CHAPTER 1

Introduction

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Abstract

This chapter introduces Shipping in Inuit Nunangat: Governance Challenges and Approaches in Canadian Arctic Waters. The volume intends to offer timely reflection on governance issues related to shipping in Canadian Arctic waters at a time of tremendous physical and ecological changes due to warming temperatures, a shifting legal environment prompted among others by the Polar Code, and a new sense of agency that motivates Inuit to play an active part in shaping the future of their homeland, Inuit Nunangat. The Introduction describes the geographical focus of the book before turning to the main governance concerns that emerge from the following chapters. Prominent among them is the challenge for Canadian policy-makers to plot a path out of Canada’s colonial past, which still undermines relationships between Inuit and the Crown, including with respect to shipping regulations. Another key concern is related to the fragile Arctic ecosystem and the need to make efficient protection against vessel-source disturbances a priority to minimize additional stressors as much as possible. These concerns need further to be squared with considerations related to the region’s economic development and issues of sovereignty, safety, security and military defence. The last part of the Introduction provides an overview of the chapters that follow.

Keywords

Arctic waters – Arctic shipping regulations – Canada – Inuit Nunangat

1 Context and Purpose

As sea ice is decreasing at a concerning pace, the Arctic region is experiencing profound physical transformations that threaten ecosystems and Indigenous ancestral ways of life and livelihoods, including in Inuit Nunangat, the
homeland of Inuit (‘the people’) in Canada. At the same time, these rapid physical changes also provide unprecedented opportunities for economic development, which reverberate throughout the Arctic and beyond. Essential to many human activities in the Canadian Arctic, shipping activities have been on the rise and are expected to further increase in the years to come. Against the background of an extending navigation season, shipping is likely to be driven by growing demands for community resupply and support of mining operations, marine scientific research, and a developing tourism sector. Despite decreasing ice cover and improving technologies, navigation in Arctic waters will, however, remain a hazardous and potentially harmful activity.

Since the 2000s, this acknowledgment has accelerated the pace of regulatory action undertaken by States and intergovernmental organizations and by the industry sector itself. A prominent example of the latter are the Unified Requirements for Polar Class Ships first adopted in 2006 by the International Association of Classification Societies (IACS), in coordination with the effort deployed by the International Maritime Organization (IMO) to provide guidance for navigation in ice-covered waters. In 2010, Canada reinforced its coastal State regulations notably by converting the ship reporting system in its Arctic waters, known as NORDREG, into a mandatory scheme. At the international level, significant momentum was created by the 2017 entry into force of the IMO’s mandatory International Code for Ships Operating in Polar Waters, the so-called Polar Code. Flag States, including the five Arctic coastal States, were prompted to make this first international set of tailor-made rules and standards for polar navigation applicable to their polar-going vessels,

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3 Guidelines for Ships Operating in Arctic Ice-Covered Waters, IMO Doc MSC/Circ.1056, MEPC/Circ.399 (23 December 2002). These were later updated and expanded, IMO Resolution A.1024(26) (2 December 2009), Guidelines for Ships Operating in Polar Waters.


5 IMO Resolution MSC.385(94) (21 November 2014, effective 1 January 2017); Amendments to the International Convention for the Safety of Life at Sea 1974, IMO Resolution MSC.386(94) (21 November 2014, effective 1 January 2017); Amendments to MARPOL Annexes I, II, IV and V, IMO Resolution MEPC.265(68) (15 May 2015, effective 1 January 2017).
while the Arctic coastal States also extended them to vessels navigating in their Arctic waters.\(^6\)

Given its particular situation as an Arctic coastal State with its own pre-existing regulations applicable to shipping in its Arctic waters, Canada was prompted to overhaul its regulatory regime with the aim to implement the Polar Code for Canadian vessels navigating polar waters and to make adjustments to its coastal State regulations, mostly aligning them with the Polar Code.\(^7\) While the entry into force of the Polar Code was a major milestone, setting off a frenzy of domestic regulatory action, it did not spell the end of regulatory developments, neither at the international nor national level.

