

INTERNATIONALLY COOPERATIVE SOLUTIONS TO THE DETERIORATING SITUATION IN ANTARCTICA

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ABSTRACT

Global warming has been discussed and debated at length and the role of Antarctica in that debate has been vital. If we keep burning fossil fuels, global warming will melt all the ice in the world causing the sea level to rise by more than 200 feet. This will inundate a majority of the world's coastlines. Antarctica holds four-fifths of all the ice in the world and therefore it is imperative to prevent the melting of the Antarctic ice caps. We therefore call upon all States to reach a consensus and save the continent. We do so by pointing out the flaws in the Antarctic Treaty System and the need to put stringent regulations in place to curb human activities in the region.

Keywords: Antarctica, Antarctica Treaty System, Global Warming

I. INTRODUCTION

In this article we focus on the international instruments governing the region of Antarctica. The Antarctic Treaty was signed in 1959, with its preamble requiring that the Antarctic region be devoted solely to peaceful scientific activities and no country claiming right over the territory. The Antarctic Treaty has ensured that it remains dynamic through changing circumstances. The Antarctic Treaty has now become the Antarctic Treaty System, with various Protocols and Declarations being added to the Antarctic Treaty, especially the 1991 Madrid Protocol which inserted stringent environmental regulations into the Antarctic Treaty System.

Despite the strong foundations that these documents were built on, environmental problems continue to persist in the area and the time for change has come once again. With global warming on the rise and

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increasing pressures from corporations to exploit the area, there is an urgent need to amend the Antarctic Treaty System so that it remains relevant. States have attempted to exercise control over the region, and this has also led to notable opinions by the International Court of Justice. We urge the entities concerned to acknowledge the drawbacks of past actions and endeavor to address these problems in a systematic and time-bound manner.

After the introduction, in Part II, we will discuss the numerous issues facing Antarctica currently. We will explore the Antarctic Treaty System and determine that the current legal regime requires an overhaul, especially in light of the excessive human activity in the region and the harmful effects of global warming. In Part III we will offer solutions to these issues and implore the world community to reach a consensus to save and protect the Antarctic region, and in effect, the world at large. We will conclude in Part IV by providing our opinion on the controversial issues.

II. THE TRIAD OF ISSUES FACING ANTARCTICA

Before we begin analyzing the issues, we will [a] provide an overview of the Antarctic Treaty System; followed by [b] instances of its poor implementation; [c] the failure of the world community to create an Antarctic Sanctuary to prevent human activities in the region; and finally [d] the harmful effects of global warming.

An overview of the Antarctic Treaty System

i. The Antarctic Treaty, 1961

The Antarctic Treaty of 1961 (AT) was established to build state collaboration based on the International Geophysical Year of 1957-58. The Antarctic Treaty System (ATS) refers to a set of treaties and resolutions (close to 200) passed by the governing body of the AT. It was concluded in 1959 by 12 parties. The AT makes it clear that there are no territorial sovereigns on the continent.

Creating a demilitarized nuclear-free zone, the AT sought to promote scientific endeavors and a peaceful environment, which was reinforced by the third International Polar Year in 2007-08. Since its inception, 53

State Parties have acceded to the AT.² Twenty-eight of these have decision-making responsibilities as Consultative Parties. The AT addresses terrestrial claims, marine resources and exploitation of minerals.³

For some resources, the situation becomes complicated. For iced freshwater resources, a meeting of the State Parties to the AT was held in October 1989 where Recommendation XV-21 was adopted on the ‘exploitation of icebergs’.⁴ The Recommendation placed restrictions on commercial exploitation of ice, and called for more information to study the adverse impacts of such exploitation.⁵ However, conflict between the Madrid Protocol (see below) and Recommendation XV-21 may arise, and could create problems later on.

