



**UNIVERSITÉ
DE GENÈVE**

GLOBAL STUDIES INSTITUTE

GSI Working Paper **BA LAW 2021/02**

**“Environmental Protection in Antarctica:
Applicability as the Achilles’ Heel of the 1991
Protocol”**

Pierre Akerib

Global Studies Institute
10, rue des Vieux-Grenadiers
1205 Geneva
<https://www.unige.ch/gsi/fr/>



This text may be downloaded for personal research purposes only. Any additional reproduction for other purposes, whether in hard copy or electronically, requires the consent of the author(s), editor(s). If cited or quoted, reference should be made to the full name of the author(s), editor(s), the title, the working paper or other series, the year, and the publisher.

Publications in the Series should be cited as: AUTHOR, TITLE, GSI WORKING PAPER YEAR/NO. [URL].

ISSN 2624-8360

Abstract:

Antarctica is one of the last pristine places on earth and hosts an extremely sensitive ecosystem. Currently, the protection of the Antarctic environment is addressed by the Antarctic Treaty System. In this context, the States parties to the 1991 Protocol on Environmental Protection to the Antarctic Treaty have committed themselves to ensure the comprehensive protection of the Antarctic environment. In order to assess whether this objective is legally achievable, the aim of this paper is to answer the following question: To whom does the Protocol apply and are there any groups of persons or types of activities to which it is systematically not applicable? We have found that although the Protocol's geographical and material scope of application are generally unproblematic, it cannot be systematically applied to the persons and vessels that have the nationality of States not parties to the Protocol.

L'environnement antarctique et son écosystème sont extrêmement sensibles aux impacts humains. Actuellement, leur protection est assurée par le Système du Traité sur l'Antarctique. Dans ce contexte, les États parties au Protocole au Traité sur l'Antarctique relatif à la protection de l'environnement de 1991 se sont engagés à assurer la protection globale de l'environnement en Antarctique. Afin d'évaluer si cet objectif est légalement atteignable, ce travail répond à la question suivante : à qui s'applique le Protocole et y a-t-il des groupes de personnes ou des types d'activités auxquelles il est systématiquement inapplicable ? Nous avons déterminé que le champ d'application géographique et matériel du Protocole ne posait généralement pas problème. Toutefois, le Protocole ne peut être systématiquement appliqué aux personnes ainsi qu'aux navires ayant la nationalité d'États qui ne sont pas parties au Protocole.

Keywords: Jurisdiction; Protocol on Environmental Protection to the Antarctic Treaty; Environment; Tourism

Author: Pierre Akerib

GSI Working Paper **BA LAW 2021/02**

Environmental Protection in Antarctica: Applicability as the Achilles' Heel of the 1991 Protocol

by

Pierre Akerib

Research Paper Submitted to Prof. Robert Kolb in Partial
Fulfillment of the Requirements for the Degree of:

Bachelor in International Relations

at the

University of Geneva

December 2020

Table of Contents

- I. Introduction 1
- II. The Protocol and Annexes I-V: A Contextual Overview 3
- III. The Geographical Scope of Application of the Protocol 5
- IV. The Material Scope of Application of the Protocol 10
- V. The Jurisdictional Scope of Application of the Protocol 12
 - A. The Legal Status of Antarctica 12
 - B. The Territorial Application of the Protocol 15
 - C. Alternative Bases for Jurisdiction in Antarctica 17
 - 1. *Jurisdiction Based on Nationality in Antarctica* 19
 - 2. *Flag state Jurisdiction in Antarctica* 20
 - 3. *The Application of the Protocol to Third States* 21
- VI. Conclusion 23
- VII. Bibliography 24

I. Introduction

The Protocol on Environmental Protection to the Antarctic Treaty¹ was signed in 1991 and entered into force in 1998. As of 2020, forty-one States are bound by it. The Protocol supplements the 1959 Antarctic Treaty,² which was ratified in 1961 by the twelve original signatories. All States parties to the Protocol are also bound by the Antarctic Treaty. The objective of the Protocol is stated in its Article 2. According to this provision, ‘[t]he Parties commit themselves to the comprehensive protection of the Antarctic environment and dependent and associated ecosystems and hereby designate Antarctica as a natural reserve, devoted to peace and science’. In order to achieve this objective, the Protocol and its five annexes contain a set of general principles, specific rules and procedures.

By supplementing the Antarctic Treaty, the Protocol falls into the broader historical context of the involvement of the States parties to the Treaty in environmental regulation in Antarctica. Although the primary purpose of the Antarctic Treaty was to safeguard peace³ and to guarantee the freedom of scientific research,⁴ its decision-making body – the Antarctic Treaty Consultative Meeting (ATCM) – has regularly adopted binding as well as non-binding instruments addressing environmental issues. The 1964 Agreed Measures for the Conservation of Antarctic Fauna and Flora are an example. This instrument deals with the preservation of native animals and sets up a mechanism for the designation of specific areas to protect. In addition, outside the ATCM, the Antarctic Treaty parties have adopted the Convention for the Conservation of Antarctic Seals⁵ (CCAS) in 1972 and the Convention on the Conservation of Antarctic Marine Living Resources⁶ (CCAMLR) in 1980, which regulate commercial sealing and fishing. These two conventions are closely tied to the Antarctic Treaty through references to its core provisions and mechanisms of institutional cooperation.⁷ As a result, the Antarctic Treaty, the instruments adopted by the ATCM, the CCAS, the CCAMLR and the Protocol constitute a coherent regulatory framework which is referred to as the Antarctic Treaty System (ATS).⁸ The existence of the ATS together with the predominantly environmental focus of its components show that the Antarctic Treaty parties have historically taken a proactive role in developing a regime of environmental governance for Antarctica.

From a political perspective, the acceptance by the international community of the Antarctic Treaty parties’ role in the governance of Antarctica has varied significantly over time. Until the late 1980s, the legitimacy of the ATS was consistently put in question. On the one hand, several States not parties to the Antarctic Treaty have criticized the limited membership of the ATS and the difficult procedure required for an acceding state to obtain the status of Consultative Party,⁹ which is conducive to a right to vote at the ATCMs.¹⁰ On the other hand, starting from 1982, the negotiations of the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) raised the possibility of mining in Antarctica. This prospect led to a strong criticism of the ATS by non-governmental organizations (NGO).¹¹ Likewise, a group of

¹ Protocol on Environmental Protection to the Antarctic Treaty 1991, A-5778 UNTS 2941. Hereinafter Protocol.

² The Antarctic Treaty 1959, 71 UNTS 402.

³ Article I, The Antarctic Treaty.

⁴ Article II, The Antarctic Treaty.

⁵ Convention for the Conservation of Antarctic Seals (CCAS) 1972, 175 UNTS 1080.

⁶ Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) 1980, 47 UNTS 1329.

⁷ A. Watts, *International Law and the Antarctic Treaty System* (Cambridge, Grocius Publications: 1992), at 74-76.

⁸ *Ibid.*, at 292.

⁹ Article IX.2, The Antarctic Treaty.

¹⁰ Molenaar, ‘Sea-Borne Tourism in Antarctica: Avenues for Further Intergovernmental Regulation’, 20 *International Journal of Marine and Coastal Law* (2005) 247, at 273.

¹¹ Vidas, ‘Entry into Force of the Environmental Protocol and Implementation Issues: An Overview’, in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 1, at 3.

States at the General Assembly of the United Nations (UNGA) disapproved of the ATS' role in the governance of Antarctica.¹² As a consequence of these pressures, several Antarctic Treaty parties renounced to sign or ratify CRAMRA. Instead, the Protocol was adopted in 1991 and imposed a general ban on Antarctic mining.¹³

The adoption of the Protocol led the contestation of the ATS at the UNGA to an end, while ushering in an era of significant increase of the ATS' international legitimacy.¹⁴ This legitimacy has also benefited from the inclusion of several NGOs in the ATCM decision-making process through an observer status in 1987, which had already been granted to non-Consultative Parties in 1983.¹⁵ Furthermore, the number of parties to the Antarctic Treaty increased significantly. Several States that opposed the ATS ended up adhering to its instruments.¹⁶ By the end of the 1990s, the primacy of the Protocol and more generally of the ATS in the environmental governance of Antarctica had thus attained a relatively broad acceptance in the international community, even by States not parties to ATS instruments.¹⁷

In this context of international political legitimacy, the Protocol takes a general approach to the protection of the Antarctic environment. This approach is exemplified by the phrasing of Article 2, which designates the whole of Antarctica as a natural reserve. Furthermore, Article 3.1 reinforces the general nature of the Protocol by stating that 'all activities' should be planned in light of environmental considerations. In addition, according to Article 13.2, the parties bear the responsibility to 'exert appropriate efforts ... to the end that no one engages in any activity contrary to [the] Protocol'. Therefore, it appears that the Protocol was intended as a comprehensive instrument for the protection of the Antarctic environment.

This general approach taken by the parties to the Protocol seems to imply that its provisions are applicable to all activities and persons in Antarctica. From a political perspective, this general applicability can be justified by the primacy of the Protocol in the environmental governance of Antarctica. In fact, as a result of the legitimacy of the ATS, the parties to its instruments became the 'trustees of the international community'¹⁸ and thus have a political responsibility to ensure an effective governance of Antarctica.¹⁹ Moreover, Antarctica is one of the last pristine places on earth and its environment is extremely sensitive to human impacts due to its specificities.²⁰ This vulnerability supports the idea that the Protocol's provisions should apply to all human activities in Antarctica. Similarly, a general application of the Protocol can be justified by the goal of certain rules it contains. For example, if an area is designated as an Antarctic Specially Protected Area pursuant to Article 2 of the Annex V to the Protocol in order to prohibit all activities in this area,²¹ this designation is only coherent if it is applicable to all humans in Antarctica. Therefore, from both a political and an environmental perspective, i.e., not from a legal perspective, the provisions of the Protocol should apply to all activities and persons in Antarctica.

The political authority of the ATS in the environmental governance of Antarctica does not, however, ensure the legal applicability of the Protocol. First, its geographical scope, defined by

¹² Vidas, *supra* note 11, at 3.

¹³ Vidas, *supra* note 11, at 3.

¹⁴ Molenaar, *supra* note 10, at 274-275.

¹⁵ Duyck, 'Polar Environmental Governance and Nonstate Actors', in R. Pincus and S. Ali (eds), *Diplomacy on Ice: Energy and the Environment in the Arctic and Antarctic* (New Haven, Yale University Press: 2015) 13, at 21-22.

¹⁶ Molenaar, *supra* note 10, at 273-274.

¹⁷ *Ibid.*, at 278.

¹⁸ S. Vöneky, *Analysis and Enhancement of the Legal Framework - The Need for Action in the Light of Current Developments of Antarctic Tourism* (Dessau-Rosslau, Umweltbundesamt: 2016), at 58.

¹⁹ Molenaar, *supra* note 10, at 278.

²⁰ Tin *et al.*, 'Impacts of local human activities on the Antarctic environment', 21 *Antarctic Science* (2009) 3, at 3-5.

²¹ Article 2, Annex V, Protocol.

reference to the Antarctic Treaty, comprises large areas of high seas. Accordingly, it is necessary to clarify the relationship between the provisions of the Protocol and the rights of the parties on the high seas. Second, multiple articles defining which activities are covered by the Protocol refer to Article VII.5 of the Treaty. In order to define these activities, i.e., the material scope of the Protocol, the meaning of these references needs to be ascertained. Furthermore, if the Protocol covers all Antarctic activities, it may overlap with the scope of issue specific ATS instruments, namely the CCAS and the CCAMLR. Accordingly, the applicability of the Protocol to the activities addressed by these instruments should be examined. Third, according to Article 34 of the Vienna Convention on the Law of Treaties (VCLT),²² which is a codification of international customary law,²³ '[a] treaty does not create either obligations or rights for a third State without its consent.' Although the Protocol establishes an environmental governance regime in a specific region, this legal instrument remains an international treaty. Thus, it might be asked whether the provisions of the Protocol are applicable to the Antarctic activities of States not parties to this instrument or, for example, of their nationals. As a result, in spite of the comprehensive approach to environmental protection in Antarctica adopted by the parties, multiple aspects of the Protocol's scope of application present difficulties. In view of these difficulties, the purpose of this paper is to answer the following question: To whom does the Protocol apply and are there any groups of persons or types of activities to which it is systematically not applicable?