In this context of shifting physical and legal environments, it is more urgent than ever for Canada to develop a coherent policy and legal approach and to strengthen its institutions with the objective to craft a decisive, effective and equitable response to the changes underway. As the contents of this book will demonstrate, the governance of shipping in Canadian Arctic waters is fragmented and needs new directions. This entails finding a balance between the economic and technological constraints of shipping on the one hand and the imperative of minimizing impacts detrimental to the vulnerable Arctic ecology on the other. In the contemporary context, the balancing act, however, also entails honouring Canada’s commitment to work towards socioeconomic and cultural equity and support Inuit self-determination in accordance with the United Nations Declaration on the Rights of Indigenous Peoples (\textit{UNDRIP}) and as expressed in the 2022 Inuit Nunangat Policy.\(^8\)

This volume aims to offer a timely discussion of contemporary issues of governance related to shipping in Canadian Arctic waters, which form part of Inuit Nunangat. Arctic shipping has attracted interest from a broad range of academic disciplines for years and has been the focus of intense scholarly


This specific scrutiny of Arctic shipping has taken place against the background of a much broader interest in the Arctic region and a great many related governance issues. While the topic of Arctic shipping is neither new nor novel, *Shipping in Inuit Nunangat: Governance Challenges and Approaches in Canadian Arctic Waters* aims to make an original contribution to the existing literature by focusing its attention on shipping in Canadian Arctic waters and on the specific governance challenges faced by Canada.

By taking stock of past, current and prospective developments, the chapters of the volume set out to provide a comprehensive understanding of the challenges and opportunities that will shape Canadian governance of Arctic shipping. With the objective of guiding future policy and legal decisions, the contributing authors propose insights from various disciplines and angles to help address the many concerns that come with the rapid and drastic changes affecting the Arctic. To this end, the book calls upon the complementary expertise of a group of Canadian or Canada-based authors composed of established scholars.

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and emerging scholars from a broad range of disciplines, including anthropology, biology, history, political science, geography, geopolitics and the law. The book is the main outcome of the research project titled *Navigating Canadian Arctic Waters: Uniformity and Unilateralism in Law-making in the Era of the International Polar Code* and supported by a research grant of the Canadian Social Sciences and Humanities Research Council. The initial interdisciplinary project team of seven was expanded to benefit from a broad spectrum of complementary expertise. The authors were first brought together by the editors for a virtual workshop in January 2021 to discuss the scope, content and coordination of the book. Results of the research and writing period that ensued were then submitted for collegial peer feedback and coordination in a second workshop convened in Halifax in May 2022.

### 2 Geographical Focus

The decision to train the spotlight on shipping in Arctic waters under Canadian jurisdiction entails concentrating mainly on governance challenges and approaches Canada faces as a coastal State. This warrants a few observations on the geographical areas concerned. First of all, Canada’s maritime zones are defined in the *Oceans Act* in line with the United Nations Convention on the Law of the Sea (*LOSC*). Within this framework, Canada has defined the area to which its domestic coastal State regulations on Arctic shipping apply (Figure 1.1). For the purposes of vessel-source pollution prevention, “arctic waters” are defined in the *Arctic Waters Pollution Prevention Act* (AWPPA) as

the internal waters of Canada and the waters of the territorial sea of Canada and the exclusive economic zone of Canada, within the area enclosed by the 60th parallel of north latitude, the 141st meridian of west longitude and the outer limit of the exclusive economic zone [except where the presence of the international boundary between Canada and Greenland requires a lesser extent].

With the outer-most limit of Canadian Arctic waters at 200 nautical miles (M) measured from the Canadian Arctic shoreline, Canada takes full advantage of the

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13 *Arctic Waters Pollution Prevention Act*, RSC 1985, c A-12, s 2.
jurisdictional extent afforded to the coastal State by the international law of the sea.\textsuperscript{14} The 60th parallel of north latitude, which marks the southern boundary of Canada's Arctic waters, also marks the southern limit of Canada's three Arctic territories, that is, the Yukon, the Northwest Territories and Nunavut, making it a coherent choice. However, the 60th parallel cuts right across Hudson Bay and Ungava Bay, both of which experience Arctic shipping conditions to some extent throughout their entire expanse. With regard to safety of navigation, the geographical scope of NORDREG therefore also spans waters south of the 60th parallel, thus including the areas off the coast of northern Manitoba, northern Ontario and Nunavik, the Quebec region north of the 55th parallel of north latitude (Figure 1.1).

