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Antarctica - no man's land, all man's problem

Environmental aspects of Antarctic tourism

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Summary

Antarctica is a continent full of natural resources, still almost untouched of the human hand. Geostrategic implications and potential economic wealth make the Continent relevant for researcher as well as profit-seeking industries.

In 1908, United Kingdom made claims of a sector of Antarctica. After that, several countries followed, leading the eyes of the world to this remote place. To calm down the political situation and protect Antarctica from negative impacts from the hands of human, the Antarctic Treaty was signed in 1959. This action is the start of the Continent's history as preserved for peaceful purposes in the name of science.

Following the establishment of several research stations in Antarctica, information and delineations was spread around the world and shipping companies started bringing “ordinary” men to the South Pole, tourists.

The Antarctica Treaty has grown into an international agreement between 50 states and includes several regulations protecting the environment, initially not addressed in the legal regime. The regime has evolved outside the system of the United Nations and though many countries have signed the treaty, only 28 countries hold full memberships. It is difficult to define the legal implications of the Antarctic Treaty System. Proposals from third-world countries aim at defining Antarctica as common heritage of mankind, with equitable sharing and a common management system. The current system is clearly not one of common heritage and, it is not likely that the Consultative Parties will obey this request. Nevertheless, changes are inevitable to keep the situation stable and avoid the risk of a non-member State seeking to make profit from the natural resources. These changes include more accommodating criteria for securing full membership, accountability to a global body and clarification of the legal status of Antarctica.

Apart from the legal status of the regime, one can discuss the question of jurisdiction from an environmental and protectionist point of view. In the case of adjudicative jurisdiction, flag-state control would include as many tourist ships as possible. When it comes to the question of enforcement, port-states have the best possibilities to inspect and clear ships for continuous travelling to Antarctica.

Human impact of tourist ships is versatile, and even the environmental effects include several problem areas. The ships introduce non-native species and bring pollution from sewage and waste. If a ship would breakdown, search and rescue teams are far away and the impact on the environment can be devastating and irreversible.

The possible approaches include both shipping regulations, limitations on tourism and inspections from the member states. The precautionary principle should be the base for every decision and the cumulative impact of every tourism activity should be taken into consideration. Through joint application for self-regulation and integration of actors in the rule-making process, the objectives of the Antarctic Treaty can reach out to concerned actors.

Sammanfattning

På den antarktiska kontinenten finns värdefulla och i princip oexploaterade naturtillgångar. Dess geostrategiska betydelse och potentiella rikedomar gör Antarktis attraktivt för både forskare och företag.

Storbritannien gjorde som första land suveräna anspråk på en del av Antarktis år 1908. Flera andra länder följde exemplet, vilket resulterade i ett ökat internationellt intresse för kontinenten. För att förhindra politiska konsekvenser av den osäkra juridiska situationen och bevara Antarktis signerade de sju staterna som hade gjort territoriella anspråk Antarktisfördraget.

Traktaten blev startskottet för byggandet av nationella forskningsstationer på Antarktis, vilket skapade uppmärksamhet världen över och snart följde turisterna efter.

Idag har 50 stater anslutit sig till fördraget och olika tillägg till den ursprungliga traktaten innehåller ett starkt miljöskydd, något som saknades tidigare. Trots den stora anslutningen har regimen kring Antarktisfördraget utvecklas helt utanför FN och endast 28 stater är fullvärdiga medlemmar. Regimen är svår att definiera juridiskt och flertalet länder i tredje världen vill definiera fördraget enligt principen om mänsklighetens gemensamma arv, vilket skulle innebära att kontinentens skyddas från exploatering och att eventuell resursfördelning sker genom ett gemensamt ledningssystem. Det står klart att det nuvarande systemet inte utgör en del av mänsklighetens gemensamma arv och möjligheten att driva igenom denna förändring inom fördraget är minimal. För att undvika att utomstående stater tar saken i egna händer är det viktigt att regimen kring Antarktis utvecklas. Nödvändiga förändringar innebär att möjligheten att bli fullvärdig medlem öppnas upp och att staterna kan ställas till svars inför ett gemensamt internationellt organ. Det är också nödvändigt att den juridiska situationen på Antarktis tydliggörs.

Mänsklig påverkan från turistfartyg kan vara mångfacetterad och inom området miljöpåverkan för skeppen med sig främmande arter, avloppsvatten och sopor. Med ett ökat antal större fartyg i regionen finns alltid risken för en olycka, vilket skulle kunna resultera i katastrofala skador på havsmiljön.

För att undvika negativ miljöpåverkan från den Antarktiska turistindustrin bör diverse sjöfartsregler införas, tillsammans med en större begränsning av turismen och förbättrade inspektioner och kontroller. Det är också viktigt att försiktighetsprincipen och turismens samlade påverkan beaktas i alla beslut. Genom att Antarktisfördragets medlemmar och turistindustrins företrädare IAATO samarbetar kring regelverken ökar chanserna att de välbehövliga förhållningsreglerna tillämpas brett bland aktörerna.

Abbreviations

ASOC	Antarctic and Southern Ocean Coalition
IAATO	International Association of Antarctic Tour Operators
IHO	International Hydrographic Organization
AEPS	Arctic Environment Protection
ATS	Antarctic Treaty System
CCAS	Convention for the Conservation of Antarctic Seals
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
SCAR	Scientific Committee on Antarctic Research
ATCM	Antarctic Treaty Consultative Meetings
CHM	Common heritage of mankind
IMO	International Maritime Organization
IGY	International Geophysical Year
IEE	Initial Environmental Evaluation
CEE	Comprehensive Environmental Evaluation
EIA	Environmental Impact Assessments
MARPOL	International Convention for the Prevention of Pollution from Ships
MEPC	Marine Environment Protection Committee
AIS	Automated Identification System
COMNAP	The Council of Managers of National Antarctic Programs

1. No man's land - all man's problem.

Environmental aspects of Antarctic tourism

1.1 Introduction

The Antarctic continent lies southernmost of the seven continents and is the fifth largest in size.

Covering an area of some 14.2 million square kilometres, Antarctica occupies one-tenth of the earth's land surface. It is quite natural that tourists want to explore this distant and unique area, and that tour operators around the world increase their trips there.

The commons regime with free access has been described as a “tragedy of the commons”.¹ Today, it is necessary to pool resources and efforts in order to develop an effective management system which will ensure orderly activity and an optimum level of resource consumption from the commons pool. Failure to do so will result in chaotic situations where overuse of a finite resource will soon leave the commons pool in a depleted condition, leaving both those who overused the resource, and those who never used it, with nothing at all.

The Antarctic area in the South Ocean attracts attention from scientists and tourists due to its unique environment and impact on the global environment. The melting ice, due to climate change, affects countries far, far away. The immense Antarctic ice cap reflects up to 90% of the sun's energy, a fundamental influence on the world's climate by regulating the average temperature of the earth.²

1.2 Purpose and disposition

The purpose of this essay is to analyse the tourist situation in Antarctica from an environmental point of view. The focus of the essay is the impact of shipping.

The essay begins with a background where Antarctica and its environment is shortly introduced (chapter 2). A small comparison is also made with the legal situation in the Arctic, to show the differences between these two areas. After that, the essay is divided into two parts. Chapter 3 covers the judicial issues and legal implications of Antarctica, reviewing the Antarctic Treaty System, the original

¹ Joyner, Chorpa, The Antarctic Legal Regime, p 160

² Harris, Antarctica and Global Climatic Change, pp 10-11

sovereignty claims and different issues of sovereignty and jurisdiction.

The second part of the essay is focusing challenges and possible approaches to Antarctic tourism, reviewing the status today, relevant regulations and methods of jurisdiction and enforcement. Further, the essay continues with an analysis of possible approaches suggested by international organizations and legal writers. Finally, the method of implementation is discussed.

1.3 Method and material

The method used for this essay is legal dogmatic method, with the use of international conventions and the works of legal writers.

The books used for this essay are written in the 80s and 90s. In absence of newer alternatives, they are useful and relevant when looking at legal reasoning concerning jurisdiction and sovereignty. They also serve the purpose of describing the environmental situation in Antarctica. To balance the older sources, facts are compared with statements from NGO's and reports from different treaty parties. Because of the ever changing political climate in Antarctica, the essay is in many parts based on internet sources. Today, most organisations and departments have an online library, where the recent updates, statistics and reports can be accessed by everyone interested. The Antarctic Treaty Meetings are organised annually and, depending on the subject of the discussions, member parties produce extensive reports on different aspects. This is complemented with reports from NGO's such as the Antarctic and Southern Ocean Coalition (ASOC), the International Association of Antarctica Tour Operators (IAATO) and the International Hydrographic Organization (IHO).

1.4 Delimitation

The essay will not in detail explain the national claims by the seven states Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom. The focus of the essay is the impact from ships, which excludes the impact of resource exploitation, land based pollution, the exchange of ballast water and climate change. It is also important to notice that there have been no review of other ships impact on the environment. Neither have tourism's possible impact on science been investigated.

2. Background

The Antarctic consists of the continent of Antarctica and the surrounding Southern Ocean. Since the first voyages in the 16th century, the Southern Ocean has been notorious for high winds, rough waters and dangers associated with floating ice. As a result of this, the Antarctic region remained long ignored and little explored. Serious application of international law to the Southern Ocean in general and Antarctica in particular has come only in modern times, largely in response to international demands for natural resources, the advent of new technologies, and perceived threats to the natural environment.³

Antarctica is the coldest, windiest and driest continent on Earth, and covers approximately 14 million km². This area is doubled during the winter, when the sea ice extends almost 1000 km from the coast. 98% of Antarctica is covered by ice and snow and the continent contains 90% of all the ice in the world. There is little vegetation with only two flowering species and 45 species of birds nest in the area.⁴ On Antarctica, there is no permanent population, industry, or commercial enterprise; the only people on the continent are the 1500-2000 scientists who are stationed there for purposes of scientific investigation.⁵

Antarctica has caught the attention of the international community for its geostrategic implications and potential economic wealth. States have become increasingly aware of the finiteness of available natural resources. Regarding economic resources, the greatest potential seems to be couched in the living marine resources found in Antarctic seas, especially in krill fisheries. Krill has the potential to furnish a superabundant new source of protein to meet the world's burgeoning demand for food. There is also large quantities of seals, whales, fin fish, squid and penguins. Among those minerals discovered are iron, copper, lead, molybdenum, manganese, uranium, and chromium. No petroleum or natural gas has been located beneath the mile-thick ice mantle on the continent or offshore on Antarctica's continental shelf.⁶

In an impending era of water scarcity, the fact that Antarctica contains 90 percent of the world's surface fresh water in its cap gives focus to the area in contemporary world politics. The extensive, multifaceted impacts which the region exerts on the earth's climatic, atmospheric and oceanic conditions also makes Antarctica an important issue on the international agenda.⁷ The continent is also important from a scientific point of view. Because it has been less affected by human activity than any other continent, its near-pristine environment provides baselines for measuring pollution in populated

3 Joyner, *Antarctica and the Law of the Sea*, p 10

4 <http://www.npolar.no/en/>

5 Joyner, Chopra, *The Antarctic Legal Regime*, p 2

6 *Ibid*, p 1

7 Joyner, *Antarctica and the Law of the Sea*, p 31

areas of world.⁸

On the opposite side of the world lies the Arctic region, surrounding the North Pole. Almost all land space in the Arctic is under the territorial sovereignty of one of the eight Arctic states: Canada, the Russian Federation, the United States, and the five Nordic States. On the initiative of Finland, the eight Arctic states were able to conclude an informal arrangement, the AEPS (Arctic Environment Protection Strategy) document, which paved the way for international efforts for the protection of the Arctic environment in 1991, a development that culminated in the establishment of the Arctic Council in 1996. The idea held by the majority of commentators that the AEPS document is somehow binding and somehow soft is best treated within the basic principle of international law, *pacta sunt servanda*.⁹

⁸ Guruswamy, *International Environmental Law*, p 301

⁹ Koivurova, *Environmental Impact Assessment in the Arctic*, pp 35-36

3. Jurisdiction

The legal history of Antarctica was introduced when the United Kingdom made claims of a sector of the continent in the beginning of the 20th century. In 1961, the Antarctic Treaty entered into force and since then the legal system has grown. The question is, what kind of legal regime is the Antarctic Treaty System? How can the Antarctic resources be used and by whom?

3.1 The Antarctic Treaty System

The Antarctic Treaty was drawn up in Washington in 1959, and entered into force in 1961. The Treaty designates Antarctica exclusively for peaceful purposes and prohibits any measures of a “military nature”.

