UNIVERSITY OF
GOTHENBURG

Integrated Oceans Management of Antarctic Waters: Opportunities for Marine Protected Areas in the Convergence of the Antarctic Legal Regime and the Law of the Sea

Katarina Wallerstedt
Master's thesis, 30 credits
Supervised by Gabriela Argüello
Examined by Niels Krabbe

Master of Laws, Department of Law
School of Business, Economics and
Law at the University of Gothenburg
Spring 2022

I want to thank Gabriela Argüello for
her mentorship
and my family for always believing in me.

I would also like to express my thanks to Trisha Rajput
for getting me started
and to Brock and Davia for helping me out in the last minute.

Katarina Wallerstedt
Barcelona, 18 July 2022

Abstract

Antarctica is home to some of the last untouched places on Earth, but its marine environment is endangered because of increased ocean activities in Antarctic waters. These developments are not unique to the Antarctic seas but are a global trend in all the world's oceans. Legal responses to the threats to marine health have induced a shift in ocean governance from traditional fragmentary approaches to more holistic ways of managing the seas. Contemporary approaches stress principles of integrated ocean management: an approach that seeks to manage human activities across sectors and time, by considering the fluid nature of water and the transboundary as well as cumulative effects of human impacts on the oceans. The Antarctic legal system has been a leader in these contemporary developments and has, inter alia, introduced Antarctic marine protected areas legally protected from human interference. Such area-based protection is based on the ecosystem approach and aims to protect the marine environment by drawing legal boundaries adapted to marine ecosystems and marine life. Marine protected areas are increasingly incorporated in international agreements, but their implementation in areas beyond national jurisdiction has not been free from controversy. Global challenges regarding the regulation of international waters, the absence of a clear legal mandate to establish marine protected areas in areas beyond national jurisdiction, together with the regional challenges of the Antarctic such as the legal processes of designating Antarctic marine protected areas and cooperation for the management of cross-sectorial activities in Antarctic waters, the reach and scope of the Antarctic legal regime, and the intersection of the law of the sea, are all aspects that affect the opportunities of establishing Antarctic marine protected areas. This thesis examines the convergence of the two major legal regimes governing Antarctic waters and shows that the implementation of marine protected areas based on principles of integrated oceans management, though challenging, is a feasible task.

Abbreviations

ABMT	Area-Based Management Tool
ABNJ	Area Beyond National Jurisdiction
ASMA	Antarctic Specially Managed Area
ASPA	Antarctic Specially Protected Area
ATA	Antarctic Treaty Area
ATCP	Antarctic Treaty Consultative Party
ATCM	Antarctic Treaty Consultative Meeting
ATS	The Antarctic Treaty System
BBNJ	Biodiversity Beyond National Jurisdiction
CAMLR convention	The 1980 Convention on the Conservation of Antarctic Marine Living Resources
CBD	The 1992 Convention on Biological Diversity
CCAMLR	The Commission of the Convention on the Conservation of Antarctic Marine Living Resources
CEP	The Committee for Environmental Protection
CM	Conservation Measure
CRAMRA	The Convention on the Regulation of Antarctic Mineral Resources Activities
EA	Ecosystem-based Management Approach
EEZ	Exclusive Economic Zone
ICJ	International Court of Justice
ILBI	International Legally Binding Instrument
IMO	International Maritime Organization
IOM	Integrated Oceans Management
ISA	International Seabed Authority
IUCN	International Union on the Conservation of Nature
Madrid Protocol	The 1991 Protocol on Environmental Protection to the Antarctic Treaty
MARPOL	The 1973 International Convention for the Prevention of Pollution from Ships
MPA	Marine Protected Area
OSPAR	The 1992 Oslo and Paris Convention
RSRMPA	Ross Sea Region Marine Protected Area
SC-CAMLR	The Scientific Committee for the Conservation of Antarctic Marine Living Resources
SOISSMPA	South Orkney Island Southern Shelf Marine Protected Area
PSSA	Particularly Sensitive Sea Area
UN	United Nations
UNCLOS	The 1982 United Nations Convention on the Law of the Sea
UNEP	United Nations Environmental Program
UNGA	United Nations General Assembly
Vienna Convention	The 1969 Vienna Convention on the Law of the Treaties

Contents

1. Introductory Chapter

1.1. Chapter Overview

The waters of the Polar South are in many ways unique and are governed by an equally unique legal regime: the Antarctic Treaty System (ATS).[1] The ATS is the principal forum of international cooperation in the governance of the terrestrial as well as the maritime Antarctica. Due to this regime, the Antarctic has been considered one of the most comprehensively managed areas beyond national jurisdiction (ABNJ) in the world.[2] The ATS facilitated the establishment of the world's first comprehensive marine protected area (MPA) in international waters,[3] the South Orkney Island Southern Shelf MPA (SOISSMPA),[4] a landmark achievement for global conservation of the high seas.[5] A few years later, the world's largest MPA was established under the very same regime,[6] the Ross Sea Region MPA (RSRMPA),[7] an important achievement in protecting some of the world's last intact ecosystems.[8] These efforts set a precedence in MPA designation in ABNJ[9] and contribute to regional, as well as global protection of marine ecosystems and biodiversity. This chapter introduces the reader to Antarctic waters, describes the functioning of the legal frameworks governing them, explains the shift in international environmental law towards integrated oceans management (IOM), gives an account for the implementation of IOM through area-based, or spatial, management tools (ABMTs) such as MPAs, and lastly, unfolds the area of research of this study.

---

[1] Donald Rothwell, "The Antarctic Treaty at Sixty Years: Past, Present and Future," (2019): 1.
Constance M. Johnson, "The Relevance of the Southern Ocean to the Development of a Global Regime for Marine Areas beyond National Jurisdiction - An Uncommon Commons," *32 INT'l J. MARINE & Coastal L. 709*, 709-732 (2017): 712.

[2] Natasha B. Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," *Marine Policy 122* (2020): 2. Marine ABNJ includes the high seas and the deep seabed beyond the limits of national state jurisdiction and covers almost two-thirds of the world's oceans. See Brief for GSDR 2015, Advancing governance of marine areas beyond national jurisdiction, by J. Rochette, G. Wright, L. Chabason, Sebastian Unger, Jeff Ardron, Katherine Houghton, available at https://sustainabledevelopment.un.org/content/documents/5774Brief%20ABNJ%20GSDR_rev.pdf, accessed 7 Jul 2022.

[3] Cassandra M. Brooks, "Competing values on the Antarctic high seas: CCAMLR and the challenge of marine-protected areas," *The Polar Journal, 3:2, 277-300* (2013): 282. See also the official webpage of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), Marine Protected Areas, available at https://www.ccamlr.org/en/science/marine-protected-areas-mpas, accessed 22 Mar 2022.

[4] CCAMLR Conservation Measure 91-03, Protection of the South Orkney Island Southern Shelf (2009), available at http://archive.ccamlr.org/pu/E/e_pubs/cm/11-12/91-03.pdf accessed 6 Jul 2022.

[5] S.M.Grant P.N.Trathan, "Chapter 4 - The South Orkney Islands Southern Shelf Marine Protected Area: Towards the establishment of marine spatial protection within international waters in the Southern Ocean," *ScienceDirect, Science Policy and Management*, p. 67-98 (2020).

[6] Evan Bloom Cassandra M. Brooks, Andrea Kavanagh, Emily S. Nocito, George M. Watters, John Weller, "The Ross Sea, Antarctica: A highly protected MPA in international waters," *Marine Policy 134 104795* (2021): 1, https://www.sciencedirect.com/science/article/pii/S0308597X21004061.

[7] CCAMLR meeting XXXV, CCAMLR Conservation Measure 91-05, Ross Sea Region Marine Protected Area (2016), adopted on 28 Oct 2016, available at https://cm.ccamlr.org/sites/default/files/91-05_11.pdf accessed 6 Jul 2022

[8] In a study from 2008 it was shown that "the Ross Sea has been the least impacted of any open ocean, marine area on Earth", see David G. Ainley, "A history of the exploitation of the Ross Sea, Antarctica," *Cambridge University Press* Polar Record 46 (238): 233–243 (2010): 233.

[9] Cassandra M. Brooks, "The Ross Sea, Antarctica: A highly protected MPA in international waters," 1.

1.2. Antarctic Waters

1.2.1. Situating the Southern Ocean

At the southernmost perimeters of the Earth lies the Southern, or Antarctic, Ocean. The Southern Ocean encircles the Antarctic continent, geographically situated on the South Pole.[10] The terrestrial Antarctica is the highest, driest, windiest, coldest,[11] iciest, and most desolate place in the world.[12] It is a white desert with a vast and thick ice sheet, accumulated over millions of years, covering around 97,6 percent of its landmass.[13] Thousands of glaciers extend into the circumpolar Antarctic waters. During winter, the sea ice increases to almost double the size of the continental Antarctica, by most extreme reaching out far beyond the continental shelf into the deep ocean.[14] While about 18 million square kilometers of the Southern Ocean is covered with sea ice during wintertime, as season changes almost all formed ice melts, leaving about 3 million square kilometers by the end of the Antarctic summer.[15] This annual growth and retreat of sea ice constitute the largest seasonal process of the world's oceans and the physical features of the Southern Ocean make the Antarctic marine environment of a unique kind in relation to other ocean spaces of the world.[16] Furthermore, Antarctic waters contain the "longest, strongest, deepest-reaching current on earth",[17] the world's only global oceans current called the Antarctic Circumpolar Current. It "circulates clockwise around the continent, carrying more water around the globe than any other current"[18] and since the Southern Ocean connects four of the five world's oceans basins[19] it interacts with the global ocean- and air currents, thus having an influence on the whole world's climate.[20] Consequently, Antarctic waters contribute to global circulation of water and air, playing a pivotal role in global marine biological diversity and ecosystems.[21]

The Antarctic Polar Front[22] is usually set as the outer boundary for the Antarctic region[23] and all marine spaces south latitude of this limit constitute Antarctic waters. The Antarctic Polar front is a biological

---

[10] Encyclopedia Britannica, Antarctica Continent, https://www.britannica.com/place/Antarctica accessed 11 Mar 2022

[11] On the high inland ice sheet of Antarctica, the lowest temperature of all-time in the world of -89,2 °C was recorded at the Volstok Station on July 21, 1983. Encyclopedia Britannica, https://www.britannica.com/place/Antarctica retrieved on 11 Mar 2022.

[12] Christopher C. Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," *The University of South Carolina Press* (1998): 1.

[13] National Science Foundation, Ice Sheets, available at https://www.nsf.gov/geo/opp/antarct/science/icesheet.jsp accessed 11 Mar 2022.

[14] Huw J. Griffiths, "Antarctic marine biodiversity - what do we know about the distribution of life in the southern ocean?," *PloS one* Vol.5 (8) (2010): 1.

[15] National Snow & Ice Data Center, Arctic vs. Antarctic, available at https://nsidc.org/cryosphere/seaice/characteristics/difference.html, accessed 12 Mar 2022.

[16] Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 7, 8.

[17] Antarctic and Southern Ocean Coalition (ASOC), Welcome to the Southern Ocean: One Global Ocean, available at https://www.asoc.org/learn/welcome-to-the-southern-ocean/, accessed 29 Jun 2022.

[18] Antarctic and Southern Ocean Coalition (ASOC), Welcome to the Southern Ocean: One Global Ocean, available at https://www.asoc.org/learn/welcome-to-the-southern-ocean/, accessed 29 Jun 2022.

[19] With exception of the Arctic Ocean.

[20] Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 50.

[21] Johnson, "The Relevance of the Southern Ocean to the Development of a Global Regime for Marine Areas beyond National Jurisdiction - An Uncommon Commons," 709, 10, 11.

[22] The Antarctic Polar Front is the replacing term of the previous Antarctic Convergence, which is the term used in the Antarctic Treaty and the CAMLR Convention.

[23] The definitions used is the same as used by the Census of Antarctic Marine Life (CAML) and the Scientific Committee on Antarctic Research Marine Biodiversity Information Network (SCAR-MarBIN). See Griffiths, "Antarctic marine biodiversity - what do we know about the distribution of life in the southern ocean?," 1,2.

zone where cold Antarctic waters meet the warmer Subantarctic waters, north of this boundary water temperatures near the surface remain around 5.6°C while in Antarctic waters the temperature drops to below 2°C.[24] Few species migrate beyond this border and therefore it represents a biological breakpoint for most Antarctic influences on global marine ecosystems and the impacts of human activities on the Antarctic environment.[25] It is comprised of a belt of ocean space variably occurring around 45° and 62° South Latitude,[26] a boundary constantly in motion due to the fluid nature of water and the impacts of the seasonal processes on the Antarctic marine environment.[27]

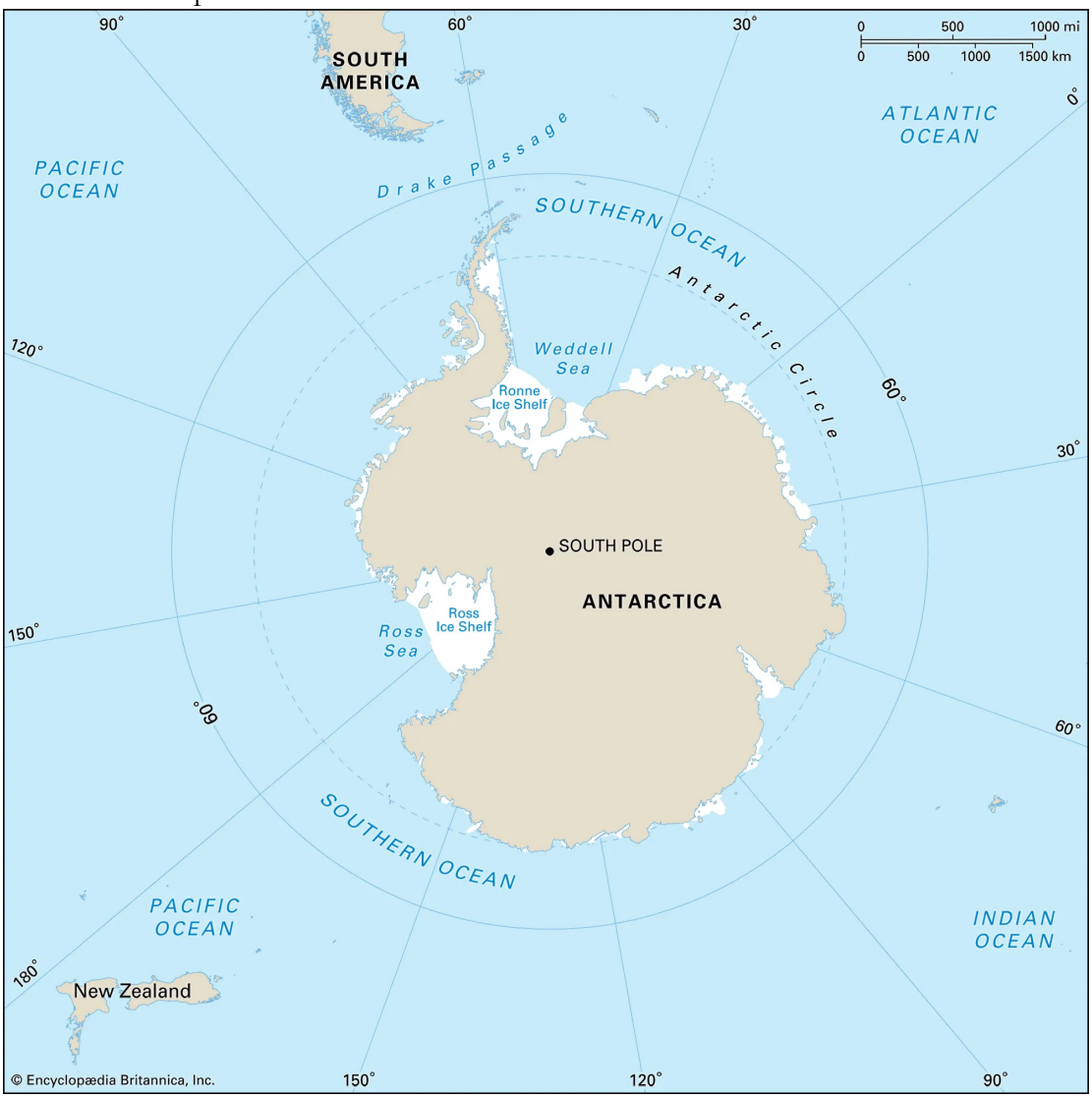

Figure 1: Antarctica and the Southern Ocean.[28]

[24] Antarctic and Southern Ocean Coalition (ASOC), Welcome to the Southern Ocean: One Global Ocean, available at https://www.asoc.org/learn/welcome-to-the-southern-ocean/, accessed 29 Jun 2022.
[25] Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 116.
[26] See the Antarctic and Southern Ocean Coalition (ASOC), Welcome to the Southern Ocean: One Global Ocean, available at https://www.asoc.org/learn/welcome-to-the-southern-ocean/, accessed 29 Jun 2022. See also Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 2.
[27] Antarctic and Southern Ocean Coalition (ASOC), Welcome to the Southern Ocean: One Global Ocean, available at, available at https://www.asoc.org/learn/welcome-to-the-southern-ocean/, accessed 29 Jun 2022.
[28] Encyclopedia Britannica, Antarctica Continent, available at https://www.britannica.com/place/Antarctica, accessed 2 Feb 2022.

1.2.2. Threats to the Antarctic Marine Environment

Climate change, pollution and exploitation of marine natural resources have contributed to the degradation of some of the ocean's richest ecosystems[29] and caused a widespread loss of marine biodiversity, particularly in ABNJ.[30] Globally, human activities and uses of the oceans are pressuring the world's marine health, and Freestone asserted in an article from 2019 that:

> we do know beyond doubt that humankind has already had major negative impacts upon the ocean everywhere. The past thirty years have seen unparalleled expansion of human activities and impacts on the ocean, and on the high seas in particular. A decade ago, in 2008, the Census of Marine Life project highlighted the fact that anthropogenic pollution has already affected ecosystem functioning in the deep ocean and that millions of organisms have been destroyed before they have even been identified by science. In 2018, a major study suggested that only 13% of the oceans remain truly wild—untouched by human impact.[31]

The Southern Ocean has been considered the last frontier, relatively untouched by humans in comparison to other regions globally.[32] Antarctic waters contain some of the few remaining intact marine ecosystems on Earth,[33] and despite the harsh Antarctic conditions, the Antarctic seas are among the world's most biologically productive.[34] It is home to a unique diversity of marine life[35] with over 8200 identified species,[36] contributing to an exceptional marine biodiversity.[37] However, global economic interests in the oceans have rapidly grown, new industries are emerging,[38] and technological advances open the possibility to further resource exploitation. Consequently, the detrimental activities to the marine environment continue to expand around the world's oceans, even to the remotest and most recondites parts of the Earth.[39] The Southern Ocean is not excluded from these developments.[40] Even if Antarctica, a few decades ago, was considered an isolated and untouched place, the increased interests in the region by a wide range of actors such as states, non-state actors, corporations, and tourists, have made Antarctica a changing object of governance.[41] The ecosystems of Antarctica are

---

[29] IUCN, International Ocean Governance (2020), available at https://www.iucn.org/theme/marine and-polar/our-work/international-ocean-governance, accessed 19 Apr 2022.
[30] Dai Winther, Rist, Li, Trice, Morrisey, Juinio-Menez, Fernandes, Unger, Scarano, Halpin, Whitehouse, "Integrated ocean management for a sustainable ocean economy," *Nature ecology & evolution* ol.4 (11), p.1451-1458 (2020): 1451.
[31] David Freestone, "Conserving biodiversity in areas beyond national jurisdiction," *International Journal of Marine and Coastal Law* (2019): 4.
[32] Steven L. Chown Aleks Terauds, Fraser Morgan, Helen J. Peat, David J. Watts, Harry Keys, Peter Convey and Dana M. Bergstrom, "Conservation biogeography of the Antarctic," *Diversity and Distributions* Vol. 18, No. 7/8 pp. 726-741 (2012): 726.
[33] Min Pan & Liling Xu, "The Establishment of the Marine Protected Area in Antarctica's Ross Sea - On the Dilemma of Collective Action in the Governance of Global Commons and Its Solutions," *CHINA Oceans L. REV.* Oceans L. REV. 17 (2020). (2020): 19.
[34] Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 120.
[35] Johnson, "The Relevance of the Southern Ocean to the Development of a Global Regime for Marine Areas beyond National Jurisdiction - An Uncommon Commons," 710.
[36] Griffiths, "Antarctic marine biodiversity - what do we know about the distribution of life in the southern ocean?," 1.
[37] Johnson, "The Relevance of the Southern Ocean to the Development of a Global Regime for Marine Areas beyond National Jurisdiction - An Uncommon Commons," 710.
[38] Winther, "Integrated ocean management for a sustainable ocean economy," 1451.
[39] Xu, "The Establishment of the Marine Protected Area in Antarctica's Ross Sea - On the Dilemma of Collective Action in the Governance of Global Commons and Its Solutions," 18.
[40] UNEP IUCN, WWF, "World Conservation Strategy, International Union for Conservation of Nature and NaturalResources," *IUCN website*, Chapter 18 (1980), https://portals.iucn.org/library/efiles/documents/wcs-004.pdf.
[41] Rothwell, "The Antarctic Treaty at Sixty Years: Past, Present and Future," 3, 11-12.

unique and depend on a fragile balance of natural processes.[42] Due to increased ocean activities in the area, the protection of the Antarctic marine environment has been facing serious challenges. The unsustainable exploitation of Antarctic marine living resources through fishing, sealing and whaling,[43] until the brink of extinction of certain Antarctic species, marine pollution through increased shipping operations, invasive species, and climate change are some examples of human impacts that have caused disturbances to the Antarctic marine environment, ecosystems and biodiversity.[44] In an article from 2015, Scott asserted in an illustrative way that:

> whilst human impact in the [Antarctic] region may be low in relative terms, unsustainable exploitation of biological resources including (but not limited to) seals, marbled rockcod, mackerel ice-fish, the great whales and, currently, the Patagonian toothfish, means that the human footprint in the Southern Ocean is by no means negligible. And that footprint is likely to increase in the future in light of threats such as pollution, invasive species, ocean acidification and the impact of climate change more generally (addition mine).[45]

1.3. Oceans Governance of Antarctic waters

The threats to the Antarctic marine environment have shown "that when unregulated, the [Antarctic] waters have faced extensive exploitation of their resources"[46] (addition mine). Antarctic Waters are subject to two overlapping international regimes,[47] both regulating human activities taking place in the marine environment. On the hand, Antarctic waters are governed by the international law of the sea regime which comprehensively provides for oceans regulation of all activities and relations in the world's seas with "widespread international acceptance as the authoritative embodiment of contemporary ocean law".[48] On the other hand, Antarctic waters are governed by the regional Antarctic legal regime, a sui generis regional legal regime[49] which provides for the principal forum of international cooperation in the governance of the issues related to the Antarctic region.

1.3.1. The Law of the Sea Regime

The law of the sea is generally defined as a body of international customs, treaties, and agreements regulating maritime affairs between states and other international subjects.[50] It is one of the oldest branches of public international law and was originally a corpus of customary international law which progressively became codified into written law.[51] The codification process led to the adoption of the 1982 UN Convention on the Law of the Sea (UNCLOS)[52] which main objective was to establish a

---

[42] Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 117.
[43] Linda A. Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," *WM. & MARY ENVTL. L. & POL'y* REV. 53 (2018): 53.
[44] Rothwell, "The Antarctic Treaty at Sixty Years: Past, Present and Future," 3, 11-12.
[45] Karen N. Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," *Boston ; Leiden : Brill* 5, p. 326-343 (2015): 329.
[46] Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 53.
[47] Christopher C. Joyner, "The Antarctic Treaty System and the Law of the Sea - Competing Regimes in the Southern Ocean," *10 INT'l J. MARINE & Coastal L. 301* (1995): 301.
[48] Joyner, "The Antarctic Treaty System and the Law of the Sea - Competing Regimes in the Southern Ocean," 302.
[49] Bruno Arpi and Jeffrey McGee, "Rediscovering the importance of Antarctic Law for the early twenty-first century," *Australian journal of international affairs* Vol.76 (3), p. 248-265 (2022): 1.
[50] Yoshifumi Tanaka, "The International Law of the Sea," *Cambridge University Press* Third edition (2019): 3.
[51] Tanaka, "The International Law of the Sea," 3.
[52] UNCLOS was opened for signature in Montego Bay 10 Dec 1982, and came into force 16 Nov 1994. As of today, the UNCLOS has almost universal international participation and has 168 party members Tanaka, "The International Law of

legal order for the oceans. It has been called a "Constitution for the Oceans" as it provides an overarching and constitutional framework for the comprehensive management and regulation of all activities and issues of the seas.[53] UNCLOS as a constitutive instrument provides for a legal framework that may be complemented by legal agreements and customary law related to the convention.[54]

A principal feature of the UNCLOS is the spatial division of the oceans into maritime zones for the distribution of jurisdiction between states, the so-called zonal management approach (see figure 2).[55] Maritime jurisdiction[56] flows from sovereignty over adjacent land.[57] Based on national jurisdiction of coastal state, marine spaces under the law of the sea may be divided into two broad categories: maritime zones under national jurisdiction and maritime zones beyond national jurisdiction.[58] Maritime zones under national jurisdiction are measured from the coastal baseline[59] and include the territorial sea,[60] the contiguous zone,[61] the exclusive economic zone (EEZ),[62] and the continental shelf.[63] Besides, baselines play a fundamental role in dividing the territorial sea from internal waters.[64] Maritime zones beyond national jurisdiction encompasses those marine spaces which lie beyond the outer limits of the maritime zones under national jurisdiction. The water column beyond the EEZ, or if no such zone

---

the Sea," 36-37. Convention text available at https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf, accessed 6 Jul 2022.

53 See the preamble of UNCLOS: "in a spirit of mutual understanding and cooperation, all issues relating to the law of the sea" and Alan Boyle Patricia Birnie, Catherine Redgwell, "International Law & the Environment," *Oxford University Press* Third Edition (2009): 390. M. J. Peterson, "Antarctic Implications of the New Law of the Sea," 16 OCEAN DEV. & INT'l L. 137 (1986): 138. Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 4.

54 Robert Beckman, "The Relationship between UNCLOS and IMO Instruments," *Asia-Pacific Journal of Ocean Law and Policy* 2, pp. 201-246 (2017): 201.

55 Tanaka, "The International Law of the Sea," 4.

56 Maritime jurisdiction may entail sovereignty (e.g. over the internal waters or the territorial sea), sovereign rights (e.g. the EEZ) or jurisdictional powers (e.g. the contiguous zone), see parts II and V of UNCLOS.

57 See Grisbardana case (Norway v Sweden) (Award) 1909 11 RIA 155 (159) and the Fisheries Case (United Kingdom v Norway) (judgment) 1951 ICJ Rep. 116 (133). In the former the tribunal stated: "the maritime territory is a necessary dependency of the land territory." In the latter "it is the land which confers upon the coastal State a right to the waters off its coasts". See also Peterson, "Antarctic Implications of the New Law of the Sea," 141.

58 Tanaka, "The International Law of the Sea," 7.

59 See for example Alan Vaughan Love Robin Rolf Churchill, "The Law of the Sea," *Manchester : Manchester University Press* 2nd rev. ed (1988): 26. Baselines are the outer limit of the maritime zones, drawn along the coast of a coastal state. There are normal baselines and straight baselines, se articles 5 and 7 of UNCLOS.

60 The adjacent belt of water, including the airspace above it and the seabed and the subsoil beneath it, seaward the baseline. The territorial sea reaches up to up to 12 nautical miles (NM) measured from the baseline. In addition to the coastal state's land territory and internal waters, the coastal state exercises sovereignty over its territorial seas, see articles 2.1, 2.2, 3 of UNCLOS, with exception for the right of innocent passage by foreign ships, see article 18 of UNCLOS.

61 For up to 24 NM measured from the baseline, the coastal state may establish a contiguous zone, in which the coastal state may prevent and punish certain infringements of national laws and regulations, see article 33 of UNCLOS.

62 Coastal states may also claim an EEZ which is comprised of the water column beyond the territorial sea, see article 55 of UNCLOS, and can reach for up to 200 nautical miles from the baseline, see article 57 of UNCLOS. In the EEZ states enjoy sovereign rights for the purpose of exploring and exploiting, conserving, and managing marine resources, see article 56 of UNCLOS.

63 The seabed and the subsoil of the submarine areas beyond the territorial sea to the outer edge of the continental margin or up to 200 nautical miles from the baseline is called the continental shelf, see article 76 of UNCLOS, and usually coincides with the superjacent water column of the EEZ. In the continental shelf the coastal state has sovereign rights to explore and exploit marine resources consisting of mineral and other non-living resources of the seabed and subsoil, together with living organisms belonging to sedentary species, see article 77.4 of UNCLOS. No other States may undertake these activities without the express consent of the coastal State, see article 77.2 of UNCLOS.

64 The marine spaces landward the baseline constitute internal waters, while marine spaces seaward the baseline constitute territorial waters, see UNCLOS article 8.1.

has been claimed, the water column beyond the territorial sea is termed the high seas.[65] The seabed and its subsoil beyond the limits of national jurisdiction, i.e., the continental shelf, is called the Area,[66] and usually coincides with the superjacent waters of the high seas.[67]

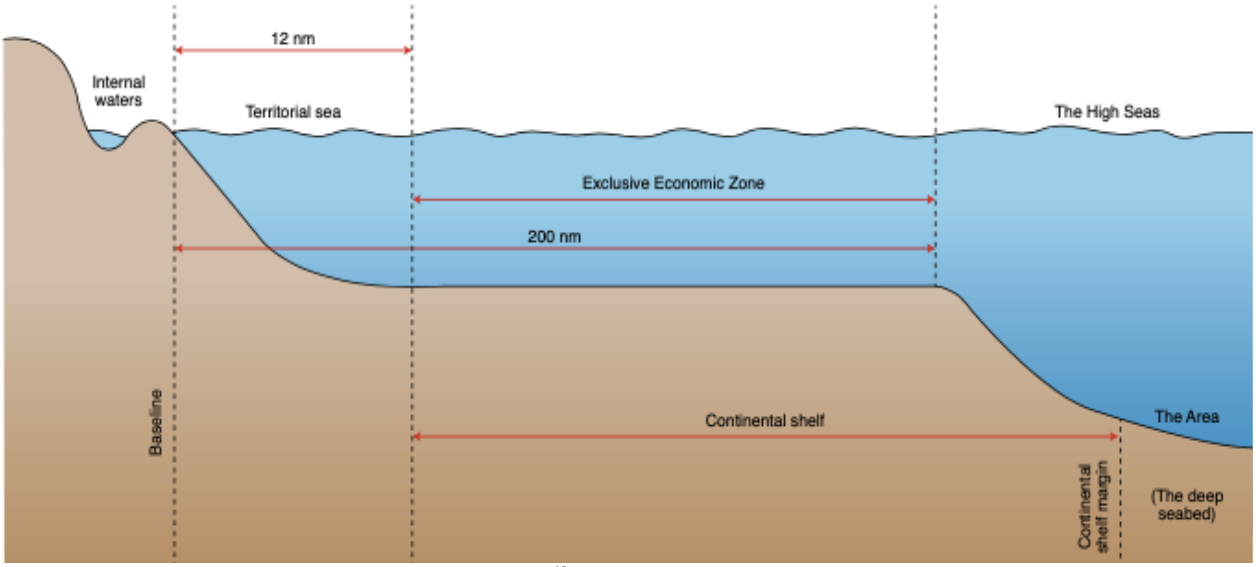

Figure 2: Maritime Zones of the UNCLOS.[68]

Sine the protection of the marine environment is of fundamental importance for all life, the law of the sea is also concerned with environmental issues related to the marine environment.[69] The conservation of marine living resources, as well as the general protection and preservation of the marine environment, are key objectives of UNCLOS and the convention provides for a global framework for these purposes.[70] States' rights and obligations under UNCLOS are primarily based on the jurisdictional division of the ocean. Consequently, the protection of the marine environment under UNCLOS adopts a zonal management approach linked to the specific maritime zone.[71] This creates a fragmented view of oceans management since the physical nature of water is fluid and transcends legal boundaries and causes a limited protection for marine areas beyond national jurisdiction.[72] However,

---

[65] Article 86 of the UNCLOS. No state may purport a valid claim of sovereignty in the high seas, see article 89 of UNCLOS, and they are governed by the principle of the high sea freedoms, see article 87.1 of UNCLOS and Tanaka, "The International Law of the Sea," 188.