This paper is organized in four sections. It starts with a contextual overview of the environmental principles, regulations, and mechanisms provided by the Protocol and its annexes. In the subsequent three sections, we will examine the scope of application of the Protocol. In section three, the geographical scope of application of this instrument will be addressed. In section four, the material scope of application of the Protocol will be determined. Finally, in section five, we will examine the legal status of Antarctica and delve into the jurisdictional issues related to the application and enforcement of the Protocol.

II. The Protocol and Annexes I-V: A Contextual Overview

In the Protocol, three articles directly regulate human activities in their relationship to the environment. Article 3 provides a set of 'environmental principles'²⁴ that should be applied in the conduct of activities in Antarctica.²⁵ According to Article 3.2(a), these activities 'shall be planned and conducted so as to limit adverse impacts on the Antarctic environment'. These adverse impacts are then listed in Article 3.2(b). Further, Article 3.2(c) requires activities to 'be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgments about, their possible impacts on the Antarctic environment'. This application of the precautionary principle²⁶ is reinforced by the general obligation for activities in Antarctica to undergo the Environmental Impact Assessment (EIA) procedure provided in Article 8. The purpose of the EIA is to evaluate the potential environmental impacts of an activity before it proceeds, and to allow decisions to be taken as to whether and how the activity should proceed on the basis of this evaluation.²⁷ Finally, Article 7 of the Protocol imposes a

²² Vienna Convention on the Law of Treaties (VCLT) 1969, 331 UNTS 1155.

²³ J. Crawford, *Brownlie's Principles of Public International Law* (9th ed., Oxford, Oxford University Press: 2019), at 354.

²⁴ Article 3, Protocol.

²⁵ Article 3.1, Protocol.

²⁶ Redgwell, 'Environmental Protection in Antarctica: The 1991 Protocol', 43 *The International and Comparative Law Quarterly* (1994) 599, at 608.

²⁷ Vöneky, *supra* note 18, at 42-44.

general ban on mineral resources activities in Antarctica, whereas an exception is made for scientific activities.²⁸

The Protocol is complemented by five annexes that are currently in force. Each of these annexes is binding upon the Parties to the Protocol²⁹ and contains issue-specific environmental regulations. The EIA procedure provided by Article 8 of the Protocol is elaborated in Annex I.³⁰ Further, Annex II addresses the protection of the Antarctic flora and fauna, by providing that in relation to native plants or animals³¹ ‘[t]aking or harmful interference shall be prohibited, except in accordance with a permit.’³² Annex II also forbids the introduction of non-native living organisms into the Antarctic Treaty Area without a permit.³³ Annex III covers waste disposal and waste management. Its general purpose is to reduce as much as possible the amount of waste produced or disposed of in Antarctica.³⁴ Annex IV provides measures concerning marine pollution. Its scope of application is limited to vessels flagged in States parties or supporting their operations.³⁵ In fact, this annex mostly reproduces standards found in the 1973 International Convention for the Prevention of Pollution from Ships (MARPOL).³⁶ At the same time, Annex IV is subordinated to MARPOL,³⁷ which presently binds all of the parties to the Protocol³⁸. Thus, while the scope of application of Annex IV appears to be generally clear, discussing it would necessarily involve evaluating the application of MARPOL. As a result, the application of Annex IV will not be taken into account in this paper. Finally, Annex V provides a system of area protection in Antarctica. Antarctic Specially Protected Areas (ASPAs) or Antarctic Specially Managed Areas (ASMAs) can be created³⁹ in order to restrict, manage or forbid activities in these areas,⁴⁰ notably for environmental reasons.⁴¹

Neither the Protocol nor the annexes contain a single article addressing their scope of application comprehensively. Instead, several articles play a role in determining that scope. For reasons of clarity, we will not introduce these articles here. Instead, they will be referenced throughout our analysis. Certain of these articles are found in the Antarctic Treaty and are not explicitly mentioned in the Protocol. Nevertheless, this does not preclude their use in determining its scope of application.⁴² According to Article 4.1 of the Protocol, it ‘shall supplement the Antarctic Treaty and shall neither modify nor amend that Treaty.’ Thus, the content of the Protocol is connected to the Treaty by being an addition to its provisions. Specifically, in the Preamble of the Protocol, the parties have asserted this connection between the two instruments by making an indirect reference to the legal effects of the Treaty by stating that they ‘[bear] in mind the special legal and political status of Antarctica’.⁴³ Moreover, all of the parties to the Protocol are necessarily bound by the Antarctic Treaty.⁴⁴ Therefore, the provisions of the Antarctic Treaty, together with the practice of the parties related to these provisions, are generally applicable in the context of the Protocol.

²⁸ Article 7, Protocol.

²⁹ Article 9.1, Protocol.

³⁰ Article 1.1, Annex I, Protocol.

³¹ Article 1(g)-(h), Annex II, Protocol.

³² Article 1, Annex II, Protocol.

³³ Article 4, Annex II, Protocol.

³⁴ Article 1.2, Annex III, Protocol.

³⁵ Article 2, Annex IV, Protocol.

³⁶ Vöneky, *supra* note 18, at 52.

³⁷ Article 14, Annex IV, Protocol; Molenaar, *supra* note 8, at 263.

³⁸ Vöneky, *supra* note 18, at 52.

³⁹ Article 2, Annex V, Protocol.

⁴⁰ Article 2, Annex V, Protocol.

⁴¹ Article 3.1, Annex V, Protocol.

⁴² Watts, *supra* note 7, at 136.

⁴³ Preamble, Protocol.

⁴⁴ Articles 21 and 22.1, Protocol.

III. The Geographical Scope of Application of the Protocol

Most of the Protocol's provisions state that they apply to activities conducted in the 'Antarctic Treaty area'. For example, Article 8.2 provides that regarding the EIA, '[e]ach Party shall ensure that the assessment procedures ... are applied in the planning processes leading to decisions about any activities undertaken in the Antarctic Treaty area'. The scope of Article 8 is also applicable to Annex I since it specifies the EIA procedure. Similarly, Article 3 of the Protocol containing the environmental principles,⁴⁵ as well as Annex II⁴⁶ and Annex III⁴⁷ explicitly mention the Antarctic Treaty area as their scope of application. Annex V on area protection does not contain an article defining its geographical scope. Nevertheless, since the Protocol and the other four annexes all apply to the Antarctic Treaty area, at that stage it might be presumed that Annex V is no exception. In short, the Protocol's geographical scope of application depends on the definition of the 'Antarctic Treaty area', which is not found directly in the Protocol. Instead, its Article 1(b) refers to the Antarctic Treaty by stating that the expression 'Antarctic Treaty area' means the area to which the provisions of the Antarctic Treaty apply in accordance with Article VI of that Treaty'. The first clause of Article VI in turn reads as follows: '[t]he provisions of the present Treaty shall apply to the area south of 60° South Latitude, including all ice shelves'. Thus, at first glance, the provisions of the Protocol also appear to be applicable to the circular area located south of 60° South Latitude.

Defined as such, the geographical scope of the Protocol includes the Antarctic continent, multiple islands, alongside with extensive marine areas. Consequently, the regulations of the Protocol appear to be also applicable to the high seas south of 60° South Latitude.⁴⁸ However, according to the second clause of Article VI of the Antarctic Treaty, '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'. This reservation of the high seas rights of the parties presumably carries over to the Protocol, since its Article 4.1 provides that '[the Protocol] shall neither modify nor amend that Treaty.'⁴⁹ Because the high seas rights include the freedom of navigation and of fishing,⁵⁰ the combination of Articles VI of the Antarctic Treaty and 4.1 of the Protocol, if read literally, would imply that most of the provisions of the Protocol are only applicable to land areas inside of the Antarctic Treaty area. For example, on account of the freedom of navigation, it is arguable that an expedition that only sails around the Antarctic continent would in no case be required to undergo an EIA procedure or to comply with the regulations of the annexes. As a result, the saving of the high seas rights of the parties contained in Article VI of the Antarctic Treaty, when read together with Article 4.1 of the Protocol, has the practical effect of contradicting the definition of the Protocol's scope of application as the entirety of the Antarctic Treaty area, which follows from the first clause

⁴⁵ Article 3.4, Protocol.

⁴⁶ Article 1(a)-(d), Annex II, Protocol.

⁴⁷ Article 1.1, Annex III, Protocol.

⁴⁸ There is no consensus on the existence of maritime zones adjacent to the coasts of Antarctica as a result of the legal status of Antarctica (discussed in section 5.A). Nevertheless, most of the States that do not claim territory in Antarctica consider that there are no coastal States in Antarctica and thus no adjacent maritime zones. To simplify, most States consider that the high seas extend right to the coast of Antarctica. In that context, ice shelves are considered to be a part of the continent whereas sea-ice is not. Thus, for the purpose of this section, the term 'land' includes ice shelves. See Watts, *supra* note 7, at 112-118 and 157; Francioni and Vigni, 'Territorial Claims and Coastal States', in K. Dodds, A. Hemmings and P. Roberts (eds), *Handbook on the Politics of Antarctica* (Cheltenham, Edward Elgar Publishing: 2017) 241, at 245-248.

⁴⁹ Article 4.1, Protocol.

⁵⁰ Article 87 (a) and (e), United Nations Convention on the Law of the Sea (UNCLOS) 1982, 3 UNTS 1833. Mentioned here as a codification of existing customary law, since certain parties to the Protocol are not parties to the UNCLOS.

of Article VI referred to in Article 1(b) of the Protocol. In view of this ambiguity regarding the geographical scope of application of the Protocol, the aim of this section is to determine whether it applies only to land areas or to the whole Antarctic Treaty area including high seas.

According to Article 31.1 of the VCLT,⁵¹ '[a] treaty shall be interpreted ... in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.' In the present case, the ordinary meaning of the second clause of Article VI of the Antarctic Treaty suggests that the parties have effectively reserved their high seas rights. The terms of Article 4.1 of the Protocol in turn appear to protect this reservation since the Protocol 'shall neither modify nor amend [the Antarctic] Treaty.'⁵² Thus, from the ordinary meaning of the terms, it might be concluded that the Protocol does not apply to the high seas.

Nevertheless, the context of the Protocol's Article 4.1 advocates for a different view. According to Bastmeijer, '[s]everal provisions of the Protocol imply clearly that the Protocol is applicable to the maritime zone. Examples are the provisions of disposal of waste in the sea (Article 5, Annex III), ... [as well as] Article 3 and Article 4 of Annex V which explicitly state that also marine areas may be designated as ASPAs and ASMAs.'⁵³ Furthermore, interpreting the Protocol as not applicable to the high seas appears to defeat its purpose, that is the 'comprehensive protection of the Antarctic environment and dependent and associated ecosystems'.⁵⁴ Notably, many specimens of the Antarctic fauna, such as seals and birds, spend a substantial part of their life in marine areas where they feed.⁵⁵ Thus, if the environmental protection afforded by the Protocol was restricted to land areas, it would be significantly less effective at achieving its objective. As a result, both the context of Article 4.1 of the Protocol and the purpose of the Protocol strongly indicate that the reservation of the high seas rights found in Article VI of the Antarctic Treaty does not restrict the Protocol's geographical scope of application.

In order to further verify this more extensive interpretation of the Protocol's geographical scope, it is possible to bring into play additional elements of the context. According to Article 31.2 (b) of the VCLT, '[t]he context for the purpose of the interpretation of a treaty shall comprise ... any instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty.' In the case in point, the ATS instruments, in particular the Antarctic Treaty, the 1964 Agreed Measures, the CCAS and the CCAMLR, have a clear connection with the conclusion of the Protocol,⁵⁶ and the recognition of this connection by the parties follows from the Protocol's provisions as well as from the general context of the ATS.⁵⁷ In addition, all of the States parties to the Protocol are bound by the Antarctic Treaty, while most of them are parties to the CCAS and the CCAMLR. Therefore, the ATS instruments are part of the context applicable in the interpretation of the Protocol.

The view held by the parties to the ATS instruments regarding the reservation of the high sea rights found in the second clause of Article VI has significantly changed over time.⁵⁸ To

⁵¹ Article 31.1, VCLT. The VCLT is applied here as a codification of existing customary law, since not all the parties to the Protocol are parties to the VCLT. Furthermore, the Antarctic Treaty was concluded before the entry in force of the VCLT, which is not retroactive pursuant to its Article 4.