The Treaty governs the area south of 60° South Latitude. Six principal components comprise this Antarctic Treaty System (ATS):

1. The Antarctic Treaty, which today remains the centrepiece of the arrangement
2. The 1972 Convention for the Conservation of Antarctic Seals (CCAS)
3. The 1980 Convention on the Conservation of Antarctic Living Marine Resources (CCAMLR)
4. The Agreed Measures for the Conservation of Antarctic Flora and Fauna
5. The evolving Antarctic Minerals Regime
6. The Scientific Committee on Antarctic Research (SCAR).

The essence of the Treaty's purpose is well captured in its preamble, which in relevant parts provide:

...it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord;...the establishment of a firm foundation on the basis of freedom of scientific investigation in Antarctica as applied during the International Geophysical Year accords with the interests of science and the progress of all mankind; and.... a treaty ensuring the use of Antarctica for peaceful purposes only and the continuance of international harmony in Antarctica will further the purposes and principles embodied in the Charter of the United Nations.

Towards fulfilment of these ambitions, the Treaty sets forth several cardinal provisions. Article 1 provides for the peaceful use of Antarctica, with prohibitions placed on any activities of military nature. Article II ensures the freedom of scientific investigation and international co-operations. Article IV guarantees the non-renunciation of prior claims, or right to claims, and simultaneously mandates prohibition against any new claims or assertion of any national activities during the Treaty's duration as a basis for substantiating past or future claims. Article VI establishes the Treaty's jurisdictional

applicability to all areas south of 60° South Latitude, without prejudice to the high seas, which are to remain under international law. Article VII guarantees open, on-site inspection of any State's Antarctic operations by any other State party to the Treaty.

During regular meetings of the Parties of the treaty, Antarctic Treaty Consultative Meetings (ATCMs), recommendations are adopted.¹⁰

The Antarctica Treaty has been ratified by 50 states, and it is open for accession by any state that is member of the United Nations, or by any other State that may be invited to accede to the treaty with the consent of all the Contracting Parties, according to article XIII.

Not all Contracting Parties to the Antarctic Treaty have a vote during the ATCMs. A state that has become a party to the treaty by accession is only entitled to participate in an ATCM “during such time as that Contracting Party demonstrates its interest in Antarctica by conducting substantial scientific research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition”.¹¹ Of the 50 seven contracting states, there are currently 28 Consultative Parties, entitled to participate in the ATCMs. This exclusivity makes the Antarctica Treaty unrepresentative of the entire international community and is by some nations considered more like a “club” than an internationally sanctioned authority. Still, as the United Nations has not acted to co-opt or replace the present treaty system, it remains the sole governing regime for Antarctica.¹²

In 1991, the “Protocol on environmental protection to the Antarctic Treaty” was signed. This Protocol concerns environmental protection of the Antarctic and designates it a natural reserve devoted to peace and science. Despite this apparent change in the territorial status of the Antarctic, the legal positions remains the same as in the Antarctic Treaty above.¹³ Together with three other conventions, this constitutes the Antarctica Treaty System.¹⁴ Since the entry into force in 1998, the Contracting Parties commit themselves to the comprehensive protection of the Antarctic Environment and a legal framework for assessing and regulating human activities has now been established. In order to prevent marine pollution, Annex IV provides regulations concerning discharge of substances from ships in the Antarctic Area. The provisions of the Annex apply to all ships entitled to fly the flag of a Contracting Party, as well as ships engaged in or supporting Antarctic operations of a Contracting Party.

10 Bastmeijer, *The Antarctic Environmental Protocol and its domestic legal implementation*, p 10

11 See article IX, paragraph 2, of the Antarctic Treaty.

12 Guruswamy, *International Environmental Law*, p 310

13 Dixon, McCorquodale, *Cases and materials on international law*, pp 258-260

14 The conventions are: the “Convention for the Conservation of Antarctic Seals”, the “Convention on the Conservation of Antarctic Marine Living Resources” and the “Convention for the Regulation of Antarctic Mineral Resource Activities”

3.2 The original claims

The seven claimant states of Antarctica, United Kingdom, New Zealand, France, Australia, Norway, Argentina and Chile, base their legitimacy of their pie-shaped sectors on various legal grounds. Even though these claims exist, they are not recognized by any other states in the international community.¹⁵ The sovereignty claims of the seven states and the neglect of these claims by the international community made the legal situation in Antarctica complicated and unstable. The claims by Argentina, Chile and the United Kingdom overlap in substantial part, and this situation conceivably could give rise to jurisdictional conflicts in the future¹⁶ To calm the situation down, both between the claiming states and the rest of the international community, the Antarctica Treaty was established.

The aim of the Antarctica Treaty, stated in its preamble, is to reserve the continent¹⁷ for peaceful purposes only and to guarantee non-politicized freedom of scientific investigations. Within the treaty framework, “international accommodation” has been fostered between the claimants and the remaining eleven states by article IV. This provision in effect “freezes” the issue by suspending termination of the legal validity of any national jurisdictional claims to Antarctica.

21 one of the 28 Consultative Parties, as well as the rest of the world international community, do not recognize the claims of seven claimant States. Furthermore, it remains unclear whether Antarctica is even susceptible to claim, or, because of physical conditions, it is unclaimable. The claims are legally untested under the protection of the Antarctic Treaty. Another point of concern is the unclaimed sector - an area over which no state has yet asserted sovereignty. Is this sector still open to claims?

3.3 Legal framework for the Antarctica Treaty regime

Article VI of the Antarctica Treaty has kept the continent free of territorial conflicts for more than half a century. On the other hand, one of the highest forms of state sovereignty is the exercise of jurisdiction, and jurisdiction remains one of the unsolved problems of the Antarctic system. The treaty mentions neither tourists nor private explorers and does not apply to nationals of countries outside the treaty system.¹⁸ Concerning the exercise of coastal State jurisdiction, the Consultative Parties accept limitation on the powers that might belong to them individually, in favour of the joint exercise of jurisdiction for the same purposes. Through the criterion of harmonization, both claimant and non-claimant States have reached agreement to accept these joint regimes. This approach does not, however, solve the principal problem of residual rights. The claimant countries maintain that everything not included in the common regime should come under the jurisdiction of the coastal State, whereas those states that do not recognize claims argue in favour of applying freedom of the high seas.

15 Joyner, Antarctica and the Law of the Sea, p 41

16 Joyner, Chopra, The Antarctic Legal Regime, pp 3-6

17 The jurisdictional applicability of the Antarctica Treaty is established to all areas south of the 60° South Latitude, without prejudice to the high seas, which are to remain under international law, see article VI

18 Chopra, Joyner, The Antarctica Legal Regime, pp 69-71

In any case, the policy of restraint has prevented this problem from arising thus far in Antarctica.¹⁹ Under these circumstances, the first question becomes, can the Antarctic continent be claimed? First of all, one must ascertain if Antarctica is *res nullius* or *res communis*. A common approach is to prove that Antarctica is *res nullius* because a major part of it is land and thus to designate it as *terra nullius* territory.²⁰

A large part of Antarctica lies above the sea level and can easily be identified as *terra*. However, one-third of the Antarctic continental areas is nothing but frozen sea. It does not appear to be appropriate to classify the whole Antarctic continent as a *terra nullius* territory. How should we then consider the two-thirds of the Antarctic that is land? The concept of *res nullius* implies a thing which has no owner. The first possessor of such a thing becomes the owner. A thing should be of such nature that it can be seized or enclosed to complete the process of possession. A claimant State has to prove that it can occupy, control, and regulate the larger area to which it intends to claim sovereignty. Grotius stated that one cannot hold a limitless thing. Therefore, one can occupy only a corporeal thing, a thing with physical limits. Not all things have this kind of limit. A capability to control and regulate the entire area in question must be demonstrated. Since the very nature of the Antarctic continent is such that it is practically impossible to control or occupy any large area, it would be wrong to classify the land part of the continent in the category of things *nullius*. Even after decades of the claims controversy, realistically speaking, no State can claim today that it can occupy an area larger than a few polar stations. At most, some States can afford to overfly their claimed territory for short durations, but they can not control or regulate all activities within it.²¹

If no state realistically can possess Antarctica, it falls under the category of *res communis*. Other example of things cannot be possessed are oceans and outer space, where it is open access for everyone and those who make use of it receives the benefit. According to Chopra and Joyner, articles II and XXIX of the Antarctica Treaty the regime in Antarctica is a common regime, and in some ways similar to the regime of *res communis*.²² However, by denying free universal access (free access to resources only to the Consultative Parties) to the pool of commons, this regime loses the character of a *communis* regime. Chopra and Joyner continues with arguing that the Claimant States are favoured by the confusion over the *terra nullius* concept.

The principal sovereign-oriented difficulty, which has surfaced since 1984, involves the so-called problem of external accommodation. There is a need to reconcile the treaty regime with the aspirations of certain Third World countries who would like to see Antarctica be declared legally part of the “common heritage of mankind” (CHM).²³ Is it possible to make such a declaration of the present

19 Joyner, Chopra, *The Antarctic Legal Regime*, pp 120-122

20 Joyner, Chopra, *The Antarctic Legal Regime*, pp 165-167

21 Ibid

22 Ibid, p 168

23 Ibid, pp 5-6

system?

Examinations of the CHM system show that the Antarctica Treaty regime differs from a CHM regime in two requirements.²⁴ Firstly, CHM requires that there should be a common management system. This element is the basis of the CHM doctrine, as it provides the framework through a common management system that a truly international regime can be developed. Both the Treaty and the resource regimes developed under the ATS provide for common management. However, this conception of common management is far from the universal participation required under a CHM regime. Although the Treaty and its attendant regimes can join by acceding to the appropriate treaty, mere accession does not guarantee States Consultative Party status. For a State to acquire such a status, it must demonstrate through substantial activity its interest in Antarctica. Secondly, there is no room for equitable sharing, except for minimal contribution to exploitation, economic benefits shall be shared by the world community on an equitable basis. Equitable sharing of economic benefits is in sharp contrast to the “free access” regimes. A commons regime based on equitable sharing does not permit appropriation of benefits by the exploiter. Antarctic resource regimes are in sharp conflict with this objective of the CHM regime. Thus, the Antarctica Treaty System is based on participation of a select group of States, and resource exploitation on the basis of free access, while the CHM regime is structured on non-appropriation of resources and equitable sharing of proceeds.

Some countries have suggested that the unclaimed sector of Antarctica be declared *res publica*. This regime allows State or institutional ownership for the purposes of management and control, while permitting free access to the “commons regime”. This regime is envisaged in situations where individual ownership is not practical due to the physical nature of the thing. If the unclaimed sector would fall under the *res publica* regime, it would be open to all for use, but at the same time, the ownership would remain with the state in order to assure orderly usage.²⁵ Antarctica is a unique entity and therefore needs special treatment in structuring a new regime to legitimate it.²⁶ A good illustration of this situation is international waterways or rivers. This regime guarantees that when a *res* (thing) is placed in the *publica* category, it shall be open to all for use, but at the same time the ownership of the thing must remain with the State in order to assure orderly usage.²⁷

To conclude, it is very difficult to find a precise legal framework for the Antarctic situation. It appears that of the classical conceptual regimes, *res nullius* is the least applicable, *res communis* resembles it in part, and *res publica* seems to be closer to the current stat of the ATS. The major condition not satisfied for a *res publica* regime is denial of free universal access for use and resource exploitation.²⁸

24 Chopra, Joyner, *The Antarctica Legal Regime*, pp 160-161

25 Ibid, pp 164-168

26 Ibid, p 179

27 Ibid, p 167-169

28 Ibid, p 167-169

Can and should the current system be developed or even replaced? Instead of resolving the problem of the legal status of Antarctica, the ATS has attempted to accord an undefined legal status to the Antarctica Treaty area for resource exploitation. According Joyner and Chopra, a majority of states favour a new international regime under the United Nations auspices, a regime which would be responsible to the world community, assure universal participation and guarantee a share in the “common”. In the meantime they concede that so far the ATS has worked well in several areas, for example environmental protection, demilitarization, denuclearization and scientific research. The system should not be replaced until there is a reasonable alternative. The Antarctic Treaty has proved that it can grow with time.²⁹

Though the Antarctic Treaty System has proven useful and necessary, Joyner and Chopra state that some changes are inevitable: more accommodating Criteria for securing full membership under the Treaty; accountability of the Treaty system to a global body; reformation of the role of the consultative parties; clarification of the legal status of Antarctica; safeguards to protect the environment; and the promotion of resource sharing.³⁰ History shows that the consensus between the members of the treaty system have prevented Antarctica from unnecessary damage and human impact but nevertheless, non-parties can be adversely affected by this consensus, and alternative approaches to sovereignty over the Antarctica can be made impossible.³¹

Treaty parties defend the existing system, pointing at the political reality of conflicting claims and non-recognition of claims. Replacing the existing Antarctic Treaty System could be a territorial set-back, resulting in a revival of the resting claims. This could have devastating effects on the continent, if the question of sovereignty and jurisdiction would steel focus from purpose of peacekeeping and environmental protection.³² The current system is expanding and negotiated outside the United Nations, is it even possible to develop a new global institution?

