

UiT

THE ARCTIC
UNIVERSITY
OF NORWAY

Master Thesis

2018

Faculty of Law

JUR-3910, Autumn 2018

Master's Thesis in Law of the Sea

Julie Donehue (Kaye Julia Donehue)

Supervisor: Erik J. Molenaar

Shipping Governance in the Polar Regions: the Interaction of Global, Regional and National Regimes



Table of Contents

List of Abbreviations:	iii
1 Introduction	1
1.1 Introduction	1
1.2 Objective	2
1.3 Scope, Delimitation and Outline	4
1.4 Legal Sources and Methodology	6
2 Risks, Trends and Rules in Polar Shipping	8
2.1 Risks	8
2.2 Trends	8
2.3 Rules	9
3 An Overview of the International Framework of Shipping Law at the Global Level	10
3.1 LOSC and the IMO	10
3.2 Article 234 of the LOSC and IMO Polar Shipping Standards	12
3.3 IMO and the Polar Code	15
4 Gaps in IMO Polar Shipping Standards	17
4.1 Protected Areas	17
4.2 Ice Navigation	18
4.3 Heavy Fuel Oil	18
4.4 Non-Solas Vessels	20
5 The Shipping Regime of the Arctic	22
5.1 Sovereignty in the Arctic	22
5.2 The Arctic Council	23
5.3 Interaction of the Arctic Council with Global Shipping Regimes	23
5.4 Addressing Gaps in IMO Polar Shipping Standards	26
5.4.1 Protected Areas	26
5.4.2 Ice Navigation	27
5.4.3 Heavy Fuel Oil	28
5.4.4 Non-SOLAS Vessels	30
5.5 Opportunities and Constraints	31
5.5.1 Article 234 of the LOSC	31

5.5.2	Port State Jurisdiction.....	33
5.5.3	Other Mechanisms.....	35
6	The Shipping Regime of the Antarctic.....	37
6.1	Sovereignty in the Antarctic	37
6.2	The Antarctic Treaty System	38
6.3	Interaction of the Antarctic Treaty System with Global Shipping Regimes	39
6.4	Addressing Gaps in IMO Polar Shipping Standards	41
6.4.1	Protected Areas	41
6.4.2	Ice Navigation	42
6.4.3	Heavy Fuel Oil	43
6.4.4	Non-SOLAS Vessels.....	44
6.5	Opportunities and Constraints	45
6.5.1	Article 234 of the LOSC	45
6.5.2	Port State Jurisdiction.....	47
6.5.3	Other Mechanisms.....	50
7	Conclusions	51
	I Articles/Books/Reports	56
	II Arctic Council Documents and Reports	59
	III Other.....	60
	IV Treaties, other International Instruments, and National Legislation.....	61
	V Antarctic Documents	64
	VI IMO Documents.....	66
	VII Figures	67
	Annex 1: Incidents in Polar Waters from 2007 to 2015.....	68

List of Abbreviations:

ACS	Arctic Council System
AEPS	Arctic Environmental Protection Strategy
AMAP	Arctic Monitoring and Assessment Group
AMSA	Arctic Marine Shipping Assessment
ASBPI	Arctic Shipping Best Practices Information
ASMA	Antarctic Specially Managed Area
ASOC	Antarctic and Southern Ocean Coalition
ASPA	Antarctic Specially Protected Area
ATCM	Antarctic Treaty Consultative Meeting
ATCP	Antarctic Treaty Consultative Party
ATS	Antarctic Treaty System
AWPPA	Canadian Arctic Waters Pollution Prevention Act
CAMLR	Convention on the Conservation of Antarctic Marine Living Resources
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CDEM	Construction, Design, Equipment and Manning
EEZ	Exclusive Economic Zone
EP	European Parliament
EU	European Union
GAIRAS	Generally accepted international rules and standards
HFO	Heavy fuel oil
IAATO	International Association of Antarctic Tour Operators
ICJ	International Court of Justice
IMO	International Maritime Organisation
IUU	Illegal, Unreported and Unregulated Fishing
MEA	Multilateral Environmental Agreement
MEPC	Marine Environment Protection Committee
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MSC	Maritime Safety Committee
nm	nautical miles

NORDREG	Northern Canada Vessel Traffic Services Zone Regulations
NSR	Northern Sea Route
NWP	Northwest Passage
OSPAR	The Convention for the Protection of the North-East Atlantic
PAME	Protection of the Arctic Marine Environment
PSC	Polar Ship Certificate
PSC	Port State Control
PSSA	Particularly Sensitive Sea Areas
PWOM	Polar Waters Operational Manual
WMO	World Meteorological Organisation

1 Introduction

1.1 Introduction

In the extreme environments of the polar regions - the Arctic and the Antarctic - ecosystems with only a few key species have high vulnerability to anthropogenic pollution.¹ As ice regimes of the Arctic change through warming temperatures, increased shipping is likely for resource extraction and tourism but above all for navigation, with associated environmental risks.² Vessel operations in polar waters have high consequences from incidents with regard to search and rescue, prevention of marine pollution and maintenance of ecosystem integrity.³ In recognition of these risks, the International Maritime Organisation (IMO) developed the International Code for Ships Operating in Polar Waters (Polar Code), which entered into force on 1 January 2017.⁴

The Polar Code supplements existing IMO instruments to provide for safe ship operations and protection of the environment by addressing the ‘additional demands on ships’ in the remote and vulnerable polar waters.⁵ Global concern for protection of the marine environment is reflected through the proposal for an Internationally Legally Binding Instrument under the LOSC⁶ for the conservation and sustainable use of biodiversity in areas beyond national jurisdiction. Construction standards of polar class vessels⁷ operating in Arctic waters must be higher than elsewhere, yet widely supported as shipping is an international business.⁸ The Polar Code, an historic new regulatory regime,⁹ operates in conjunction with evolving governance structures of the Arctic and Antarctic regimes.

¹ Koivurova, T. (2008), ‘Alternatives for an Arctic Treaty – Evaluation and a New Proposal’ 17 *Review of European Community and International Law*, 2008, p.17 in pp. 14-26.

² Ibid. p. 14.

³ Jabour, J. (2014), ‘Progress towards the mandatory code for polar shipping’, *Australian Journal of Maritime and Ocean Affairs*, Vol. 6, no. 1, p. 64 in pp. 64 – 67.

⁴ MEPC 68/21, International Code for Ships Operating in Polar Waters (Polar Code), adopted as amendments to SOLAS 21 November 2014 and MARPOL 15 May 2015, entered into force 1 January 2017.

⁵ Polar Code, Preamble (1) and (2) and Art. 1.

⁶ UN General Assembly resolution (A/Res/69/292).

⁷ Polar Code, Part 1-A, 1.2.10.

⁸ Chircop, A. (2009), ‘The Growth of International Shipping in the Arctic: Is a regulatory Review Timely?’, *International Journal of Marine and Coastal Law*, Vol. 24, p. 357 in pp. 355 to 380.

⁹ Brigham, L.W. (2017), ‘The Changing Maritime Arctic and New Marine Operations’ in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) (2017), *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, p.19 in pp. 3 to 23.

1.2 Objective

The primary question of the thesis is: What are the constraints and opportunities of shipping regulation at the regional and national level in the polar regions in light of overarching regulatory regimes? The framework instrument of maritime law is the 1982 United Nations Convention on the Law of the Sea (LOSC).¹⁰ Global shipping governance is regulated by the polar shipping standards of the IMO, including the Polar Code. International shipping law interacts with the unique regional and national regulations of the Arctic and Antarctic. In this section these interactions are exemplified, in order to derive the thesis' sub-questions.

Through the LOSC rules of reference to generally accepted international rules and standards (GAIRAS)¹¹, the IMO is the 'competent international organisation'¹² for the regulation of shipping. Various IMO instruments regulate shipping, primarily through the flag State. The Polar Code entered into force by means of amendments to existing IMO treaties, namely SOLAS¹³ and MARPOL 73/78¹⁴, addressing respectively safety and environmental protection.

The polar regions are similarly remote and extreme environments, yet are poles apart in physical, political and legal matters. The Arctic is an ocean surrounded by continents, whilst the Antarctic is a continent surrounded by an ocean.¹⁵ The 6th preambular paragraph of the Polar Code confirms that '...the Code is intended to apply as a whole to both Arctic and Antarctic (waters)...' with the reservation that the legal and geographical differences of the poles are accounted for. The poles are described in the 6th preambular paragraph as having similarities but 'significant' differences. The text can be read as indicative that the differences may hold a higher weight than the similarities, in shaping the application of the legal regime to the Arctic and the Antarctic.

¹⁰ United Nations Convention on the Law of the Sea (LOSC), adopted 10 December 1982, entered into force 16 November 1994.

¹¹ LOSC Art. 211(2).

¹² LOSC Arts. 197 to 205, 207 to 220, 223 and 228.

¹³ International Convention for Safety of Life at Sea, adopted 1 November 1974, entered into force 25 May 1980, as modified by the 1978 Protocol Relating to the International Convention for the Safety of Life at Sea.

¹⁴ International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978 Relating Thereto, adopted 2 November 1973, entered into force 2 October 1983.

¹⁵ Koivurova, T. (2008), p.17.

The Polar Code is the primary instrument relating to shipping for global maritime governance specific to the Arctic and the Antarctic. In the South, the Antarctic Treaty System (ATS) provides regional governance including the Antarctic Treaty,¹⁶ the Madrid Protocol,¹⁷ the CAMLR Convention¹⁸ and the CCAS.¹⁹ In the North, there are five littoral coastal States to the central Arctic Ocean, while the eight Arctic States are the members of the Arctic Council; a non-binding regional platform. The lack of generally recognised coastal States in Antarctica constrains the implementation of both international and regional rules.²⁰ The Antarctic Treaty is binding to contracting parties, yet there are also vessels operating in the Southern Ocean that are flagged to third party States. Antarctic Treaty parties may not apply their domestic laws to foreign vessels in the Antarctic Treaty area.²¹

Coastal States have unilateral rights under the LOSC Article 234 to apply stricter rules than international IMO standards. The 2009 AMSA report²² of the PAME²³ working group of the Arctic Council recommends that the Arctic coastal States in making use of this right explore the harmonisation of regulatory regimes within their own jurisdiction. The differences in application of shipping law to the Arctic and the Antarctic provide both opportunities and constraints for the application of shipping law.

¹⁶ The Antarctic Treaty, adopted 1 December 1959, entered into force 23 June 1961.

¹⁷ Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol, Environmental Protocol), adopted 4 October 1991, entered into force 14 January 1998.

¹⁸ Convention on the Conservation of Antarctic Marine Living Resources (CAMLR Convention), adopted 20 May 1980, entered into force 7 April 1982.

¹⁹ Convention for the Conservation of Antarctic Seals (CCAS), adopted 1 June 1972.

²⁰ Scott, K.N. (2011), 'Maritime Security and Shipping Safety in the Southern Ocean' in Klein, N. Mossop, J. and Rothwell, D.R. (eds.) *Maritime Security: International Law and Policy Perspectives from Australia and New Zealand*, Routledge, London, p. 118 in pp. 117 to 137.

²¹ Antarctic Treaty, Art. VI.

²² Arctic Council (2009), *Arctic Marine Shipping Assessment 2009 Report (2009 AMSA Report)*, viewed 10 June 2018, www.arctic-council.org

²³ Arctic Council, 2018, *Protection of the Arctic Marine Environment (PAME)*, viewed 15 June 2018, <https://www.arctic-council.org/index.php/en/component/tags/tag/pame>.

Accordingly, the thesis is aimed at discussing the following research sub-questions:

- How does global regulation of shipping interact with regional and national regulation in the Arctic and Antarctic regions?
- What are the comparisons and differences between these interactions?
- Which opportunities and constraints in the legal regimes of the polar regions exist to address gaps in IMO polar shipping standards?

1.3 Scope, Delimitation and Outline

The scope of the thesis is maritime legal regimes which apply to the Arctic and the Antarctic. The thesis first gives an outline of the international framework of shipping law at the global level. The applicable law for polar shipping is the LOSC and IMO polar shipping standards, including the Polar Code. The Antarctic Treaty System (ATS) is the overarching legal regime for Antarctica. The Arctic Council consultative process aids the development of shipping law. The scope of the thesis is not limited to the Polar Code, but rather considers the broader range of IMO shipping standards, including instruments such as the BWM Convention.²⁴ International rules that apply to polar shipping interact with global and regional regimes in the two poles. Whilst recognising that interactions between legal regimes have implications for enforcement and compliance, a comprehensive analysis of these aspects is beyond the scope of the thesis. However port State jurisdiction is identified as an opportunity at the regional and national level to address gaps in IMO polar shipping standards.

The LOSC, as the foundation of maritime law, is based on the concept of spatially defined maritime zones. States act in their capacities as coastal, flag and port States within these maritime zones. Rights and duties are accorded to States in relation to their capacity and the maritime zone they are operating in. IMO instruments are concerned with matters of the ship, and thus primarily with the flag State. The oceans are traversed by ships for navigation and consequently coastal, port and flag States are legal entities interacting with each other.

²⁴ IMO International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention), adopted 13 February 2004, entered into force 8 September 2017.

Matters of coastal State sovereignty provide a means to further limit the scope of the thesis. The Arctic has generally recognised coastal States. This thesis considers how Article 234 of the LOSC might be interpreted with regard to coastal State jurisdiction, in the light of the Polar Code. The focus of analysis for the Antarctic revolves around the lack of generally recognised coastal States through the agreement to disagree on the question of sovereignty, as reflected in Article IV of the Antarctic Treaty. Problematic interactions with IMO global shipping regulations can in part be discussed in relation to coastal State jurisdiction, enhanced in the Arctic and reduced in the Antarctic.

IMO has primacy for international standards regarding shipping safety, maritime security and the protection of the marine environment, however Arctic States and States parties to the Antarctic Treaty may also develop rules, additional and independent to the international standards.²⁵ The Polar Code balances the need for consistent rules across the poles with accommodating polar specific regimes. Discussion of gaps in the Polar Code is limited in scope to aspects where there is a difference in, or relation to, the law of the Arctic and the Antarctic; protected area provisions, ice navigation, heavy fuel oil (HFO) and non-SOLAS vessels. As the Polar Code evolves as a living instrument, some differences in application of the Code to the Antarctic and the Arctic are already disappearing through steps taken by the IMO.

With regards to the outline, the thesis consists of seven chapters. The rules of shipping in the polar regions, as the topic of the thesis, are introduced in Chapter 2 in relation to risks and trends. Annex 1, in support of Chapter 2, outlines vessel losses and incidents in polar waters from 2007 to 2015. An overview of the international framework of shipping law at the global level provides the point of departure to identify interactions with regional and national regulation in the polar regions, and thus is outlined in Chapter 3. Gaps in IMO Polar shipping standards, with examples from the Polar Code, are described in Chapter 4. Chapter 5 analyses the Arctic shipping regime, while devoting special attention to the relevance of the Arctic Council or other cooperative mechanisms. Similarly, Chapter 6 the Antarctic shipping

²⁵ Boone, L. (2013), 'International Regulation of Polar Shipping' in Molenaar, E.J. Oude Elferink, A.G. and Rothwell, D.R. (eds.) *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff, Leiden, p. 204 in pp. 193 to 205.

regime focuses above all on the relevance of the different elements of the Antarctic Treaty System: the Antarctic Treaty, the Madrid Protocol and relevant acts of Antarctic Treaty Consultative Meetings (ATCMs). The potential ability of Antarctic Treaty Consultative Parties (ATCPs) to collectively invoke Article 234 of the LOSC is considered in Chapter 6.

In conclusion, Chapter 7 reiterates the topicality of polar shipping law and summarises the major findings in respect of the thesis questions. A comparative discussion of Arctic and Antarctic interactions with international shipping law completes the primary thesis analyses. Finally, some observations are offered on future implications and scenarios of polar shipping governance.

1.4 Legal Sources and Methodology

The objective of the thesis is to analyse aspects of the relatively new maritime law embodied in the Polar Code and international shipping law of IMO and the LOSC. Article 38 of the Statute of the International Court of Justice (ICJ)²⁶ defines authoritative legal sources. International conventions as a source of international law²⁷ are founded upon the consent of States and must embody principles of justice, equity and fairness, both at establishment and upheld over time.²⁸ The principle of consent implies that obligations do not apply to non-parties, *pacta tertiis nec nocent nec prosunt*, as stated under Article 34 of the Vienna Convention on the Law of Treaties (VCLT).²⁹ However, a treaty rule may affect non-parties, as given in the VCLT³⁰, through customary international law and the LOSC rules of reference. The ICJ Statute cites international custom, general principles of law and judicial decisions as sources of international law.³¹ A wide variety of vessels operate in the Antarctic, including fishing vessels and vessels below 500 gross tonnage which are not included in the SOLAS regime and thus fall outside the mandate of the Polar Code. Incidents involving non-SOLAS vessels, given in Annex I, are indicative that the Code should include all vessels.

²⁶ Statute for the International Court of Justice (ICJ), adopted 26 June 1945, entered into 24 October 1945

²⁷ ICJ Art. 38 (a)

²⁸ Wolfrum, R. (2011), 'Sources of International Law' in *Max Planck Encyclopedia of Public International Law*, May, Para. A (2)(4).

²⁹ Vienna Convention on the Law of Treaties (VCLT), adopted 23 May 1969, entered into force 27 January 1980.

³⁰ VCLT Arts. 35 and 36.

³¹ ICJ Art. 38 (b and c).

Principles of legal doctrine are applied in the thesis, such as *lex specialis derogat generalis*, to the interaction between maritime law instruments. The rule of *lex posteriori derogat legi priori* rule is stated in the VCLT³² and is relevant to the interpretation of the Polar Code as a later instrument than the LOSC. The LOSC can be considered a ‘... multilateral international treaty ... designed as a framework agreement whose provisions are supplemented by further rules...’³³ Entry into force of the Polar Code impacts the realisation of Article 234 of the LOSC. The intention and interpretation of treaties is assessed against Article 31 of the VCLT, whereby a treaty is interpreted in good faith, in context and considering the object and purpose of the treaty. In accord with Article 32 of the VCLT, *travaux preparatoires* are used as a means of interpretation.

The teachings of highly qualified publicists are recognised as a subsidiary source of international law in the ICJ Statute.³⁴ The Virginia Commentaries on Article 234 of the LOSC provide a supplementary analysis.³⁵ Critical source analysis of secondary literature provides a subsidiary means to assess treaties relevant to the thesis. Recognition of the role of soft law is inherent in the thesis, as Part B of the IMO Polar Code is not legally binding. State behaviour and expectations are influenced by the recommendations of the IMO in Part B of the Code.

The adoption of treaties does not represent a legal end game. Rather, treaties are living instruments which develop through interpretation, amendment, revision or through subsequent instruments.³⁶ Flexibility to adjust an international treaty to new facts or considerations is proclaimed under Article 31 (3) (b) of the VCLT.³⁷ The Polar Law as current, *de lege lata*, is interpreted whilst acknowledging the future of the Code, *de lege ferenda*, in Chapter IV. Legal sources of the ICJ, VCLT and the opinions of experts and stakeholders are applied. The aim is an objective and accurate assessment of the legal questions, through the medium of a descriptive and analytical methodology.

³² VCLT Art. 30.

³³ Wolfrum, R. (2011), para. D (2) (55).

³⁴ ICJ Art. 38 (d).

³⁵ Nordquist, M.H. (ed.) (1991), *United Nations Convention on the Law of the Sea 1982, A Commentary: Volume IV Articles 192 to 278, Final Act, Annex VI*, Martinus Nijhoff Publishers, London, pp. 392 to 398.

³⁶ Wolfrum, R. (2011), para. C (2) (21).

³⁷ *Ibid.*

2 Risks, Trends and Rules in Polar Shipping

2.1 Risks

The Polar Code identifies hazards which may lead to increased risks to shipping.³⁸ Ice affects navigation and ship stability, lack of charts and ice data compromises navigation, whilst darkness and severe weather can increase incidents in a sensitive environment which is slow to recover.³⁹ The specific and changing ice regimes of the poles impact existing hazards. Measures to address hazards may differ for Arctic and Antarctic waters.⁴⁰ Incidents such as grounding of vessels in the Antarctic Peninsula and the sinking of the *MS Explorer* in November 2007 highlighted the need for polar specific shipping guidelines.⁴¹ Two fishing vessels (*FV In Sung No. 1*, *FV Jeong Woo*) and two yachts (*Berserk*, *Endless Sea*) have since been lost in Antarctic waters, with three of the vessels' incidents involving loss of human life.⁴² Recent non-SOLAS vessel losses and incidents in polar waters are given in Annex 1.⁴³ Any vessel is vulnerable to accidents requiring rescue and potential damage to the Antarctic environment.⁴⁴ Global, regional and national governance levels in the Arctic must plan for international shipping in a systematic manner.⁴⁵

2.2 Trends

As a result of environmental change in the Arctic, the Northwest Passage (NWP) became newly navigable by small vessels in the summer of 2007.⁴⁶ The Northern Sea Route (NSR), linking northern Europe and Asia through Russian waters, has been open to international shipping since 1991, but at present has low volumes.⁴⁷ Views differ on the extent of commercial shipping which will arise in the near future.⁴⁸ In the South, the International Association of Antarctic Tour Operators (IAATO) shows an increase in landed passengers

³⁸ Polar Code, Introduction (3.1) 'Sources of Hazards'

³⁹ Polar Code, Introduction (3.1).