[66] Article 1.1 of UNCLOS. The Area is sometimes referred to as the "deep seabed" because the ocean floor is usually deeper than that of the continental shelf, see UNEP, "Marine and Coastal Biodiversity: Review, further elaboration and Refinement of the Programme of Work," *UNEP/CBD/SBSTTA/8/INF/3/Rev.1* (2003): 7, https://www.cbd.int/kb/record/meetingDocument/2502?Event=SBSTTA-08.

[67] In similarity to the high seas, no state may purport a valid claim of sovereignty over the Area and its resources, see article 137.1 of UNCLOS. This legal regime, however, is not governed by principles of freely undertaking certain activities as with the high seas' regime, but of the common heritage of mankind, see article 136 of UNCLOS. For further readings, see Tanaka, "The International Law of the Sea," 186.

[68] Winther, "Integrated ocean management for a sustainable ocean economy," 1454.

[69] Tanaka, "The International Law of the Sea," 322.

[70] See the preamble of UNCLOS and Karen N. Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," *in The Oxford Handbook of the Law of the Sea, edited by Rothwell, Oude Elferink, Scott, and Stephens* Oxford University Press, Oxford (2015): 463; Patricia Birnie, "International Law & the Environment," 383. ," UNEP, "Marine and Coastal Biodiversity: Review, further elaboration and Refinement of the Programme of Work," 7.

[71] Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 464, 65.

[72] The limitations of the zonal management approach are further given account for in section 1.4.

article 192 of UNCLOS prescribes a general obligation to protect the marine environment. Such a general obligation includes areas both within and outside national jurisdiction. Since this provision does not depend on legal boundaries it opens possibilities for the oceans to be viewed as comprised of water that form one unit.[73]

1.3.2. The Antarctic Legal Regime

International law provides for a system for the conduct of international relations in which international issues are addressed.[74] Within the international legal system regional legal regimes may be established to address international issues particular for the region in question.[75] The regional approach for marine environmental protection is important for the construction of rules that take into consideration the specific features of the region[76] and the Antarctic legal regime was developed to address the challenges of the Antarctic region, including the continent and the encircling Antarctic waters.

The Antarctic legal regime origins in the Antarctic Treaty[77] which in 1959 established the legal foundation for the governance of Antarctica.[78] The Treaty was developed to address the specific regional issues related to Antarctica at the time[79] and applies to region south of 60° South Latitude including the land, ice-shelves and adjacent waters of the Southern Ocean, the so-called Antarctic Treaty Area (ATA).[80] The purpose of the Antarctic Treaty was to devote the Antarctic to peace and science and prevent it from becoming an object for resource grabbing.[81] The Treaty stipulates that the ATA shall be used exclusively for peaceful purposes and this instrument prohibits any military activities,[82] nuclear uses,[83] guarantees the freedom of conducting scientific investigation[84] and to this end seeks to promote international scientific cooperation through the exchange of scientific information.[85]

---

[73] See Part XII of UNCLOS. Article 192 of UNCLOS stipulates that: "States have the obligation to protect and preserve the marine environment". The ocean's protection of the UNCLOS extends to the marine environment in its whole, including marine areas in ABNJ. The general obligations also reflect international customary law. See also Patricia Birnie, "International Law & the Environment," 387. Part XII of UNCLOS is further discussed in Chapter 3.
[74] Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 53.
[75] McGee, "Rediscovering the importance of Antarctic Law for the early twenty-first century," 1.
[76] Tanaka, "The International Law of the Sea," 405.
[77] The Antarctic Treaty was signed by 12 signatory parties (Argentina, Australia, Belgium, Chile, The French Republic, Japan, New Zealand, Norway, the Union of South Africa, The Former Union of Soviet Socialist Republic, the United Kingdom of Great Britain and Northern Ireland and finally the United States of America) in Washington, 1 Dec 1959, entry into force 23 Jun 1961, Secretariat of the Antarctic Treaty, The Antarctic treaty, available at https://www.ats.aq/e/antarctictreaty.html, accessed 18 Feb 2022. As of today, the Antarctic treaty has 54 party members, the whole list is available at: Secretariat of the Antarctic Treaty, Parties, https://www.ats.aq/devAS/Parties?lang=e, accessed 18 Feb 2022. The convention text is available in https://documents.ats.aq/keydocs/vol_1/vol1_2_AT_Antarctic_Treaty_e.pdf accessed 6 Jul 2022.
[78] Rothwell, "The Antarctic Treaty at Sixty Years: Past, Present and Future," 2.
[79] McGee, "Rediscovering the importance of Antarctic Law for the early twenty-first century," 2.
[80] Article VI of the Antarctic Treaty. For purposes of conservation of Antarctic marine living resources, the ATS applies up to the Antarctic Polar Front, see article 1.1 of the CAMLR Convention, the exact coordinates are provided by article 1.4 of the CAMLR Convention.
[81] The preamble of the Antarctic Treaty emphasizes the interest of all mankind of the peaceful use of Antarctica and the importance for science and international cooperation for its development.
[82] Article I of the Antarctic Treaty
[83] Article V of the Antarctic Treaty
[84] Article II of the Antarctic Treaty
[85] Article III of the Antarctic Treaty

The Antarctic regime is built upon the 'special legal and political status' of Antarctica,[86] which refers inter alia to the Antarctic continent as the only landmass on Earth with unresolved territorial sovereignty.[87] The seven states claiming sovereignty over Antarctica are also signatory states to the Antarctic Treaty[88] and up until present day they present claims on territorial sovereignty over almost all parts of the Antarctic continent, some of these overlapping (see figure 3). Since maritime jurisdiction flows from sovereignty over adjacent land[89] such claims affect the legal status of the encircling Antarctic waters and the claimant states' claims over continental Antarctica are accompanied by claims of maritime jurisdiction over the waters adjacent to the Antarctic coast (see figure 3). However, to avoid international discord, the signatory states, including the claimant states, decided to cooperate in favor of joint and peaceful management of the ATA.[90] In negotiating the Antarctic Treaty the claimant and non-claimant states decided to temporarily "freeze" all Antarctic sovereignty claims by the method to agree to disagree,[91] i.e., the treaty would not deny, nor would it assert previous positions on territorial sovereignty by any of the parties. Neither would it allow for any enlarged or new territorial claims during the Treaty's lifetime.[92] As a consequence, the establishment of maritime zones under national jurisdiction remains open until the issue of sovereignty over Antarctica is settled.[93]

[86] See for example the Preamble of the Madrid Protocol.
[87] Johnson, "The Relevance of the Southern Ocean to the Development of a Global Regime for Marine Areas beyond National Jurisdiction - An Uncommon Commons," 712. Alina Kaczorowska, "Public International Law," *Routledge, Taylor & Francis Group* Fourth Edition (2010): 296.
[88] The seven claimant states are: Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom.
[89] See Grisbardana case (Norway v Sweden) (Award) 1909 11 RIA 155 (159) and the Fisheries Case (United Kingdom v Norway) (judgment) 1951 ICJ Rep. 116 (133). In the former the tribunal stated: "the maritime territory is a necessary dependency of the land territory." In the latter "it is the land which confers upon the coastal State a right to the waters off its coasts".
[90] Brooks, "Competing values on the Antarctic high seas: CCAMLR and the challenge of marine-protected areas," 278.
[91] Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 54.
[92] See Article IV of the Antarctic Treaty.
[93] Peterson, "Antarctic Implications of the New Law of the Sea," 141.

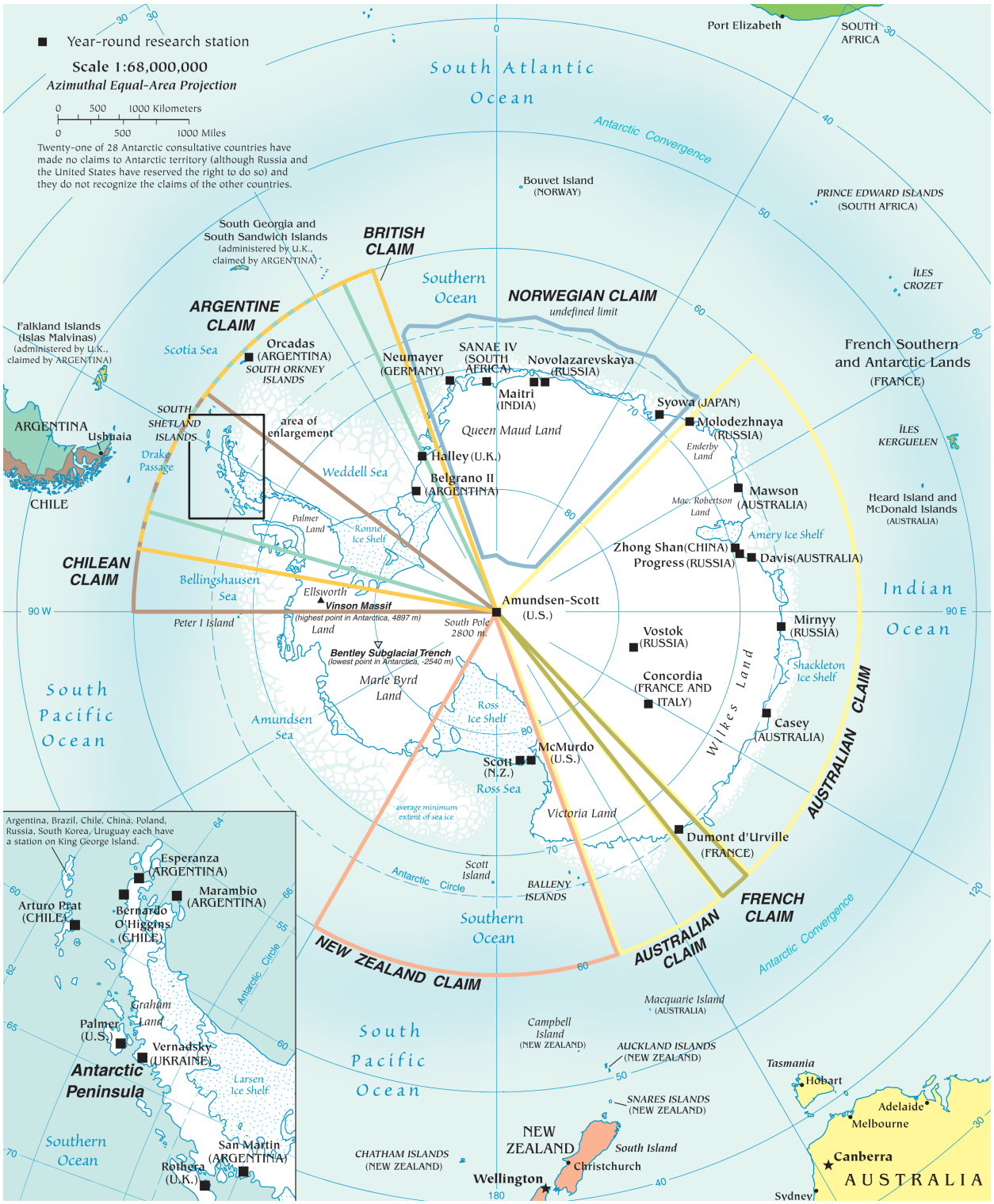

Figure 3: Claims of Territorial Sovereignty in the Antarctic area.[94]

[94] World Factbook, the Agency of CIA, https://www.cia.gov/the-world-factbook/maps/world-regional/, accessed 20 Mar 2022 and https://www.visualcapitalist.com/mapping-territorial-claims-in-antactica/, accessed 20 Mar 2022.

Furthermore, the Antarctic Treaty regulates the process for adopting measures and recommendations in the governance of Antarctica. The legal competence for decision-making in the ATA is reserved for the twenty-nine Treaty Consultative Parties (ATCPs),[95] which adopt measures through unanimity[96] during the annual Antarctic Treaty Consultative Meetings (ATCMs).[97] The ATCM is the main decision-making body for matters relating to the Antarctic Treaty and consult on key issues and matters of common interest in Antarctica.[98] The ATCPs have voting powers and can adopt both measures and recommendations to further the principles and objectives of the Antarctic Treaty,[99] while non-consultative parties and other participants of the ATCMs may contribute to the work and discussion of the decisions.[100]

The Antarctic treaty was a compromise for joint cooperation, and was not developed as an instrument for Antarctic environmental protection and resource management.[101] At the time of its negotiation, an agreement between the claimant and non-claimant states in the matter was difficult to achieve.[102] Nevertheless, due to the environmental and resource-related challenges of the Antarctic and the threat its environment, the Antarctic legal regime saw significant expansion after the adoption of the Antarctic Treaty.[103] Under the Treaty, the conservation of Antarctic living resources is referred to as a recommendation under which measures might be formulated,[104] and this has been interpreted to imply a responsibility for the ATCPs to adopt measures for the preservation and conservation of Antarctic living resources.[105] Consequently, although the Antarctic treaty does not include any substantial rules for the purposes of protecting the Antarctic environment,[106] the ATCMs have been used as a forum to facilitate the progressive developments of norms to address the particular challenges of the Antarctic

---

[95] The 29 ATCPs consist of the 12 signatory states, which acquired consultative status with the adoption of the Antarctic Treaty, see article IX.1 of the Antarctic Treaty, and 17 of the acceding states, see article IX.2 of the Antarctic Treaty. These states are Brazil, Bulgaria, China, Czechia, Ecuador, Finland, Germany, India, Italy, Korea, Netherlands, Peru, Poland, Spain, Sweden, Ukraine and Uruguay. See the complete list: Secretariat of the Antarctic Treaty, Parties, https://www.ats.aq/devAS/Parties?lang=e, accessed 12 Feb 2022. Acceding states may acquire consultative status through historic interests or through the contribution of substantial research activity in Antarctica, see Secretariat of the Antarctic Treaty, ATCM and Other Meetings, available at https://www.ats.aq/e/atcm.html, accessed 2 Feb 2022.

[96] Article IX.4 of the Antarctic Treaty.

[97] The ATCMs are annual (from 1961 to 1994 the ATCM generally met once every two years, but since 1994 the meetings have occurred annually). As of today, 43 ATCMs have been held. The last ATCM was held in Berlin between 23 May to 2 Jun 2022. See Secretariat of the Antarctic Treaty, List of Meetings, available at https://www.ats.aq/devAS/Meetings?lang=e, accessed 25 Feb 2022.

[98] Frits Steenhuisen & Kees Bastmeijer Ricardo M. Roura, "The shore is the limit: marine spatial protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty," *The Polar Journal, 8:2, 289-314* (2018): 297.

[99] Article IX.1 of the Antarctic Treaty.

[100] Such as representatives from the 25 non-consultative parties, various other ATS institutions, and invited experts from international organizations and institutions. See Secretariat of the Antarctic Treaty, ATCM and Other Meetings, https://www.ats.aq/e/atcm.html, accessed 2 Feb 2022

[101] Susanna M. Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," *Ocean & Coastal Management 48 (2005) 782–812* (2005): 795.

[102] Liesbeth Peeters, "Square Peg, Round Hole Jurisdiction over Minerals Offshore Antarctica," *Macquarie journal of international and comparative environmental law* Vol.1 (2), p. 217-232 (2004).

[103] Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 2.

[104] Article IX.1f of the Antarctic Treaty.

[105] Ricardo M. Roura, "The shore is the limit: marine spatial protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty," 289-90.

[106] Authors comment: even though the Antarctic Treaty Regime does not directly include environmental protection the aims for a peaceful cooperation and the provisions on demilitarization and denuclearization of the ATA indirectly provide for a protection of the Antarctic environment.

continent and its surrounding waters.[107] Hence, complementary legal instruments have been adopted to govern Antarctic waters, resulting in the current treaty system under the Antarctic legal regime. The ATS thus consists of a treaty-based regional framework[108] of legal agreements[109] generally defined as "the Antarctic Treaty, the measures in effect under that Treaty, its associated separate international instruments in force and the measures in effect under those instruments."[110]

1.4. Integrated Ocean Management: A Contemporary Model of Oceans Governance

1.4.1. Traditional Approaches

Traditionally, ocean governance has been tinged by fragmentary approaches such as the zonal management approach and other sectorial management approaches of the seas (e.g., the silo regulation of fisheries or pollution sources).[111] As Scott holds, "[u]ntil recently, the history of the law of the sea and oceans governance was defined by division: division in respect of maritime zones, sectoral competence and jurisdictional mandates."[112] Such divisions fail to consider the transboundary nature of the marine environment. Marine living resources and marine pollution travel in and between maritime zones with water and currents, and the functioning within and between marine ecosystems do not care for man-made legal boundaries created due to historical and political processes. [113]

In this regard, UNCLOS has been criticized for its heavy focus on the zonal management approach. Even though UNCLOS acknowledges the integrity of the oceans and provides for general obligations to protect the marine environment, irrespectively of maritime boundaries, there is no overarching oceans body with the mandate to implement the convention.[114] Where national jurisdiction ends, or where the issue concerns transboundary marine environmental protection, the convention has thus been purported to fall short regarding, for example, the protection of marine biodiversity.[115] Also sectorial management approaches,[116] i.e., the management of specific human oceans activities, like e.g., the management of individual pollution sources, shipping activities, and the protection of exploitation of certain marine species (e.g., marine mammals, and straddling stocks) have been held to not provide for a sufficient protection of the marine environment. Such "oceans management often occurs in silos,

---

[107] Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 2. McGee, "Rediscovering the importance of Antarctic Law for the early twenty-first century," 2.

[108] Rothwell, "The Antarctic Treaty at Sixty Years: Past, Present and Future," 6, 7.. See also British Antarctic Survey (BAS), The Antarctic Treaty Explained, available at https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/the-antarctic-treaty-explained/, accessed 18 Feb 2022.

[109] The additional legal instruments adopted to the Antarctic Treaty are: the Agreed Measures for the Conservation of Antarctic Fauna and Flora (1964, Agreed Measures); two separate international legal agreements: the Convention for the Conservation of Antarctic Seals (1972, CCAS) and the Convention on the Conservation of Antarctic Marine Living Resources (1980, CAMLR Convention); and the Protocol on Environmental Protection to the Antarctic Treaty (1991, the Madrid Protocol).

[110] See article 1(e) "Definitions" of the Madrid Protocol.

[111] Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 464, 65.

[112] Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 489.

[113] See Gabriela Argüello, "Opportunities for Protecting Biological Diversity in the Arctic Ocean," *The Yearbook of Polar Law Xiii 127–153* (2022): 130, 31.

[114] Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection."

[115] Winther, "Integrated ocean management for a sustainable ocean economy," 1453.

[116] The regulation of, for example, shipping, pollution, and activities related to the extraction of petroleum from the seabed. See Winther, "Integrated ocean management for a sustainable ocean economy," 1456.

sector by sector, with poor coordination between institutions,"[117] and fails to address the cumulative effects of multiple human activities.[118]

Since a fragmented ocean management cannot consider the fluid and interconnected nature of water, and the cumulative impacts of human activities such management can only regulate human activities on the oceans in a piece-meal fashioned way. It has therefore been acknowledged that the heavy emphasis of fragmented oceans management, at both the regional and global level, has contributed to the deterioration of the world's marine health.[119] Due to raised concerns for the degradation of the marine environment it has been widely recognized that a different kind of ocean management is called for, one that can take into consideration the interrelationship of the seas.[120]

1.4.2. The Integrated Management Approach

Contemporary perspectives of ocean management stress the need for holistic approaches in ocean governance in order to protect marine health.[121] By holistic approach I mean ocean management that can take into consideration the totality of human activities and their cross-border impacts over time in the fluid nature of water, instead of an isolated perspective of ocean activities and the marine environment.[122] In an attempt to mend the deficiencies of fragmented oceans management "the last 15 years have witnessed a remarkable sea change in approaches to oceans governance with the development of strategies that seek to integrate policies across sectors, and proactively manage multiple activities within ecological boundaries"[123] and contemporary approaches to oceans governance have thus been stressing principles of integrated ocean management (IOM).[124]

IOM is a tool for marine environmental protection that reacts to previous approaches by enabling an understanding of the totality of ocean uses and pressures on the marine environment. Consequently, IOM is concerned with a wide range of human activities, as well as their cumulative effects upon the marine environment. IOM has been described as "an approach to oceans governance that is holistic, and which aims to integrate the management of activities that impact upon or affect the oceans across sectors, space and time under a unified overarching vision."[125] The goal of IOM is to enhance marine ecosystems' resilience as well as preserving marine health in a long-term perspective.[126] To do so, IOM provides with a multi-, or cross-, sectoral approach to oceans governance.[127] IOM thus allows for the

---

117 Winther, "Integrated ocean management for a sustainable ocean economy," 1452.
118 Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 465.
119 Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 488-89.
120 See Winther, "Integrated ocean management for a sustainable ocean economy," 1451.
121 Winther, "Integrated ocean management for a sustainable ocean economy," 1456.
122 Winther, "Integrated ocean management for a sustainable ocean economy," 1456.
123 Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 489.
124 Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 464, 65. IOM has had widely international recognition. On the history of IOM see: Chapter 17 of Agenda 21 (UNCED 1992), the WSSD (2002), the Rio+ 20 UN Conference on Sustainable Development (2012). Also, the 2017 UN Ocean conference stressed the need for an integrated approach in the management of the oceans (Sustainable Development Goal 14 "to conserve and sustainably use the oceans, seas, and marine resources for sustainable development". See UNGA Resolution "Our ocean, our future: call for action (A/RES/71/312) (2017). In marine ABNJ, IOM has been recognized under the CBD and by members of the Ad Hoc Open-ended Informal Working Group to the CBD connected to issues relating to the conservation and sustainable use of marine biological diversity in ABNJ. See Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 467.
125 Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 465.
126 Winther, "Integrated ocean management for a sustainable ocean economy," 1451.
127 Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 467.

management of the marine environment in a holistic way by taking into account all parts of marine ecosystems and the interaction of any activity that may affect them in a comprehensive manner.[128]

Ecosystem-based approaches (EA) are fundamental parts of IOM.[129] EA roots in international environmental law and is broadly understood as a "strategy for the integrated management of land, water and living resources".[130] This type of approach allows for the management of the environment in an integrated way by taking into account all parts of ecosystems and the interaction of any activity that may affect them in a holistic manner.[131] EA aims to conserve the structures and functioning of ecosystems by considering ecological boundaries rather than manmade spatial ones.[132] IOM based on the EA is thus spatially bound within the context of ecosystems instead of (ecologically arbitral) drawn legal boundaries based on historical and political processes, and entails a temporal dimension by forwarding planning and long-term forward-looking sustainability.[133] The EA recognizes how each individual component of the environment is interconnected in and between ecosystems by taking into account the cumulative effects of any action or interaction within the environment. As such, the EA adopts an adaptive approach to the changeability of the environment over time based on ecosystems and available scientific knowledge.[134]

1.4.3. Implementation of Integrated Ocean Management: Marine Protected Areas

A wide range of means may implement IOM, inter alia by the use of ABMTs.[135] ABMTs are spatially designed to manage a particular area of the environment and may vary significantly in purpose and

---

[128] UN Report of the Secretary-General, Oceans and the Law of the Sea, A/61/63, 9 March 2006, p. 38, para. 136. 'All human activities that could affect the oceans should be managed in a comprehensive and integrated manner, on the basis of a scientific assessment of the state of the ecosystem, the interaction of its components and the pressures upon it', available at https://documents-dds-ny.un.org/doc/UNDOC/GEN/N06/265/87/PDF/N0626587.pdf?OpenElement, accessed 9 May 2022.

[129] Tanaka, "The International Law of the Sea," 304. The concept of IOM may be deconstructed into various components, and amongst the principal ones, but not exclusively, are: ecosystem-based management, the precautionary approach, environmental impact assessment and marine spatial planning, see further Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 467.

[130] COP Decision V/6, Ecosystem Approach, adopted by the Conference of the Parties (COP) to the Convention of Biological Diversity at its Fifth meeting, Nairobi, 15-26 May 2000, UNEP/COP/5/23. Found in Vito de Lucia p 91. The approach has further been defined by the Biodiversity Committee of the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) as 'the comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystems and its dynamic, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity, found in Tanaka, "The International Law of the Sea," 303.

[131] UN, Report of the Secretary-General, Oceans and the Law of the Sea, A/61/63, 9 March 2006, p. 38, para. 136. 'All human activities that could affect the oceans should be managed in a comprehensive and integrated manner, on the basis of a scientific assessment of the state of the ecosystem, the interaction of its components and the pressures upon it', https://documents-dds-ny.un.org/doc/UNDOC/GEN/N06/265/87/PDF/N0626587.pdf?OpenElement retrieved on 9 May 2022.

[132] Tanaka, "The International Law of the Sea," 304.

[133] Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 467.

[134] Vito De Lucia, "Competing Narratives and Complex Genealogies: The Ecosystem Approach in International Environmental Law," *27 J. ENVTL. L. 91* (2015): 92, 93.

[135] ABMTs have been recognized as useful for the sustainable use of marine resources, and are included in various global and regional agreements. See UN Technical Report, "The Contribution of Area-based Management Tools to Sustainable Development Goals and Targets, p. 5, available at https://www.cbd.int/doc/c/459d/9704/bab5a7b2806f0513484fb620/mcb-em-2018-01-unep-submission1-en.pdf accessed 1 Apr 2022.

scope. While some manage specific human activities others are concerned with integrated management and seek to coordinate the regulation of various human activities in the area.[136]

The use of MPAs is an ABMT[137] for the effective protection of the marine environment.[138] At present day, a universally accepted definition of MPA does not exist. In broad terms, however, MPAs may be described as an 'umbrella term'[139] of areas of higher environmental protection than their surroundings, in which specific measures are adopted to manage human activities for the objective of protecting and preserve of the marine environment. Like ABMTs in general, MPAs may also include a wide range of different aims, regulations, and scope of application. Consequently, the definition varies considerably between different legal instruments and institutions.[140] The location of the area, the measures adopted in the protected area and the objectives aimed for is subject to a great variation. [141] Some MPAs are concerned with specific protective measures, like for example the restriction of certain fisheries or shipping activities. In line with the traditional use of fragmentary approaches MPAs in ABNJ have traditionally focused on such a narrow range of issues.[142] Other MPAs are broader in scope, or multifunctional, and cover the management of a large spectra of human activities, so-called integrated or cross-sectorial MPAs. Integrated MPAs are fundamental for the implementation of IOM,[143] and held to be the most viable mechanism for developing integrated management of marine ABNJ.[144] IOM includes, inter alia, biodiversity protection.[145] Biodiversity is a concept of contemporary international environmental law[146] and is defined by the leading instrument on the protection of biodiversity, the Convention on Biological Diversity (CBD),[147] as "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of

136 UN Technical Report, The Contribution of Area-based Management Tools to Sustainable Development Goals and Targets, p. 5, available at https://www.cbd.int/doc/c/459d/9704/bab5a7b2806f0513484fb620/mcb-em-2018-01-unep-submission1-en.pdf accessed 1 Apr 2022.

137 MPAs are by the UN examples of ABMTs see for example: The UN Ocean Conference Call for Action (June 2017) calls upon all stakeholders to conserve and sustainably use the oceans, seas, and marine resources for sustainable development.... on an urgent basis including supporting, the use of effective and appropriate area-based management tools, including marine protected areas (United Nations General Assembly, 2017). See also Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 484. See also Argüello, "Opportunities for Protecting Biological Diversity in the Arctic Ocean," 131.

138 Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 1.

139 Ingvild Ulrikke Jacobsen, "Marine Protected Areas in International Law: an Arctic perspective " *Leiden ; Boston : Brill Nijhoff. Queen Mary studies in international law* 25 (2016): 5.

140 Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 783.

141 Jacobsen, "Marine Protected Areas in International Law: an Arctic perspective " 4.

142 Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 484.

143 Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 327.

144 Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 327.

145 Lena Schøning, "More or Less Integrated Ocean Management: Multiple Integrated Approaches and Two Norms," *Ocean Development & International Law* 51:2, 95-115 (2020).

146 Patricia Birnie, "International Law & the Environment," 3.

147 The CBD was signed at the UN Conference on Environment and Development (The Rio "Earth Summit) in Rio de Janeiro, 5 Jun 1992, and entered into force 29 Dec 1993, see Convention on Biological Diversity (Official Webpage), History of the Convention, available at https://www.cbd.int/history/, accessed 12 Apr 2022. As of today, the convention has universal membership of 196 parties, see Convention on Biological Diversity (Official Webpage), List of Parties, available at https://www.cbd.int/information/parties.shtml, accessed on 12 Apr 2022.

ecosystems."[148] Integrated MPAs may therefore also be described as a tool for protecting and conserving marine biodiversity.[149]

1.5. Area of Research: Antarctic Marine Protected Areas

1.5.1. Problem Statement

The degradation of the marine environment is not unique to Antarctica but is a global issue in oceans governance. Scientists of all fields related to the management of the seas are raising concerns about the global deterioration of the marine health, and "the need for an integrated, ecosystem-based and knowledge-based approach to ocean governance is more pressing than ever."[150]

Law and space are closely connected[151] and IOM based on the EA is an approach open to adapt to the nature of the seas, a possibility to build bridges between the physical and the legal reality by considering the functioning of marine ecosystems across sectors and time when establishing norms for oceans protection. The implementation of IOM by ABMTs such as MPAs is a widely recognized way of achieving adequate protection of the oceans. However, while numerous MPAs have been established under national jurisdiction, the process of MPA designation in ABNJ has been underdeveloped in comparison.[152] The designation of MPAs in ABNJ is possible and has occurred in a few circumstances, but since the governance of MPAs in international water is fragmented it is a more difficult task.[153] In contrast to the national legal order, the international legal order does not provide for a legislative body in charge of adopting binding laws upon the whole international community,[154] and the lack of sovereign authority in ABNJ raises pertinent governance questions.[155] The absence of overarching mechanisms for managing human activities and resource exploitation of ABNJ has therefore resulted in the establishment of MPAs being more challenging in such areas than under national jurisdiction.[156]

The implementation of IOM through the establishment of MPAs in ABNJ requires international cooperation and specific competencies vested on states or international organizations in relevant international legal sources.[157] The cooperation between organizations and institutions plays a pivotal role for a sustainable ocean governance,[158] which is well illustrated by Joyner who points out that regardless of overloading, depleting, or polluting the environment, "the fundamental logic runs the same: In the absence of genuine cooperation […] prevailing strategies by users are inclined towards misuse, and eventually abuse" (addition mine) of the environment and its resources of ABNJ.[159]

---

148 Article 2 of the CBD.
149 Jacobsen, "Marine Protected Areas in International Law: an Arctic perspective " 4.
150 Winther, "Integrated ocean management for a sustainable ocean economy," 1456.
151 As well told by the legal scholars Aaron Westholm and Gabriela Argüello.
152 Argüello, "Opportunities for Protecting Biological Diversity in the Arctic Ocean," 132.
153 Cassandra M. Brooks, "The Ross Sea, Antarctica: A highly protected MPA in international waters," 5.
154 Malcolm N. Shaw, "International Law," *Cambridge University Press* Ninth Edition (2021): 59.
155 Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 26.
156 Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 1.
157 Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 487. Tanaka holds that international cooperation is a prerequisite for the protection of common interests at sea, such as marine environmental protection and the protection of marine biodiversity, see Tanaka, "The International Law of the Sea," 4.
158 Winther, "Integrated ocean management for a sustainable ocean economy," 1456.
159 Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 29.