29 Joyner, Chopra, *The Antarctic Legal Regime*, pp 176-177

30 Ibid, pp 177-179

31 Dixon, McCorquodale, *Cases and materials on international law*, pp 258-260

32 Joyner, Chopra, *The Antarctic Legal Regime*, pp 163-163

4. Antarctic tourism - challenges

This part of the essay focuses on the issues of modern Antarctic tourism. The chapter includes a review of the current situation and applicable regulations.

4.1 Tourism today

The Antarctic tourism industry is generally considered to have begun in late 1950s when Chile and Argentina took more than 500 fare-paying passengers to the South Shetland Islands aboard a naval transportation ship. The concept of 'expedition cruising', coupled with education as a major theme, began when Lars-Eric Lindblad led the first traveller's expedition to Antarctica in 1966. Lindblad once said, "You can't protect what you don't know". He believed that by providing a first-hand experience to tourists you would educate them to the ecological sensitivity of the Antarctic environment and promote a greater understanding of the earth's resources and the important role of Antarctica in the global environment.³³

In recent years, these expeditions largely are conducted aboard some 40 vessels, each carrying from six to 500 passengers. The ships sail primarily to the Antarctic Peninsula region. Voyages to Antarctica also have included larger passenger vessels (carrying from 500 to 3000 guests), which conduct 'cruise-by' or sightseeing cruises only, without landing. Yacht travel to Antarctica is also popular, with nearly all itineraries in the Antarctica Peninsula, and using Ushuaia as a port. There are statistics showing that the visits are concentrated at less than 35 sites. Less than 10 sites receive around 10 000 visitors each season, and Port Lockroy - where the British Antarctic Survey is conducting a monitoring program - receives over 10 000 visitors annually. According to current information, Antarctica is likely to remain a specialized and relatively expensive niche destination offered by a limited number of experienced operators focusing on educational voyages to areas of natural and wilderness value. The wildlife-rich coastline, snow covered mountains, glaciated landscapes, and extreme weather of this physically remote and magical part of the world lend this region remarkable wilderness and aesthetic value for the adventurous traveller.³⁴

The overall trends include overall scale and rate of growth, growing diversity and increased growth of activity based³⁵ tourism over attraction based³⁶. The sizes and capacities of the ships are also growing³⁷

During the 2010-11 Antarctic tourism season, the overall number of visitors decreased 8.3% to 33,824 from the previous season (36,875 visitors in 2009-10). These numbers reflect only those travelling with

33 <http://iaato.org/tourism-overview>

34 <http://iaato.org/tourism-overview>

35 E.g. diving, kayaking, extended walks

36 E.g. visits to penguin rookeries and historic sites

37 ASOC, Antarctic Tourism – What Next? Key Issues to Address with Binding Rules, ATCM XXXIV

IAATO member companies.³⁸ For example, the number of yachts visiting in and around Port Lockroy have increased from 15 during the season of 1996/1997 to 57 in the season of 2010/2011.³⁹

The total number of passengers and clients carried by IAATO operators during the 2011-12 decreased to 26,519. This is a decline of 21.6 percent from the previous 2010-11 Antarctic tourism season (33,824). While worldwide economic factors were responsible for the declines across all forms of Antarctic tourism in 2008-09, 2009-10 and 2010-11, the sharp decrease during the 2011-12 season was due to changes in International Maritime Organization (IMO) MARPOL Annex I, which came into effect August 1, 2011. These changes banned the use and carriage of Heavy Fuel Oil (HFO) in the Antarctic Treaty area and had a significant impact on the number of overall tourists to Antarctica as it reduced the number of voyages by IAATO cruise-only operators, who use vessels carrying more than 500 passengers.⁴⁰

In 2011-12 there were in total 23 commercial tour vessels carried 13-200 passengers; one vessel carried 201-500 passengers; plus four cruise-only vessels who each carried more than 500 passengers.⁴¹

Thirteen yachts carrying 12 or fewer tourists visited the Antarctic Treaty Area by IAATO member yacht operators during the 2011-12 season.⁴²

4,872 passengers travelled on five voyages aboard 500-plus-passenger vessels operating “cruise-only” voyages, making no landings in the Antarctic Treaty Area. This is a marked decrease from the 14,373 passengers and 10 cruise-only voyages during the previous 2010-11 season, and as mentioned above, is due to ban on the use and carriage of HFO coming into force.⁴³

Estimates for the 2012-13 are based on information provided to IAATO by its operators as of May 16, 2012, and indicate a total of 34,950 tourists. This brings the total number of tourists to Antarctica back in the vicinity of the 2010-2011 season total.⁴⁴

4.2 Regulations

4.2.1 The Antarctica treaty

The Antarctic Treaty was signed in Washington on December 1 1959 by the twelve countries whose scientists had been active in and around Antarctica during the International Geophysical Year (IGY) of

38 IAATO, Report of the International Association of Antarctica Tour Operators 2010-11, ATCM XXXIV

39 United Kingdom, Data collection and reporting on yachting activity in Antarctica in 2010/11, ATCM XXXIV

40 IAATO, Overview of Antarctic Tourism 2011-12 Season and Preliminary Estimates for 201-13 Season, ACTM XXXV

41 IAATO, Report of the International Association of Antarctica Tour Operators 2011-12, ATCM XXXIV

42 Ibid

43 Ibid

44 IAATO, Overview of Antarctic Tourism 2011-12 Season and Preliminary Estimates for 201-13 Season, ACTM XXXV

1957-58. It entered into force in 1961 and has since been acceded to by many other nations. The total number of Parties to the Treaty is now 50.

The Antarctic Treaty Consultative Meeting meet annually and consists of: the consultative parties, non-consultative parties, observers - currently the Scientific Committee on Antarctic Research, the Commission for the Conservation of Antarctic Marine Living Resources and the Council of Managers of National Antarctic Programs, invited experts such as the Antarctic and Southern Ocean Coalition and the International Association of Antarctic Tour Operators. Measures, decisions and resolutions, which are adopted at the ATCM by consensus, give effect to the principles of the Antarctic Treaty and the Environment Protocol and provide regulations and guidelines for the management of the Antarctic Treaty area and the work of the ATCM. Decisions, which address internal organizational matters of the ATCM, and Resolutions, which are hortatory texts, are not legally binding on Contracting Parties. In contrast, Measures are legally binding on the Consultative Parties once they have been approved by all Consultative Parties. Only the Consultative Parties take part in the decision-making. Other participants in the meeting, however, may contribute to the discussions.

4.2.2 The Protocol on Environmental Protection to the Antarctic Treaty

The Protocol was signed in Madrid on October 4, 1991 and entered into force in 1998. It designates Antarctica as a “natural reserve, devoted to peace and science” (art 2). Until 2048 the Protocol can only be modified by unanimous agreement of all Consultative Parties to the Antarctic Treaty. The protocol has six Annexes. Annexes I to IV were adopted in 1991 together with the Protocol and entered into force in 1998. Annex V on Area Protection and Management was adopted separately by the 16th ATCM in 1991 and entered into force in 2002. Annex VI on Liability Arising from Environmental Emergencies was adopted by the 28th ATCM in Stockholm in 2005 and will enter into force once approved by all Consultative Parties.⁴⁵ The Annex creates responsibilities for state and non-state operators regarding response action to any form of an environmental emergency. In case of environmental emergencies, operators will be required to take prompt and effective response action; if they don't they will be liable for its cost. Annex VI has been criticised for not being comprehensive enough and lacking important points and regulations that would make liability and accountability stricter, such as a higher insurance to cover liability costs that could deter both states and operators from causing damage and harm in the first place.⁴⁶

The Protocol sets forth the process for the evaluation of environmental impact of every activity carried out within the Antarctic Treaty area. Article 8 makes a triple distinction among activities having less, equal or more than a minor or transitory impact. With respect to the evaluation of cumulative impacts, article 3 mandates this kind of impacts to be fully taken into consideration, including both the activity individually considered, and in connection with other undertakings carried out in the Antarctic Treaty

⁴⁵ <http://www.ats.aq/e/ep.htm>

⁴⁶ <http://www.asoc.org/issues-and-advocacy/antarctic-environmental-protection/liability-for-environmental-damage>

area. In turn, article 6 calls on parties to consult with each other regarding their activities in Antarctica, so as to avoid cumulative impacts flowing from the excessive territorial concentration of stations and other facilities. Annex I further develops the Protocol's three-fold scheme and defines the suitable instrument for environmental assessment in each case, as follows:

- Activities having less than a minor or transitory impact. Article 1 of the Annex requires parties to conduct a preliminary assessment in order to identify activities having an impact less than minor or transitory, which are exempted from evaluation. As a result, cumulative impacts need not be appraised should the proposed activity fall into this category.
- Activities having a minor or transitory impact. In this case, a rather simple statement called Initial Environmental Evaluation (IEE) applies, which basically requires a description of the proposed activity, consideration of any impacts (cumulative included), and consideration of alternative activities.
- Activities having more than a minor or transitory impact. If from the IEE appears that the impact of the proposed activity exceeds the level of minor or transitory, a more stringent process called Comprehensive Environmental Evaluation (CEE) is required. Cumulative impacts need to be taken into account, and additional requirements imposed on this category such as the mandatory consideration of no-action alternative,²³⁹ definition of a baseline for predicted changes to be compared with, identification of uncertainties, and description of mitigation measures including monitoring programs.

Before the Environmental Protocol, there were no real restrictions on human activity on the continent, and even scientific research stations often disposed of waste improperly. The main purpose of the protocol is to ensure that environmental protection is a fundamental consideration in the planning and conduct of activities in the region. The protocol bans all aspects of mineral resource exploration and exploitation in Antarctica, includes provisions for prior Environmental Impact Assessments (EIA) for all activities, sets standards for the prevention of pollution on land and at sea, creates a mechanism to set aside protected areas and establishes a Committee for Environmental Protection.⁴⁷

ASOC has criticised the Environmental Protocol and its usage. According to them, EIAs are not being produced for all activities, or at the required level. When EIAs are being produced, an operator may consider its completion as sufficient to allow an activity to proceed, neglecting the potential risks that the EIA is showing. They mean that the CEE process should be strengthened and EIAs should be better applied to tourism.⁴⁸

47 ASOC, Review of the Implementation of the Madrid Protocol: Inspections by Parties, ATCM XXXV

48 ASOC, The Antarctic Environmental Protocol 1991-2011, ATCM XXXIV

4.2.3 The International Convention for the Prevention of Pollution from Ships

The International Convention for the Prevention of Pollution from Ships (MARPOL) defines certain sea areas as “special areas” in which, for technical reasons relating to their oceanographical and ecological condition and to their sea traffic, the adoption of special mandatory methods for the prevention of sea pollution is required. Under the Convention, these special areas are provided with a higher level of protection than other areas of the sea. On the initiative of the ATCM the in IMO in 1990 designated the Antarctic Treaty area a special area. The Antarctica area constitutes a special area under annexes I Regulations for the Prevention of Pollution by Oil, II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk and V Prevention of Pollution by Garbage from Ships.⁴⁹

The latest MARPOL amendment regarding Antarctica entered into force in August 2011. The new regulation is added to MARPOL Annex 1 with a new chapter 9 on Special requirements for the use or carriage of oils in the Antarctic area. The regulation aims at protecting the Antarctic from pollution by heavy-grade oils. Regulation 43 prohibits both the carriage in bulk as cargo and the carriage and use as fuel. An exception is envisaged for vessels engaged in securing the safety of ships or in a search-and-rescue operation.⁵⁰

4.2.4 Tourist guidelines

Apart from the Environmental Protocol, the main ATCM regulations and guidelines for tourists and expedition organizers are contained in the Tourism Guidelines attached to Recommendation XVIII-1(1994). The Guidelines of 1994 were supplemented in 2004 with guidelines on contingency planning, insurance and other matters; Measure 4 (2004), which sets out requirements in these areas, is currently being approved by the Consultative Parties.⁵¹

Example of resolutions include:

1. Parties are recommended to discourage or decline to authorize tourist vessels carrying more than 500 passengers from making any landings in Antarctica.⁵²
2. Parties are recommended to encourage or require tour operators to coordinate with each other such that not more than one tourist vessel is at a landing site at any one time.⁵³
3. Decisions taken on this matter must be based on a “pragmatic and cautious approach”; that scientific research is granted priority over tourism; that States should adopt and apply regulations creating a tourism management framework; and that operators must cooperate to coordinate their activities and share best practices.⁵⁴

49 http://www.imo.org/blast/mainframe.asp?topic_id=760

50 <http://www.imo.org/mediacentre/pressbriefings/pages/44-marpol-amends.aspx>

51 http://www.ats.aq/e/ats_other_tourism.htm

52 Resolution 4 (2007) Resolution 4: Ship-based tourism in the Antarctic Treaty Area

53 Ibid

54 Resolution 7 (2009)

4. Recommending that any visit to a station by a tourist or non-scientist must obtain prior authorization issued by the managing State; access to ASPAs is subject to a permit and that visitor access to sites of interest for tourism within an ASPA must comply with the regulations established in its Management Plan.⁵⁵

In 2009 ATCM XXXII adopted Resolution 7 (2009) General Principles of Antarctic Tourism, which paves the way for addressing tourism from a more strategic perspective. This is complemented by self-regulation by IAATO, which represents a vast segment of the industry, but which is not binding or comprehensive.⁵⁶

Examples of General Principles for Antarctic Tourism:

- All tourism activities undertaken in Antarctica will be conducted in accordance with the Antarctic Treaty, its Protocol on Environmental Protection, and relevant ATCM Measures and Resolutions;
- Tourism should not be allowed to contribute to the long-term degradation of the Antarctic environment and its dependent and associated ecosystems, or the intrinsic natural wilderness and historical values of Antarctica. In the absence of adequate information about potential impacts, decisions on tourism should be based on a pragmatic and precautionary approach, that also incorporates an evaluation of risks;
- All operators conducting tourism activities in Antarctica should be encouraged to cooperate with each other and with the Antarctic Treaty Parties to coordinate tourism activities and share best practice on environmental and safety management issues;
- All tourism organisations should be encouraged to provide a focus on the enrichment and education of visitors about the Antarctic environment and its protection.

4.3 Impacts and challenges concerning Antarctic tourism

4.3.1 Effects

The Antarctic ecosystems are fragile - for example, cold-water corals are thought to be more vulnerable to environmental contaminants and may face significant negative impacts even at low levels of pollutions and oil spills under ice and in remote locations are likely impossible to clean up.⁵⁷

The effects of tourism can be direct, indirect and cumulative. Tourism is inherently a dynamic activity and the types of activities may change; the duration of the tourism season may increase; and the spatial distribution of tourism may also change. The characteristics of tour operators themselves are also changing – for instance from being relatively small owner-operated, specialized Antarctic companies to

⁵⁵ Recommendation IV-27 (1966)

⁵⁶ ASOC, Key Issues on a Strategic Approach to Review Tourism Policies, ATCM XXXV

⁵⁷ <http://www.asoc.org/issues-and-advocacy/antarctic-environmental-protection/southern-ocean-vessel-safety>

being subsidiaries of global companies.⁵⁸

Tourism has to be examined as a totality, both at the smaller end of the scale and also at the larger end of the scale. In addition, and in contrast to what has been done so far, the examination of tourism needs to be pro-active and strategic so that it anticipates further developments.⁵⁹

Increased ship traffic could bring an increase in the negative environmental impacts associated with shipping, including noise pollution, emissions, chronic pollution and an increased number of tourism-related incidents.⁶⁰ Due to incomplete combustion of ship fuel, large amounts of black carbon are formed, which enhance the warming effect and decrease the reflecting capacity of ice.⁶¹ Concerns include the risks to human safety and of oil spills associated with vessels in remote and frequently hazardous Antarctic waters; operational threats to the environment and wildlife including legal and illegal discharges of oils, chemicals, garbage and other substances, including offal discharges; leaks from refuelling operations; introduction of alien species through ballast water discharges and on ships' hulls; damage caused by leaching from anti-fouling systems; air emissions, in particular black carbon and NOx; underwater noise, and ship strikes.⁶²

Actors in the Antarctica area have quite different opinions regarding the effect of tourism. While IAATO proclaims "In 35 years of Antarctic tourism there is very little discernible impact from tourist activities at any of the landing sites in the Antarctic"⁶³, ASOC replies, "the impact of routine tourism operations is not yet well known, despite the industry claims that there has been no impact from several decades of activity"⁶⁴, making clear that lack of evidence does not necessarily means absence of an impact. This kind of dispute is by and large possible because environmental phenomena often have diverse and multiple causes, and also because it is easy to assume a connection between two successive events just because one took place right before the other.

Evidence indicates that tourism-related impacts are possible, and likely at some sites. However, tourism impacts are seldom discussed on their own. Instead, the impact is compared and contrasted with the impacts of other activities, such as scientific research, or the broader context of climate change. This is useful to some extent – as it is important to minimize and manage the impact of all activities in Antarctica – but it is also important to identify, to the extent possible, the precise "footprint" of commercial tourism. At the same time, overall Parties are not facilitating inspection of tourism activities.⁶⁵

58 ASOC, Antarctic Tourism – What Next? Key Issues to Address with Binding Rules, ATCM XXXIV

59 Ibid

60 Ibid

61 ASOC, Developing a Mandatory Polar Code - Progress and Gaps, ATCM XXXIV

62 Ibid

63 IAATO, Overview Summarizing the Terms of Reference, ATME (2004)

64 ASOC, Antarctic Tourism – What Next? Key Issues to Address with Binding Rules, ATCM XXXIV

65 Ibid

Revision of the impact of Antarctic tourism also requires an analysis of the cumulative effect. This matter refers to “the impact of the past, present and reasonable foreseeable future activities” over the same place. Even though cumulative impacts are readily comprehensible and their perils hardly deniable, the issue becomes fairly complex when assessment is put into practice. The first hurdle consists of finding out whether a causal link exists between the activity being assessed and the alleged cumulative impacts. Sometimes the connection may be proximate and certain, in other cases, the connection turns out to be distant and yet disproved by the available evidence. Yet having solved the causation problem, a second obstacle in assessing cumulative impacts refers to the methodological need of isolating the effects of tourism from the effects of other activities taking place at the same time and space.

A third problem lies in the capability of the Environmental Impact Assessment scheme to effectively prevent cumulative impacts from occurring. The first shortcoming is that the Protocol neither defines nor offers examples of what constitutes a minor or transitory impact. Instead, the classification of any undertaking into one of those three categories is completely entrusted to domestic legislation, which gives rise to a wide array of national approaches in enacting implementing legislation.

The second weakness of the system Environmental Impact Assessment is given by its reliance on intensity and duration of individual activities to define how fleeting the impact would be. This scheme makes possible that low-risk activities, if considered one at a time, may take place without comprehensive environmental evaluation even when long term impacts are much greater.

Part of the explanation for the problems previously discussed derives from the fact that when the Protocol was negotiated, scientific investigation was the dominant activity in the Antarctic whereas tourism was deemed as having only “certain magnitude”⁶⁶ in comparison with national programs. Consequently, the procedure for Environmental Impact Assessment was tailor-made to fit national operators’ activities. However, scientific research and tourism constitute polar opposites in many respects.

4.3.2 Sewage

Of great concern is legal and illegal discharges of treated and untreated sewage and grey water. The discharge of raw sewage into the sea can create a health hazard. Sewage can also lead to oxygen depletion. Annex IV of MARPOL contains a set of regulations regarding the discharge of sewage into the sea from ships, including regulations regarding the ships' equipment and systems for the control of sewage discharge, the provision of facilities at ports and terminals for the reception of sewage, and requirements for survey and certification. It also includes a model for International Sewage Pollution Prevention Certificate to be issued by national shipping administrations to ships under their

66 Argentina, The Application of Existing EIA Procedures to Tourist Activities in Antarctica, ATCM XXVII

jurisdiction. It is generally considered that on the high seas, the oceans are capable of assimilating and dealing with raw sewage through natural bacterial action. Therefore, the regulations in Annex IV of MARPOL prohibit the discharge of sewage into the sea within a specified distance of the nearest land, unless they have in operation an approved sewage treatment plant. Governments are required to ensure the provision of adequate reception facilities at ports and terminals for the reception of sewage. The Annex entered into force on 27 September 2003. A revised Annex IV was adopted on 1 April 2004 and entered into force on 1 August 2005. The revised Annex applies to new ships engaged in international voyages of 400 gross tonnage and above or which are certified to carry more than 15 persons. Existing ships are required to comply with the provisions of the revised Annex IV five years after the date of entry into force of Annex IV, namely since 27 September 2008. The Annex requires ships to be equipped with either an approved sewage treatment plant or an approved sewage comminuting and disinfecting system or a sewage holding tank. The discharge of sewage into the sea is prohibited, except when the ship has in operation an approved sewage treatment plant or when the ship is discharging comminuted and disinfected sewage using an approved system at a distance of more than three nautical miles from the nearest land. Sewage which is not comminuted or disinfected has to be discharged at a distance of more than 12 nautical miles from the nearest land. The Marine Environment Protection Committee of the IMO (MEPC) also adopted a standard for the maximum rate of discharge of untreated sewage from holding tanks when at a distance equal or greater than 12 nautical miles from the nearest land (see resolution MEPC.157(55)).

4.3.3 Non-native species

The introduction of non-native species is said to be the most pressing ecological problem Antarctic tourism has given rise to thus far. This is because, unlike many other types of impact, exotic species may have a continuous yet increasing effect on the environment. It is well known that invasive organisms may wipe out large parts of previously unexposed native populations, impair the natural balance of ecosystems as new competitors are added, and end up modifying entire landscapes. Evidence implies that ship cargo and marine micro organisms on the hull of vessels are among the biggest threats.⁶⁷

4.3.4 Ship-breakdown

In view of the hazards attached to Antarctic navigation, ship-breakdown has become a likely scenario in the near future and, if feared misadventures came true, the consequences would be catastrophic. Indeed, handling an accident within the Antarctic area becomes exceedingly tough due to the area's remoteness from any continental entity capable of timely aid.⁶⁸ Yet having done arrangements for assistance, adverse climatic conditions may delay or even render impossible any Search and Rescue operation, thus resulting in loss of life and health damage. On top of that, in the event of a large vessel

⁶⁷ Australia, An Analysis of Potential Threats and Opportunities Offered by Antarctic Tourism, ATME (2004)

⁶⁸ New Zealand, An Analysis of the Existing Legal Framework for the Management of Tourism and Non-Governmental Activities in Antarctica: Issues, Some Proposals and Comments, ATME (2004)

collapse, the spillage of large amounts of oil would ensure long-lasting pollution.⁶⁹ In the past five years, one cruise ship (M/S Explorer), two fishing vessels (FV In Sung No. 1, FV Jeong Woo 2) and two yachts (Berserk, Endless Sea) have been lost in Antarctic waters – the loss of three of these vessels involved loss of human life. In addition, there have been a number of other incidents.⁷⁰

One concern is that current vessels cruising austral waters, particularly the largest ones, are neither ice-strengthened⁷¹ nor adapted for operating in ice-covered waters.⁷² In contrast, the guidelines adopted by the IMO for navigation in the Arctic ice-covered waters include provisions on resistance to ice loads, use of suitable materials, and prevention of accelerated structural degradation.⁷³

Vessels often sail around polar areas without qualified crew for navigation of ice-covered waters, and it is uncertain whether emergency environmental plans have been developed to face a disaster.⁷⁴

The lack of charts and the ensuing need for improving the INT cartographic scheme for Antarctic waters through the publication of new charts, has been long recognized as a concern by the Antarctic Treaty System.⁷⁵ The problem derives, on one side, from the high cost of conducting hydrographic survey programs and producing charts and,⁷⁶ on the other, from the fact that this task is undertaken by national agencies individually. As a result, countries produce charts when it serves their own interest rather than global objectives. This lack of international mapping endeavours leads to duplication of efforts, uneven technical standards, diverse nomenclature, and other flaws that ultimately render the whole system inefficient.⁷⁷ IAATO has attempted to prevent accidents by keeping ships able to hold over 500 passengers upwards from making on-shore visits, as well as by establishing restrictions for vessels bearing over 200 passengers. Apart from this binding provision, best practices have been put forward to encourage ships to exchange information on their itineraries, and to avoid making landings at a place at one time.⁷⁸

Accidents involving large ships loom on the horizon and preventive measures arise as the most pressing problem to deal with immediately. Unlike other problems previously laid out, oil spillage may happen the first day of the next season, leave an ecological catastrophe behind, impose countless labour hours and immense costs on scientific programs.⁷⁹