⁵² Article 4.1, Protocol.

⁵³ K. Bastmeijer, *The Antarctic Environmental Protocol and its domestic legal implementation* (Dordrecht, Kluwer Law International: 2003), at 96.

⁵⁴ Article 2, Protocol.

⁵⁵ Tin *et al.*, *supra* note 20, at 10.

⁵⁶ Watts, *supra* note 7, at 292.

⁵⁷ Articles 1(e), 4, 5, and Preamble, Protocol.

⁵⁸ F. M. Auburn, *Antarctic Law and Politics* (C. Hurst & Company, London: 1982), at 134.

begin with, in the Antarctic Treaty, multiple provisions use the expression ‘in Antarctica’⁵⁹ regarding their geographical scope. According to Watts, whereas this expression is connoted as referring to land areas only, the first clause of Article VI might be interpreted as extending the scope of certain provisions of the Antarctic Treaty to the high seas, despite the second clause of Article VI.⁶⁰ In contrast, as Bastmeijer suggests, several authors have argued that the Treaty in fact applies only to land areas.⁶¹ Similarly, in the 1960s, this was the position prevalent among the parties to the Antarctic Treaty.⁶² Thus, when examined separately, the Antarctic Treaty suggests that the Protocol might in fact not apply to the high seas.

The practice of the parties under the Antarctic Treaty, however, demonstrates that they progressively took a different stance on the possibility to apply ATS instruments to the high seas. In 1964, the ATCM adopted the Agreed Measures as a recommendation. In a comparable way to the Protocol, their geographical scope was defined by reference to the Antarctic Treaty.⁶³ Although initially the parties viewed the Measures as applicable to land areas only, their position had evolved by the late 1970s.⁶⁴ In fact, in 1978, the parties have designated several marine areas as protected under the Agreed Measures.⁶⁵ Therefore, the inclusion of certain high seas areas into the geographical scope of the Measures was not outright impeded by Article VI of the Antarctic Treaty. As a result, the practice of the Parties under the Antarctic Treaty and the Agreed Measures, as it developed in the 1970-80s,⁶⁶ indicates that the scope of the Protocol can be interpreted as extending beyond Antarctic land areas.

From a broader perspective, such an interpretation is further supported by the approach of the Antarctic Treaty parties to the environmental governance of Antarctica. While the ATCMs became increasingly concerned with the conservation of Antarctic marine resources in the early 1970s,⁶⁷ the parties to the Antarctic Treaty adopted the CCAS in 1972 and the CCAMLR in 1980, both of which explicitly apply to the high seas in the Antarctic Treaty area.⁶⁸ According to Sahurie, by adopting these conventions as well as the Agreed Measures, the States parties to the ATS instruments ‘have exercised prescriptive competencies over the [Antarctic Treaty] area, especially in imposing a regime which has severely restricted [the] freedom [of the seas] and has subjected the area to regulation in many aspects. As a result, the scope of application of the freedom of the seas is subsidiary in Antarctic seas’,⁶⁹ at least for the parties to the ATS instruments. In this quote, the author points out that the parties to the Antarctic Treaty have progressively come to restrict their freedoms of the high seas. Thus, the reservation contained in Article VI is currently less significant than it was in the 1960s.⁷⁰ Furthermore, the development of the ATS as a governance regime meant to regulate activities in Antarctic marine areas, such as fishing or sealing, adds weight to the argument in favor of viewing the Protocol as applicable to the high seas within the Antarctic Treaty area.

The subsequent practice of the States parties to the Protocol⁷¹ provides evidence in support of this view regarding its applicability to the high seas. In their domestic legislation implementing the Protocol, several parties have unequivocally subjected the activities taking

⁵⁹ Notably: Articles I-V and VII (3)-(5), The Antarctic Treaty.

⁶⁰ Watts, *supra* note 7, at 150.

⁶¹ Bastmeijer, *supra* note 53, at 95.

⁶² Auburn, *supra* note 58, at 130-131.

⁶³ Article I.1, Antarctic Treaty Consultative Meeting III (1964) Recommendation III-VIII, ‘Agreed Measures for the Conservation of Antarctic Fauna and Flora’.

⁶⁴ Auburn, *supra* note 58, at 131; Bastmeijer, *supra* note 51, at 95-96.

⁶⁵ Auburn, *supra* note 58, at 133.

⁶⁶ Bastmeijer, *supra* note 53, at 95-96.

⁶⁷ C. C. Joyner, *Governing the Frozen Commons* (Columbia, University of South Carolina Press: 1998), at 122.

⁶⁸ Article I.1, CCAS; Article I.1, CCAMLR.

⁶⁹ E. J. Sahurie, *The International Law of Antarctica* (New Haven, New Haven Press: 1992), at 547.

⁷⁰ *Ibid.*, at 546.

⁷¹ Article 31.3(b), VCLT.

place in the Antarctic Treaty area to these regulations, without limiting their scope to land areas. For example, in the case of the United Kingdom, section 3(3) of the Antarctic Act 1994 defines the geographical scope of application as *inter alia* ‘the continent of Antarctica (including all its ice-shelves)’⁷² and ‘all sea and airspace south of 60° South latitude’⁷³. Similarly, the Japanese legislation explicitly includes the marine areas in its scope of application.⁷⁴ In addition, multiple States parties have equated the scope of application of their legislation with the Antarctic Treaty area, without including any reservations for the high seas. For example, section 1(1)(1) of the German legislation specifies that its scope of application is ‘*Gebiet südlich von 60 Grad südlicher Breite*’.⁷⁵ Analogous formulations are found in the legislations of Argentina,⁷⁶ the Netherlands,⁷⁷ and the United States.⁷⁸ Finally, certain ASPAs established by consensus at the ATCM pursuant to Article 6.1 of Annex V include areas of high seas. Notably, the Western Bransfield Strait is designated as an ASPA (n°152), and its management plan restricts the freedom of navigation of the Parties by requiring an authorization to enter this marine area.⁷⁹ Thus, multiple aspects of the state practice under the Protocol show that the parties have restricted their high sea freedoms in the Antarctic Treaty area, despite the literal interpretation of Article 4.1 of the Protocol read together with the second clause of Article VI of the Antarctic Treaty.

Although the examination of the state practice highlights a pronounced tendency among the parties to interpret the Protocol as applying to the high seas in the Antarctic Treaty area, it cannot be concluded that all the Parties entirely subscribe to this view. Several States parties, including Australia,⁸⁰ France,⁸¹ and Russia,⁸² determine the scope of their domestic legislation as the area south of 60° South but specify that it includes all ice-shelves. As a result of this phrasing, one could argue that as opposed to ice-shelves, marine areas are not included in the scope of the legislation. Nevertheless, evidence suggests that such a meaning is not necessarily implied. In the case of the Australian legislation, according to Bush, ‘there is no doubt that the executive government believed ... that the ATEP Act [implementing the Protocol] extended to the high seas. This is clear from regulations made under the act and the explanatory memorandum that accompanied the 1992 amendments’.⁸³ This quote shows that in the present case the Australian government took the side of an extensive interpretation of the Protocol’s geographical scope. Still, the fact that the Australian executive played a role in determining the Protocol’s geographical scope reflects the level of playing field generally enjoyed by the States parties in defining that scope. For example, the United Kingdom⁸⁴ exempts the operators of vessels that sail through the Antarctic Treaty area to destinations outside of this area from

⁷² Antarctic Act 1994 (United Kingdom), § 3(3)(a).

⁷³ Antarctic Act 1994 (United Kingdom), § 3(3)(d).

⁷⁴ Law relating to Protection of the Environment in Antarctica, Law No. 61, 1997 (Japan), art. 3.1.

⁷⁵ Gesetz zur Ausführung des Umweltschutzprotokolls vom 4. Oktober 1991 zum Antarktisvertrag vom 22. September 1994, BGBl. I 2593, (Germany) § 1(1)(1).

⁷⁶ Disposición 87/2000, Boletín Oficial N°29.456 1ª. Sección. Lunes 7 de agosto de 2000 (Argentina), art. 2.

⁷⁷ The Netherlands, ATCM XXXIX (2016) Background Paper 7, ‘Measures under the Protocol on Environmental Protection to the Antarctic Treaty: Implementing Legislation of the Kingdom of the Netherlands’, at 6.

⁷⁸ 16 United States Code (United States), § 2402(2).

⁷⁹ ATCM XXXVIII (2015) Measure 9, ‘Management Plan for Antarctic Specially Protected Area No. 152 Western Bransfield Strait’, § 7(I).

⁸⁰ Antarctic Treaty (Environment Protection) Act 1980 (Australia), § 3(1).

⁸¹ Livre VII de Code de l’environnement français, Ordonnance n° 2000-914 du 18 septembre 2000 relative à la partie Législative du code de l’environnement, art. L711-1.

⁸² Федеральный Закон о регулировании деятельности российских граждан и российских юридических лиц в Антарктике 2012 (Russian Federation), art. 1.1.

⁸³ Bush, ‘Australian Implementation of the Environmental Protocol’, in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 309, at 311.

⁸⁴ Antarctic Act 1994 (United Kingdom) § 3(2)(a).

carrying out an EIA procedure. Furthermore, certain States like Norway have a more radical approach and explicitly exclude all vessels sailing on the high seas inside of the Antarctic Treaty area from the scope of their legislation implementing the Protocol.⁸⁵ Therefore, the parties' practice in implementing the Protocol shows that the geographical scope of the Protocol varies from one state party to another and does not always include the entirety of the Antarctic Treaty area.

This degree of variability resulting from the implementation of the Protocol by the parties demonstrates that, in effect, its geographical scope of application cannot be determined in an absolute manner. On the one hand, the literal interpretation of Article 4.1 of the Protocol and of the second clause of Article VI of the Antarctic Treaty suggests that the Protocol is applicable to land areas only. On the other hand, both the context of Article 4.1 and the purpose of the Protocol support the view that its geographical scope should comprise the whole Antarctic Treaty area, including the high seas. Moreover, this interpretation is consistent with the development of the ATS as an environmental governance regime involving the restriction of the parties' high seas freedoms. However, the practice of the States parties falls short from providing an unquestionable confirmation of these arguments, in spite of their apparent strength. While the national legislations applicable to the high seas seem to prevail, it has been shown that certain States have not given this extensive geographical scope to all of the Protocol's provisions. As a result, it can still be concluded that from the perspective of international law, the starting point is that the geographic scope of the Protocol corresponds to the entire Antarctic Treaty area, including the high seas found in that area.⁸⁶ Accordingly, a necessary but not sufficient condition for an activity to fall under the scope of application of the Protocol is to take place south of 60° South. However, it should also be admitted that there can be exceptions to this general principle. As mentioned earlier, in some specific cases, the exclusion of the high seas by the relevant national legislation might exempt certain persons from applying the Protocol's provisions, although their activities would otherwise fall under its scope.

Nevertheless, in practice, the effect of these exceptions on the effectiveness of the Protocol appears to be limited. First, among the activities taking place exclusively in the Antarctic seas, fishing is one of the most impactful on the environment.⁸⁷ However, as will be discussed in the next section, fishing is not regulated by the Protocol, but rather by the CCAMLR. Thus, the national legislations that exclude the high seas from the Protocol's scope are not potential loopholes in the case of fishing. Second, another important risk faced by the Antarctic marine environment results from shipping incidents that can cause oil spills or from operational impacts of vessels, such as fuel leakages.⁸⁸ To a certain extent, these issues are dealt with in Annex IV, which is explicitly applicable to vessels in the Antarctic Treaty area,⁸⁹ MARPOL and the Code for Ships Operating in Polar Waters adopted by the International Maritime Organization (IMO), which entered in force in 2017 for the States having ratified it. As a result, the possible limitations of the geographical scope of the Protocol and of its annexes I, II, III and V are not determinant in the matter of marine pollution. Therefore, for the purpose of the present paper, the geographical scope of application of the Protocol can be considered as relatively unproblematic.

⁸⁵ Forskrift om miljøvern og sikkerhet i Antarktis, 2014 (Norway), § 2 and §3(b).

⁸⁶ Bastmeijer, *supra* note 53, 96.