⁴⁰ Polar Code, Introduction (3.2).

⁴¹ Jabour, J. (2008), 'Safe Ships and Clean Seas: Evading a Mandatory Shipping Code for Antarctic Waters', *The New Zealand Year Book of International Law*, Vol. 6, p. 94 in pp. 93 to 110.

⁴² ATCM XXXV IP 56 (2012), 'Progress on the Development of a Mandatory Polar Code', ASOC.

⁴³ ATCM XXXIX IP 82 (2016), 'Progress on the Polar Code', ASOC.

⁴⁴ Jabour, J. (2008), p. 94.

⁴⁵ Chircop, A. (2009), p. 379.

⁴⁶ *Ibid.* p. 355.

⁴⁷ *Ibid.* p. 356.

⁴⁸ *Ibid.* p. 356.

from ship based tourism of 1,000 in the 1990 to 1991 season, to a projected 40, 000 in the 2017 to 2018 season.⁴⁹ Risks and Trends highlight the vulnerabilities inherent in polar shipping, and thus the need for comprehensive and consistent rules to mitigate vulnerabilities.

2.3 Rules

The integrity of the marine environment and the safety of operations were the drivers for development of a mandatory polar shipping code.⁵⁰ Ships intending to operate in Arctic and Antarctic waters, as defined in the Polar Code, must have onboard a Polar Ship Certificate (PSC)⁵¹ and a Polar Waters Operational Manual (PWOM).⁵² The two regulations consider the structural and operational capacity of the ship, in regard to the range of environmental conditions and hazards that may lead to high risk. The aim of MARPOL 73/78 is ‘... the complete elimination of intentional pollution of the marine environment by oil... and harmful substances...and the minimisation of accidental discharge of such substances....’⁵³ Shipping safety and environmental protection are regulated by MARPOL 73/78, however there are gaps in coverage of vessels. An analysis of Antarctic shipping over seasons from 2012 to 2017, considered it likely that more than 50% of the vessels operating in Antarctic waters are not required to fulfil the requirements of the Polar Code.⁵⁴ The Antarctic and Southern Ocean Coalition (ASOC) sees this situation as compromising the safety of vessels and human lives and the protection of the Antarctic marine environment.⁵⁵ Antarctic shipping is low in volume, but has no uniform rules and regulations to cover tourist and fishing vessels, which may be flagged to States not party to the Antarctic Treaty.⁵⁶ Furthermore, vessels engaged in government service, of station re-supply or research, and illegal fishing vessels fall outside governance regimes of the polar code and the ATS.⁵⁷ Where gaps exist in IMO polar shipping standards, such as inclusion of only SOLAS vessels, opportunities for maritime governance may exist within regional and national regulations.

⁴⁹ ATCM XL IP 163 (2017), ‘IAATO Overview of Antarctic Tourism: 2016-2017 Season and Preliminary Estimates for 2017-2018 season’, IAATO.

⁵⁰ Jabour, J. (2008), pp. 106 and 107.

⁵¹ Polar Code, Part 1A (1.3).

⁵² Polar Code, Part 1A (2.3.1).

⁵³ MARPOL 73/78 Preamble

⁵⁴ ATCM XL IP 151 (2017), ‘Managing Non-SOLAS vessels in the Southern Ocean’, ASOC.

⁵⁵ Ibid.

⁵⁶ Jabour, J. (2008), p. 94.

⁵⁷ Ibid. p. 109.

3 An Overview of the International Framework of Shipping Law at the Global Level

3.1 LOSC and the IMO

LOSC is the international legal framework for governance of the world's oceans, through the rights and obligations of coastal States and user States. 'Protection and Preservation of the Marine Environment' is the subject of Part XII of the LOSC, to be achieved through reference to the regulations of 'the competent international organisations'.⁵⁸ Of the forty-five Articles of Part XII, over 30 Articles refer to international rules as the authoritative legal source.⁵⁹ Maritime law is contained in interactive principles, rather than stand-alone instruments.

Vessels are a source of incidental and operational pollution of the marine environment, with the regulations described extensively in Article 211 of the LOSC. States are obliged under the LOSC regime to ensure vessels flying their flag prevent pollution of the marine environment, through applying international rules as a minimum standard.⁶⁰ The regulation of vessel construction, design, equipment and manning (CDEM) standards is the primary responsibility of the flag State.⁶¹ The coastal State may only apply CDEM standards to foreign vessels that are GAIRAS.⁶² Article 21(2) of the LOSC provides that, in regard to innocent passage through the territorial sea, the coastal State shall not apply CDEM standards to foreign vessels unless they are GAIRAS. However, Article 234 of the LOSC is an exception to this general rule, whereby the coastal State may apply standards that are more stringent than GAIRAS in order to protect the marine environment in areas of navigation risk due to ice. The IMO International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)⁶³ sets the standards of competence for seafarers internationally.⁶⁴ The

⁵⁸ LOSC Art. 197.

⁵⁹ LOSC Arts. 197 to 205, 207 to 220, 223 and 228.

⁶⁰ LOSC Art. 211(2).

⁶¹ LOSC Art. 94

⁶² LOSC Art. 211 (6)(c).

⁶³ International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, adopted 1 December 1978 (STCW) entered into force 28 April 1984; as amended.

⁶⁴ IMO (2018), 'Training and Certification' viewed 29 June 2018, <http://www.imo.org/en/OurWork/HumanElement/TrainingCertification/Pages/Default.aspx>

STCW Convention provides that parties may check seafarers' certificates of competency, as unqualified seafarers endanger the crew and the marine environment.⁶⁵

The LOSC describes duties of States at regional and national levels and through the rules of reference,⁶⁶ designates IMO as the 'competent international organisation'⁶⁷ to regulate detailed shipping matters. Article 211 of the LOSC establishes IMO as the legal source of standards to '...prevent, reduce and control pollution of the marine environment from vessels' and for '...routing systems designed to minimise the threat of accidents which might cause pollution of the marine environment.'⁶⁸

IMO instruments were adopted prior to the LOSC but operate in the framework of the LOSC.⁶⁹ Article 311 (2) of the LOSC provides that the rights and obligations of States arising under other compatible agreements are not altered by the LOSC. Article 237 (1) of the LOSC provides that Part XII provisions '...are without prejudice to the specific obligations assumed by States under special conventions and agreements concluded previously which relate to the protection and preservation of the marine environment and to agreements which may be concluded...' Article 237 (2) of the LOSC provides that State obligations under environmental agreements are conducted in a manner consistent with the general principles and objectives of the LOSC. Article 197 of the LOSC requires that States co-operate through competent international organisations to establish international standards, consistent with the LOSC, for the protection and preservation of the marine environment. These relationship clauses of the LOSC demonstrate that the intention of treaty interpretation and States' obligations is harmony between the LOSC framework agreement and IMO specialised instruments.⁷⁰

⁶⁵ IMO (2018), 'Training and Certification' viewed 29 June 2018, <http://www.imo.org/en/OurWork/HumanElement/TrainingCertification/Pages/Default.aspx>

⁶⁶ Rothwell, D.R. and Stephens, T. (2015), *The International Law of the Sea*, second edition, Hart Publishing, Canada, p. 376, 377.

⁶⁷ LOSC Art. 211(1).

⁶⁸ The Virginia Commentaries on the LOSC proclaim the singular 'competent international organisation' throughout Article 211 is indicative that only one international organisation, the IMO, has competence. Nordquist, M.H. (ed) (1991), *United Nations Convention on the Law of the Sea 1982: A Commentary Volume IV, Articles 192 to 278*, Martinus Nijhoff Publishers, London, p. 201 (Art. 211.15(d)).

⁶⁹ Chircop, A. (2015), 'The International Maritime Organisation' in Rothwell, D.R. Oude Elferink, A.G. Scott, K.N. and Stephens, T. (eds) (2015), *The Oxford Handbook of the Law of the Sea*, OUP Oxford, p. 427 in pp. 416 to 438.

⁷⁰ *Ibid.* p. 428.

3.2 Article 234 of the LOSC and IMO Polar Shipping Standards

This section analyses Article 234 of the LOSC in the abstract, in relation to IMO global polar shipping standards. To what extent the provision is invoked can then be assessed (Chapter 5). The Canadian Arctic Waters Pollution Prevention Act (AWPPA)⁷¹ enabled Canada to regulate shipping and prescribe CDEM standards for ships within 100 nm of the archipelagic coastline, on the basis of environmental protection.⁷² In 2009 the provision was amended to extend to 200 nm.⁷³ The United States and other States considered the AWPPA a breach of the traditional freedom of navigation of the seas, whilst Canada aimed to give legitimacy to the national legislation through negotiations for Article 234 of the LOSC.⁷⁴ Article 234 of the LOSC is the legal basis under which Canada and the Russian Federation unilaterally apply regulations more stringent than international standards to navigation of the NWP and the NSR respectively.⁷⁵ Article 234 of the LOSC appears in discord with IMO authority over shipping and the relationship between the rules is discussed.

The rule for the application of successive treaties on the same subject, is given under Article 30 (3) of the VCLT as ‘... the earlier treaty applies only to the extent that its provisions are compatible with those of the later treaty.’ The LOSC was adopted in 1982 and is the earlier treaty to SOLAS regulations adopted in 1994 and 2004 and to the Polar Code, adopted in 2014 (SOLAS) and 2015 (MARPOL 73/78).⁷⁶ Article 234 of the LOSC, conferring the right of a State to enforce unilateral legislation, is potentially incompatible with the Polar Code provision that States may only enact regulations consistent with the Code.⁷⁷ Where there is a conflict in two treaties the later instrument, in this case the Polar Code, prevails.⁷⁸ In the case

⁷¹ Arctic Waters Pollution Prevention Act, R.S.C. 1985, c. A-12.

⁷² McRae, D. (1987), ‘The Negotiation of Article 234’ in Griffiths, F. (ed.) *Politics of the Northwest Passage*, McGill-Queens University Press, Kingston and Montreal, p. 101 in pp. 98 to 114.

⁷³ Canada, *An Act to amend the Arctic Waters Pollution Prevention Act*, Statutes of Canada 2009, Chapter II, Art. I, ‘Changing the definition of the AWPPA’.

⁷⁴ McRae, D. (1987), pp. 101 and 113.

⁷⁵ Roach, J.A. (2017), ‘The Polar Code and its Adequacy’ in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) (2017), *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, pp. 161 and 164. in pp. 144-169.

⁷⁶ Ibid. p. 162.

⁷⁷ McDorman, T.L. (2015), ‘A note on the Potential Conflicting Treaty Rights and Obligations between the IMO’s Polar Code and Article 234 of the Law of the Sea Convention’, *International Law and Politics of the Arctic Ocean: Essays in Honor of Donat Pharand*, Kininklijke Brill NV, Leiden, p. 147 in pp. 141 to 159.

⁷⁸ Ibid. p. 147, cited VCLT Arts. 30 (3) and 30 (4) (a).

of a conflict in two treaties, the treaty that is common to both parties prevails. As the United States is not party to the LOSC, the Polar Code is the instrument in common with Canada.⁷⁹ Intricate arguments of the relationship between earlier and later treaties by Canada and the United States were considered by the Chairman of the Maritime Safety Committee (MSC) as a divergence of opinion.⁸⁰ GAIRAS and relationship clauses of the LOSC are discussed above; the primary objective of such provisions is safeguarding a general coherence of international law.⁸¹ It is IMO practice⁸² to include provisions in instruments to ensure non-prejudice to the codification of the LOSC or claims of any State concerning coastal or flag State jurisdiction under the LOSC.⁸³ Article 9 (2) of MARPOL 73/78 adds the condition of non-prejudice to any future claims under the LOSC. This wording, in conjunction with Article 30 (2) of the VCLT, gives priority to the LOSC.⁸⁴ SOLAS also contains non-prejudice clauses⁸⁵, including Regulation 2 paragraph 5 of Chapter 14 ‘Safety Measures for Ships Operating in Polar Waters’, reading ‘Nothing in this chapter shall prejudice the rights or obligations of States under international law.’ The Polar Code, through SOLAS and MARPOL 73/78, does not prejudice States’ rights under the LOSC. Therefore, the right of States, under Article 234 of the LOSC, to apply standards more stringent than GAIRAS appears legally valid.

However changing ice regimes and the Polar Code could reduce coastal State competence to invoke Article 234 of the LOSC.⁸⁶ As with the Russian reliance on Article 234, Canadian exceptional coastal State rights for environmental protection within the EEZ may disappear

⁷⁹ McDorman, T.L. (2015), p. 147

⁸⁰ Franckx, E. and Boone, L. 2017, ‘Article 234. Ice-covered areas’ in Proelss, A. (ed.) *United Nations Convention on the Law of the Sea: A commentary*, Nomos Verlagsgesellschaft, Baden-Baden, p. 1581 in pp. 1566 to 1585.

⁸¹ Wolfrum, R. and Matz, N. (2003), *Conflicts in International Environmental Law*, Springer, Berlin, p. 121.

⁸² *Implications of the United Nations Convention on the Law of the Sea for the International Maritime Organization: Study by the Secretariat of the IMO*, IMO Doc. LEG/MISC. 7, 19 January 2012.

⁸³ Chircop, A. (2015), p. 428.

⁸⁴ McDorman, T.L. (2015), p. 151.

⁸⁵ SOLAS Chapter V, Arts. 11 (i) and 12 (e).

⁸⁶ Solksi, J.J. (2017), in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) (2017), *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, p. 188 in pp. 173 to 216.

with the melting sea ice.⁸⁷ Greenland may choose to designate, under national legislation, part of the EEZ as an ice-covered area.⁸⁸ This would enable enhanced environmental jurisdiction under Article 234 of the LOSC, providing a legal basis to adopt CDEM and navigation rules stricter than GAIRES in order to prevent marine pollution from vessels.⁸⁹ Greenland's consideration of recourse to Article 234 of the LOSC contrasts with their Arctic Policy of only taking unilateral measures under Article 234 in the case of failed Polar Code negotiations.⁹⁰ The advantage of recourse to Article 234 is that there is a lower threshold than coastal State enforcement within the EEZ,⁹¹ as under Article 234 violation of a regulation may be enforced even without the threat to cause serious pollution.⁹²

Article 234 of the LOSC is the only provision of Part XII according the coastal State the right to enforce, within its Exclusive Economic Zone (EEZ), its own non-discriminatory regulations for the prevention, reduction and control of marine pollution.⁹³ Therefore it is a geographical *lex specialis*, overriding the requirement to conform with GAIRES to control pollution from vessels, as given in Articles 211 (5) and (6) of the LOSC.⁹⁴ The objective is to balance coastal State interests in ice-covered areas of the EEZ with the general interests of international navigation.⁹⁵ Article 234 of the LOSC '...has no implication for any claims to sovereignty or other aspects of jurisdiction in any of the polar or sub-polar regions of the world.'⁹⁶ The Polar Code can be seen as an international standard supporting the due regard clause contained in Article 234 of the LOSC.⁹⁷

⁸⁷ Rothwell, D.R. (2017), 'Canada and the United States' in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) (2017), *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, p. 240 in pp. 217 to 244.

⁸⁸ Henriksen, T. (2017), 'Norway, Denmark (in respect of Greenland) and Iceland in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) (2017), *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, pp. 285 and 286 in pp. 245 to 295.

Draft Act on the Protection of the Marine Environment of Greenlandic EEZ.

⁸⁹ Ibid. pp. 285 and 286.

⁹⁰ Ibid. p. 293.

⁹¹ LOSC Art. 220 (5) and (6).

⁹² Henriksen, T. (2017), p. 293.

⁹³ Nordquist, M.H. (ed.) (1991), p. 393.

⁹⁴ Ibid. p. 393.

⁹⁵ Ibid. p. 393.

⁹⁶ Ibid. p. 398.

⁹⁷ Franckx, E. and Boone, L. (2017), p. 1585.

3.3 IMO and the Polar Code

The IMO goal is to enable intergovernmental regulation on technical matters affecting shipping engaged in international trade⁹⁸, which includes CDEM standards. Maritime safety, efficiency of navigation and prevention and control of marine pollution from ships fall under the mandate of the IMO.⁹⁹ The IMO adopted guidelines for ships operating in Arctic Waters in 2002.¹⁰⁰ These were expanded to include the Antarctic in the 2009 Guidelines for Ships Operating in Polar Waters.¹⁰¹ The 2009 Polar Shipping Guidelines were the basis for development of a mandatory code during 2010 and 2015.¹⁰² The MSC and the Marine Environment Protection Committee (MEPC) adopted the draft code in 2014 and 2015. The Code in force is implemented through amendments to existing IMO instruments; SOLAS and MARPOL 73/78. The introduction to the Code contains mandatory provisions which apply to Parts I and II.¹⁰³ Mandatory provisions of Parts I-A and II-A, addressing safety and pollution respectively, are supported by recommendations in Parts I-B and II-B.

The Polar Code regulates the protection of the marine environment and safe ship operations in the remote and vulnerable polar waters, by addressing the unique risks not covered by other instruments.¹⁰⁴ Safe shipping is the primary goal which then facilitates protection of marine polar environments, stated in the Polar Code 5th preambular paragraph as ‘...any safety measure taken to reduce the probability of an accident, will largely benefit the environment.’ The polar areas covered by the Polar Code are described with maps showing the maximum extent of application to Antarctic and Arctic waters, with reference to IMO instruments,¹⁰⁵ as

⁹⁸ Convention on the International Maritime Organisation (IMO Convention), adopted 6 March 1948, entered into force 17 March 1958, Art. 1(a).

⁹⁹ IMO Convention.

¹⁰⁰ MSC Circ.1056 – MEPC Circ.399, Guidelines for Ships Operating in Arctic Ice-Covered Waters, 23 December 2002.

¹⁰¹ IMO Res. A.1024(26), Guidelines for Ships Operating in Polar Waters, adopted 2 December 2009.

¹⁰² Roach, J.A. (2017), p. 146.

¹⁰³ MEPC 68/21 (Polar Code), Introduction para. 4.

¹⁰⁴ Polar Code, Preamble and Art. 1.

¹⁰⁵ MEPC 68/21/Add.1 Annex 10, Polar Code Preamble, page 8, figures, as defined in SOLAS regulations XIV 1(2) and XIV 1(3) and MARPOL Annex 1, regulations 1(11)(7) and 46(2); Annex II regulations 13(8)(1) and 21(2); Annex IV, regulations 17(2) and 17(3); and Annex V, regulations 1(14)(7) and 13(2).

illustrated in *figure 1*¹⁰⁶ and *figure 2*¹⁰⁷. The Polar Code application in the Antarctic is clearly defined through MARPOL 73/78 as the ‘...sea area south of latitude 60° S’.¹⁰⁸

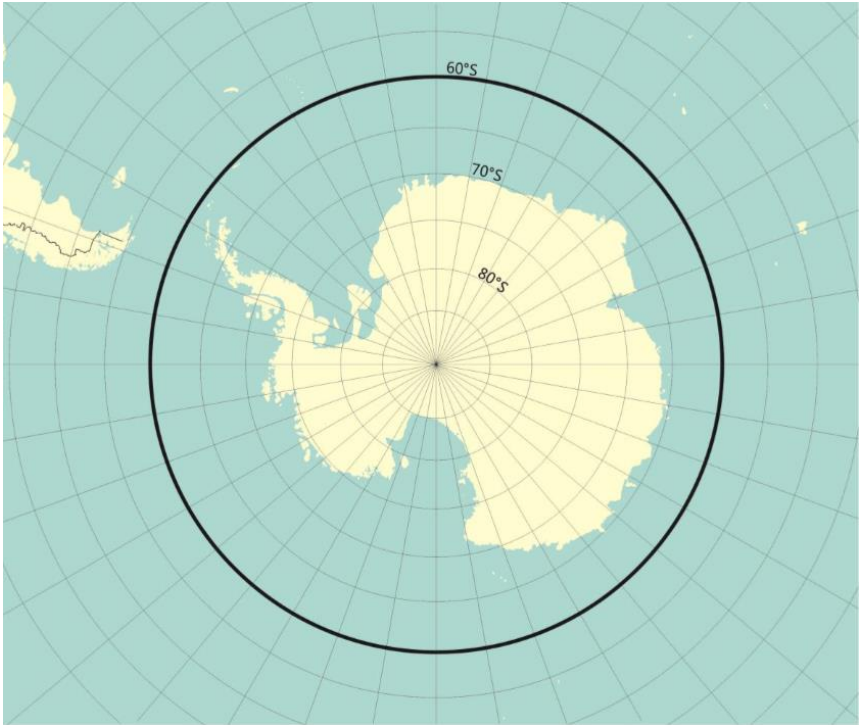


Figure 1. Maximum extent of Antarctic area application.



Figure 2. Maximum extent of Arctic waters application.

¹⁰⁶ MEPC 68/21/Add.1 Annex 10, page 8, figures (Polar Code).
¹⁰⁷ MEPC 68/21/Add.1 Annex 10, page 9, figures (Polar Code).
¹⁰⁸ MARPOL 73/78 Annex 1, Regulation 1(11)(g) and Annex V, Regulation 5(1)(g).