69 Italy, Some Remarks and Proposals on the Antarctic Tourism Issue, ATME (2004)

70 ASOC, Progress on the Development of a Mandatory Polar Code, ATCM XXXV

71 IAATO, Overview Summarizing the Terms of Reference, ATME (2004)

72 United Kingdom, Proposals to Improve the Management and Regulation of Antarctic Tourism, ATCM XXVI

73 International Maritime Organization, Guidelines for Ships operating in Arctic Ice-Covered Waters, MEPC (2002)

74 Italy, Some Remarks and Proposals on the Antarctic Tourism Issue, ATME (2004)

75 IAATO, Overview Summarizing the Terms of Reference, ATME (2004)

76 IHO, Status of Hydrography and Nautical Cartography in Antarctic and Proposals for its Improvement, ATCMXXVIII

77 Ibid

78 IAATO, Overview Summarizing the Terms of Reference, ATME (2004)

79 New Zealand, An Analysis of the Existing Legal Framework for the Management of Tourism and Non-Governmental Activities in Antarctica: Issues, Some Proposals and Comments, ATME (2004)

Larger and larger ships present a significant risk, because they carry larger amounts of fuel and passengers. In the Antarctic, it is always difficult, sometimes impossible, to mount rescue operations or environmental remediation. The bigger the ship, the more difficult these problems would be.⁸⁰

4.3.5 Lack of information and control

Independent, reliable and complete data on all forms of Antarctic tourism are hard to obtain. While the industry, through IAATO, manages and reports on data for the majority of tourism activities, there are substantial gaps in the data and the ATCM has no ownership of them. The lack of comprehensive data and information readily available to the ATCM makes any assessment of the environmental impacts of Antarctic tourism challenging. This situation is likely to continue unless reliable means of collecting and reporting on tourism data are established.⁸¹ There is currently no ATCM-agreed systematic means to monitor impacts from tourism activity at tourist sites. Feedback on impacts and the adequacy of current management controls is currently provided by the industry itself.⁸²

According to ASOC, there has not been reports submitted to either ATCM or CCAMLR for a considerable number of incidents that have occurred in the past six years. In only one case was there any attempt to report on pollution that occurred during the course of the incident, although pollution is likely to have resulted from at least 6 or 7 of the incidents. In addition, it appears that there has been no monitoring of impact of pollution in the vast majority of cases where it occurred. Finally, when an incident has been reported to the ATCM and / or CCAMLR, there has been no reported follow up on the implementation of the recommendations arising. This preliminary assessment indicates that there are a number of gaps in the reporting effort.⁸³

80 <http://www.asoc.org/issues-and-advocacy/antarctic-environmental-protection/southern-ocean-vessel-safety>

81 New Zealand, Report on environmental aspects and impacts of tourism and non-governmental activities in Antarctica, ATCM XXXV

82 Ibid

83 ASOC, Antarctic Treaty System Follow-up to Vessel Incidents in Antarctic Waters, ATCM XXXV

5. Possible approaches

Proposals to improve shipping tourism in Antarctica are as plentiful and diverse as there are actors involved in the subject. Consider the following example: While IAATO believes that treaty parties' pressure on non-affiliated companies to become members would help bring all operators into compliance, ASOC urges a strategic agreement among Antarctic Treaty parties to enact legislation instead of yielding to self-regulation of the industry.³⁷⁶ To ensure that tourist shipping companies act consistent with the basic principle of protecting the Antarctic environment, there are several areas that needs to be improved: shipping regulations, the role of the ATS, the use of the precautionary principle, inspection and the introduction of non-natives species.

5.1 Jurisdiction and enforcement

5.1.1 Self-regulation as a possible strategy

Concentrating on the impacts of tourism in Antarctica, the current situation is guarded by the Antarctica Treaty System and the IAATO. The question is how extensive a role the ATS ought to be charged with playing. Alternatives are to take a proactive approach in the hope of minimizing the impacts tourism may cause, or to refrain from regulating tourism and pass the task on to private industry for self regulation, or finally to opt for something in between.

From a private corporation standpoint, their greatest pluses are their organization through IAATO, their expertise in Antarctic issues, and their ability to react promptly to new matters. In fact, the association has led private operators' activities for almost fifteen years, a period in which it has developed a number of guidelines and by-laws intended to ameliorate immediate human environmental impact. Additionally, IAATO regularly attends ATCMs under the status of expert, and it also works in partnership with the National Science Foundation to provide extensive statistical information as well as a number of operational procedures regarding advance notifications and post-visit reports. The contrast between IAATO's agility and ATS' bureaucracy is highlighted by the fact that as soon as the former came into existence in 1991, it enacted the Visitor Guidelines, which served as model for Recommendation XVIII-1320 adopted three years later at the 18th ATCM held in Kyoto. Another advantage is the association's far-reaching scope of binding authority as it includes nearly 70 tourist companies (certainly the largest ones) which altogether carry around the 94% of visitors to the ice continent. Moreover, IAATO's guidelines are much more specific than recommendations. All this makes IAATO a pragmatic means of regulating tourism, absent a sovereign-based jurisdictional scheme.⁸⁴

84 United Kingdom, *Tourism and Self-Regulation: A commentary on IAATO, ATME* (2004)

On the other hand, a number of weak points render this soft-law scheme far from the ideal. In the first place, IAATO's effectiveness has been rightly called into question on grounds that the high degree of compliance it shows is more likely to have resulted from Member's power to influence IAATO's lawmaking process than from actual influence on Members' behaviour. This assertion finds support in the history of the association because, while Antarctic tourism was offered as a luxury product, regulations authorizing the operation of vessels no larger than 400 passenger capacity remained unchallenged; but as soon as tourist companies started targeting the mass market, they pushed for the rule to be amended in order to allow larger ships to participate. Facing the risk of losing leadership, in 2001 IAATO amended its by-law to incorporate a new membership scheme comprising seven categories of members and vessels of all sizes.⁸⁵ All the same, some have seen this change as a realistic manoeuvre to retain control over the new trends and ultimately over the largest ships of the industry; whereas others have denounced it as weakening IAATO's potential to effectively govern tourism in Antarctica. Secondly, it has been observed that companies that own large vessels oppose both passenger-based fees and the ban on landings ashore. Such disagreement is leading them, increasingly, to opt for off-association operations, which gives rise to more expeditions outside of any regulating framework. Should this trend continue, IAATO's role would be called into question, particularly its status as regulator and representative of the tourism industry.⁸⁶

From the ATS point-of-view, a crucial issue is the impact that self-regulation would have on ATS' international image. To put it bluntly, anybody might ask: What does this international body work on when the most popular activity in the Antarctic rests entirely in the hands of private organizations?³²⁸ The fact of the matter is that ATS cannot manage tourism directly as it lacks the knowledge and experience that IAATO has gathered after years of operation. However, one must not forget that this is a commercial association, formed by companies, affected by their tensions and permanently under their influence. No wonder that at the end of the day IAATO speaks for private interests, which are not always the interests of the Antarctic Treaty System or the international community.

At one extreme, the major value sought to be protected would be the interest of all contracting parties to maintain the ATS as the appropriate forum for Antarctic affairs. Accordingly, norms should always be enacted by the ATS so that IAATO participates only at the technical level.⁸⁷ In the second case, the normative role would centre around the association, whose capability to control companies is strengthened thanks to support from the ATS along with active discrimination against non-IAATO Members.⁸⁸ It is a difficult situation though, since on the one hand, tourism has openly become a significant activity so the ATS cannot disregard it and let the private industry lead the way; and even if it did so, failure of the self-regulation model would convey the task back to the ATS demanding considerable efforts from the parties, including huge financial resources. On the other hand, the ATS

⁸⁵ <http://iaato.org/bylaws>

⁸⁶ United Kingdom, *Tourism and Self-Regulation: A commentary on IAATO, ATME* (2004)

⁸⁷ Australia, *An Analysis of Potential Threats and Opportunities Offered by Antarctic Tourism, ATME* (2004)

⁸⁸ United Kingdom, *Proposals to Improve the Management and Regulation of Antarctic Tourism, ATCM XXVI*

cannot do without such a significant actor. None of these radical models seem to constitute a suitable solution, but alternatives in between may provide an answer. The prototypes to look at are basically two: joint application of rules and integration of actors in the rule-making process.

In the first case, both the ATS and the industry set out their regulations independently though securing due coordination among them. Recommendation XVIII-I is a good example of this case, which was adopted by the ATS and subsequently endorsed and incorporated by IAATO as one of its own guidelines. Thus, the same rule reaches a greater number of expeditions because it is applied by treaty parties as ATS recommendation and by the tourism industry as IAATO guideline.

In the second case, the integration model entails the integration of the tourist industry within the rule-making process so that the ATS defines the leading criteria for tourism management while IAATO is entrusted the implementation function. For instance, the ATS issue a recommendation calling on parties to require vessels to avoid converging on tourist sites in a way inconsistent with safe navigation. Then, IAATO is tasked with defining, at the beginning of each season, the maximum number of ships coming in and out of the most popular tourist sites. This integration-based model recognizes the different nature of ATS rules vis-à-vis self regulation by the industry and, at the same time, it keeps the best of each one by taking advantage of the legitimacy and trustworthiness of the ATS as a manager of Antarctic affairs, and by overcoming the ATS lack of technical expertise and cumbersome procedures. Also, it vests IAATO with confidence and power, yet it enables the ATS to retain control over the policy-making and gives it a great degree of leverage over the tourist industry. Finally, it must be highlighted that joint application and integration, are fully compatible since both methods look at different aspects of the regulatory scheme.

5.1.2 The question of jurisdiction

Due to its expansion and diversification, tourism and non-governmental activities are now more likely to challenge the equilibrium achieved in Antarctica without sovereignty rights. In fact, the prospect of increasing the number of seasonal visitors in addition to permanent staff at hotels and airfields immediately leads to the possibility of conflicts over jurisdiction. Moreover, national legislation differs from one country to another in terms of the bases for asserting jurisdiction, and questions arise over the capability of self-regulation to help fill existing jurisdictional gaps. Indeed, while most visitors patronize IAATO-members, half the vessels operating within the Antarctic Treaty area are flagged with non-party countries such as Liberia, Panama or the Bahamas.⁸⁹

5.1.2.1 Prescriptive jurisdiction

Prescriptive jurisdiction is defined as “the power to establish a general rule of law”; that is the capability of states to subject a determinate behaviour to its own regulatory system. Therefore, the

⁸⁹ United Kingdom, Proposals to Improve the Management and Regulation of Antarctic Tourism, ATCM XXVI

question arising out of this theme is who enacts the norms and for whom. Applied to Antarctica, this concept refers to the identification of existing rules and their possible interaction. Four categories result from the combination of territoriality and binding character.

First, *international binding regulations*: Embodied primarily by the Antarctic Treaty System, the associated instruments, and the recommendations adopted inside consultative meetings. Other international entities may also adopt binding rules having an effect on Antarctic tourism, notably conventions adopted under the auspices of IMO.⁹⁰ The upside of these norms is their mandatory character; the downside is they are applicable only among parties of the respective convention unless such rules are held as international customary law.

Second, *international soft law*, which encompasses IAATO guidelines, resolutions and decisions adopted within the Antarctic Treaty System, as well as guidelines and codes of conduct issued by IMO.³⁴⁶ These norms, albeit voluntary, present helpful features as they reach the largest part of tourist expeditions and some enjoy great levels of precision.

Third, *national binding regulations*, legislation ATS parties have enacted in fulfilment of their international obligations under the Treaty and associated conventions. The chief problem here is lacking adequate regulation on Antarctic tourism.

Finally, even though soft law is by and large international, *domestic non-binding regulations* have been developed by several countries.

A key step in assessing the effectiveness of this jurisdictional regime is the identification of gaps. To that end, available data collected by IAATO over the last seasons enable appreciation of breaches from three diverse perspectives, namely nationality-centered, soft law-centered, and flag-centered.⁹¹ Nationality appears as the strongest basis for jurisdiction. The rate of nationals of ATS countries remained over ninety percent which means that just about every tourist in Antarctica was a national of a Treaty party. Soft law comes off as the intermediate factor with an IAATO-member ratio ranging from 75.4 through 83.2% which reveals that despite the existence of a gap, IAATO regulations still bind on the bulk of tourists. Finally, flag-state jurisdiction turns out to be the weakest factor whose rate more often than not goes below 50%. It is important to bear in mind that this prescription-focused analysis only measures the binding scope of a specific base for jurisdiction, which makes up one but not the only driver of the overall effectiveness of the jurisdictional scheme. Thus, while according to this data nationality is the strongest factor, it may be very weak from an enforcement standpoint if those countries the majority of tourists come from have failed to implement or enforce the corresponding rules.