⁸⁷ Tin *et al.*, *supra* note 20, at 18-20.

⁸⁸ Molenaar, *supra* note 10, at 258.

⁸⁹ Article 2, Annex IV, Protocol.

IV. The Material Scope of Application of the Protocol

The material scope of the Protocol and of the Annexes refers to the human activities in Antarctica to which these instruments are applicable. On the one hand, the material scope of multiple environmental provisions found in the Annexes is straightforward, since these provisions regulate specific actions or behaviors.⁹⁰ For example, when Article 3 of Annex II States that with regard to the Antarctic flora and fauna ‘taking or harmful interference shall be prohibited’,⁹¹ the material scope of this provision includes all the activities that may result in taking or interference. On the other hand, several key provisions of the Protocol, namely the environmental principles set in Article 3, the EIA procedure provided by Article 8 and Annex I, and the waste management regulations of Annex III, have a broader material scope. The scope of these provisions, hereinafter referred to as the material scope of the Protocol, is defined by Articles 3.4 and 8.2 of the Protocol and by Article 1.1 of Annex III respectively. In fact, these provisions all use the same formula, according to which they apply to ‘[a]ctivities ... pursuant to scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required in accordance with Article VII.5 of the Antarctic Treaty’. Although the first part of this formula appears to define the material scope of the Protocol as including all the activities in Antarctica, its second part restricts this definition to the activities requiring an advance notice under Article VII.5. Therefore, the material scope of the Protocol is equated with the scope of Article VII.5 of the Antarctic Treaty.

Article VII.5 does not, however, give an exhaustive list or an explicit definition of the activities requiring an advance notice. While the subparagraphs (b) and (c) of Article VII.5 specifically mention the ‘stations in Antarctica’⁹² and the ‘military personnel’,⁹³ the rest of the human activities in Antarctica is covered by subparagraph (a), which requires an advance notice for ‘all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory’.⁹⁴ This provision primarily focuses on the origin of the persons undertaking activities in Antarctica and on their links with the States parties. The impact of these aspects on the scope of the Protocol will be examined in the fifth section of this paper, since they relate to its jurisdictional scope. In relation to the material scope of the Protocol, the consequence of Article VII.5(a) is that an activity should be an ‘expedition’ in order to fall under its material scope. In view of the general nature of that term, the purpose of this section is to clarify what an expedition is in the context of Article VII.5(a) and to identify the activities that are not covered by the Protocol.

The ordinary meaning of the word ‘expedition’ is broad. According to Bastmeijer, this is also the case in the context of Antarctica:

[T]he terms ‘Antarctic activity’ or ‘expedition’ may refer to a big tourist cruise with 400 passengers, a scientific expedition of 20 persons, as well as a private adventurous ski-expedition of one or two persons. ... [T]he terms ‘expedition’ or ‘activity in the Antarctic Treaty area’ refer to the broader context of human presence in Antarctica, or in other words, it involves ‘going to Antarctica’ and remaining there for recreational, commercial, scientific or any other purpose.⁹⁵

This quote suggests that the word ‘expedition’ neither excludes any type activity from the scope of the Protocol, nor requires the activities to be of a certain scale in order to be subjected to the Protocol’s provisions. Furthermore, this broad interpretation of the word ‘expedition’ is confirmed by the object and the purpose of Article VII.5, because, according Vöneky, ‘[this]

⁹⁰ Bastmeijer, *supra* note 53, at 109.

⁹¹ Article 3.1, Annex II, Protocol.

⁹² Article VII.5(b), The Antarctic Treaty.

⁹³ Article VII.5(c), The Antarctic Treaty.

⁹⁴ Article VII.5(a), The Antarctic Treaty.

⁹⁵ Bastmeijer, *supra* note 53, at 110.

provision is supposed to ensure that all relevant information concerning vessel movements and persons in the treaty's scope of application are exchanged amongst the States parties.⁹⁶ As a result, the Protocol's material scope does not appear to be restricted by the reference made to Article VII.5 in Articles 3.4 and 8.2 of the Protocol and in Article 1.1 of Annex III.

Although both the ordinary meaning of the word 'expedition' and the purpose of Article VII.5(a) support an extensive interpretation of the Protocol's material scope, such an interpretation raises the question of whether it complies with the *effet utile* principle. Specifically, the extensive interpretation of the word 'expedition' seems to render the reference made to article VII.5 in the Protocol useless, because it does not modify its material scope. By contrast, according to the *effet utile* principle, the terms of a provision should not be interpreted as not having any practical effect.⁹⁷ Nevertheless, the reference made to Article VII.5 in the Protocol does, in fact, have effects. As will be seen in section 5, this reference plays a role in establishing jurisdictional connections between the parties to the Protocol and expeditions. Furthermore, in the case of the EIA procedure, '[t]he threshold of 'activities ... for which advance notice is required under Article VII.5 ...' was reportedly added to avoid 'EIA requirements extending to the level of the activities of individuals', such as individual tourists.'⁹⁸ Thus, in relation to the material scope of the Protocol, the reference made to Article VII.5 has the purpose of exempting the individuals who take part in an expedition to prepare additional EIAs, on top of the EIA made for the expedition as a whole.⁹⁹ Accordingly, interpreting the material scope of the Protocol as including all the activities involving human presence in Antarctica does not contravene to the *effet utile* principle.

Since the reference to Article VII.5 of the Antarctic Treaty made in the Protocol does not set limits on the activities to which the provisions of the latter are applicable, it might be concluded that all governmental and non-governmental activities¹⁰⁰ in Antarctica fall under the material scope of the Protocol. In the matter of fishing or sealing, this conclusion appears to entail an overlap between the scope of the Protocol's provisions, in particular of its Articles 3 and 8, and the scope of the CCAS and of the CCAMLR that focus on the conservation of marine resources. However, such an overlap is avoided by Article 4.2 of the Protocol, which provides that '[n]othing in this Protocol shall derogate from the rights and obligations of the Parties to this Protocol under the other international instruments in force within the Antarctic Treaty system.' Thus, for example, the States parties to both the CCAMLR and the Protocol still can harvest living marine resources in accordance with Article II.3 of the CCAMLR, despite the environmental principles set in Article 3 of the Protocol. Moreover, in the Final Act of the Special Consultative Meeting where the Protocol was concluded, it is specified that '[w]ith respect to the activities referred to in Article 8, the Meeting noted that it was not intended that those activities should include activities ... pursuant to the Convention on the Conservation of Antarctic Marine Living Resources or the Convention for the Conservation of Antarctic Seals.'¹⁰¹ Thus, the material scope of the EIA procedure, and more generally the material scope of the Protocol, do not include the fishing or sealing activities undertaken in pursuance of the

⁹⁶ Vöneky, *supra* note 18, at 38.

⁹⁷ P. Daillier, M. Forteau and A. Pellet, *Droit international public* (8th ed., Paris, Lextenso Editions: 2009), at 288.

⁹⁸ Scully, 'The Eleventh Antarctic Treaty Special Consultative Meeting', 11 *International Challenges* (1991) 77, at 84, cited in Lyons, 'Environmental impact assessment in Antarctica under the Protocol on Environmental Protection', 29 *Polar Record* (1993) 111, at 114.

⁹⁹ Bastmeijer, *supra* note 53, at 111; Redgwell, *supra* note 26, at 620.

¹⁰⁰ Articles 3.4 and 8.2, Protocol; Article 1.1, Annex III, Protocol.

¹⁰¹ Antarctic Treaty Special Consultative Meeting (SATCM) XI (1991), 'Final Act of The Eleventh Antarctic Treaty Special Consultative Meeting', at 2. See also Watts, *supra* note 7, at 281.

CCAMLR or the of CCAS.¹⁰² All other activities conducted in Antarctica fall under the material scope of the Protocol.

V. The Jurisdictional Scope of Application of the Protocol

The environmental provisions of the Protocol are neither applied nor enforced by a single international authority, but rather each party has the duty to do so. According to Article 13.1 of the Protocol, '[e]ach Party shall take appropriate measures within its competence, including the adoption of laws and regulations, administrative actions and enforcement measures, to ensure compliance with this Protocol.' As a consequence of this role taken by the States parties to the Protocol, its provisions are applicable only to the natural and juridical persons whose conduct the States parties are competent, i.e., have jurisdiction to regulate.¹⁰³ On the one hand, under international law, all States generally have the competence to regulate the activities that occur in their territory, including *inter alia* their territorial sea.¹⁰⁴ In that case, the state's jurisdiction is based on the territorial principle.¹⁰⁵ On the other hand, if a state chooses to regulate the conduct of persons outside of its territory, it needs to have a legally recognized connection with these persons, or, in other words, a base for jurisdiction.¹⁰⁶ For example, the principle of nationality can enable a state to regulate the conduct of its nationals extra-territorially.¹⁰⁷ Although there is no hierarchy between the various bases for jurisdiction,¹⁰⁸ the principle of 'non-intervention in the territorial jurisdiction of other States'¹⁰⁹ has the practical effect of giving priority to the competence of a state in relation to all persons and activities within its territory over the competence of any other state proceeding from a different base for jurisdiction.¹¹⁰ Thus, in order to establish to whom the Protocol is applicable, it is necessary to start by determining the legal status of Antarctica, that is to answer the question of whether Antarctica or parts of it qualify as the territory of one or more States. By extension, if such States exist, we will discuss their ability to exercise territorial jurisdiction in Antarctica in order to apply the provisions of the Protocol to all persons and activities within their hypothetical Antarctic territory.

A. The Legal Status of Antarctica

The legal status of a space in international law is generally categorised in a binary fashion: either a given space is subjected to the territorial sovereignty of a state and therefore qualifies as that state's territory or territorial sea, or a space is not subjected to the territorial sovereignty of a state and can be a *res nullius*, a *res communis*, or can have a legal status of its own.¹¹¹ Although almost entirely covered in ice, Antarctica is a continent and can thus in theory be the territory of a state.¹¹² However, there is no consensus in the international community as to the legal status of Antarctica. Instead, the Antarctic Treaty provides for an arrangement that clarifies the legal status of the continent in the relations between the parties, as well as prevents it from becoming a source of tensions among them. The following part provides an overview

¹⁰² Vicuña, 'The Protocol on Environmental Protection to the Antarctic Treaty: Questions of Effectiveness', 7 *Georgetown International Environmental Law Review* (1994) 1, at 8.

¹⁰³ Crawford, *supra* note 23, at 440.

¹⁰⁴ Daillier, Forteau and A. Pellet, *supra* note 97, at 532; Crawford, *supra* note 23, at 191.

¹⁰⁵ Crawford, *supra* note 23, at 440.

¹⁰⁶ *Idem.*; Bastmeijer, *supra* note 53, at 105.

¹⁰⁷ Crawford, *supra* note 23, at 444.

¹⁰⁸ *Ibid.*, at 461.

¹⁰⁹ *Ibid.*, at 469.

¹¹⁰ Daillier, Forteau and A. Pellet, *supra* note 97, at 532; Watts, *supra* note 7, at 167.

¹¹¹ Crawford, *supra* note 23, at 191.

¹¹² Watts, *supra* note 7, at 118.

of that arrangement, which is necessary to understand how the Protocol is applied and enforced in Antarctica.

The arrangement that addresses the legal status of Antarctica is contained in Article IV of the Antarctic Treaty. In order to explain the implications of Article IV, the political conjuncture that led to the conclusion of the Antarctic Treaty in 1959 needs to be examined first. This conjuncture was largely influenced by a divergence in views between States on the legal status of Antarctica. In the late 1940s, seven States were claiming territory in Antarctica: The United Kingdom, New Zealand, Australia, France, Norway, Chile, and Argentina. Commonly referred to as the ‘claimant States’, they considered parts of Antarctica as their own national territory.¹¹³ At the same time, the United States and the Soviet Union had an ambivalent position regarding the legal status of Antarctica. While neither of the Cold War superpowers recognized the territorial claims made by the claimant States,¹¹⁴ they both asserted that they had a basis to make a claim, possibly on the whole continent.¹¹⁵ Finally, other States, referred to as the ‘non-claimant States’, did not recognize the territorial claims made to Antarctica,¹¹⁶ and considered Antarctica as not being subjected to the territorial sovereignty of any state. Thus, in the period preceding the conclusion of the Antarctic Treaty, three groups of States – the claimant States, the States asserting a basis for a claim, and the non-claimant States – held divergent views on the legal status of Antarctica.