4 Gaps in IMO Polar Shipping Standards

Recognising that future amendments to the Polar Code following its entry into force will address shortcomings of the Code, issues relevant to the thesis objective are outlined in this section. IMO Members are not only committed to keep the Polar Code under review and amend it when necessary, but also to adopt instruments that are related to the Polar Code, consequential to it, or which complement it.¹⁰⁹ Thus the potential shortcomings are discussed, whilst acknowledging that ‘... changes were anticipated during the negotiations of the Code, and that those and other improvements will be made in the future.’¹¹⁰ New measures which are continuous agenda items, ship routing and reporting under the MSC and special area provisions under the MEPC, may be incorporated into the Polar Code.¹¹¹ Future amendments to the Polar Code which are new work items, such as additional environmental requirements, must be approved¹¹² by the MSC or the MEPC.¹¹³

4.1 Protected Areas

The Polar Code special area provisions refer only to the Arctic, with no reference to the Antarctic. MARPOL 73/78 defines Special Areas as a sea region requiring mandatory measures to prevent marine pollution from oil, garbage, noxious liquids and sewage, as given in the Annexes.¹¹⁴ The Antarctic area as the sea south of 60° South latitude is designated as a Special Area under MARPOL 73/78.¹¹⁵ The environmental section of the Polar Code does not specifically refer to the Antarctic marine environment because MARPOL regulations already cover this,¹¹⁶ thus the aim is to bring the Arctic up to Antarctic standards. In addition to Special Areas, the MEPC identifies Particularly Sensitive Sea Areas (PSSAs).¹¹⁷ PSSAs are

¹⁰⁹ Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Ashley Roach, J. (2017), ‘Conclusions on Challenges and Prospects for Enhanced Cooperation on the Governance of Arctic Shipping’ in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) (2017), *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, p. 432 in pp. 432 to 437.

¹¹⁰ Roach, J.A. (2017), p. 145.

¹¹¹ Ibid. p. 154.

¹¹² MSC-MEPC Circ.4 Rev. 4, Guidelines on the Organisation and Methods of Work of the Maritime Safety Committee and the Marine Environmental Protection Committee and their Subsidiary Bodies, 22 June 2015.

¹¹³ Roach, J.A. (2017), p. 154.

¹¹⁴ MARPOL 73/78, Annex I Chapter 1, Art. 11, Annex II, Annex IV and Annex V, Regulation 5.

¹¹⁵ MARPOL 73/78, Annex I, Chapter 1, Reg. 1, Art. 11(g), Annex V, Reg. 5 Art. 1 (g).

¹¹⁶ Bogner, D. (2017), *Sea Change in Polar Shipping: from Arctic to Antarctic Polar Code initiatives*, JCLOS Blog, 1 February 2017, viewed 28 May 2018.

¹¹⁷ IMO Res. A.927 (22), Guidelines for the designation of Special Areas under MARPOL 73/78 and Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas, adopted 29 November 2001.

sea areas needing special protection through the IMO; identified by ecological, socio-economic or scientific criteria and as at risk from international shipping activities.¹¹⁸ As no PSSAs exist in the polar regions this represents a gap in IMO global shipping standards.

4.2 Ice Navigation

Minimal requirements for crew training on ships operating in polar waters are deemed a weakness of Part I-A of the Code, with changes in progress.¹¹⁹ The Manning and Training Chapter (Part I-A/12) of the Polar Code lacks provision for an experienced ice navigator on the bridge for navigation in Polar waters; as was sought by Russia and Canada.¹²⁰ The requirement for appropriate training for a navigation watch in polar waters, under Part 1-A/12.2 is diminished in Part 1-A/12.3, stating that basic or advanced training is only required for those in charge of a navigation watch with no inclusion of the crew.¹²¹ Amendments to the 1978 STCW will apply on 1 July 2018.¹²²

4.3 Heavy Fuel Oil

The Polar Code as adopted did not include an HFO prohibition. However, a ban on use and carriage of HFO in the Southern Ocean was already applied under MARPOL 73/78 Annex 1, effective from 1 August 2011.¹²³ The Polar Code provides that ‘Ships are encouraged to apply regulation 43 of MARPOL Annex 1 when operating in Arctic Waters’.¹²⁴ Regulation 43 provides that ‘... the carriage in bulk as cargo or carriage and use as fuel...’ of HFO ‘... shall be prohibited in the Antarctic area.’

In 2018, the MEPC approved a new output on risk mitigation of HFO in Arctic waters, to be completed by 2018-2019.¹²⁵ The MEPC will decide whether measures are mandatory or

¹¹⁸ IMO Res. A.927 (22), Annex 2 (4.4).

¹¹⁹ Roach, J.A. (2017), p. 147.

¹²⁰ Ibid. p. 149.

¹²¹ Ibid. p. 149.

¹²² Koh, T.B. (2017), ‘Foreword’ in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) (2017), *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, p. VIII in pp. VII to IX.

¹²³ MEPC Res.189/60, Amendments to the Annex of the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, adopted 26 March 2010.

¹²⁴ Polar Code Part II-B, additional guidance to Part 1-A Chapter 1 ‘Prevention of Pollution by Oil’.

¹²⁵ MEPC 71/17, Report of The Marine Environment Protection Committee On Its Seventy-First Session, (15/08/2017), ‘Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by Ships in Arctic waters’, para. 14.13.1.

recommendatory, on the basis of stakeholder proposals.¹²⁶ A coalition of States proposed a mandatory ban, no later than 2021, on HFO use for all ships to which MARPOL 73/78 applies while operating in Arctic waters.¹²⁷ The co-sponsors declared that increased Arctic shipping creates a high risk and a single HFO spill could devastate fragile Arctic marine environments.¹²⁸ Environmental groups supported the proposal due to Arctic vulnerability arising from projected increases in Arctic shipping as sea ice cover rapidly diminishes.¹²⁹

The Russian Federation considered that an HFO ban would result in loss of maritime trade to remote Arctic communities, due to increased transport costs.¹³⁰ The Russian Federation claimed that the risk of an HFO oil spill is non-existent, even given a rapid increase in Arctic shipping.¹³¹ Russia considers an HFO ban as a last resort, due to the effect on maritime trade and advocates for a full range of mitigation measures.¹³² Canada and the Marshall Islands aligned with the desire of Finland and other States to protect the Arctic and the interests of indigenous people, however their submission side-stepped on a clear statement of support for a mandatory ban on HFO fuel in Arctic shipping.¹³³ The Arctic Council input to the MEPC is to identify risks and mitigation strategies of HFO use in the Arctic and explore environmental aspects of the use of alternative fuels.¹³⁴ Environmental vulnerabilities of the poles are similar and the Polar Code should be consistent across the two regimes it seeks to protect. However, in regard to the use of HFO in polar regions it may be a case where the ‘...mitigating measures required to address ... specific hazards ... may be different in Arctic and Antarctic waters.’¹³⁵

¹²⁶ MEPC 71/17 (15/08/2017), para. 14.13.3.

¹²⁷ MEPC 72/11/1, ‘Proposal to ban heavy fuel oil use and carriage as fuel by ships in Arctic waters’ (14/02/2018), Finland, Germany, Iceland, the Netherlands, New Zealand, Norway, Sweden and the United States.

¹²⁸ *Ibid.*, paras. 3 and 4.

¹²⁹ IMO doc. MEPC 72/11/5, Clean Shipping Coalition, Friends of the Earth International, Greenpeace, Pacific Environment and Wildlife Fund, para. 3.

¹³⁰ MEPC 72/11/3, ‘Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic Waters: Comments on the document (MEPC 72/11/1)’, (16/02/2018), Russian Federation para. 12.

¹³¹ *Ibid.* paras. 6 and 9.

¹³² *Ibid.* paras. 15 and 16.

¹³³ MEPC 72/11/4, ‘Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic Waters: Comments on (MEPC 72/11/1)’, (02/03/2018), Canada and the Marshall Islands.

¹³⁴ MEPC 72/INF.14, ‘Summary of the work undertaken by the Arctic Council’s Protection of the Marine Environment Working Group on Heavy Fuel Oil’, (16/02/2018), Canada, Denmark, Finland, Iceland, Norway, the Russian Federation and the United States paras. 6 and 28.

¹³⁵ Polar Code, Introduction, para. 3.2.

4.4 Non-Solas Vessels

The Polar Code as entered into force applies to SOLAS vessels of passenger and cargo ships.¹³⁶ A two stage approach was established due to the urgent need for mandatory requirements, with a second stage to consider inclusion of non-SOLAS fishing vessels and vessels below 500 gross tonnes into the Polar Code.¹³⁷ New Zealand advocated that the Code cover all ships and IMO maintain the agenda to include non-SOLAS vessels as part of an application of the precautionary approach.¹³⁸ NZ responded to 19 SAR incidents of non-SOLAS vessels in the Ross Sea, between 2004 and 2016.¹³⁹ The greatest risk is posed by fishing vessels and yachts,¹⁴⁰ as shown in the Annex 1 list of ship losses and incidents in polar waters. Antarctic claimant States, especially those with search and rescue responsibilities, are concerned by the lack of regulation of diverse vessels navigating the Southern Ocean yet not covered by the current Polar Code.¹⁴¹ The sinking of the *Niyala/Berserk*¹⁴² yacht and loss of life in 2011 emphasises the risks of non-SOLAS vessels in Antarctic waters.

The IMO assembly in December 2017 welcomed the work program of MSC to discern how vessels not currently covered by the Polar Code, including fishing vessels and smaller ships, might be regulated in the future.¹⁴³ The MSC requests members to ‘...consider the voluntary application of the Polar Code ... to ships not covered by the Polar Code and operating in polar waters.’¹⁴⁴ A new IMO convention might legalise voluntary guidelines for fishing vessels and small craft; yet is unlikely as it requires ratification by member States which are reluctant to increase fishing vessel standards.¹⁴⁵

¹³⁶ SOLAS Regulations 2(d) and 3.

¹³⁷ IMO DE 55/22, DE Report to the MSC, (15/04/2011), para. 12.7.1.

¹³⁸ IMO SCD 1,3, 4, ‘Development of a Mandatory Code for Ships Operating in Polar Waters: Phase II – non-SOLAS Ships’, (15/11/2013), New Zealand.

¹³⁹ MSC 99/7/1, ‘Proposals for the provision of mandatory safety measures for all non-SOLAS ships operating in polar waters’, (23/03/2018), Chile and New Zealand, para. 10.

¹⁴⁰ *Ibid.*, para. 12.

¹⁴¹ Bogner, D. 2017, JCLOS Blog, p. 4 and 5.

¹⁴² See Annex 1.

¹⁴³ IMO (2018), Meeting summaries ‘IMO Assembly, 30th session, 27 November – 6 December 2017’ viewed 5 May 2018 <http://www.imo.org/en/MediaCentre/MeetingSummaries/Assembly/Pages/Assembly-30th-session.aspx>

¹⁴⁴ MSC Res. 385(94), International Code for Ships Operating in Polar Waters (Polar Code), adopted 21 November 2014, recitation of facts (4).

¹⁴⁵ ATCM XL – CEP XX IP 151 (2015), Annex ‘Extracts of the Legal Memo submitted to ASOC by Judith Gregan on the Potential Application of the Polar Code to Fishing Vessels and Yachts’, ASOC.

Phase two of the Polar Code was to be initiated at the MSC meeting of May 2018, thus it is relevant to analyse stakeholder submissions to this meeting. Norway claimed that the Polar Code as an addition to SOLAS is not a stand-alone instrument and therefore does not provide an internationally agreed legal framework to address safety standards of non-SOLAS vessels.¹⁴⁶ All ships on all voyages must meet the requirement of SOLAS Chapter V.¹⁴⁷ Norway sees this as a precedent to apply the Polar Code Part I-A Chapter 9 ‘Safety of Navigation’ and Chapter 11 ‘Voyage Planning’ as mandatory to all vessels which SOLAS Chapter V applies to when operating in polar waters.¹⁴⁸ Chapter 10 ‘Communication’ is seen as having wider application to cargo ships of between 300 and 500 gross tonnage while operating in polar waters, ships to which SOLAS Chapter IV applies.¹⁴⁹

New Zealand and Chile view arbitrary ongoing exclusion of non-SOLAS ships from the mandatory polar code as in conflict with the mission statement and direction of the IMO.¹⁵⁰ A coalition of environmental groups¹⁵¹ encouraged polar IMO member States to ratify the Cape Town Agreement.¹⁵² The co-sponsors invoked the Port State Control principle, that ships flagged to a State which has not ratified an agreement are subject to ‘no more favourable treatment’, as a legal basis whereby IMO member States could enforce Polar Code provisions on foreign flagged fishing vessels calling at these States.¹⁵³ New Zealand and Chile propose that all maritime States should ratify the Cape Town Agreement,¹⁵⁴ yet hold the reservation that the agreement does not include ‘fit-for-polar’ requirements in regard to safety, navigation and all polar water issues. The Pew Trust encouraged all States operating in polar regions, ATCPs and Arctic Council members to ratify the Cape Town Agreement, in order to raise the safety standards of fishing vessels operating in polar regions.¹⁵⁵

¹⁴⁶ MSC 99/7, ‘Safety measures for non-SOLAS ships operating in Polar Waters’, (23/03/2018), Norway.

¹⁴⁷ Ibid. para. 10.

¹⁴⁸ Ibid. paras. 10 and 13.

¹⁴⁹ Ibid. para. 11.

¹⁵⁰ MSC 99/7/1, (23/03/2018), Chile and New Zealand, paras. 4 and 19.

¹⁵¹ MSC 99/7/3, ‘Polar waters, the Polar Code and non-SOLAS vessels’, (23/03/2018), FOEI, Greenpeace International, WWF and Pacific Environment, para. 18.

¹⁵² Torremolinos Convention (Cape Town Agreement) International Convention for the Safety of Fishing Vessels, adopted 2 April 1977, not in force
1993 Protocol, 2 April 1993, not in force.

¹⁵³ MSC 99/7/3, (23/03/2018), (FOEI et al.) para. 18.

¹⁵⁴ MSC 99/7/1, (23/03/2018), Chile and New Zealand, para. 18.

¹⁵⁵ MSC 99/7/2, ‘The Cape Town Agreement of 2012 as a mandatory instrument relating to the safety of fishing vessels operating in polar waters’, (23/03/2018), Pew Trust, paras. 12 and 14.

5 The Shipping Regime of the Arctic

5.1 Sovereignty in the Arctic

Arctic sovereignty applies to much of the North. Through the Ilulissat Declaration¹⁵⁶, five coastal States of the Arctic Ocean are identified; Denmark through Greenland territory, the Russian Federation, Norway, the United States of America and Canada. The Arctic Five recognise the LOSC as the legal regime and through their sovereignty, sovereign rights and jurisdiction under the LOSC hold a stewardship role.¹⁵⁷ Iceland, Finland and Sweden expressed concerns over the Ilulissat Declaration, considering the agenda for cooperation between the littoral States of the Arctic Ocean on ocean policy as undermining the Arctic Council.¹⁵⁸

In the Arctic Ocean the five littoral States have sovereignty and sovereign rights over maritime zones of a territorial sea of 12 nm¹⁵⁹, an Exclusive Economic Zone (EEZ) of 200 nm¹⁶⁰ and a continental shelf.¹⁶¹ Arctic waters are defined in Chapter XIV of SOLAS and the annexes of MARPOL 73/78.¹⁶² Iceland regards itself as an Arctic coastal State, as the northern Icelandic EEZ extends into the Greenland Sea which is part of the Arctic Ocean.¹⁶³ The Polar Code is not applicable to waters under Icelandic jurisdiction (*figure 2*) and Iceland operates as a flag State, rather than a coastal State, in Arctic marine shipping.¹⁶⁴ Only small parts of the seabed below the high seas of the central Arctic Ocean will be beyond outer continental shelves. In areas of the central Arctic Ocean beyond national jurisdiction all States have the rights of freedoms of the high seas, under Article 87 of the LOSC. At the national level, Arctic littoral coastal States support global regimes of shipping governance through the provision of port facilities for vessels transiting Arctic waters.

¹⁵⁶ The Ilulissat Declaration, ‘Arctic Ocean Conference, Ilulissat, Greenland 27-29 May 2008’ adopted 28 May 2008

¹⁵⁷ Ibid.

¹⁵⁸ Koivurova, T. (2010), ‘Limits and possibilities of the Arctic Council in a rapidly changing scene of Arctic Governance’, *Polar Record*, Vol. 46, no. 237, p. 151 in pp. 145 to 156.

¹⁵⁹ LOSC Arts. 2 and 3.

¹⁶⁰ LOSC Arts. 55 to 57.

¹⁶¹ LOSC Art. 76.

¹⁶² SOLAS regulation XIV 1(3), MARPOL 73/78 Annex 1, regulation 46(2).

¹⁶³ Henriksen, T. (2017), p. 256.

¹⁶⁴ Ibid. p. 257.

5.2 The Arctic Council

The Arctic Council consists of eight Member States: the Arctic Five, Finland, Iceland and Sweden, forming an intergovernmental forum for discussion of substantive Arctic matters. Participation is open to six consultative indigenous Permanent Participant organisations and to Observer States and organisations. The Arctic Council was established in 1996 under the Ottawa Declaration.¹⁶⁵ The goal was to coordinate the Arctic Environmental Protection Strategy (AEPS) of 1991. The AEPS is a soft law instrument, initiated by Finland and adopted by the Arctic Eight, assigned to permanent working groups.¹⁶⁶ Of the current six working groups of the Arctic Council,¹⁶⁷ the Protection of the Arctic Marine Environment (PAME) working group is the most relevant to Arctic shipping. The Arctic Monitoring and Assessment Programme (AMAP) working Group also facilitates regional cooperation in merchant shipping and marine environmental protection.¹⁶⁸ Two shipping related treaties negotiated under the auspices of the Arctic Council have been adopted: the 2011 Arctic Search and Rescue (SAR) Agreement¹⁶⁹ and the 2013 Arctic Marine Oil Preparedness and Response (MOSPA) Agreement.¹⁷⁰

5.3 Interaction of the Arctic Council with Global Shipping Regimes

Global regimes of the law of the sea rely on regional implementation and include obligations for regional cooperation.¹⁷¹ Article 197 of the LOSC requires that States shall cooperate on a global or regional basis for the protection of the marine environment. The Arctic Council members consider that the Council is not an intergovernmental organisation and as such cannot adopt legally binding instruments.¹⁷² However adoption of the SAR and MOSPA

¹⁶⁵ Declaration on the Establishment of the Arctic Council (Ottawa Declaration), adopted 19 September 1996.

¹⁶⁶ Stokke, O.S. (2007), 'A legal regime for the Arctic? Interplay with the Law of the Sea Convention', *Marine Policy*, Vol. 31, p. 404 in pp. 402-408.

¹⁶⁷ Arctic Contaminants Action Programme (ACAP), Arctic Monitoring and Assessment Programme (AMAP), Conservation of Arctic Flora and Fauna (CAFF), Emergency Prevention, Preparedness and Response (EPPR), Sustainable Development Working Group (SDWG) and Protection of the Arctic Marine Environment (PAME).

¹⁶⁸ Molenaar, E.J. (2012), 'Current and Prospective Roles of the Arctic Council System within the Context of the Law of the Sea', *The International Journal of Marine and Coastal Law*, Vol. 27, p. 593 in pp. 553 to 595.

¹⁶⁹ Agreement on Cooperation in Aeronautical and Maritime Search and Rescue in the Arctic (SAR Agreement), adopted 12 May 2011, entered into force 19 January 2013.

¹⁷⁰ Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (MOSPA Agreement), adopted 15 May 2013, entered into force 25 March 2016.

¹⁷¹ Molenaar, E.J. (2012), p. 592.

¹⁷² Molenaar, E.J. Oude Elferink, A.G. and Rothwell, D.R. (2013), 'Interaction between Global and Regional Regimes' in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) 2013, *The Law of the Sea and the*

treaties under the auspices of the Arctic Council demonstrates regional cooperation for protection of the marine environment.

The Arctic Council is not mandated to produce legally binding decisions, but has conducted studies on Arctic marine pollution and shipping which inform the international society on stressors of the marine environment.¹⁷³ The Arctic Marine Shipping Assessment 2009 Report (AMSA), a key output of PAME, is focused on maritime safety and marine environmental protection.¹⁷⁴ The AMSA report assessed less stability in rules for marine use, both within the Arctic and internationally, as a scenario featuring shortfalls in transparency and a rules-based structure, creating an atmosphere where stakeholders work on a unilateral basis.¹⁷⁵ In contrast, stable governance implies an efficient system of legal and regulatory structures and an atmosphere of international collaboration.¹⁷⁶ Arctic maritime governance can be strengthened through engaging non-Arctic States, working with IMO to develop an integrated system of rules and through enhanced cooperation among the Arctic Eight.¹⁷⁷ Specifically, AMSA recommends that Arctic States invest in and improve access to Hydrographic, Meteorological and Oceanographic data to support safe navigation and voyage planning.¹⁷⁸ Furthermore, Arctic States should ratify the IMO's BWM Convention and take preventative measures against the introduction of invasive species through ballast water, in maritime areas under their jurisdiction.¹⁷⁹

The Arctic Council vision from 2013 is to meet new opportunities for cooperation and expand the Arctic Council's role from policy-shaping to policy-making.¹⁸⁰ The tenth meeting of the Arctic Eight and the six Permanent Participant organisations resulted in the Fairbanks

Polar Regions: Interactions between Global and Regional Regimes, Martinus Nijhoff Publishers, Leiden, p. 407 in pp. 389 to 417.