However, since states tend to primarily attend to their own interests, which may vary considerably, cooperation is not always an easy task.[160]

In Antarctic waters international cooperation has been achieved under both the law of the sea as an international overarching oceans regime as well as under the regional cooperation of the Antarctic legal regime. The Antarctic Treaty has been recognized as one of the most successful international agreements[161] and the subsequent ATS has in many respects been at the forefront of developments towards cooperation and shared management of ABNJ.[162] Area-based management is a well-established feature of the ATS and the designation of protected areas in the protection of the Antarctic marine environment has been facilitated under two of its legal instruments. The Convention on the Conservation of Antarctic Marine Living Resources (CAMLR convention)[163] allows for the adoption of conservation measures of all marine areas up to the Antarctic polar front,[164] including area-based protection such as the opening and closing of areas.[165] The Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol)[166] allows for the regulation of all activities in the ATA,[167] including the designation of two kinds of protected areas: Antarctic Specially Protected Areas (ASPAs) and Antarctic Specially Managed Areas (ASMAs).[168]

Even though MPAs are increasingly incorporated in international agreements the establishment of MPAs in ABNJ has not been free from controversy,[169] Antarctic MPAs included.[170] Global challenges regarding cooperation for the regulation of ABNJ and the absence of a clear legal mandate to establish MPAs in international waters, together the regional challenges of the Antarctic, such as the legal processes of Antarctic MPA designation, the cooperation for the management of cross-sectorial activities under and beyond the Antarctic legal regime, the reach and scope of the regime and its intersection with the law of the sea, are all aspects adding to the legal complexity of establishing MPAs in Antarctic waters.

1.5.2. Purpose and Research Questions

This study aims to investigate the opportunities and challenges for implementing integrated Antarctic MPAs that can manage cross-sectorial human activities in Antarctic waters. This purpose is examined from two overlapping perspectives: the regional perspective of the opportunities of establishing integrated MPAs under the Antarctic legal regime and the intersection with the international perspective of the law of the sea regime as mutually reinforcing or competitive in this task.

---

160 Xu, "The Establishment of the Marine Protected Area in Antarctica's Ross Sea - On the Dilemma of Collective Action in the Governance of Global Commons and Its Solutions," 17.
161 https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/the-antarctic-treaty-explained/
162 Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 326.
163 Adopted in Canberra, Australia the 20 May 1980, entry into force 7 Apr 1982. Available at https://www.ccamlr.org/en/organisation/convention-history, accessed 25 Feb 2022.
164 Article 1.1 of the CAMLR convention.
165 Article IX.2(g) of the CAMLR convention.
166 Adopted in Madrid 4 Oct 1991, entry into force 14 Jan 1998. See Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 147.
167 Article 3 of the Madrid Protocol.
168 Regulated under Annex V of the Madrid Protocol.
169 Tanaka, "The International Law of the Sea," 428.
170 Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 331.

For this purpose, the following research questions are analyzed:

i. In what ways do the Antarctic legal regime and, respectively, the law of the sea regime open possibilities for IOM?

ii. Up to what extent does the intersection of these legal regimes allow for the establishment of integrated MPAs in Antarctic waters?

1.5.3. Scope and Limitations

This thesis analyzes the opportunities for the implementation of IOM based on the EA in Antarctic waters through the establishment of Antarctic MPAs. It provides an overview of the leading legal frameworks applicable to Antarctic waters to determine the contemporary legal basis under international law for establishing integrated MPAs in the Southern Ocean. It takes both an international as well as a regional perspective of Antarctic MPA designation and examines the intersection of these perspectives. The thesis highlights, in the author's view, critical legal challenges associated with the designation of MPAs in the Antarctic context. This focus implies various limitations.

A first limitation to the scope of this study is the choice of ABMT. IOM includes a wide range of different ABMTs[171] and it is beyond the scope to bring up all aspects of IOM. The focus lies in the establishment of MPAs based on IOM and the EA. This also implies a limitation in the choice of the examined type of MPAs, only integrated and multifunctional MPAs that can manage human activities across-sectors are encompassed by this study. Sector-based or single-scoped MPAs aiming to protect the marine environment from a particular human activity fall outside the scope.[172] Furthermore, the focus on the implementation of IOM excludes the challenges with regarding the enforcement of Antarctic MPAs once they have been established. Additionally, the proposals for future MPAs in Antarctic waters are not discussed to a larger extent.

Secondly, this study is mainly concerned with the legal framework of regional management of Antarctic waters and does therefore not address global challenges for the protection of marine biodiversity such as the impact of anthropogenic climate change. This is a wider issue and beyond the scope of MPAs so manage since MPAs in themselves cannot adverse the negative impacts of global climate change.[173]

---

171 For further readings, see e.g. Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection."

172 Examples of conventions with single-management objectives in oceans management is for example one of the earliest agreements to provide for legal possibilities to designate MPAs in marine ABNJ: the 1946 International Convention for the Regulation of Whaling (ICRW). The ICRW allows for the establishment of sanctuary areas where commercial whaling is prohibited. Another example is the International Convention for the Prevention of Pollution from Ships (MARPOL) which allows for the establishment of Particularly Sensitive Sea Areas (PSSAs) for the regulation of marine pollution. For further readings, see Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica."

173 Tanaka, "The International Law of the Sea," 428. For further readings, I recommend Bargagli, Antarctic ecosystems: environmental contamination, climate change, and human impact, *Berlin : Springer* (2005). See also Climate change and Southern Ocean ecosystems I: how changes in physical habitats directly affect marine biota (various authors) (2015), available at https://onlinelibrary.wiley.com/doi/abs/10.1111/gcb.12623, accessed 2 Jul 2022.

Thirdly, the author does not comprehensively discuss the legitimacy and validity of the Antarctic claims on territorial sovereignty.[174] Nevertheless, since the claims of jurisdiction over Antarctic maritime areas affect the legal status of them, the general view of legal scholars on the matter is given an account of in the determination of Antarctic waters as under or beyond the point of national jurisdiction and relates these conclusions to the legal consequences for Antarctic MPA designation.

A final limitation regards the analysis of the ongoing negotiations on an internationally legally binding instrument (ILBI) for the protection of marine biodiversity beyond national jurisdiction (BBNJ). The awareness of the rich biodiversity in marine ABNJ and concerns about the threat posed to them by human activities have led to a closer examination of the current legal framework for the conservation and management of marine biodiversity in ABNJ.[175] In 2004, the issue of managing biodiversity in ABNJ emerged on the UN agenda. The UN General Assembly (UNGA) initiated investigations on the subject and established an Ad Hoc Open-Ended Working Group tasked with studying the possibilities for a new multilateral legal instrument to better manage the conservation and sustainable use of marine biodiversity in ABNJ.[176] After nearly 10 years of discussions, following up on the recommendations of the working group, the UNGA established a preparatory committee for the development of a new instrument under UNCLOS on the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction, the ILBI.[177] In December 2017, the UNGA formally initiated negotiations for the adoption of this agreement and one of the central topics identified for the sustainable governance of marine biodiversity weas "measures such as area-based management tools, including MPAs."[178] Although the BBNJ negotiations are important for the future of MPAs in international waters, this study is mainly focused on valid law. The ILBI is consequently not a central theme of discussion but is included as a potential possibility to advance the implementation of integrated MPAs in Antarctic waters.[179]

1.5.4. Methodology and Materials

The method opted for in this thesis is the doctrinal method. Legal doctrine may be defined as professional legal writings that seeks to arrange the law under general principles in order to achieve a coherent picture of the law.[180] Legal coherence entails unity in the examined legal context, the systematization of legal norms into an understandable picture. The doctrinal method deals with both systematization and interpretation of valid legal norms, *de lege lata*, into a structured network of

[174] The assessment of statehood and sovereignty depends on various criteria and requires general considerations of international public law. For further readings, see for example Shaw, "International Law."
[175] UNEP, "Marine and Coastal Biodiversity: Review, further elaboration and Refinement of the Programme of Work," 4.
[176] UNGA Resolution "Oceans and the law of the sea", A/RES/59/24 (2004), see UNDOALOS, "Marine Biological Diversity of Areas Beyond National Jurisdiction," *UN Division For Ocean Affairs and The Law of the Sea*: 2, https://www.un.org/depts/los/biodiversityworkinggroup/webpage_legal_and_policy.pdf.
[177] UNGA Resolution "Development of an internationally legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction", A/RES/69/292 (2015). UNDOALOS, "Marine Biological Diversity of Areas Beyond National Jurisdiction," 7.
[178] UNGA Resolution "Internationally legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction", A/RES/72/249 (2017)
[179] For further readings on this matter, I recommend Freestone, "Conserving biodiversity in areas beyond national jurisdiction.", and Johnson, "The Relevance of the Southern Ocean to the Development of a Global Regime for Marine Areas beyond National Jurisdiction - An Uncommon Commons." The negotiations can be followed at https://www.un.org/bbnj/. Accessed 31 Mar 2022.
[180] Aleksander Peczenik, "A Theory of Legal Doctrine," *Ratio Juris* 14 No 1 75-105 (2001): 79.

principles, rules, and exceptions.[181] Legal coherence is accomplished when legal norms reflect the same general principle, thus making the law certain and predictable[182] and therefore also apprehensible from a juridical perspective. The task of the lawyer in conducting the doctrinal method is to strive for the description of the juridical reality in a coherent manner so that this reality may be comprehended from a legal point of view. Kaarlo holds that,

> Coherence is a basic presupposition of the rationality of argumentation. The requirement of coherence concerns arguments sustaining both factual claims and normative standpoints, and thus, is relevant for both theoretical and practical discourses. A factual claim or normative standpoint has not been rationally vindicated if the grounds warranting it do not match up. At issue is not only logical non-contradictoriness (consistency) but what can – in somewhat looser terms – be called internal harmony, or simply making sense."[183]

The doctrinal method is suitable in the endeavor to systematize and interpret the norms that form the legal basis for Antarctic MPAs. To establish valid law and map the norms for MPA designation in the Antarctic context, the author undertakes a literature review of the writings of legal scholars and analyzes legal sources in pursuance of a variety of legal positions in order to draw conclusions on legal coherencies, legal conflicts, and legal vacuums. In this way legal patterns can be mapped, and a conclusion can be drawn on the existing *lege lata* of the opportunities for Antarctic MPA designation.

The factual claims of this thesis are the used sources of law. Since this study is built on international public law, legal sources of the international law systems are subject to examination. The first paragraph of article 38 of the Statute of the Permanent Court of International Justice[184] identifies the following sources of international law:

> 1. The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:
> a. international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;
> b. international custom, as evidence of a general practice accepted as law;
> c. the general principles of law recognized by civilized nations;
> d. subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.

This article has been widely recognized as the most authoritative statement with regards to the binding sources of international law.[185] In the case *Nicaragua v USA*,[186] the court held that each source should be considered simultaneously[187] and this thesis examines all of these legal sources. With regards to international conventions, the treaty-system of the ATS is examined, as well as UNCLOS, the CBD

---

[181] Peczenik, "A Theory of Legal Doctrine," 75, 76.
[182] Kaarlo Tuori, "Ratio and voluntas : the tension between reason and will in law (applied legal philosophy)," *Farnham : Ashgate* (2011): 165.
[183] Tuori, "Ratio and voluntas : the tension between reason and will in law (applied legal philosophy)," 164.
[184] The Statute of the Permanent Court of International Justice, San Francisco 24 Oct 1945
[185] Shaw, "International Law," 59.
[186] Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America), Judgements of 26 Nov 1985, available at https://www.icj-cij.org/en/case/70/judgments, accessed 2 July 2022.
[187] However, in the case of conflict, it is important to determine in what order the legal sources may be applied in the norm-hierarchy. Dixon suggests that With exception for judicial decisions and the writings of legal scholars as a subsidiary source of international law, there is no pre-established hierarchy of the sources of international law, but in those cases where it is of importance to determine the hierarchy of international law sources, the lawyer should follow the order followed by the article 38 of the ICJ Statute itself. See Martin Dixon, "Textbook on International law," *Oxford University Press* 7th edition (2013): 25.

and other relevant international conventions related to the legal Antarctic context of MPA designation. International customs and general principles of law are assessed both under the Antarctic legal regime and the law of the sea regime. The doctrinal work of legal scholars is an important part of the study, since legal scholars have already interpreted and systematized the law, thus providing for progress of legal understanding, and developments. In addition, since different kinds of sources of international law interact, soft law is also examined,[188] i.e., *ab initio* non-binding instruments such as recommendations and guidelines that have influenced the establishment of integrated MPAs in Antarctic waters. The normative claim of this thesis concerns the implementation of IOM and EA as an objective for a desirable management of the marine environment. I critically discuss whether IOM and EA advances ocean governance within current legal structures.

Even though coherence is a normatively justified goal, in adjudication as well as legal science, it has been questioned whether legal coherence is actually possible, or even meaningful to search for. According to Kaarlo,

> [t]he sheer variety of legal sources and legal orders eliminates the prospect of total coherence, the possibility of arranging legal normative materials into a comprehensive substantive-classificatory system […] transformations in law's spatiality and temporality: the pluralism of legal sources and legal orders, as well as acceleration of the law's pace […].[189] (addition mine).

Kaarlo claims that "[i]n the face of increasing legal fragmentation and pluralism, we may ask whether the law's comprehensive unity is conceivable at all".[190] Coherency is the goal, but the law cannot always be coherent since it tries to translate the physical reality into a juridical reality, and translations tend to lose some meaning to original. Thus, in describing law into a coherent system is by no means an objective endeavor, some parts need to be adjusted. This is especially relevant in international law where the law-maker is not a single legislative body. Instead, and based on the sovereign equality principle, all states have the same standing in the law-making process. This usually entails a plurality of different legal realities and perspectives about the regulatory object. The addition of an 'international dimension' contributes to legal complexity and Kaarlo asserts in an illustrative way that "[t]raditional systematization […] has assumed the monocentric perspective of the nation-state legislator. It cannot capture the polycentricity of legal sources and the pluralism of legal orders and systems coloring our contemporary legal scene"[191] (addition mine).

The legal issues connected to the designation of Antarctic MPAs reveal what appear to be an incoherent international law system in ABNJ. However, from the doctrinal analysis of legal sources of relevance in the Antarctic context, including treaties, principles, customary law, and case law, I map a coherent legal framework that could advance the implementation of MPAs in the Antarctic marine environment. In this endeavor, this thesis seeks to point out the deviating parts and vacuums in the coherent picture and seeks to explain the background and reasons for this legal reality. By doing so, I aim to create coherency and stability in the given law of Antarctic MPA designation based on IOM.

---

[188] Soft law includes rules of international law that do not create binding legal rights or obligations for the international subject to whom the rules are addressed, as well as values, guidelines and proposals that might develop into binding rules of international law. See Dixon, "Textbook on International law," 52. Soft law instruments may include, inter alia, non-binding declarations and recommendations and voluntary codes of conduct. See, e.g., Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 784.
[189] Tuori, "Ratio and voluntas : the tension between reason and will in law (applied legal philosophy)," 172.
[190] Tuori, "Ratio and voluntas : the tension between reason and will in law (applied legal philosophy)," 163.
[191] Tuori, "Ratio and voluntas : the tension between reason and will in law (applied legal philosophy)," 171.

Part of the method of this thesis is the separation of law as it is (*de lege lata)* or valid legal maps, and law as it should be, suggestions on remapping current legal structures (*de lege ferenda*). However, the legal reality and the interpretations of it is in constant motion and the distinction between what is and what should be is fluid, which involves value-based positions.[192] It is the authors position that all legal doctrine and scholarly writings reflects, to a more or less extent, legal argumentation based on values.[193] Peczenik asserts that each legal interpretation of valid law is contextual, human-made and depends on the given moment in time.[194] Value-based positions are arguably a natural part of legal argumentation and the application of law since the interpreters of law are humans, and as humans we are bound by our individual realities in interaction with culture, position and time. In the endeavor of mapping legal coherency in the given law of Antarctic MPA designation, I aim to distinguish *de lege lata* from *de lege ferenda*, by not only to assess current structures but, based on my own legal position, also provide recommendations on how to proceed in the future.

1.6. Structural Overview

The thesis is structured as follows. The following chapter examines the legal status of Antarctic waters. Chapter three assesses the opportunities for IOM and the implementation of MPAs in international waters and chapter four frames this discussion by examining the opportunities for the designation of integrated MPAs in Antarctic waters. Chapter five analyses some important competitive norms between the Antarctic legal regime and the law of the sea in Antarctic MPA designation. The final chapter concludes the thesis and provides for an outlook for the future.

[192] Peczenik, "A Theory of Legal Doctrine," 79.
[193] Peczenik, "A Theory of Legal Doctrine," 75, 76.
[194] Peczenik, "A Theory of Legal Doctrine," 78.

2. Legal Status of Antarctic Waters

This chapter examines the legal status of Antarctic waters. The legal status of maritime areas determines the legal regimes governing them and consequently under what legal premises MPAs may be established. The discussion of this chapter departs from the Antarctic legal regime since it is this special legal regime that allows for a relationship with other sources of international law in Antarctica.[195]

2.1. Antarctic Waters: Under or Beyond National Jurisdiction?

The question of Antarctic territorial sovereignty over both terrestrial and maritime areas is subject to political and legal dispute. While the claimant states purport that their claims over the Antarctic continent generate maritime zones under national jurisdiction,[196] non-claimant states oppose this position by asserting that Antarctic waters remain outside the scope of national jurisdiction and constitute high seas up to the coastline.[197] The latter position is based on the argument that no claim of sovereignty over Antarctica is internationally recognized and lawful and consequently there are no valid coastal states to claim maritime jurisdiction over Antarctic waters.[198] The assessment of the existence of Antarctic maritime jurisdiction is well illustrated by Joyner, who asserts that:

> In order to assert zones of maritime jurisdiction seaward, international law mandates that a sovereign authority be vested in a territory, presumably in the form of a "coastal state". Perfected claim to title and sovereign ownership serve as the controlling authority for generating zones of jurisdiction seaward. In the Antarctic, though, the permissibility of making a maritime claim into the Southern Ocean has become dominated by the issue of sovereignty over Antarctic territory and co-relatedly, the legal impact from the Antarctic Treaty in making that maritime claim.[199]

It is beyond the scope of this study to enter any deep discussions on the acquisition of territorial sovereignty under public international law,[200] but some remarks on the general legal position in the matter of Antarctic sovereignty should nevertheless be made. In general, legal scholars take a hesitant position towards the validity of Antarctic maritime claims. Firstly, doubts are expressed of whether the claimant states exercise effective occupation and authority over Antarctic territory,[201] and secondly, due to the ongoing territorial disputes the claims do not seem to have acquired sufficient acknowledgment by the international community to be considered legitimate under international law.[202]

---

[195] Maria Teresa Infante, "Maritime Conventions in Antarctica," *Bluebook 21st ed.* 35 GERMAN Y.B. INT'l L. 249 (1992): 249.

[196] Anna Homan, "Maritime Zones in Antarctica," *20 Austl. & N.Z. MAR. L.J. 69* (2006): 75. These claims are based on various grounds, amongst these: occupation, contiguity, discovery, exploitation, and historic rights See Kaczorowska, "Public International Law," 298.

[197] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 805.

[198] Joyner, "The Antarctic Treaty System and the Law of the Sea - Competing Regimes in the Southern Ocean," 310.

[199] Ibid 307.

[200] For further readings on statehood and the acquisition on territorial sovereignty, see The Island of Palmas Arbitration, Netherland versus the United States of America, 4 Apr 1928, Volume II pp. 829-871, p 838, available at https://legal.un.org/riaa/cases/vol_II/829-871.pdf accessed 17 May 2022, see also Mikulas Fabry, "Recognizing States. International Society and the Establishment of New States Since 1776," *Oxford University Press* (2010).

[201] Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 46, 47, 52., Homan, "Maritime Zones in Antarctica," 69., Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 53, 54.,

[202] The lack of recognition by the international community, see for example Homan, "Maritime Zones in Antarctica," 75., Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the

Thirdly, from the legal point of view of the Antarctic legal regime, the Antarctic Treaty puts all claims on territorial sovereignty over Antarctica juridically on hold. So, article IV of the Antarctic Treaty stipulates that:

> 1. Nothing contained in the present Treaty shall be interpreted as: (a) a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica; (b) a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise; (c) prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica.
> 2. No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.

The first provision of the article does neither deny nor assert any of the previous positions on territorial sovereignty by the claimant states. Neither does it diminish nor constitute a renunciation of those claims. The second provision entails that no new or enlarged claims are allowed during the treaty's life.[203] The Antarctic Treaty thus "freezes" any possibilities of claiming territorial sovereignty in Antarctica and so causes a legal impediment for any claimant state to undertake maritime claims in Antarctic waters.[204] This article may be viewed as an agreement to disagree on the claims of territorial sovereignty over the Antarctic by holding the claims in abeyance in favor of the compromise of joint governance.[205] As Homan concludes, the article IV of the Antarctic treaty does not preclude Antarctic maritime claims per se, but at present such claims are legally suspended.[206] In other words, the Antarctic treaty does not affect any pre-existing claims of territorial sovereignty, either positively or negatively. The claims remain, but in a legal limbo so long as the treaty governs[207] and the question of territorial sovereignty in Antarctica remains unresolved. Under the Antarctic legal regime, this entails a presumption that Antarctic waters fall beyond the scope of national jurisdiction[208] and form part of international waters.

2.2. Antarctic Maritime Zones

In the law of the sea, marine areas beyond the limits of national jurisdiction are divided into two maritime zones: the high seas and the Area. This section examines the applicability of the law of the sea's divisions of marine spaces in the Antarctic context.

2.2.1. Applicability of the Law of the Sea in the Antarctic Context

The legal concept of "the ocean" under the law of the sea is characterized by the continuity of marine spaces, encompassing those waters of the seas that are naturally communicated (for example through

---

Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 337., and Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 47.

[203] Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 54, 58.

[204] Joyner, "The Antarctic Treaty System and the Law of the Sea - Competing Regimes in the Southern Ocean," 308.

[205] Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 54., and Peeters, "Square Peg, Round Hole Jurisdiction over Minerals Offshore Antarctica," 219.

[206] Homan, "Maritime Zones in Antarctica," 71.

[207] Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 58.

[208] See Homan, "Maritime Zones in Antarctica," 69. Joyner, "The Antarctic Treaty System and the Law of the Sea - Competing Regimes in the Southern Ocean," 311.

straits) leaving waters separated by land outside the scope of application (for example lakes).[209] Since the Southern Ocean is not interrupted by any land and forms part of the world's common ocean spaces,[210] the law of the sea would in principle be applicable to Antarctic waters. Almost all members of the ATS are also parties to UNCLOS,[211] which speaks in favor for the applicability of the law of the sea in the Antarctic context. Nevertheless, it has been debated whether the principles of the law of the sea are applicable in the Antarctic context at all.[212] Antarctica is nowhere to be found within the wordings of the UNCLOS, which may imply the exclusion of the area of the application of the convention. However, no provision of UNCLOS precludes its application to Antarctic waters, and as Peeters points out:

> Antarctica is not mentioned in UNCLOS. An interpretation put forward by a minority of authors is that consequently the UNCLOS does not apply to Antarctica. However, most authors rightly agree that the Antarctic issue was simply left out of the already heated UNCLOS negotiations deliberately because the topic was too controversial at that time.[213]

Legal scholars have pointed out that the exclusion of the Antarctic waters from the UNCLOS' scope of application would have required that the convention did so *explicitly*.[214] Furthermore, UNCLOS does not deal with any region of the world[215] since UNCLOS was developed as a comprehensive legal framework for all the world's oceans. To require the convention to mention Antarctic waters for its provisions to apply could arguably challenge its applicability to *any* part of the world's oceans spaces unmentioned by the convention. UNCLOS' application in Antarctic waters is however not unchallenging, since

> […] it is clear that the legal concepts negotiated in UNCLOS never had the specific characteristics of the Antarctic waters in mind. They were adopted according to very different physical realities than those that exist in Antarctica. For example, the legal status of different sorts of ice, an issue important in the Antarctic seas, was never even mentioned in the UNCLOS.[216]

However, even though UNCLOS did not have Antarctica in mind, the convention refers directly to the protection of the marine environment of "ice-covered areas".[217] Although this provision was

---

[209] Tanaka, "The International Law of the Sea," 7.
[210] Encyclopedia Britannica, Southern Ocean, available at https://www.britannica.com/place/Southern-Ocean accessed on 22 Jun 2022
[211] Three states have signed but not ratified (Peru, United States of America and Venezuela) and only one party member to the Antarctic Treaty is not a member of the UNCLOS (Turkey). See Secretariat of the Antarctic Treaty, available at https://www.ats.aq/devAS/Parties?lang=e accessed 5 Jun 2022, and United Nations Treaty Collection, available at https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en, accessed 14 Jul 2022
[212] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 804.
[213] Peeters, "Square Peg, Round Hole Jurisdiction over Minerals Offshore Antarctica," 223, footnote 23.
[214] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 804.
[215] Infante, "Maritime Conventions in Antarctica," 253. Johnson, "The Relevance of the Southern Ocean to the Development of a Global Regime for Marine Areas beyond National Jurisdiction - An Uncommon Commons," 717.
[216] Peeters, "Square Peg, Round Hole Jurisdiction over Minerals Offshore Antarctica," 223.
[217] See article 234 of UNCLOS. The provision aims at protection of ice-covered areas in the EEZ, and since Antarctic waters form part of ABNJ, the provision is, for now, not of direct application in the Antarctic context.

developed with the Arctic Seas in mind, a literal interpretation of this article might as well entail that the southern polar region is possible to include within the scope of application of the UNCLOS.[218]

Another issue of the applicability of UNCLOS in the Antarctic context is the special legal and political situation with regards to the unresolved maritime claims over Antarctic waters.[219] The zonal division of the UNCLOS is based on state sovereignty over a coastline and as Árnadóttir argues, "[m]aritime zones generally have no legal existence without the coastal front."[220] Considering that territorial sovereignty over the Antarctic is still a pending question this may speak in favor of excluding the Antarctic from the scope of the UNCLOS. As pointed out by Vigni,

> One of the crucial problems concerning the applicability of the law of the sea to the Antarctic marine area involves the compatibility between such law and the peculiar legal status of Antarctic waters […] Indeed, the definition of maritime zones implies the presence of Coastal States which very existence in Antarctica is controversial.[221]

Nevertheless, the absence of coastal states of Antarctica does not necessarily imply an automatic exclusion of Antarctic waters from the scope of application of the UNCLOS. It would be against the purpose of the convention as an overarching ocean regime of all the world's continuing ocean spaces. Legal scholars have instead suggested that the absence of established valid coastal states entails the presumption that the high seas regime applies to Antarctic waters up to the Antarctic coastline.[222] This would be in line with current state practice since it has been held that "[u]ntil a time when the international community may recognize the claimant States' rights to maritime zones in Antarctica, third party States will continue to treat the Southern Ocean extending up to the Antarctic continent as high seas."[223] In addition, the Antarctic legal regime seems to support this interpretation. Article VI of the Antarctic Treaty refers to "international law" and the "high seas", and it has been suggested that these references mean that the negotiating parties of the Treaty intended to respect the law of the sea in the governance of Antarctic waters.[224] Moreover, other legal instruments of the ATS also make reference, directly or indirectly, to the law of the sea.[225]

---

[218] Article 234 was negotiated with Arctic waters in mind. For further readings, see Jan Jakub Solski, "The Genesis of Article 234 of the UNCLOS," *Ocean Development & International Law* 52:1, 1-19 (2021). Donald Rothwell, "The Polar Regions and the Development of International Law," *Cambridge University Press* (1996): 295.

[219] See for example Peeters, "Square Peg, Round Hole Jurisdiction over Minerals Offshore Antarctica," 218.

[220] Snjólaug Árnadóttir, "Climate Change and Maritime Boundaries: Legal Consequences of Sea Level Rise," *Cambridge University Press* (2021).

[221] Patrizia Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines " *Max Planck Yearbook of United Nations law* Vol.4 (1), p.481-542 (2000): 493.

[222] See for example Sir Arthur Watts, "International Law and the Antarctic Treaty System," *Australian year book of international law* 1993 (1) (1992): 157, The Netherlnds: Brill | Nijhoff. and the cited authors in Homan, "Maritime Zones in Antarctica," 72.

[223] Homan, "Maritime Zones in Antarctica," 76.

[224] Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines " 493.

[225] Article IV of the CAMLR convention regulates its relation to the Antarctic treaty, and paragraph 1 of the Conservation Measure (CM) 91-04 explicitly expresses that: "This conservation measure and any other CCAMLR conservation measures relevant to CCAMLR MPAs shall be adopted and implemented consistent with international law, including as reflected in the United Nations Convention on the Law of the Sea." The Madrid Protocol does not contain a determined provision to respect the Law of the Sea, but the Protocol has to respect the ATS provisions, see article 4 of the Madrid Protocol.

Lastly, attention should be paid to the fact that UNCLOS codified many principles of the law of the sea that were already part of international customary law before the adoption of the convention. For example, the provisions of the high seas have independent application in Antarctic waters as customary norms,[226] irrespectively of the position taken with regards to the UNCLOS' applicability in Antarctica as treaty law. The Antarctic legal regime allows for the application of customary norms since the reference to "international law" includes both customary and conventional law.[227]

2.2.2. Zonal Division of Antarctic Marine Spaces

Since the law of the sea is applicable in the Antarctic context, the next step is to assess *how* the law of the sea applies in Antarctic waters. The law of the sea divides the oceans into various dimensions and encompasses, in addition to the water column, the seabed and subsoil beneath it, as well as the airspace and atmosphere above the water region.[228] Since Antarctic marine spaces fall beyond the scope of national jurisdiction, the Antarctic water column and the Antarctic seabed would, in principle, be differentiated into two different maritime zones: the high seas and the Area. This section examines if Antarctic waters may be divided into these maritime zones.

2.2.2.1. The Antarctic Water Column

Part VII of UNCLOS establishes the high seas regime. According to UNCLOS, the high seas include "all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State,"[229] i.e., the water column beyond the point of national jurisdiction. Since Antarctic waters fall form part of marine ABNJ it has been claimed that these waters are presumed to form part of the high seas.[230] This seems to be in line with article VI of the Antarctic treaty, which stipulates that:

> The provisions of the present Treaty shall apply to the area south of 60° South Latitude, including all ice shelves, but nothing in the present Treaty shall prejudice or in any way affect the rights, or the exercise of the rights, of any State under international law with regard to the *high seas* within that area.[231]

The explicit reference to the high seas implies that the high sea regime is applicable in Antarctic waters. Even though the current high seas provisions of the UNCLOS were not in force at the time of the adoption of article VI,[232] the high seas and the principles of this regime were already part of international custom at the time of the adoption of the Antarctic treaty.[233]

---

[226] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 805.
[227] Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines " 492.
[228] Tanaka, "The International Law of the Sea," 7.
[229] Article 86 of UNCLOS
[230] Homan, "Maritime Zones in Antarctica," 69. Joyner, "The Antarctic Treaty System and the Law of the Sea - Competing Regimes in the Southern Ocean," 311.
[231] Emphasis mine.
[232] The Antarctic Treaty was signed in 1959 and UNCLOS came into force in 1994, 35 years later.
[233] The high Seas regime as international custom was already codified in the Geneva Convention on the High Seas, done at Geneva on 29 April 1958. Entered into force on 30 September 1962. United Nations, *Treaty Series*, vol. 450, p. 11, p. 82., available at https://www.legal-tools.org/doc/7b4abc-1/pdf/, accessed 8 Jul 2022. The second paragraph of the preamble states that its provisions are "generally reflective of established principles of international law". This provision

However, the reference to the high seas in article VI does not necessarily mean that the Antarctic treaty parties intended to determine the legal status of Antarctic marine spaces. This would be against the original purpose of being neutral with respect to the question of territorial sovereignty in the Antarctic as envisaged in article IV of the Antarctic Treaty. Instead, it implies that the high sea regime is applicable to those parts of Antarctic waters falling beyond the scope of national jurisdiction, without taking a legal position of which parts of the Southern Ocean that might be. As Homan points out:

> in interpreting the natural meaning of the words, clearly the provision merely suggests high seas might exist within that area, and by no means necessitates that all waters take the status of high seas. In fact, one participant of the Treaty's negotiations stated that 'we drafted that provision so as to leave indefinite the question of what was the high seas', implying there was no consensus on the status of the Southern Ocean.[234]

Since Antarctic marine spaces currently form part of ABNJ, the Antarctic water column is assessed to constitute high seas. The Antarctic treaty does not affect the exercise of the rights of the high seas[235] and Antarctic waters are therefore governed by the principle of the freedoms of the seas. Consequently, the exercise of the high sea freedoms, including for example navigation, fishing, the laying of submarine cables and pipelines, and scientific research[236] are permitted in Antarctic waters.