These divergent views became a growing source of tension in the 1950s. While the claimant States mutually recognized some of their claims, others were disputed. In particular, the French claim was entirely comprised in the territory claimed by Australia. Similarly, the claims of Argentina, Chile and the United Kingdom almost completely overlapped. In 1952, this territorial dispute led to an Anglo-Argentine incident¹¹⁷ and in 1955, the United Kingdom seized the International Court of Justice in an attempt to settle its disagreement with Argentina and Chile. However, neither of these States accepted the Court’s jurisdiction.¹¹⁸ More generally, the Cold War strategic concerns of the claimant States, as well as those of the United States and Soviet Union, exacerbated the political instability resulting from the territorial claims in Antarctica.¹¹⁹ For example, Australia intensified its presence in its claimed territory because it feared that the Soviet Union might be able launch missiles from the continent.¹²⁰ Until 1950, the United States attempted to de-escalate the situation by proposing a moratorium on the territorial claims, but no consensus could be reached with the claimant States.¹²¹ Accordingly, the territorial claims in Antarctica, together with the divergent positions of several States in regard to those claims, were a key component of the political conjuncture in Antarctica that preceded the negotiations of the Antarctic Treaty.

The Antarctic Treaty was signed in 1959 by the seven claimant States, together with Belgium, Japan, the Soviet Union, South Africa and the United States. In the context discussed above, the Antarctic Treaty was conceived as an instrument to defuse the international tensions related to the claims of territorial sovereignty in Antarctica.¹²² The main goals of the Treaty are

¹¹³ Watts, *supra* note 7, at 118-119.

¹¹⁴ Dodds, ‘Antarctic Geopolitics’, in K. Dodds, A. Hemmings and P. Roberts (eds), *Handbook on the Politics of Antarctica* (Cheltenham, Edward Elgar Publishing: 2017) 199, at 203.

¹¹⁵ Watts, *supra* note 7, at 120.

¹¹⁶ *Idem*.

¹¹⁷ Beck, ‘Britain and Antarctica: Keeping the Economic Dimension in Its Place’, in J. Fisher, E. G. H. Pedaliu, R. Smith (eds), *The Foreign Office, Commerce and British Foreign Policy in the Twentieth Century* (London, Palgrave Macmillan UK: 2016) 323, at 330.

¹¹⁸ Addison-Agyei and Vöneky, ‘Antarctica’, in R. Wolfrum (dir.), *Max Planck Encyclopedia of International Law* (Oxford, Oxford University Press: 2015), at 8.

¹¹⁹ Dodds, *supra* note 114, at 201-203.

¹²⁰ *Ibid.*, at 203.

¹²¹ Addison-Agyei and Vöneky, *supra* note 118, at 10; Joyner, *supra* note 67, at 54.

¹²² Addison-Agyei and Vöneky, *supra* note 118, at 10.

to ensure that Antarctica is used for peaceful purposes only,¹²³ and to guarantee the freedom of scientific research.¹²⁴ In order to be able to achieve these goals, the parties negotiated an arrangement that allowed them to manage their disagreements on the legal status of Antarctica. Nevertheless, this arrangement neither suppressed the territorial claims, neither validated the latter. In fact, both positions were taken into account, while a mechanism to overcome the difficulties related to the divergence in views between the parties was provided. The following developments examine this arrangement and presents its implications for the legal status of Antarctica.

This arrangement is found in Article IV of the Antarctic Treaty. The first paragraph of that article protects the different positions of the States parties in respect of the legal status of Antarctica.¹²⁵ It reads as follows:

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.

First, this paragraph protects the position of the claimant States.¹²⁶ Second, it protects the parties who assert that they have a basis for a claim.¹²⁷ In practice, these parties are the United States and the Soviet Union, whose position had been taken by Russia.¹²⁸ Third, Article IV sees to the positions of the non-claimant States as well as the claimant States that do not recognize their mutual claims.¹²⁹ Therefore, the Antarctic Treaty does not define the legal status of Antarctica and allows the States parties to keep their own views on that matter.

Article IV.2 provides for a mechanism that prevents those diverging views from becoming an issue while the Treaty is in force. Article IV.2 states: '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.' On the one hand, this paragraph, read together with Article IV.1, preserves the legal situation in Antarctica preceding the conclusion of the Treaty,¹³⁰ since no claim to Antarctica can be made or enlarged.¹³¹ On the other hand, in relation to the activities undertaken in Antarctica by the States parties after the entry in force of the Treaty, this paragraph effectively prevents these activities from becoming a source of conflict. According to Watts: 'the States concerned now have no legal *need* to adopt confrontational positions in defense of their claims to territorial interests in Antarctica'.¹³² This is the case because no actions of the States parties to the Treaty, while it is in force, can have a legal effect on the claims.¹³³ As a result, Article IV is recognized as having successfully enabled cooperation and peaceful conduct of activities in Antarctica by the States parties.¹³⁴

¹²³ Article I.1, The Antarctic Treaty.

¹²⁴ Article II, The Antarctic Treaty.

¹²⁵ Watts, *supra* note 7, at 129; Addison-Agyei and Vöneky, *supra* note 118, at 19.

¹²⁶ Article IV.1(a), The Antarctic Treaty.

¹²⁷ Article IV.1 (b), The Antarctic Treaty.

¹²⁸ Watts, *supra* note 7, at 120 and 127.

¹²⁹ *Ibid.*, at 129; Joyner, *supra* note 67, at 57.

¹³⁰ Addison-Agyei and Vöneky, *supra* note 118, at 19.

¹³¹ Article IV.2, The Antarctic Treaty.

¹³² Watts, *supra* note 7, at 135.

¹³³ Article IV.2, The Antarctic Treaty.

¹³⁴ Watts, *supra* note 7, at 125 and 135; Joyner, *supra* note 67, at 57-58.

Although the Antarctic Treaty provides a mechanism to tackle the tensions resulting from the disagreement on the legal status of Antarctica, the claimant and non-claimant States continue to actively stand by their opposing views. While the non-claimant States consider Antarctica to be a space outside of national jurisdiction and can lawfully behave in accordance with that view,¹³⁵ the claimant States regard parts of Antarctica as their national territory and, to a certain extent, act as if it were the case.¹³⁶ Notably, the claimant States enact legislation for their territories in Antarctica, and their administrations frequently claim jurisdiction on these areas.¹³⁷ Similarly, all of the claimant States support their claims through a variety of actions, such as establishing governmental agencies dedicated to these territories,¹³⁸ place naming, education and scientific activity.¹³⁹ Since the position of the claimant States is protected by Article IV.1(a), these actions are not violating the Antarctic Treaty, as long as the claimant States comply with the rest of the ATS obligations.¹⁴⁰ Thus, the approach of the legal status of Antarctica taken in the Antarctic Treaty allows the territorial interests of the claimant States to coexist with the position of the non-claimant States. As a result, the legal status of Antarctica cannot be unambiguously defined and is the subject of opposing views, which are enshrined in the Antarctic Treaty.

B. The Territorial Application of the Protocol

Article IV of the Antarctic Treaty allows the claimant States to view the areas they claim in Antarctica as their own territory. Thus, the domestic legislation adopted by most of the claimant States in order to implement the Protocol pursuant to its Article 13.1 establishes their competence over their claimed areas. For example, the Australian Antarctic Treaty (Environment Protection) Act 1980 provides that '[the] Act applies in the Territory in relation to any persons and property, including foreign persons and property',¹⁴¹ the term 'Territory' being defined as the 'the Australian Antarctic Territory'.¹⁴² Similarly, the French legislation implementing the Protocol states that '*[s]ont soumis aux dispositions du présent titre ... [l]es personnes, quelle que soit leur nationalité, qui exercent une activité dans le district de terre Adélie relevant de l'administration du territoire des terres Australes et Antarctiques françaises, ainsi que tout navire ou aéronef utilisé à cette fin*'.¹⁴³ In particular, both the Australian and the French legislations explicitly specify that their scope of application includes foreign nationals, which emphasizes their intention to assert jurisdiction on a territorial basis. Additionally, New Zealand and Norway have also asserted their competence over their claimed territories in Antarctica through the national legislations implementing the Protocol.¹⁴⁴ Thus, at first glance, it seems that four of the seven claimant States, namely Australia, France, New Zealand and Norway, have jurisdiction to apply and enforce their domestic legislation implementing the Protocol's provisions to all persons within their Antarctic territories.

¹³⁵ Article IV.1(c), The Antarctic Treaty.

¹³⁶ Vigni and Francioni, *supra* note 48, at 242; Watts, *supra* note 7, at 135.

¹³⁷ Watts, *supra* note 7, at 135.

¹³⁸ Beck, *supra* note 117, at 332.

¹³⁹ Dodds, 'Sovereignty watch: claimant states, resources, and territory in contemporary Antarctica', 47 *Polar Record* (2010) 1, at 4.

¹⁴⁰ Vigni and Francioni, *supra* note 48, at 242; Watts, *supra* note 7, at 135.

¹⁴¹ Antarctic Treaty (Environment Protection) Act 1980 (Australia) § 4(1)(a).

¹⁴² Antarctic Treaty (Environment Protection) Act 1980 (Australia) § 3.

¹⁴³ Livre VII de Code de l'environnement français, Ordonnance n° 2000-914 du 18 septembre 2000 relative à la partie Législative du code de l'environnement, art. L711-3.

¹⁴⁴ Antarctica (Environmental Protection) Act 1994 (New Zealand) § 2(a); Njåstad, 'Norway: Implementing the Protocol on Environmental Protection', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 379, at 383.

Under the Antarctic Treaty, the seven claimant States can enact domestic legislation which asserts their jurisdiction on the preexisting territorial claims. In fact, since Article IV.2 only forbids the making of new claims and the enlargement of preexisting claims, according to Crawford and Rothwell, ‘the enactment of laws for the [Australian Antarctic] Territory [or any other claimed territory] is not prohibited by the Treaty.’¹⁴⁵ However, if a claimant state took action in order to enforce such laws on the basis of territorial jurisdiction, these actions would be problematic with regard to international law.¹⁴⁶ As specified by Watts, ‘[t]he deep divisions which exist on the question of territorial sovereignty [in Antarctica] are sufficient to ensure that most attempts to exercise jurisdiction on the territorial basis would only lead to serious dispute.’¹⁴⁷ The divisions mentioned by the author refers to the fact that out of the 54 States parties to the Antarctic Treaty as of 2020, no other state than the claimant States recognizes the territorial claims,¹⁴⁸ and neither does the international community at large.¹⁴⁹ Furthermore, even certain claimant States do not mutually recognize their claims.¹⁵⁰ As a result, if a claimant state took enforcement action in Antarctica solely on the basis of territorial jurisdiction, it would be seen as an excess of jurisdiction by the non-claimant States, which can constitute an international wrong.¹⁵¹ Thus, while the arrangement on the legal status of Antarctica provided by Article IV does not bar the claimant States from declaring themselves competent in relation to their claimed territories, the application of regulations or the undertaking of enforcement action on the basis of these declarations of competence is extremely controversial among the States parties to the Antarctic Treaty and the Protocol.

The practice of the claimant States regarding the enforcement of their domestic legislation supports the view that the exercise of territorial jurisdiction in Antarctica is very difficult if not impossible. In fact, all the claimant States have adopted a policy of ‘restraint and cooperation’,¹⁵² which means that they have generally abstained from enforcing their legislations against foreign persons present within their claimed territories.¹⁵³ For example, ‘Australia has made almost no effort to enforce the laws which formally apply in the AAT [Australian Antarctic Territory] ... In particular it has made no attempt to do so as against foreign nationals, including residents of the various foreign bases within the AAT. [One of the reasons] is the sensitivity of what is described as the ‘jurisdictional issue’ within the AAT.’¹⁵⁴ In addition, France, although itself a claimant, has submitted a Working Paper on jurisdiction to the ATCM which States that ‘[t]erritorial jurisdiction could be invoked by a state if offenses were committed on a territory it claims. However, article IV of the Antarctic Treaty prohibits Parties to take any measure that would imply an exercise of their sovereignty on a territorial basis.’¹⁵⁵ This interpretation of Article IV by France strongly suggests that in spite of the jurisdictional scope of its domestic legislation implementing the Protocol,¹⁵⁶ this state does not

¹⁴⁵ Crawford and Rothwell, ‘Legal Issues Confronting Australia's Antarctica’, 13 *The Australian Year Book of International Law* (1990-1991) 53, at 79.