A number of bodies, most notably the Arctic Environmental Protection Strategy of 1991 and the Arctic Council of 1996 (whose working groups focus on the policy measures to protect the marine and coastal environment from activities taking place on land and at sea) proactively work towards the protection of the environment, and influence national policies of all affected States to conserve the region.⁶ The United Nations Convention on the Law of Sea (UNCLOS), which also deals with these aspects, ceases to be relevant in the Antarctic region because more specific treaties govern the region in greater depth.

ii. The Madrid Protocol, 1991

The Protocol on Environmental Protection to the Antarctic Treaty, also known as the Madrid Protocol of 1991 was adopted by the concerned consultative parties and amended the Antarctic Treaty of 1961. The reason this Protocol is particularly important is because the Antarctic Treaty System earlier did not prioritize the conservation of living resources in the region. It only set out certain areas as ‘Specially Protected Areas’ to preserve the ‘unique natural ecological system’ of the area without defining their scope. The Protocol was a major revision to these designated areas. The Protocol set out the Antarctic Specially

² Secretariat of the Antarctic Treaty, https://www.ats.aq/devAS/ats_parties.aspx?lang=e (last accessed Dec. 22, 2018).

³ The Antarctic Treaty, Jun. 23, 1961, 402 U.N.T.S. 71.

⁴ RECOMMENDATION ATCM XV-21 (Dec. 12, 2012), www.ats.aq.

⁵ PIERRE-MARIE DUPUY AND JORGE. E. VINALES, *INTERNATIONAL ENVIRONMENTAL LAW* 114-115 (Cambridge University Press, 2015).

⁶ *Id.* at 115-117.

Managed Area and Antarctic Specially Protected Area and specified their scope and range. In addition, it laid down Multiple-use Planning Areas to assist and coordinate actions among parties and to reduce environmental impacts.⁷

Antarctica is designated as a 'natural reserve for peace and science' under Article 2 of the Madrid Protocol. Article 6 promotes a spirit of consultative capacity building in constructing research stations and bases in the region, whereas Article 3, despite no concrete definition of the term 'wilderness', paves the way for programs and action plans. Article 2 and 3, in a sense, came to be recognized as the backbone of the Protocol and provided for the standard of appraisal of all activities conducted there, which was an unprecedented feat. The Committee on Environmental Protection (CEP) provides Treaty parties with advice and recommendations, which considerably shape their respective national policies.⁸

Most importantly, Article 7 of the Protocol prohibits commercial exploitation of mineral resources for any activity other than scientific research, which can also be curtailed in certain cases for conservation purposes. It also makes an environmental impact assessment (EIA) mandatory before conducting any activity. Interference with the flora and fauna of the region has been kept to a strict minimum. Article 16 promotes a culture of information-sharing regarding the acts and omissions of parties with respect to implementing the Protocol. The six Annexes to the Protocol set out the requirements for EIA, flora-fauna conservation, waste disposal and management, prevention of marine pollution, liabilities for environmental emergencies and area conservation and management.⁹

The Annexes to the Protocol also lay down guidelines and standards. For the protection of flora and fauna of the region, Annex II of the Protocol provides a set of measures. For instance, 'taking' of mammal species attracts very serious penalties, even for scientific purposes. But there have been cases where environmental protection has been ignored in order to pursue national interests.

⁷ *Id.* at 120-122.

⁸ Donald R. Rothwell, *Polar Environmental Protection and International Law: The 1991 Antarctic Protocol*, 11(3) EUR. J. OF INTL. L., 591-614 (2000).

⁹ The Protocol on Environmental Protection to the Antarctic Treaty, 1991; Kevin A. Hughes et al., *Antarctic environmental protection: Strengthening the links between science and governance*, 83 ENV. SCI. & POL. 86, 88 (2018)

Waste management and disposal is provided for in Annex III. However, the standard of ‘maximum extent applicable’ has been applied, thereby allowing for a wide interpretation and reducing the responsibility that states carry while implementing these. As a result, waste has been a neglected issue over the past few years.

The Protocol provided the basic framework for designating areas as Antarctic Specially Protected Areas (ASPA). Notably, at the Antarctic Treaty Consultative Members’ 1972 meeting (ATCM 1972), Recommendation VII-2 was made, which gave examples of protected land and water habitats. Later, Annex V of 2002 consolidated these areas and set up a mechanism to protect these areas. The assessments clearly show that many of the areas are not properly monitored, and that these protected areas are far closer to tourist areas than the affected ice-free areas. Alarming, this trend seems to be growing, along with a growing need for conservation planning to protect these areas. This entails identifying the vision and the goals of this planning, laying out the scope of such activities, involving all concerned stakeholders and having a constant review system.¹⁰ Regarding marine pollution, Annex IV addresses the discharge of garbage, sewage and other wastes.¹¹

A. LEGAL LOOPHOLES AND POOR IMPLEMENTATION OF THE ATS

Though Article IV of the AT freezes sovereignty claims over the region, conventions such as the Seals Convention of 1972 and the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR) allow limited access to marine living resources, and thus appropriation is not precluded. For instance, the Seal Convention allows this access only for the purposes of conservation, scientific study and the rational and human uses of seal resources. But the regime is strict when it comes to mineral resources, as can be seen by the prohibition imposed by Article 7 of the Madrid Protocol. Situations of conflict between the Madrid Protocol and the AT Recommendation XV-21 on exploiting icebergs are yet to arise and may create problems later on.