⁹⁰ www.imo.org

⁹¹ <http://iaato.org/tourism-statistics>

It is clear that efforts need to focus on flag-state jurisdiction, with a view to bringing as many expeditions as possible under regulation. Attempts to solve the problem may result from two alternative policies. First, the ATS might use policy instruments to encourage those vessels to switch flags to party countries, such as rewarding those vessels operating under party state flags or punishing those operating otherwise, i.e. calling on parties to allow visitation of scientific stations by tourists travelling under a party state-flagged vessel only. However, according to IAATO, the reason why companies have opted for convenience flags is to be able to utilize multinational crews, not to find a way around tourism regulations, so forcing them to re-flag would entail them giving up important benefits. In order to overcome this hurdle, the ATS would have to encourage companies to switch to those countries that are parties of the ATS and whose legislation allows companies to hire multinational crews, so that companies may register their vessels in those countries without bearing additional costs. Additionally, the ATS might encourage countries to amend their legislation in order to allow for companies to hire multinational crews, although this would surely involve complex internal issues. Second, the ATS might attempt to reach those vessels by enhancing collaborative action with other legal bodies. For instance, by acting together with IMO, the ATS could reach important non-state flagged vessels.

5.1.2.2 Enforcement jurisdiction

Enforcement jurisdiction is “the authority of a state to use the resources of government to induce or compel compliance with its law”; it has to do with how a state goes about getting actors to conform their behaviour to the norm. The rule-making procedure inside the Antarctic treaty system requires double unanimity for any recommendation, which is tantamount to say that all parties have veto power over measures, and therefore it is considerably more difficult for them to achieve binding character.

First, as long as Antarctica makes up a common administered land, each country’s interest in enforcing rules is less than the interest in protecting its own sovereign territories. Indeed, the concurrence of international elements is likely to bring about tensions that countries, at least initially, would rather avoid. Second, some provisions of the Antarctic Treaty, the Protocol, as well as ATS recommendations have been drafted using such a hortatory wording that compliance is solely up to the parties’ will. Some of the frequently used clauses are “as far as practicable,”⁹² “to the maximum extent practicable and others.”⁹³ Thirdly, the enforcement of some obligations, demands on-the-spot surveillance, which turns out to be exceedingly expensive. Lastly, even when this is conceptually a matter of prescriptive jurisdiction, the existence of convenience flags echoes in the enforcement aspect of rules because Treaty norms generally cannot be enforced against those states which are not part of the respective convention. Moreover, convenience states typically have no capacity whatsoever to carry out inspection on the vessels registered in their own territory and, even if they had, those vessels seldom come back to the ports of the flag so the inspection turns virtually impossible.

⁹² Annex III, art. 1(1).

⁹³ Ibid. art. 1(4).

To resolve the need to enhance the enforcement mechanisms, one must focus on port-state control. Port-state control would consist of regular inspections before clearing a ship for departure.⁴⁷⁹ At this point it has become evident that flags of convenience are often unable, if at all interested, to insist on compliance with internationally recognized maritime rules.⁹⁴ For example, it is very unlikely that the Bahamas-flagged M/N Bremen has been inspected by The Bahamas when starting last season's operation in Antarctica and, even if it had, the Bahamas are not an ATS member, and consequently Antarctic rules cannot be enforced against it. Second, port states represent the widest possible scope for a norm because wherever ships may come from, they must stop at a gateway-country prior to sailing on toward Antarctica. Third, some of these countries have expressed a clear commitment to the Antarctic environment and have enacted stringent legislation, so they represent quite reliable points of control. Fourth, it is increasingly necessary to harmonize standards of operation among port states to discourage companies from shopping around to find the most lenient legislations. Finally, standardization would tend to preclude gateway states from promoting tourism by lowering safety and environmental standards as a commercial strategy to support their port-facilities and national industry. The proposal to bring expeditions under compliance consists of a control regime outside the Antarctic Treaty area, which would empower departure states to inspect all expeditions (including tourism) leaving their ports.⁹⁵ This mechanism would build upon a double assumption: first, that all expeditions depart from a gateway country's port, and second, that inspections achieved at distant points may not assess the same condition of ships as they would have when sailing across the line of 60° south. The closer to the Antarctic Treaty area, the better controls can be carried out. As for the legal basis, such a regime would be consistent with the Treaty itself given the parties' obligation of requiring advanced notice of "all expeditions to Antarctica organized in or proceeding from its territory."⁹⁶ It is worth noting that this provision does not restrict the check-out process only to nationals of the supervising state. The Protocol provides legal ground as well since it does not just require all activities (explicitly including tourism) to be notified, but also to be carried out "in a manner consistent with the principles in this article" so that each and every expedition may be controlled by a departing state. Comparative analysis also supports port-state control as it is widely recognized as an international law rule that a ship voluntarily entering a foreign port accepts the jurisdiction of that foreign state.⁹⁷ Among the chief conventions that have adopted this scheme are the International Convention on Load Lines, the International Convention for the Safety of Life at Sea, the International Convention for the Prevention of Pollution from Ships; and the United Nations Law of the Sea Convention. In addition, several regional agreements on on port state jurisdiction have been concluded through memoranda of understanding.

One of the great benefits of this system would be to broaden the scope of inspections to include

⁹⁴ United Kingdom, *Proposals to Improve the Management and Regulation of Antarctic Tourism*, ATCM XXVI

⁹⁵ ASOC, *Port State Control: An Update on International Law Approaches to Regulate Vessels Engaged In Antarctic Non-governmental Activities*, ATCM XXVI

⁹⁶ Antarctic Treaty, *supra* note 11, art. VIII(5)(a).

⁹⁷ ASOC, *Port State Jurisdiction: An Appropriate International Law Mechanism To Regulate Vessels Engaged In Antarctic Tourism*, ATCM XXV

fulfilment of safety requirements whose supervision may hardly be justified under the sole umbrella of the Protocol. The main obstacle to adoption of port-state jurisdiction would be opposition from some consultative parties due to the probable effects of the scheme on the territorial claims. An especially sensitive situation concerns the Antarctic Peninsula, since on one side it concentrates most visits and, on the other, territorial claims of three states partially overlap on that territory. As a result, it is likely that the United Kingdom would see in this initiative an attempt by Chile and Argentina to improve their 218, 219, and 226(1)(c) of 1982. Article 218, accepted as customary international law, provides the most far-reaching application of port state jurisdiction and control over marine pollution standards by providing port states with the authority to investigate pollution violations wherever they occur.

The option for avoiding natural tensions among consultative parties could lead to a progressive transference of normative and enforcement functions from the ATS to self-regulation, particularly IAATO, a process that ultimately would erode the effectiveness of the ATS. In facing the dilemma of internal tensions versus effectiveness, the ATS should go for effectiveness.

5.1.2.3 Adjudicative jurisdiction

The Antarctic Treaty lays down the foundations of a four-factored jurisdictional scheme, which allows countries to sit in judgement of expeditions provided that: 1) The ships are flying that particular state's flag; 2) Its nationals participate in the expedition; 3) The expedition was organized in that particular state's territory; and 4) The expedition made its departure from that particular state's port. One of the important difficulties in implementing this provision is the uneven interpretation countries have made of it in enacting domestic legislation. For instance, the United Kingdom only asserts jurisdiction over "British expeditions"⁹⁸ which are defined as those that either have been organized or have last departed to Antarctica from British territory, and which do not have written authorization from another Treaty party. New Zealand relies on a similar scheme as it considers under national jurisdiction all expeditions that either have been organized within its territory or have made their final departure to person who is on a British expedition may enter or remain in Antarctica except in accordance with a permit granted under this section. Quite differently, the United States asserts jurisdiction over vessels under the concepts of "vessel of the United States",⁹⁹ which encompasses ships registered in the United States or owned totally or partially by U.S. entities, and vessels "subject to the jurisdiction of the United States",¹⁰⁰ which refers to anomalous situations such as ships without nationality. So, despite the fact that the Antarctic Treaty provides for jurisdiction over nationals, an expedition entirely formed of British people would not be brought before the United Kingdom's courts because it was organized in and obtained written permission from Chile, or because after departing from Port Lockroy in the Falkland Islands, the ship docked at Ushuaia, Argentina for fuel and continued its trip to Antarctica. Likewise, the U.S. courts may consider themselves lacking jurisdiction over an expedition organized in

98 Antarctic Act 1994 Chapter 15, UK St 1994 c 15 Pt II § 3

99 16 U.S.C.A. § 2402

100 Ibid

the United States, which departed from that country but took place aboard a non-U.S. flagged vessel.

To some extent, the issues of jurisdiction constitute the cost of securing peace. Indeed, it is precisely the claim-freezing strategy followed by the treaty parties that renders impossible the exertion of jurisdiction on the grounds of territorial sovereignty over Antarctic land. Therefore, alternative grounds are required. To solve this problem, the Antarctic Treaty opted for keeping the jurisdictional interrogation open by committing parties to consult with each other and make the necessary efforts to reach a mutually acceptable solution, while at the same time it provided guidance through a four-factored scheme of basis for jurisdiction: country of expedition's organization, nationality of its members, state of the flag under which the expedition travels, and state of the port of departure. In order to reduce the probability of loopholes, the ATS parties need to harmonize the criteria enshrined in their domestic legislation and provide for adjudication on the four grounds previously mentioned, so that expeditions breaking the Antarctic Treaty provisions on tourism are less likely to get away with it. Nevertheless, question arises as to whether this model would increase the chances of conflict over jurisdiction as it enlarges the list of potential States attempting to sit in judgement of the same expedition. One possible way-out might be an order of precedence so that one factor would apply only if the other failed. For example, in facing a problem of concurrent jurisdiction the following rules might be applied: a) Pursuant to the general principles of the Law of the Sea Convention, the first country entitled to exert jurisdiction would be the state of the flag; b) Should this rule prove ineffective due to lack of ability or willingness by the flag state, the next country in the order of precedence would be that in whose territory the expedition was organized because this is the state that issued the permit for the expedition to proceed. If the expedition requested permission from that state, there are grounds to presume such expedition to have accepted the authority of such state; c) In third place, the state from whose port the expedition departed ought to be allowed to adjudicate because a clear connection exists between the state and the expedition; and d) Lastly, the nationality of the expedition should operate as a default basis for adjudication.

5.2 Regulation of shipping

5.2.1 A Mandatory Polar Code

IMO has commenced the work of a Mandatory Polar Code that will regulate shipping in the polar regions. The work was initiated in 2009 and a final suggestion is predicted to be presented in 2014.¹⁰¹ ASOC has presented what they consider to be required for the Code to be useful in Antarctica and their proposal include rules concerning the environmental protection, standards for vessels likely to encounter ice, address vessel safety, remote search and rescue, stability of vessels, establishment of mandatory navigation routes, inspections and controls over vessels. ASOC also emphasized that the

101 ASOC, Progress on the Development of a Mandatory Polar Code, ATCM XXXV

code should be applied to both new builds and existing vessels.¹⁰²

The Polar Code will be a significant step forward, however it is unlikely that it will be able to address localised routeing and protection measures that could enhance safety and protection of the environment and wildlife in Antarctic waters.¹⁰³

5.2.2 Vessel traffic monitoring and information system

A vessel traffic monitoring and information system aims at enhancing safety and minimize environmental impact of shipping accidents. Moreover, vessel monitoring components such as the Automated Identification System (AIS) can improve understanding of the spatial and temporal resolution of shipping density patterns to assess environmental threats and serve as an aid to navigation. In Antarctica, where there are limited possibilities for search and rescue, and paramount importance of preventing incidents/accidents, there is an urgent need for a monitoring and information system.¹⁰⁴

Mandatory reporting systems are already used to some extent in Antarctic waters. The CCAMLR operates a satellite-based vessel monitoring system that is used to monitor the location and activity of fishing vessels. The Council of Managers of National Antarctic Programs (COMNAP) operates an optional, voluntary ship position reporting system for exchange of information about national research programme ship operations and capabilities, and the IAATO also operates a vessel-tracking system.¹⁰⁵ There is also an European Community vessel traffic monitoring and information system which can be used as a model for developing a system within the Antarctic treaty area. The European community vessel traffic monitoring and information system (introduced in 2003 by the European Parliament and the Council through a Directive¹⁰⁶) include that the operator of a ship bound for a port in the region must provide to the port authority in advance certain information such as ship identification, total number of persons on board, port of destination, and estimated time of arrival. In addition, ships calling at ports in the region should be fitted with AIS and a voyage data recorder; and the operator, agent or master of a ship carrying dangerous or polluting goods must notify general information and information provided by the shipper to the competent authority.¹⁰⁷