Another, much broader definition of Arctic waters is used for the purposes of the Polar Code (Figure 1.1), according to identical definitions provided in the SOLAS and MARPOL conventions respectively.\textsuperscript{15} Designed for the application of international shipping regulations throughout the entire Arctic Ocean, this definition encompasses Canada's Arctic waters as defined in the AWPPA, but necessarily extends well beyond. On the Pacific side, “arctic waters” are located north of a line following the 60th parallel north, thus including waters of the Bering Sea. On the Atlantic side, that line dips south to 58 degree north to circumvent Greenland, before it then passes north of the 60th parallel between Greenland and Iceland to join the south cap of Jan Mayen (Norway) slightly north of 70 degrees, then a point near Bjørnøya (Svalbard/Norway) slightly north of 73 degrees, and finally Cap Kanin Nos (Russia) slightly north of 68 degrees. The area thus excluded from the definition of Arctic waters, located north of the 60th parallel between Greenland and the European continent, where the Atlantic Ocean and Arctic Ocean connect, does not experience ice cover that would warrant application of Polar Code regulations.

The fact that Canada's Arctic sea area forms an integral part of the Inuit homeland and has been used from time immemorial by Inuit has increasingly come to the fore in governance circles, adding a new dimension to the understanding of the region. The acknowledgement that the Arctic is indeed a homeland has recently translated into the use of ‘Inuit Nunangat’ to refer to the region,

\textsuperscript{14} According to the AWPPA initial version, adopted in 1970, the waters defined as Canada's “arctic waters” extended only 100 nautical miles (M) seaward, see SC 1969–1970, c 47, s 3(1).

including in official government language. The term is derived from the Greenlandic Inuktitut term ‘Inuit Nunaat,’ which refers to the homeland of the Inuit, that is, the area that “stretches from Greenland to Canada, Alaska and the coastal regions of Chukotka, Russia.” The Canadian Inuktitut term ‘Inuit Nunangat,’ for its part, designates the homeland of Inuit in Canada, extending over four distinct Inuit regions of Canada, which all benefit from land claims agreements: the Inuvialuit Settlement Region (Northwest Territories), Nunavut, Nunavik in northern Quebec and Nunatsiavut in Newfoundland and Labrador (Figure 1.2).

The term ‘Nunangat’ has a broader meaning than ‘Nunaat’ in that it refers not only to the land, but explicitly also to the water and ice of the Inuit homeland. Precisely for that reason, it was adopted by Inuit Tapiriit Kanatami, the organization representing the interests of Inuit in Canada, as the official term to refer

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16 See notably Inuit Nunangat Policy (n 8).
to the Canadian Inuit homeland.\textsuperscript{18} While there is significant overlap between Canada's Arctic maritime areas and Inuit Nunangat maritime areas, the latter do not extend to the entirety of the former. Most notably, large parts of the Hudson Bay are not part of the Inuit homeland, while the Nunatsiavut territory is outside the scope of application of Canada's Arctic shipping regulations.

According to the 2021 census numbers, more than 48,500 Inuit live in Inuit Nunangat,\textsuperscript{19} almost two thirds in Nunavut and roughly 25 percent in Nunavik, 4 percent in the Inuvialuit Settlement Region and 6 percent in Nunatsiavut. The population is scattered across the vast territory in communities mostly located along the coast of the Canadian mainland and the Canadian Arctic Archipelago (Figure 1.3). Not part of Inuit Nunangat, but still considered significant coastal communities of the Canadian Arctic, are Fort Severn (Ontario) and Churchill (Manitoba). The coastal communities of Nunatsiavut, including

\textbf{Figure 1.2}  Inuit Nunangat


Hopedale, Nain and Rigolet are part of Inuit Nunangat, but because of their location south of the 60th parallel north do not fall within the geographical scope of Arctic shipping regulations.

3 Key Concerns

The chapters of this book are bound together by a number of crosscutting themes. Two of these certainly stand out as key concerns that seem central to a contemporary understanding of governance in the Arctic and expectations regarding decision-making. The first such theme is related to Canada’s colonial history and its current commitment to the truth and reconciliation process.20

