

SOUTHERN EXPOSURE: MANAGING SUSTAINABLE CRUISE SHIP TOURISM IN ANTARCTICA

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TABLE OF CONTENTS

I. INTRODUCTION	44
II. ANTARCTICA AND CRUISE SHIPS	47
A. <i>Antarctic Environmental Concern</i>	47
B. <i>Extent and Effects of Cruise Ships in Antarctica</i>	54
1. <i>Cruise Ship Pollution</i>	58
2. <i>The ms Nordkapp and ms Explorer Incidents</i>	60
C. <i>Sustainable Tourism</i>	64
III. GOVERNING LAW IN ANTARCTICA	66
A. <i>The Antarctic Treaty System</i>	66
B. <i>International Law</i>	71
C. <i>Flag State Jurisdiction</i>	72
IV. ACHIEVING SUSTAINABLE ANTARCTIC CRUISE TOURISM.....	75
V. THE IMPLICATIONS OF THE ARRIVAL OF MAJOR CRUISE LINE SHIPS TO ANTARCTIC WATERS	81
VI. CONCLUSION.....	86

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I. INTRODUCTION

Some like it cold. As climate change¹ heats up the planet, trips to the Antarctic to experience the South Pole before it “melts” are becoming increasingly popular.² In addition to climate change, there

1. Climate change refers to the “long term shifts in weather patterns,” not “the daily fluctuations in temperature and humidity.” DAVID HUNTER, JAMES SALZMAN & DURWOOD ZAELKE, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 3 (3d ed. 2007). The change is the Earth’s climate system response to the accumulation of “greenhouse gases” in the atmosphere. *Id.* at 631; see INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf (discussing the growing body of observations concerning global warming and other changes in the climate system). The Intergovernmental Panel on Climate Change (IPCC) is a “scientific intergovernmental body” created by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). Intergovernmental Panel on Climate Change, About IPCC, <http://www.ipcc.ch/about/index.htm> (last visited Sept. 26, 2008). The constituency of the IPCC consists of governments, scientists from around the world, and people. *Id.* Climate change spurred by human activity has “unpredictable and potentially profound consequences for global weather patterns, ecosystems, food security and human health.” HUNTER ET AL., *supra*, at 2.

2. *Weekend All Things Considered: A Changing Antarctica Draws “Doomsday” Tourists* (NPR radio broadcast Mar. 29, 2008) (noting Antarctic cruise passengers are part of Doomsday tourism, “when people go to see natural beauty before it’s gone for good”). One Antarctic cruise travel agency states on its website: “So you want to see Antarctica before it melts into the Southern Ocean? . . . Getting there isn’t cheap or easy, but it’s totally worth it for increasing numbers of curious adventurers.” PolarCruises.com, Cruising Antarctica, http://www.polarcruises.com/articles.cfm?pole=Antarctica&mainnav=articles&curr_groupid=10 (last visited Sept. 26, 2008). See also *Local News from All Over: Oceania*, EARTH ISLAND J., Summer 2007, available at http://www.earthisland.org/journal/index.php/eij/article/local_news_from_all_over (“With climate change making the planet increasingly hot, perhaps the fashionable getaway of the future will be to icy landscapes instead of tropical resorts.”); Louise Angelique de La Fayette, *Responding to Environmental Damage in Antarctica*, in ANTARCTICA: LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE 109, 113 (Gillian Triggs & Anna Riddell eds., 2007) (“[W]ith the expansion of tourism in more familiar locations, came the quest for visits to more remote and exotic areas of the globe.”). Staying at low levels since the late 1950s, Antarctic tourism began to take off in the early 1990s and has continued to increase. See Antarctic & Southern Ocean Coalition, ASOC’s Antarctic Tourism Campaign, <http://www.asoc.org/WhatWeDo/CampaignsRegulatingAntarcticTourism/tabid/70/Default.aspx> (last visited Sept. 26, 2008) [hereinafter ASOC’s Antarctic Tourism

are many other reasons that explain what draws visitors to this unspoiled area.³ As a vacation destination, Antarctica promises “endless expanses of ice and snow, punctuated by the antics of penguins and the passing majesty of great whales”⁴ Traveling to the cold continent on scientific research vessels to observe penguins and seals is a thing of the past; tourists now travel in style on luxurious cruise ships.⁵ John Splettstoesser, who has been sailing to Antarctica since 1960,⁶ believes that for now, Antarctica remains “one of the few places where people can visit a pristine area of the globe without mucking things up.”⁷