2.2.2.2. The Antarctic Seabed

Part XI of UNCLOS establishes the international legal regime for the exploration and exploitation of the mineral resources in the Area, i.e., the ocean floor and its subsoil beyond the point of national jurisdiction.[237] The Area is governed by the principle of the common heritage of mankind[238] which entails a prohibition of appropriation or assertion of sovereignty over any part of the Area or its resources.[239] However, in contrast to UNCLOS's division of ocean spaces the Antarctic Treaty does not differentiate between Antarctic marine spaces. The Antarctic treaty applies to *all* areas south of 60° South latitude[240] without making a distinction between the water column and the seabed. Since the Treaty does not specifically address the legal status of the seabed the question is whether law of the sea's provisions of the Area are applicable to the Antarctic seabed and its subsoil. This is of importance since the Area has a different legal status than the high seas.[241] In contrast to the high seas, activities

---

has been referred to by the ICJ in *North Sea Continental Shelf* Cases, supra note 14, at 40, para. 65, available at https://www.icj-cij.org/public/files/case-related/52/052-19690220-JUD-01-00-EN.pdf, accessed 3 Jul 2022. See also Tanaka, "The International Law of the Sea," 30. Many of the high sea freedoms were thus already considered customary international law: including navigation, fishing, laying of submarine pipelines and cables, and overflight, and possibly also the duty of preventing marine pollution. See Peterson, "Antarctic Implications of the New Law of the Sea," 140.

234 Homan, "Maritime Zones in Antarctica," 71. This position is also supported by Joyner and Peeters, see Peeters, "Square Peg, Round Hole Jurisdiction over Minerals Offshore Antarctica," 221.

235 Tanaka, "The International Law of the Sea," 188., and Peeters, "Square Peg, Round Hole Jurisdiction over Minerals Offshore Antarctica," 221.

236 Article 87(1) of UNCLOS provides for a non-exhaustive list of the high sea freedoms.

237 Article 1(1) of UNCLOS. The Area usually coincides with the superjacent waters of the high seas.

238 See article 136 of UNCLOS and Tanaka, "The International Law of the Sea," 186.

239 Article 137(1) of UNCLOS. With resources in the Area is meant mineral resources, see article 133(a) of UNCLOS.

240 Article VI of the Antarctic Treaty.

241 In similarity to the high seas, the common heritage of mankind entails a prohibition of appropriation or assertion of sovereignty over any part of the Area or its resources, see articles 89 and 137(1) of UNCLOS. In contrast to the high seas, the Area is not governed of the principle of the freedom of the seas, but of the principle of the common heritage of mankind. The legal regime of the Area has no impact on the legal status of the suprajacent parts of the water column, see article 135 of UNCLOS. The multidimensional divisions of marine spaces have been highlighted as adding to the juridical complexity of the law of the sea. See Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter

may not be freely undertaken in the Area and all activities[242] in the deep seabed are carried out for the benefit of mankind[243] under the common management of the International Sea Bed Authority (ISA).[244]

The Antarctic Treaty does not differentiate the high seas from the Area since the division of marine spaces beyond national jurisdiction was a novelty with the entry into force of the UNCLOS,[245] 35 years after the adoption of the Antarctic Treaty. Before, the seabed beyond national jurisdiction formed part of the high seas' regime.[246] Consequently, when the Antarctic legal regime was established, the concept of the Area was not yet part of international treaty law. However, it has been well argued that the Antarctic Treaty includes legal concepts that were not part of international law at the time of adoption of the Treaty. Vigni points out that the reference to international law within the meaning of Article IV "cannot be interpreted as including only those norms applicable at the time of the entry into force of the Treaty itself. Such a construction would render the ATS an outdated regime that could not be easily coordinated with current international law."[247] This position finds support in evolutionary treaty interpretation, i.e., legal interpretations that allows for changes of meaning of treaty provisions over time.[248] Kolb identifies "two constituent elements [of evolutionary interpretation]: time and change. It is because human existence is stretched in time that things change. And when things change, the understanding of them can attach either to the past or to the present"[249] (addition mine). Evolutionary interpretation thus reduces "the original or historical meaning attached to a norm in favour of a contemporary reading, i.e., a reading and understanding at the time the interpretation is undertaken".[250] The International Court of Justice (ICJ) has recognized evolutionary interpretation of treaty law on various occasions. For example, in the *Gabcikovo Nagymaros* case the court asserted that treaty provisions can adapt to "emerging norms of international law"[251] and in the *Costa Rica v. Nicaragua* case the court stated that when:

> the parties have used generic terms in a treaty, the parties necessarily having been aware that the meaning of the terms was likely to evolve over time, and where the treaty has been entered into for a very long period

16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 340.

[242] With activities in the legal context of the Area is meant the exploration and exploitation of resources of the deep seabed, see article 1(1) of UNCLOS. This includes deep seabed mining and lifting minerals to the water surface through the water column, see Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, Advisory Opinion, ITLOS Reports 2011, pp. 35-37, paras. 87-96, available at https://www.itlos.org/index.php?id=109, accessed 12 Jul 2022

[243] Preamble and article 140(1) of UNCLOS.

[244] Article 140(2) of UNCLOS and Freestone, "Conserving biodiversity in areas beyond national jurisdiction," 9.

[245] Tanaka, "The International Law of the Sea," 216.

[246] See the Geneva Convention on the High Seas, done at Geneva on 29 April 1958. Entered into force on 30 September 1962. United Nations, *Treaty Series*, vol. 450, p. 11, p. 82.

[247] Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines " 494.

[248] Sondre Torp Helmersen, "Evolutive Treaty Interpretation: Legality, Semantics and Distinctions," *European Journal of Legal Studies, vol. 6, no. 1, Summer 2013* pp. 161-188 (2013): 162. According to Helmersen "[t]he opposite of an evolutive interpretation can be called a 'static' interpretation (ie an interpretation where terms do not change their meaning over time)", *ibid* p. 163.

[249] Robert Kolb, "Evolutionary Interpretation and International Law, edited by Georges Abi-Saab, Chapter 3: Evolutionary Interpretation in International Law: Some Short and Less than Trail-Blazing Reflections," *Bloomsbury Publishing Plc* (2019): 15.

[250] Ibid, 16.

[251] *Gabcikovo Nagymaros* case (Hungary/Slovakia) (Judgment, Merits), ICJ Reports, 1997, p.7 para. 112.

> or is "of continuing duration," the parties must be presumed, as a general rule, to have intended those terms to have an evolving meaning.[252]

Consequently, although the Antarctic Treaty does not mention the Area or the common heritage of mankind, through evolutionary interpretation of the meaning of the various references to the law of the sea it may be argued that the contemporary Antarctic legal regime encompasses the provisions of the Area. The fact that most ATS members are also parties to the UNCLOS would support this argument.[253] However, Vigni argues that the principle of the common heritage of mankind as envisaged by the UNCLOS is not applicable in Antarctic waters, since it must be adapted to the sui generis legal status of Antarctica.[254] Infante, on the other hand, argues that the Antarctic treaty is not *incompatible* with the existence of the maritime zone of the Area and that the "[t]reaty cannot impinge upon a universally accepted principle - the common heritage of mankind - as it was accepted by the international community."[255]

Of interest in this debate is whether the provisions of the Area constitute customary law. Peeters argues that Part XI of UNCLOS "is certainly not international customary law", since the application of the principle of the common heritage of mankind to the deep seabed "was controversial for a lot of countries and prevented the UNCLOS from entering into force for a long time."[256] Present law does otherwise not provide for legal evidence that the provisions of the Area have entered international customary law, and

> [c]ourts and tribunals have not had occasion to address the customary international law status of the provisions on the Area; that is, the deep seabed beyond the limits of national jurisdiction, contained in Part XI and Annexes III and IV of the LOS Convention and its Implementing Agreement. Neither have states or scholars expressed any views on this question.[257]

In the authors opinion it is unclear whether Part XI of UNCLOS may be applied in the Antarctic context, both by treaty law interpretation and customary law interpretation. The legal opinion of scholars whether these provisions are applicable in the Antarctic context diverges. Against this background, I believe it is still premature to conclude whether the Antarctic seabed is subject to the principle of the common heritage of mankind or the other provisions of the Area. Since international law is dynamic and evolves over time, the Antarctic legal regime might as well include norms that were not applicable at the time of the adoption of the treaty. Nevertheless, for now, the legal status of the Antarctic seabed remains unanswered, and therefore, my analysis will treat the water column and the seabed as high seas.

---

[252] Dispute Regarding Navigational and Related Rights (Costa Rica v. Nicaragua) (Judgement), ICJ Rep 2009, p. 213 para. 66

[253] Three states have signed but not ratified (Peru, United States of America and Venezuela) and only one party member to the Antarctic Treaty is not a member of the UNCLOS (Turkey). See Secretariat of the Antarctic Treaty, available at https://www.ats.aq/devAS/Parties?lang=e accessed 5 Jun 2022, and United Nations Treaty Collection, available at https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en, accessed 14 Jul 2022

[254] For further readings on the proposal of Vigni of common concern instead of common heritage of mankind, see Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines " 499-503.

[255] Infante, "Maritime Conventions in Antarctica," 252.

[256] Peeters, "Square Peg, Round Hole Jurisdiction over Minerals Offshore Antarctica," 226.

[257] J. Ashley Roach, "Today's Customary International Law of the Sea," *Ocean Development & International Law,* 45:3, 239-259 (2014): 250.

3. Global Perspective of Marine Protected Areas in International Waters

This chapter is concerned with the opportunities and challenges for the establishment of MPAs in international waters. The chapter is structured as follows. Firstly, a relevant definition of MPAs for this study is delimited, followed by the examination of the possibilities for IOM under the law of the sea and related legal instruments. Lastly, opportunities under present law for MPA designation in international waters are examined.

3.1. The Concept of Marine Protected Areas

3.1.1. General Considerations

In the international context, the importance of MPAs for the protection and preservation of the marine environment has been recognized on several for a,[258] but the international community has not yet been able to reach an agreement on a universal legal definition of MPAs.[259] The term MPAs has been described by Jacobsen as an 'umbrella term', i.e., a concept that may include a wide range of different aims, regulations, and scope of application.[260] MPAs can range from fully protected areas where no human activities are allowed to areas of sustainable, but not prohibited, use of marine resources. Even within the same protected area, different approaches may be adopted.[261] Furthermore, while some MPAs are sectoral-based, i.e., concerned with the regulation of certain human activities related to for example fisheries, seabed mining and marine pollution, other MPAs are integrated, or cross-sectorial, aiming to manage all human activities taken place in a particular ocean space.[262]

The absence of a universally accepted definition of MPAs, together with the fact that they may vary a great deal in purpose, scope and form, entails that the definition of them varies a great deal between legal instruments and institutions.[263] What may be characterized as an MPA in one legal context, may not be suitable in another context. It is therefore of fundamental importance to delimit a relevant definition of MPA for the actual context, since it will determine what type of activities and measures that are encompassed, and what falls outside of the scope. The focus of this study is the implementation of IOM based on the EA through the establishment of MPAs, and a relevant concept of MPAs should therefore include the management of cross-sectorial activities. Such integrated MPAs

---

[258] At the international level, the importance of MPAs in biodiversity protection has been recognized under, inter alia, the CBD and the 2002 World Summit on Sustainable Development, in which government leaders agreed on the goal to use an ecosystem-based approach in ocean management by 2010, and to establish a representative network of MPAs in the world's oceans by 2012. This goal was revised in 2010 to protect 10% of the global marine spaces by using ABMTs, including MPAs, by 2020. In august 2020, MPAs had been established in 5,3% of marine spaces, but only 1,2% of them in marine ABNJ. See Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 1. Integrated MPAs have been endorsed by the UNGA Resolution "The Future We Want" (A/RES/66/288) (2012) as well as by the CBD. Multifunctional high seas MPAs are also under active consideration of the UN BBNJ Working Group.

[259] Tanaka, "The International Law of the Sea," 418.

[260] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 783.

[261] UNEP, "Marine and Coastal Biodiversity: Review, further elaboration and Refinement of the Programme of Work," 23. An illustrative example is the Ross Sea Region MPA, in which the MPA is divided into various zones, see further section 4.1.1.

[262] Jacobsen, "Marine Protected Areas in International Law: an Arctic perspective " 4.

[263] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 783.

have been described by Jacobsen as MPAs "where all human activities within the defined area are addressed and managed for the purpose of conservation of marine biodiversity."[264]

3.1.2. Overview of Relevant Legal Instruments

Under the ATS two legal instruments allow for area-based management, including the possibility to designate protected areas in Antarctic waters.[265] Protected areas may be designated by the CCAMLR under the CCAMLR Convention and by the ATCPs under the Annex V to the Madrid Protocol. However, neither of these legal instruments provide for a definition of MPAs. The UNCLOS does neither provide for clarity in the matter. ABMTs such as MPAs were not a well-established tool for oceans management at the time of development of UNCLOS,[266] and the convention does not mention the concept of MPAs at all.

Another legal instrument of relevance is the CBD. The CBD has been claimed to be "the most important international legal instrument addressing protected areas",[267] and has strong international support through universal membership.[268] When searching for a definition of integrated MPAs, this legal instrument is of particular interest since IOM and ecosystem-based management include biodiversity protection[269] and the integrated concept of MPAs allows for the description of them as tool for the protection and conservation of biodiversity.[270] The CBD is claimed to be the principal international legal instrument for the conservation and sustainable use of biodiversity[271] and regards biodiversity protection as "a common concern of humankind".[272] It takes a holistic EA to the conservation and sustainable use of biodiversity, and seeks to "promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings".[273] The CBD defines protected areas as "geographically defined area[s] which [are] designated or regulated and managed to achieve specific conservation objectives".[274] Such a broad description may well be

---

[264] Jacobsen, "Marine Protected Areas in International Law: an Arctic perspective ".

[265] In the report of the CCAMLR Workshop on Marine Protected Areas (2005) it was agreed that the term MPA encompasses a range of mechanisms, including the provisions of the CAMLR Convention and the Madrid Protocol. Silver Spring, MD, USA, 29 August to 1 September 2005, available at https://www.ccamlr.org/en/system/files/e-sc-xxiv-a7.pdf accessed 1 May 2022. See also Johnson, "The Relevance of the Southern Ocean to the Development of a Global Regime for Marine Areas beyond National Jurisdiction - An Uncommon Commons," 721.

[266] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 800.

[267] Official Webpage of the CBD, Protected Areas and the CBD, available at https://www.cbd.int/protected/pacbd/ accessed 29 Mar 2022

[268] The CBD has 196 party states. See https://www.cbd.int/information/parties.shtml, accessed 6 Jun 2022.

[269] Schøning, "More or Less Integrated Ocean Management: Multiple Integrated Approaches and Two Norms."

[270] Jacobsen, "Marine Protected Areas in International Law: an Arctic perspective " 4. The COP to the CBD agreed in their decision VII/5, Marine and Coastal Biodiversity, "that marine and coastal protected areas are one of the essential tools and approaches in the conservation and sustainable use of marine and coastal biodiversity", p. 3, para. 16.

[271] UNEP, "Marine and Coastal Biodiversity: Review, further elaboration and Refinement of the Programme of Work," 18.

[272] Preamble of the CBD.

[273] Article 8(d) of the CBD.

[274] Article 2 of the CBD. The term "designated" is understood as an area geographically defined by legal means. The use of the wording "or" implies that a geographical designation would be enough, without any regulation or management measures. This would be contradictory, since the very purpose of a protected area is to protect the environment which naturally must entail some kind of management or regulation of the human activities taken place within the area for that objective. It has thus been suggested that "or" must mean "and" in order to provide with an adequate interpretation of the definition, so that the designation should be accompanied by regulation or management of the area in order toto

interpreted to include MPAs. The fact that the definition of biodiversity under the CBD encompasses marine biodiversity speaks in favor for this conclusion.[275] Furthermore, the Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas under the CBD gave substance to the concept of protected areas in relation to marine and coastal protection. The definition was accepted by the Conference to the Parties (COP) to the CBD,[276] providing that:

> any defined area within or adjacent to the marine environment, together with its overlying waters and associated flora, fauna, and historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings.[277]

Another legal instrument of relevance is the upcoming ILBI. One of the tasks of the BBNJ negotiations is the advancement of an accepted definition of MPAs. The ILBI draft defines, so far, an MPA as "a geographically defined marine area that is designated and managed to achieve specific [long-term biodiversity] conservation [and sustainable use] objectives."[278] This definition encounters substantial overlap with the CBD definition.

International organizations have also been active in developing comprehensive MPA definitions. The International Union on the Conservation of Nature (IUCN) is a case in point.[279] IUCN defines a protected area as "a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values"[280] and as "[a]ny area of intertidal or subtidal terrain, together with its overlying waters and associated flora, fauna, historical and cultural features, which has been reserved by legislation or other effective means to protect part or all of the enclosed environment".[281] In addition, the IUCN describes protected areas as involving the protective management of natural areas according to pre-defined management objectives, and for a number of reasons including living resources, species protection and biodiversity conservation, created by delimiting zones with permitted

---

provide an adequate interpretation of the def be characterized as a protected area. See further Jacobsen, "Marine Protected Areas in International Law: an Arctic perspective " 7.

[275] Article 2 of the CBD: "Biological diversity" means the variability among living organisms from all sources including, *inter alia*, terrestrial, *marine and other aquatic ecosystems* and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. (emphasis mine).

[276] COP Decision VII/5, Marine and Coastal Biodiversity, para. 16.

[277] CBD Secretariat, Technical advice on the establishment and management of a national system of marine and coastal protected areas by the *Ad Hoc* Technical Expert Group on Marine and Coastal Protected Areas, CBD Technical Series no. 13 p. 7 (2004). COP to the CBD, COP Decision VII/5, Marine and Coastal Biological Diversity, footnote 1.

[278] UN Intergovernmental conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, Fifth session, New York, 15-26 August 2022. Updated draft text 30 May 2022. Available at https://www.un.org/bbnj/sites/www.un.org.bbnj/files/igc_5_-_further_revised_draft_text_final.pdf, accessed 10 Jul 2022.

[279] Jacobsen, "Marine Protected Areas in International Law: an Arctic perspective " 7.

[280] Cited in UN Technical Report, "The Contribution of Area-based Management Tools to Sustainable Development Goals and Targets (draft text), p. 9, available at https://www.cbd.int/doc/c/459d/9704/bab5a7b2806f0513484fb620/mcb-em-2018-01-unep-submission1-en.pdf accessed 1 Apr 2022.

[281] IUCN. Resolution 17.38, 17th general assembly of the IUCN, San Jose, Costa Rica, 1–10 February 1988. Gland, Switzerland, Cambridge, UK, 1988. Available at https://portals.iucn.org/library/sites/library/files/resrecfiles/GA_17_REC_038_Protection_of_the_Coastal_and_Marine.pdf, accessed 15 July 2022.

and non-permitted uses within that zone.[282] Due to its wide-range and importance as a soft law document, these descriptions may serve as a guidance when defining MPAs.[283]

The CBD has strong international support, and is closely connected to the law of the sea (see section 3.2.) and there is a significant overlap in membership between the ATS members, the UNCLOS and the CBD.[284] In addition, the draft definition under the ILBI coincides substantially with the valid CBD definition. Furthermore, the CBD provides for legally binding norms for its contracting parties regarding international cooperation for the conservation and sustainable use of biodiversity in ABNJ.[285] The CBD is therefore of particular interest for the definition of MPAs in the Antarctic context. Since both the definition in the CBD and the COP to the CBD includes biodiversity protection for a wide range of human activities, integrated MPAs may be encompassed by these definitions. Against this background, the CBD definition of protected areas, specified by the COP to the CBD definition of MPAs, is suitable for the purposes of this study.

3.2. Integrated Oceans Management and the Law of the Sea

Although ocean management and marine environmental protection under UNCLOS is primarily based on the zonal management approach, [286] the UNCLOS also opens for possibilities of the holistic view of the oceans and IOM. The convention's preamble stresses the consciousness of "that the problems of ocean space are closely interrelated and need to be considered as a whole". The general obligations concerning the protection and preservation of the marine environment prescribed in part XII of the UNCLOS give substance to the Convention's preamble and allows for a holistic management of the marine environment across maritime frontiers and of ABNJ.[287]

The opening provision of part XII, article 192, establishes the general obligation of states "to protect and preserve the marine environment." This provision applies to the marine environment as a whole, without making a distinction between maritime zones under or beyond national jurisdiction.[288] Furthermore, the obligation entails both to take active measures for protecting the marine environment, as well as the negative obligation to abstain from degrading it. It thus includes a temporal dimension through preservation and maintenance of the current state of the marine environment, as well as preventing its future degradation.[289] The holistic and forward-looking characteristics of this

---

[282] IUCN, Oceans and Coasts, available at https://www.iucn.org/theme/marine-and-polar/our-work/marine-protected-areas, accessed 30 Mar 2022.

[283] IUCN works for global environment and brings together a wide range of member organizations to work for global conservation. For more information, see the Official Webpage of IUCN, About IUCN, available at https://www.iucn.org/about, accessed 15 Apr 2022.

[284] All members of the Antarctic Treaty, the Madrid Protocol and the CAMLR convention are also members to the CBD (the United States of America has signed, but not ratified the convention). All members of the ATS are also members to the UNCLOS with exception for Turkey (the United States of America and Venezuela have signed but not ratified the convention).

[285] Article 5 of the CBD.

[286] Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 464, 65.

[287] Patricia Birnie, "International Law & the Environment," 387.

[288] Article 192 of UNCLOS. Since the UNCLOS does not make any distinction between marine spaces, this provision includes marine environmental protection of maritime zones under as well as beyond national jurisdiction. See *South China Sea Arbitration* (The Republic of Philippines v. The People's Republic of China), Award of 12 July 2016, para. 940: "the Tribunal notes that the obligations in Part XII apply to all States with respect to the marine environment in all maritime areas, both inside the national jurisdiction of States and beyond it". See also Freestone, "Conserving biodiversity in areas beyond national jurisdiction," 8.; Tanaka, "The International Law of the Sea," 332, 33.

[289] *South China Sea Arbitration*, para. 941.

provision opens for possibilities of IOM. In addition, the first paragraph of Article 194, obliges member states to, individually or through cooperation, take "all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source". According to the *Chagos Marine Protected Area Arbitration*, this provision is "not limited to measures aimed strictly at controlling marine pollution," even though such measures are "certainly an important aspect of environmental protection" they are "by no means the only one."[290] Consequently, other human activities that cause, or risk to cause, damage to the marine environment would also be encompassed by the provision on taking cooperative measures to prevent, reduce and control environmental harm. This interpretation also applies to the fifth paragraph of article 194, which obliges states to take the "measures necessary for the protection and preservation of rare or fragile ecosystems as well as habitats for depleted, threatened or endangered species and other forms of marine life". The protection of ecosystems and habitats of marine life of the UNCLOS reflects IOM based on the EA.

IOM also includes biodiversity protection.[291] Biodiversity is a concept of contemporary international environmental law[292] and refers to "the variability among living organisms from all sources including, *inter alia,* terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems."[293] Even though the UNCLOS does not contain any explicit provisions for the conservation of marine biodiversity, it has been suggested that the comprehensive scope of the convention to regulate all ocean activities includes the protection of biodiversity.[294] Firstly, UNCLOS Part XII contributes to the preservation of marine biodiversity since obligations concerning the management of marine living resources and the prevention of marine pollution are important elements to preserve and protect the marine environment as an integral whole.[295] Secondly, the general obligations of Part XII can adapt to contemporary environmental challenges[296] which allows for the inclusion of previously unmentioned concepts such as biodiversity.[297] An example of such contemporary adaption is the references found in UNCLOS to general accepted rules and standards (GAIRS), i.e. measures, standards, recommended practices, and guidelines for the implementation of the Convention. This entails that:

---

[290] *Chagos Marine Protected Area Arbitration* (Mauritius v. United Kingdom), Award, 18 March 2015, paras. 320, 538.
[291] Schøning, "More or Less Integrated Ocean Management: Multiple Integrated Approaches and Two Norms."
[292] Patricia Birnie, "International Law & the Environment," 3.
[293] Article 2 of the CBD.
[294] UNDOALOS, "Marine Biological Diversity of Areas Beyond National Jurisdiction." This argument is further supported by the UNCLOS as supporting community interests since the conservation of biodiversity is considered an interests for the whole international community, see Tanaka, "The International Law of the Sea," 405.
[295] See Argüello, "Opportunities for Protecting Biological Diversity in the Arctic Ocean," 130.
[296] Jianping Guo, "The developments of marine environmental protection obligation in article 192 of UNCLOS and the operational impact on China's marine policy – A south China sea fisheries perspective," *Marine Policy 120 104140* (2020): 2.
[297] For evolutionary treaty interpretation with regards to biodiversity, see Argüello, "Opportunities for Protecting Biological Diversity in the Arctic Ocean," 129. Furthermore, in the South China Sea Arbitration (The Republic of Philippines v. The People's Republic of China), (Award) (12 Jul 2016) it was held that "the content of the general obligation in Article 192 is further detailed in the subsequent provisions of Part XII, including Article 194, as well as by reference to specific obligations set out in international agreements, as envisaged in Article 237 of the Convention" (para. 942). It has been suggested that this case expanded the concept of "marine environment" of the general obligation in article 192 with several new components, including marine living resources, endangered species, rare and fragile ecosystems, and habitats of depleted, threatened or endangered species and other forms of marine life. Guo argues that these legal categories support the inclusion of the protection of marine biodiversity under the general obligations of Part XII of the UNCLOS, see Guo, "The developments of marine environmental protection obligation in article 192 of UNCLOS and the operational impact on China's marine policy – A south China sea fisheries perspective," 2.

> UNCLOS can accommodate normative development by referring not only to other treaty law sources but also to soft law and *droit dérivé*, i.e., "laws and regulations adopted by a body that is empowered to do so by a treaty." Such normative development facilitates cross-fertilization between related legal regimes […].[298]

The "cross-fertilization between related legal regimes" allows for the Law of the Sea to enter in dialogue with other legal instruments associated with the UNCLOS for example in the protection of marine biodiversity.[299] According to Birnie et. al the CBD and the UNCLOS are closely interrelated. The coherent and comprehensive understanding of the present law on biodiversity and ecosystems requires consideration of both treaties, which work coordinatively on the matter.[300] The relation between the UNCLOS and the CBD is not only regulated through the UNCLOS references to GAIRS but also under other provisions under both conventions. The CBD requires its parties to implement the convention in consistency with the law of the sea[301] and consistently with the rights and obligations under other international law, as long as the exercise of those rights and obligations does not cause serious damage or threat to biological diversity.[302] This entails that the UNCLOS would take precedence over the CBD "except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity".[303] UNCLOS does not alter any rights or obligations arising from other international agreements which are compatible with the convention.[304] UNCLOS also allows for further development on marine environmental protection through international agreements that advance the general principles of the convention.[305] Since the conservation of marine living resources, the prevention of pollution and the protection and preservation of "rare or fragile ecosystems" are already envisaged by the UNCLOS, the protection of marine biodiversity is compatible with the purpose and objective of the convention.[306] The CBD may thus be considered as a furtherance of the UNCLOS' principles, contributing to the possibilities of IOM and EA within the legal framework of the law of the sea.

3.3. Opportunities for Marine Protected Areas in Areas Beyond National Jurisdiction

3.3.1. Under the Law of the Sea Convention

Although the law of the sea allows for IOM based on the EA, the implementation of IOM through MPA designation is not envisaged by UNCLOS,[307] and the permissibility of the establishment of MPAs is consequently not encompassed *explicitly* by the convention. Nevertheless, various MPAs have been

---

[298] Argüello, "Opportunities for Protecting Biological Diversity in the Arctic Ocean," 129.
[299] Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 481. Argüello, "Opportunities for Protecting Biological Diversity in the Arctic Ocean," 129.
[300] Patricia Birnie, "International Law & the Environment," 751.
[301] Article 22(2) of the CBD.
[302] Article 22(1) of the CBD
[303] Article 22 of the CBD. "While in general terms the effect of Article 22 is to ensure that UNCLOS will normally prevail, state parties to the CBD cannot rely on UNCLOS to justify – or to tolerate – fishing which causes or threatens serious damage to biodiversity." Quote from Patricia Birnie, "International Law & the Environment," 750.
[304] Article 311 of UNCLOS.
[305] Article 237 of UNCLOS.
[306] Patricia Birnie, "International Law & the Environment," 750. See also Argüello, "Opportunities for Protecting Biological Diversity in the Arctic Ocean," 133.
[307] As already mentioned in section 3.1.2., MPAs was not a widely used tool for marine environmental protection during the drafting of UNCLOS. See Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 800.

established under national jurisdiction, and although less in number, also in marine ABNJ.[308] This speaks in favour for the permissibility of including MPAs as an implementation tool under the law of the sea. However, while it may be legitimate to establish MPAs in marine spaces within the jurisdiction of a state, the legality of establishing MPAs in marine ABNJ encounters more difficulties since no state may purport sovereign rights in the high seas or the Area.[309] A first limitation to the implementation of MPAs in ABNJ is therefore the absence of an explicit right for MPA designation under present international maritime law.[310] Nevertheless, Scott argues that "whilst there may be no explicit right to create MPAs in ABNJ nor is there any prohibition on doing so" and concludes that the absence of rules on MPAs works in a permissive direction for the establishment of them in ABNJ.[311] Scott bases this argument on the fact that the high seas regime is governed by the principle of the freedom of the seas, which entail a possibility for states of freely exercise oceans activities.[312] The first provision of article 87 of UNCLOS provides for a non-exhaustive list of the high sea freedoms, which may be exercised in accordance with the UNCLOS and "other rules of international law".[313] According to Scott, this rule entails that those activities on the high seas that are not prohibited by the UNCLOS or by other international agreements or custom are regarded as permitted under the law of the sea.[314]

The establishment of MPAs would certainly be in accordance with UNCLOS since the convention's object and purpose include the conservation marine living resources and the general protection and preservation of the marine environment.[315] Furthermore, the general obligations of part XII of the UNCLOS includes the protection and preservation of marine ABNJ. These obligations include the obligation to protect "rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life."[316] According to the *Chagos Marine Protected Area Arbitration*, this article includes measures focused on the conservation and the preservation of ecosystems, such as the establishment of MPAs.[317] Since the provision includes ecosystem protection, this also gives room for the EA and the possibility of integrated MPAs in ABNJ within the framework of the law of the sea.

