory framework comprises requirements for vessels and their cargo, and navigation personnel's behavior and communication while on the water.[165] It more generally promotes navigation safety and the environmental sustainability of shipping on the Rhine.

Any nonconformities with the regulatory requirements must be approved by the CCNR.[166] Furthermore, the CCNR has established procedures for the development of rules according to technical standards.[167] The unified application of the rules by all member countries is encouraged by regular meetings among the relevant authorities.[168] The CCNR's permanent secretariat, committees and work groups provide an ongoing means for the five member countries to coordinate the use of this critical inland navigation highway, and have successfully done so through two world wars. In short, the CCNR is a successful

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[160] *Id.* at 12.

[161] C. Tournaye et. al, *Current Issues of Inland Water Transport in Europe*, 163 CIVIL ENGINEERING 19, 21 (2010).

[162] *Id.*

[163] *Id.*

[164] *Id.*

[165] *CCNR Regulations*, CCNR (April 14, 2017), http://www.ccr-zkr.org/13020500-en.html.

[166] V. Orlovius, *Regulations and Prescriptions for the Navigation on the Rhine*, Central Commission for Navigation on the Rhine, http://www.ccr-zkr.org/files/bibliographie/VOrlovius-Regulations-and-prescr-for-the- nav-on-the-rhine.pdf.

[167] *Id*.

[168] *Id*.

example of an international treaty-based organization managing a complex transportation system for the economic and environmental benefit of its members.

The CCNR regulations consist of:

1. Inspection regulations for vessels on the Rhine;
2. Police regulations for navigation on the Rhine;
3. Regulation of boatmaster's patents for the Rhine navigation;
4. Prescriptions for the transport of dangerous goods on the Rhine;
5. Rules for navigation such as meeting, crossing, and overtaking;
6. Definitions of all dangerous goods and materials;
7. Prescriptions for the transport of dangerous cargo in bulk cargo or ordinary goods;
8. Construction and equipment rules additional to the inspection regulations;
9. Police regulations for behavior during navigation, loading and discharging;
10. Regulations pertaining to the use of tank vessels for inland navigation transporting dangerous cargo in the liquid or gaseous form;
11. Technical requirements for vessels navigating on the Rhine; and
12. Rules for navigating, berthing, and preventing pollution on the Rhine[169]

In the event of a conflict arising from navigation on the Rhine River, the issue is presented to the CCNR by the national delegations of the CCNR member countries, or by international organizations focused on inland navigation.[170] A plenary session chooses to either decide on the issue itself or refer the matter to a component committee, which may utilize experts in reaching a decision.[171]

E. The Strengths of a Treaty Versus an Executive Agreement

The legal power accompanying a treaty constitutes its primary advantage. Every treaty brought into force binds the parties to it and any obligations set out in the treaty must be performed by the parties in good faith.[172] Furthermore, a

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[169] *Id*.

[170] *Procedure to Come to Decisions*, CCNR (April 14, 2017), http://www.ccr-zkr.org/11030400-en.html.

[171] *Id*.

[172] *See North Atl. Coast Fisheries* (GB/US) R.I.A.A. 167, 186 (1910) ("Every State has to execute the obligations incurred by Treaty bona fide, and is urged thereto by the ordinary sanctions of International Law in regard to Treaty obligations."). *See also* Vienna Convention, Art. 26.

party is barred from invoking the provisions of its domestic law as justification for its failure to perform a treaty.[173] As there is a presumption that parties enter into a treaty in good faith, any breach of the treaty results in international responsibility.[174] The party that caused the breach is rendered liable to cease wrongdoing and make reparations.[175] If the breach is material, the treaty may be denounced by the other party or parties to the agreement.[176] Additionally, the parties are free to suspend, terminate, or abrogate their engagement by common consent.[177] However, a party may only denounce a treaty unilaterally if the treaty expressly provides for this option or if the parties intended to permit such a possibility.

The most important difference between treaties and executive agreements in the US arises from unresolved questions regarding the binding nature of executive agreements on domestic law in light of the separation of powers doctrine. In short, whether the President has authority to alter domestic law without congressional approval is unsettled. This question arises because Presidents often enter into executive agreements on the basis of their own constitutional authority and existing legislative sources.[178] In summary, an executive agreement alone would likely not be clearly binding on Congress unless the agreement were accompanied by Congressional approval in the form of legislation.

F. Implementing a Treaty

The process of enacting a treaty is longer and more complex than enacting any other type of international agreement. National governments may enter into treaties as they please, so long as the agreements do not adversely affect the rights of a third party or a "peremptory norm" of international law.[179]

Many agreements come into force merely upon being signed, while others become effective only upon their subsequent ratification by each of the nations. Whether a treaty requires ratification is determined by the treaty itself. In

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[173] *See Polish Nationals in Danzig,* PCIJ, Ser. A/B, No. 42, 24 (1931) ("[A] State cannot adduce as against another State its own Constitution with a view to eroding obligations incumbent upon it under international law or treaties in force.").