The Madrid Protocol has faced considerable criticism, largely because of its inability to achieve speedy implementation. Apart from the fact that its provisions are not strongly worded, it fails to address the

¹⁰ Bernard W.T. Coetzee et al., *Expanding the Protected Area Network in Antarctica is Urgent and Readily Achievable*, CONSERVATION LETTERS, WILEY PERIODICALS INC., 670-680 (2017).

¹¹ Donald R. Rothwell, *Polar Environmental Protection and International Law: The 1991 Antarctic Protocol*, 11(3) EUR. J. OF INTL. L., 591-614 (2000).

impact of factors such as tourism on the region. A working group was formed to implement the provisions of the Protocol, but the varying interpretations leave too much room for states to use them in ways that suit their interests.¹² As per the Protocol, the consultative parties along with the initial drafters have more powers as compared to those who acceded to the treaty later. This contravenes the norm that calls for benefits to trickle down to all states in a fair manner. Thus, weak standards have led to faulty implementation of this norm, often in pursuance of the vested interests of states.¹³

B. HUMAN ACTIVITY IN THE REGION AND THE FIGHT TO STOP IT

Increase in human activity and the adoption of new general treaties are important issues threatening the ATS. It is now a well-documented reality that the Antarctic icecaps are melting.¹⁴ Further, technological and transport advancements make it easier for humans in general to reach the continent. Overall, the total number of Antarctic visitors in 2017-2018 was 51,707, an increase of 17% compared to 2016-2017. Apart from the mere presence of humans, there are fresh activities that are polluting and harming the region.

All these activities have affected the fragile ecosystem of Antarctica. An instance of the threat of climate change and pollution was clearly seen in the expedition of a Greenpeace ship in Charlotte Bay of the Antarctic peninsula. It was an effort to create an ocean sanctuary of 1.8 million square kilometers -- one of the largest protected areas on Earth. In the process, the sheer diversity of the flora, fauna and resources that the region had to offer was a revelation. It shed light on the impact climate change has had on the Antarctic region.

To create this sanctuary and protect the Antarctic region, governments of various countries met in Hobart, Australia in 2018 to designate a protected area at one of Antarctica's main ocean points, the Weddell Sea. The move was intended to put the region out of the reach of human activities that exploit the area. This move would have helped preserve the biodiverse species in Antarctica¹⁵ However, the move failed.

¹² *Id.*

¹³ Edward Guntrip, *The Common Heritage of Mankind: An Adequate Regime for Managing the Deep Seabed*, 4(2) MELB. J. OF INTL. L. 376 (2003).

¹⁴ R. Lefeber, *Polar Warming: An Opportune Inconvenience* (Draft), *Amsterdam Law School Legal Studies Research Paper No. 2012-86*, Amsterdam: University of Amsterdam. DOI: 10.2139/ssrn.2151241.

¹⁵ Javier Bardem, *I've Seen the Antarctic's Untouched Beauty: There is still time to protect it*, THE GUARDIAN (Oct. 16, 2018), <https://www.theguardian.com/commentisfree/2018/oct/16/antarctic-ocean-sanctuary-climate-change-javier-bardem>.

The repercussions with the continued level of environmental pollution are alarming. Scientists estimate that the sea level will rise by three to four meters by 2100 because of Antarctica's melting ice caps.¹⁶

Thus, the rejection of the proposed ocean sanctuary only adds to the already existing concerns about Antarctica's future. Covering the Weddell sea and a sizeable portion of the Antarctic peninsula, the move would have helped combat climate change because of the massive amounts of carbon dioxide that the sea soaks up.

There was much dismay among conservationists over the failure to make the Weddell Sea a sanctuary. Delaying tactics and interventions having nothing to do with science blocked the proposal. The sanctuary was proposed by the CCAMLR. Russia, China and Norway rejected the effort to protect these waters, according to many environmental groups, because the area covered would have prevented fishing in the region and would have helped safeguard the area's flora and fauna.. Because a unanimous agreement was required, this move failed.