Moreover, due regard must be taken for other relevant rules of international law when conducting activities on the high seas. This includes international agreements that have for example the object to protect the marine environment and conserve marine living resources,[318] such as the CBD. Since integrated MPAs may be seen as a tool for the protection of marine biodiversity, [319] the establishment of them would comply with the CBD. In addition, even though the CBD does not provide for a legal

---

308 Argüello, "Opportunities for Protecting Biological Diversity in the Arctic Ocean," 132.
309 Article 89 and 137(1) of UNCLOS and Tanaka, "The International Law of the Sea," 426.
310 Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 794.
311 Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 340.
312 Tanaka, "The International Law of the Sea," 188.
313 Article 87(1) of UNCLOS.
314 Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 340.
315 Envisaged by the preamble of UNCLOS.
316 Article 194(5) of the UNCLOS.
317 Chagos Marine Protected Area Arbitration, page. 211, para. 538.
318 Article 87(1) of UNCLOS, see also article 237 on "Obligations under other conventions on the protection and preservation of the marine environment" and Tanaka, "The International Law of the Sea," 189.
319 Jacobsen, "Marine Protected Areas in International Law: an Arctic perspective " 4. The COP to the CBD agreed in their decision VII/5 "that marine and coastal protected areas are one of the essential tools and approaches in the conservation and sustainable use of marine and coastal biodiversity", p. 3, para. 16.

basis for MPA designation in international waters, the convention establishes binding obligations for its party members to:

> As far as possible and as appropriate, cooperate with other Contracting Parties, directly or where appropriate, through competent international organizations, in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity.[320]

Since the CBD encourages the establishment of protected areas the obligation of protection of biodiversity in ABNJ through international cooperation might as well include the establishment of MPAs.[321] International cooperation would also be in line with article 197 of UNCLOS since:

> States shall cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features.[322]

Furthermore, Scott asserts that state practice in other international agreements shows evidence of the permissibility of establishing MPAs in ABNJ. For example, the International Convention for the Prevention of Pollution from Ships (MARPOL), and the International Convention on the Regulation of Whaling (ICRW), have been facilitating the establishment of protected areas (although sectorial and not integrated) in international waters for decades.[323] Moreover, the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)[324] has facilitated the establishment of multi-functional, or integrated, MPAs in international waters.[325] These efforts on protecting the marine environment through MPA designation speak in favour for the legitimacy of such measures within the legal framework of the law of the sea in areas both under and beyond national jurisdiction.

Some important limitations to MPA designation in ABNJ must however be noted. Tanaka asserts that the legality of high sea MPAs needs careful consideration with regards to their compatibility with the high sea freedoms.[326] While MPA's establishment may by itself be viewed as a rightful exercise of the high sea freedoms, the freedoms of the seas are not unconditional[327] and while exercising those freedoms due regard must be taken for the interests of other states.[328] Furthermore, the general

---

[320] Article 5 of the CBD.
[321] Article 8(a) of CBD. As concluded in section 3.1.2. the COP to the CBD has already agreed on a definition of MPAs, which further strengthens the argument that international cooperation in ABNJ would include MPA's establishment.
[322] This provision has been claimed to reflect customary law, see e.g., the preamble to the OSPAR Convention. The reference to "on a global, and as appropriate, on regional basis" entails that the provision covers marine spaces under, as well as beyond national jurisdiction. Tanaka, "The International Law of the Sea," 335.
[323] Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 340. The ICRW is amongst the earliest agreements to provide for legal possibilities to designate MPAs in marine ABNJ, see Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 791.
[324] The OSPAR Convention was opened for signature in Paris on 22 September 1992. It entered into force on 25 March 1998.
[325] Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 340.
[326] Tanaka, "The International Law of the Sea," 430.
[327] The compliance of uses on high seas with UNCLOS and other international agreements as envisaged by article 87(1) has already been given account for in section 3.3.1.
[328] The high sea freedoms must also be exercised with due regard for activities undertaken in the area. Article 87(2) of UNCLOS.

obligations to protect and preserve the marine environment are also limited by the rights of other states. For example, article 194(4) stipulates that "[s]tates shall refrain from unjustifiable interference with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with this Convention." As a consequence, legal scholars have raised the question of the compatibility of MPAs in international waters with respect to other legitimate uses of the oceans.[329] The high sea freedoms include a wide range of ocean activities, inter alia, the freedom of navigation and overflight, freedom of fishing, freedom of scientific research, freedom to lay submarine cables and pipelines, and to a certain extent even the exercise of military activities.[330] Such activities may generate conflicts with MPAs that intend, for example, to restrict fishing or navigation rights of third states.[331] In this regard, integrated MPAs seem to be particularly challenging, since such MPAs not only aim to manage one specific human activity, but intend to manage a variety of cross-sectorial activities, thus entailing a risk to infringe upon various high sea freedoms. Consequently, the very rights that allow for the establishment of MPAs in international waters are also one of the major challenges to the implementation of them.

In addition of the risk of MPAs to limit the rights of states and other international subjects in their exercise of the high sea freedoms, Tanaka asserts that any regulation of high sea MPAs would only be applicable to the agreeing parties and can therefore not impose obligation upon non-parties.[332] This position is supported by Freestone, who points out that the only restrictions that can be made to the exercise of the high sea freedoms are through international agreements, which can only bind party-members.[333] With regards to the establishment of MPAs under regional regimes, such as the ATS, Freestone points out that:

> It is also clear that treaty regimes that are established for primarily environmental reasons can also establish protected areas. However the majority of these are regional and if they were to seek to establish high seas protected areas these would only be binding on the parties to the respective regional treaties. International law does not allow the restriction of general international law rights—such as freedom of the seas—without the consent of affected states.[334]

The consequences of the intersection of overlapping norms in the law of the sea and the Antarctic legal regime for Antarctic MPA designation are further discussed in Chapter 5.

3.3.2. Negotiations for the Protection of Marine Biodiversity Beyond National Jurisdiction

The progress of the BBNJ negotiations provides with further evidence that MPA designation in ABNJ is increasingly becoming part of valid international law. The future adoption of the ILBI under UNCLOS could mend the absence of a legal accepted definition of MPAs, and fill the vacuum of legal mandate of establishing such MPAs in ABNJ under the law of the sea. This would arguably strengthen the legal basis of MPA designation in international waters and thus add to the legitimacy of Antarctic high seas MPAs.[335]

---

[329] See for example Tanaka, "The International Law of the Sea," 422.
[330] Ibid 188.
[331] Ibid 426.
[332] Ibid.
[333] Freestone, "Conserving biodiversity in areas beyond national jurisdiction," 9.
[334] Ibid 14.
[335] See for example Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 340.; Gardiner,

4. Regional Perspective of Marine Protected Areas in Antarctic Waters

This chapter analyses the legal possibilities of IOM and the establishment of MPAs under the Antarctic legal regime. The chapter gives an account of the progress of Antarctic MPAs, and discusses how joint MPAs within the ATS and organizational cooperation beyond the ATS can enhance the opportunities for integrated MPAs in Antarctic waters.

4.1. Legal Sources of Integrated Oceans Management and Implementation of Marine Protected Areas under the Antarctic Legal Regime

Two legal instruments allow for area-based management and the designation of protected areas under the ATS.[336] The CAMLR Convention provides for the conservation of Antarctic living resources and stipulates key conservation strategies for limiting resource exploitation, and the Madrid Protocol aims to protect and preserve the integrity of the marine environment against human activities.[337] This section gives an account of possibilities of IOM and the designation of MPAs as well as the progress in this regard under these legal instruments. The interrelation between the instruments is also assessed.

4.1.1. The 1980 Convention on the Conservation of Antarctic Marine Living Resources

Large-scale fisheries in Antarctic waters during the 1960s and 70s raised concerns among States about the impacts of marine living resource exploitation and the repercussions for Antarctic ecosystems.[338] At the eight ATCM in 1975, the ATCPs adopted a recommendation that noted "the need to promote and achieve, within the framework of the Antarctic Treaty, the objectives of protection, scientific study and rational use" of Antarctic marine living resources.[339] Five years later, the CAMLR Convention was adopted. The treaty was open for accession by any State, whether or not a party to the Antarctic Treaty, and to regional economic integration organizations participation.[340]

4.1.1.1. Possibilities of Integrated Oceans Management

Since the CAMLR convention was negotiated to enhance the protection of Antarctic marine ecosystems and the marine life within them, the EA is particularly relevant for the convention. Already in the preamble, the CAMLR convention expresses the importance of protecting the *integrity* of Antarctic ecosystems and highlights the need of increasing knowledge of the ecosystem processes to

"Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 7.

336 Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 2.

337 Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 147.

338 Of particular importance was the limitation of the exploitation of krill, since the specie is a keystone component of the Antarctic ecosystem, and various Antarctic species such as seabirds, seals, whales and fish depend on krill, see About CCAMLR https://www.ccamlr.org/en/organisation and CAMLR convention https://www.ccamlr.org/en/organisation/camlr-convention, accessed 20 Apr 2022.

339 ATCM Recommendation VIII-10, Protection and study of Antarctic marine living resources, ATCM VIII, Oslo 1975, available at https://www.ats.aq/devAS/Meetings/Measure/110?s=1&from=1/1/1958&to=1/1/2158&cat=8&top=0&type=0&stat=0&txt=&curr=0&page=1), accessed 29 Mar 2022.

340 See Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 124. Since the CCAMLR is open to the accession of any state, it constitutes an independent "open" treaty, in contrast to for example the Madrid Protocol, which requires membership to the Antarctic Treaty.

achieve a healthy conservation of Antarctic marine living resources. Furthermore, the geographical scope of application of the CAMLR convention follows an EA. Its scope of application is not limited to the ATA boundary of 60° South Latitude but extends to all areas up to the Antarctic Polar Front[341] concerning those Antarctic living resources that form part of the Antarctic marine ecosystem.[342]

The central objective of the CAMLR Convention is the conservation of *all* Antarctic marine living resources within the convention area,[343] an objective that reflects the holistic view of managing marine living resources by recognizing the importance of protecting Antarctic marine life as a whole, instead of only targeting specific species.[344] The term conservation within the meaning of the convention includes rational use[345] and the exploitation of Antarctic marine living resources is consequently not strictly prohibited, but includes a balancing act between the protection of Antarctic marine life and fishing actors' interests of exploitation. [346] Exploitation of Antarctic marine living resources and related activities within the convention area must observe certain management requirements based on the EA[347] in accordance with the conservation principles of article II of the CAMLR convention.[348] The conservation principles highlight the interrelation of Antarctic marine life by the need to maintain "the ecological relationship between harvested, dependent and related populations of Antarctic marine living resources" as well as "depleted populations",[349] thus recognizing the interconnection and impacts within and between all marine life and ecosystems. Moreover, the conservation principles include a temporal dimension by seeking to prevent, or minimize the risk of changes of the Antarctic marine ecosystems not "potentially reversible over two or three decades"[350] and by ensuring stable recruitment.[351] Consequently, the CAMLR convention means to protect marine life in a holistic way by to ensuring that Antarctic marine life may continue to live in their natural habitats in a long-term perspective in accordance with the EA.[352] The 'twin purpose' of the convention of conserving

[341] Article I.1 of the CAMLR Convention establishes the Antarctic Polar Front as the legal boundary for the convention area. The boundary forms a distinct biological boundary than the ATA and coincides with the definition of Antarctic Region and the outer limit of the Southern Ocean, see Introductory Chapter, section 1.2. For the exact delimitations of the Antarctic polar front in the CAMLR convention, see article I.4. The convention area is the largest conservation zone of the world, see Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 123. It has a surface area of 35 716 100 km,² see CCAMLR official webpage, available at https://www.ccamlr.org/en/organisation/convention-area, accessed 20 Apr 2022.

[342] With Antarctic marine ecosystem is meant "the complex of relationships of Antarctic marine living resources with each other and with their physical environment", see article I.3 of the CAMLR convention.

[343] Ibid article II.1.

[344] Such as for example the Convention for the Conservation of Antarctic Seals (1972, CCAS) which only applies to certain species of Antarctic seals. See British Antarctic Survey (BAS), Convention for the Conservation of Antarctic Seals, available at https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/convention-for-the-conservation-of-antarctic-seals-1972/, accessed 10 Jul 2022.

[345] Article II.2 of the CAMLR convention. Rational use is further discussed in section *4.1.1.3*.

[346] Peterson, "Antarctic Implications of the New Law of the Sea," 156. The importance of the interests for the utilization of Antarctic marine living resources as an alimentation source is recognized in the preamble of the CAMLR Convention.

[347] EA according to the CCAMLR "Being responsible for the conservation of Antarctic marine ecosystems, CCAMLR practices an ecosystem-based management approach. This does not exclude harvesting as long as such harvesting is carried out in a sustainable manner and takes account of the effects of fishing on other components of the ecosystem", About CCAMLR, available at https://www.ccamlr.org/en/organisation, accessed 20 Apr 2022.

[348] Article II.3 of the CAMLR convention.

[349] Ibid article II.3(b).

[350] Ibid article II.3(c).

[351] Ibid II.3(a).

[352] Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines " 505.

Antarctic marine living resources and maintaining their ecological relationships and environment[353] opens for IOM based on the EA, however with the main focus of conservation of Antarctic marine living resources.

4.1.1.2. Implementation of Integrated Oceans Management: Conservation Measures for the Closing of Areas

The adoption of the CAMLR convention saw the establishment of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).[354] The CCAMLR is the responsible institution for giving effect to the objective and principles of the convention through the adoption of conservation measures in accordance with article IX of the convention.[355] The CCAMLR meets annually with the central purpose to formulate, adopt and revise such conservation measures, and all decisions 'on matters of substance' are taken by consensus.[356] The conservation measures allow for, inter alia, the implementation of ABMTs such as "the designation of the opening and closing of areas, regions or sub-regions for purposes of scientific study or conservation, including special areas for protection and scientific study."[357] The designation of a defined area for conservation objectives coincides with the chosen definition of MPAs of the CBD since it allows for the designation of a defined area aiming to regulate the conservation of Antarctic living resources. CCAMLR protected areas also coincide with the definition by the COP to the CBD, since they allow for the establishment of a defined area within the marine environment that provide for a higher level of protection than the surrounding areas and the conservation of marine living resources contributes to the protection of marine biodiversity.

In addition to the CCAMLR, the CAMLR convention also established the Scientific Committee for the Conservation of Antarctic Marine Living Resources (SC-CAMLR). The SC-CAMLR is the consultative body to the CCAMLR[358] and provides for a forum for consultation and co-operation for the enhancement of knowledge and information of marine living resources of the Antarctic marine ecosystems.[359] In 2005, the CAMLR held a workshop on Marine Protected Areas[360] based on the work of the SC-CAMLR[361] in which it was agreed that the use of MPAs was in accordance with the objective under article II of the convention and a possible conservation measure under article IX.[362] In the opening of the workshop the opportunities and challenges for MPA designation as a principal tool for the conservation and management of resources, as well as the implementation of EA by monitoring

---

353 Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 127.
354 Article VII.1 of the CAMLR Convention. According CCAMLR: "CCAMLR is an international commission with 26 Members, and a further 10 countries have acceded to the Convention. Based on the best available scientific information, the Commission agrees a set of conservation measures that determine the use of marine living resources in the Antarctic.", information available at https://www.ccamlr.org/en/organisation, accessed 20 Apr 2022.
355 Article IX.1 of the CAMLR convention.
356 Ibid article XII.1.
357 Ibid article IX.2(g).
358 Ibid XIV.
359 Ibid article XV.
360 See the Report of the CCAMLR Workshop on Marine Protected Areas. Silver Spring, MD, USA, 29 August to 1 September 2005, available at https://www.ccamlr.org/en/system/files/e-sc-xxiv-a7.pdf, accessed 1 May 2022.
361 In the preface of the Report of the CCAMLR Workshop on Marine Protected Areas the CCAMLR recalled the work program of the SC-CAMLR "to develop a representative system of Antarctic Marine Protected Areas (MPAs) with the aim of conserving marine biodiversity in the Convention Area, and in accordance with the decision at the World Summit on Sustainable Development (WSSD) in 2002 to achieve a representative network of MPAs by 2012.
362 Report of the CCAMLR Workshop on Marine Protected Areas. Silver Spring, MD, USA, 29 August to 1 September 2005, p. 595, paras. 27-29, available at https://www.ccamlr.org/en/system/files/e-sc-xxiv-a7.pdf, accessed 1 May 2022

the responses of Antarctic ecosystems to human-caused impacts, were highlighted.[363]The workshop also stressed:

> the unique opportunity and challenges for CCAMLR to further its objective by applying MPAs not only as a tool for conservation and management of resources but also for monitoring general response of the Antarctic ecosystem to environmental and human-induced changes. In particular, the use of MPAs by CCAMLR would be most important in the light of the CCAMLR approach to ecosystem management.[364]

According to the workshop, the widespread evidence of the benefits of MPAs for the conservation of biodiversity would entail that MPA designation had a "considerable potential for furthering CCAMLR's objective in applications ranging from protection of ecosystem processes, habitats and biodiversity, to protection of species."[365] The workshop noted the need for the establishment of a network of MPAs[366] and the key task in obtaining scientific information needed for a system of Antarctic MPAs was a bioregionalization[367] of the Southern Ocean and the identification of areas that might be used to achieve the conservation objectives of the CAMLR Convention.[368] This would provide for the theoretical basis for MPA designation in the CCAMLR context. In 2007 the CCAMLR undertook a study on the bioregionalization of the Southern Ocean[369] and identified eleven priority areas for area-based protection.[370] In 2009, the CCAMLR formally committed to adopting a representative system of MPAs in Antarctic waters[371] and established the first CCAMLR MPA: the SOISSMPA.[372] Two years later, the CCAMLR adopted the Conservation Measure (CM) 91-04: 'General Framework for the Establishment of CCAMLR Marine Protected Areas',[373] which set out the criteria of MPA designation in the CCAMLR context. The CM 91-04 also provided legal basis for MPA designation under the CCAMLR Convention. In addition, it was affirmed that CCAMLR MPAs shall contribute to objectives such as:

---

363 Ibid p. 591, para 4.
364 Ibid p. 591.
365 Ibid p. 596, paras. 32, 36.
366 Ibid p. 600, para. 62. See also footnote 3: "A system of representative areas would aim to provide a comprehensive, adequate and representative system of MPAs to contribute to the long-term ecological viability of marine systems, to maintain ecological processes and systems, and to protect the Antarctic marine biological diversity at all levels."
367 "Bioregionalization is a process to classify marine areas from a range of data on environmental attributes. The process results in a set of bioregions, each reflecting a unifying set of major environmental influences which shape the occurrence of biota and their interaction with the physical environment". See Report of the CCAMLR workshop on Marine Protected Areas. Silver Spring, MD, USA, 29 August to 1 September 2005, p. 606, para. 107, footnote 4. https://www.ccamlr.org/en/system/files/e-sc-xxiv-a7.pdf retrieved on 1 May 2022
368 Ibid p. 606, paras. 107, 36.
369 Report of the 2007 Workshop on Bioregionalization of the Southern Ocean, reproduced in Annex 9 of the Report of the Twenty-Sixth Meeting of the CCAMLR Scientific Committee, SC-CAMLR XXVI, Hobart, Australia, 22–26 October 2007, available at https://meetings.ccamlr.org/en/system/files?file=e-sc-xxvi.pdf, accessed 15 Jul 2022.
370 Report of the Twenty-Seventh Meeting of the CCAMLR, SC-CAMLR XXVII, Hobart, Australia, 27 October – 7 November 2008 at para. 7.2(vi), available at https://meetings.ccamlr.org/es/system/files?file=s-sc-xxvii_0.pdf, accessed 15 Jul 2022.
371 This goal was aligned to the global aim to establish a representative system of MPAs worldwide, adopted at the World Summit on Sustainable Development (WSSD) in 2002). Report of the World Summit on Sustainable Development, A/CONF.199/20*, page. 25, para. 32(c). Johannesburg, South Africa, 2002, available at http://www.un-documents.net/aconf199-20.pdf, accessed on 6 Jul 2022.
372 CCAMLR CM 91-03, Protection of the South Orkney Island Southern Shelf, CCAMLR-XXVII, 2009, available at https://cm.ccamlr.org/en/measure-91-03-2009, accessed 16 Jul 2022.
373 CCAMLR CM 91-04, General Framework for the establishment of CCAMLR Marine Protected Areas, CCAMLR-XXX, 2011, available at https://cm.ccamlr.org/en/measure-91-04-2011, accessed 16 Jul 2022.

(i) the protection of representative examples of marine ecosystems, biodiversity and habitats at an appropriate scale to maintain their viability and integrity in the long term;
(ii) the protection of key ecosystem processes, habitats and species, including populations and life-history stages;
(iii) the establishment of scientific reference areas for monitoring natural variability and long-term change or for monitoring the effects of harvesting and other human activities on Antarctic marine living resources and on the ecosystems of which they form part;
(iv) the protection of areas vulnerable to impact by human activities, including unique, rare or highly biodiverse habitats and features;
(v) the protection of features critical to the function of local ecosystems;
(vi) the protection of areas to maintain resilience or the ability to adapt to the effects of climate change.[374]

Both the CAMLR convention and the framework for the establishment of MPAs by the CCAMLR thus reflect visions of biodiversity protection and marine ecosystems integrity based on the EA. However, although these legal frameworks open possibilities of IOM, MPA designation in the CCAMLR context is mainly confined to manage the exploitation of marine living resources,[375] thus leaving the management of other human activities outside of the scope.[376] This may be illustrated with the two already established CCAMLR MPAs. The protection of the SOISSMPA applies to all Antarctic marine living species and "[a]ll types of fishing activities shall be prohibited within the defined area, with the exception of scientific fishing research activities".[377] Furthermore, discharge and dumping activities by fishing vessels are prohibited[378] as well as transshipment activities involving fishing vessels.[379] Fishing vessels are encouraged, but not obliged, to inform their intention with the transit before the entry of the SOISSMPA.[380] The SOISSMPA does otherwise not address shipping activities or any other human activities.[381] The SOISSMPA can therefore only manages fishing activities, and to some extent, some other activities related to fishing vessels. The RSRMPA[382] takes another management approach and is divided into three zones: (i) the general protection zone, (ii) the Special Research Zone, and (iii) the Krill Research Zone.[383] Fishing activities are prohibited in the general protection zone whereas some fishing activities are permitted under certain conditions in the Special Research Zone and the Krill Research Zone.[384] Fishing vessels and vessels conducting scientific research on Antarctic marine life "should avoid dumping or discharging wastes or other matter within

[374] Ibid para. 2
[375] CCAMLR CM 91-04, General Framework for the establishment of CCAMLR Marine Protected Areas, CCAMLR-XXX, 2011, available at https://cm.ccamlr.org/en/measure-91-04-2011, accessed 16 Jul 2022.
[376] Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 2.
[377] CCAMLR CM 91-03, Protection of the South Orkney Island Southern Shelf, CCAMLR-XXVII, 2009, para. 2. Available at https://cm.ccamlr.org/en/measure-91-03-2009, accessed 16 Jul 2022. (For further readings on the relation between Antarctic MPAs and scientific research , see Roser Puig Marcó, "El régimen jurídico internacional de la investigación científica en la Antártida," *Doctoral Thesis, University of Barcelona* (2015).)
[378] Ibid para. 3..
[379] Ibid para. 4.
[380] Ibid para. 5.
[381] Furthermore, the prohibitions do not apply to cases of emergency related to safety at sea. Ibid para. 6.
[382] Established under the CCAMLR CM 91-05, Ross Sea Region Marine Protected Area, CCAMLR-XXXV, 2016, available at
https://cm.ccamlr.org/en/measure-91-05-2016, accessed 16 Jul 2022.
[383] See CCAMLR CM 91-05, Ross Sea Region Marine Protected Area, CCAMLR-XXXV, 2016, para. 5, available at https://cm.ccamlr.org/en/measure-91-05-2016, accessed 16 Jul 2022.
[384] Ibid paras. 7, 8, 9.

the MPA",[385] and transshipment activities by shipping vessels are prohibited.[386] The RSRMPA does otherwise not address shipping matters or any other human activities.

Overall, the CCAMLR's competence is arguably limited to the management of the exploitation of marine living resources in a broad sense since it also manages some other activities related to fisheries.[387] As a consequence, CCAMLR MPAs are unable of managing a multitude of cross-sectorial human activities,[388] but are confined to single-objective or sectorial management of Antarctic waters. CCAMLR MPAs may therefore not be characterized as integrated MPAs.

4.1.1.3. Progress of CCAMLR MPAs

From a regional as well as from a global perspective, the CCAMLR has made some critical progress with regards to the establishment of MPAs in Antarctic waters. The SOISSMPA[389] was the world's first comprehensive MPA in international waters,[390] and the establishment of the world's largest MPA,[391] the RSRMPA, in 2016[392] was lauded as an important achievement in protecting some of the Earth's last intact marine ecosystems.[393] At present, four proposals of CCAMLR MPAs are under discussion: the Antarctic Peninsula, the Scotia Sea, the East Antarctica and the Weddell Sea region (see figure 4).[394]

The progress of MPA designation in the CCAMLR context has not been an easy task since all decisions adopted by the CCAMLR "on matter of substance" are taken by consensus.[395] The establishment of Antarctic MPAs is a matter of substance and the adoption of such CMs must be agreed upon by all 26 CCAMLR members (including the European Union)[396] or at least not be formally objected to by any

---

385 Ibid para. 10.
386 With exception for emergencies related to safety of human life at sea or such search and rescue operations. Ibid para. 11.
387 Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 338.
388 Such as for example shipping, exploitation of non-living marine resources, sea-bed activities such as the extraction of mineral resources and cable and pipeline placing. The first paragraph of the CM 91-04 holds that "CCAMLR conservation measures relevant to CCAMLR MPAs shall be adopted and implemented consistent with international law, including as reflected in the United Nations Convention on the Law of the Sea" which means that that CCAMLR cannot act beyond its competences, like for example regulating shipping activities within the convention area.
389 CCAMLR CM 91-03, Protection of the South Orkney Island Southern Shelf, CCAMLR-XXVII, 2009, available at https://cm.ccamlr.org/en/measure-91-03-2009, accessed 16 Jul 2022.
390 Ricardo M. Roura, "The shore is the limit: marine spatial protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty," 299. See also CCAMLR webpage, Marine Protected Areas, available at https://www.ccamlr.org/en/science/marine-protected-areas-mpas, accessed 22 Mar 2022.
391 Cassandra M. Brooks, "The Ross Sea, Antarctica: A highly protected MPA in international waters," 1.
392 CCAMLR CM 91-05, Ross Sea Region Marine Protected Area, CCAMLR-XXXV, 2016, available at https://cm.ccamlr.org/en/measure-91-05-2016, accessed 16 Jul 2022.
393 In a study from 2008 it was shown that "the Ross Sea has been the least impacted of any open ocean, marine area on Earth". See Ainley, "A history of the exploitation of the Ross Sea, Antarctica," 233.
394 For further readings on the proposals of CCAMLR MPAs, see Australian Antarctic Program, Proposals for new Marine Protected Areas, https://www.antarctica.gov.au/about-antarctica/law-and-treaty/ccamlr/marine-protected-areas/eampa/, accessed on 6 July 2022.
395 Article XII.1 of the CAMLR convention.
396 The list of the treaty parties of the CCAMLR is available at https://www.ccamlr.org/en/organisation/members, accessed 5 Jun 2022.

of them.[397] CMs "shall be based on the best scientific evidence available",[398] but as Joyner points out, the consensus-based model of decision-making may cause an impediment of adopting measures that science indicates are necessary.[399] In other words, even if scientific evidence show that the establishment of an MPA would be necessary to protect the Antarctic marine environment, it would not equate to the adoption for such measures, since the political and juridical processes to reach consensus need to be passed first.

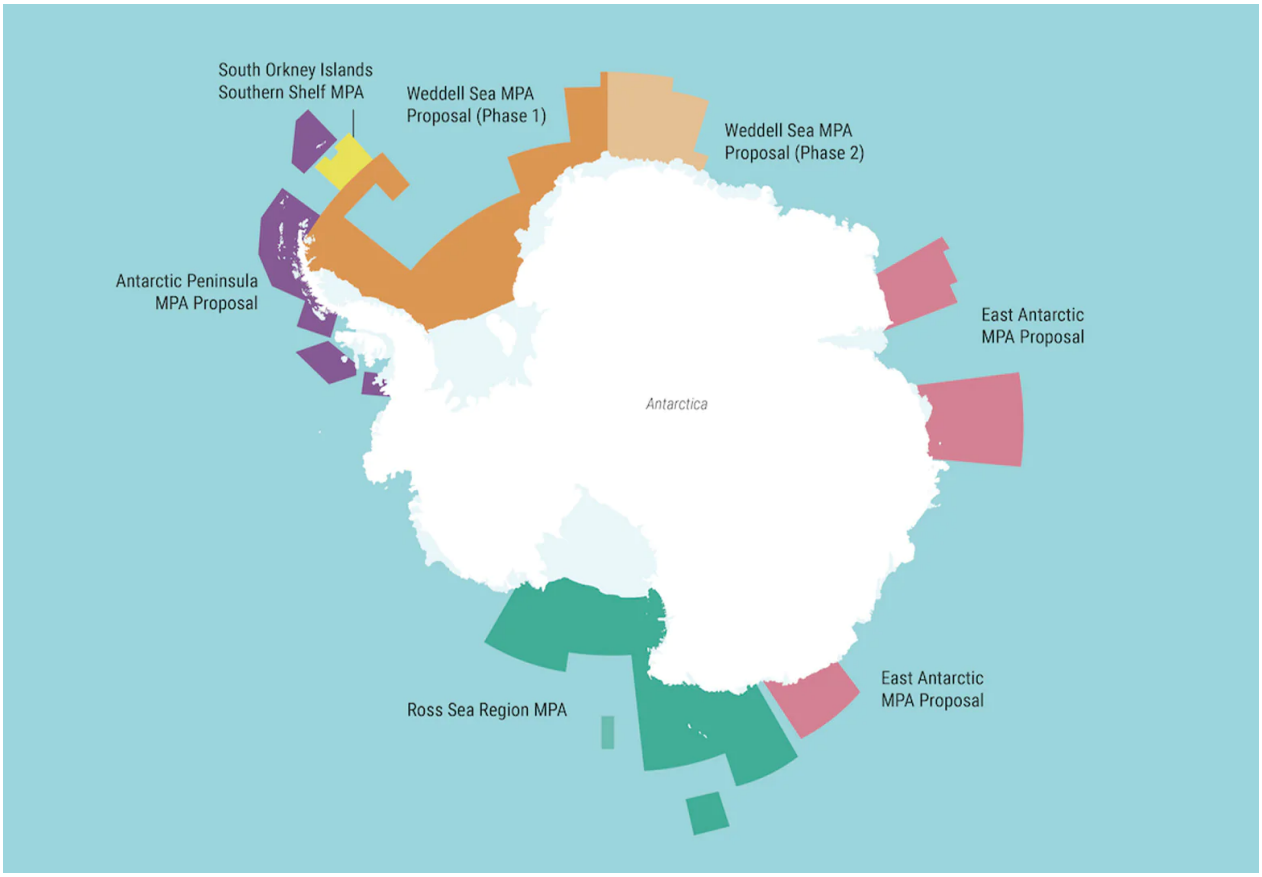

Figure 4: Map of the current CCAMLR MPAs and MPA proposals under negotiation (2021).[400]

The establishment of the RSRMPA is an example of the difficulties in reaching the consensus needed for CCAMLR MPA designation. New Zealand and the USA presented proposals for the RSRMPA already in 2012[401] and despite of a formidable support from the majority of the CCAMLR members a small number of states (including Russia, Ukraine and China) objected the RSRMPA proposals,

[397] Brooks, "Competing values on the Antarctic high seas: CCAMLR and the challenge of marine-protected areas," 295.
[398] Article IX.1(f) of the CAMLR convention.
[399] Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 126.
[400] Antarctic Southern Ocean Coalition (ASOC), Protecting Antarctica, available at https://www.asoc.org/campaign/protecting-antarctica/, accessed 6 Jul 2022.
[401] The proposals for the RSRMPA were presented at the CCAMLR meeting XXXIII, see the Report of the thirty-third meeting of the Commission, Hobart, Australia 20–31 October 2014, available at https://meetings.ccamlr.org/en/system/files?file=e-cc-xxxiii.pdf, accessed 6 Jul 2022.

causing an impediment to establish the MPA.[402] Scott asserts that "[t]he proposed Ross Sea MPA has proven the most controversial and has served as the focal point of the more general challenge to the designation of MPAs in areas beyond national jurisdiction."[403] This statement alludes to the difficulties of cooperation to regulate ABNJ and establish high seas' MPAs. The persistent objections related mainly to:

> *inter alia:* disagreement with the MPA boundaries, duration and size; concerns that the MPA process was not aligned with CCAMLR rules; interference with fisheries; legal issues such as inconsistencies with UNCLOS; the argument that the RMP was insufficient; and concerns regarding the number of MPA proposals being tabled. MPA support from claimant states has also forged distrust among non-claimants who perceive support as attempts to secure sovereignty over areas of the Southern Ocean. Thus, underlying every MPA objection, complex geopolitical factors entangled with economic interests, power dynamics, and other external international diplomacy issues were at play.[404]

The challenges to reaching consensus in of establishing of the RSRMPA were connected to the contradiction between mutual state aspirations of protecting Antarctic marine living resources versus individual state interests of exploitation of the very same resources.[405] In an article from 2020, Pan and Xu thoroughly explain the difficulties in reaching consensus based on diverging state interests, pointing out that:

> the Ross Sea boasts of various living and non-living resources, which contributes greatly to the economy, climate, biology and scientific research among all States concerned. The CCAMLR member States make a choice of supporting or opposing the proposal to establish the RSRMPA based on their own interests, and they will not easily change their minds.[406]

In addition to different political and economic interests, another point of disagreement centered around the correct interpretation of the term "conservation" as including "rational use".[407] The meaning of conservation as including rational use is not defined in the CAMLR convention, and since the rationale of designating CCAMLR MPAs (or adopting any CM) relies on this definition, this has resulted in further difficulties to reach consensus amongst the CCAMLR members. The term "rational use" has been interpreted according to individual state interests, for example as a right to exploit marine living resources. Fishing states of the CAMLR convention have thus evoked rational use as a right to fish and claimed that this right causes an impediment to the establishment of MPAs.[408] In addition, the reference made to the high seas in Article VI of the Antarctic Treaty has also been evoked to cause an

---

[402] For further readings on the objections, see Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 334.
[403] Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 333.
[404] Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 5.
[405] Brooks, "Competing values on the Antarctic high seas: CCAMLR and the challenge of marine-protected areas," 295.
[406] Xu, "The Establishment of the Marine Protected Area in Antarctica's Ross Sea - On the Dilemma of Collective Action in the Governance of Global Commons and Its Solutions," 28. For further readings of the opposing state interests in the RSRMPA case, see pages 27-31.
[407] See the conservation objective in Article II.2 of the CAMLR convention. During the negotiations of the RSRMPA, the term "rational use" appeared more than 50 times in the reports of the CCAMLR meetings between 2011-2015, Xu, "The Establishment of the Marine Protected Area in Antarctica's Ross Sea - On the Dilemma of Collective Action in the Governance of Global Commons and Its Solutions," 27.
[408] Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 5.

impediment for the establishment of MPAs.[409] Some party member have even argued that the term entails the *unrestricted* right of exploiting marine living resources, and so opposing any legal possibilities of establishing CCAMLR MPAs.[410] Since no legal statement favors this position, neither explicitly nor implicitly there is, however, no legal evidence that supports this interpretation of rational use.[411] On the contrary, the overarching objective and emphasis of the EA of the CAMLR convention speaks against any arguments of unrestricted fishing. Moreover, the foundational documents of the CAMLR convention describe rational use as "wise use", "keeping for future use", and management that results "in an equitable distribution of benefits between present and future users of the resource",[412] thus alluding to a sustainable use, rather than an unrestricted use of Antarctic marine living resources. The conservation objective has been interpreted by Brooks in the following way: "Within the CAMLR Convention, rational use allows for scientific and commercial harvesting of living resources as long as activities do not cause changes in the exploited and dependent populations or significant adverse effects on the ecosystems of which they are part, that are not reversible in 20–30 years."[413]

Discussions for the further meaning of conservation as including rational use has been held by the SC-CAMLR. At the 29th meeting of the SC-CAMLR it was agreed that the CCAMLR would be the appropriate body to decide what kind of measures that constitute conservation and rational use, and that this ponderation would entail a balancing act between the rational use of marine living resources and the conservation of them.[414] Some authors have expressed concerns to put this competence on the CCAMLR, expressing that the "CCAMLR's Scientific Committee appears to have accepted that decisions around this critical evaluation are matters of policy and politics, rather than scientific."[415] Since the very same institution that encounters difficulties in reaching consensus due to diverging political and economic interests is to define rational use, there is a risk that the term is defined on a non-scientifical basis.