¹⁴⁶ Watts, *supra* note 7, at 166; Auburn, *supra* note 58, at 184-185.

¹⁴⁷ Watts, *supra* note 7, at 165.

¹⁴⁸ Vigni and Francioni, *supra* note 48, at 244.

¹⁴⁹ Scott, ‘Managing Sovereignty and Jurisdictional Disputes in the Antarctic: The Next Fifty Years’, 20 *Yearbook of International Environmental Law* (2009) 3, at 17.

¹⁵⁰ Watts, *supra* note 7, at 124.

¹⁵¹ Crawford, *supra* note 23, at 461.

¹⁵² Vicuña, ‘Port State Jurisdiction in Antarctica: A New Approach to Inspection, Control and Enforcement’, in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 45, at 47.

¹⁵³ Vigni and Francioni, *supra* note 48, at 249; Scott, *supra* note 149, at 5.

¹⁵⁴ Crawford and Rothwell, *supra* note 145, at 82.

¹⁵⁵ France, ATCM XXXV (2012) Working Paper 28, ‘Jurisdiction in Antarctica’, at 4.

¹⁵⁶ Livre VII de Code de l’environnement français, Ordonnance n° 2000-914 du 18 septembre 2000 relative à la partie Législative du code de l’environnement, art. L711-3.

enforce the Protocol's provisions on a territorial basis. Furthermore, at least two of the seven claimant States, i.e., Argentina and the United Kingdom have not made their domestic legislations implementing the Protocol applicable on a territorial basis.¹⁵⁷ Lastly, an area of Antarctica remains unclaimed, and thus no state asserts or exercises territorial jurisdiction over this area.¹⁵⁸ As a result, the provisions of the Protocol are neither applied nor enforced through the exercise of jurisdiction on a territorial basis.¹⁵⁹

The impossibility to exercise territorial jurisdiction in Antarctica implies that even if a person falls under the scope of application of the Protocol by virtue of the geographical and material criteria, it cannot be taken for granted that the Protocol's provisions are applicable to this natural or juridical person. Instead, a state bound by the Protocol will need a legally recognized base for jurisdiction other than the territorial principle in order to apply its environmental provisions to persons conducting activities in Antarctica. The purpose of the next subsection is to examine which bases for jurisdiction are recognized in Antarctica, in order to determine to whom the Protocol is applicable.

C. Alternative Bases for Jurisdiction in Antarctica

The Protocol does not contain any general provisions on the exercise of jurisdiction in Antarctica.¹⁶⁰ While Article 13.1 creates an obligation for each party to 'take appropriate measures within its competence',¹⁶¹ the scope of that competence is not specified. Article 1(e) of Annex II in like manner stipulates that permits related to flora and fauna conservation should be issued by an 'appropriate authority'.¹⁶² In the matter of area protection, the same wording is used in Article 1(a) of Annex V. However, nor the Protocol neither its annexes provide any guidance on how to determine which authority is appropriate in terms of jurisdiction.¹⁶³ In the Antarctic Treaty, the exercise of jurisdiction is not regulated comprehensively either. In relation to the scientific personnel on exchange¹⁶⁴ and the observers designated in pursuance of Article VII.1 of the Treaty, Article VIII.1 establishes that jurisdiction should be exercised on the basis of nationality. Nevertheless, Article VIII.1 also specifies that this arrangement is 'without prejudice to the respective positions of the Contracting Parties relating to jurisdiction over all other persons in Antarctica'. Thus, the Antarctic Treaty does not specify which grounds for jurisdiction are recognized in Antarctica with regard to all persons.¹⁶⁵ Instead, according to Article IX(e), the ATCM can adopt 'measures regarding questions relating to the exercise of jurisdiction in Antarctica'. As of 2020, however, the ATCM has not yet adopted any comprehensive instrument on that matter. Therefore, the specificities of the legal status of Antarctica notwithstanding, the Antarctic Treaty, the Protocol, and the instruments adopted by the ATCM do not contain any general rules on the exercise of jurisdiction in Antarctica.

¹⁵⁷ Interpretation *e contrario* of: Antarctic Act 1994 (United Kingdom) § 3(3)(a) and § 5; Disposición 87/2000 (Argentina), art. 1. In the case of the Protocol, it is not clear whether Chile declares itself to have jurisdiction on a territorial basis, since it has only promulgated the Protocol in its national law without specifying its jurisdictional scope of application. On that matter see: Vöneky, *supra* note 18, at 82.

¹⁵⁸ Watts, *supra* note 7, at 119.

¹⁵⁹ Bastmeijer, 'Implementing the Environmental Protocol Domestically: An Overview', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 287, at 287.

¹⁶⁰ Bush, 'Means and Methods of Implementation of Antarctic Environmental Regimes and National Environmental Instruments: An Exercise in Comparison', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 21, at 39.

¹⁶¹ Article 13.1, Protocol.

¹⁶² Article 1(e), Annex II, Protocol.

¹⁶³ Bastmeijer, *supra* note 53, at 120.

¹⁶⁴ Article III.1(b), The Antarctic Treaty.

¹⁶⁵ Scott, *supra* note 149, at 26; Watts, *supra* note 7, at 169; Vöneky, *supra* note 18, at 38.

Despite this absence of general provisions on jurisdiction, several key provisions of the Protocol refer to Article VII.5 of the Antarctic Treaty, which can be relevant for determining the adequate jurisdictional bases for their application.¹⁶⁶ For example, according to Article 8.2, '[e]ach Party shall ensure that the assessment procedures [EIAs] ... are applied ... [to] any activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required under Article VII (5) of the Antarctic Treaty'. In addition, analogous references are made in Articles 3.4(a) and 15.1(a) of the Protocol, as well as in Article 1.1 of Annex III. Pursuant to Article VII.5(a), the activities requiring a Party to make an advance notice are 'all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory'.¹⁶⁷ The use of the possessive determiner 'its' in this provision clearly indicates that it is focusing on the connections between the parties to the Protocol and the persons conducting activities in Antarctica. These connections appear to be related to jurisdiction, since under general international law the exercise of jurisdiction requires, *inter alia*, a 'genuine connection between the subject matter of jurisdiction and the territorial base [of a state]'.¹⁶⁸ Therefore, it can be construed that by referring to Article VII.5(a) in the key provisions of the Protocol, the Parties intended to define which connections, i.e., bases for jurisdiction are recognized as genuine for the purposes of the application of these provisions.¹⁶⁹ If such an interpretation is valid, the jurisdictional scope of application of Articles 3, 8 and 15 of the Protocol and of Annex III would include the nationals of the States parties to the Protocol, the vessels flagged with the States parties, the persons who depart to Antarctica from the ports of the States parties, and the persons who organize their Antarctic activities within the territory of a state party.¹⁷⁰

This interpretation of the reference to Article VII.5 and by extension to its subparagraph (a) in the Protocol is questionable. On the one hand, the context of this reference in Articles 3.4(a), 8.2 and 15.1(a) of the Protocol and of Article 1.1 of Annex III does not support the view that Article VII.5(a) has implications for the exercise of jurisdiction. In fact, this reference is made in a sentence which is exclusively concerned with the types of activities that should be covered. The items listed before the reference to Article VII.5 are 'scientific research programmes', 'tourism' and 'all other governmental and non-governmental activities' and thus have no relation to jurisdiction. This context suggests that the legal effects of the reference to Article VII.5 are probably limited to the material scope of the Protocol's provisions.¹⁷¹ On the other hand, according to Bastmeijer, because the objective of the Protocol is to comprehensively protect the Antarctic environment, the Parties have a duty to apply the Protocol's provisions to the widest possible range of persons and activities.¹⁷² In this context, Bastmeijer shows that theoretically, in order to apply the Protocol's provisions to most of the persons conducting activities in Antarctica, the Parties need to exercise their jurisdiction at least on the four grounds listed in Article VII.5(a).¹⁷³ Consequently, the objective of the Protocol suggests that the references made to Article VII.5 define the jurisdictional scope of several of its key provisions, such as Article 3 containing the environmental principles and Article 8 establishing the EIA procedure. As a result, the context of the reference to Article VII.5 and the objective of the Protocol result in two contradictory interpretations of Articles 3.4(a), 8.2 and 15.1(a) of the Protocol and of Article 1.1 of Annex III.

¹⁶⁶ Bastmeijer, *supra* note 53, at 109-113; Molenaar, *supra* note 10, at 283.

¹⁶⁷ Article VII.5(a), The Antarctic Treaty.

¹⁶⁸ Crawford, *supra* note 23, at 440.

¹⁶⁹ Bastmeijer, *supra* note 53, at 112.

¹⁷⁰ Molenaar, *supra* note 10, at 283.

¹⁷¹ See section IV of this paper.

¹⁷² Bastmeijer, *supra* note 53, at 115-116.

¹⁷³ Bastmeijer, *supra* note 53, at 115-116 and 118-119.

The practice of the parties reflects this lack of clarity regarding the interpretation of the references to Article VII.5(a). Certain States parties have implemented the Protocol's provisions referring to Article VII.5(a) as applicable on the basis of the four grounds for jurisdiction listed in that article.¹⁷⁴ Nevertheless, according to Molenaar, '[t]he practice of the States in implementing the Madrid Protocol ... shows that many Parties do not exercise jurisdiction in all four capacities'.¹⁷⁵ Therefore, it appears that the jurisdictional scope of the Protocol largely depends on the domestic legislations of the States parties.¹⁷⁶ This influence of the States parties on the jurisdictional scope of the Protocol is exemplified by the 2014 report of the ATCM Intersessional Contact Group (ICG) on the Exercise of Jurisdiction in the Antarctic Treaty Area. This report States that 'to date the ATCM has not adopted any measure dealing with the exercise of jurisdiction in Antarctica A majority of Parties have agreed to adopt a case-by-case approach ..., thereby taking into account the unique legal status of Antarctica and its specific characteristics. It appears that this is an agreed procedure for the majority of Parties.'¹⁷⁷ The report makes it clear that there are no explicit rules which determine the jurisdictional scope of the Protocol or, in other words, that determine to whom each state party should apply its provisions. Therefore, taking into account this lack of consensus among the parties regarding the interpretation of the reference to Article VII.5,¹⁷⁸ this article cannot be considered as determining the jurisdictional scope of the Protocol.

On the whole, there is no explicit agreement among the parties to the Protocol regarding the exercise of jurisdiction in Antarctica.¹⁷⁹ Accordingly, the determination of the jurisdictional scope of the Protocol requires an examination of the practices of the States in its application and enforcement. The final parts of this paper focus on these practices in order to specify which bases for jurisdiction are used by the parties to the Protocol. As a result, it will be possible to determine which persons and activities fall outside of the Protocol's jurisdictional scope.

1. Jurisdiction Based on Nationality in Antarctica

The exercise of jurisdiction based on nationality is broadly accepted among the States parties to the Antarctic Treaty and the Protocol,¹⁸⁰ including the claimant States.¹⁸¹ In particular, it appears that most of the States parties have made their domestic legislation implementing the Protocol applicable to their nationals present in Antarctica.¹⁸² Similarly, most of the domestic legislations are also applicable to the juridical persons incorporated in the territory of these parties. Moreover, several cases of enforcement of the Protocol's provisions against incompliant expeditions indicate that the exercise of nationality-based jurisdiction is accepted by the parties to the Protocol.¹⁸³ In all of these cases, the States parties whose nationals breach the Protocol's provisions consider themselves competent to undertake legal or administrative

¹⁷⁴ Richardson, 'Regulating Tourism in the Antarctic: Issues of Environment and Jurisdiction', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 71, at 89.

¹⁷⁵ Molenaar, *supra* note 8, at 283.

¹⁷⁶ Bush, *supra* note 160, at 40; Vöneky, *supra* note 16, at 78-91; Bastmeijer, *supra* note 159, at 297-298.

¹⁷⁷ France, ATCM XXXVII (2014) Working Paper 37, 'Final Report of the Intersessional Contact Group on the Exercise of Jurisdiction in the Antarctic Treaty Area', at 2.