Although the majority of tourists travel to Antarctica in small- to medium-sized vessels, major cruise lines have started to take an interest in the region. In 2007, the 3700 passenger, 100,000-ton *Golden Princess* became the largest ship to enter Antarctic waters.⁸ Ten times bigger than the typical cruise ships sailing to Antarctica, the *Golden Princess* navigates through the islands, straits, and channels of the Antarctic Peninsula as part of a three-week voyage.⁹ The presence

Campaign].

3. See generally Don Hamilton, *Cold Fusion: Polar Cruise Ship and Raft Provide Passage to an Antarctic Adventure*, CHI. TRIB., Mar. 28, 1999.

4. de La Fayette, *supra* note 2, at 113. See also Thomas Bauer & Ross K. Dowling, *The Antarctic Cruise Industry*, in CRUISE SHIP TOURISM 195, 195 (Ross K. Dowling ed., 2006) (“Towering snow and ice-covered mountains falls off steeply into the ice-choked seas, floating icebergs the size of large buildings or at times the size of small countries and glaciers calving into the sea, all provide visitors with unsurpassed vistas.”).

5. See discussion *infra* Part II.B.

6. Splettstoesser first traveled to Antarctica in 1960 to conduct geologic field work. E-mail from John F. Splettstoesser, former Field Coordinator, U.S. Antarctic Research Program, to author (Apr. 2, 2008, 14:15 PST) (on file with author). In 1983, Splettstoesser took his first cruise on the *Explorer*. *Id.* Since then, Splettstoesser has taken more than 100 cruises to Antarctica, plus flyovers. *Id.*

7. David Helvar, *Is Rise in Tourism Helping Antarctica or Hurting It?*, NAT’L GEOGRAPHIC, Aug. 22, 2003, available at http://news.nationalgeographic.com/news/2003/08/0822_030822_antarctictours.html.

8. *Local News from All Over: Oceania*, *supra* note 2. Two Princess Cruises’ ships sail to Antarctica, the *Golden Princess* and the *Star Princess*. *Id.* A cruise on one of these ships can cost as much as \$5600 per passenger. *Id.*

9. *Will Cruise Ship Change Antarctica?*, MSNBC, Sept. 7, 2006, <http://www.msnbc.msn.com/id/14714542/>. Canterbury University polar policy specialist, Alan Hemmings, posits that the *Golden Princess* is “evidence of the

of larger cruise ships, as well as the marked growth in polar cruise tourism, has increased environmental concerns.¹⁰ Such concern has grown in the wake of the *ms Explorer*, the first cruise ship to sink in Antarctic waters.¹¹ Some groups propose legal regulation of cruise ships, but jurisdictional conflicts and other issues hinder implementing effective environmental protections and tourism regulations in Antarctica.¹² Nevertheless, even if such regulations were feasible, the internal policies and practices of the cruise industry would make the regulations superfluous.¹³

Sustainable development is at the foundation of modern international environmental law and has become a primary focus of international conventions and instruments.¹⁴ In general, tourism has adopted a sustainability-based approach.¹⁵ Businesses, including those in the cruise industry, recognize that sustainability is vital to successful operations and a prosperous future.¹⁶

This article examines the environmental and legal implications of the growing Antarctic cruise industry. Part II sets forth the background of climate change, the Antarctic cruise industry, and sustainable tourism. This section also describes the two 2007 cruise ship pollution incidents and the Antarctic environmental and political responses. Part III looks into the three legal regimes affecting the governance of cruise ships in Antarctica. Part IV explores the possibility of achieving sustainable cruise tourism in Antarctica despite legal obstacles to control and regulate the Antarctic cruise

changing structure of the Antarctic tourism industry as it moves away from smaller vessels toward much larger vessels." *Id.*