The negotiations of the RSRMPA proposal lasted for five years, and the CCAMLR was widely criticized for these lengthy negotiations.[416] Nevertheless, despite the difficulties in reaching a consensus, in 2016 the CCAMLR members managed to compromise for the establishment of the RSRMPA. This compromise included, inter alia, fishing zones in about 20% of the RSRMPA, provisions for exploitation of marine living resources for purposes of research in the whole MPA[417] and a "sunset-clause", i.e., a determined period of duration of the MPA of 35 years.[418] It may be argued that these compromises weaken the protection of the CCAMLR MPAs, but "nonetheless, the Ross

[409] Ibid. Antarctic MPAs and the high sea freedoms is further discussed in Chapter 5.
[410] See Jennifer; Blood-Patterson Jacquet, Eli; Brooks, Cassandra; Ainley, David, "'Rational use' in Antarctic waters," *Marine Policy* 63, p.28-34 (2016): 28.
[411] Jacquet, "'Rational use' in Antarctic waters," 33.
[412] Brooks, "Competing values on the Antarctic high seas: CCAMLR and the challenge of marine-protected areas," 280.
[413] Interpretation of article II of the CAMLR convention, see Brooks, "Competing values on the Antarctic high seas: CCAMLR and the challenge of marine-protected areas," 280.
[414] Report of the twenty-ninth meeting of the Commission, SC-CAMLR-XXIX, para. 3.1.2. Hobart, Australia, 25 October – 5 November 2010. Available at https://meetings.ccamlr.org/en/system/files?file=e-cc-xxxiii.pdf, accessed 16 Jul 2022.
[415] Alan D. Hemmings and Lorne Kriwoken Laurence Cordonnery, "Nexus and Imbroglio: CCAMLR, the Madrid Protocol and Designating Antarctic Marine Protected Areas in the Southern Ocean," *The International Journal of Marine and Coastal Law* (2015): 14.
[416] Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 5.
[417] Cassandra M. Brooks, "The Ross Sea, Antarctica: A highly protected MPA in international waters," 6.
[418] Conservation Measure 91-05, Ross Sea Region Marine Protected Area, CCAMLR-XXXV, 2016 para. 20, available at https://cm.ccamlr.org/en/measure-91-05-2016, accessed 16 jul 2022.

Sea region MPA is currently, and for the foreseeable future, highly protected from potentially destructive human activities, and is thus exemplary of a large-scale highly protected MPA."[419] The establishment of RSRMPA demonstrates the possibilities of overcoming conflicting state interests, which might well be of benefit for future Antarctic MPA designation, as well as the designation of MPAs in other marine spaces beyond the limits of national jurisdiction.

4.1.2. The 1991 Protocol on Environmental Protection to the Antarctic Treaty

During the 1980s, the ATCPs developed an Antarctic minerals treaty, the Convention on the Regulation of Antarctic Mineral Resources Activities (CRAMRA). The CRAMRA aimed to regulate the prospecting and exploration of mineral resources in the Antarctic seabed. Still, due to concerns of the environmental impacts those activities potentially would entail, such as new discoveries and far-growing mineral exploitation, together with other political aspects, the agreement never entered into force.[420] Instead of adopting an Antarctic mineral's regime, the ATCPs developed the Madrid Protocol[421] which designated "Antarctica as a natural reserve, devoted to peace and science".[422]

4.1.2.1. Possibilities of Integrated Oceans Management

Instead of regulating conducts of seabed mining (like the CRAMRA intended to do), the Protocol committed its party members of "the comprehensive protection of the Antarctic environment and dependent and associated ecosystems".[423] For this purpose, the Protocol prohibited all mineral exploitation of the Antarctic seabed other than for scientific research.[424] The regulation under the Madrid Protocol is tinged by IOM and the EA since it takes a holistic view of the Antarctic environment by considering the interconnection of ecosystems. The geographical scope of the Madrid Protocol coincides with that of the Antarctic Treaty and the application of Protocol is thus limited to the ATA. Even if the Madrid Protocol cannot regulate activities up to the ecological boundary of the Antarctic polar front the Protocol applies to *all* activities conducted in the terrestrial as well as maritime part of the ATA,[425] thus opening for possibilities of cross-sectorial management of Antarctic waters south of 60° South Latitude. In this regard, the adoption of the Madrid Protocol was an important step for the protection of the Antarctic marine environment[426] since it consolidated

> environmental measures into a single instrument under the Antarctic Treaty. Before this agreement, environmental rules for the Antarctic Treaty were negotiated on an ad hoc, piecemeal basis, with little linkage or substantive integration. The Madrid Protocol transformed that patchwork of rules into a more comprehensive approach to environmental protection in Antarctica.[427]

---

[419] Cassandra M. Brooks, "The Ross Sea, Antarctica: A highly protected MPA in international waters," 6.
[420] Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 149.
[421] Australian Antarctic Program, About the Protocol on Environmental Protection to the Antarctic Treaty, available at https://www.antarctica.gov.au/about-antarctica/law-and-treaty/the-madrid-protocol/, accessed 29 Mar 2022.
[422] Article 2 of the Madrid Protocol.
[423] Ibid.
[424] Ibid article 7.
[425] Ibid article 3. See also Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 151. The CCAMLR Convention thus has a broader geographical scope of application than the Madrid Protocol.
[426] Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 179.
[427] Ibid p. 174.

To achieve the objective of the comprehensive protection of the Antarctic environment, the Madrid Protocol sets out binding 'Environmental Principles'.[428] The planification and conduct of all activities in the ATA shall be undertaken, inter alia, with due consideration of the understanding of the Antarctic environment and its ecosystems.[429] Activities shall therefore be planned and conducted so as to limit adverse impacts on the Antarctic environment and its ecosystems,[430] be based on scientific research to avoid negative environmental impacts and allow for assessments and monitoring for these purposes.[431] Human activities shall be conducted on the basis of scientific and informed judgments and to this end the parties must undertake environmental impact assessments before activities can proceed.[432] The environmental principles address cumulative effects of conducted activities and entail a temporal dimension as well as a precautionary dimension through monitory measures.[433] The Madrid Protocol therefore opens possibilities of IOM based on the EA.

4.1.2.2. Implementation of Integrated Ocean Management: Antarctic Specially Protected and Managed Areas

The Madrid Protocol's six annexes form integral part of the Protocol.[434] The adoption of policies and measures under both the Madrid Protocol and its annexes are taken by the ATCPs during the ATCMs in accordance with the Article IX of the Antarctic Treaty.[435] The main advisory body to the ATCPs is the Committee for Environmental Protection (CEP)[436] tasked to ensure that the rules of the Madrid Protocol are interpreted uniformly and to serve as a forum for environmental matters of the Protocol.[437] The adoption of policies and measures by the ATCPs under the Madrid Protocol are taken after the review of the advice and recommendations of the CEP[438] through concurrent meetings in which matters relating to environmental protection and management are addressed. The CEP does consequently not have any competence of its own to take any legally binding decisions[439] but is a recommendatory body to the ATCPs.[440] The CEP provides advice and formulates recommendations to the ATCMs regarding both the implementation of the Protocol and the operation of its annexes.[441]

Annex V "Area Protection and Management" provides for the implementation of area-based management by allowing the designation of two categories of protected areas. For the purposes of the

---

428 See article 3 of the Madrid Protocol.
429 Article 3 of the Madrid Protocol.
430 Ibid article 3.2(a).
431 Ibid article 3.
432 Ibid article 3.2(c). Environmental Impact Assessment (EIA) is further elaborated in Article 8, these include all activities in the marine part of the Antarctic Treaty area with the exception of those activities regulated by the International Convention on the Regulation of Whaling (ICRW) and the CAMLR Convention. To further discuss implementation tools of IOM such as EIA falls outside of the scope of this thesis. See section 1.5.3. 'Scope and Limitations'.
433 Ibid articles 3.2(c), (d), and (e).
434 Ibid article 9.1. The annexes are: Environmental Impact Assessment (annex I); Conservation of Antarctic flora and fauna (annex II); Waste disposal and waste management (annex III); Prevention of marine pollution (annex IV); Area protection and management (annex V); Liability arising from environmental emergencies (annex VI).
435 Ibid article 10.1. The procedures of decision-making under the Antarctic Treaty were given account for in section 1.3.2.
436 The CEP was established with the entry into force of the Madrid Protocol, see article 11 of the Madrid Protocol.
437 Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 153.
438 Article 10.2 of the Madrid Protocol. The ATCMs must also take due regard of the advice of the Scientific Committee on Antarctic Research (SCAR).
439 Joyner, "Governing the Frozen Commons: the Antarctic Regime and Environmental Protection," 154.
440 The functions of the CEP are provided for under Article 12 of the Madrid Protocol.
441 Article 12 of the Madrid Protocol.

prohibition, restriction, or management, any area, terrestrial as well as maritime, may be designated either as an Antarctic Specially Protected Area (ASPA) or an Antarctic Specially Managed Area (ASMA).[442]

The ASPAs are defined as "[a]ny area, including any marine area, may be designated as an Antarctic Specially Protected Area to protect outstanding environmental, scientific, historic, aesthetic or wilderness values, any combination of those values, or ongoing or planned scientific research."[443] This definition coincides with the given definition of protected areas under the CBD, since it allows for the designation of a defined area for the protection of the marine environment, which might as well include conservation objectives. Furthermore, the ASPAS are designed to strictly manage or prohibit activities in order to afford a high level of protection and any entry is prohibited except in accordance with an entrance permit.[444] The ASPAs therefore also coincide with the definition of MPAs by the COP to the CBD, since they in addition to being defined marine areas are reserved by legislation with the effect to provide for a higher level of protection than their surroundings. This may well include the protection of marine biodiversity. Since the ASPAs can manage any human activity, they allow for the implementation of integrated MPAs.

The ASMAs are designed to improve the management of the convention area, [445] and "[a]ny area, including any marine area, where activities are being conducted or may in the future be conducted, may be designated as an Antarctic Specially Managed Area to assist in the planning and coordination of activities, avoid possible conflicts, improve cooperation between Parties or minimize environmental impacts." The ASMAS can be designated in areas where human activities pose a risk of interference or cumulative environmental impacts[446] and in sites or monuments of recognized historic value.[447] The requirements of the ASMAs coincide with the CBD definition of protected areas, since they allow for the designation of a defined area for the protection of the marine environment from human inference and cumulative environmental impacts, which may include conservation objectives. The ASMAs also coincide with the MPA definition by the COP to the CBD, since they allow for the management of a defined marine area by legislative means with the effect to provide for a higher level of protection than its surroundings. The minimization of the risk of cumulative human impacts on the marine environment would contribute to the protection of marine biodiversity. Even though the ASMAs do not require an entrance permit[448] and are consequently not of the same level of protection as the ASPAs, they aim to coordinate multiple-use activities in the same area and do therefore also allow for the implementation of integrated MPAs.

The submission of a management plan is required to establish the abovementioned MPAs.[449] Such management plans allow for the identification of different zones ("zoning") within the ASPAs and the

[442] Article 2 of Annex V to the Madrid Protocol.
[443] Ibid, article 3.1.
[444] Ibid article 3.4.
[445] Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 336.
[446] Article 4.2a of Annex V to the Madrid Protocol.
[447] Ibid article 4.2b.
[448] Ibid article 4.3.
[449] Ibid article 5.1. The management plans shall include as appropriate, inter alia; a description of the values that is required to protect or manage (art 5.3a); the aims and objective of the protection of those values (art 5.3b); the management activities which are to be undertaken to protect those values (art 5.3c); the period, if any, of designation (art 5.3d); and the boundaries of the area, including the geographical coordinates and natural features that delineate the area.

ASMAs "in which activities are to be prohibited, restricted, or managed for the purpose of achieving the aims and objectives" of the establishment of the MPA.[450] The MPA zones may range from prohibited zones and restricted zones, to access zones and visitor zones. The zones may furthermore "contain guidance for marine protection. This can include preferred approaches by boat, landing sites and anchoring considerations."[451] The possibilities of managing cross-sectorial activities submitted under the management plans qualify both types of Annex V MPAs as possible MPAs to manage cross-sectorial activities in the ATA.

4.1.2.3. Progress of Annex V MPAs

According to Annex V of the Madrid Protocol, "[p]arties shall seek to identify, within a systematic environmental-geographical framework, and to include in the series of Antarctic Specially Protected Areas." [452] Even though parties to the Madrid Protocol are required to set out such a representative system ASPAS, the process of the implementation of a network of MPAs has been modest. This is partly due to the requirement of prior approval of the CCAMLR before implementing ASPAs and ASMAs in areas that overlap with the legal mandate of the CCAMLR.[453] Already in 2005, the CCAMLR Workshop concluded that:

> almost all existing ASPAs and ASMAs are small, coastal areas that do not contribute to the objectives of CCAMLR, and have little relevance to CCAMLR-related activities. Furthermore, these existing areas make little contribution to the development of a representative system of MPAs under the requirements of the Madrid Protocol.[454]

In 2021 the ATCM, after due recommendations of the CEP, had in total established 20 ASPAs with marine values of protection, most of them of small surface range (see figure 5).[455] All of the ASPAs that required prior approval of the CCAMLR include a permit to access the waters of the MPA and do not restrict shipping activities within it. Roura asserts that:

> [i]n these instances, there are no specific restrictions on routes of access to or movement within the ASPA, although movements should be minimised. Requirements include preferred locations for boat access, landings and anchoring. Free passage of ships is allowed in most ASPAs, although ASPA 173 Cape Washington and Silverfish Bay includes a restricted marine zone. In areas where the benthic habitat is

---

Furthermore, the management plan of the ASPAs shall describe clearly the conditions under which permits of entry may be granted (art 5.3i), and the management plan of the ASMAs shall include a code of conduct (art 5.3j).

[450] Article 5.3(f) of Annex V to the Madrid Protocol.

[451] Ricardo M. Roura, "The shore is the limit: marine spatial protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty," 296.

[452] Article 3.2 of Annex V to the Madrid Protocol. Such areas may include, inter alia, (a) areas kept inviolate from human interference so that future comparisons may be possible with localities that have been affected by human activities; (b) representative examples of major terrestrial, including glacial and aquatic, ecosystems and marine ecosystems; (c) areas with important or unusual assemblages of species, including major colonies of breeding native birds or mammals; (d) the type locality or only known habitat of any species.

[453] See further section 4.1.3.

[454] Report of the CCAMLR Workshop on Marine Protected Areas. Silver Spring, MD, USA, 29 August to 1 September 2005, p. 597, para. 44, https://www.ccamlr.org/en/system/files/e-sc-xxiv-a7.pdf, accessed 1 May 2022.

[455] ATCM Summary of the work of the CEP on Marine Protected Areas (1998-2021), available at https://webcache.googleusercontent.com/search?q=cache:WasZp3hEQ-oJ:https://documents.ats.aq/ATCM43/WW/ATCM43_WW007_e.docx+&cd=1&hl=es&ct=clnk&gl=se&client=safari, accessed 5 Jul 2022.

protected, the marine protection component includes a request to avoid waste dumping from ships, bottom hauling and sitting of bottom devices, as well as anchoring except in compelling circumstances.[456]

The ASPAs that were not subject to approval of the CCAMLR were in general either not navigable due to for example the presence of Antarctic sea ice surrounding the area, or outside of fishing grounds of interest.[457]

ASPA #	Name	Area (km²)	% ASPA marine
106	Cape Hallett	0.05	10.26
107	Emperor Island	4.59	96.18
117	Avian Island	0.61	48.50
120	Pointe-Geologie Archipelago	0.10	25.03
121	Cape Royds	0.48	74.01
124	Cape Crozier	8.25	12.20
127	Haswell Island	5.22	86.00
133	Harmony Point	19.57	42.21
144	Chile Bay (Discovery Bay)	0.72	100.00
145	Port Foster	2.33	100.00
146	South Bay	0.97	97.18
149	Cape Shirreff and San Telmo Island	5.66	50.40
151	Lions Rump	0.67	43.29
152	Western Bransfield Strait	960.63	100.00
153	Eastern Dallman Bay	636.57	100.00
161	Terra Nova Bay	29.41	100.00
165	Edmonson Point	2.54	46.01
166	Port-Martin	0.09	53.00
169	Amanda Bay	16.11	93.98
173	Cape Washington and Silverfish Bay	273.47	97.67
TOTAL		1968.04	

Figure 5: Table over ASPAs with a marine component.[458]

[456] Ricardo M. Roura, "The shore is the limit: marine spatial protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty," 305.
[457] Ricardo M. Roura, "The shore is the limit: marine spatial protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty," 306.
[458] ATCM Summary of the work of the CEP on Marine Protected Areas (1998-2021), available at https://webcache.googleusercontent.com/search?q=cache:WasZp3hEQ-oJ:https://documents.ats.aq/ATCM43/WW/ATCM43_WW007_e.docx+&cd=1&hl=es&ct=clnk&gl=se&client=safari, Accessed 5 Jul 2022.

With regards to the ASMAs, they are generally larger in surface range than the ASPAs and most of them contain several ASPAs.[459] So far, only three ASMAs have been established[460] and with respect to the small-scale implementation of ASMAs Scott points out that "[t]he absence of marine ASMAs is surprising in light of their ostensible purpose to manage conflict and coordinate area management, the *raison d'être* of the modern multifunctional MPA."[461]

The ASPAs and the ASMAs are considerably smaller than the CCAMLR MPAs[462] and the total implemented surface area of MPAs under the Madrid Protocol "equates to less than 0.02% of the CAMLR convention area."[463] Since the implementation of MPAs under Annex V to the Madrid Protocol has not contributed to a wider protection of the Southern Ocean, the opportunities of implementing integrated MPAs under Annex V is practically limited.

4.1.3. Interrelation Between the Instruments

Since both the CCAMLR and the ATCM have the competence to designate MPAs in Antarctic waters, their respective MPAs may coincide with one another. The jurisdictional overlap between the legal institutions thus risks concurrent institutional claims of MPAs and as a matter of fact, all current and proposed MPAs by the CCAMLR are located within the ATA and contain fully, in part, or are adjacent to, both ASPAs and ASMAs.[464] However, due to policy choices, the debate of MPA designation under the ATS has been largely confined to the fora of the CAMLR convention.[465] The CCAMLR is thus the main responsible institution for the task of establishing MPAs in Antarctic waters,[466] and the designation procedures of the Madrid Protocol explicitly pronounces that no marine area may be designated as an ASPA or ASMA without the prior approval of the CCAMLR.[467] This provision has in practice given precedence to the CCAMLR at the time of MPA designation.

---

[459] Ricardo M. Roura, "The shore is the limit: marine spatial protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty," 305.
[460] These are: (1) ASMA 1, Admiralty Bay, King George Island; (2) ASMA 4, Deception Island; (3) ASMA 7, Southwest Anvers Island and Palmer Basin. (ASMA 6, Larsemann Hills, East Antarctica, includes a marine component but the values for protection only pertain to terrestrial and freshwater features. See Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 4.
[461] Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 336.
[462] Ricardo M. Roura, "The shore is the limit: marine spatial protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty," 304.
[463] Gardiner, "Marine protected areas in the Southern Ocean: Is the Antarctic Treaty System ready to co-exist with a new United Nations instrument for areas beyond national jurisdiction?," 3,4
[464] Ricardo M. Roura, "The shore is the limit: marine spatial protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty," 299.
[465] One of the highlighted aims of the CCAMLR Workshop in 2005 was to achieve "a harmonized regime for the protection of the Antarctic marine environment across the ATS", but at the same time recognized "that there would need to be a division between ATCM and CCAMLR on the management of different human activities in the region", see Report of the CCAMLR workshop on Marine Protected Areas. Silver Spring, MD, USA, 29 August to 1 September 2005, p. 594, para. 22, available at https://www.ccamlr.org/en/system/files/e-sc-xxiv-a7.pdf, accessed 1 May 2022.
[466] Xu, "The Establishment of the Marine Protected Area in Antarctica's Ross Sea - On the Dilemma of Collective Action in the Governance of Global Commons and Its Solutions," 19. Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 337.
[467] Article 6.2 of Annex V to the Madrid Protocol. The ATCM Decision 9 (2005) gives further substance to this provision and sets out the criteria under which proposals for protected areas in marine areas under the Protocol must be

4.2. Opportunities for Integrated Marine Protected Areas

4.2.1. Within the Antarctic Treaty System: Institutional Coordination

While the process of MPA designation in the CCAMLR context has seen a significant progress during the last decade, the competence of the CCAMLR is in general limited to regulate Antarctic fisheries. The competence of the ATCMs is wider in material scope and there are possibilities to implement cross-sectorial MPAs under Annex V to the Madrid Protocol. Nonetheless, three limitations must be noted with regards to the Annex V MPAs. Firstly, the scope of Annex V MPAs is limited to the ATA, and in contrast to the CCAMLR, the ATCM cannot implement MPAs in the whole Southern Ocean, up to the Antarctic polar front. Secondly, the process of implementation of Annex V MPAs has been modest and the already established MPAs do not contribute to a wider protection of Antarctic waters. Thirdly, the CCAMLR takes precedence over the ATCM in Antarctic MPA designation and is thus the primary institution in Antarctic MPA designation. These factors imply that the possibilities to establish integrated MPAs under the Antarctic legal regime are practically limited. However, the management of multi-sectorial activities often requires institutional coordination[468] and within the ATS there are various mechanisms that allow for the interrelation between its legal instruments. This connection opens for coordination across the ATS and for dialogue between its institutions towards joint MPAs that can manage cross-sectorial activities in Antarctic waters.

In the CCAMLR Workshop from 2005 the aim of a harmonized regime across the ATS for the protection of the Antarctic marine environment was underscored.[469] The ATCM Resolution 1 of the following year undertook a commitment for an 'increased cooperation at the practical level" between the ATCM and CCAMLR,[470] and cooperation between the bodies of the ATS is a recurring topic of the ATCM resolutions.[471] Consequently, the aim for cooperation and harmonization has been expressed in both the CCAMLR context, as well as the ATCM context.

Within the legal framework of the CAMLR convention, "the special obligations and responsibilities of the Antarctic Treaty Consultative Parties for the protection and preservation of the environment of the Antarctic Treaty area" is recognized[472] and the CCAMLR is obliged to "take full account of any relevant measures or regulations established or recommended by the Consultative Meetings pursuant to Article IX of the Antarctic Treaty".[473] In addition, all conservation measures by the CCAMLR shall

submitted to CCAMLR for approval. Marine areas which require prior approval of the CCAMLR are those: a) in which there is actual harvesting or potential capability of harvesting of marine living resources which might be affected by site designation; or b) for which there are provisions specified in a draft management plan which might prevent or restrict CCAMLR related activities. "…proposals for designations of Antarctic Specially Protected Areas or Antarctic Specially Managed Areas which meet the criteria of Paragraph 1 above shall be submitted to CCAMLR for its consideration before any decision is taken on the proposal relating to marine areas." Decision 9 (2005) - ATCM XXVIII - CEP VIII, Stockholm, Marine Protected Areas, Adopted 17/06/2005, available at https://www.ats.aq/devAS/Meetings/Measure/344, accessed 26 Jun 2022.

[468] Scott, "Integrated Oceans Management: A New Frontier In Ma-rine Environmental Protection," 467.

[469] Report of the CCAMLR Workshop on Marine Protected Areas. Silver Spring, MD, USA, 29 August to 1 September 2005, p. 594, para. 22, available at https://www.ccamlr.org/en/system/files/e-sc-xxiv-a7.pdf, accessed 1 May 2022

[470] Resolution 1 (2006), CCAMLR in the Antarctic Treaty System, ATCM XXIX, CEP IX, adopted 23/06/2006 in Edinburgh. Available at https://www.ats.aq/devAS/Meetings/Measure/363, accessed 16 Jul 2022.

[471] Ricardo M. Roura, "The shore is the limit: marine spatial protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty," 301.

[472] Article V.1 of the CAMLR convention.

[473] Ibid article IX.3.

be formulated on the best scientific evidence available and this entails, inter alia, that any measure or regulation established or recommended by the ATCPs pursuant to Article IX of the Antarctic Treaty must be taken into consideration.[474] In addition, the CM 91-04 which established the General Framework for the establishment of CCAMLR Marine Protected Areas of the CCAMLR opens possibility for the exchange of information between the CCAMLR and the ATCPs during the ATCMs when establishing MPAs in the CAMLR convention area.[475] Within the framework of the Madrid Protocol, Article 5 of the Madrid Protocol stipulates that for purposes of consistency with other components of the ATS, their party members:

> shall consult and co-operate with the Contracting Parties to the other international instruments in force within the Antarctic Treaty system and their respective institutions with a view to ensuring the achievement of the objectives and principles of this Protocol and avoiding any interference with the achievement of the objectives and principles of those instruments or any inconsistency between the implementation of those instruments and of this Protocol.

Furthermore, the ATCPs must consider the expertise and competences of the CCAMLR in the decision-making. Proposals of ASPAs and ASMAs are made through the submission of a management plan, and both the CCAMLR and its advisory body SC-CAMLR may take the initiative to such proposals.[476] When the proposals are submitted by the ATCPs, the management plans shall be forwarded to the CCAMLR 'as appropriate'. In addition, when the CEP formulates advise to the ATCM, the body shall, 'when appropriate', take into account any comments by the CCAMLR.[477] Furthermore, the adoption of policies and measures under the Madrid Protocol and its annexes are not only taken after the review of the advice and recommendations of the CEP, but also after review of the SC-CAMLR.[478]

Institutional cooperation has also been provided during joint workshops between the advisory bodies to the CCAMLR and the ATCPs, i.e., the SC-CAMLR and the CEP.[479] In a joint workshop from 2009, the bodies discussed area-based management and protected areas.[480] Regarding MPA designation, they recognized the differences and overlap in mandate between the CEP and SC-CAMLR and agreed to adopt a harmonized approach in developing a representative system of MPAs.[481] The development of proposals should receive coordinated input from both SC-CAMLR and CEP[482] but "spatial protection

---

[474] Ibid articles IX.1(f) and IX.5.

[475] See the fifth paragraph of the opening of the adoption of the CM 91-04, General Framework for the establishment of CCAMLR Marine Protected Areas, CAMLR-XXX, 2011. https://cm.ccamlr.org/en/measure-91-04-2011.

[476] Article 5.1 of Annex V to the Madrid Protocol. Such management plans shall include, inter alia; a description of the values that is required to protect or manage (art 5.3a); the aims and objective of the protection of those values (art 5.3b); the management activities which are to be undertaken to protect those values (art 5.3c); the period, if any, of designation (art 5.3d); and the boundaries of the area, including the geographical coordinates and natural features that delineate the area. Furthermore, the management plan of the ASPAs shall describe clearly the conditions under which permits of entry may be granted (art 5.3i), and the management plan of the ASMAs shall include a code of conduct (art 5.3j).

[477] Ibid article 6.1. The meaning of 'when appropriate' is not further explained.

[478] Article 10.2 of the Madrid Protocol.

[479] See CEP, Summary of the Work of the CEP on Marine Protected Areas (2015), available at http://www.ats.aq/documents/ATCM38/ww/atcm38_ww004_e.pdf, accessed 27 Jun 2022.

[480] Report of the Joint CEP/SC-CAMLR Workshop, Baltimore, MD, USA. 34 Apr 2009. SC-CAMLR-XXVIII/06. Available at https://meetings.ccamlr.org/en/sc-camlr-xxviii/06, accessed 11 Jul 2022.

[481] According to the Report of the Joint CEP/SC-CAMLR Workshop, a harmonized approach entailed inter alia the exchange of information and methods, and that the establishment of a fewer larger MPAs would be easier to manage than many small ones. Ibid para. 7.2.