20 Among others, the Truth and Reconciliation Commission (TRC) of Canada, established under the Indian Residential Schools Settlement Agreement, has done important work, compiled in numerous reports, to help Canada come to terms with the dark chapters of its colonial past. See in particular Truth and Reconciliation Commission of Canada, Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada, 2015, https://ehprnh2mwo3.exactdn.com/wp-content/uploads/2021/01/Executive_Summary_English_Web.pdf. This report has been accepted by the Government of Canada with the promise to “fully implement the Calls to Action of the Truth and Reconciliation Commission” (Statement by Prime
Well into the recent past, much of Canada’s dealings with the Arctic was tainted by colonial attitudes, if not driven by downright colonial objectives. This past, which has destroyed much of the basis on which mutual trust can be built, has created an uneasy relationship between the Crown and Inuit communities, including with regard to activities that take place in Inuit Nunangat, such as shipping. In preliminary exchanges between the authors of this volume, it became clear that this is a major and—for its complexity—a most difficult governance issue. This volume seeks to provide perspectives on how to address the practical difficulty of transforming the awareness of Canada’s colonial past and the still reverberating effects into concrete and meaningful policy and regulatory action.

The second theme that runs through many chapters is the urgency of drastically stepping up the protection of the Arctic marine environment. With the warming climate being the worst threat to Arctic ecosystems, significant reduction of global greenhouse gas emissions is—despite its delayed effect—among the most effective measures. It is also among the most elusive as it requires international consensus and willingness to act. While as a middle power State Canada’s influence on the international response to the unfolding climate catastrophe may be limited, it has a moral duty to do its part. Given the dire situation of its Arctic expanse and consequences for Inuit, Canada has every interest in playing a leadership role. A systemic change in approach seems indispensable. First, decisions made in and for the South need to become more relevant for the North, but at the very least, it is critical to avoid making them at the expense of the North. This requires a shift towards decompartmentalized decision-making. Second, with the objective of achieving the United Nations Sustainable Development Goals, principles of sustainable development, such as the preventative and precautionary approaches, need to guide governance decisions. With respect to the issue of shipping, Canada has room to adopt such approaches, alone or as part of the international community, and to minimize the consequences that are harmful


21 IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (n 1), Summary for Policymakers, in particular B.1.7.


to Arctic ecosystems and habitats. The chapters in this volume offer guidance as Canada needs to thoroughly scope out these challenges and carefully use the domestic and international leverage it has.

The integration of Inuit voices in future governance decisions and the protection of the Arctic environment as a top priority intersect when it comes to the economic future of the region. Both wanted and dreaded within the region and beyond, economic development of the Arctic region rests very much on shipping, as does the region’s wellbeing. Shipping indeed enables community supply and development, mining operations and tourism, to name just a few. Yet, it also increases the strain on marine ecosystems that are already under stress, threatening not only Arctic habitats, but also the way of life and livelihoods of Arctic communities. Boon and bane in equal measure, shipping and its consequences therefore need to be actively considered in any development decision. Several chapters of this volume give context and guidance on how to tackle the difficult task of finding the right balance.

Further issues raised by shipping in the Canadian Arctic are addressed in this book. Among them are concerns related to safety of navigation and safety of life at sea. Although first and foremost centred on the ship, crew, cargo and operations, these concerns are interwoven with others, such as the impact of shipping on the environment, community well-being and emergency preparedness and response. Moreover, in any discussion on shipping in Canadian Arctic waters, the issues of Canada’s sovereignty over these waters and control of the Northwest Passage loom in the background. While matters of sovereignty are inevitably related to regulatory authority, they occasionally also extend to military and strategic concerns. This volume seeks to provide perspectives on these issues as well.

4 Structure

This book has 16 chapters divided into two parts. Part I, *Understanding the Context of Governance of Shipping in Canadian Arctic Waters*, sets the stage for in-depth analysis of governance issues by examining shipping in the Canadian Arctic, from both a historical and a contemporary perspective, with chapters focusing on social, environmental and economic aspects of shipping as well as on safety, security and defence issues and related strategies. Under the heading *Reimagining the Governance of Shipping in Canadian Arctic Waters*, Part II then takes a closer look at specific policy and legal issues raised by the governance of shipping in the Canadian Arctic. Scrutiny ranges from the contemporary state of the international legal framework to various issues raised by the practical
operationalization of an appropriate Canadian policy and legal framework. The conclusion builds on insights and governance directions drawn from each of the chapters to map out future governance approaches and imperatives.