10. See *infra* Parts II.A-B.

11. Jon Bowermaster, *Special Report: The Sinking of the Explorer*, NAT'L GEOGRAPHIC ADVENTURE, <http://www.nationalgeographic.com/adventure/news/explorer-sinks-antarctica.html> (last visited Sept. 26, 2008); John Roach, *Antarctica Cruise Disaster Raises Tourism Concerns*, NAT'L GEOGRAPHIC, Nov. 27, 2007, available at <http://news.nationalgeographic.com/news/pf/49479798.html>; see *infra* notes 103-08 and accompanying text.

12. See discussion *infra* Parts III-IV; see also Gillian Triggs & Anna Riddell, *Introduction to ANTARCTICA: LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE* xi, xix (Gillian Triggs & Anna Riddell eds., 2007).

13. See discussion *infra* Parts IV-V.

14. See *infra* notes 120-21, 124 and accompanying text.

15. See discussion *infra* Part II.C.

16. See discussion *infra* Parts IV-V.

industry. Part V argues that instead of adding to the continent's deterioration, the major cruise lines' current environmental policies complement sustainable tourism as well as advance stewardship in the region. This article concludes that sustainable cruise tourism in the region is attainable despite a growing Antarctic cruise industry. Further, the cruise industry's self-regulation can sufficiently protect Antarctic environmental interests in the absence of enforceable regulations.

II. ANTARCTICA AND CRUISE SHIPS

A. *Antarctic Environmental Concern*

It is well established that human activity contributes to global climate change.¹⁷ Moreover, a relationship between tourism activities and climate change exists:¹⁸ climate change directly impacts tourism by "increasing temperatures, rising sea levels, increased precipitation, and an elevated snow line" and indirectly by "health effects, and impacts on the built environment."¹⁹ Conversely, the tourism industry's dependence on fossil fuels significantly contributes to gas emissions.²⁰ Estimates mark the tourism industry as generating at least five percent of the global CO₂ emissions.²¹ A cruise ship like the *Golden Princess* has the fuel capacity to carry 3275 tons of marine

17. HUNTER ET AL., *supra* note 1, at 2.

18. Angela Williams, *Reconciling Tourism and the Environment: A Task For International Environmental Law?*, 9 VT. J. ENVTL. L. 23, 65 (2007) [hereinafter Williams, *Reconciling Tourism and the Environment*].

19. Williams, *Reconciling Tourism and the Environment*, *supra* note 18, at 65; see also INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT—SUMMARY FOR POLICYMAKERS 2 (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf ("Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures . . . and rising global average sea level."). In the period between 1995 and 2006, eleven of those years rank among the twelve warmest years recorded since 1850. *Id.*

20. Williams, *Reconciling Tourism and the Environment*, *supra* note 18, at 65.

21. Second International Conference on Climate Change and Tourism, Davos, Switz., Oct. 3, 2007, *Davos Declaration: Climate Change and Tourism Responding to Global Challenges 2*, available at http://www.world-tourism.org/sustainable/doc/davos_dec/Davos-Declaration_English.pdf [hereinafter Davos Declaration].

fuel oil, 235 tons of marine diesel oil, and 182 tons of lubricating oil.²² The North American cruise industry alone operates about 150 vessels similar to the *Golden Princess* on a yearly basis.²³ During 2006, 9.4 million Americans took cruises, comprising seventy-eight percent of all cruise passengers.²⁴

The Antarctic lays claim to “some of the most pristine and biologically unique ecosystems on Earth.”²⁵ This is surprising, considering that Antarctica endures sub-freezing temperatures, biting winds, and is cloaked in darkness six months of the year.²⁶ Despite these hardships, this unforgiving continent is instrumental in managing the Earth’s climate and sea levels.²⁷

22. ANTARCTIC & SOUTHERN OCEAN COAL., *THE CASE AGAINST TOURISM LANDINGS FROM SHIPS CARRYING MORE THAN 500 PASSENGERS* 7 (2007) (citing Princess Cruises, *EIA Princess Cruises MV Golden Princess 2006/7 Antarctic Cruise Expedition Initial Environmental Evaluation*, at 9, 38 (2006)).