According to a United Nations report, humans have wiped out 60% of Antarctica's animal population, with only 12 years remaining to save the region. Organizations such as Greenpeace have criticized CCAMLR, which could not get the political support to create the sanctuary. The countries at the conference were more concerned with their own vested interests, including expanding the fisheries zones. There is consternation at how such bodies are failing to fulfill the mandates that they set out. The general public must join the movement for a Global Ocean Treaty, which is currently being negotiated at the United Nations.¹⁷

C. EFFECTS OF GLOBAL WARMING

Another changing circumstance which calls for stringent re-negotiation of the ATS is the harmful effect of global warming on the Antarctic region. As the years have gone by, the effects of global warming are there for everyone to see. A major cause of the current situation is the International Seabed Authority (ISA). It is

¹⁶ Dahr Jamail, *Earth's Ice Loss: "Is A Nuclear Explosion of Geological Change"*, TRUTHOUT (Oct. 9, 2018), <https://truthout.org/articles/earths-ice-loss-is-a-nuclear-explosion-of-geologic-change/>.

¹⁷ Matthew Taylor, *Antarctic's future in doubt after plan for world's biggest marine reserve is blocked*, THE GUARDIAN (Nov. 2 2018), <https://www.theguardian.com/world/2018/nov/02/plan-create-worlds-biggest-nature-reserve-antarctic-rejected>.

granting far too many licenses for mineral exploitation despite a conditional prohibition imposed by the Madrid Protocol. Unregulated tourism, as mentioned above, has exacerbated the problem.

Despite the Preamble of the treaty promoting peace and international cooperation, the cumulative impact of climate change, coupled with several states disregarding the objectives and often inaccurate scientific findings, has put the region in jeopardy.¹⁸ To make matters worse, since there are no sovereigns in the region, countries like the U.S.A. have used the commons to their advantage: The US makes no claim to any particular territory in the region, but has kept alive the opportunity to exploit the vast resources in the different areas there. Examples of such exploitation include fishing of marine life such as 'krill' (shrimp-based crustacean) and mineral resources.¹⁹

There have been a number of attempts to determine the mean annual temperature change in Antarctica. The studies have faced problems of data from too many stations and the lack of quality control over the observations. Nonetheless, reliable data sets indicate that most of the stations are warming up. Other reflections of this variability can be seen in the form of rapid increase in wind speeds and surface pressures, and a decrease in the pressure trends.²⁰

Adding to these concerns, the new Trump administration has cut funding of climate change research. Yet, NASA collaborated with the German Research Center for Geosciences for a satellite mission in sending Gravity Recovery and Climate Experiment Follow-on (GRACE-FO) to space. This could contribute towards finding out more information on melting of Antarctic ice sheets and related sea-level rise. Scientists have observed that the growing volume of carbon dioxide in the air has contributed to these adverse phenomena. This could detrimentally affect coastlines, which could further impact population planning, migration and national security.²¹

The infrastructure in Antarctica is deteriorating because of the high costs of maintenance. For instance, the USA-maintained McMurdo station is one of the many ambitious research and astronomical stations

¹⁸ Nils Vanstappen, *Challenges for the Antarctic Treaty System*, LEUVEN CENTRE FOR GLOBAL GOVERNANCE STUDIES - POLICY BRIEF NO. 21, 4-16 (2013).

¹⁹ Christopher C. Joyner & Ethel R. Theis, *The United States and Antarctica: Rethinking the Interplay of Law and Interests*, 20(1) CORNELL INTL. L. J. 65, 76-77, 83 (1987).

²⁰ John Turner et al., *Antarctic Climate Change During the Last 50 years*, INTL. J. OF CLIMATOLOGY, 279-294 (2005).