¹⁷⁸ Bush, *supra* note 160, at 40; Bastmeijer, *supra* note 159, at 289.

¹⁷⁹ Vicuña, *supra* note 152, at 46-47; Scott, *supra* note 149, at 26.

¹⁸⁰ Auburn, *supra* note 58, at 185; Scott, *supra* note 149, at 26; Vicuña, *supra* note 152, at 48.

¹⁸¹ Vigni and Francioni, *supra* note 48, at 248.

¹⁸² Richardson, *supra* note 174, at 89; Bastmeijer, *supra* note 159, at 297.

¹⁸³ Norway, ATCM XXXIV (2011) Information Paper 75, 'The legal aspects of the Berserk Expedition', at 3-5; France, ATCM XLI (2018) Information Paper 14, 'Notification of the Presence of an Unauthorized Sailing Vessel in the Antarctic, with a Non-Indigenous Species on Board', at 3-4; Spain, ATCM XLI (2018) Information Paper 41, 'Expedition by the *Windrose of Amsterdam* Yacht, December 2017', at 2; Netherlands and New Zealand, ATCM XLII (2019) Information Paper 26, 'Proactive Management of Antarctic Tourism: Time for a Fresh Approach', at 44-45.

proceedings against the participants of the non-compliant expeditions. At the same time, there is no information suggesting that any state party has protested these occurrences of the exercise of nationality-based jurisdiction. Accordingly, the provisions of the Protocol are generally applicable to the nationals of the States parties, as well as to the juridical persons incorporated in these States.

Although jurisdiction based on nationality can be exercised in Antarctica, it is not sufficient to apply the Protocol's provisions to all persons in Antarctica. As specified by Watts, 'nationality-based jurisdiction [cannot] provide comprehensively for the application of the Antarctic regime to all persons in Antarctica, since it will not cover those having the nationality of a non-Antarctic Treaty state who might be in Antarctica as, say, tourists'.¹⁸⁴ Therefore, the application of the Protocol on the basis of nationality results in a systematic omission of the persons who have the nationality of States not parties to the Protocol, i.e. third States from its scope. Since there are currently forty-one States parties to the Protocol, this is, at least in theory, a significant shortcoming of the application of the Protocol through nationality-based jurisdiction.

2. Flag state Jurisdiction in Antarctica

Flag state jurisdiction refers to the competence of a state over the vessels flying its flag.¹⁸⁵ This type of competence is to a great extent accepted by the parties to the Protocol.¹⁸⁶ First, multiple parties have implemented the Protocol so that it applies to the vessels flying their flag, and thus to the expeditions using those vessels.¹⁸⁷ Furthermore, there are cases of non-compliance where the flag state, which was a party to the Protocol, recognized itself as competent to enforce its domestic regulations implementing the Protocol against the offenders.¹⁸⁸ Lastly, a document submitted by the United Kingdom to the ATCM attests of the acceptability of flag state jurisdiction in Antarctica for the purposes of the application of the Protocol. This document states that '[t]he UK regularly receives applications for the operation of British-registered vessels in Antarctica ... As flag-state for the vessel, issuing such permits is relatively straightforward'.¹⁸⁹ As a result, each party to the Protocol can be competent with regard to the expeditions sailing to Antarctica aboard of vessels of which it is the flag state.

In spite of this general acceptance, the practical effect of flag state jurisdiction on the scope of the Protocol is difficult to assess. On the one hand, not all the States parties to the Protocol have made their legislation implementing the Protocol applicable on the basis of flag state jurisdiction.¹⁹⁰ On the other hand, flag state jurisdiction is not suitable to apply the Protocol's provisions to vessels flagged with third States. In practice, a considerable number of vessels sailing to Antarctica are flagged with third States.¹⁹¹ This decreases the number of situations where States parties could exercise jurisdiction as flag States. Furthermore, one of the States parties, even though it considers itself competent in relation to the operators of vessels flying

¹⁸⁴ Watts, *supra* note 7, at 166.

¹⁸⁵ Crawford, *supra* note 23, at 448-449.

¹⁸⁶ Vicuña, *supra* note 152, at 48-49.

¹⁸⁷ For example: Disposición 87/2000 (Argentina), art. 1(b); Antarctic Treaty (Environment Protection) Act 1980 (Australia) § 4(1)(b)(iv) and (v); Livre VII de Code de l'environnement français, Ordonnance n° 2000-914 du 18 septembre 2000 relative à la partie Législative du code de l'environnement (France), art. L711-3(b); Antarctic Act 1994 (United Kingdom) § 5.

¹⁸⁸ Argentina and others, ATCM XXXII (2009) Information Paper 112, 'Report of the Deception Island Antarctic Specially Managed Area Management Group', at 11; France, ATCM XL (2017) Information Paper 124, 'Action taken following unauthorized presence of a French yacht in the Treaty Area During the 2015/2016 Season', at 3.

¹⁸⁹ United Kingdom, ATCM XXXVIII (2015) Information Paper 58, 'Special Working Group on Competent Authorities issues - Examples and Issues from the United Kingdom', at 4.

¹⁹⁰ Molenaar, *supra* note 10, at 289.

¹⁹¹ Vöneky, *supra* note 18, at 60; Richardson, *supra* note 174, at 82.

its flag and sailing to Antarctica, has expressed doubts on whether it could exercise jurisdiction over such operators if they are third state nationals.¹⁹² Therefore, the exercise of flag state jurisdiction does not provide for the systematic application of the Protocol to all relevant persons undertaking activities in Antarctica and especially does not offer the possibility to do so with regard to third state vessels and expeditions.¹⁹³

3. *The Application of the Protocol to Third States*

In order to apply the Protocol, the parties primarily exercise their jurisdiction on the basis of nationality or as flag States. As a result, the nationals and vessels flagged with third States fall outside the Protocol's jurisdictional scope. In this context, port state jurisdiction has emerged as a potential solution to fill this gap in the Protocol's scope of application. Port state jurisdiction refers to the competence of a state party to a treaty to apply this treaty to all vessels within its ports, even if the flag state of these vessels is not bound by the treaty.¹⁹⁴ If port state jurisdiction was accepted among the States parties to the Protocol, they could apply its provisions to third state vessels on their way to or from Antarctica and lying in their ports. Furthermore, in practice, port state jurisdiction could have a substantial impact on the application of the Protocol, since all the main ports of departure to Antarctica, i.e., gateway ports, are located in States bound by the Protocol.¹⁹⁵ Thus, port state jurisdiction appears to be a solution to the systematic inapplicability of the Protocol to third state vessels and expeditions to Antarctica.

Port state jurisdiction has often been advocated for in the context of the Protocol. For example, an Information Paper submitted to the ATCM by the Antarctic and Southern Ocean Coalition (ASOC) asserts that 'a port state regime would have to be established to ensure ... that activities occurring in the Antarctic Treaty Area, which will be based on a vessel, are carried out in conformance with the specific environmental rules of the Madrid Protocol, and its annexes ..., including the EIA provisions of Annex I'.¹⁹⁶ Likewise, Vicuña argues that 'port state jurisdiction ... would help close the jurisdictional loophole existing in the ATS'.¹⁹⁷ More specifically, after taking into consideration several conventions adopted in the framework of the International Maritime Organization and binding upon most of the parties to the Protocol, this author concludes that 'the general framework of international law is broad enough in respect to port state jurisdiction to allow major developments under the ATS'.¹⁹⁸ Accordingly, the author does not only support the exercise of port state jurisdiction because it would increase compliance with the Protocol, but also as a result of the alleged recognition of this ground for jurisdiction in international law and among the States parties to the Protocol. Therefore, it is suggested that the exercise of port state jurisdiction in the context of the Protocol's application is not only suitable to expand its scope, but also admissible under international law.

Although port state jurisdiction is, at least to a certain extent, accepted in specific fields of international law,¹⁹⁹ it is not generally recognized or used for the purpose of the application of the Protocol's provisions.²⁰⁰ On the one hand, multiple parties have shown their skepticism as

¹⁹² United Kingdom, ATCM XXXVIII (2015) Information Paper 58, 'Special Working Group on Competent Authorities issues - Examples and Issues from the United Kingdom', at 4.

¹⁹³ Richardson, *supra* note 174, at 83; Vicuña, *supra* note 152, at 46-47.

¹⁹⁴ Vöneky, *supra* note 18, at 69.

¹⁹⁵ Molenaar, *supra* note 10, at 253.

¹⁹⁶ Antarctic and Southern Ocean Coalition (ASOC), ATCM XXV (2002) Information Paper 63, 'Port State Jurisdiction: An Appropriate International Law Mechanism to Regulate Vessels Engaged in Antarctic Tourism', at 3.

¹⁹⁷ Vicuña, *supra* note 152, at 67.

¹⁹⁸ Vicuña, *supra* note 152, at 61.

¹⁹⁹ Vöneky, *supra* note 18, at 69.

²⁰⁰ *Ibid.*, at 118.

regards the use of port state jurisdiction. According to Bush, at the XXI ATCM, '[s]ome States, including Argentina and Germany, doubted "the legality of asserting jurisdiction over future acts of foreign expeditions outside territorial waters"'.²⁰¹ By referring to 'foreign expeditions', this quote shows that certain parties to the Protocol are reluctant to regulate the conduct of third State nationals through port state jurisdiction. On the other hand, the current legislative practice of the parties shows that there is no consensus on port state jurisdiction. Notably, among the five States where the gateway ports are located, that is Argentina, Australia, Brazil, Chile and New Zealand,²⁰² only the latter has made its legislation implementing the Protocol explicitly applicable on the basis of port state jurisdiction.²⁰³ Thus, this approach to the exercise of jurisdiction in the matter of the Protocol's application is accepted only by a minority of States parties.

In addition to this very limited acceptance of port state jurisdiction among the parties to the Protocol, even if a party chooses to enforce its provisions on that basis against foreign vessels, it might encounter difficulties in doing so. For example, in the case of a German yacht which sailed to Antarctica from New Zealand while failing to complete the EIA procedure, '[the New Zealand] officials concluded that it was not currently feasible to pursue a prosecution, due to the fact that the individuals in question are not in New Zealand. Extradition was not considered to be a viable or appropriate option'.²⁰⁴ In that case, since the skipper of the yacht was German, Germany, which is bound by the Protocol, was able to take certain enforcement measures.²⁰⁵ Nevertheless, if the vessel in question was flagged with a third State, it is likely that no measures would have been taken at all. This case demonstrates that even if a few parties currently exercise jurisdiction as port States, they cannot guarantee the application of the Protocol to vessels flagged with third States.

Certain States, such as Argentina²⁰⁶ and the United Kingdom,²⁰⁷ have made their domestic legislation applicable to the expeditions to Antarctica organized in their territory. Nevertheless, it does not seem that this type of competence can provide for the application of the Protocol to third state nationals. First, while many parties do not subject Antarctic expeditions to the Protocol's provisions solely on the basis of their place of organization, it is difficult to determine what is the specific meaning of the terms 'organized in'. Second, we have not found any documentation or cases related to the impact of this type of jurisdiction on third party nationals. Finally, even though certain States have made their domestic legislation implementing the Protocol applicable to expeditions organized in their territory, if these expeditions are organized by third state nationals, chances are that the state enforcing the Protocol would encounter difficulties similar to those described with regard to port state jurisdiction.

Lastly, the non-applicability of the Protocol to third States is premised on the general principle of international law stipulating that treaties do not create rights or obligations for third parties.²⁰⁸ Notwithstanding this general principle, international law admits exceptions to this rule. In particular, a treaty can establish an objective regime, thereby creating rights and

²⁰¹ Bush, *supra* note 160, at 40.

²⁰² Molenaar, *supra* note 10, at 253.

²⁰³ Antarctica (Environmental Protection) Act 1994 (New Zealand), § 2(d)(ii).

²⁰⁴ New Zealand and Germany, ATCM XXXVIII (2015) Information Paper 49, 'The Unauthorized Voyage of the SV Infinity (2014): Next Steps', at 3.

²⁰⁵ *Ibid.*, at 4.

²⁰⁶ Disposición 87/2000 (Argentina), art. 1(e).

²⁰⁷ Antarctic Act 1994 (United Kingdom), § 3(2)(a) and (b).