[482] Ibid para. 7.6.

and management of Antarctic biodiversity would generally be best led by SC-CAMLR".[483] Nevertheless, the bodies concluded that "this does not preclude in any way the development by the CEP of ASPAs and ASMAs which have in whole or in part a marine component"[484]

The jurisdictional overlap between the ATCM and CCAMLR is consequently an opportunity for institutional 'bridges' that arguably enhance the possibilities of a unified cooperation toward joint MPAs. Since the CAMLR convention allows for principles of IOM it would certainly be in line with the purpose and objective of the convention to cooperate with other institutions toward the implementation of joint integrated MPAs. Furthermore, the substantial overlap in membership between the decision-making bodies, almost all CCAMLR members participate as ATCPs during the ATCMs,[485] is also an opportunity to take coordinate decisions toward integrated MPAs within the ATS. Consequently, even if CCAMLR is the principal figure in MPA designation and can only establish single-management MPAs, the possibilities for cross-institutional coordination with the ATCM allow for the establishment of joint integrated MPAs within the ATS. Scott supports this conclusion by asserting that the designation of CCAMLR MPAs for fishing conservation purposes just represents the start of area-based management of Antarctic waters, since

> the unusually close institutional connection between the regional seas arrangement for the Southern Ocean (the ATS) and the RFMO (CCAMLR) provides an ideal framework for meaningful collaboration and arguably, for the designation of joint multifunctional MPAs, designed to manage a range of activities from fishing, to tourism to scientific research.[486]

4.2.2. Beyond the Antarctic Treaty System: International Cooperation

Two limitations of joint MPAs within the ATS should be noted. Firstly, the institutional coordination between the CCAMLR and the ATCM has a geographical limitation. The jurisdiction of the instruments coincides in the ATA, but only the CCAMLR may establish MPAs north of 60° South Latitude. Joint MPAs that can manage cross-sectorial activities may therefore not be established in the whole Southern Ocean. Secondly, regardless of Antarctic MPAs being designated by the ATCM, the CCAMLR, or in collaboration between the instruments, the regulation of the MPAs can arguably only bind the party members of the ATS.[487]

The effective implementation of integrated MPAs in Antarctic waters would require international cooperation with relevant international actors outside of the ATS. The collaboration between the ATS and other international actors could enhance the possibilities of cross-sectorial management all the way up to the Antarctic polar front, as well as add to the reach of the norms on Antarctic marine environmental protection beyond the ATS community. Scott asserts that the CCAMLR "must endeavor to identify other measures that may be pursued by other elements of the ATS and other

---

[483] Ibid para. 7.7.
[484] Report of the Joint CEP/SC-CAMLR Workshop, para 7.7. Baltimore, MD, USA. 34 Apr 2009. SC-CAMLR-XXVIII/06. Available at https://meetings.ccamlr.org/en/sc-camlr-xxviii/06, accessed 11 Jul 2022.
[485] With exception for the European Union and Namibia which not parties to the Antarctic Treaty. The list of treaty parties to the Antarctic treaty is available at https://www.ats.aq/devAS/Parties?lang=e, accessed 5 Jun 2022, and the list of treaty parties to the CCAMLR is available at https://www.ccamlr.org/en/organisation/members, retrieved on 5 Jun 2022.
[486] Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 342. The term "RFMO" is an abbreviation for Regional Fisheries Management Organizations.
[487] The reach of the norms of the Antarctic legal regime is further discussed in Chapter 5.

organisations, including the International Maritime Organisation (IMO), to support the objectives of the MPA once it has been established."[488] The IMO regulates shipping at both the regional and global level to prevent marine pollution caused by shipping activities[489] and is the principal actor with the competence to establish rules and standards for shipping activities, including environmental matters, in the international maritime context.[490] IMO predates the UNCLOS, and in the drafting of UNCLOS it was recognized that:

> IMO was efficiently rendering a vital service to the world community in the highly technical and specialised field of shipping. When establishing the legal framework for the rights and duties of flag States, coastal States and port States, UNCLOS made substantial use of international rules and standards developed under the auspices of IMO, especially in its provisions on the protection and preservation of the marine environment by reducing or eliminating accidental and intentional pollution from vessels.[491]

The adoption of the UNCLOS "solidified the IMO's position as the leading organisation concerning maritime safety, maritime security, and ship-sourced pollution prevention".[492] In various provisions of the UNCLOS related to international shipping, the prevention and control of marine pollution, and dumping from vessels the convention makes reference to "competent" or "appropriate" organizations.[493] It has been widely recognized that UNCLOS has had IMO in mind in the drafting of these provisions[494] and party members to UNCLOS must conform to IMO standards when adopting and implementing them.[495] The IMO is consequently closely related to the law of the sea and therefore also to Antarctic waters. International cooperation with the IMO would be of value when regulating shipping activities and marine pollution in Antarctic waters since the organization "enjoys a strong sense of legitimacy when engaging in regime interaction since it joins several stakeholders, including shipping organisations, governmental and non-governmental institutions, and civil society".[496] The 2018 mission statement of IMO emphasized that international cooperation is of fundamental importance for the organization:

> The mission of the International Maritime Organization (IMO), as a United Nations specialized agency, is to promote safe, secure, environmentally sound, efficient and sustainable shipping through cooperation. This will be accomplished by adopting the highest practicable standards of maritime safety and security, efficiency of navigation and prevention and control of pollution from ships, as well as through consideration

---

488 Karen N. Scott, "MPAs in the Southern Ocean under CCAMLR," *Korean Journal of International and Comparative Law* 9, 84-107 (2021): 92.
489 Gabriela Argüello, "The International Maritime Organization and Regime interaction: cooperation or hegemony?," *Cambridge International Law Journal* Vol. 10 No. 2, pp. 255–279 (2021): 255.
490 Beckman, "The Relationship between UNCLOS and IMO Instruments," 201. The IMO currently has 175 member states. See https://www.imo.org/en/OurWork/ERO/Pages/MemberStates.aspx, accessed 16 Jul 2022.
491 Beckman, "The Relationship between UNCLOS and IMO Instruments," 217.
492 Argüello, "The International Maritime Organization and Regime interaction: cooperation or hegemony?," 263.
493 An example is article 211(2) of Part XII "Protection and Preservation of the Marine Environment" of UNCLOS, which stipulates that: "States shall adopt laws and regulations for the prevention, reduction and control of pollution of the marine environment from vessels flying their flag or of their registry. Such laws and regulations shall at least have the same effect as that of generally accepted international rules and standards established through the competent international organization or general diplomatic conference."
494 Beckman, "The Relationship between UNCLOS and IMO Instruments," 218. Argüello asserts that "[w]hen the rule of reference refers to the 'competent international organization' in the singular, many scholars argue it refers exclusively to the IMO." See Argüello, "The International Maritime Organization and Regime interaction: cooperation or hegemony?," 264.
495 Argüello, "The International Maritime Organization and Regime interaction: cooperation or hegemony?," 263.
496 Ibid 265.

> of the related legal matters and effective implementation of IMO instruments, with a view to their universal and uniform application.[497]

As a matter of fact, the actions of recommendatory nature taken by the ATS in shipping matters have already seen cooperation with the IMO, which further adds to the possibilities of international cooperation towards IOM of Antarctic waters.[498]

Other efforts within the ATS to collaborate with international actors outside of the ATS is for example the ATCM Resolution 1 "Enhancement of Environmental Protection up to the Antarctic Convergence", in which it was recommended that the ATS members cooperate "in accordance with international law, to enhance the environmental protection for the entire Antarctic marine ecosystem".[499] Various international treaties have been adopted under the auspices of the IMO,[500] and in particular the International Convention for the Prevention of Pollution from Ships (MARPOL)[501] would be meaningful to manage shipping-caused pollution in Antarctic waters. MARPOL provides for control of marine pollution in all marine spaces and allows for the establishment of Special Areas.[502] An amendment to MARPOL designated the whole Antarctic area south of 60° South Latitude as a Special Area and prohibited any oil discharges and provided for strict on garbage disposal.[503] Even though the regulation of such measures were already legally binding to the members of the Madrid Protocol, the membership of MARPOL is of wider scope.[504]

Moreover, the UN has recognized the capability of the ATS in its contribution of regional and global environmental protection of ABNJ and there has been a growing collaboration between the ATS and other international organizations. In addition to the IMO also environmental organizations such as the UN Environmental Program (UNEP) and IUCN have been invited to the ATCM to contribute with their expertise.[505]

These efforts on cooperation in Antarctic waters not only enhance the opportunities of IOM and the establishment of integrated MPAs, but also extend the reach of the Antarctic legal regime into the global community. With regards to activities in the Antarctic seabed, it would be advisable to enter in

---

[497] Convention on the International Maritime Organization as amended, adopted 6 March 1948, entered into force 17 March 1958, 289 UNTS 48 arts 1(a), 65–67.
[498] Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 342.
[499] ATCM Res. 1 (2009) 'Enhancement of Environmental Protection up to the Antarctic Convergence', ATCM XXXII, CEP XII, adopted in Baltimore 17 Apr 2009. Available at https://www.ats.aq/devAS/Meetings/Measure/442, accessed 16 Jul 2022.
[500] For the list of IMO conventions see https://www.imo.org/en/About/Conventions/Pages/ListOfConventions.aspx, accessed 16 Jul 2022.
[501] Adopted on 2 Nov 1973 at IMO. Entered into force 2 October 1983. For more information on MARPOL, see IMO https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx, accessed 16 Jul 2022.
[502] Special Areas are defined under Annexes I, II, IV and V of the MARPOL and are defined as: "sea areas where, for recognized technical reasons in relation to their oceanographical and ecological conditions and to the particular character of their sea traffic, the adoption of special mandatory methods for the prevention of pollution of the sea from ships by oil, sewage or garbage, as applicable, is required." These special areas provides for a higher level of protection than other marine areas. See IMO: Special Areas under MARPOL, available at https://www.imo.org/en/OurWork/Environment/Pages/Special-Areas-Marpol.aspx, accessed 16 Jul 2022.
[503] Annex II to the MARPOL, Chapter 5, Regulation 13 para. 8. Entry into force 31 Dec 1988.
[504] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 792.
[505] Ibid 807.

dialogue with the ISA.[506] Cooperation with these actors can turn the already established CCAMLR MPAs into cross-sectorial. Scott suggests that a future option could be the designation of IMO Particularly Sensitive Sea Areas (PSSAs) in collaboration with the ATS for an integrated management of Antarctic waters.[507]

[506] The Antarctic seabed in relation to the ISA is further discussed in Chapter 5.

[507] Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 342. PSSAs are a soft law creature, and according to IMO: "A Particularly Sensitive Sea Area (PSSA) is an area that needs special protection through action by IMO because of its significance for recognized ecological or socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities", such as for example shipping. See IMO: Particularly Sensitive Sea Areas, available at https://www.imo.org/en/OurWork/Environment/Pages/PSSAs.aspx, accessed 16 Jul 2022.

5. Intersection of the Global and Regional Perspective: Overlapping Norms in the Establishment of Antarctic Marine Protected Areas

This chapter examines overlapping norms in the intersection of the Antarctic legal regime and the law of the sea. Firstly, the reach of the norms of the Antarctic legal regimes is given an account of, in this chapter referred to as 'Antarctic norms'. This is followed by an examination of juridical overlaps of the ATS and UNCLOS in Antarctic marine spaces of importance for the establishment of Antarctic MPAs.

5.1. Reach of Antarctic Norms in the International Context

An important question for the regulation of human activities in Antarctic waters is to whom the norms of the Antarctic legal regime apply, i.e., how far Antarctic norms reach in the international context. Arpi and McGee claim that the norms of the Antarctic legal regime are not only of interest for the ATS community, but for the whole humankind. They point out that several authors take the position that Antarctic norms create binding rights and obligations for all international actors in the Antarctic.[508] From this point of view, it may be argued that the ATS members have taken a stewardship role in the governance of the Antarctic region for the benefit of the common interests of the international community to protect the Antarctic environment. According to this position, the Antarctic legal regime would not only create obligations *intra partes*, but Antarctic norms would have *erga omnes* effect.[509]

This legal position should be reviewed against the background of the binding force of the obligations of international treaty law and international customary law.[510] According to Shaw, the fundamental principle of treaty law, and arguably the oldest principle of international law, is based in the notion of *pacta sunt servanda*: treaties are binding upon the parties of them and the members must observe their treaty obligations in good faith.[511] This principle is embodied in articles two and twenty-six of the Vienna Convention on the Law of the Treaties (Vienna Convention).[512] It is the general legal position that treaty obligations can only bind the treaty members and do consequently not have binding force upon third parties.[513] This position is reflected in article 34 of the Vienna Convention which entails that a treaty does not create obligations or rights for third parties without their consent.[514] Any norms adopted under the treaties of the ATS, including the establishment of Antarctic MPAs, would according to this legal position be binding *only* to the ATS members, and not have binding force upon the international community in its whole.

The general position on the binding force of treaty obligations does not come without exceptions. When treaty provisions are considered to reflect international customary law they may also bind non-

---

[508] McGee, "Rediscovering the importance of Antarctic Law for the early twenty-first century," 5.
[509] Ibid.
[510] Article 38 of the ICJ Statute lists the binding sources of international law, and includes, *inter alia*, international conventions and international custom. This article has been widely recognized as the most authoritative statement with regards to the binding sources of international law, see Shaw, "International Law," 59.
[511] Shaw, "International Law," 788.
[512] Done at Vienna on 23 May 1969. Entered into force on 27 January 1980. United Nations, *Treaty Series*, vol. 1155, p. 331. The norms of the provisions of the Vienna Convention are considered to be international customary law and thus of binding force also to those states which are not party to it. Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 72.
[513] Shaw, "International Law," 810.
[514] For more substance to this provision, see also articles 35-37 of the Vienna Convention.

party members, however not as treaty obligations, but as international customary norms crystalized in, or emerged from, treaty provisions.[515] This position was confirmed in the *North Sea Continental Shelf* cases in which the ICJ considered the possibilities of the creation of international custom binding upon non-party members based on pre-existing treaty norms. The creation of new international customs required that the provision was "of a fundamentally norm-creating character", and thus be capable of creating a general rule of law.[516] Article 38(b) of the ICJ Statute stipulates that the ICJ in its decision-making shall apply "international custom, as evidence of *a general practice accepted as law*" (emphasis mine). Customary norms are therefore deduced from the practice and behavior of states.[517] In the *Libya/Malta Continental Shelf* case, the ICJ defined two basic elements of the creation of international custom: the factual behavior of states (state practice) and the subjective belief that such practice is indeed law (opinio juris).[518] If parties and non-parties to the treaty comply with state practice and opinio juris, treaty-based provisions may reflect customary norms.[519]

Do Antarctic norms comply with these elements? Some legal scholars argue that the ATS is "a globally enforceable body of customary international law", or that the treaty system at least has created regional customary norms that governs the Antarctic with global application, including third parties.[520] Vigni argues that:

> certain norms of the Antarctic Treaty System have become customary rules of international law over the last decades. As such, they are now applicable to all states including third states. The universal applicability of these provisions is not due to the fact that they pertain to the ATS, but to the fact that they are customary rules. However, few provisions contained in the ATS possess all the formal and substantial characteristics necessary to render them norms of customary international law.[521]

The treaty system built under the Antarctic legal regime has been the base of the legal and political order of Antarctica during a considerable amount of time, over 60 years, and has been widely accepted by the international community.[522] Arpi and McGee thus argue that Antarctic norms through the long-standing functioning of the Antarctic legal regime, together with widespread international recognition, has acquired enough state practice supported by opinio juris to establish international customary norms. They further argue that the Antarctic Treaty's fifty-four member states entail a wide representation of the international community including all states that are especially affected by the governance of the Antarctic. Together with "the absence of any formal objections to the Treaty", at least some of the treaty provisions are argued to reaffirm international customary law.[523] According to Arpi and McGee:

---

[515] See article 38 of the Vienna Convention. This position was also confirmed in the *North Sea Continental Shelf* cases, ICJ Reports, 1969, pp. 3, 25.
[516] ICJ Reports, 1969, pp. 3, 41-2. See also Shaw, "International Law," 81.
[517] Shaw, "International Law," 61.
[518] ICJ Reports, 1985, pages 13, 29. These elements have been thoroughly discussed in legal doctrine, for further readings see for example Shaw, "International Law," 60-78.
[519] See Shaw, "International Law," 81. As Shaw points out, this does not mean that the treaty norm becomes "absorbed" within the customary norm, the same norm is expressed by different sources of law and maintain their separate existence, this position was held in ICJ Reports, 1986, Nicaragua v. United States, pages 94-6.
[520] This position is put forward in Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 71, 72. by referring to Davor Vidas, Implementing the Environmental Protection Regime for the Antarctic (2000).
[521] Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines " 540.
[522] McGee, "Rediscovering the importance of Antarctic Law for the early twenty-first century," 1.
[523] Ibid 4.

> Some provisions of the Antarctic Treaty are also now so entrenched in the *behaviour and understanding of States* in international society that they arguably form part of customary international law, which is legally binding on all states. In particular, the use of Antarctica for peaceful purposes and scientific research […][524] (emphasis mine).

The legal opinion on whether Antarctic norms have acquired enough state practice and opinio juris is nevertheless divided. Malone underscores the exclusive nature of the ATS and the long-standing disapproval of the UN General Assembly regarding the exclusion of most of the members of the international community from the decision-making. These factors contradict the existence of Antarctic customary norms.[525] Moreover, Malone further asserts that even the ATS members do not themselves seem to have agreed on whether the Antarctic legal regime is to be considered as a mere treaty regime or if Antarctic norms actually form part of international custom.[526] Malone instead points out the probability that:

> the ATS does not in any way bind the states outside of the ATS with respect to Antarctica. In other words, whatever obligations the ATS parties have, other states are free to utilize Antarctica in any way they choose assuming no other independent treaty obligations limit their activities such as the International Whaling Convention, UNCLOS, MARPOL 73/78, or the London Dumping Convention.[527]

It is in the authors opinion that it is not necessary to review whether *all* treaty provisions of the ATS may be regarded as customary norms. It may as well be the case that some Antarctic norms have acquired the status of international custom, while other norms do not (yet) reflect international custom. Of interest in this regard is whether the legal norms allowing for the establishment of Antarctic MPAs form part of international customary law and consequently may bind third parties. Vigni asserts that "in some cases, third states have acknowledged the particular "appropriateness" of the ATS for regulating certain specific matters" and "[i]t is indisputable that the majority of ATS provisions are the most appropriate rules for the regulation of Antarctic activities". Such 'appropriateness' may encompass Antarctic MPAs as an effective mean to protect the Southern Ocean. Nevertheless, the appropriateness of Antarctic norms does not convert them into customary law. Do Antarctic norms otherwise reflect any general rules of law, supported by state practice and opinio juris? The reviewed opinions of legal scholars advocating for customary status of Antarctic norms mainly refer to ATS provisions regarding the peaceful use of Antarctic seas, the prohibition of military activities in the Antarctic region, the right of conducting scientific research and the duty to protect the Antarctic environment.[528] The peaceful use of the Antarctic region would certainly contribute to the effectiveness of Antarctic MPAs but does not entail that the rules on MPA designation may be considered international custom. Scientific research could also contribute to the effectiveness of MPAs but such activities may also be harmful to them, and does neither provide legal basis for customary status. It may be argued that the underlying general principle of MPA designation is the protection of the marine environment, a universally accepted customary law principle.[529] This would speak for MPA designation

---

[524] Addition mine. McGee, "Rediscovering the importance of Antarctic Law for the early twenty-first century," 5.
[525] Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 73.
[526] Ibid.
[527] Ibid.
[528] See arguments by Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines ".; McGee, "Rediscovering the importance of Antarctic Law for the early twenty-first century."
[529] Birnie et. al assert that international law does not permit the conduct of activities in common spaces without the regard for the global environment and that the general obligations of part XII of UNCLOS has reached such a high

as part of international customary law. Shaw holds that, international customary law "is a dynamic source of law in the light of the nature of the international system and its lack of centralized government organs."[530] Applied to the Antarctic context, the increasing efforts of establishing MPAs both in Antarctic waters and globally may in the future entail enough state practice and opinio juris for such regulation to form part of international custom. The BBNJ negotiations are arguably a step in that direction and the ILBI will probably strengthen the global establishment of MPAs in international waters, and consequently support the legal basis for Antarctic MPAs. However, it is in the authors opinion that there is still not enough legal evidence for of state practice and opinio juris to claim that Antarctic MPA establishment has reached customary law status. Globally, the legal basis of MPAs in international waters is still a debated question,[531] and regionally, the designation of MPAs in Antarctic waters has been controversial.[532]

5.2. Competing Norms of the Antarctic Legal Regime and the Law of the Sea

5.2.1. Antarctic Marine Protected Areas and the High Sea Freedoms

Article 311(2) of UNCLOS regulates the relation between the convention and other legal instruments, and stipulates that:

> This Convention shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Convention and which do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Convention.

The implementation of Antarctic MPAs may affect states' rights on the high seas since the establishment of them intend to regulate ocean activities within the protected area. Legal scholars have therefore pointed out that the establishment of Antarctic MPAs may entail the risk of limiting third-parties rights on the high seas. In this regard, Grant holds that Antarctic MPAs cannot infringe third-parties' legitimate uses of the high seas,[533] a position supported by Freestone who asserts that the efforts under the CAMLR convention for the establishment of MPAs are only binding to its party members.[534] This is in line with the general position of the binding force of treaty obligations of the previous section as well as the general limitations to MPA designation in international waters established in Chapter 3. Furthermore, the high seas regime is protected under article VI of the Antarctic Treaty. This provision extends to both the Madrid Protocol and the CAMLR convention,[535] and according to the CM-04 all CCAMLR MPAs "shall be adopted and implemented consistent with international law, including as reflected in the United Nations Convention on the Law of the Sea".[536]

---

degree of acceptance and a strong support of opinio juris that they principles of international customary law. See Patricia Birnie, "International Law & the Environment," 137, 387.

[530] Shaw, "International Law," 61.

[531] Tanaka, "The International Law of the Sea," 428. See also the debate on the high sea freedoms and MPAs in international waters under section 3.3.1.

[532] Scott, "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic," 331.

[533] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 806.

[534] Freestone, "Conserving biodiversity in areas beyond national jurisdiction," 16.

[535] See the relation between relevant legal instruments and the Antarctic Treaty in article 4 of the Madrid Protocol and article IV of the CAMLR Convention.

[536] Conservation Measure 91-04, General Framework for the establishment of CCAMLR Marine Protected Areas, CAMLR-XXX, 2011, para. 1, available at https://cm.ccamlr.org/en/measure-91-04-2011, accessed 16 Jul 2022.

Consequently, the high seas regime is not only protected under the Antarctic Treaty, but also of the legal instruments of the ATS allowing for MPA designation in Antarctic waters. The intersection of the Antarctic legal regime and the law of the sea with regards to MPA designation is commented by Grant in an illustrative way:

> The existence of the traditional freedoms of the high seas such as fishing and navigation, as embodied in UNCLOS, are a major barrier to the application of high seas MPAs to all States. Despite its unique political situation, these rights are still protected in Antarctica through Article VI of the Antarctic Treaty, and there remain difficulties with limiting these freedoms through MPAs, whether implemented under the ATS or any other international agreement. The Treaty Parties effectively limit their own high seas freedoms when agreeing to the implementation of either marine ASPAs under Annex V of the Madrid Protocol or CCAMLR regulations, but they cannot impose these regulations on third parties that are not signatories to these treaties.[537]

Since Antarctic provisions regarding the implementation of MPAs neither can bind third parties as international customary norms the intersection of the Antarctic legal regime and the law of the sea entails that Antarctic MPAs cannot impede non-parties in their rightful exercise of the high sea freedoms.

5.2.2. Conflicting Regimes in the Antarctic Seabed

Article 7 of the Madrid Protocol prohibits all activities related to the exploitation of Antarctic mineral resources, with exception for scientific research.[538] The mining ban of the Protocol seeks to prevent the damages that deep-seabed activities may cause to the entire Antarctic marine ecosystem,[539] and forms part of the object and purpose of the comprehensive protection of the Antarctic environment in an integrated manner. The mining ban, however, stands in direct opposition to article 311(6) of UNCLOS which stipulates that the parties to UNCLOS "agree that there shall be no amendments to the basic principle relating to the common heritage of mankind set forth in article 136 and that states shall not be party to any agreement in derogation thereof." The unclear legal status of the Antarctic seabed raises some important questions. If the law of the sea's regime of the Area is applicable, who governs the Antarctic seabed and how can the conflict between the mining prohibition and the common heritage of mankind be resolved? What consequences would this have for the establishment of Antarctic MPAs?

It may be argued that article 311 cannot be contravened by Antarctic norms providing a higher standard of environmental protection than envisaged by the UNCLOS[540] such as for example the protection of the Antarctic seabed through the establishment of MPAs. The mining ban of the Madrid Protocol has nevertheless been considered problematic[541] since the parties to the Protocol derogate from UNCLOS' provisions on the common heritage of mankind by prohibiting *all* deep seabed mining

---

[537] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 807.
[538] This provision ensures an effective ban on Antarctic mineral resource exploitation for 50 years, a 50 year moratorium, from the entry into force of the protocol in 1998. See article 7 together with article 25 on modification and amendment of the Madrid Protocol, and Peeters, "Square Peg, Round Hole Jurisdiction over Minerals Offshore Antarctica," 220.
[539] Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines " 528.
[540] Johnson, "The Relevance of the Southern Ocean to the Development of a Global Regime for Marine Areas beyond National Jurisdiction - An Uncommon Commons," 717.
[541] Ibid.

of the ATA.[542] The question of the mining prohibition has also raised debate amongst the ATS members. Since all regulation under the Madrid Protocol must respect article VI of the Antarctic Treaty[543] some members argue that it would be against the Antarctic Treaty to exclude activities in the deep seabed. Other members take the opposite position[544] and the debate centers around:

> The phrase "the rights, of any state … with regard to the high seas …", contained in article VI of the Treaty, could be interpreted as including the rights enjoyed by states not only in international waters but also in the deep sea-bed. In this sense, the prohibition of mining, established by article 7 of the Madrid Protocol, would be inapplicable to the deep sea-bed in the area south of 60° latitude. Under this particular interpretation of article VI of the Antarctic Treaty, there should be no legal obstacle preventing the consultative parties and third states from carrying out mineral activities in the Antarctic deep sea-bed as established by UNCLOS since this Antarctic norm acknowledges state freedom in the high seas and arguably the applicability of the more recent principle of the common heritage of mankind to the deep sea-bed. By contrast, a legal tenet considers that the prohibition established by article 7 must be applied to the whole area south of 60° South Latitude in order to facilitate the fulfilment of the aim of this prohibition.[545]

Against the purpose and object of the Madrid Protocol and the "unacceptable risk which such [mining] activities can represent for the integrity of the Antarctic environment" (addition mine),[546] Vigni asserts that the most appropriate conclusion would be that the prohibition applies. The Antarctic Treaty and the Madrid Protocol may be conflicting in this regard, but the author concords with Vigni, both the literal meaning of the mining ban and a purposive interpretation of it supports the position that the provision binds the members to the Protocol. However, since the legal status of the Antarctic seabed under the law of the sea is unclear, the validity of the mining ban in relation to third-parties is debatable. It may well be argued that the general obligations of the law of the sea to protect and preserve the marine environment still apply, entailing that any mineral exploitation that would damage the marine environment would therefore be prohibited also with respect to non-party members of the ATS.[547]

It has been claimed that the mining ban "postponed a fundamental difference of opinion between the ATS parties and the global community over who had the legal authority to manage Antarctica".[548] Should the Antarctic seabed be governed by the principles of the common heritage of mankind under the administration of the ISA this would however not necessarily be an impediment to the establishment of MPAs in the Antarctic seabed, since any activities in the deep seabed must comply with the environmental standards set out in article 145 of UNCLOS:

---

[542] The principle of the common heritage of mankind was explained in Chapter 2, and entails that all resources of the Area are vested in mankind as a whole, taking into particular consideration, *inter alia*, the conditions of developing States.
[543] Article 4(1) of the Madrid Protocol stipulates that: "This Protocol shall supplement the Antarctic Treaty and shall neither modify nor amend that Treaty." The relation between the law of the sea and article VI of the Antarctic Treaty was addressed in section 2.2.
[544] Grant, "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica," 806.
[545] Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines " 527.
[546] Ibid 529.
[547] This argument is put forward by Vigni as "an effective means of coordinating conflicting norms belonging to the two regimes", see Vigni, "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - A Practical Approach versus Theoretical Docrines " 529, 30.
[548] Malone, "The Waters of Antarctica: Do They Belong to Some States, No States, or All States," 71.

> Necessary measures shall be taken in accordance with this Convention with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities. To this end the Authority shall adopt appropriate rules, regulations and procedures for inter alia:
>
> (a) the prevention, reduction and control of pollution and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment, particular attention being paid to the need for protection from harmful effects of such activities as drilling, dredging, excavation, disposal of waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities;
>
> (b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.

The ISA administers the Area in accordance with the rules, regulations and procedures recommended to this effect by the ISA Council,[549] and in 2018 its Legal and Technical Commission charged with reviewing applications of plans of work in the Area published a report on MPAs and seabed mining in ABNJ.[550] It was held that any proposal plans of work for the exploration of the deep seabed must comply with the effective protection of the marine environment in accordance with article 145 of UNCLOS, including considerations for seabed activities impact on marine biodiversity.[551] The report refers to the Southern Ocean on various occasions in relation to current efforts for the protection and conservation of Antarctic waters such as: the special area established under MARPOL, restricted fisheries areas under the CAMLR convention as well as the ASMAs and ASPAs under the Madrid Protocol.[552] The information of the existing measures adopted in Antarctic waters relating to the protection and conservation of the marine environment:

> should be part of the Commission's determination as to whether the proposed plan of work for exploration (and future exploitation) provides for the effective protection and preservation of the marine environment, which includes, but is not restricted to, the impact on biodiversity.[553]

Consequently, although the legal status of the Antarctic seabed is unclear, cooperation between the ISA and the ATS could reduce the eventual norm-conflict between the Madrid Protocol and the UNCLOS with regards to the existing measures on Antarctic MPA designation. In addition, the political position about seabed mining is changing, and more are more states argue for a moratorium of seabed mining. Such a moratorium could further reduce the possible conflicts between the legal regimes.[554]

---

[549] Articles 140 (2) and 160 (2) (f) (i) of UNCLOS.
[550] ISBA/24/C/15, Overview of existing measures, means and actions relating to the protection and conservation of the marine environment in areas beyond national jurisdiction, 16–20 May 2018, available at https://isa.org.jm/files/files/documents/isba24c-15-en.pdf, accessed 10 Jul 2022.
[551] Ibid para. I.1.
[552] Ibid, see annex pages 4-6.
[553] Ibid, para III.5
[554] For further readings on this subject see for example, Surabhi Ranganathan, Global Commons, *European Journal of International Law*, Volume 27, Issue 3, August 2016, Pages 693–71.; Dingwall, Joanna. *International Law and Corporate Actors in Deep Seabed Mining*. Oxford Monographs in International Law. Oxford: Oxford University Press USA - OSO, 2021. See pages 73 and onwards.; Ranganathan, The Vexed Liminality of Hydrothermal Vents, available at https://www.taylorfrancis.com/chapters/oa-edit/10.4324/9781003205173-2/vexed-liminality-hydrothermal-vents-surabhi-ranganathan
https://www.pgaction.org/news/launch-deep-sea-mining-moratorium.html, accessed 17 Jul 2022.

6. Conclusions and Future Outlook

After mapping the legal structures of MPA designation based on principles of IOM in Antarctic waters, I have come to the following conclusions.

Antarctic waters fall beyond the scope of national jurisdiction, forming part of international waters. In the international maritime context, the law of the sea opens for a holistic perspective of the marine environment by allowing for considerations of the interrelation of the oceans. The UNCLOS sets out general legal obligations to protect and preserve the marine environment, including the protection of rare and fragile ecosystems and the habitats of marine life, in areas under as well as beyond national jurisdiction. Furthermore, the UNCLOS allows for the "cross-fertilization" with associated legal instruments of international environmental law, which opens for possibilities to include previously unmentioned concepts such as marine biodiversity. These factors support the opportunities of IOM based on the EA under the law of the sea. The growing emphasis of IOM in other international agreements and the BBNJ negotiations provides for further evidence of the contemporary changes in ocean governance towards IOM based on the EA.