Part 1 comprises five chapters addressing aspects that are or need to be considered key to conceptualizing the future governance of shipping in the Canadian Arctic. It starts with chapter 2 titled “The Sea Is Our Mainstay: Shipping and the Inuit Homeland,” a conversation between anthropologist Claudio Aporta and Monica Ell-Kanayuk, president of the Inuit Circumpolar Council (ICC) Canada from 2018 to 2022. Through Ell-Kanayuk’s eyes, the reader gets a sense of the particularly close relationship Inuit have with their marine environment, a defining feature of their homeland, and their perception of shipping in the region. The conversation also explores the importance ICC attaches to the provisional consultative status it was recently granted with the IMO. Inspired by his exchange with Ell-Kanayuk, Aporta then reflects on the challenges and opportunities that Arctic shipping and its governance hold for Inuit and stresses the critical importance that Inuit attribute to increasing agency over their lives and homelands with regard to shipping activities.

Chapter 3 on “Shipping in Arctic Marine Ecosystems under Stress: Recognizing and Mitigating the Threats” is co-authored by Warwick Vincent, Connie Lovejoy and Kristin Bartenstein. It provides a broad overview of the many unique ecological features of the Arctic Ocean and explains how climate change and other global stressors wreak havoc on the fragile balance, causing the ocean’s current precarious state. The authors zoom in on the additional perturbations increasing ship traffic threatens to provoke, including through chemical, physical and biological stressors that come with shipping. Against the background of the particular vulnerability of the Arctic marine environment, they advise on how regulation of shipping could contribute to hold these risks in check.

In chapter 4 on “Shipping along the Northwest Passage: A Historical Overview,” Adam Lajeunesse and P. Whitney Lackenbauer focus on shipping that moves into and out of the Arctic using the waterways of the Northwest Passage. They provide a historical overview of the activity that starts in the nineteenth century, but then concentrate mainly on the twentieth century. They show that steady shipping for community resupply and government operations is overlaid by repeating boom-and-bust cycles, fueled by successive defence and economic crises and opportunities, such as the Second World War, the Cold War and the prospects of resource extraction in the 1970s and 1980s. They caution that Canada’s current interest in the Arctic region due to melting ice and increased maritime accessibility may decline as resource extraction cycles continue to oscillate, the marine transportation sector makes its own
profitability calculations, and Inuit and Northern Canadians gain agency over the future of their homeland.

This is followed by chapter 5 on “Comparative Perspectives on the Development of Canadian Arctic Shipping: Impacts of Climate Change and Globalization,” in which Frédéric Lasserre looks at the factors that shape shipping in the Canadian Arctic, contrasting the Canadian with the Russian situation. While reduction of ice facilitates navigation, Lasserre emphasizes that development of shipping volumes is driven mainly by community resupply, resource extraction, transit shipping and tourism. Perceptions of how well the Arctic fits into the global market are a notable factor as well, in particular with regard to resource extraction, shipping and commercial transit shipping. Lasserre further opines that the emerging business model based on transshipment hubs and high-ice class shuttle vessels may hold limited promise for the Canadian Arctic, and that Canada’s low-impact shipping corridors—a hands-off approach compared to Russia’s active development of the Northern Sea Route—may still require investment in infrastructure to manage and control increased traffic.

Leah Beveridge’s chapter 6 titled “Reconsidering Arctic Shipping Governance through a Decolonizing Lens” seeks to offer a new perspective on discussion of the future of Arctic shipping governance. Beveridge begins by charting the role ships played in facilitating the mistreatment of Inuit and attempts at assimilation, drawing on first-hand accounts collected through the work of the Royal Commission on Aboriginal Peoples and the Truth and Reconciliation Commission. She then turns to the gradual recognition of the rights of Indigenous peoples, which became more pronounced following the 1982 constitutional reform, notably yielding five Inuit land claims and self-government agreements, and reached a new stage in 2021 with the promulgation of the United Nations Declaration on the Rights of Indigenous Peoples Act. Beveridge finally explores how the Crown-Inuit relationship with regard to governance of Arctic shipping may evolve under the 2022 Inuit Nunangat Policy, given this relationship’s troubled past.