²¹ Abby Smith, *Antarctica is Thawing Faster, Tripling Its Effect on Rising Seas*, BLOOMBERG ENVIRONMENT, (Jun. 13 2018), <https://www.bna.com/antarctica-thawing-faster-n73014476449/>.

that studies the region. However, especially with the new Trump administration, the purse strings on improving the infrastructure have tightened. Even the US ice breaking ships are in a decrepit condition. All the superpowers, including China and Russia, have multiple bases and camps strategically set up in the region. Thus, the region is an area of incipient conflict.²²

Antarctica is melting rapidly: The rate of losing its ice has increased three-fold since 2007, with a forty percent increase in 2012-2017. This will inevitably contribute to rising sea levels and warming waters. It will also lead to more moisture in the air and increased rainfall.²³

The calving and eventual disintegration of the ice sheets in East Antarctica, most notably the Amery ice shelf and the Larsen B ice shelf, is reflective of the environmental hazard that we are facing. In West Antarctica as well, the same developments have been noticed. Recent events such as the breakaway of a huge iceberg from the Larsen C ice shelf come as clear warnings. Moreover, the frequency of such breaks is likely to increase over the coming years.²⁴ Another collapse was seen with the George VI ice shelf, contributing massively to sea-level rise. These shelves are situated below sea-level and are a landmark example of the growing trend of ice-shelf instability.²⁵

Melting of sea ice remains one of the biggest threats to the region. Over the last three decades, about eight percent of the ice sheet cover has melted. The existing cover has also become thinner by as high as forty percent in some regions.²⁶ With high emissions of heat-trapping gases causing ice sheets to melt, sea levels are expected to rise by as much as three feet by the end of the century. Many coastal cities such as New York, Venice and Sydney are at risk.²⁷

²² Justin Gillis and Jonathan Corum, *Where Else Does the U.S. Have an Infrastructure Problem? Antarctica*, NEW YORK TIMES, (Jul 17, 2017), <https://www.nytimes.com/2017/07/17/climate/where-else-does-the-us-have-an-infrastructure-problem-antarctica.html?&moduleDen=click&contentCollection=Climate®ion=Footer&module=MoreInSection&version=WhatsNext&contentID=WhatsNext&pgtype=article>.

²³ Kendra Pierre-Louis, *Antarctica Is Melting Three Times as Fast as a Decade Ago*, NEW YORK TIMES, (Jun. 13, 2018), <https://www.nytimes.com/2018/06/13/climate/antarctica-ice-melting-faster.html>.

²⁴ Helen A. Fricker et al., *Iceberg calving from the Amery Ice Shelf, East Antarctica*, 34 ANNALS OF GLACIOLOGY 241, 245 (2002).

²⁵ Clemens Schannwell et al., *Dynamic Response of Antarctic Peninsula Ice Sheet to potential collapse of Larsen C and George VI ice shelves*, THE CRYOSPHERE (Jul. 19, 2018), <https://doi.org/10.5194/tc-12-2307-2018>, <http://nora.nerc.ac.uk/id/eprint/520594/1/tc-12-2307-2018.pdf>.

²⁶ SUSAN J. HASSOL, IMPACTS OF A WARMING ARCTIC: ARCTIC CLIMATE IMPACT ASSESSMENT 24-25, (Cambridge University Press, 2004).

²⁷ Justin Gillis, *Climate Model Predicts West Antarctic Ice Sheets Could Melt Rapidly*, NEW YORK TIMES (Mar. 30, 2016), <https://www.nytimes.com/2016/03/31/science/global-warming-antarctica-ice-sheet-sea-level-rise.html>.

Ice-loss in Antarctica between 2012 and 2017 reached approximately 219 billion tons. Ice-loss will be even more apparent in the regions of West Antarctica, where the ice sheets rest directly above the sea bed and react to even small changes in ocean temperature.²⁸

These climate-related changes have led to rising average temperatures. There is an increased concentration of carbon dioxide in the air along with increased rain and climate fluctuations. Thawing of the frozen grounds will enable transportation to and from the region, and consequently easier access to resources. This will also negatively affect the soil, vegetation and general biodiversity of the region. Living creatures too are affected. For instance, marine mammals and certain species of seabirds will drastically shrink.²⁹

III. SOLUTIONS TO THE PROBLEM:

A. SOLUTIONS IN INTERNATIONAL LAW

Many scholars argue that the AT ought to be applied as an *erga omnes* (towards all) obligation for its effective implementation as a universally accepted regime. Part of this endeavor must include the effort to open the treaty to all countries for membership. Most existing members refuse to let that happen because of their own vested interests. The express assent of all member-states must be confirmed before any obligation becomes binding. Article 10 of the treaty strives to make this obligation binding to some extent by way of acquiescence from non-parties. These hindrances have temporarily impeded the treaty from attaining *erga omnes* status, at least from a customary law perspective.³⁰