¹⁷³ Prip, C. (2017), *The way towards strengthened marine cooperation in the Arctic*, JCLOS Blog, 3 November, 2017, p. 1, viewed 9 July 2018, <http://site.uit.no/jclos/>

¹⁷⁴ Arctic Council, *2009 AMSA Report*

¹⁷⁵ Arctic Council, *2009 AMSA Report*, p. 94.

¹⁷⁶ *Ibid.* p. 94.

¹⁷⁷ *Ibid.* p. 95.

¹⁷⁸ Arctic Council, 2018, *Arctic Marine Shipping Assessment (AMSA)*, viewed 5 July 2018, <https://www.pame.is/index.php/projects/arctic-marine-shipping/amsa>

¹⁷⁹ *Ibid.*

¹⁸⁰ Arctic Council, 2013, *Vision for the Arctic*, Kiruna, Sweden, 15 May, viewed 8 June 2018, <https://oaarchive.arctic-council.org/handle/11374/83>

Declaration, which reaffirmed commitment to strengthening the Arctic Council and to the protection of the Arctic environment.¹⁸¹ PAME recommends that Arctic States harmonise marine shipping regimes within their own jurisdiction and implement uniform Arctic environmental protection consistent with the LOSC.¹⁸² PAME considers that such State defined measures could be extended to the protection of regions of the central Arctic Ocean, if adopted by the IMO.¹⁸³

Paragraph 3 of the 2017 Fairbanks Declaration encourages Arctic States, including at the IMO, to facilitate harmonised implementation of the Polar Code through the Arctic Shipping Best Practices Information (ASBPI) Forum. The PAME mandate to address pollution prevention and control of the Arctic marine environment from sea-based activities complements IMO, as the international organisation addressing safe and environmentally sound navigation.¹⁸⁴ Furthermore, the ASBPI Forum recognises that safety measures taken to reduce the probability of a maritime accident are likely to lower the risk of damage to the environment,¹⁸⁵ reflecting a similar recognition in the Polar Code.¹⁸⁶ The ASBPI Forum broadens participation by including the Arctic Council and any recognised professional organisation with experience in Arctic shipping and commitment to environmentally sound marine operations in the Arctic.¹⁸⁷

These outputs and recommendations of PAME and the ASBPI Forum demonstrate that at the regional level the Arctic Council is an effective soft law non-binding forum, with opportunities to complement the global regime of shipping governance under the IMO and the LOSC. Non-Arctic States and entities such as the EU may have observer status in the Arctic Council. International law does not confer the right of Arctic Council membership to non-Arctic entities.¹⁸⁸ The Arctic Council, as a regional regime enabling cooperation under the

¹⁸¹ 2017 Fairbanks Declaration, Arctic Council, 11 May 2017, 3rd and 4th preambular paras.

¹⁸² Arctic Council PAME, 2017, *AMSA 2009 Report*, p.10.

¹⁸³ *Ibid.*

¹⁸⁴ Arctic Council (2017), *Arctic Shipping Best Practices Information Forum's Terms of Reference (ASBPIF-ToR)*, 7th preambular paragraph, viewed 11 July 2018, <http://www.arctic-council.org/>

¹⁸⁵ Arctic Council (2017), *ASBPIF-ToR*, 8th preambular paragraph.

¹⁸⁶ Polar Code, 5th preambular paragraph.

¹⁸⁷ Arctic Council (2017), *ASBPIF-ToR*, para. 18.

¹⁸⁸ Molenaar, E.J. (2013), p. 409.

international law of the sea, is constrained by the international law principle of *pacta tertiis*.¹⁸⁹ The principle is reflected in Article 34 of the VCLT as ‘A treaty does not create either obligations or rights for a third State without its consent.’ The Arctic Council may overcome the constraints inherent in the *pacta tertiis* principle through either broader participation or regulations in line with the principle.¹⁹⁰ The Council could become an intergovernmental organisation under a regional treaty, in order to adapt to changing Arctic circumstances.¹⁹¹ Whilst the Arctic Council is currently the main forum for regional cooperation in the maritime Arctic,¹⁹² there may also be other mechanisms.

5.4 Addressing Gaps in IMO Polar Shipping Standards

In this section the gaps in IMO polar shipping standards, identified in section 4 of this thesis, are considered in relation to regional and national regulations of the Arctic. Arctic coastal States may individually take a stewardship role over maritime areas and can collectively discuss Arctic matters through the Arctic Council.

5.4.1 Protected Areas

The MARPOL 73/78 Special Area provisions for the Arctic can be strengthened through Arctic regional governance. In Arctic waters any discharge of oil into the sea from ships is prohibited under the Polar Code.¹⁹³ Ships constructed prior to the entry into force of the Polar Code have a time limit, related to survey renewal, to comply with MARPOL 73/78 Annex I regulation 15.3, whereby any discharge into the sea of oil is prohibited in special areas, with 5 cumulative conditions as an exception to the provision. MARPOL 73/78 Annexes have similar provisions to provide a higher level of protection of the marine environment through designated special areas with respect to noxious liquid substances (Annex II), sewage (Annex IV) and garbage (Annex V).

The PAME Framework for a Pan-Arctic Network of Marine Protected Areas (MPAs) is a non-legally binding network in the EEZs of Arctic States, with the aim to identify significant

¹⁸⁹ Molenaar, E.J. (2013), p. 555.

¹⁹⁰ Molenaar, E.J. (2012), p. 594.

¹⁹¹ Ibid. p. 407.

¹⁹² Ibid. p. 416.

¹⁹³ Polar Code, Part II-A, Chapter 1, para. 1.1.1.

areas in the wider seascape.¹⁹⁴ The Arctic Council has the capacity to identify significant areas using the IMO criteria for PSSAs and to encourage Arctic States to protect these areas from the impacts of marine shipping, cooperatively and in accordance with international law.¹⁹⁵ In 2013 there were only 14 PSSAs, designated under MEPC resolutions since 1990, with none of them in the Arctic.¹⁹⁶ Currently, there are 15 PSSAs, with entry into force on 1 January 2018 of the Tubbataha Reefs Natural Park PSSA in the Sulu Sea of Philippines archipelagic waters.¹⁹⁷ Only the IMO can designate PSSAs; members may submit an application to the MEPC.¹⁹⁸ Identification and protection of areas with PSSA status at the regional level through the Arctic Council provides an opportunity to address gaps in IMO identified special areas and PSSAs.

5.4.2 Ice Navigation

Part 1-A sections 3.1 and 3.2 of the Polar Code identify ice as a major navigation hazard which varies with geography and time of the year. The Russian Federation prior notification, route reporting systems, ice pilotage and ice breaker assistance schemes for the NSR were adopted without IMO consultation.¹⁹⁹ Denmark applies conditions for ice class and voyage planning that are stricter than the safety measures of the Polar Code and the STCW Convention.²⁰⁰ The Russian rules are an application of Article 234 of the LOSC. Denmark's provisions are not an application of Article 234 of the LOSC, but rather of the environmental jurisdiction of the coastal State under Article 211 of the LOSC.²⁰¹

¹⁹⁴ Arctic Council PAME, (2015), *Framework for a Pan-Arctic Network of Marine Protected Areas*, April 2015, p. 11, viewed 12 July 2018, <https://oaarchive.arctic-council.org/handle/11374/52>

¹⁹⁵ Arctic Council CAFF PAME, *Arctic Protected Areas Indicator Report 2017*, p. 13, viewed 12 July 2018, https://oaarchive.arctic-council.org/bitstream/handle/11374/1944/CAFF-PAME_Indicator_Report_on_Arctic_Protected_Areas.pdf?sequence=1&isAllowed=y

¹⁹⁶ Lalonde, S. (2013), 'Marine Protected Areas in the Arctic' in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) (2013), *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, p. 91 in pp. 85 to 111.

¹⁹⁷ MEPC Res. 294(71), Designation of the Tubbataha Reefs Natural Park as a Particularly Sensitive Sea Area, adopted 7 July 2017.

¹⁹⁸ Lalonde, S. (2013), p. 91.

¹⁹⁹ Solski, J.J. (2017), p. 214.

²⁰⁰ Henriksen, T. (2017), p. 280.

²⁰¹ *Ibid.* p. 278.

As SOLAS, the STCW Convention and MARPOL 73/78 do not prejudice the rights of States²⁰² under international law, including the provisions of the LOSC, the rules applied by Russia and Denmark in regard to ice navigation are not in conflict with the global maritime shipping regime. Part 1-A of the Polar Code section 1.2.3 defines an escorted operation as where a ship's movement is facilitated by an escort ship with superior ice capability. Part 1-B section 3.2 'Guidance on Navigation with Icebreaker Assistance' includes recommendations on communication, speed and distance. The Polar Code frequently refers to icebreaker escort²⁰³ but has no mandatory provisions. The global IMO regime provides a legal framework under which Arctic coastal States may apply their expertise in ice navigation at the regional level.

The Arctic Council ASPBI Forum, discussed in section 5.3 of this thesis, will facilitate shared information and best practices in relation to Voyage Planning and Operational Assessment,²⁰⁴ as described in IMO's 'Guidelines for Voyage Planning'.²⁰⁵ The ASBPI Forum will include marine environmental protection considerations and ship operational limitations such as ice data and ship systems, to assist those involved in decision making in relation to Arctic marine operations under the Polar Code.²⁰⁶ Thus the Forum provides an opportunity to address the current gap in IMO polar shipping standards in relation to ice navigation. As the European Parliament (EP) points out, '... the challenges relating to the Arctic call for a joint regional and international response.'²⁰⁷

5.4.3 Heavy Fuel Oil

Opportunities may exist within the Arctic Council to address the current gap in IMO Polar shipping standards, whereby HFO use is prohibited in the Antarctic but not in the Arctic. PAME has worked on the risks associated with HFO use in the Arctic for several years.²⁰⁸

²⁰² SOLAS Chapter XIV Reg. 2 (5), STCW Convention Art. V (4), SOLAS Chapter XIV Reg. 2 (5), STCW Convention Art. V (4).

²⁰³ Polar Code, Part 1-A 2.3.6 and 9.2.3.2

²⁰⁴ Arctic Council (2017), ASBPIF-ToR, paras. 14 and 15.

²⁰⁵ IMO Res. A893(21), Guidelines for Voyage Planning, adopted 25 November 1999.

²⁰⁶ Arctic Council (2017), ASBPIF-ToR, paras. 14 and 15.

²⁰⁷ European Parliament resolution of 16 March 2017 on an integrated European Union policy for the Arctic (2016/2228(INI)), paragraph D.

²⁰⁸ Arctic Council PAME (2017), *Arctic Council Status on Implementation of the AMSA 2009 Report*, p. 4, viewed 12 July, <https://oarchive.arctic-council.org/handle/11374/52>

The PAME HFO Phase IIIA report (USA, Russian Federation, Kingdom of Denmark and Norway) assessed shipping incidents releasing HFO into the marine environment above latitude 55 North.²⁰⁹ The HFO Phase IIIB report (Norway) analyses the use of HFO in ships fuel systems and possible hazards.²¹⁰ PAME initiatives with regard to HFO are reporting on the routes of ships using HFO in the Arctic, compiling Arctic State submissions to the MEPC and exploring the use of alternative fuels by ships in the Arctic.²¹¹

The AMSA report identified instability in rules as creating an environment in which stakeholders may act unilaterally.²¹² As HFO regulation for the polar regions is inconsistent across the two polar regions, this may create an environment in which stakeholders act unilaterally. Preparatory work to the EP resolution for the European Union (EU) Arctic policy frames limiting the use of HFO in the Arctic, in the absence of adequate international measures, as a case of acceptable unilateralism.²¹³ The EP calls on member States of the EU to ‘... facilitate actively the ban on the use and carriage of HFO as ship fuel in vessels navigating the Arctic seas ... as regulated in the waters surrounding Antarctica ...’ through means of MARPOL 73/78 or through port State control.²¹⁴ The EU resolution suggests that the proposed standards are likely to be accepted in international negotiation on the basis that they are already in place in the Antarctic.²¹⁵ The EP resolution shows that customary principles of State jurisdiction in international law can cover jurisdictional gaps in treaties such as MARPOL 73/78, however such principles do not confer jurisdiction on the basis of a concern for the Arctic as common heritage.²¹⁶ The Svalbard Environmental Protection Act, applying to the 12 nm territorial sea of the archipelago, provides the legal basis for a ban on vessels using HFO within the 12 nm territorial waters, including areas outside the protected

²⁰⁹ Arctic Council PAME (2017), *Arctic Council Status on Implementation of the AMSA 2009 Report* p. 8.

²¹⁰ Arctic Council (2017), *Status on Implementation of the AMSA 2009 Report*, p. 8.

²¹¹ Arctic Council PAME *AMSA 2009 Report*, p. 9

²¹² Arctic Council, *AMSA 2009 report* p. 94.

²¹³ Coehlo, N.F. (2017), *Remarks on the European Parliament’s proposal to ban Heavy Fuel Oils in the Arctic*, JCLOS Blog, 27 April 2017, viewed 12 July 2018, <http://site.uit.no/jclos/> European Parliament resolution of 16 March 2017 on an integrated European Union policy for the Arctic (2016/2228(INI)).

²¹⁴ European Parliament Resolution of 16 March 2017 on an integrated European Union policy for the Arctic (2016/2228(INI)), paragraph 58.

²¹⁵ Coehlo, N.F. (2017).

²¹⁶ *Ibid.*

areas.²¹⁷ The ban may be inconsistent with the LOSC provision that the coastal State may not regulate innocent passage through applying CDEM standards.²¹⁸ Norway does not have recourse to apply stricter standards under Article 234 of the LOSC in the waters off Svalbard, as there is no established EEZ.²¹⁹

A coastal State faced with governance gaps in an international framework may try to amend the framework, make use of existing international instruments or may take unilateral action to prompt global regimes.²²⁰ However, unilateral action can place a heavy burden on ship operators and create the risk of fragmentation and incompatible rules.²²¹ The gap in IMO polar shipping standards with regard to HFO creates a ‘unilateral temptation.’²²² The cooperative approach of the Arctic Council offsets the risk of fragmentation between regional regimes and IMO global regimes of shipping governance.

5.4.4 Non-SOLAS Vessels

In the Arctic Region, coastal States might invoke Article 234 of the LOSC to regulate non-SOLAS vessels, which are currently not covered by the Polar Code. A further opportunity at the regional level would be a Convention with a mandatory polar class for non-SOLAS vessels, drafted under the auspices of the Arctic Council.²²³ The Cape Town Agreement provides limited opportunity to close the gap of vessel coverage in the global regime. The Agreement is not yet ratified and does not contain polar specific measures for navigation safety, as described in section 4.4 of this thesis. The best option to include all vessels in the Polar shipping regime is as an amendment to SOLAS.²²⁴

²¹⁷ Henriksen, T. (2017), pp. 262 and 271 in pp. 245 to 295.

Act of 15 June 2001 No 79 relating to the Protection of the Environment of Svalbard, section 8(2)(a), entered into force 1 July 2012, <https://www.regjeringen.no/en/dokumenter/svalbard-environmental-protection-act/id173945/>

²¹⁸ LOSC, Art. 21 (2).

²¹⁹ Henriksen, T. (2017), p. 253.

²²⁰ Boone, L. (2013), p. 213.

²²¹ Ibid. p. 214.

²²² Coelho, N.F. (2017).

²²³ As suggested for the Antarctic area in ATCM XL – CEP XX, IP 151 (2015), ASOC, Annex: ‘Extracts of the Legal Memo submitted to ASOC by Judith Gregan on the Potential Application of the Polar Code to Fishing Vessels and Yachts.’ and CAMLR Convention, Art. XXX(4).

²²⁴ Ibid.

5.5 Opportunities and Constraints

International standards are essential for the governance of polar shipping, providing legitimacy and high compliance.²²⁵ Different levels of governance provide specific opportunities and constraints for the protection of the Arctic marine environment from the impacts of shipping.

5.5.1 Article 234 of the LOSC

Section 3.2 of this thesis concludes that IMO treaty-relationship clauses do not preclude States to employ Article 234, as an opportunity to apply standards more stringent than GAIAS. The extent to which Arctic coastal States invoke Article 234 of the LOSC is examined, through summarising the writings of experts, and the interaction of global regulation of Arctic shipping with national regulation is assessed.

Russia has imposed unilateral regulation that affects access and navigation of the NSR, applying coastal State jurisdiction pursuant to Article 234 of the LOSC.²²⁶ Article 234 of the LOSC has specific limitations, including severe climatic conditions and ice cover for most of the year, which apply to the NSR.²²⁷ The 2013 national rules apply only to merchant vessels navigating ‘within the limits of the exclusive economic zone’, which is consistent with the given limitation of Article 234 of the LOSC.²²⁸

Article 234 of the LOSC limits coastal State jurisdiction through the obligation to give due regard to navigation, consistent with freedom of navigation under the LOSC.²²⁹ Russia’s refusal to issue a permit to the Greenpeace vessel *Arctic Sunrise* to navigate the NSR, on four occasions,²³⁰ raises the issue of whether Russian permit rules are consistent with the international law of the sea.²³¹ Russian national legislation with regard to the NSR would

²²⁵ Boone, L. (2013), p. 214.

²²⁶ Solksi, J.J. (2017), p. 173.

²²⁷ Ibid., p. 185.

²²⁸ Solski, J.J. (2017), p. 187. Rules of Navigation in the Water Areas of the Northern Sea Route, as approved by the order of the Ministry of Transport of Russia, dated 17 January 2013, No. 7, as based on Article 5.11 of the Merchant Shipping Code 2013 Rules.

²²⁹ LOSC Arts. 56 (1) (b) (iii), 56 (2), 58 (1) and 87.

²³⁰ Ministry of Transport of the Russian Federation, Federal Agency for Sea and Inland Water Transport, Northern Sea Route Administration, Notification No 77, 20 September 2013.

²³¹ Solski, J.J. (2017), p. 201.

better correspond with the Polar Code through IMO consultation, amendments to the NSR and 2013 rules and adjustment to the standard of proof required for reliance on Article 234.²³²

Canada and the United States are Arctic coastal States with differing interests in Arctic Straits such as the NWP and the Bering Strait.²³³ In 2008 Canada adopted the ‘Northern Canada Vessel Traffic Services Zone Regulations’ (NORDREG), placing reporting conditions on vessels navigating Canadian EEZ and internal waters under Canada’s Arctic baselines.²³⁴ Canada bases NORDREG on Article 234 of the LOSC, whilst the United States disputes the right of Canada to apply unilateral measures which restrict navigation rights.²³⁵

As Canada has declared the view that Article 234 rights hold precedence over MARPOL 73/78,²³⁶ amendments to MARPOL 73/78 Annexes under the Polar Code are not a legal barrier to Canada enforcing legislation on the basis of Article 234.²³⁷ The legal position is upheld by relationship clauses of the LOSC and MARPOL 73/78 and by the fact that States did not object to the interpretive declaration.²³⁸ The United States, whilst not a party to the LOSC, therefore implicitly accepts the priority of Article 234 over MARPOL 73/78.²³⁹

The interests of Norway in the Arctic are best met by the LOSC, enabling full rights and obligations as a coastal State.²⁴⁰ The Polar Code applies to the internal waters and territorial sea off Jan Mayen, Bear Island, Svalbard and possibly navigation in the EEZ of Norway.²⁴¹ A Norwegian expert group on Arctic shipping explains that Norway is not entitled to apply Article 234 of the LOSC, as the conditions of ice-coverage do not apply and there is no EEZ established off Svalbard.²⁴² The Polar Code applies to ship operations in Greenland’s

²³² Solski, J.J. (2017), p. 215 and 216.

²³³ Rothwell, D.R. (2017), ‘Canada and the United States’ in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) (2017), *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, p. 217 in pp. 217 to 244.

²³⁴ Rothwell, D.R. (2017), p. 238 and Canada Shipping Act, 2001, SC 2001, C 26.

²³⁵ Ibid. p. 238.

²³⁶ McDorman, T.L. (2015), p. 154 and 155.

²³⁷ Ibid. pp. 155 and 157.

²³⁸ Ibid. p. 155.

²³⁹ Ibid. p. 155.

²⁴⁰ Henriksen, T. (2017), p. 251.

²⁴¹ Ibid. p. 253.

²⁴² Ibid. p. 253.

maritime zones.²⁴³ The Arctic waters under jurisdiction of Iceland are outside of the geographical scope of Arctic waters as defined in the Polar Code.²⁴⁴ Governance of shipping for the Arctic States of Norway, Denmark and Iceland is through the regional regime of the Arctic Council and through national legislation which implements IMO global standards.²⁴⁵

Some Arctic coastal States have invoked Article 234 to varied degrees, as an opportunity to apply more stringent standards of environmental protection than global regimes of shipping governance, such as the IMO Polar Code. Article 234 has its own constraints, as described in section 3.2 of this thesis; the provision limits include ice-coverage, EEZ, due regard and non-discrimination clauses. Article 234 is just one opportunity in regard to shipping regulation in the Arctic, port State jurisdiction is discussed as a further opportunity.