[174] *See North Atl. Coast Fisheries*, *supra* note 174, at 186 ("Every State has to execute the obligations incurred by Treaty bona fide, and is urged thereto by the ordinary sanctions of International Law in regard to Treaty obligations."). *See also* Vienna Convention, Art. 26.

[175] *See Interpretation of Peace Treaties with Bulgaria, Hungary and Romania, Second Phase, Advisory Opinion,* I.C.J. REPORTS 1950, pg. 221 ("[R]efusal to fulfill a treaty obligation involves international responsibility.").

[176] Vienna Convention on the Law of Treaties, Art. 60.

[177] *Id.* at Art. 54, 57. *See also* Smith v Ont. & Minn. Power Co., 44 O.L.R. 43, 49 (1918).

[178] John H. Knox, *The United States, Environmental Agreements, and the Political Question Doctrine,* 40 N.C. INT'L. & COM. REG. 933, 943.

[179] Vienna Convention on the Law of Treaties, Art. 53 ("[A] peremptory norm of general international law is a norm accepted and recognized by the international community of States as a whole as a norm from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character."); Vienna Convention on the Law of Treaties, Art. 64 ("[I]f a new peremptory norm of general international law emerges, any existing treaty which is in conflict with the norm becomes void and terminates.").

Canada, ratification is part of the royal prerogative and is exercised by the Executive by means of an Order in Council issued by the Governor General in Council. This order authorizes the Secretary of State for External Affairs to sign an instrument of ratification. Ratification is effected by the delivery of the signed instrument of ratification to the other party. A Protocol of Exchange is customarily signed at the time the instruments of ratification are exchanged.

Governments can also bring the proposed agreements to the attention of their legislatures before the agreements are signed.[180] In Canada, "international agreements may be brought directly to the attention of Parliament and the approval of both houses may be sought by Joint Resolution before Canada commits itself to treaties which involve military or economic sanctions, political or military commitments of a far-reaching character, or the large expenditure of public funds."[181] Traditionally, Canadian law and practice has not required Parliamentary approval for ratification. Whether Parliamentary approval should be sought is the decision of the Government in power. Recent practice, however, suggests that Parliamentary approval is only sought for the most important treaties.

Lastly, treaties are not self-executing and do not constitute part of Canadian law simply by being concluded. For Canada to comply with its treaty obligation, legislation may need to be implemented to change domestic law.[182] Either the federal or provincial governments, or both, depending on jurisdictional matters, may need to enact such legislation. Generally, Canada will not enter an international agreement that requires implementing legislation until the necessary legislation has been enacted,[183] since a signed and ratified treaty without accompanying implementing legislation potentially exposes the signatory to international responsibility. If the legislation falls within federal jurisdiction, the implementing legislation will often include a section stating that Parliament approves the agreement.[184]

In the US, State Department representatives negotiate a treaty. Once a treaty's negotiators agree on terms, the treaty is referred to the President who decides whether or not he or she will submit it to the Senate for its advice and consent.[185] A treaty remains inactive until the full Senate approves its resolution of ratification with a vote of concurrence by two-thirds vote.[186] The ratification process is complete when the President signs the treaty and each of the contracting powers exchange ratifications.

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[180] *See* United States-Canada Transit Pipeline Agreement.

[181] Statement of Dept. of External Affairs letter of the Legal Bureau, February 1, 1981 (CYIL 1986).

[182] *See* A.G. of Canada v. A.G. of Ontario (Labour Conventions Case) A.C. 326, 347 (1937) ("[T]here is a well-established rule that the making of a treaty is an executive act, while the performance of its obligations, if they entail alteration of the existing domestic law, requires legislative action.").

[183] LC Green, *International Law: A Canadian Perspective* 282 (1984).

[184] Making determinations regarding the necessity of implementation of legislation, what said legislation would entail, and whether it would be federal or provincial legislation.

[185] *Treaties and Other International Agreements, supra* note 139.