The subsequent three chapters address issues concerning the safety, security and defence continuum. In chapter 7, “Unpacking Canada’s Arctic Shipping Safety, Security, and Defence Functions”, Andrea Charron and David Snider detail these three functions with regard to shipping in Canadian Arctic waters and explain how dedicated organizations mandated to execute these functions are prone to compartmentalized action. Drawing on concrete examples, they then explore how cooperation between government agencies, territorial governments and local Indigenous communities may lead to more integrated and ultimately better responses to the many safety, security and defences challenges related to shipping in the Canadian Arctic.
In chapter 8, “Canadian Icebreaker Operations and Shipbuilding: Challenges and Opportunities,” Timothy Choi discusses icebreakers as instrumental in the provision of federal government services such as route assistance, ice routing and information services, harbour breakouts, Northern resupply and tasks related to ensuring Canada’s ‘Arctic sovereignty.’ Given the real—but in circumpolar comparison common—problem of the aging Canadian Coast Guard (CCG) fleet of icebreakers, the chapter centres on Canada’s National Shipbuilding Strategy. Choi explains the difficulties of replacement strategies to deliver icebreakers through domestic construction and examines alternative strategies to fill some of the gaps in the fleet's availability. He discusses the possibility for Canada to follow the Danish example of drawing upon vessels that have icebreaking capabilities without being designated icebreakers—in Canada’s case the new *Harry DeWolf*-class Arctic and offshore patrol vessels built for the Royal Canadian Navy and the CCG—to fulfill some of the tasks usually performed exclusively by CCG icebreakers.

Peter Kikkert, Calvin Pedersen and P. Whitney Lackenbauer share experience gained on mass rescue operations (MRO) in chapter 9 titled “Mitigating the Tyranny of Time and Distance: Community-Based Organizations and Marine Mass Rescue Operations in Inuit Nunangat.” In the vast and remote Canadian Arctic, such operations face serious challenges that are exacerbated by austere environmental conditions, limited support infrastructure, inadequate local medical capacity and likely few vessels of opportunity able to provide assistance. Based on a tabletop exercise held in Nunavut and follow-up work, the authors argue that community-based organizations (CBOs) may be valuable force multipliers, at sea and shoreside, during a marine MRO. Highlighting the limitations faced by CBOs, they also discuss how community responders may be best prepared to take on these roles and how their capabilities may be reflected in relevant mass rescue and emergency plans.

Part 2 of the book is devoted to reimagining the governance of shipping in Canadian Arctic waters. It opens with three chapters taking a broad view by considering overarching issues, such as coastal State and flag State jurisdiction, and Canada’s policy, legal and institutional framework and their significance for governance of shipping in the Canadian Arctic. Chapter 10, authored by Kristin Bartenstein, starts with a look at “Canada and the Future of Arctic Coastal State Jurisdiction.” Against the background of changes in the physical and ecological environment of the marine Arctic due to climate change and in the legal environment brought about by the Polar Code that call for a fresh look at Arctic coastal State jurisdiction, Bartenstein explores how Canada may use the exceptional jurisdiction provided under Article 234 of the LOSC. She starts by tracing Canada’s history of regulating shipping in its Arctic waters,
which still informs Canada's governance decisions. With a view to highlighting lessons for future regulatory action, she then examines the geographical and material scope of jurisdiction under Article 234 and discusses Canada's strategy to subject navigation in its Arctic waters to a single set of rules.

In chapter 11, "The Modern Case Law on the Powers and Responsibilities of Flag States: Navigating Canada's Arctic Waters," Nigel Bankes looks at recent jurisprudence to assess the powers and responsibilities of flag States. He finds that while the plenary and exclusive nature of flag State jurisdiction is confirmed by recent international cases, the due diligence obligation of flag States to enforce relevant laws and standards, notably on safety of navigation and protection of the environment, is emphasized as well. He then examines the implications of this case law for flag State powers and responsibilities within an Arctic context, especially in light of the adoption of the Polar Code, which includes rules of reference encompassed by the due diligence obligation.

Aldo Chircop then portrays "The Canadian Policy, Legal and Institutional Framework for the Governance of Arctic Shipping" in chapter 12. He provides a broad account of the myriad policy and regulatory instruments and the numerous departments and agencies relevant to the governance of shipping in general and Arctic shipping in particular, underlining their unwieldiness, complexity and fragmentation. In his discussion, he questions the traditional model of a centralized maritime administration, and while recognizing the importance of uniform rules and standards for shipping, he argues for high governance standards that ensure environment protection and Indigenous engagement and participation in decision-making.