5.5.2 Port State Jurisdiction

Article 220 of the LOSC provides that a State has jurisdiction over a foreign vessel in its ports with regard to vessel-source pollution occurring in the territorial sea or EEZ of that State. Articles 211(3) and 25(2) allow a State to establish and enforce specific requirements of vessels entering their ports, regarding the prevention, reduction and control of pollution of the marine environment. However, Article 211 (3) does not define the scope and limits of the rights.²⁴⁶ Under the Polar Code, port State measures are limited to ensuring verification of a valid Polar Certificate, whilst insufficient data on ship routes and ice-conditions hampers the port State's capacity to regulate for safety of vessels passage in Arctic conditions.²⁴⁷ The European Parliament considered adopting rules for vessels calling at EU ports, for the protection of the environment.²⁴⁸ The EP Resolution of 2017 considers that the absence of adequate international measures justifies '... rules for vessels calling at EU ports subsequent to, or prior to, journeys through Arctic waters, with a view to prohibiting the use and carriage of HFO.'²⁴⁹ The resolution is related to the jurisdiction of a port State, in accordance with

²⁴³ Henriksen, T. (2017), p. 256.

²⁴⁴ SOLAS Chapter XIV, Reg. 1 (3) and MARPOL 73/78 Annex I. Reg. 46 (2).

²⁴⁵ Henriksen, T. (2017), p. 258.

²⁴⁶ Coehlo, N.F. (2017).

²⁴⁷ Henriksen, T. (2017), p. 294.

²⁴⁸ Coehlo, N.F. (2017), European Parliament resolution of 16 March 2017 on an integrated European Union policy for the Arctic (2016/2228(INI)).

²⁴⁹ EP Resolutin of 16 March 2017, para. 58.

Article 218(1) of the LOSC, over activity of a ship in areas outside of coastal State jurisdiction and in potential violation of GAIAS.

Port State Control (PSC) enables compliance with IMO regulations through a series of regional Memorandum of Understandings (MOUs), based on the Paris MOU, which recognises that ‘... effective action by port States is required to prevent the operation of substandard ships.’²⁵⁰ PSC provides the greatest opportunity for a coastal State to ensure that vessels operating in Arctic waters comply with CDEM standards of the Polar Code.²⁵¹

Iceland’s Arctic waters are outside the Polar Code regime, however there is the opportunity to regulate foreign flagged vessels on Arctic transits when these vessels call at Icelandic ports.²⁵²

As Norway and Iceland are participants in the Paris MOU, the mandatory CDEM vessel requirements provided in the Polar Code under SOLAS and MARPOL 73/78, can be enforced through national legislation whilst these vessels are visiting ports of the coastal States.²⁵³

Article 211(3) of the LOSC allows that coastal and port States may enter into cooperative arrangements and exercise collective rights at a regional level.²⁵⁴ The Arctic Five and Iceland are participants in either Paris or Tokyo MOUs.²⁵⁵ The opportunity for PSC of shipping can be within existing regional PSC arrangements or under a new arrangement of an Arctic Ocean regional MOU.²⁵⁶ International shipping standards are the primacy of the IMO but can be complemented by Arctic regional standards through optimising PSC and harmonising national regulations.²⁵⁷

²⁵⁰ Paris Memorandum of Understanding on Port State Control, 26 January 1982, including 41st Amendment, adopted 11 May 2018, entered into force 1 July 2018, preambular paragraphs. viewed 6 August 2018, <https://www.parismou.org/about-us/memorandum>

²⁵¹ Henriksen, T. (2017), p. 274.

²⁵² Ibid. p. 289.

²⁵³ Henriksen, T. (2017), pp. 265 and 291.

²⁵⁴ Molenaar, E.J. (2014), ‘Options for Regional Regulation of Merchant Shipping Outside IMO, with Particular Reference to the Arctic Region’, *Ocean Development & International Law*, Vol. 45, pp. 283 and 284 in pp. 272 to 298.

²⁵⁵ Ibid. p. 286 and 287.

²⁵⁶ Ibid. p. 286.

²⁵⁷ Boone, L. (2013), p. 204.

5.5.3 Other Mechanisms

The Convention for the Protection of the North-East Atlantic (OSPAR Convention) covers Arctic waters in Area 1.²⁵⁸ The OSPAR Convention refers to Part XII of the LOSC and the obligation under Article 197 of global and regional cooperation for the protection of the marine environment.²⁵⁹ OSPAR instruments outline port sampling measures in support of the BMW Convention, to protect the maritime environment from the shipping risk of introduction and international spread of invasive species through ballast water.²⁶⁰ A network of MPAs in the North-East Atlantic, as proposed by OSPAR, has regional support with Norway nominating 18 MPAs under the proposal.²⁶¹ The EU supports ‘... a network of Arctic conservation areas and the protection of the international sea area around the North Pole beyond the economic zones of the coastal States.’²⁶² Management of OSPAR MPAs in areas beyond the limits of national EEZs requires cooperation with the IMO for the regulation of shipping.²⁶³ Contracting Parties to OSPAR might regulate shipping in MPAs within their national jurisdiction under the precautionary principle and the obligation to protect the marine environment, reflected in Article 192 of the LOSC.²⁶⁴ Nothing in the OSPAR MPAs restricts navigation, however references to the IMO and the LOSC open the opportunity for global shipping governance. OSPAR is geographically limited and does not apply to non-members, including Arctic coastal States of Canada, the Russian Federation and the United States.²⁶⁵

The Arctic Council System (ACS), as proposed by Molenaar, would develop the Arctic Council as an international regime for Arctic maritime governance.²⁶⁶ The ACS would consist of the Council’s structure and adopted instruments as well as legally-binding instruments negotiated under the auspices of the Council.²⁶⁷ A legally binding Arctic Treaty, inspired by

²⁵⁸ Convention for the Protection of the Marine Environment of the North-East Atlantic, adopted 22 September 1992, entered into force 25 March 1998. 2345 UNTS 67 (2006).

²⁵⁹ OSPAR Convention, Preamble, viewed 8 August 2018, <https://www.ospar.org/convention/text>

²⁶⁰ IMO BWM Convention and OSPAR Agreement 2015-A1, reg. A4, viewed 8 August, <https://www.ospar.org/work-areas/eiha/shipping>

²⁶¹ OSPAR recommendation 2003/3 on a network of marine protected areas, viewed 9 August 2018, <https://www.ospar.org/work-areas/bdc/marine-protected-areas>

²⁶² EParliament resolution of 16 March 2017, para. 6.

²⁶³ OSPAR 2016 Status Report on the OSPAR Network of Marine Protected Areas, paragraph 1.2.1, viewed 25 August 2018, <https://www.ospar.org/documents?v=37521>

²⁶⁴ OSPAR 2016 Status Report, paragraph 1.2.2.

²⁶⁵ Molenaar, E.J. (2014), p. 289.

²⁶⁶ Molenaar, E.J. (2012), p. 573.

²⁶⁷ Molenaar, E.J. (2012), p. 572.

the 1959 Antarctic Treaty, was first proposed by Donat Pharand in 1992, but has not gained popularity with most Arctic commentators.²⁶⁸ The basic element of these proposals would be to replace the Arctic Council. A legal framework for the Arctic Ocean would compromise the status of the LOSC legal regime, lack participation of non-State Actors and lack adaptability to changing circumstances.²⁶⁹ Individual Arctic coastal States might also act collectively outside the scope of the Arctic Council, in their capacity as flag, port or coastal States, to enact prescriptive and harmonised jurisdiction over regional shipping rules.²⁷⁰

The Arctic Council is just one intergovernmental forum in the Arctic. Longstanding agreements between Arctic States encourage cooperative effort and transfer of best practices. Norway and the Russian Federation have a bilateral oil spill response agreement for the Barents Sea that is exercised annually.²⁷¹ The Copenhagen agreement between Denmark, Finland, Iceland, Norway and Sweden aims to protect the marine environment through response to pollution by oil and harmful substances.²⁷² The Cooperative Mechanism for the Straits of Malacca and Singapore is proposed as a model for the governance of Arctic shipping.²⁷³ A cooperative mechanism for the NSR would recognise the jurisdiction of Russia and provide a forum which includes indigenous people, industry and environmental stakeholders.²⁷⁴ The Arctic Council or the IMO could facilitate Arctic cooperative mechanisms.²⁷⁵

²⁶⁸ Jabour, J. (2015), 'Pharand's Arctic Treaty, Would an Antarctic Treaty-Style Model Work in the Arctic', Lalonde, S. and McDorman, T. (eds) *International Law and Politics of the Arctic Ocean, Essays in Honor of Donat Pharand*, Brill/Nijhoff, Leiden. p. 87 in pp. 87 to 107.

²⁶⁹ Young, O.R. (2009), 'The Arctic in Play: Governance in a Time of Rapid Change', *The International Journal of Marine and Coastal Law*, 2009, p. 436 in pp. 423 to 442.

²⁷⁰ Molenaar, J. (2014), p. 290.

²⁷¹ Agreement between Norway and the Russian Federation Concerning Cooperation on the Combating of Oil Pollution in the Barents Sea, adopted 28 April 1994, entered into force 30 January 1996 (Oslo Norwegian Ministry of Foreign Affairs).

²⁷² Agreement between Denmark, Finland, Iceland, Norway and Sweden Concerning Cooperation in Measures to Deal with Pollution of the Sea by Oil or other Harmful Substances, adopted 29 March 1993, entered into force 16 January 1998.

²⁷³ Beckham, R.C et al. (2017), p. 434.

²⁷⁴ Ibid. p. 436.

²⁷⁵ Ibid. p. 437.

6 The Shipping Regime of the Antarctic

6.1 Sovereignty in the Antarctic

In the South, maritime zones differ from the Arctic due to the unique regime of the Antarctic Treaty. From the early twentieth century to the 1950s, Antarctic territory was claimed by seven States: Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom.²⁷⁶ Claims by any Contracting Party to sovereignty are frozen under Article IV of the Antarctic Treaty. Article IV (2) of the Treaty proclaims that ‘No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.’

Article 29 of the VCLT links jurisdiction to territory, in that ‘Unless a different interpretation appears from the treaty... a treaty is binding upon each party in respect of its territory.’

Articles IV and VIII of the Antarctic Treaty diverge from the traditional norms of international law; that territorial jurisdiction is both the primary basis for the exercise of jurisdiction and a characteristic of a sovereign State.²⁷⁷ As a consequence of the unresolved question of sovereignty, claimant States cannot exercise the usual civil and enforcement jurisdiction over claimed territory and adjacent waters.²⁷⁸

New Zealand’s five sub-Antarctic islands and Macquarie Island (Australia) are beyond the limits of the CAMLR Convention and are subject to the sovereignty of the respective coastal States, without the conditions of the ATS.²⁷⁹ Sub-Antarctic islands north of 60° South, such as Heard and McDonald Islands (Australia), are outside of the restricted sovereignty of the Antarctic Treaty regime.²⁸⁰ However, the 200 nm maritime zones of islands located north of the Antarctic Treaty boundary may overlap with the CAMLR Convention, or the extended

²⁷⁶ Saul, B. and Stephens, T. (eds.) (2015), *Antarctica in International Law*, Hart Publishing, Canada, p. vii.

²⁷⁷ Rothwell, D.R. (1996), *The polar regions and the development of international law*, Cambridge University Press, Great Britain, p. 445.

²⁷⁸ Saul, B. and Stephens, T. (eds.) (2015), p. xvi.

²⁷⁹ Oude Elferink, A.G. Molenaar, E.J. and Rothwell, D.R. (2013), ‘The Regional Implementation of the Law of the Sea and the Polar Regions’ in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) (2013), *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, p. 14 in pp. 1 to 16.

²⁸⁰ *Ibid.* p. 14.

continental shelf of such islands may overlap with the Antarctic Treaty area.²⁸¹ Some Antarctic claimant States have made submissions on the extended continental shelf under Article 76 of the LOSC. Claimant States have maintained entitlement to sovereign rights over the maritime zone of extended continental shelf, yet claims have been made in the abstract²⁸² as States have not sought to assert jurisdiction inconsistent with the Antarctic Treaty.²⁸³

Article 234 of the LOSC gives coastal States rights with regard to navigation and protection of the marine environment up until the outer limit of an EEZ. As there are no universally recognised coastal States in the Antarctic, high seas is the prevailing maritime zone. Antarctic claimant States lack generally accepted jurisdiction and territory, with lost opportunity to invoke the Article 234 rights accessible to the Arctic States.

6.2 The Antarctic Treaty System

The 1959 Antarctic Treaty applies to the area south of 60° South Latitude²⁸⁴, with the goal that Antarctica be used for peaceful, non-military and scientific purposes.²⁸⁵ The Environmental Protocol provides for the protection of the Antarctic Environment through the Annexes including the Conservation of Antarctic Flora and Fauna (Annex II), the Prevention of Marine Pollution (Annex IV) and Area Protection and Management (Annex V). The objective of the CAMLR Convention is the conservation of Antarctic marine living resources, including rational use, in the area south of 60° South latitude and the Antarctic Convergence.²⁸⁶ In a review of the ATS since the Convention came into force in 1978, the Convention for the Conservation of Antarctic Seals ‘... considered it desirable and appropriate that there should be cooperation between the Contracting Parties to the separate instruments within the (Antarctic Treaty) System.’²⁸⁷

²⁸¹ Oude Elferink, A.G. Molenaar, E.J. and Rothwell, D.R. (2013), p. 14.

²⁸² Stephens, T. and Boer, B. (2007), ‘Enforcement and Compliance in the Australian Antarctic Territory: Legal and Policy Dilemmas’ in Kriwoken, L.K. Jabour, J. and Hemmings, A.D. (eds), *Looking South: Australia’s Antarctic Agenda*, Federation Press, Sydney pp. 54, 58-59.

²⁸³ Saul, B. and Stephens, T. (eds.) (2015), p. xvi.

²⁸⁴ Antarctic Treaty Art. VI.

²⁸⁵ Antarctic Treaty Arts. I and II.

²⁸⁶ CAMLR Convention Art. I (1, 2 and 4).

²⁸⁷ CCAS (1988), Report of the 1988 Meeting to Review the Operation of CCAS, London 12-16 September 1988 including Special Permits for the Killing or Capturing of Seals.

6.3 Interaction of the Antarctic Treaty System with Global Shipping Regimes

The Antarctic Treaty Consultative Meeting (ATCM) of 1998 required that the draft International Code of Safety for Ships in Polar Waters that was being developed by the IMO²⁸⁸ should meet the requirements of Article 10 of Annex IV to the Environmental Protocol to the Antarctic Treaty.²⁸⁹ In matters of CDEM standards of ships supporting Antarctic operations, each party must account for the objectives of ‘Prevention of Marine Pollution.’²⁹⁰ Article 14 of Annex IV of the Environmental Protocol, ‘Relationship with MARPOL 73/78’, provides that ‘With respect to those Parties which are also Parties to MARPOL 73/78, nothing in this Annex shall derogate from the specific rights and obligations thereunder.’ In addition, Annex IV refers to MARPOL 73/78 in matters of oil discharge, sewage discharge, garbage disposal and any new measures for the protection of the marine environment.²⁹¹ Annex IV applies to a vessel of any type which is the flag ship of a Party to the Antarctic Treaty and is operating in the marine environment of the Antarctic Treaty area.²⁹² Annex VI, to minimise the impact of environmental emergencies on the Antarctic and its ecosystems, applies to ‘... all tourist vessels that enter the Antarctic Treaty area’ and to logistic support activities for scientific research, which includes shipping.²⁹³

ATCM outputs are crucial to the functioning and adaptability of the ATS.²⁹⁴ Ships and boats operating in Arctic and Antarctic waters are the subject of 5 resolutions and 3 decisions, between 1961 and 2014.²⁹⁵ ATCM Resolution 4 (2007) discourages vessels with more than 500 passengers from landings in Antarctica, to minimise the likelihood of marine oil spills. In

²⁸⁸ The Polar Code as it entered into force 1 January 2017 is preceded by: ‘Guidelines for Ships Operating in Arctic Ice-Covered Waters’ IMO doc. MSC/Circ.1056; MEPC/Circ. 399, 23 December 2002, and ‘Guidelines for Ships Operating in Polar Waters’, IMO Resolution A.1024(26), 2 December 2009.

²⁸⁹ ATCM XXII, Final Report, Resolution 3 (1998) ‘International Code of Safety for Ships in Polar Waters’.

²⁹⁰ *Ibid.* and Environmental Protocol, Annex IV.

²⁹¹ Environmental Protocol, Annex IV, Art. 3 (oil discharge), Art. 6 (sewage discharge), Art. 5 (garbage disposal) and Art. 13 (any new measures).

²⁹² Environmental Protocol, Annex IV, Arts. 1 (g) and 2.

²⁹³ Environmental Protocol, Annex VI, Art. 1.

²⁹⁴ Saul, B. and Stephens, T. (eds.) (2015), p. lxx.

²⁹⁵ Saul, B. and Stephens, T. (eds.) (2015), p. 178, ATCM Resolutions: 3 (1998), 3 (2006), 8 (2009), 7 (2012), 10 (2012) and Decisions: 2 (1999), 4 (2004), 2 (2006).

2009 this was given legal effect, on agreement of all ATCPs, as a binding measure.²⁹⁶ The BWM Convention incorporates the Practical Guidelines for Ballast Water Exchange in the Antarctic Treaty Area, as given in the Annex to ATCM Resolution 3 (2006). This Resolution recommends that ballast water exchange should occur before arrival in Antarctic waters, North of the Antarctic Polar Front, and that potential transfer from Arctic to Antarctic waters be avoided.²⁹⁷ ATCM Resolution 3 (2006) sets out identical practical guidelines to the IMO for vessels operating in the Antarctic Treaty Area, South of 60° South.²⁹⁸ CCAMLR urges all Contracting Parties and cooperating non-Contracting Parties to apply ATCM Resolution 3 (2006) and the IMO Guidelines (prior to entry into force of the BWM) to the whole of the CAMLR Convention Area.²⁹⁹ In support of the recommendation, the Commission cites the Environmental Protocol Annex II precautionary approach, in order to prevent the introduction of non-native species.

ATCM Decision 4 (2004), ‘Guidelines for Ships Operating in Arctic and Antarctic Ice-Covered Waters’ were later incorporated into the 2009 Polar Shipping Guidelines.³⁰⁰ ATCM Resolution 8 (2009), ‘Mandatory Shipping Code for Vessels Operating in Antarctic Waters’, recognised the increasing number of ships operating in the Antarctic Treaty Area and referred to Article 10 of Annex IV to the Environmental Protocol, regarding CDEM standards of ships operating in Antarctica. In regard to their duty to ‘... ensure the safe and environmentally responsible conduct of vessel operations in Antarctica...’ ACTM representatives were to provide CDEM standards to the IMO for inclusion in the 2009 Polar Shipping Guidelines.³⁰¹ In the Antarctic area, the ATS regional regime and the IMO global regime provide harmonious shipping governance.

²⁹⁶ ATCM XXXII – CEP XII, Measure 15 (2009), ‘Landing of Persons from Passenger Vessels in the Antarctic Treaty Area.’

²⁹⁷ MEPC Res. 163(56), Guidelines for Ballast Water Exchange in the Antarctic Treaty Area, adopted 13 July 2007, Arts. 7 and 9.

²⁹⁸ ATCM XXIX – CEP IX, Res. 3 (2006), ‘Ballast Water Exchange in the Antarctic Treaty Area’.

²⁹⁹ CCAMLR Res. 28/XXVII (2008), ‘Ballast Water Exchange in the Convention Area (Applicable to All Species, Areas, Seasons and Gear)’.

³⁰⁰ Scott, K.N. (2013), p. 126.

³⁰¹ ATCM XXXII – CEP XII, Res. 8 (2009), ‘Antarctic Shipping Code’.

6.4 Addressing Gaps in IMO Polar Shipping Standards

The analyses of this section discuss which elements in the ATS exist to address gaps in IMO polar shipping standards, identified in section 4 of this thesis, and refer to some constraints.

6.4.1 Protected Areas

Article IX 2(g) of the CAMLR Convention provides that conservation measures include the designation of special areas for protection. Article 2 of Annex V of the Environmental Protocol provides that any marine area may be designated as an Antarctic Specially Protected Area (ASPA) or an Antarctic Specially Managed Area (ASMA), in which activities may be restricted. Article 6(1) and 6(2) of Annex V of the Environmental Protocol require that CCAMLR approval must be obtained for ASPAs and ASMAs which contain marine areas, with designation through ATCM measures. ATCM Decision 4 (1998), ‘Marine Protected Areas’, and ATCM Decision 9 (2005), ‘Marine Protected Areas and Other Areas of Interest to CCAMLR’ confirm the cooperative competency between the ATCM and CCAMLR for the designation of ASPAs and AMSAs.³⁰² The CCAMLR Conservation Measure 91-02 (2012) requires that the protection of the Antarctic marine environment, including through MPAs, is to be carried out through a harmonised approach within the agreements and bodies of the ATS.³⁰³ The Measure recognises that the presence of fishing vessels in ASPAs and AMSAs may be regulated. CCAMLR established the first high seas MPA in the South Orkney Islands in 2009³⁰⁴ and the Ross Sea high seas MPA in 2016.³⁰⁵ Whilst the Ross Sea MPA objective is the protection of living resources and the integrity of ecosystems, it is related to shipping in that members are asked to cooperatively engage the IMO ‘... with regard to ship traffic, vessel safety and environmental protection issues.’³⁰⁶

In the designation of MPAs on the high seas or in areas beyond national jurisdiction, which is effectively all of the Southern Ocean except for the maritime zones generated by sub-Antarctic islands, it is essential that regional institutions in the Southern Ocean, the ATCM

³⁰² ATCM XXII - CEP I, Decision 4 (1998) and ATCM XXVIII – CEP VIII, Decision 9 (2005).