²⁰⁸ Article 34, VCLT.

obligations applicable *erga omnes*.²⁰⁹ On the one hand, in order to qualify as an objective regime, a treaty should regulate a specific matter or region, and this in the interest of the international community.²¹⁰ The Protocol seems to meet both of these requirements,²¹¹ since it focuses on the environmental governance for Antarctica, which is presumably in the best interest of the international community. On the other hand, the emergence of an objective regime requires an intention on behalf of the States parties to regulate the conduct of third States, as well as the universal acceptance of the regime. Many authors argue that the Protocol, and more generally the ATS legal framework, do not satisfy these conditions.²¹² In the past, third States have criticized the role of the ATS in the governance of Antarctica,²¹³ and at present it cannot be assumed that they have accepted this governance.²¹⁴ In addition, according to Molenaar, the State parties to the Protocol ‘have so far strictly observed the *pacta tertiis* principle’²¹⁵ and thus have not demonstrated their intention to create an objective regime. Thus, the Protocol does not currently derogate from the general rules of international law regarding the legal effects of treaties on third States.

As a result, the Protocol does not establish an objective regime and there are currently no grounds for jurisdiction accepted or used by the parties to the Protocol enabling its systematic application to third State nationals or vessels. Consequently, whereas the nationals of the States parties to the Protocol and the vessels flagged with these States are covered by the Protocol, third State nationals and vessels fall outside the jurisdictional scope of application of the Protocol.

VI. Conclusion

As stated in the introduction, from both a political and an environmental perspective, the provisions of the Protocol should apply to all activities and persons in Antarctica. In this context, the objective of this paper was to determine the Protocol’s legal scope of application. First, its geographical scope has been examined. We have concluded that the environmental protection provided by the Protocol generally covered the entire area south of 60° South, i.e., the Antarctic Treaty area, whereas the domestic legislation of certain parties made limited exceptions to this principle. Nevertheless, these exceptions do not appear to hinder the effectiveness of the Protocol. Second, it has been shown that all governmental and non-governmental activities undertaken in Antarctica, excluding fishing and sealing which are regulated by the CCAMLR and the CCAS, fall under the material scope of the Protocol. Finally, we have looked into the jurisdictional scope of the Protocol. It has been established that the exercise of territorial jurisdiction in Antarctica is not possible. Although alternative bases for jurisdiction do exist, the natural and juridical persons who have the nationality of third States, as well as the vessels flagged with third States, cannot be systematically subjected to the provisions of the Protocol. As of 2020, forty-one States are parties to the Protocol, which is less than a quarter of the current United Nations’ membership. As a result, it can be concluded that the non-applicability of the Protocol to third State persons and vessels is a significant gap in its scope of application and has the potential to reduce its effectiveness.

²⁰⁹ Charney, ‘The Antarctic System and Customary International Law’, in F. Francioni and T. Scovazzi (eds), *International Law for Antarctica* (The Hague, Kluwer Law International: 1996) 51, at 62-63; Vöneky, *supra* note 18, at 61; Watts, *supra* note 7, at 295-296.

²¹⁰ Vöneky, *supra* note 18, at 61; Watts, *supra* note 7, at 296.

²¹¹ Watts, *supra* note 7, at 296-297.

²¹² Charney, *supra* note 209, at 65; Molenaar, *supra* note 10, at 278-279; Watts, *supra* note 7, at 296-297.

²¹³ Watts, *supra* note 7, at 298.

²¹⁴ Vöneky, *supra* note 18, at 61-62.

²¹⁵ Molenaar, *supra* note 10, at 279.

VII. Bibliography

A. International Legal Instruments

The Antarctic Treaty 1959, 71 UNTS 402.

Protocol on Environmental Protection to the Antarctic Treaty 1991, A-5778 UNTS 2941.

Convention for the Conservation of Antarctic Seals (CCAS) 1972, 175 UNTS 1080.

Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) 1980, 47 UNTS 1329.

Vienna Convention on the Law of Treaties (VCLT) 1969, 331 UNTS 1155.

United Nations Convention on the Law of the Sea (UNCLOS) 1982, 3 UNTS 1833.

B. Legal Instruments Adopted by the Antarctic Treaty Consultative Meeting (ATCM)

ATCM III (1964) Recommendation III-VIII, 'Agreed Measures for the Conservation of Antarctic Fauna and Flora'.

ATCM XXXVIII (2015) Measure 9, 'Management Plan for Antarctic Specially Protected Area No. 152 Western Bransfield Strait'.

C. Antarctic Treaty Consultative Meeting (ATCM) and Antarctic Treaty Special Consultative Meeting (SATCM) Documents

SATCM XI (1991), 'Final Act of The Eleventh Antarctic Treaty Special Consultative Meeting'.

Antarctic and Southern Ocean Coalition (ASOC), ATCM XXV (2002) Information Paper 63, 'Port State Jurisdiction: An Appropriate International Law Mechanism to Regulate Vessels Engaged in Antarctic Tourism'.

Argentina and others, ATCM XXXII (2009) Information Paper 112, 'Report of the Deception Island Antarctic Specially Managed Area Management Group'.

France, ATCM XXXV (2012) Working Paper 28, 'Jurisdiction in Antarctica'.

France, ATCM XXXVII (2014) Working Paper 37, 'Final Report of the Intersessional Contact Group on the Exercise of Jurisdiction in the Antarctic Treaty Area'.

France, ATCM XL (2017) Information Paper 124, 'Action taken following unauthorized presence of a French yacht in the Treaty Area During the 2015/2016 Season'.

France, ATCM XLI (2018) Information Paper 14, 'Notification of the Presence of an Unauthorized Sailing Vessel in the Antarctic, with a Non-Indigenous Species on Board'.

The Netherlands, ATCM XXXIX (2016) Background Paper 7, 'Measures under the Protocol on Environmental Protection to the Antarctic Treaty: Implementing Legislation of the Kingdom of the Netherlands'.

The Netherlands and New Zealand, ATCM XLII (2019) Information Paper 26, 'Proactive Management of Antarctic Tourism: Time for a Fresh Approach'.

New Zealand and Germany, ATCM XXXVIII (2015) Information Paper 49, 'The Unauthorized Voyage of the SV Infinity (2014): Next Steps'.

Norway, ATCM XXXIV (2011) Information Paper 75, 'The legal aspects of the Berserk Expedition'.

Spain, ATCM XLI (2018) Information Paper 41, ‘Expedition by the *Windrose of Amsterdam* Yacht, December 2017’.

United Kingdom, ATCM XXXVIII (2015) Information Paper 58, ‘Special Working Group on Competent Authorities issues - Examples and Issues from the United Kingdom’.

D. Domestic Legislation of States Parties to the Protocol

Argentina, Disposición 87/2000, Boletín Oficial N°29.456 1ª. Sección. Lunes 7 de agosto de 2000.

Australia, Antarctic Treaty (Environment Protection) Act 1980.

France, Livre VII de Code de l’environnement français, Ordonnance n° 2000-914 du 18 septembre 2000 relative à la partie Législative du code de l’environnement ; Journal Officiel de la République française 21 Septembre 2000.

Germany, Gesetz zur Ausführung des Umweltschutzprotokolls vom 4. Oktober 1991 zum Antarktisvertrag vom 22. September 1994, BGBl. I 2593.

United States, 16 United States Code, § 2402(2).

Japan, Law relating to Protection of the Environment in Antarctica, Law No. 61, 1997.

New Zealand, Antarctica (Environmental Protection) Act 1994 (New Zealand).

Norway, Forskrift om miljøvern og sikkerhet i Antarktis, 2014.

Russian Federation, Федеральный Закон о регулировании деятельности российских граждан и российских юридических лиц в Антарктике 2012.

United Kingdom, Antarctic Act 1994.

E. Books

Auburn, F. M., *Antarctic Law and Politics* (C. Hurst & Company, London: 1982).

Bastmeijer, K., *The Antarctic Environmental Protocol and its domestic legal implementation* (Dordrecht, Kluwer Law International: 2003).

Crawford, J., *Brownlie's Principles of Public International Law* (9th ed., Oxford, Oxford University Press: 2019).

Daillier, P., M. Forteau and A. Pellet, *Droit international public* (8th ed., Paris, Lextenso Editions: 2009).

Joyner, C. C., *Governing the Frozen Commons* (Columbia, University of South Carolina Press: 1998).

Sahurie, E. J., *The International Law of Antarctica* (New Haven, New Haven Press: 1992).

Vöneky, S., *Analysis and Enhancement of the Legal Framework - The Need for Action in the Light of Current Developments of Antarctic Tourism* (Dessau-Rosslau, Umweltbundesamt: 2016).

Watts, A., *International Law and the Antarctic Treaty System* (Cambridge, Grotius Publications: 1992).

F. Chapters in Books and Journal Articles

Addison-Agyei and Vöneky, ‘Antarctica’, in R. Wolfrum (dir.), *Max Planck Encyclopedia of International Law* (Oxford, Oxford University Press: 2015).

- Bastmeijer, 'Implementing the Environmental Protocol Domestically: An Overview', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 287.
- Beck, 'Britain and Antarctica: Keeping the Economic Dimension in Its Place', in J. Fisher, E. G. H. Pedaliu, R. Smith (eds), *The Foreign Office, Commerce and British Foreign Policy in the Twentieth Century* (London, Palgrave Macmillan UK: 2016) 323.
- Bush, 'Australian Implementation of the Environmental Protocol', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 309.
- Bush, 'Means and Methods of Implementation of Antarctic Environmental Regimes and National Environmental Instruments: An Exercise in Comparison', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 21.
- Charney, 'The Antarctic System and Customary International Law', in F. Francioni and T. Scovazzi (eds), *International Law for Antarctica* (The Hague, Kluwer Law International: 1996) 51.
- Crawford and Rothwell, 'Legal Issues Confronting Australia's Antarctica', 13 *The Australian Year Book of International Law* (1990-1991) 53.
- Dodds, 'Antarctic Geopolitics', in K. Dodds, A. Hemmings and P. Roberts (eds), *Handbook on the Politics of Antarctica* (Cheltenham, Edward Elgar Publishing: 2017) 199.
- Dodds, 'Sovereignty watch: claimant states, resources, and territory in contemporary Antarctica', 47 *Polar Record* (2010) 1.
- Duyck, 'Polar Environmental Governance and Nonstate Actors', in R. Pincus and S. Ali (eds), *Diplomacy on Ice: Energy and the Environment in the Arctic and Antarctic* (New Haven, Yale University Press: 2015) 13.
- Francioni and Vigni, 'Territorial Claims and Coastal States', in K. Dodds, A. Hemmings and P. Roberts (eds), *Handbook on the Politics of Antarctica* (Cheltenham, Edward Elgar Publishing: 2017) 241.
- Molenaar, 'Sea-Borne Tourism in Antarctica: Avenues for Further Intergovernmental Regulation', 20 *International Journal of Marine and Coastal Law* (2005) 247.
- Njåstad, 'Norway: Implementing the Protocol on Environmental Protection', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 379.
- Redgwell, 'Environmental Protection in Antarctica: The 1991 Protocol', 43 *The International and Comparative Law Quarterly* (1994) 599.
- Richardson, 'Regulating Tourism in the Antarctic: Issues of Environment and Jurisdiction', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 71.
- Scott, 'Managing Sovereignty and Jurisdictional Disputes in the Antarctic: The Next Fifty Years', 20 *Yearbook of International Environmental Law* (2009) 3.
- Scully, 'The Eleventh Antarctic Treaty Special Consultative Meeting', 11 *International Challenges* (1991) 77, at 84, cited in Lyons, 'Environmental impact assessment in Antarctica under the Protocol on Environmental Protection', 29 *Polar Record* (1993) 111.

Tin *et al.*, 'Impacts of local human activities on the Antarctic environment', 21 *Antarctic Science* (2009) 3.

Vicuña, 'The Protocol on Environmental Protection to the Antarctic Treaty: Questions of Effectiveness', 7 *Georgetown International Environmental Law Review* (1994) 1.

Vicuña, 'Port State Jurisdiction in Antarctica: A New Approach to Inspection, Control and Enforcement', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 45.

Vidas, 'Entry into Force of the Environmental Protocol and Implementation Issues: An Overview', in D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht, Springer: 2000) 1.