In the regional Antarctic maritime context, the ATS allows for IOM based on the EA in two of its legal instruments. The CAMLR convention comes with a two-fold purpose: the conservation of all Antarctic marine living resources and the maintenance of ecological relationships of the Antarctic marine environment and ecosystems. The holistic view of the management of Antarctic waters as expressed by the CAMLR convention opens for possibilities of IOM based on the EA up to the Antarctic polar front, however focused on the conservation of marine life. The Madrid protocol provides with a legal framework for the comprehensive protection of the Antarctic marine environment and establishes environmental principles that obliges the ATS members to conduct all activities with due regard for the Antarctic environment and ecosystems. The scope of application of the Madrid protocol is limited to the ATA, but within this area the Protocol opens for possibilities of the management of cross-sectorial activities. Consequently, the Madrid Protocol provides for opportunities of IOM based on the EA.

In conclusion, the law of the sea regime and the Antarctic legal regime open possibilities of IOM of Antarctic waters and may be considered mutually reinforcing in this regard. Furthermore, the implementation of IOM through the establishment of Antarctic MPAs is allowed under both the Antarctic legal regime and the law of the sea regime. However, while the establishment of MPAs in international waters has proven to be an effective mean to protect the marine environment it does not come without legal challenges. In a global perspective, there is no universally accepted legal definition of MPAs and the law of the sea does not provide for an explicit legal basis for MPA designation. The establishment of MPAs in international waters, including the establishment of Antarctic MPAs, has therefore been controversial. Nevertheless, it is within the purpose and object of the UNCLOS to protect and preserve the marine environment, which arguably includes unmentioned ABMTs such as MPAs. Case law has shown that MPA designation is a legally accepted mean to protect rare and fragile ecosystems and marine life forming part of them as envisaged under Part XII of UNCLOS and legal scholars argue that MPA designation is permitted as a legitimate use of the high sea freedoms. In addition, various legal agreements have established MPAs in areas both under and beyond national jurisdiction, although less in number in the latter. Moreover, the CBD supports the designation of protected areas in the marine environment. After reviewing the legal sources of international maritime law it may therefore well be argued that the law of the sea encompasses the establishment of MPAs in international waters. The progress of the BBNJ negotiations provides with further evidence that MPA

designation is increasingly becoming part of contemporary international law. The entry into force of the ILBI may provide for a future solution to the present legal gaps on MPA designation under the law of the sea by both providing for a clear definition of MPAs and supporting the legal basis for their implementation in ABNJ.

The Antarctic legal regime allows for the establishment of MPAs in Antarctic waters under both of the examined ATS instruments. The CCAMLR is the principal institution for the designation of Antarctic MPAs and the established MPAs in this forum have been lauded as important achievements for the protection of marine biodiversity globally. However, the CCAMLR MPAs are mainly confined to regulate fisheries and can therefore not be considered cross-sectorial. Integrated MPAs may nevertheless be designated by the ATCPs under the Annex V to the Madrid Protocol, although the progress of Annex V MPAs has been modest. In addition, Annex V MPAs can only be established within the geographical jurisdiction of the Madrid protocol, i.e., up to 60° South Latitude. Consequently, even if Annex V MPAs do open for possibilities of the implementation of integrated MPAs in Antarctic waters, they do not provide for possibilities of an extensive protection of the Southern Ocean.

This study has shown that there are opportunities to transform CCAMLR MPAs into integrated MPAs. The juridical overlap of the CAMLR convention and the Madrid Protocol with respect to MPA designation together with the institutional bridges provided for under the ATS allows for the MPA designating institutions to take coordinated measures towards the establishment of joint MPAs. The designation of CCAMLR MPAs for purposes of the conservation of marine life may thus, in coordination with the ASPAs and ASMAs, evolve into joint MPAs that can manage cross-sectorial activities in Antarctic waters. However, joint MPAs under the ATS have some important limitations. The juridical overlap between the legal instruments coincides in the ATA and such MPAs can consequently not be established in the whole Southern Ocean. Furthermore, the consensus-based decision-making of the CCAMLR entails that one single party can block *any* efforts on MPA designation. Since states often act in their own interests this may cause an obstacle for further establishment of CCAMLR MPAs as well as hinder coordination efforts towards joint MPAs within the ATS. The lengthy negotiations in reaching consensus for the establishment of the RSRMPA is an illustrative example of these interior difficulties. Furthermore, regardless of Antarctic MPAs being designated by the ATCM, the CCAMLR, or by the instruments in collaboration, treaty provisions may in general only bind treaty parties. The provisions of Antarctic MPAs can therefore not impose legal obligations upon third states. While some Antarctic norms could possibly bind non-parties as customary norms, Antarctic norms on MPA designation have not yet acquired customary status.

One of the principal legal obstacles to the implementation of MPAs is their compatibility with the high sea freedoms of third states. Since the high sea freedoms include a wide range of ocean activities, the exercise of these activities may generate conflicts with Antarctic MPAs. While the ATS members may restrict their own exercise of the high sea freedoms, Antarctic norms cannot restrict legitimate uses of the high seas of the whole international community. Integrated MPAs seem to be particularly problematic since they intend to regulate a multitude of human activities and therefore risk to infringe various high sea freedoms. In this regard, the Antarctic norms on MPA designation and the law of the sea's norms on the freedoms of the seas are competing. Another possible source of conflict between the Antarctic legal regime and the law of the sea is mining activities in the Antarctic seabed. Although the legal status of the Antarctic seabed is at present unclear, the possible intersection of the regimes could cause conflict with respect to the Antarctic prohibition deep seabed mining and UNCLOS' provisions of deep seabed exploitation in accordance with the common heritage of mankind. However,

the conflicting regimes do not necessarily impose an impediment to Antarctic MPA designation. When undertaking activities in the Area, the ISA must take due regard for the protection of the marine environment and the proposal plans should take into account existing measures for the protection of the marine environment, including the impacts on marine biodiversity. The Southern ocean and the legal instruments allowing for Antarctic MPAs have been explicitly mentioned in this regard. Coordination between the ATS and the ISA can therefore reduce conflict between the Antarctic legal regime and the law of the sea and provide for further opportunities for the establishment of Antarctic MPAs. Furthermore, a future moratorium on deep seabed mining could further reduce possible conflicts between the legal regimes.

International cooperation is an effective way to reduce conflict between the law of the sea regime and the Antarctic legal regime. The effective implementation of integrated MPAs in Antarctic waters would benefit from international cooperation since various relevant international actors and stakeholders outside of the ATS have the competence to manage ocean activities such as shipping and marine pollution. Collaboration between the ATS and international organizations such as for example the IMO and the ISA could enhance the possibilities of cross-sectorial management of Antarctic marine spaces all the way up to the Antarctic polar front, and also add to the reach of the norms on Antarctic marine environmental protection beyond the ATS community. This could be a way of including the international community in the management of Antarctic waters, and there has already been some important progress in this respect. Furthermore, since both the law of the sea and the Antarctic legal regime emphasize international cooperation, the possibilities of future cooperative management of Antarctic waters are feasible.

In conclusion, the intersection of the Antarctic legal regime and the law of the sea allow for the establishment of integrated MPAs in Antarctic waters. The underlying opportunity, and also challenge, for Antarctic MPA designation is international cooperation. Both on a regional and global basis there is a need for international cooperation for community interests such as the protection and preservation of marine health. As pointed out in the introductory chapter, Joyner holds that the fundamental logic is the same, the absence of cooperation often entails a misuse of the marine environment. All legal instruments that have been examined in this thesis stress the need of international cooperation for the protection of the marine environment: the UNCLOS and associated international legal instruments such as for example the CBD, all examined ATS instruments, as well as related soft law instruments. These instruments provide for a firm legal basis for cooperation and consequently possibilities for IOM of international waters, including the Southern Ocean. In addition, the ATS and the UNCLOS share significant cross-membership which further enhances the probabilities of international cooperation and coherent regime interaction in the intersection of the Antarctic legal regime and the law of the sea.

The best option to establish integrated MPAs in Antarctic waters, according to the author, is through institutional coordination for joint MPAs between the CCAMLR and the ATCM together with international cooperation beyond the Antarctic legal regime with other international actors. Such collaboration would preferably take place in the CCAMLR fora. The CCAMLR is the main institution for MPA designation in the Antarctic context and has already done some important progress with regards to protecting the Southern Ocean. The jurisdictional scope of application of the CAMLR convention applies to all marine spaces up to the Antarctic biological breakpoint of the Antarctic polar front and the convention is open to the signature of all states. This provides opportunities for including the international community in the protection of the whole Southern Ocean. However, it would entail

that states manage to put aside individual interests of exploiting the Antarctic marine environment for the common interest to and protect and preserve it, a difficult but not impossible task.

Until recently, ocean governance has been largely tinged by a diverged perspective of law and space. However, law is dynamic and by taking into consideration the factual space that legal norms operate in contemporary international law is starting to move with the environment. IOM is one possible solution to curb the negative impacts of human activities on the marine health globally. Since the world's oceans meet in Antarctic waters, the implementation of IOM in the Southern Ocean does not only contribute to the protection of the maritime Antarctica, but of all the world's oceans. The establishment of MPAs in the convergence of the Antarctic legal regime and the law of the sea is an excellent opportunity to implement ocean management adapted to the fluid nature of water on common ground.

References

Conventions

Antarctic Treaty, signed in Washington 1 December 1959, entered into force 23 June 1961.

Convention for the Protection of the Marine Environment of the North-East Atlantic, opened for signature in Paris 22 September 1992, entered into force 25 March 1998.

Convention on Biological Diversity, signed in Rio de Janeiro 5 June 1992, entered into force 29 December 1993.

Convention on the Conservation of Antarctic Marine Living Resources, signed in Canberra, Australia the 20 May 1980, entered into force 7 April 1982.

Geneva Convention on the High Seas, done at Geneva on 29 April 1958. Entered into force on 30 September 1962. United Nations, *Treaty Series*, vol. 450, p. 11, p. 82.

Convention on the International Maritime Organization as amended, adopted 6 March 1948, entered into force 17 March 1958, 289 UNTS

International Convention for the Prevention of Pollution from Ships, adopted on 2 Nov 1973 at IMO. Entered into force 2 October 1983.

International Convention for the Regulation of Whaling, adopted in Washington, D.C. 3 December 1946, entered into force 10 November 1948.

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

Statute of the International Court of Justice (done at San Francisco 26 June 1945, published 24 October 1945) 1 United Nations Treaty Series XVI

Vienna Convention on the Law of Treaties (done at Vienna on 23 May 1969, entered into force on 27 January 1980) United Nations Treaty Series, vol 1155 p 331

United Nations Convention on the Law of the Sea (adopted 10 December 1982 at Montego Bay, entered into force 16 November 1994) United Nations Treaty Series, Vol 1833, No 31363, p 3

Cases

Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom), Award 18 March 2015.

Dispute Regarding Navigational and Related Rights (Costa Rica v. Nicaragua), Judgment ICJ Reports 2009 p. 213.

Fisheries Case (United Kingdom v. Norway), Judgment ICJ Reports 1951 p. 116.

Gabcikovo Nagymaros Case (Hungary/Slovakia), Judgment, Merits, ICJ Reports, 1997, p.7 para. 112.

Grisbårdarna Case (Norway v. Sweden, Award 1909 11 RIA 155 (159)

Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America), Jurisdiction and Admissibility, Judgment ICJ Reports 1984 p. 392.

North Sea Continental Shelf, Judgment ICJ Reports 1969 p. 3.

South China Sea Arbitration (The Republic of Phillippines v. The People's Republic of China), Award 12 July 2016, PCA 2013-19 (Final Award).

Literature

Dixon, Martin. "Textbook on International Law." *Oxford University Press* 7th edition (2013).

Jacobsen, Ingvild Ulrikke. "Marine Protected Areas in International Law: An Arctic Perspective ". *Leiden ; Boston : Brill Nijhoff. Queen Mary studies in international law* 25 (2016).

Joyner, Christopher C. "Governing the Frozen Commons: The Antarctic Regime and Environmental Protection." *The University of South Carolina Press* (1998).
Kaczorowska, Alina. "Public International Law." *Routledge, Taylor & Francis Group* Fourth Edition (2010).
Patricia Birnie, Alan Boyle, Catherine Redgwell. "International Law & the Environment." *Oxford University Press* Third Edition (2009).
Robin Rolf Churchill, Alan Vaughan Love. "The Law of the Sea." *Manchester : Manchester University Press* 2nd rev. ed (1988).
Shaw, Malcolm N. "International Law." *Cambridge University Press* Ninth Edition (2021).
Tanaka, Yoshifumi. "The International Law of the Sea." *Cambridge University Press* Third edition (2019).
Tuori, Kaarlo. "Ratio and Voluntas : The Tension between Reason and Will in Law (Applied Legal Philosophy)." *Farnham : Ashgate* (2011).

Journal Articles

Ainley, David G. "A History of the Exploitation of the Ross Sea, Antarctica." *Cambridge University Press* Polar Record 46 (238): 233–243 (2010).
Aleks Terauds, Steven L. Chown, Fraser Morgan, Helen J. Peat, David J. Watts, Harry Keys, Peter Convey and Dana M. Bergstrom. "Conservation Biogeography of the Antarctic." *Diversity and Distributions* Vol. 18, No. 7/8 pp. 726-741 (2012).
Argüello, Gabriela. "The International Maritime Organization and Regime Interaction: Cooperation or Hegemony?". *Cambridge International Law Journal* Vol. 10 No. 2, pp. 255–279 (2021).
———. "Opportunities for Protecting Biological Diversity in the Arctic Ocean." *The Yearbook of Polar Law Xiii 127–153* (2022).
Árnadóttir, Snjólaug. "Climate Change and Maritime Boundaries: Legal Consequences of Sea Level Rise." *Cambridge University Press* (2021).
Beckman, Robert. "The Relationship between Unclos and Imo Instruments." *Asia-Pacific Journal of Ocean Law and Policy* 2, pp. 201-246 (2017).
Brooks, Cassandra M. "Competing Values on the Antarctic High Seas: Ccamlr and the Challenge of Marine-Protected Areas." *The Polar Journal, 3:2, 277-300* (2013).
Cassandra M. Brooks, Evan Bloom, Andrea Kavanagh, Emily S. Nocito, George M. Watters, John Weller. "The Ross Sea, Antarctica: A Highly Protected Mpa in International Waters." *Marine Policy 134 104795* (2021). https://www.sciencedirect.com/science/article/pii/S0308597X21004061.
Fabry, Mikulas. "Recognizing States. International Society and the Establishment of New States since 1776." *Oxford University Press* (2010).
Freestone, David. "Conserving Biodiversity in Areas Beyond National Jurisdiction." *International Journal of Marine and Coastal Law* (2019).
Gardiner, Natasha B. "Marine Protected Areas in the Southern Ocean: Is the Antarctic Treaty System Ready to Co-Exist with a New United Nations Instrument for Areas Beyond National Jurisdiction?". *Marine Policy 122* (2020).
Grant, Susanna M. "The Applicability of International Conservation Instruments to the Establishment of Marine Protected Areas in Antarctica." *Ocean & Coastal Management 48 (2005) 782–812* (2005).
Griffiths, Huw J. "Antarctic Marine Biodiversity - What Do We Know About the Distribution of Life in the Southern Ocean?". *PloS one* Vol.5 (8) (2010).

Guo, Jianping. "The Developments of Marine Environmental Protection Obligation in Article 192 of Unclos and the Operational Impact on China's Marine Policy – a South China Sea Fisheries Perspective." *Marine Policy 120 104140* (2020).
Helmersen, Sondre Torp. "Evolutive Treaty Interpretation: Legality, Semantics and Distinctions." *European Journal of Legal Studies, vol. 6, no. 1, Summer 2013* pp. 161-188 (2013).
Homan, Anna. "Maritime Zones in Antarctica." *20 Austl. & N.Z. MAR. L.J. 69* (2006).
Infante, Maria Teresa. "Maritime Conventions in Antarctica." *Bluebook 21st ed.* 35 GERMAN Y.B. INT'l L. 249 (1992).
Jacquet, Jennifer; Blood-Patterson, Eli; Brooks, Cassandra; Ainley, David. "'Rational Use' in Antarctic Waters." *Marine Policy* 63, p.28-34 (2016).
Johnson, Constance M. "The Relevance of the Southern Ocean to the Development of a Global Regime for Marine Areas Beyond National Jurisdiction - an Uncommon Commons." *32 INT'l J. MARINE & Coastal L. 709*, 709-732 (2017).
Joyner, Christopher C. "The Antarctic Treaty System and the Law of the Sea - Competing Regimes in the Southern Ocean." *10 INT'l J. MARINE & Coastal L. 301* (1995).
Kaczorowska, Alina. "Public International Law." *Routledge, Taylor & Francis Group* Fourth Edition (2010).
Kolb, Robert. "Evolutionary Interpretation and International Law, Edited by Georges Abi-Saab, Chapter 3: Evolutionary Interpretation in International Law: Some Short and Less Than Trail-Blazing Reflections." *Bloomsbury Publishing Plc* (2019).
Laurence Cordonnery, Alan D. Hemmings and Lorne Kriwoken. "Nexus and Imbroglio: Ccamlr, the Madrid Protocol and Designating Antarctic Marine Protected Areas in the Southern Ocean." *The International Journal of Marine and Coastal Law* (2015).
Lucia, Vito De. "Competing Narratives and Complex Genealogies: The Ecosystem Approach in International Environmental Law." *27 J. ENVTL. L. 91* (2015).
Malone, Linda A. "The Waters of Antarctica: Do They Belong to Some States, No States, or All States." *WM. & MARY ENVTL. L. & POL'y* REV. 53 (2018).
Marcó, Roser Puig. "El Régimen Jurídico Internacional De La Investigación Científica En La Antártida." *Doctoral Thesis, University of Barcelona* (2015).
McGee, Bruno Arpi and Jeffrey. "Rediscovering the Importance of Antarctic Law for the Early Twenty-First Century." *Australian journal of international affairs* Vol.76 (3), p. 248-265 (2022).
P.N.Trathan, S.M.Grant. "Chapter 4 - the South Orkney Islands Southern Shelf Marine Protected Area: Towards the Establishment of Marine Spatial Protection within International Waters in the Southern Ocean." *ScienceDirect, Science Policy and Management*, p. 67-98 (2020).
Patricia Birnie, Alan Boyle, Catherine Redgwell. "International Law & the Environment." *Oxford University Press* Third Edition (2009).
Peczenik, Aleksander. "A Theory of Legal Doctrine." *Ratio Juris* 14 No 1 75-105 (2001): p.75-105.
Peeters, Liesbeth. "Square Peg, Round Hole Jurisdiction over Minerals Offshore Antarctica." *Macquarie journal of international and comparative environmental law* Vol.1 (2), p. 217-232 (2004).
Peterson, M. J. "Antarctic Implications of the New Law of the Sea." 16 OCEAN DEV. & INT'l L. 137 (1986).
Ricardo M. Roura, Frits Steenhuisen & Kees Bastmeijer. "The Shore Is the Limit: Marine Spatial Protection in Antarctica under Annex V of the Environmental Protocol to the Antarctic Treaty." *The Polar Journal, 8:2, 289-314* (2018).
Roach, J. Ashley. "Today's Customary International Law of the Sea." *Ocean Development & International Law,* 45:3, 239-259 (2014).
Rothwell, Donald. "The Antarctic Treaty at Sixty Years: Past, Present and Future." (2019).

———. "The Polar Regions and the Development of International Law." *Cambridge University Press* (1996).
Schøning, Lena. "More or Less Integrated Ocean Management: Multiple Integrated Approaches and Two Norms." *Ocean Development & International Law* 51:2, 95-115 (2020).
Scott, Karen N. "Global Commons and the Law of the Sea, Edited by Keyuan Zou, Chapter 16, Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic." *Boston ; Leiden : Brill* 5, p. 326-343 (2015).
———. "Integrated Oceans Management: A New Frontier in Ma-Rine Environmental Protection." *in The Oxford Handbook of the Law of the Sea, edited by Rothwell, Oude Elferink, Scott, and Stephens* Oxford University Press, Oxford (2015): 463-90.
———. "Mpas in the Southern Ocean under Ccamlr." *Korean Journal of International and Comparative Law* 9, 84-107 (2021).
Solski, Jan Jakub. "The Genesis of Article 234 of the Unclos." *Ocean Development & International Law* 52:1, 1-19 (2021).
Vigni, Patrizia. "The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area - a Practical Approach Versus Theoretical Docrines ". *Max Planck Yearbook of United Nations law* Vol.4 (1), p.481-542 (2000).
Watts, Sir Arthur. "International Law and the Antarctic Treaty System." *Australian year book of international law* 1993 (1) (1992): p. 33-35. The Netherlnds: Brill | Nijhoff.
Winther, Dai, Rist, Li, Trice, Morrisey, Juinio-Menez, Fernandes, Unger, Scarano, Halpin, Whitehouse. "Integrated Ocean Management for a Sustainable Ocean Economy." *Nature ecology & evolution* ol.4 (11), p.1451-1458 (2020).
Xu, Min Pan & Liling. "The Establishment of the Marine Protected Area in Antarctica's Ross Sea - on the Dilemma of Collective Action in the Governance of Global Commons and Its Solutions." *CHINA Oceans L. REV*. Oceans L. REV. 17 (2020). (2020).

Other Instruments

ATCM Documents

Summary of the work of the CEP on Marine Protected Areas 1998-2021, (updated November 2021), https://webcache.googleusercontent.com/search?q=cache:WasZp3hEQ-oJ:https://documents.ats.aq/ATCM43/WW/ATCM43_WW007_e.docx+&cd=1&hl=es&ct=clnk&gl=se&client=safari
Summary of the Work of the CEP on Marine Protected Areas, (updated September 2015) http://www.ats.aq/documents/ATCM38/ww/atcm38_ww004_e.pdf.
Decision 9 - ATCM XXVIII - CEP VIII, Stockholm, Marine Protected Areas, adopted 17/06/2005 https://www.ats.aq/devAS/Meetings/Measure/344
Resolution 1, CCAMLR in the Antarctic Treaty System, ATCM XXIX, CEP IX, adopted in Edinburgh 23 June 2006 https://www.ats.aq/devAS/Meetings/Measure/363
Resolution 1, Enhancement of Environmental Protection up to the Antarctic Convergence', ATCM XXXII, CEP XII, adopted in Baltimore 17 Apr 2009. https://www.ats.aq/devAS/Meetings/Measure/442

CCAMLR Documents

Conservation Measure 91-03, Protection of the South Orkney Island Southern Shelf, CCAMLR XXVII, 2009 https://cm.ccamlr.org/en/measure-91-03-2009
Conservation Measure 91-04, General Framework for the establishment of CCAMLR Marine

Protected Areas, CAMLR-XXX, 2011. https://cm.ccamlr.org/en/measure-91-04-2011
Conservation Measure 91-05, Ross Sea Region Marine Protected Area, CCAMLR-XXXV, 2016 https://cm.ccamlr.org/en/measure-91-05-2016
ATCM Recommendation VIII-10, Protection and study of Antarctic marine living resources, ATCM VIII, Oslo 1975. https://www.ats.aq/devAS/Meetings/Measure/110?s=1&from=1/1/1958&to=1/1/2158&cat=8&top=0&type=0&stat=0&txt=&curr=0&page=1
Report of the CCAMLR Workshop on Marine Protected Areas, Silver Spring, MD, USA, 29 August to 1 September 2005. https://www.ccamlr.org/en/system/files/e-sc-xxiv-a7.pdf
Report of the Twenty-Sixth Meeting of the Commission, SC-CAMLR XXVI, Hobart, Australia, 22 26 October 2007, available at https://meetings.ccamlr.org/en/system/files?file=e-sc-xxvi.pdf
Report of the Twenty-Seventh Meeting of the Commission, SC-CAMLR XXVII, Hobart, Australia, 27 October – 7 November 2008 i). https://meetings.ccamlr.org/es/system/files?file=s-sc-xxvii_0.pdf
Report of the twenty-ninth meeting of the Commission, SC-CAMLR-XXIX, para. 3.1.2. Hobart, Australia, 25 October – 5 November 2010. https://meetings.ccamlr.org/en/system/files?file=e-cc-xxxiii.pdf
Report of the thirty-third meeting of the Commission, CCAMLR-XXXIII, Hobart, Australia 20–31 October 2014, https://meetings.ccamlr.org/en/system/files?file=e-cc-xxxiii.pdf
Report of the Joint CEP/SC-CAMLR Workshop, SC-CAMLR-XXVIII/06, Baltimore, MD, USA. 34 Apr 2009. https://meetings.ccamlr.org/en/sc-camlr-xxviii/06

Convention on Biological Diversity Documents

Decisions by the Conference of the Parties to the Convention on Biological Diversity
Decision V/6, Ecosystem Approach, UNEP/COP/5/23, Fifth meeting, Nairobi, 15-26 May 2000.
Decision VII/5, Marine and Coastal Biodiversity, UNEP/COP/7/5, Seventh Meeting, Kuala Lumpur, 9-20 and 27 February 2004.
Secretariat of the Convention on Biological Diversity, Technical advice on the establishment and management of a national system of marine and coastal protected areas by the *Ad Hoc* Technical Expert Group on Marine and Coastal Protected Areas, CBD Technical Series No. 13, January 2004.

UN Documents

Chapter 17 of Agenda 21, Protection Of The Oceans, All Kinds Of Seas, Including Enclosed And Semi-enclosed Seas, And Coastal Areas And The Protection, Rational Use And Development Of Their Living Resources, UN Conference and Development (1992).
UN Conference on Sustainable Development, Rio+20 (2012).
UN General Assembly Resolutions.
Oceans and the law of the sea, A/RES/59/24, adopted on 17 November 2004.
The Future We Want, A/RES/66/288, adopted on 27 July 2012.
Development of an internationally legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, A/RES/69/292, adopted on 19 June 2015.
Our ocean, our future: call for action, A/RES/71/312, adopted on 6 July 2017.
Internationally legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, A/RES/72/249, adopted on 24 December 2017.

UN Intergovernmental conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, Fifth session, New York, 15-26 August 2022, Updated draft text 30 May 2022, https://www.un.org/bbnj/sites/www.un.org.bbnj/files/igc_5_-_further_revised_draft_text_final.pdf,

UN Report of the Secretary-General, Oceans and the Law of the Sea, A/61/63, 9 March 2006

UN Report of the World Summit on Sustainable Development, A/CONF.199/20* Johannesburg, South Africa, 26 August- 4 September 2002. http://www.un-documents.net/aconf199-20.pdf

UN Technical Report, The Contribution of Area-based Management Tools to Sustainable Development Goals and Targets (draft text) https://www.cbd.int/doc/c/459d/9704/bab5a7b2806f0513484fb620/mcb-em-2018-01-unep-submission1-en.pdf

UNDOALOS. "Marine Biological Diversity of Areas Beyond National Jurisdiction." *UN Division For Ocean Affairs and The Law of the Sea.* https://www.un.org/depts/los/biodiversityworkinggroup/webpage_legal_and_policy.pdf.

UNEP. "Marine and Coastal Biodiversity: Review, Further Elaboration and Refinement of the Programme of Work." *UNEP/CBD/SBSTTA/8/INF/3/Rev.1* (2003). https://www.cbd.int/kb/record/meetingDocument/2502?Event=SBSTTA-08.

Other documents

Brief for The Global and Sustainable Development Report (GSDR) 2015, Advancing governance of marine areas beyond national jurisdiction, by J. Rochette, G. Wright, L. Chabason Sebastian Unger, Jeff Ardron, Katherine Houghton, https://sustainabledevelopment.un.org/content/documents/5774Brief%20ABNJ%20GSDR_rev.pdf

Council of the International Seabed Authority, Report of the Chair of the Legal and Technical Commission on the work of the Commission at its twenty-fourth session, Overview of existing measures, means and actions relating to the protection and conservation of the marine environment in areas beyond national jurisdiction, ISBA/24/C/15, Kingston, 16–20 May 2018, available at https://isa.org.jm/files/files/documents/isba24c-15-en.pdf,

IUCN Resolution 17.38, 17th General Assembly of the IUCN, San Jose, Costa Rica, 1–10 February 1988. Gland, Switzerland, Cambridge, UK, 1988. https://portals.iucn.org/library/sites/library/files/resrecfiles/GA_17_REC_038_Protection_of_the_Coastal_and_Marine.pdf

IUCN, UNEP, WWF. "World Conservation Strategy, International Union for Conservation of Nature and Naturalresources." *IUCN website*, Chapter 18 (1980). https://portals.iucn.org/library/efiles/documents/wcs-004.pdf.

IUCN, International Ocean Governance (2020). https://www.iucn.org/theme/marineand-polar/our-work/international-ocean-governance

Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, Advisory Opinion, ITLOS Reports 2011.

Online Sources

Antarctic and Southern Ocean Coalition
Protecting Antarctica, https://www.asoc.org/campaign/protecting-antarctica/

Welcome to the Southern Ocean: One Global Ocean, https://www.asoc.org/learn/welcome-to-the-southern-ocean/

Australian Antarctic Program

About the Protocol on Environmental Protection to the Antarctic Treaty. https://www.antarctica.gov.au/about-antarctica/law-and-treaty/the-madrid-protocol/

Proposals for new Marine Protected Areas. https://www.antarctica.gov.au/about-antarctica/law-and-treaty/ccamlr/marine-protected-areas/eampa/

British Antarctic Survey

The Antarctic Treaty Explained. https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/the-antarctic-treaty-explained/

Convention for the Conservation of Antarctic Seals. https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/convention-for-the-conservation-of-antarctic-seals-1972/

CCAMLR Webpage

CAMLR Convention. https://www.ccamlr.org/en/organisation/camlr-convention

About CCAMLR. https://www.ccamlr.org/en/organisation

Convention Area. https://www.ccamlr.org/en/organisation/convention-area

Marine Protected Areas. https://www.ccamlr.org/en/science/marine-protected-areas-mpas

Members. https://www.ccamlr.org/en/organisation/members,

Convention on Biological Diversity Webpage

History of the Convention. https://www.cbd.int/history/

List of Parties. https://www.cbd.int/information/parties.shtml

Protected Areas and the CBD. https://www.cbd.int/protected/pacbd/

Encyclopedia Britannica

Antarctica. https://www.britannica.com/place/Antarctica

Southern Ocean. https://www.britannica.com/place/Southern-Ocean

IMO

International Convention for the Prevention of Pollution from Ships (MARPOL). https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx

List of Conventions. https://www.imo.org/en/About/Conventions/Pages/ListOfConventions.aspx

Member states. https://www.imo.org/en/OurWork/ERO/Pages/MemberStates.aspx

Special Areas under MARPOL. https://www.imo.org/en/OurWork/Environment/Pages/Special-Areas-Marpol.aspx

Particularly Sensitive Sea Areas. https://www.imo.org/en/OurWork/Environment/Pages/PSSAs.aspx

IUCN

About IUCN. https://www.iucn.org/about-iucn

Oceans and Coasts. https://www.iucn.org/theme/marine-and-polar/our-work/marine-protected-areas

National Science Foundation, Ice Sheets. https://www.nsf.gov/geo/opp/antarct/science/icesheet.jsp

National Snow & Ice Data Center, Arctic vs. Antarctic https://nsidc.org/cryosphere/seaice/characteristics/difference.html

Secretariat of the Antarctic Treaty

ATCM and Other Meetings. https://www.ats.aq/e/atcm.html

List of Meetings. https://www.ats.aq/devAS/Meetings?lang=e
Parties. https://www.ats.aq/devAS/Parties?lang=e
The Antarctic Treaty. https://www.ats.aq/e/antarctictreaty.html
United Nations Treaty Collection
https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en
World Factbook, the Agency of CIA
https://www.cia.gov/the-world-factbook/maps/world-regional/

Figure in the Abstract

Retrieved from https://www.nationalgeographic.com/environment/article/theres-a-new-ocean-now-can-you-name-all-five-southern-ocean.