³⁰³ CCAMLR Conservation Measure 91-02 (2012), ‘Protection of the Values of Antarctic Specially Managed and Protected Areas (Applicable to All Species, Areas, Seasons and Gear).’

³⁰⁴ CCAMLR Conservation Measure 91-03 (2009) Protection of the South Orkney Islands Southern Shelf.

³⁰⁵ CCAMLR Conservation Measure 91-05 (2016) Ross Sea Region Marine Protected Area

³⁰⁶ CCAMLR, Ross Sea MPA, para. 27, viewed 9 August 2018, <https://www.ccamlr.org/measure-91-05-2016>

and CCAMLR, engage with international institutions.³⁰⁷ MARPOL 73/78 special area provisions protect the Antarctic from vessel-source pollution and HFO, as described in sections 4.1 and 4.3 of this thesis. At the Antarctic regional level one constraint on MPAs is that they are binding only on their members, with many vessels operating in the Antarctic that are not registered to ATS States.³⁰⁸ A further consideration is that IMO PSSAs are all within coastal State jurisdiction, whilst high seas protected areas are relatively new, although Articles 192 and 194 of the LOSC in principle support high seas special areas.³⁰⁹

The MPAs of Annex V of the Environmental Protocol are seen by Scott as a lost opportunity for Antarctic environmental protection, as the provision fails to restrict navigation or to require compliance with the IMO voluntary guidelines on ballast water.³¹⁰ ATCM Resolution 5 (2017), ‘Establishment of the Ross Sea Marine Protected Area’, provides that any appropriate actions within the ATCMs competence may be considered, for the management of human activities in ASPAs and AMSAs of the Ross Sea.³¹¹ The CCAS objective for the conservation of Antarctic seals requires that each Contracting Party shall adopt for vessels under its flag such laws, regulations and measures necessary to implement the Convention.³¹² The provision includes the designation of closed areas, reserves and special areas.³¹³ Regional Antarctic regimes have the opportunity to protect the marine environment through the designation of protected areas and the regulation of shipping activity in such areas.

6.4.2 Ice Navigation

Elements of the ATS can provide opportunities to address environmental protection and maritime safety, thus supporting IMO polar shipping standards with regard to ice navigation. ATCM Resolution 1 (2004) encouraged CCAMLR members to implement CCAMLR Resolution 20/XXVII (2003) which calls on members to licence only those of their flag

³⁰⁷ Scott, K.N. (2013), ‘Marine Protected Areas in the Southern Ocean’ in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) (2013), *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, pp. 117, 120 and 125 in pp. 113 to 137.

³⁰⁸ Ibid. p. 135.

³⁰⁹ Scott, K.N. and Vanderzwaag, D.L. (2015), ‘Polar Oceans and the Law of the Sea’, Rothwell, D.R. Oude Elferink, A.G. Scott, K.N. and Stephens, T. (eds.), *The Oxford Handbook of the Law of the Sea*, Oxford University Press, (2015), p. 750 in pp. 724 to 751.

³¹⁰ Scott, K.N. (2013), p. 131.

³¹¹ ATCM XL – CEP XX, Res. 5 (2017), para. 3.

³¹² CCAS, Art. 2(2).

³¹³ CCAS, Art. 3(c)(d)(e).

fishing vessels with a minimum ice classification standard ICE-1C to operate within the Antarctic Treaty area.³¹⁴ The Commission addresses ice-strengthening standards, due to concerns that collisions with ice could result in oil spills and that vessels fishing in high-latitude fisheries should be suitable for ice conditions.³¹⁵ CCAMLR Resolution 34/XXXI (2012) urged members to apply the 2003 Resolution and to ratify the Cape Town Agreement.³¹⁶ CAMLR members were encouraged to work, through their delegations to the IMO, on the development of the Polar Code. Whilst ice classification standards and regulations have since evolved with the Polar Code, the resolutions demonstrate the opportunity to regulate fishing vessel standards at the regional level, which as non-SOLAS vessels fall through the global regime. Cooperation between Antarctic Treaty Parties and between the ATCM and the World Meteorological Organisation (WMO) facilitates sharing of timely and ‘... robust Antarctic related meteorological and ... sea ice observations.’³¹⁷

6.4.3 Heavy Fuel Oil

ATCM Decision 8 (2005) recalls Article 3 of the Environmental Protocol that activities in the Antarctic Treaty area are to limit adverse effects on the Antarctic area, and the requirements of Annex IV on marine pollution.³¹⁸ Pursuant to this Decision, the IMO as the competent organisation to deal with shipping matters, was requested to examine mechanisms for restricting the use of HFO in Antarctic waters.³¹⁹ The subsequent ban on HFO in the Southern Ocean applied in 2011 under MARPOL 73/78, as described in section 4.3 of this thesis, demonstrates that ATCM initiatives effectively guide the development of the global regime for shipping governance. ATCM Decisions and Resolutions provided the groundwork for the Polar Code, as described in section 6.3 of this thesis. The regional regime of the ATS has shown a capacity to identify problems and gaps in shipping rules and has influenced global standard setting for shipping governance.

³¹⁴ ATCM XXVII-CEPVII, Res. 1 (2004), ‘Marine Pollution and Fishing Activities’.

³¹⁵ CAMLR Convention Res. 20/XXII (2003): ‘Ice-Strengthening Standards in High-Latitude Fisheries (Applicable to All Species, Areas South of 60°S and All Seasons and Gear)’.

³¹⁶ CAMLR Convention Res. 34/XXXI (2012): ‘Enhancing the Safety of Fishing Vessels in the Convention Area (Applicable to All Species, Areas, Seasons and Gear)’.

³¹⁷ ATCM XXXVII – CEP XVII, Res. 2 (2014): ‘Cooperation, Facilitation, and Exchange of Meteorological and Related Oceanographic and Cryospheric Environmental Information’.

³¹⁸ ATCM XXXVIII – CEP VIII, Decision 8 (2005), ‘Use of Heavy Fuel Oil’, adopted 17/06/2005, No longer current D1 (2012).

³¹⁹ Ibid.

6.4.4 Non-SOLAS Vessels

IMO polar shipping standards do not cover non-SOLAS vessels; opportunities may exist at the regional level to address this gap. A constraint is that, in the Antarctic area, the ATS applies to vessels flagged to Contracting Parties under the *pacta tertiis* principle.

The CAMLR Convention applies an ecosystem approach to the management of the waters surrounding the Antarctic continent, and their living resources. The Convention refers to the responsibility of ATCPs under Article IX, paragraph 1(f) of the Antarctic Treaty in respect of the preservation and conservation of living resources in Antarctica.³²⁰ An expansive interpretation of the responsibility to protect the marine environment, which is also reflected in Article 192 of the LOSC, could include measures to regulate non-SOLAS vessels operating in the Antarctic area. At the regional level there is opportunity under the auspices of the ATCPs to draft a Convention with a mandatory polar class for non-SOLAS vessels.³²¹

ACTM Resolution 3 (2014), ‘Supporting the Polar Code’, recognises the ‘...benefits of having a Polar Code pertaining to ship safety and environmental protection’ and the competency of the IMO to deal with shipping regulation.³²² Paragraph 2 of the Resolution encourages ‘...IMO Member States to consider additional safety and environmental protection matters in a second step, as to be determined by the IMO.’ The efforts of CCAMLR relating to environmental protection and maritime safety, as reflected in Measures and Resolutions detailed in section 6.4.1 and 6.4.2 of this thesis,³²³ suggest that there is opportunity for the CAMLR Convention to easily extend its jurisdiction to fishing vessel safety and navigation.

In addition to fishing vessels, non-SOLAS vessels operating in the Antarctic area include yachts and tourist vessels. These vessels are the subject of ATCM Resolutions. ATCM Resolution 10 (2012) ‘Yachting Guidelines’, in response to the risk of accidents in the

³²⁰ CAMLR Convention, Preamble.

³²¹ ATCM XL – CEP XX, IP 151 (2015), Annex: ‘Extracts of the Legal Memo submitted to ASOC by Judith Gregan on the Potential Application of the Polar Code to Fishing Vessels and Yachts.’, ASOC, and CAMLR Convention, Art. XXX(4).

³²² ATCM XXXVII-CEP XVII, Res. 3 (2014).

³²³ CCAMLR Conservation Measure 91-03 (2009), CCAMLR Conservation Measure 91-02 (2012), CCAMLR Conservation Measure 91-05 (2016), CAMLR Convention Res. 20/XXII (2003), which is supported by ATCM XXVII - CEP VII Res. 1 (2004), CAMLR Convention Res. 34/XXXI (2012).

Southern Ocean, provides guidelines on vessel structure, operations and equipment.³²⁴

Resolution 4 (2007) requires that ship-based tourism promote the safety of life at sea and the protection of the marine environment in the Antarctic Treaty area.³²⁵ ATCM Resolutions are hortatory texts, framed as recommended practices for ATCPs,³²⁶ but provide an opportunity to establish customary practices or to lead to legally binding Measures.

6.5 Opportunities and Constraints

In the Antarctic area the interactions between regional and global regimes for shipping governance are shaped by the unique political geography of the ATS. These interactions differ from those occurring in the Arctic, and result in different opportunities and constraints.

6.5.1 Article 234 of the LOSC

The legal capacity of Antarctic Treaty parties to invoke Article 234 of the LOSC, in order to protect the maritime environment from the impacts of shipping is considered. Sovereignty over Antarctic Territory is suspended, under Article IV of the Antarctic Treaty.

The Antarctic Treaty, as a multilateral environmental agreement (MEA), may hold potential for extraterritorial application of the treaty. Instruments of the ATS describe a geographical area where Contracting Parties have rights and responsibilities. The Environmental Protocol applies to the ‘Antarctic Treaty Area’, as given in Article VI of the Antarctic Treaty.³²⁷

Parties to the Environmental Protocol are obliged under Article 2 to protect the Antarctic Environment and associated ecosystems. Thus under the Environmental Protocol parties have comprehensive obligations for the ‘Antarctic Treaty Area’, and perhaps the entire Antarctic environment including marine areas.³²⁸ The Antarctic Treaty fits the description of an MEA; in which the collective interest of States parties creates a legal space where environmental concerns need to be protected and obligations are not connected to territory.³²⁹ Articles VII (2) and IX (1)(e) of the Antarctic Treaty allow and require Contracting Parties to consult on

³²⁴ ATCM XXXV - CEP XV, Res. 10 (2012).

³²⁵ ATCM XXX - CEP X, Res. 4 (2007), ‘Ship Based Tourism’.

³²⁶ ATCM XIX, Decision 1 (1995), ‘Measures, Decisions, Resolutions and Recommendations’.

³²⁷ Environmental Protocol, Arts. 1(b), 3(2), 3(3) and 3(4).

³²⁸ Vordermayer, M. (2018), ‘The Extraterritorial Application of Multilateral Environmental Agreements’, *Harvard International Law Journal*, Vol. 59, No. 1 (Winter 2018), p. 93 in pp. 59 to 124.

³²⁹ *Ibid.* p. 112.

questions relating to the exercise of jurisdiction in Antarctica. ATCM Resolution 2 (2012), in the light of increased incidents combined with practical and legal challenges, recommends that parties initiate discussion related to the exercise of jurisdiction in the Antarctic Treaty Area.³³⁰ If environmental obligations extend to the entire Antarctic environment, and as contracting parties may consult over jurisdiction, then parties to the Antarctic Treaty could discuss the exercise of collective jurisdiction in order to achieve objectives of environmental protection.

The LOSC is based upon a ‘coastal State’ which exercises jurisdiction over adjacent marine areas,³³¹ as reflected in Article 234. The regional regime of the Antarctic constrains the capacity of claimant States to exercise unilateral jurisdiction over maritime areas adjacent to the Antarctic continent, in order to regulate shipping for environmental protection. The constraint could be overcome if entities other than States, such as a collective of Antarctic ATCPs, were entitled to exercise jurisdiction over maritime areas adjacent to land areas in the Antarctic Treaty area.³³² The right of a collective of ATCPs to exercise jurisdiction over maritime areas would be based on jurisdiction over land, rather than territorial sovereignty.³³³

States involved in the ATS have collectively assumed a mandate and a responsibility for Antarctic governance and environmental protection, but have been comparatively inactive as a collective.³³⁴ The ATCPs’ self-designated responsibility could be argued as a legally binding obligation, arising from consideration of the Antarctic as the last true wilderness with entitlement to a higher level of governance.³³⁵ The Antarctic Treaty modelled as a form of joint sovereignty or condominium could have overcome the implications of the agreement to disagree, whereby non-parties to the treaty are not bound under the *pacta tertiis* principle.³³⁶

³³⁰ ATCM XXXV – CEP XV, Res. 2 (2012), ‘Cooperation on Questions Related to the Exercise of Jurisdiction in the Antarctic Treaty Area’.

³³¹ Lebefer, R. (2013), ‘Marine Scientific Research in the Antarctic Treaty System’ in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) 2013, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, p. 329 in pp. 323 to 342.

³³² Ibid. p. 329.

³³³ Ibid. p. 329.

³³⁴ Molenaar, E.J. (2005), ‘Sea-Borne Tourism in Antarctica: Avenues for Further Intergovernmental Regulation’, *The International Journal of Marine and Coastal Law*, Vol. 20, No. 2, pp. 249 and 277 in pp. 247 to 295.

³³⁵ Molenaar, E.J. (2005), p. 278.

³³⁶ Ibid. p. 278.

The ATS could also be considered as an objective regime, which applies *erga omnes* against the whole world and thus regulates third States.³³⁷ Arguments against the ATS as an objective regime include the position of non-parties and the regional limits of the treaty.³³⁸ The potential for ATCPs to act as a collective coastal State and invoke Article 234 of the LOSC, with regard to a regional Antarctic EEZ, is based upon the principle of *erga omnes*. The collective coastal State would act in obligation to the international community, with responsibility to protect the Antarctic marine environment from the impacts of shipping, acting as a supranational body. A peremptory norm, *jus cogens*, was described at the Vienna Conference as ‘... a rule in which no individual interest of two or more States was involved and which was concerned with the overall interests of the international community.’³³⁹ *De lege ferenda*, an Antarctic collective coastal State could invoke Article 234 of the LOSC for environmental protection from shipping impacts as a ‘... a peremptory norm of international law...accepted and recognised by the international community of States... from which no derogation is permitted’, as defined by Article 53 of the VCLT. However, the opportunity to apply Article 234 of the LOSC to Antarctic maritime areas may not be supported by the political objectives of ATCPs. States may not want to impose standards on non-parties to the Antarctic Treaty, nor to undermine the *lex lata* primacy of the IMO in the high seas adjacent to the Antarctic continent.

6.5.2 Port State Jurisdiction

The absence of a traditional coastal State regime in Antarctica affects the application of port State regulations of shipping codified in provisions of LOSC and the IMO.³⁴⁰ Opportunities for regional shipping governance through instruments of the ATS and other measures are considered. Article VII (3) of the Antarctic Treaty provides that all ships at points of discharge or embarking in Antarctica may be inspected by Contracting Parties. The provision

³³⁷ Simma, B. (1986), ‘The Antarctic Treaty as a Treaty Providing for an Objective Regime’, *19 Cornell International Law Journal*, pp. 189 to 209.

³³⁸ Rothwell, D.R. (1996), p. 455.

³³⁹ UN (1968) UN Conference on the Law of Treaties, Mr Amado (Brazil), 1st Session. Vienna, 26 Mar to 24 May 1968, Official Records, Summary of Records of the Plenary meetings and of the Meetings of the Committee of the Whole, 55th plenary meeting 7 May 1968, viewed 14 Aug 2018, http://www.un.org/en/ga/search/view_doc.asp?symbol=A/CONF.39/11

³⁴⁰ LOSC, Part III, Arts. 218, 219, 226(1)(c) and SOLAS Regs. 1(19), IX 6(2), MARPOL 73/78 Annex 1, Arts. 5 and 6, Reg. 11, Annex II Reg 16 (9), Annex III Reg. 8, Annex IV Reg. 13, Annex V Reg. 8, Annex VI Reg. 10, STCW Art. X, Reg. 1(4), STCW Art. X.

of ship inspections is supported by Article 14(3) of the Environmental Protocol, whilst Article 13 allows parties to apply other measures to prevent pollution of the Antarctic marine environment. Antarctic gateway ports to the Southern Ocean and Antarctica include Christchurch, Hobart, Cape Town, Ushuaia, Stanley and Punta Arenas. In the absence of Antarctic port States, there is opportunity at the national level for gateway ports to apply ATS inspection provisions to assess ships' compliance with the BWM Convention and with PSC and PWOM requirements under the Polar Code. As provided in the 5th preambular paragraph of the Polar Code, enhanced shipping safety benefits the environment through risk mitigation. Ships must comply with the provisions of the Annexes to the Environmental Protocol for the protection of the maritime environment.

The Russian Federation, in response to the Russian-flagged yacht *Peter I* conducting adventure activity in Antarctic waters in the 2016/2017 season without a permit and posing a risk to seafaring, notified the Southern Hemisphere 'last port' States.³⁴¹ In the cooperative spirit of the ATS, a Chilean Navy ship operating in Antarctic waters identified the Russian-flagged vessel as lacking permit documents and notified the flag State.³⁴² The Russian Federation proposed a blacklist of yachts to be held by the 'Last port' States, of vessels 'breaching their respective national legislature operating under the flags of the Antarctic Treaty Parties in the Antarctic Treaty Area.'³⁴³ The Russian Federation referred to the obligation to control activity of their citizens and non-governmental organisations in the Antarctic and claimed difficulties as the activity of *Peter I* was carried out 'from the territory of the other States'.³⁴⁴ In a similar incident in the 2015/2016 season, a French-flagged yacht, *Ch'timagine III*, was operating in the Antarctic Treaty area without a permit.³⁴⁵ France took legislative action, considering this a breach of the Environmental Protocol, and will prosecute infringements of the French National legislation with regard to the Antarctic continent.³⁴⁶ In the 2017/2018 season a total of 45 yachts sailed to Antarctica, with 9 of these appearing to be

³⁴¹ ATCM XL – CEP XX, WP23 (2017) 'New Challenges of Antarctic Yachting to the Antarctic Treaty System.' Russian Federation.

³⁴² Ibid.

³⁴³ Ibid.

³⁴⁴ Ibid.

³⁴⁵ ATCM XL – CEP XX, IP124 (2017) 'Action Taken following unauthorised presence of a French Yacht in the Treaty Area during the 2015/2016 season', France.

³⁴⁶ Ibid.

unauthorised.³⁴⁷ The French incident response demonstrates flag State responsibility; in contrast the Russian Federation ‘last port blacklisted yachts’ proposal is an over-extension of the opportunity to apply gateway port measures to Antarctic bound vessels.

States not bound by the ATS operate unregulated tourist vessels in the Antarctic treaty area.³⁴⁸ ASOC consider that Annex IV of the Environmental Protocol provides no legal basis to apply port State jurisdiction.³⁴⁹ References to IMO throughout Annex IV suggest that IMO has primacy over shipping regulation for Antarctic environmental protection, specifically Article 14 providing that ‘...nothing in this Annex shall derogate from the specific rights and obligations thereunder (MARPOL 73/78)’.³⁵⁰

Inspection of all vessels bound for Antarctica through a regional Southern Ocean MOU is proposed by ASOC.³⁵¹ The ASOC proposal would spread port State inspection responsibility over all Antarctic Treaty parties, reducing the port duties of the southern States.³⁵² New Zealand proposes a multilateral pro-active port State control regime, but limited to southern hemisphere ports of departure, including inspection of Antarctic bound shipping to ensure international standards are met.³⁵³ Southern Antarctic gateway States are parties to ATS and members of existing MOUs³⁵⁴, thus there is legal and logistical opportunity for a cooperative regional MOU.³⁵⁵ PSC must be carried out under the provisions of national law and in compliance with the IMO Res. A.787(1) condition of ‘no more favourable’ treatment to ships not party to IMO instruments.³⁵⁶ The Antarctic gateway ports currently address Illegal, unreported and unregulated fishing (IUU) and have responsibilities under IMO instruments for provision of search and rescue over vast maritime areas of the Southern Ocean. MARPOL 73/78 measures to protect the marine environment require that port States provide adequate

³⁴⁷ ATCM XLI – CEP XXI, IP55 (2018), ‘Data Collection and Reporting on Yachting Activity in Antarctica in 2017-18’, United Kingdom, Argentina, Chile, IAATO.

³⁴⁸ ATCM XXV, IP63 (2002), ‘Port State Jurisdiction: An Appropriate International Law Mechanism to Regulate Vessels Engaged in Antarctic Tourism’, ASOC.

³⁴⁹ Ibid.