The final five chapters focus on specific issues relevant to the future governance of shipping in the Canadian Arctic. Under the title "Goal-Based Standards, Meta-Regulation and Tripartism in Arctic Shipping: What Prospects in Canadian Waters?," chapter 13 by Phillip Buhler examines regulatory models. He investigates alternative approaches to prescriptive regulation as a way to avoid problems such as lack of flexibility, lack of financial and technical resources of the regulator, economic inefficiencies, and imbalance of expertise between regulator and regulatee. His discussion of prospects for Canada focuses in particular on meta-regulation, that is, regulator-monitored self-regulation, which includes industry-developed technical rules to support goal-based standards such as those developed by the IMO and used within the Polar Code. He further highlights the opportunity for regulatory tripartism, which would allow Inuit participation in regulatory processes.

In chapter 14, Meagan Greentree addresses the issue of "Modernizing the Governance of Passenger Vessel Operations in the Canadian Arctic." Based on the finding that the loosely coordinated governance of passenger vessel
operation in the Canadian Arctic has produced a complex and inefficient permitting system, she explores approaches to streamlining the various permitting processes and concludes that systemic reform is required. She recommends that permitting of passenger vessels should ideally be conducted by a single entity established within Transport Canada.

In chapter 15, titled “Governing Canadian Arctic Shipping through Low-impact Shipping Corridors,” Jackie Dawson and Gloria Song shed light on the concept of low-impact shipping corridors (LISC) that has been developed by the Government of Canada since the early 2000s to support shipping in the Canadian Arctic by prioritizing scarce infrastructure and service investments to dedicated shipping corridors. After tracing the temporal and spatial development of shipping activities in Arctic Canada, they describe the strategies used to determine the location of corridors that enables safe navigation, but also protection of ecologically and culturally significant marine areas. They discuss strengths and weaknesses of the LISC concept and its effectiveness in supporting sustainable ocean governance that allows for self-determination of Inuit.

In chapter 16, under the title “The New Federal Impact Assessment Act and Arctic Shipping: Opportunities for Improved Governance”, Meinhard Doelle, David V. Wright, A. John Sinclair and Simon Dueck explore opportunities to improve the governance of shipping and related activities in Canadian Arctic waters. They explore the application of the federal Impact Assessment Act (IAA) to shipping operations related notably to supply for northern communities and industries, transportation of resources extracted in the Canadian Arctic, and transit shipping. The authors next analyze the four distinct IAA assessment processes that are relevant to the governance of shipping and their potential role. They finally consider how the IAA’s processes may interact with other existing assessment processes, such as those conducted at territorial and Indigenous levels of government.

Many of the issues discussed in the preceding chapters converge in chapter 17, where Suzanne Lalonde and Nigel Bankes examine “Indigenous Self-Determination and the Regulation of Navigation and Shipping in Canadian Arctic Waters.” Their exploration is prompted by the observation that increased shipping traffic in the Canadian Arctic, encouraged by decreasing sea ice and favourable socio-economic factors, is not only testing Canada’s marine safety and security regime, but also creating significant challenges for northern Indigenous communities that rely on the marine environment for their food, transport, culture and way of life. The authors assess the legal and policy opportunities available to Inuit communities in the Canadian Arctic, under both international and domestic law, to achieve self-determination with respect to navigation and shipping activities in their homeland.
In the concluding chapter 18, co-editors Aldo Chircop and Kristin Bartenstein reflect and draw upon the insights and policy directions offered by the preceding chapters to share cumulative and integrative thoughts on the complexity and prospects of governing shipping in the Canadian Arctic waters and future directions. They call for a thorough governance reform to overcome the vertical and fragmented approach that has characterized much of the policy, legislative, management and institutional action so far. To address the challenges posed by warming temperatures, decreasing ice, increasing ship traffic and new expectations towards policy- and decision-makers, future policy and legal developments need to be guided by principles of integration, reconciliation and precaution.

5 Concluding Remark

While the field of governance of shipping in the Canadian Arctic is extensive and evolving and therefore difficult to capture in all its subtleties and nuances, this volume offers an overview of and insights into the key issues that Canada needs to address in the coming years. Its findings are intended to complement the existing literature and to spark new research and scholarship. They are also intended to inform policy-makers around the globe on Canadian perspectives on issues of Arctic shipping in Canadian waters and to assist Canadian decision-makers, stakeholders and rights holders in the development of future law and policy meant to govern shipping in Inuit Nunangat.

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