Jurisdiction remains another major problem in the region. Since there are no sovereign states in Antarctica, the normal principles of jurisdiction with respect to territoriality cannot be applied. To claim jurisdiction in maritime zones, sovereign coastal states must exist to enforce the laws. Otherwise, all such waters would be a part of the high seas under international law. The Antarctic Treaty contains rules on jurisdiction in cases of violations, but it does not tackle general cases of criminal and civil law. It presupposes that parties know which activities are organized in its territory, and calls for an environmental impact assessment and an

²⁸ Abby Smith, *Antarctica is Thawing Faster, Tripling Its Effect on Rising Seas*, BLOOMBERG ENVIRONMENT (Jun. 13, 2018), <https://www.bna.com/antarctica-thawing-faster-n73014476449/>.

²⁹ *Supra* note 26 at 8-11.

³⁰ Bruno Simma, *The Antarctic Treaty as a Treaty Providing for an Objective Regime*, 19(2) CORNELL INTL. L. J., 189-191, 193-194, 197, 205-206 (1986).

advance notice with regard to activities not limited to scientific research. Even uniform enforceability of laws cannot be claimed since most parties are not included in the treaty system and resist the way the treaty system operates.³¹

Due to the abundance of natural resources in Antarctica, there is a growing voice for the concept of common heritage of mankind to apply to the region's resources. But there was considerable debate about how it would apply to the ATS.³² The New International Economic Order [a set of proposals put forward during the 1970's by some developing countries through the United Nations Conference on Trade and Development] sought equitable distribution of resources among developed and developing countries and aimed at curbing economic disparity. This would give property rights over these resources to all nations. However, because of the mineral resources on the continent, most ATS nations want to ignore the shared global commons principle, to continue exclusive exploitation..³³

B. ROLE OF THE COURTS IN PROTECTING THE REGION

The following two cases can be seen as pivotal case law to understand the dynamics of the region. The first case shows how a state has chosen to exercise control over the region. By declaring the region as part of the global commons, extraterritorial application of a domestic statute was justified. The second case is a classic case of how the International Court of Justice curtailed the activities of a state party, for the preservation of the continent, more specifically the marine environment of the region. Both cases demonstrate the role of courts in protecting the environment.

In *Environmental Defense Fund (EDF) v. Massey*³⁴, the decision of the US National Science Foundation to incinerate food wastes (through burning in an open landfill) in Antarctica was challenged through the prayer of declaratory and injunctive relief by EDF, a non-profit US civil society organization. The authorities had not prepared an environmental impact assessment report, even though the US National Environment Policy Act of 1969 (NEPA) required such report for any "major action significantly

³¹ Nils Vanstappen, *Challenges for the Antarctic Treaty System*, LEUVEN CENTRE FOR GLOBAL GOVERNANCE STUDIES - POLICY BRIEF NO. 21, 17-20 (2013).

³² Zou Keyuan, *The Common Heritage of Mankind and the Antarctic Treaty System*, 38(2) NETHER. INTL. L. REV., 173-198 (1991).

³³ Bernard P. Herber, *The Common Heritage Principle: Antarctica and the Developing Nations*, 50(4) AMER. J. OF ECO. & SOCIO., 391-406 (1991).

³⁴ 772 F. Supp. 1296 (D.D.C. 1991).

affecting the quality of the human environment.” The US Court of Appeals for the District of Columbia reversed the decision of the lower court and remanded the matter, seeing a violation of the NEPA. It was held that NEPA could apply to the extraterritorial activities of federal agencies as well. It was further held that the presumption against extraterritoriality will not apply when the effects are felt in Antarctica. The court found Antarctica to be part of the global commons and not a sovereign territory per se. Thus, the US was justified in exercising control over potentially harmful activities at the US McMurdo research station.³⁵