³⁵⁰ Environmental Protocol, Annex IV, Arts. 1, 3, 5, 6 and 14.

³⁵¹ Boone, L. (2013), p. 208.

³⁵² Ibid.

³⁵³ ATCM XXXIII, IP 36 (2010), ‘A Proposal to Enhance Port State Control of Tourist Vessels Departing to Antarctica’, New Zealand.

³⁵⁴ Indian Ocean MOU, Tokyo MOU and Vina del Mar Agreement.

³⁵⁵ ATCM XXXIII, IP 36 (2010), New Zealand.

³⁵⁶ Ibid.

reception facilities and this is also proclaimed in the Environmental Protocol.³⁵⁷ Port State jurisdiction provides an opportunity at the regional level for shipping governance, but a constraint is the operational and resource pressures on the southern ports.

ATCM Resolution 7 (2010) refers to Articles 218 and 219 of the LOSC regarding port State measures to enforce seaworthiness of vessels to avoid pollution, as well as to SOLAS, MARPOL 73/78, the STCW and the Environmental Protocol. The Resolution recommends that parties, in the light of these provisions, apply the regime of port State control to passenger vessels bound for the Antarctic Treaty area, given that many vessels operating in the area are flagged to third States.³⁵⁸

6.5.3 Other Mechanisms

Article VII of the Antarctic Treaty establishes the right of Contracting Parties to designate observers who have freedom of access and inspection to all areas of Antarctica, including ships. Article VII(5) of the Antarctic Treaty requires that Contracting Parties inform each other of all expeditions to and within Antarctica by their ships and of expeditions to Antarctica proceeding from their territory. ATCM Resolution 5 (1995) outlines inspection conditions; only vessels flagged to Treaty parties may be inspected, consent must be obtained from the master of the vessel and inspections must not prejudice high seas rights, as given by Article VI of the Antarctic Treaty.³⁵⁹ The vessel checklist is comprehensive including fuel systems and environmental measures, however the measures do not apply to third States. Article X(1) of the CAMLR Convention provides that where a vessel of a third State affects the objective to conserve Antarctic marine living resources, that State shall be notified. The ATS inspection and notification provisions may provide opportunities to strengthen the regional regime for shipping governance. As identified in the discussion of non-SOLAS vessels, a constraint of the regional regime in Antarctica is that third States are not strongly regulated.

³⁵⁷ MARPOL 73/78 port reception facilities regulations: Annex I, reg. 38 (oily residues), Annex II, reg. 18 (NSL residues), Annex IV, reg. 12 (Sewage), Annex V, reg. 7 (Garbage), Annex VI, reg. 17 (wastes and residues) and Environmental Protocol, Annex IV Art. 9(2).

³⁵⁸ ACTM XXXIII-CEP XIII, Res. 7 (2010), 'Enhancement of Port State Control for Passenger Vessels Bound for the Antarctic Treaty Area'.

³⁵⁹ ATCM XIX, Res. 5 (1995), 'Antarctic Inspection Checklists'.

7 Conclusions

The polar regions have greater shipping risks than other maritime areas, arising from navigation hazards and remoteness. Increased tourist and merchant shipping is a likely trend for both the Arctic and the Antarctic, due to changing ice regimes. IMO instruments including the Polar Code, as a new global instrument responding to these risks and trends, interact with the developing regimes for shipping governance in the polar regions.

The Polar Code statement that the poles have similarities but ‘significant differences,’³⁶⁰ could be interpreted as giving greater weight to what experts describe as immense differences in the geopolitical realities of the Arctic and the Antarctic.³⁶¹ The Arctic Ocean is surrounded by five coastal States with adjacent maritime zones. The Southern Ocean has no recognized coastal or port States arising from the agreement to disagree about sovereignty.³⁶² The Polar Code takes into account differences in the legal and geographical components of the polar regions.³⁶³ Regional differences determine the constraints and opportunities of shipping regulation, in the context of the global regimes for shipping governance.

The authority of the IMO as the global shipping regime is confirmed through the LOSC GAIRAS.³⁶⁴ The Polar Code is not a stand-alone instrument, can incorporate new measures and is above all linked to SOLAS and MARPOL 73/78. As the Polar Code evolves, differences in the Antarctic and Arctic regimes are seen to be disappearing with regard to protected area provisions and HFO. Shortfalls in ice-navigation may be addressed by new measures under the STCW. Non-SOLAS vessels are a regulatory gap at the global level, particularly impacting shipping safety and environmental protection in the Southern Ocean.

In the Arctic, coastal States might apply Article 234 of the LOSC to regulate non-SOLAS vessels, however this would be limited in application to ice-covered areas and EEZs. The ATS consists of several decision making bodies, above all the ATCM and CCAMLR, which

³⁶⁰ Polar Code, 6th preambular paragraph.

³⁶¹ Scott, K.N. and Vanderzwaag, D.L. (2015), p. 724.

³⁶² Ibid. p. 725.

³⁶³ Polar Code, 6th preambular paragraph.

³⁶⁴ LOSC Arts. 211(2), 197 to 205, 207 to 220, 223 and 228.

can apply regulations pertaining to ship safety and environmental protection. A constraint is that these regulations only apply to vessels of members to the ATS instruments. A new Convention with a mandatory polar class for non-SOLAS vessels could be drafted under both the Arctic Council and the ATCM. Regional constraints for the governance of non-SOLAS vessels operating in polar waters indicate that an amendment to SOLAS may be necessary.

Global regimes of shipping governance interact with regional regimes in the polar regions; the primary institutions in these interactions are the Antarctic Treaty System in the South and the Arctic Council in the North.³⁶⁵ Shipping regulation covers critical issues of maritime safety, vessel-source pollution and CDEM measures which require global governance.³⁶⁶ For this reason there is strong interaction between the development of the regulatory regimes in the polar regions.³⁶⁷ *De lege ferenda* at the regional level must develop in a manner consistent with recognised global shipping law.

The Antarctic is designated as a special area under MARPOL 73/78.³⁶⁸ The IMO heavy fuel oil ban in the Antarctic³⁶⁹ gives a higher protection level. The Antarctic HFO ban provides a norm-creating opportunity in the Arctic. Within the Arctic Council there is opportunity to encourage States, in their capacity as flag States, to voluntarily apply an HFO ban to Arctic waters. The EU calls on member States, in their capacities as flag and port States, to unilaterally apply an HFO ban for vessels navigating Arctic seas. Boone reflects that unilateral action poses the risk of fragmented and incompatible rules and standards yet can be a catalyst for action at the global level.³⁷⁰

The HFO ban in the Antarctic resulted from an ATCM request addressed to the IMO.³⁷¹ A mandatory ban on HFO in the Arctic could be implemented through MARPOL 73/78, if the

³⁶⁵ Oude Elferink, A.G. Molenaar, E.J. and Rothwell, D.R. (2013), 'The Regional Implementation of the Law of the Sea and the Polar Regions' in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) 2013, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, p. 16 in pp.1 to 16.

³⁶⁶ Oude Elferink, A.G. Molenaar, E.J. and Rothwell, D.R. (2013), p. 411.

³⁶⁷ Ibid. p. 410.

³⁶⁸ MARPOL 73/78, Annex I, Chapter 1, Reg. 1 Art. 11(g), Annex V, Reg. 5 Art. 1 (g).

³⁶⁹ IMO Resolution MEPC 189/60, adopted 26 March 2010, entered into force 1 August 2011.

³⁷⁰ Boone, L. (2013), p. 214.

³⁷¹ ATCM XXXVIII – CEP VIII, Decision 8 (2005), 'Use of Heavy Fuel Oil', adopted 17/06/2005, No longer current D1 (2012).

Arctic Council negotiated for such a measure. As Arctic States show a range of support for an HFO ban in Arctic waters, the political will is lacking for regulation through the IMO.

The reluctance of some Arctic states to ban HFO may be driven by commercial pressures of the merchant shipping industry. In contrast, shipping in the Antarctic is mainly fishing and tourist vessels. Global uniformity in HFO standards between the Arctic and the Antarctic may not be necessary. There is opportunity for an HFO ban in both regions, this step was taken by the ATCM but not by the Arctic Council.

IMO designates PSSAs through the MEPC, with current listings limited to areas under coastal State jurisdiction. In the Antarctic, high seas are the predominant maritime zone. High seas MPAs in the Ross Sea and South Orkneys have been exclusively designated in the context of fisheries regulation and hardly restrict navigation. Antarctic high seas MPAs may create a legal precedent to propose high seas PSSAs in the Central Arctic Ocean. The Central Arctic Ocean high seas is enclosed by the 5 littoral Arctic coastal States which take on a custodial role. The Arctic Council may identify areas within national jurisdiction as protected areas with PSSA criteria, for consideration by the MEPC, but there are no signs that it will do so.

Experts explain that regulatory responses in the polar regions could be similar in both cases, could develop in tandem or a further alternative is that experiences in one region might be relevant to the other region.³⁷² The ATS has adopted the regulation, under Article 2 of Annex V of the Environmental Protocol, that any marine area may be designated as a protected area, as an ASPA or an AMSA. This can be seen as evidence of the competence of the ATS in this regard, as distinct from IMO. As this regulation is not imposed on non-parties, it is essentially based on flag State jurisdiction. This is an important distinction from the Arctic Council, which has not taken up this step.

The 1959 Antarctic Treaty is a long-established regional regime, while the 1996 Arctic Council is still evolving. Contracting Parties to the separate instruments of the ATS should cooperate.³⁷³ The Arctic regional regime is fragmented across the individual interests of

³⁷² Molenaar, E.J. Oude Elferink, A.G. and Rothwell, D.R. (2013), p. 410.

³⁷³ CCAS (1988), Report of the 1988 Meeting to Review the Operation of CCAS, London 12-16 September 1988 including Special Permits for the Killing or Capturing of Seals.

Arctic States and the collective soft-law of the Arctic Council. In regard to regulation of HFO and protected areas, similar opportunities exist at the Arctic and Antarctic regional level but have only been adopted by the ATS. In interactions with global regimes for shipping governance, the ATS shows greater confidence and competency than the Arctic Council. The Arctic regional regime has an additional opportunity to interact with global regimes for shipping governance through the capacity of the Arctic coastal States.

The IMO and the LOSC describe the legal regime of the rights and duties of States, in their different capacities as flag, port and coastal States. The ATS does not provide a definitive legal framework for navigation of the Southern Ocean, deferring to the IMO under MARPOL 73/78. Enhanced environmental protection of the Antarctic is constrained at the national level as coastal State jurisdiction cannot be invoked. All shipping regulation adopted in the ATS is on an *inter se* basis only; it is not applied to non-Parties. As regards shipping this essentially means that it is an exercise of flag State jurisdiction.

Article 197 of the LOSC requires States to cooperate on a global and regional basis to formulate rules on the protection and preservation of the marine environment. At the polar regional levels the ATS and the 2009 AMSA Report encourage cooperative effort in regard to PSC.³⁷⁴ Port State jurisdiction pursuant to the LOSC and customary international law provide an opportunity for shipping governance and this might be through cooperative arrangements. Port State jurisdiction for the polar regions is limited. Arctic ports are scarce and difficult to access due to ice and lack of infrastructure. The Southern Ocean has no ports south of 60° South and thus the gateway or departure ports would be relied upon.³⁷⁵ A coordinated regime of PSC under existing MOUs, or a separate regional regime is an opportunity for shipping regulation, in both the Arctic and the Antarctic. The Arctic coastal States and the Southern Ocean gateway port States are already members of existing MOUs, which can provide the framework or the principles for new polar specific MOU regulations.

³⁷⁴ ACTM XXXIII – CEP XIII Res. 7 (2010), Enhancement for Port State Control for Passenger Vessels Bound for the Antarctic Treaty Area.’

³⁷⁵ Boone, L. (2013), p. 206.

A constraint of regional regulation is that cooperation in the polar regions has different levels of inclusiveness.³⁷⁶ The ATS effectively excludes parties from outside the ATS from decision making.³⁷⁷ The Arctic Council limits voting capacity to the Arctic Eight. LOSC enables non-Arctic States and entities rights with regard to specific subjects.³⁷⁸ The Arctic Council and the ATS are constrained by the *pacta tertiis* principle, that treaty obligations do not apply to third parties.³⁷⁹ In the Antarctic, vessels that are flagged to third party States are not regulated under the ATS regional regime, whilst non-SOLAS vessels are not regulated under the global regime. The Arctic Council has the opportunity to broaden participation, but political will may be lacking, and the ATS cannot necessarily broaden participation.

Under Article 234 of the LOSC, Arctic coastal States have used the opportunity to act unilaterally for the protection of the marine environment. In comparison Antarctic claimant States are not able to invoke Article 234 on the basis of coastal State jurisdiction. ATCPs could potentially form a collective coastal State with jurisdiction over a collective EEZ, and thus subject to the higher environmental protection provision of Article 234. A collective Antarctic coastal State represents a change in the regional governance regime, as was the proposal for an Arctic Treaty. If Antarctic claimant States sought jurisdiction over maritime zones, through claims to extended continental shelves or EEZs in the Antarctic area, a regime shift may result. Under Article XII (2)(a) of the Antarctic Treaty, the operation of the Antarctic Treaty may be reviewed, providing the opportunity for a change in the regional governance model. However change in the structure of polar regional regimes, for both the Arctic and the Antarctic, does not appear to be widely supported, whilst mechanisms for enhanced cooperation have greater support and practical functionality.

In the polar regions shipping governance occurs at national, regional and global levels. Complementary global and regional regimes are essential if regional regimes are to be effective.³⁸⁰ Maritime governance is traditionally through jurisdiction over maritime zones, with the Arctic Council and the ATS ruling over different sets of maritime zones.

³⁷⁶ Molenaar, E.J. Oude Elferink, A.G. and Rothwell, D.R. (2013), p. 414.

³⁷⁷ Ibid. p. 414.

³⁷⁸ Ibid. p. 414.

³⁷⁹ VCLT, Art. 34.

³⁸⁰ Molenaar, E.J. Oude Elferink, A.G. and Rothwell, D.R. (2013) p. 417.

List of References

I Articles/Books/Reports

Beckham, R.C. Henriksen, T. Dalaker Kraabel, K. Molenaar, E.J. and Roach, J.A. (eds.) (2017), *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston.

Beckham, R.C. Henriksen, T. Dalaker Kraabel, K. Molenaar, E.J. and Roach, J.A., 'Conclusions on Challenges and Prospects for Enhanced Cooperation on the Governance of Arctic Shipping' in Beckham, R.C. Henriksen, T. Dalaker Kraabel, K. Molenaar, E.J. and Roach, J.A. (eds.) (2017), *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, pp. 432 to 437.

Bognar, D. (2017), *Sea Change in Polar Shipping: from Arctic to Antarctic Polar Code initiatives*, JCLOS Blog, 1 February 2017, viewed 28 May 2018, <http://site.uit.no/jclos/2017/02/01/sea-change-in-polar-shipping-from-arctic-to-antarctic-polar-code-initiatives/>

Boone, L. (2013), 'International Regulation of Polar Shipping' in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) 2013, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, pp. 193 to 215.

Centre for International Law, (2018), *PSSAs in Southeast Asia, Trends and Prospects: Workshop Report*, viewed 3 August 2018, <https://cil.nus.edu.sg/wp-content/uploads/2018/02/PSSAs-Workshop-Final-Report.pdf>

Chircop, A. (2009), 'The Growth of International Shipping in the Arctic: Is a regulatory Review Timely?', *International Journal of Marine and Coastal Law*, Vol. 24, pp. 335-380.

Chircop, A. (2015), 'The International Maritime Organisation' in Rothwell, D.R. Oude Elferink, A.G. Scott, K.N. and Stephens. T. (eds.) 2015, *The Oxford Handbook of the Law of the Sea*, OUP Oxford, pp. 416 to 438.

Coehlo, N.F. (2017), *Remarks on the European Parliament's proposal to ban Heavy Fuel Oils in the Arctic*, JCLOS Blog, 27 April 2017, viewed 12 July 2018, <http://site.uit.no/jclos/>

Henriksen, T. (2017), 'Norway, Denmark (in respect of Greenland) and Iceland in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) 2017, *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, pp. 245 to 295.

Jabour, J. (2014), 'Progress towards the mandatory code for polar shipping', *Australian Journal of Maritime and Ocean Affairs*, Vol. 6, no. 1, pp. 64 to 67.

- Jabour, J. (2015), 'Pharand's Arctic Treaty, Would an Antarctic Treaty-Style Model Work in the Arctic', Lalonde, S. and McDorman, T. (eds) *International Law and Politics of the Arctic Ocean, Essays in Honor of Donat Pharand*, Brill/Nijhoff, Leiden. p. 87 in pp. 87 to 107.
- Koh, T.B. (2017), 'Foreword' in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) 2017, *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston. pp. VII to IX.
- Koivurova, T. (2008), 'Alternatives for an Arctic Treaty – Evaluation and a New Proposal' 17 *Review of European Community and International Law*, 2008, pp. 14 to 26.
- Koivurova, T. (2010), 'Limits and possibilities of the Arctic Council in a rapidly changing scene of Arctic Governance', *Polar Record*, Vol. 46, no. 237, pp. 145 to 156.
- Lalonde, S. (2013), 'Marine Protected Areas in the Arctic' in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) 2013, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, pp. 85 to 111.
- Lebefer, R. (2013), 'Marine Scientific Research in the Antarctic Treaty System' in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) 2013, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, pp. 323 to 342.
- McDorman, T.L. (2015), 'A note on the Potential Conflicting Treaty Rights and Obligations between the IMO's Polar Code and Article 234 of the Law of the Sea Convention', *International Law and Politics of the Arctic Ocean: Essays in Honor of Donat Pharand*, Kininklijke Brill NV, Leiden, pp. 141 to 159.
- McRae, D. (1987), 'The Negotiation of Article 234' in Griffiths, F. (ed.) *Politics of the Northwest Passage*, McGill-Queens University Press, Kingston and Montreal, pp. 98 to 114.
- Molenaar, E.J. (2005), 'Sea-Borne Tourism in Antarctica: Avenues for Further Intergovernmental Regulation', *The International Journal of Marine and Coastal Law*, Vol. 20, No. 2, pp. 247 to 295.
- Molenaar, E.J. (2012), 'Current and Prospective Roles of the Arctic Council System within the Context of the Law of the Sea', *The International Journal of Marine and Coastal Law*, Vol. 27, pp. 553 to 595.
- Molenaar, E.J. (2014), 'Options for Regional Regulation of Merchant Shipping Outside IMO, with Particular Reference to the Arctic Region', *Ocean Development & International Law*, Vol. 45, pp. 272 to 298.
- Molenaar, E.J. Oude Elferink, A.G. and Rothwell, D.R. (2013), 'Interaction between Global and Regional Regimes' in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) 2013, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, pp. 389 to 417.

Nordquist, M.H. (ed.) 1991, *United Nations Convention on the Law of the Sea 1982, A Commentary: Volume IV Articles 192 to 278, Final Act, Annex VI*, (Virginia Commentaries) Martinus Nijhoff Publishers, London.

Oude Elferink, A.G. (2014), 'The Arctic Sunrise Incident: A multi-faceted Law of the Sea Case with a Human Rights Dimension', *International Journal of Marine and Coastal Law*, Vol. 29, No. 2, pp. 244 to 289.

Oude Elferink, A.G. Molenaar, E.J. and Rothwell, D.R. (2013), 'The Regional Implementation of the Law of the Sea and the Polar Regions' in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) 2013, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, pp. 1 to 16.

Pharand, D. (1988), *Canada's Arctic Waters in International Law*, Cambridge University Press

Prip, C. (2017), *The way towards strengthened marine cooperation in the Arctic*, JCLOS Blog, 3 November, 2017, viewed 9 July 2018, <http://site.uit.no/jclos/>

Roach, J.A. (2017), 'The Polar Code and its Adequacy' in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) 2017, *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, pp. 144 to 169.

Rothwell, D.R. (1996), *The polar regions and the development of international law*, Cambridge University Press, Great Britain.

Rothwell, D.R. (2017), 'Canada and the United States' in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) 2017, *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, pp. 217 to 244.

Rothwell, D.R. and Stephens, T. (2015), *The International Law of the Sea*, second edition, Hart Publishing, Canada.

Saul, B. and Stephens, T. (eds.) (2015), *Antarctica in International Law*, Hart Publishing, Canada.

Scott, K.N. (2011), 'Maritime Security and Shipping Safety in the Southern Ocean' in Klein, N. Mossop, J. and Rothwell, D.R. (eds.) *Maritime Security: International Law and Policy Perspectives from Australia and New Zealand*, Routledge, London, pp. 117 to 137.

Scott, K.N. (2013), 'Marine Protected Areas in the Southern Ocean' in Molenaar, E.J. Oude Elferink, A.G. and Rothwell D.R. (eds.) 2013, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Martinus Nijhoff Publishers, Leiden, pp. 113 to 137.

Scott, K.N. and Vanderzwaag, D.L. (2015), 'Polar Oceans and the Law of the Sea', Rothwell,

D.R. Oude Elferink, A.G. Scott, K.N. and Stephens, T. (eds.), *The Oxford Handbook of the Law of the Sea*, Oxford University Press, 2015, pp. 724 to 751.