5.2.3 Safety standards for vessel operation

This proposal consists of a series of requirements for all ship-based expeditions to Antarctica, which would help prevent ship breakdowns or ameliorate their immediate harmful effects. The following outline groups the main areas and possible requirements:

102 Ibid

103 ASOC, Vessel Protection and Routeing – Options Available to Reduce Risk and Provide Enhanced Environmental Protection, ATCM XXXIV

104 ASOC, An Antarctic Vessel Traffic Monitoring and Information System, ATCM XXXIV

105 Ibid

106 Directive 2002/59/EC of 27 June 2002 establishing a Community vessel traffic monitoring and information system

107 ASOC, An Antarctic Vessel Traffic Monitoring and Information System, ATCM XXXIV

The crew should incorporate an expert environmental officer on board, empowered to give out instructions in emergency cases;¹⁰⁸ plus an ice navigator and experienced staff for the Antarctic leg of the expedition.¹⁰⁹ Per to date, the only requirements in this regard come from Recommendation XVIII-1, which calls on organizers and operators to make certain they hire experienced and trained personnel, and from Resolution XXVII-4 which insists that participants of activities in Antarctica have appropriate polar experience. Finally, IAATO recommends that 75% of officers and crew have prior experience in Antarctic waters.¹¹⁰

The problem at issue is primarily the high cost of producing navigation charts. In this respect, the ATS has taken the right approach by encouraging cooperation among parties and assisting them in coordinating efforts. As a matter of fact, the 26th ATCM issued a resolution¹¹¹ calling on consultative parties with hydrographic surveying and charting capabilities to coordinate their activities and contribute to the ongoing development of the INT chart scheme for Antarctic waters through the International Hydrographic Organization,⁴⁰² (IHO) an intergovernmental organization established to take on advisory and technical functions.¹¹²

With respect to the legal basis to adopt and implement such measures, it must be noticed that article 10 of annex IV of the Protocol provides: “In the design, construction, manning and equipment of ships engaged in or supporting Antarctic operations, each Party shall take into account the objectives of this Annex”. Some countries have seen enough ground here for parties to pass national legislation requiring companies to meet the standards aforementioned,¹¹³ whereas others rightly point out that such a regulation would reach beyond the scope of Annex IV, which does not deal in general with safety of navigation but only with waste management and garbage disposal.¹¹⁴ Furthermore, annex VI vests parties with jurisdiction to adopt preventative measures regarding the design, construction, operation and manning of means of transportation, but this instrument has been only adopted at the 28th Consultative Meeting and has yet to come into force. The strategy would consist of three steps intended to combine short-term and long-term measures. First, the Antarctic Treaty parties would immediately adopt a recommendation to make the IMO-adopted “Guidelines for Ships Operating in Arctic Ice-covered Waters”¹¹⁵ applicable to Antarctic navigation, and to call on IAATO to endorse this measure. This step would fill the gap existing currently by providing a normative foundation to bind on tourism expeditions operating under the umbrella of either the Antarctic Treaty System or IAATO. The second

108 Italy, Some Remarks and Proposals on the Antarctic Tourism Issue, ATME (2004)

109 Ibid

110 Ibid

111 IHO, Cooperation in Hydrographic Surveying and Charting Activities, ATCM XXVI

112 IAATO, Overview Summarizing the Terms of Reference, ATME (2004)

113 United Kingdom, Proposals to Improve the Management and Regulation of Antarctic Tourism, ATCM XXVI

114 New Zealand, An Analysis of the Existing Legal Framework for the Management of Tourism and Non-Governmental Activities in Antarctica: Issues, Some Proposals and Comments, ATME (2004)

115 IMO, Guidelines for Ships operating in Arctic Ice-Covered Waters, MEPC (2002),

step would be the elaboration by ATS of an adapted version of the IMO guidelines for Antarctic navigation, for subsequent submittal to the International Maritime Organization for approval. It would be crucial to bring into compliance third-party flagged ships, and in particular, those operated by non IAATO-affiliated companies. Lastly, the ATS recommendation should be repealed as soon as IMO guidelines enter into force, with a view to avoiding duplication or eventual inconsistencies between both legal bodies. Even when this last part makes good sense, an important downside needs careful consideration as, unlike ATS recommendations, IMO guidelines are voluntary instruments, so the switch would mean a step back in the binding power of the norm.

5.3 Limits on tourism

5.3.1 Introduction

From a conceptual perspective, precaution embodies one step ahead of prevention, in the sense that this latter allows for certain risks and threats, whereas the former obliges care to be taken regarding uncertain risks and threats from human activities as well. As mentioned earlier in discussing cumulative impacts on the Antarctic environment, general opinion considers available information to be unable to prove cause-and-effect connection between tourism and environmental phenomena.¹¹⁶ Indeed, there are so many factors impacting the Antarctic environment that it is almost impossible to set aside those exclusively attributable to tourism. Facing this dilemma, the initial question is whether uncertainty provides enough reason to stop or to continue. Diligent management of Antarctica weighs in favour of using the precautionary principle as the appropriate model by which environmental protection policy should be developed. As applied to Antarctica, the precautionary principle would not lead to a prohibition on tourism, but it would entail significant implications.

Pragmatic precautionary approaches should be used with more frequency, particularly in the absence of regular and effective monitoring of this activity, and generally in the absence of adequate information about potential tourism impacts. In some cases, tourism activity should be limited at certain times and/or places in the absence of adequate information about potential impacts. This would be in agreement with Resolution 7 (2009), which states that: Tourism should not be allowed to contribute to the long-term degradation of the Antarctic environment and its dependent and associated ecosystems, or the intrinsic natural wilderness and historical values of Antarctica. In the absence of adequate information about potential impacts, decisions on tourism should be based on a pragmatic and precautionary approach that also incorporates an evaluation of risks.¹¹⁷

The question concerning tourism limitations often emerge as a dilemma of general versus specific limits. The choice of a general pathway involves restrictions that either cover the whole continent or

116 IAATO, Overview Summarizing the Terms of Reference, ATME (2004)

117 ASOC, Key Issues on a Strategic Approach to Review Tourism Policies, ATCM XXXV

are permanent in time, as it would be to set a tourist quota per season or exclude some forms of extreme tourism. On the other side, the specific pathway allows limitations to be placed based on individual characteristics of sites, particularly their environmental sensitivity and tourist attractiveness. Perhaps a sound strategy would involve both kinds of limitations playing out at different levels, as described in the following steps. First, creation of areas of tourist interest which would be intended to freeze the number of tourist sites, thus avoiding limitations imposed on specific sites being evaded by expanding the number of tourist destinations.¹¹⁸ The number of tourist sites should be reviewed from time to time in order to assure appropriate balancing of diverse interests. Second, designation of areas of special protection, which is basically the approach followed by the Protocol through annex V that creates the Antarctic Speciality Managed Areas as well as the Antarctic Speciality Protected Areas. Third, site-specific limitations incorporated into management plans, particularly as to the number of landings per day, the number of tourists per landing, and the activities that tourist expeditions may carry out.

5.3.2 Limits on the number of sites

The ATCM have recognized the necessity to limit the number of sites where tourists are allowed to land in large numbers, in order to assess the ecological effects of their presence.¹¹⁹ However, restricting visits to such areas would not mean authorizing landings there automatically. It would remain indispensable to remind the organizers of tourism and non-governmental activities that they would still be required to respect the restricting rules, especially those relating to environmental impact assessments as well as the applicable national regulations.¹²⁰ Within the ATCM, there has been propositions from France that the CEP should update the list of sites benefiting, or which should benefit in the coming years, from such guidelines, and consequently work on drafting a set of guidelines.¹²¹

To date no methodology has been agreed by the Treaty Parties to distinguish between tourist sites in terms of their relative environmental sensitivities. A more thorough and quantifiable assessment of relative site sensitivities would provide a firmer basis for site-specific management.¹²²

5.3.3 Limits on the overall number of vessels per season

In order to minimize the chances of ship wreckages, a limit on the overall number of vessels per season needs to be imposed, which would make not only for safer navigation but would also favour the conservation of the other values of Antarctica. So long as the rationale underlying this limitation is primarily safety, the implementation requires, first, figuring out the overall number of ships able to sail around Antarctica without increasing the chances of accident beyond a reasonable threshold. In this

118 Francia, Creation of Areas of Special Tourist Interest, ATCM XXVIII

119 France, Limitation of tourism and non-governmental activities to sites under Guidelines for Site Visits only, ATCM XXXIV

120 Ibid

121 Ibid

122 New Zealand, Report on environmental aspects and impacts of tourism and non-governmental activities in Antarctica, ATCM XXXV

process, the territorial concentration of tourist destinations plays a very important role in order to achieve an accurate estimation, since dividing the total surface of the Antarctic Area by the number of vessels operating or the number of trips over the last season would surely show a quite low density rate for vessels, while focusing on the places where tourism is actually taking place, reality shows that ship traffic turns out to be fairly high in the Antarctic Peninsula, and to a lesser degree in the Ross sea region. Second, the overall number needs allocating among the tourist operators. Maybe one could consider giving permits to companies on a best-bid-against-prospectus basis, so that operators offering the highest standards on items like reduced pollution, tourist education, and safety, are preferred in the permit-granting process? Finally, the regime must apply differently to small and large vessels, with large vessels representing the chief target since they embody a greater threat to security. In this regard, the categories set down by IAATO may provide the necessary guidance over technical aspects. The association contemplates the following categories: a) sailing vessels able to carry less than 12 passengers, b) ships able to carry less than 200 passengers, c) vessels whose capacity is between 200 and 500 passengers, and d) ships carrying over 500 passengers.¹²³

5.3.4 Cumulative impact of tourist activities

At the present point it has become clear that the application of the EIA process as set out by the Protocol is hardly suitable to evaluate the cumulative impacts that tourism may bring. The solution for this problem requires two simultaneous lines of attack. The first method has to do with the improvement of existing EIA through the incorporation of new tools for cumulative impact evaluation and monitoring; among them, the proposal by Argentina for an Intersessional Contact Group to undertake the elaboration of specific guidelines for EIA of tourist activities,⁴⁵⁴ the Ukrainian proposal to get the assistance of IAATO Members for the creation of a database out of the pictures taken by staff and passengers to sites, thus creating a continuous flow of information for future assessment and monitoring of environmental impacts.⁴⁵⁵ Also, the proposal for harmonization of national legislation with respect to environmental impact assessment, in particular definition of activities that are not subject to impact evaluation. Cumulative impact is especially important in the Fildes Peninsula, King George Island, given the explosive development of infrastructure and the impressive number of new projects under consideration so as to avoid repeating and magnifying the mistakes made in past experiences.¹²⁴

The second line of attack, having a clear precautionary root, has been put forward by ASOC under the name of strategic environmental assessment, which basically calls for definition of long-term conservation objectives for the Antarctic region as a whole.¹²⁵ The undertakings deemed as consistent would in due course be assessed through the EIA process. This is a top-down approach in the sense that it goes from overall goals down to specific activities, whereas EIA runs bottom-up, from specific

¹²³ IAATO bylaws, Art. X(A)

¹²⁴ ASOC, Report of the Antarctic and Southern Ocean Coalition, ATCM XXIX

¹²⁵ ASOC, Strategic Environmental Assessment in Antarctica: A Stepping Stone to Madrid Protocol Objectives, ATCM XXV

activities up to overall goals.

5.3.5 Non-native species

To avoid introduction of non-native species, the control measures demands tightening.¹²⁶ This can be handled through a two-step strategy:

- 1) Parties need to continue to identify and assess possible pathways so as to develop pathway-specific pre-departure procedures of decontamination.¹²⁷ Among the pathways deserving thorough examination are vehicles introduced in the Antarctic area, supplies and maritime-related pathways such as rubber boats, the hull of ships, anchor chains, and ballast water.¹²⁸
- 2) Further, a quarantine procedure needs to be developed for appropriate cases,¹²⁹ while a focus on tourist education would significantly reduce the costs of exotics surveillance.¹³⁰ Finally, adaptive management practices based on continuous monitoring should provide the necessary feedback to keep evaluating and improving the system.