[186] *Id.*

An executive agreement between the US and Canada avoids the difficulty of getting two-thirds approval by the Senate, and therefore is more expeditious than a treaty. However, when an agreement's subject matter exceeds what is allowed in an executive agreement, a treaty may be the only legally feasible means. Regardless, the Senate may prefer that an international agreement be entered into by treaty if the subject matter enters the US into "significant international commitments."[187] There are also underlying concerns that an overreliance on executive agreements erodes the treaty power under Article II of US Constitution.[188] Historically, certain types of international agreements have been entered into as treaties in all or nearly every instance.[189] These include agreements pertaining to mutual defense, extradition and mutual legal assistance, human rights, arms control and reduction, environmental protection, taxation, and final resolution of boundary disputes.[190]

State Department regulations prescribe the process for coordination and approval of international agreements known as the "Circular 175 procedure."[191] The Circular 175 procedure includes criteria for deciding whether an international agreement should take the form of a treaty or an executive agreement. According to the State Department:

> In determining a question as to the procedure which should be followed for any particular international agreement, due consideration is given to the following factors:
>
> 1. The extent to which the agreement involves commitments or risks affecting the nation as a whole;
>
> 2. Whether the agreement is intended to affect state laws;
>
> 3. Whether the agreement can be given effect without the enactment of subsequent legislation by the Congress;
>
> 4. Past US practice as to similar agreements;
>
> 5. The preference of the Congress as to a particular type of agreement;
>
> 6. The degree of formality desired for an agreement;
>
> 7. The proposed duration of the agreement, the need for prompt conclusion of an agreement, and the desirability of concluding a routine or short-term agreement; and
>
> 8. The general international practice as to similar agreements.

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187 *See* Garcia, *supra* note 139, at 7.
188 *Id.*
189 *Id.*
190 *Id.* at 7–8.
191 22 C.F.R. Part 181, 11 F.A.M. § 720 (2006).

> In determining whether any international agreement should be brought into force as a treaty or as an international agreement other than a treaty, the utmost care is to be exercised to avoid any invasion or compromise of the constitutional powers of the President, the Senate, and the Congress as a whole.[192]

The process to modify treaties and executive agreements is generally the same as that required to enact them. Minor, less formal modifications to treaties have been made through executive agreements.[193]

V. CONCLUSION

The Great Lakes-St. Lawrence Maritime Transportation System forms the backbone of the region's economy. Maritime transportation provides a low-cost means to transport goods across the region in a safe and efficient manner using resources that are largely already in place. While many barriers exist to bringing this system to its full potential, one barrier to be overcome is the disjointed and disorganized system of governmental authorities that exist on both sides of the international border.

Establishing a binational entity tasked with system-wide oversight, regulatory harmonization, reporting, and planning is essential to the administration and enforcement of regulations, and the management of the MTS as a single system. Such an entity does not currently exist, as management of the MTS is scattered across a patchwork of government agencies, authorities, and other entities. Decentralized authority, regulatory disharmony, ad hoc arrangements, informal agreements, and a general lack of accountability for key aspects of system management, result in high costs for system users, a lack of transparency for essential system maintenance, and a failure to manage, and take advantage of, the MTS as a unique binational system.

Specifically, a treaty could:

- Establish a single entity charged with functional near-term responsibilities such as oversight, planning, reporting, research, and information sharing, and longer-term responsibilities such as marketing;
- Institutionalize binational coordination, transparency, accountability, and regulatory harmonization;
- Define the navigable waters of the Great Lakes and St. Lawrence River as a single, comprehensive navigation system;
- Define basic system dimensions as implemented through dredging, lock infrastructure, and icebreaking; and,
- Harmonize regulations such as customs and pilotage.

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[192] 11 F.A.M. § 723.3 (2006).
[193] *Id.* at 13.

Creating a formalized structure for planning, coordination, and information sharing with robust participation from system users, governmental entities, and the public will greatly increase transparency and accountability over decisions that affect system performance. An entity responsible for planning and coordination would consider critical system investment and maintenance, including ongoing system funding and costs, in the context of the MTS as a single navigation system. Major ports and key infrastructure, such as the Soo Locks, would be regarded as essential parts of a system and not just as discrete projects. A collaborative, systems approach to planning would also bring together system users and multiple levels of government to establish a strategic, long-term vision for the MTS. This can maximize the potential of the MTS as a driver of economic development and job creation for the region and both nations.

Similarly, closer coordination and improved sharing of information both among federal agencies and with system users would improve decision-making and increase system competitiveness. An entity given these responsibilities can help ensure that federal agencies and other entities in both countries work collaboratively toward common goals such as increasing maritime trade, improving environmental performance, and supporting the region's industrial base. Greater collaboration between public and private entities can also better coordinate investments toward these ends.

A durable international agreement is needed to better integrate existing agencies and consolidate management and oversight authority. A treaty between Canada and the United States, while difficult to implement, presents the best method for bringing about these reforms. An executive agreement alone would prove insufficient to create necessary accountability and transparency unless the agreement was accompanied by additional federal legislation, which raises other implementation challenges. Without a durable, legally binding structure in place, the fractured nature of MTS management and governance will continue to the detriment of not only system users, but the people and economies of the region, and both countries. There exists between the public and private sectors a collaborative commitment to build an MTS designed to meet the needs of the 21st century. A treaty holds the near-term promise of addressing several specific challenges, while putting in place a structure that will allow these and other issues to be addressed in a sustained, coordinated fashion now and into the future.