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In the Antarctic Whaling case³⁸, Australia, a vocal supporter of the ban on commercial whaling, challenged the slaughter of whales by Japan, which was purportedly done for scientific purposes. Proceedings in the case were instituted in 2010 by Australia: Australia accused Japan of pursuing the Second Phase of the Japanese Whale Research Program under Special Permit in the Antarctic (JARPA II) in breach of its obligations under the International Convention for the Regulation of Whaling. Although the International Whaling Convention allows for the catching of a certain number of whales by the Japanese fleet, these whale captures have been deplored by Australia as harming the marine environment.³⁹ The International Court of Justice ruled in favor of Australia, holding that the whaling done, from an objective standpoint, was not strictly for the purposes of scientific research. Hence, Japan violated Article VIII, paragraph 1 of the International Convention for the Regulation of Whaling. Japan’s research whaling in the Antarctic (JARPA and JARPA II) had, in the Court’s view, carried out excessive lethal sampling of whales for ‘scientific research’ and was contrary to the objective of preserving the species.⁴⁰ The permits were accordingly revoked. The ICJ ordered Japan to revoke any authorization, permit or license to take or kill whales in relation to JARPA II.^{41 42}

³⁵ THE ENVIRONMENTAL LAW REPORTER (23 ELR 20601), https://elr.info/litigation/%5Bfield_article_volume-row%5D/20601/environmental-defense-fund-v-massey.

³⁶ David A. Wirth, *Environmental Defense Fund, Inc. v. Massey*, 87(4) THE AMER. J. OF INTL. L., 626-635, (1993).

³⁷ Thomas E. Digan, *NEPA and the Presumption against Extraterritorial Application: The Foreign Policy Exclusion*, 11(1) J. OF CONTEMP. HEALTH L. & POLICY, 165-196, (1995).

³⁸ Whaling in the Antarctic (Australia v. Japan: New Zealand intervening), Judgment, I.C.J. Reports 2014.

³⁹ Justin McCarry, *It's Australia v Japan over whaling in the Antarctic*, THE GUARDIAN (June 25, 2013), <https://www.theguardian.com/environment/2013/jun/25/australia-japan-whaling-antarctic-challenge>

⁴⁰ Marc Mangel, *Whales, science and scientific whaling in the International Court of Justice*, 113(51) PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, 14523-14527 (2016), <http://www.pnas.org/content/pnas/113/51/14523.full.pdf>.

⁴¹ Marko Milanovic, *ICJ Decides the Whaling in the Antarctic Case: Australia Wins*, BLOG OF THE EUROPEAN JOURNAL OF INTERNATIONAL LAW (2014).

⁴² Guillaume Gros, *The ICJ's handling of Science in the Whaling of the Antarctic Case: A Whale of a Case?*, 6(3) J. OF INTL. DISPUTE SETTLEMENT, 578-620, (2015).

Parties, especially Parties to the Antarctic Treaty System, should take advantage of international courts to ensure better compliance with the relevant international legal instruments

C. CALL FOR CONSENSUS & NEGOTIATIONS

The foremost solution to the deteriorating situation in Antarctica is for the Antarctic Treaty Members to pressurize all states to ratify the ATS and implement it in a stringent manner. Fresh treaties are of no avail if they are not implemented adequately. Further, once this goal is formalized, we only reach a point where no fresh harm is done to the region. There is no remediation of previous harm.

When negotiating these new rules, lawmakers should rely on scientific data. The accuracy of the scientific data is an essential pre-requisite to ensure a successful environmental protection framework. The lack of concrete scientific information will make it difficult for Antarctic Treaty Members to act more proactively. It is necessary to implement long term tracking instruments at research centers in Antarctica to adequately comment on harm caused. The Trump administration's withdrawal of funding for climate change research will undoubtedly cause further deterioration of the continent.

CONCLUSION

In our view, courts and international law can only help save the region if the Antarctic Treaty member-states ensure that there is full application of the ATS. Despite the treaty systems contributing towards establishing a stable legal regime in the area, large-scale exploitation by private parties and states continues virtually unabated. Notwithstanding a growing voice in favor of Antarctica's inclusion within the regime of global commons, state conflicts over disputed territories and exploitation of resources have continued.

The international community must cope with the problem of cumulative impacts. It is the combination of little activities that is putting the fragile ecosystem of Antarctica under severe stress. The melting polar icecaps are a reality, as is the growing number of tourists. It is amazing to see that there is still no cooperative international action over the continual rise in temperature of the region.

The behaviour of States towards the region needs to change. There needs to be an informed discussion of the harm caused to the Antarctic region and its fragile ecosystem. Actions like the expedition of a Greenpeace ship in Charlotte Bay should be widely publicized to ensure awareness and political support. Time-bound actions in pursuance of Antarctica's protection and conservation are necessary to sustain the region.