5.3.6 Inspection and observation schemes

The tourism footprint may be masked by natural variability; environmental effects caused by climate change; and anthropogenic impacts caused by activities other than tourism. These various sources of environmental changes may overlap, and so the footprint of tourism, if it exists, may be difficult to identify. This does not necessarily mean that tourism does not cause environmental impacts, some of which may be significant. Consequently, it is important to identify the contribution of tourism to environmental impact in the context of other cultural and environmental processes of change, with a view of better managing this activity as well as the Antarctic environment as a whole. Identifying the footprint of tourism would require increasing monitoring efforts and the use of suitably robust scientific methods, both traditional and novel.¹³¹

Inspection and observation schemes can provide Parties with independent information about the on-ground conduct of activities, which will supplement information obtained from environmental assessment processes, information exchange, reports by Parties and Experts and from documented industry practices and procedures. Such schemes would also allow for mutual learning experiences for those being inspected and for the Parties conducting the inspection, which would eventually result in the achievement of higher standards for both regulation and management of Antarctic tourism.¹³²

126 New Zealand, Non-native Species in the Antarctic: Report of a Workshop, ATCM XXIX

127 Australia, Measures to address the unintentional introduction and spread of non-native biota and disease to the Antarctic Treaty Area, ATCM XXVIII

128 Scientific Committee on Antarctic Research, Biodiversity in the Antarctic, ATCM XIX

129 Ibid

130 New Zealand, Non-native Species in the Antarctic: Report of a Workshop, ATCM XXIX

131 ASOC, Key Issues on a Strategic Approach to Review Tourism Policies, ATCM XXXV

132 Intersessional Contact Group, Supervision of Antarctic Tourism ATCM XXXIV

Although the responsibility for incident response, monitoring of pollution, investigation into an incident and the delivery of recommendations arising from the investigation lies primarily with the Flag States, Antarctic Treaty Parties also have responsibilities placed on them by the Environmental Protocol to report to the ATCM following an incident, including on emergency response action and on the outcome of monitoring to assess the extent and impact of pollution. Based on the Protocol's environmental principles (Article 3) and requirements for cooperation (Article 6), compliance and notification (Article 13), emergency response action (Article 15) and annual reporting (Article 17), the ATPs should be reporting to the ATCM on all aspects of a vessel incident – the initial incident and consequences, extent and impact of associated pollution, monitoring programmes established to determine the impact of pollution, investigations into the incident and subsequent efforts to implement recommendations arising from investigations.¹³³ Incorporation of port state control gateway marinas is suggested to check if journeys are authorized and well prepared.¹³⁴

5.3.7 Disposal of sewage

In July 2011, the Marine Environment Protection Committee, at its sixty-second session, adopted the most recent amendments to MARPOL Annex IV by resolution MEPC.200(62) which will enter into force on 1 January 2013. The amendments introduce the Baltic Sea as a special area and adds new discharge requirements for passenger ships while in a special area. The discharge of sewage from passenger ships within a special area will generally be prohibited under the new regulations, except when the ship has in operation a sewage treatment plant which shall be of a type approved by the national Administration.

The designation of the Antarctic region as a special area under MARPOL underlines the Antarctic as an area of particular ecological importance. Moreover, three prominent objectives were set out in the specific amendments to Annexes V. Firstly, no oily residues and mixtures or garbage should be disposed of in the Antarctic, either on shore or at sea. Second, while it was recognised that no reception facility for Annex I and Annex V waste exists in the Antarctic area. The existence of such a facility would pose unacceptable problems associated with the ultimate disposal of wastes in the region. Third, before a ship enters the Antarctic area, it should be capable of retaining the wastes on board until it has departed the area and fixed arrangements with a reception station outside the region to receive the wastes retained onboard.¹³⁵

5.4 Implementation

5.4.1 Available instruments

¹³³ ASOC, Antarctic Treaty System Follow-up to Vessel Incidents in Antarctic Waters, ATCM XXXV

¹³⁴ Netherlands, United Kingdom, Tourism: towards a strategic and pro-active approach via an inventory of outstanding questions, ATCM XXXIV

¹³⁵ Joyner, Christopher C, *Antarctica and the Law of the Sea*, pp 155-156

Success in handling Antarctic tourism depends not only on adopting the most suitable measures, but also on picking the right instruments to have such measures implemented. Taking the widest possible range into consideration, which includes both binding and voluntary norms, public and private standards, as well as international and municipal ones, the available alternatives consider modification of the Antarctic Treaty, conclusion of a new Annex to the Protocol, adoption of further ATS measures, development of IAATO guidelines, and enactment of domestic legislation. The first alternative has not been the subject of debate within the ATS. Consequently, it does not appear as a probable outcome. Rather, countries seem to be in agreement that tourism raises no question regarding the principles that inspired the Treaty, and yet in this case, modification would be quite a complex process, wherein consensus would not be easily achievable, and the likelihood of provoking unnecessary internal tensions would make it a sensible idea to seek another alternative.

5.4.1.1 Amendment to the Protocol on Environmental Protection to the Antarctic Treaty

The amendment of the Protocol could be undertaken to incorporate rules whose scope of application is intended to go beyond the particular subjects addressed by each annex. Thus, problems of legal construction such as the one concerning the usefulness of article 10 of annex IV as a legal basis for setting out standards for navigations would be avoided. In this direction, the Protocol should be amended to deal with such issues as the explicit legal recognition to the principle of precaution, which has not expressly been recognized yet, despite the fact that it lies at the heart and practice of the ATS and provides the basis for significant provisions. Another matter capable of being addressed through Protocol amendment would be the land property regime, either to cast a general prohibition aimed to foreclose any possible chance of property rights in private hands, or to develop a scheme providing for the conditions under which private operators might exercise some sort of land ownership.

5.4.1.2. An Annex on Tourism¹³⁶

Generally speaking, different instruments represent different depth in the degree of intervention of tourism, the higher the hierarchy, the deeper the degree of intervention. Hence, a new convention would well serve the purpose of developing institutional machinery, or setting forth principles and objectives of the ATS policy. On the other side, new measures are of great help to deal with specific issues, such as establishing a requirement of hiring trained and experienced personnel for Antarctic navigation. From this perspective, the adoption of a new annex on tourism might be intended to put into writing and hopefully into action the major decisions adopted by the ATS on this particular industry, such as those concerning the definition of Antarctic tourism, the principles of Antarctic tourism as environmentally responsible, economically sustainable and committed to supporting science. A significant contribution would be to promote and provide adequate means for tourist operations to financially support national scientific programs. Issues for an annex on tourism are all those involving strategic considerations about the management of the industry, i.e. definition of acceptable overall

¹³⁶ The adoption of a new annex needs to be done through the issuance of a measure by the ATCM. See PEPAT, *supra* note 12, art. 9(2)

levels and acceptable growth rates of tourism, determination of prohibited and permitted tourist activities.

Although the Protocol is intended to cover all activities in Antarctica, there are sub-regimes functioning fairly well under special convention, notably the CCAMLR. On the other side, the ATS procedures are slow compared to self-regulation, which might lead companies to operate outside the ATS.

5.4.1.3 Adoption of Specific Measures

Measures are intended to develop and give effect to the principles and objectives that the Treaty, the Protocol and Annexes have previously established. Consequently, measures are permissible only within the legal framework established by those instruments, particularly in the areas of uses of Antarctica,¹³⁷ scientific research, scientific cooperation, right of inspection, jurisdictional issues, and protection of Antarctic living resources. As a result, some matters susceptible to being addressed through measures are: calling on parties to review domestic legislation in order to ensure a higher degree of consistency with the Protocol;¹³⁸ development of shipping guidelines for Antarctic Navigation, adoption of a quarantine scheme for exotics and diseases control; elaboration of codes of conduct and guidelines for non-IAATO tour operators; and calling on countries to enforce ATS provisions with respect to the companies operating within their territory.

5.4.1.4 Use and Review of Existing Guidelines on Tourism

The United Kingdom, backed by Germany¹³⁹ and Italy,¹⁴⁰ has put forward a recommendation about more innovative site-related management,¹⁴¹ which calls for enhancement of use and administration of protected areas under the Annex V, as well as adoption of site-oriented recommendations to complement the existing Recommendation XVIII-1.¹⁴² In the British view, the current system allows for tourism regulation by either putting sites off limits or permitting some activities; however few initiatives go after the designation of new sites with a view to tourism development.

5.4.1.5 Domestic legislation

Each state party has an international obligation to take “appropriate measures within its competence, including the adoption of laws and regulations, administrative actions and enforcement measures to ensure compliance with this protocol.”¹⁴³ In general, parties have enacted legislation that turns out helpful to deal with its own nationals, flags, ports and airports. However, countries have accorded

137 Antarctic Treaty, art. IX(1)(a)

138 United Kingdom, Proposals to Improve the Management and Regulation of Antarctic Tourism, ATCM XXVI

139 Ibid

140 Italy, Some Remarks and Proposals on the Antarctic Tourism Issue, ATME (2004)

141 IAATO, Overview Summarizing the Terms of Reference, ATME (2004)

142 United Kingdom, Proposals to Improve the Management and Regulation of Antarctic Tourism, ATCM XXVI

143 Protocol on Environmental Protection to the Antarctic Treaty, art.13.

different priority to tourism, which gives rise to equally different domestic legislations that in turn feed the tourist dumping of companies seeking the lowest-standard legislation. In this regard, IAATO has expressed concern about substantial differences among the countries in interpreting and making effective the Protocol's provisions and has manifested interest in sharing specific information with the parties.¹⁴⁴ In IAATO's view, it is imperative that countries conducting government-sponsored tourism enact appropriate legislation to ensure the same standards for both IAATO and non-IAATO Members, particularly with respect to advance notification, environmental impact assessment, exchange of itinerary information, passengers landing, and post visit reporting.

A minimum normative standardization ought to be achieved for a legal framework on Antarctic tourism to be effective.¹⁴⁵ It is hardly justifiable that after all the discussion on inherently hazardous components in the industry, the only country requiring insurance to cover rescue expenses remains Norway. Municipal legislation must, at least, lay down a duty to undertake environmental impact assessment, establish a license or permit scheme for tourist operators, and provide an enforcement mechanism imposing penalties in case of failure to comply with the norms.

In addition, for those countries having important sub-Antarctic areas, domestic legislation can provide a powerful tool to regulate Antarctic tourism since normally the route comprises one or more stops in those places. For instance, New Zealand indirectly regulates visits to the Ross Sea region through legislation placing limits over sub-Antarctic islands (e.g. one ship per day per site, cut-off numbers of 600/150 visitors per annum for large/small sites).

144 IAATO, Overview Summarizing the Terms of Reference, ATME (2004)

145 France, Tourism and Non-Governmental Activities in Antarctica: Deficiencies in the Current Legal Framework, ATME (2004)

6. Conclusions

The difficulties to control the traffic and the big impact of pollution in the area constitute an environmental threat. On the other hand, tourism can be something good. To bring people to Antarctica, to let them experience the unique environment and exotic wildlife for themselves gives focus to the problem. Organized eco-tours with information and focus upon little impact from the ship could be a good idea. For research and tourism to be able to co-exists in Antarctica without posing a threat to the environment, relevant and efficient regulations must be in place.

Investigating the Antarctica regime shows that it resembles both *res communis* and *res publica*. The major condition not satisfied for a *res publica* regime is denial of free universal access for use and resource exploitation. The wish from some third-world countries to define it as a common heritage of mankind would require a consensus among the Antarctica Treaty Parties, which is not likely to occur.

The situation with an undefined legal regime, developed outside of the United Nations, is perhaps not the best solution but to end the ATS would probably result in new discussions on the claims that are now “resting”. After all, the ATS has worked well in several areas and should not be replaced until there is a reasonable alternative.

From the perspective of optimising the current regime, some improvements are inevitable. The legal status should be clarified and the possibility to secure full membership should be open to more countries. The introduction of accountability to a global body would also help to legitimate the Treaty.

There are several problem areas concerning environmental impacts from tourism and the increasing amount of ships in the area require stricter rules. Today, the Antarctic environment is pressed by emissions from grey water, waste and black carbon. The ecosystems are also affected by underwater noise, antifouling systems and ballast water discharges. The cumulative impact of these circumstances must be considered under the precautionary principle and stricter regulations for shipping and limitations on tourism must be enforced. It is also necessary to emphasize the role of the Treaty parties, they have a responsibility to execute inspections, ensuring that the footprint of tourism is identified and the protective rules are obeyed.

Through improved self-regulation and enhanced port-state control, the suggested approaches can be enforced. A new annex to the Environmental Protocol would surely emphasize environmental impacts and make it as an essential part of the ATS.

The Antarctic continent is of great importance to mankind and the impact of humans can quickly

destroy what nature has develop for millions of years. The future of Antarctica lies in everybody's interest and it is time to take responsibility for this pristine setting. All states must co-operate in protecting the environment and making sure that visitors adjust to nature and habitants of Antarctica, not the other way around.

The protection of the great continent of no man requires the help from many men.

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