Simma, B. (1986), 'The Antarctic Treaty as a Treaty Providing for an Objective Regime', *19 Cornell International Law Journal*, pp. 189 to 209.

Solksi, J.J. (2017), in Beckham, R.C. Henriksen, T. Kraabel, K.D. Molenaar, E.J. and Roach, J.A. (eds.) 2017, *Governance of Arctic Shipping: Balancing Rights and Interests of Arctic States and User States*, Brill Nijhoff, Boston, pp. 173 to 216.

Stephens, T. and Boer, B. (2007), 'Enforcement and Compliance in the Australian Antarctic Territory: Legal and Policy Dilemmas' in Kriwoken, L.K. Jabour, J. and Hemmings, A.D. (eds), *Looking South: Australia's Antarctic Agenda*, Federation Press, Sydney pp. 54, 58, 59.

Stokke, O.S. (2007), 'A legal regime for the Arctic? Interplay with the Law of the Sea Convention', *Marine Policy*, Vol. 31, pp. 402 to 408.

Vordermayer, M. (2018), 'The Extraterritorial Application of Multilateral Environmental Agreements', *Harvard International Law Journal*, Vol. 59, No. 1 (Winter 2018), pp. 59 to 124.

Wolfrum. R. (2011), 'Sources of International Law' in *Max Planck Encyclopedia of Public International Law*, May.

Wolfrum, R. and Matz, N. (2003), *Conflicts in International Environmental Law*, Springer, Berlin.

Young, O.R. (2009), 'The Arctic in Play: Governance in a Time of Rapid Change', *The International Journal of Marine and Coastal Law*, 2009, pp. 423 to 442.

II Arctic Council Documents and Reports

Arctic Council (2009) *Arctic Marine Shipping Assessment 2009 Report (2009 AMSA Report)*, viewed 10 July 2018, <https://oaarchive.arctic-council.org/handle/11374/54>

Arctic Council (2013), *Vision for the Arctic*, Kiruna, Sweden viewed 8 June 2018, <https://oaarchive.arctic-council.org/handle/11374/83>

Arctic Council (2009), *Tromso Declaration on the Occasion of the Sixth Ministerial Meeting of the Arctic Council, 29 April*, viewed 10 June 2018, www.arctic-council.org

Arctic Council PAME (2015) *Framework for a Pan-Arctic Network of Marine Protected Areas*, viewed 12 July 2018, <https://oaarchive.arctic-council.org/handle/11374/52>

Arctic Council (2017) *Arctic Shipping Best Practices Information Forum's Terms of Reference (ASBPIF-ToR)*, viewed 11 July 2018, <http://www.arctic-council.org/>

Arctic Council PAME (2017), *Arctic Council Status on Implementation of the AMSA 2009 Report*, viewed 12 July, <https://oaarchive.arctic-council.org/handle/11374/52>

Arctic Council CAFF PAME (2017) *Arctic Protected Areas Indicator Report 2017*, viewed 12 July 2018, https://oaarchive.arctic-council.org/bitstream/handle/11374/1944/CAFF-PAME_Indicator_Report_on_Arctic_Protected_Areas.pdf?sequence=1&isAllowed=y

Arctic Council (2018), *Arctic Marine Shipping Assessment (AMSA)*, viewed 5 July 2018, <https://www.pame.is/index.php/projects/arctic-marine-shipping/amsa>

Arctic Council (2018), *Protection of the Arctic Marine Environment (PAME)*, viewed 15 June 2018, <https://www.arctic-council.org/index.php/en/component/tags/tag/pame>

III Other

UN (1968) UN Conference on the Law of Treaties, Mr Amado (Brazil), 1st Session. Vienna, 26 Mar to 24 May 1968, Official Records, Summary of Records of the Plenary meetings and of the Meetings of the Committee of the Whole, 55th plenary meeting 7 May 1968, viewed 14 Aug 2018, http://www.un.org/en/ga/search/view_doc.asp?symbol=A/CONF.39/11

OSPAR (2003) recommendation 2003/3 on a network of marine protected areas, viewed 9 August 2018, <https://www.ospar.org/work-areas/bdc/marine-protected-areas>

OSPAR (2016) Status Report on the OSPAR Network of Marine Protected Areas, paragraph 1.2.1, viewed 25 August 2018, <https://www.ospar.org/documents?v=37521>

IMO (2017) Meeting summaries ‘IMO Assembly, 30th session, 27 November – 6 December 2017’ viewed 5 May 2018
<http://www.imo.org/en/MediaCentre/MeetingSummaries/Assembly/Pages/Assembly-30th-session.aspx>

IMO (2018), ‘Training and Certification’ viewed 29 June 2018,
<http://www.imo.org/en/OurWork/HumanElement/TrainingCertification/Pages/Default.aspx>

IV Treaties, other International Instruments, and National Legislation

1945	ICJ Statute	Statute for the International Court of Justice adopted 26 June 1945, entered into 24 October 1945, as annexed to the Charter of the United Nations
1948	IMO Convention	Convention on the International Maritime Organisation adopted 6 March 1948, entered into force 17 March 1958, 289 UNTS 48
1959	Antarctic Treaty	The Antarctic Treaty adopted 1 December 1959, entered into force 23 June 1961, 402 UNTS 71
1969	VCLT	Vienna Convention on the Law of Treaties adopted 23 May 1969, entered into force 27 January 1980, 1155 UNTS 332
1972	CCAS	Convention for the Conservation of Antarctic Seals adopted 1 June 1972, 11 ILM 251
1973	MARPOL 73/78	International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978 Relating Thereto adopted 2 November 1973, entered into force 2 October 1983, 1340 UNTS 62
1974	SOLAS	International Convention for Safety of Life at Sea adopted 1 November 1974, entered into force 25 May 1980, 1184 UNTS 278 1978 Protocol Relating to the International Convention for the Safety of Life at Sea
1977	Torremolinos Convention, Cape Town Agreement	International Convention for the Safety of Fishing Vessels adopted 2 April 1977, not in force 1993 Torremolinos Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels 1977, Annex, Chapter III (Stability and Associated Seaworthiness), Regulation 8: Ice Accreditation, adopted 2 April 1993, not in force
1978	STCW Convention	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, as amended adopted 1 December 1978, entered into force 28 April 1984, 1361 UNTS 190 (1984); as amended
1980	CAMLR Convention	Convention on the Conservation of Antarctic Marine Living Resources

		adopted 20 May 1980, entered into force 7 April 1982, 1329 UNTS 47
1982	LOSC	United Nations Convention on the Law of the Sea adopted 10 December 1982, entered into force 16 November 1994, 1834 UNTS 397
1982	Paris MOU	Paris Memorandum of Understanding on Port State Control including 41 st Amendment, adopted 11 May 2018, entered into force 1 July 2018
1985	AWPPA	Canadian Arctic Waters Pollution Prevention Act R.S.C. 1985, c. A-12.
1991	Environmental Protocol, Madrid Protocol	Protocol on Environmental Protection to the Antarctic Treaty adopted 4 October 1991, entered into force 14 January 1998, 30 ILM 1445
1992	OSPAR Convention	Convention for the Protection of the Marine Environment of the North-East Atlantic adopted 22 September 1992, entered into force 25 March 1998, 2345 UNTS 67 (2006)
1996	Ottawa Declaration	Declaration on the Establishment of the Arctic Council, adopted September 19 1996
1993	Torremolinos Protocol	Torremolinos Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels 1977, Annex, Chapter III (Stability and Associated Seaworthiness), Regulation 8: Ice Accreditation
1993	Copenhagen Agreement	Agreement between Denmark, Finland, Iceland, Norway and Sweden Concerning Cooperation in Measures to Deal with Pollution of the Sea by Oil or other Harmful Substances adopted 29 March 1993, entered into force 16 January 1998, 2084 UNTS 324
1994	Norway, Russian Federation	Agreement between Norway and the Russian Federation Concerning Cooperation on the Combating of Oil Pollution in the Barents Sea adopted 28 April 1994, entered into force 30 January 1996
2001	Canada Shipping Act	Canada Shipping Act SC 2001, C 26.
2001	Svalbard Environmental Protection Act	Act of 15 June 2001 No 79 relating to the Protection of the Environment of Svalbard, entered into force 1 July 2012

2004	BWM Convention	International Convention for the Control and Management of Ships' Ballast Water and Sediments adopted 13 February 2004, entered into force 8 September 2017
2008	Ilulissat Declaration	Ilulissat Declaration adopted 28 May 2008
2009	AWPPA Declaration	An Act to amend the Arctic Waters Pollution Prevention Act, Statutes of Canada 2009 Chapter II, Art. I, 'Changing the definition of the AWPPA'
2009	Guidelines for Ships Operating in Polar Waters	Guidelines for Ships Operating in Polar Waters IMO Assembly resolution A.1024 (26), adopted 2 December 2009
2010	HFO ban	Amendments to the Annex of the MARPOL Protocol of 1978, adding Chapter 9: Special Requirements for the Use or Carriage of Oils in the Antarctic Area, adopted 26 March 2010 by Resolution MEPC. 189(60), entered into force 1 August 2011
2011	SAR Agreement	Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic adopted 12 May 2011, entered into force 19 January 2013
2013	MOSPA Agreement	Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, adopted 15 May 2013, entered into force 25 March 2016
2013	2013 Rules	Rules of Navigation in the Water Areas of the Northern Sea Route, as approved by the order of the Ministry of Transport of Russia, dated 17 January 2013, No. 7, as based on Article 5.11 of the Merchant Shipping Code
2014	Polar Code	International Code for Ships Operating in Polar Waters adopted as amendments to SOLAS 21 November 2014 and pollution prevention and MARPOL amendments adopted 15 May 2015, entered into force 1 January 2017, IMO Doc MEPC 68/21
2015	UN Resolution	Development of an international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity, areas beyond national jurisdiction
2017	Fairbanks Declaration	Fairbanks Declaration, Arctic Council, 11 May 2017
2018	Paris MOU	2018 Paris Memorandum of Understanding on Port State Control, including 41 st Amendment adopted 11 May 2018, entered into force 1 July 2018

V Antarctic Documents

1. ATCM Acts

ATCM XIX Decision 1 (1995)

ATCM XIX Resolution 5 (1995)

ATCM XXII - CEP I Decision 4 (1998)

ATCM XXII Resolution 3 (1998)

ATCM XXVII - CEP VII Resolution 1 (2004)

ATCM XXVIII – CEP VIII Decision 8 (2005)

ATCM XXVIII – CEP VIII Decision 9 (2005)

ATCM XXIX – CEP IX Resolution 3 (2006)

ATCM XXX - CEP X Resolution 4 (2007)

ATCM XXXII – CEP XII Measure 15 (2009)

ACTM XXXIII-CEP XIII Resolution 5 (2010)

ACTM XXXIII-CEP XIII Resolution 7 (2010)

ATCM XXXV – CEP XV Resolution 2 (2012)

ATCM XXXV - CEP XV Resolution 10 (2012)

ATCM XXXVII – CEP XVII Resolution 2 (2014)

ATCM XXXVII - CEP XVII Resolution 3 (2014)

ATCM XL – CEP XX Resolution 5 (2017)

2. ATCM Documents and Reports

ATCM XXII Final Report Resolution 3 (1998) ‘International Code of Safety for Ships in Polar Waters’

ATCM XXV IP63 (2002), ‘Port State Jurisdiction: An Appropriate International Law Mechanism to Regulate Vessels Engaged in Antarctic Tourism’, ASOC

ATCM XXXIII IP36 (2010), 'A Proposal to Enhance Port State Control of Tourist Vessels Departing to Antarctica', New Zealand

ATCM XXXV IP 56 (2012), 'Progress on the Development of a Mandatory Polar Code', ASOC

ATCM XL – CEP XX IP 151 (2015), Annex 'Extracts of the Legal Memo submitted to ASOC by Judith Gregan on the Potential Application of the Polar Code to Fishing Vessels and Yachts', ASOC

ATCM XXXIX IP 82 (2016), 'Progress on the Polar Code', ASOC

ATCM XL – CEP XX IP124 (2017), 'Action Taken following unauthorised presence of a French Yacht in the Treaty Area during the 2015/2016 season', France

ATCM XL IP 151 (2017), 'Managing Non-SOLAS vessels in the Southern Ocean', ASOC

ATCM XL IP 163 (2017), 'IAATO Overview of Antarctic Tourism: 2016-2017, Season and Preliminary Estimates for 2017-2018 season', IAATO

ATCM XL – CEP XX WP23 (2017), 'New Challenges of Antarctic Yachting to the Antarctic Treaty System', Russian Federation

ATCM XLI – CEP XXI IP55 (2018) 'Data Collection and Reporting on Yachting Activity in Antarctica in 2017-18', United Kingdom, Argentina, Chile, IAATO

3. CCAMLR Acts

CCAMLR Resolution 20/XXII (2003)

CCAMLR Resolution 28/XXVII (2008)

CCAMLR Conservation Measure 91-03 (2009)

CCAMLR Resolution 34/XXXI (2012)

CCAMLR Conservation Measure 91-03 (2012)

CCAMLR Conservation Measure 91-05 (2016)

4. CCAS Document

CCAS (1988), Report of the 1988 Meeting to Review the Operation of CCAS, London 12-16 September 1988 including Special Permits for the Killing or Capturing of Seals

VI IMO Documents

1. Resolutions and Circulars

IMO Res. A893(21), Guidelines for Voyage Planning, adopted 25 November 1999

IMO Res. A.927 (22), Guidelines for the designation of Special Areas under MARPOL 73/78 and Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas, adopted 29 November 2001

MSC Circ.1056 – MEPC Circ.399, Guidelines for Ships Operating in Arctic Ice-Covered Waters, 23 December 2002

MEPC Res. 163(56), Guidelines for Ballast Water Exchange in the Antarctic Treaty Area, adopted 13 July 2007

IMO Res. A.1024(26), Guidelines for Ships Operating in Polar Waters, adopted 2 December 2009

MEPC Res.189/60, Amendments to the Annex of the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, adopted 26 March 2010

MSC Res. 385(94), International Code for Ships Operating in Polar Waters (Polar Code), adopted 21 November 2014

MSC-MEPC Circ.4 Rev. 4, Guidelines on the Organisation and Methods of Work of the Maritime Safety Committee and the Marine Environmental Protection Committee and their Subsidiary Bodies, 22 June 2015

MEPC Res. 294(71), Designation of the Tubbataha Reefs Natural Park as a Particularly Sensitive Sea Area, adopted 7 July 2017

2. Meeting Documents

IMO DE 55/22, DE Report to the MSC, (15/04/2011)

IMO SCD 1,3, 4, ‘Development of a Mandatory Code for Ships Operating in Polar Waters: Phase II – non-SOLAS Ships’, (15/11/2013), New Zealand

MEPC 71/17, Report of The Marine Environment Protection Committee On Its Seventy-First Session, (15/08/2017), ‘Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by Ships in Arctic waters’

MEPC 72/11/1, ‘Proposal to ban heavy fuel oil use and carriage as fuel by ships in Arctic waters’ (14/02/2018), Finland, Germany, Iceland, the Netherlands, New Zealand, Norway, Sweden and the United States

MEPC 72/11/3, ‘Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic Waters: Comments on the document (MEPC 72/11/1)’, (16/02/2018), Russian Federation

MEPC 72/11/4, ‘Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic Waters: Comments on the document (MEPC 72/11/1)’, (02/03/2018), Canada and the Marshall Islands

MEPC 72/11/5, ‘Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic Waters’, (01/03/2018), CSC, FOEI, Greenpeace, Pacific Environment, and WWF

MEPC 72/INF.14, ‘Summary of the work undertaken by the Arctic Council’s Protection of the Marine Environment Working Group on Heavy Fuel Oil’, (16/02/2018), Canada, Denmark, Finland, Iceland, Norway, the Russian Federation and the United States

MSC 99/7, ‘Safety measures for non-SOLAS ships operating in Polar Waters’, (23/03/2018), Norway

MSC 99/7/1, ‘Proposals for the provision of mandatory safety measures for all non-SOLAS ships operating in polar waters’, (23/03/2018), Chile and New Zealand

MSC 99/7/2, ‘The Cape Town Agreement of 2012 as a mandatory instrument relating to the safety of fishing vessels operating in polar waters’, (23/03/2018), Pew Trust

MSC 99/7/3, ‘Polar waters, the Polar Code and non-SOLAS vessels’, (23/03/2018), FOEI, Greenpeace International, WWF and Pacific Environment

VII Figures

Figure 1, MEPC Res. 68/21/Add.1, Annex 10, p. 8 (The Polar Code)

Figure 2, MEPC Res. 68/21/Add. 1, Annex 10, p. 9 (The Polar Code)

Annex 1: Incidents in Polar Waters from 2007 to 2015

Examples of recent fishing vessel and other Non-SOLAS ship losses and incidents in polar waters.³⁸¹

Vessel and flag	Incident, location and date	Further information available
<i>Argos Georgia</i> , UK (fishing vessel)	Loss of power in Ross Sea, Dec. 2007; spare parts air dropped to vessel.	ATCM XXXI IP52: Report of Main Engine Failure of FV Argos Georgia in the Ross Sea on 24 December 2007. Submitted by the United Kingdom.
<i>In Sung 22</i> , Republic of Korea (fishing vessel)	Fire on board, Scotia Sea; search and rescue involved, June 2009.	CCAMLR XXVIII 30: Fire On Board The <i>In Sung 22</i> in CCAMLR Statistical Subarea 48.3. Submitted by the United Kingdom.
<i>Insung No 1</i> , Republic of Korea (fishing vessel)	Sank with loss of 21 lives; fuel oil sank with ship north of Ross Sea; search and rescue involved, Dec. 2010.	CCAMLR XXX BG 34: Follow-up Information Regarding the Capsized Incident of the <i>Insung No.1</i> . Submitted by Korea.
<i>Berserk</i> , Norway (yacht)	Lost, presumed sunk with three fatalities in Ross Sea; would have carried some oil; search and rescue involved, Feb. 2011.	ATCM XXXIV IP18: The Berserk Incident, Ross Sea, February 2011. Submitted by New Zealand, Norway and the United States. ATCM XXXIV IP75: The Legal Aspects of the Berserk Expedition. Submitted by Norway.
<i>Sparta</i> , Russia (fishing vessel)	Holed in ice, Ross Sea, Antarctica; search and rescue involved, Dec. 2011.	ATCM XXXV WP 49: ATCM Response to CCAMLR Fishing Incidents. Submitted by New Zealand. ATCM XXXV IP 17: Search and Rescue Incidents in the 2011/12 Season: FV SPARTA and FV JEONG WOO. Submitted by New Zealand.
<i>Jeong Woo 2</i> , Republic of Korea (fishing vessel)	Fire, loss of three lives; presumed sunk with fuel oil, though possibly consumed by fire in Ross Sea, Antarctica; search and rescue involved, January 2012.	ATCM XXXV WP 49: ATCM Response to CCAMLR Fishing Incidents. Submitted by New Zealand. ATCM XXXV IP 17: Search and Rescue Incidents in the 2011/12 Season: FV SPARTA and FV JEONG WOO. Submitted by New Zealand.
Brazilian oil barge, Brazil (oil barge)	Capsized and sank with 10,000 litres of diesel on board, South Shetland Islands, Feb. 2012; the barge was later recovered intact.	ATCM XXXV IP65: Comandante Ferraz Station: Oil Barge Incident. Submitted by Brazil.
<i>Endless Sea</i> , Brazil (motorised yacht)	Beset in ice and sank at King George Island, South Shetland Islands in April 2012 while carrying around 8,000 litres of fuel; search and rescue involved.	ATCM XXXV IP64: Brazilian Yacht Accident. Submitted by Brazil.

³⁸¹ ATCM XXXIX, IP 82 (2017), 'Progress on the Polar Code', ASOC.

<p><i>Kaixin</i>, China (fishing vessel)</p>	<p>Caught fire and sank, in Scotia Sea, in April 2013; fuel oil possibly all consumed by fire; search and rescue involved. The casualty investigation report in IMO's GISIS system refers to faulty wiring as the cause of the fire.</p>	<p>CCAMLR XXXII/BG/10: Summary report on the fire incident of the fishing vessel <i>Kaixin</i>. Submitted by the People's Republic of China.</p>
<p><i>Polonus Poland</i> (sailing yacht)</p>	<p>Sailing yacht stranded in bad weather on King George Island, near to a protected area (Antarctic Peninsula). All crew rescued and all fuel removed. December 2014.</p>	<p>ATCM XXXVIII_bp009 Polish Sailing Yacht Accident at King George Island (Antarctic Peninsula). Background paper submitted by Poland.</p>
<p><i>Antarctic Chieftain Australia</i> (fishing vessel)</p>	<p>Trapped in pack ice consisting of thick multi-year ice. Ice had contacted the propeller resulting in damage to three of four blades. No immediate threat to safety of life. A two stage rescue was required – the nearest ice breaker was 430nm away. USCGC Polar Star arrived on scene 3 days after the fishing vessel became trapped and commenced breaking ice pack following which the fishing vessel was towed / escorted clear of the ice. Stage 2 – fishing vessel escorted back to port in New Zealand arriving 20 days after becoming trapped. February 2015.</p>	<p>ATCM38_ip051_e Search and Rescue Incident: Antarctic Chieftain (2015). Information Paper submitted by New Zealand.</p>