23. See BUS. RES. & ECON. ADVISORS, *THE CONTRIBUTION OF THE NORTH AMERICAN CRUISE INDUSTRY TO THE U.S. ECONOMY IN 2006*, prepared for Cruise Lines Int’l Assoc. (2007), <http://www.cruising.org/press/research/U.S.CLIA.Economic.Study.2006.pdf> [hereinafter BREA].

24. *Id.*

25. *Antarctic Environmental Protection Act of 1996: Hearing on H.R. 3060 Before the H. Comm. on Science*, 104th Cong. (1996) (statement of Kathryn Fuller, President, World Wildlife Fund).

The southern ocean is virtually unmatched as a font of ocean productivity; its extraordinary phytoplankton and krill support much of the ocean food chain globally and . . . provides safe harbor to some of the most critically endangered marine mammals . . . From a conservation perspective, there is truly much at stake in the Antarctic. During the last 35 years, however, pressures on the Antarctic environment have increased dramatically.

Id.

26. David W. Floren, Comment, *Antarctic Mining Regimes: An Appreciation of the Attainable*, 16 J. ENVTL. L. & LITIG. 467, 471 (2007). But perhaps these inhospitable features account for the fact that Antarctica is the only continent that does not support significant human habitation. *Id.* at 471-72.

27. Colin Deihl, *Antarctica: An International Laboratory*, 18 B.C. ENVTL. AFF. L. REV. 423, 431 (1991) (describing Antarctica’s geographical and geological features). Antarctica’s ecosystem functions as a natural “refrigerant of the [E]arth’s temperature system.” Jacques-Yves Cousteau & Bertrand Charrier, *The Antarctic: A Challenge to Global Environmental Policy*, Introduction to THE ANTARCTIC ENVIRONMENT & INTERNATIONAL LAW 5, 6 (Joe Verhoeven, Philippe Sands & Maxwell Bruce eds., 1992) (“The Antarctic ice sheet returns up to 80% of the sun’s incidental rays, contributing to the maintenance of low temperatures in the region. This capacity to ‘refrigerate’ at the heart of a dynamic system regulates the average

The Antarctic,²⁸ once a cold frontier, is unfortunately becoming a “global warming hot spot.”²⁹ The effects of climate change are most noticeable in the Polar Regions—they “provide an essential barometer for [climate change’s] impact on the planet.”³⁰ Over the last thirty years, glaciers have melted and ice shelves have collapsed due to a rise in temperature of only 3°C.³¹ As the climate warms, safely navigating Antarctic waters is more difficult because of the number of

temperature of the Earth.”). Ninety to ninety-five percent of the world’s ice is located in Antarctica. Bauer & Dowling, *supra* note 4, at 195. If all the ice on Earth melted, the sea level would rise 100 meters. JAMES E. NEUMANN ET AL., SEA-LEVEL RISE & GLOBAL CLIMATE CHANGE: A REVIEW OF IMPACTS TO U.S. COASTS 8 (2000), available at http://www.pewclimate.org/docUploads/env_sealevel.pdf. Hence, human activities that modify or pollute Antarctic habitats can have serious long-term effects. Cousteau & Charrier, *supra*. The Antarctic is still trying to recover from the damage caused by the 1989 oil spill from the ill-fated Argentinean supply ship *Bahia Paraiso*. *Id.*

28. The Antarctic, sometimes called the “south polar continent,” includes “the continent of Antarctica, several indigenous islands, and the surrounding Southern Ocean.” CHRISTOPHER C. JOYNER, ANTARCTICA AND THE LAW OF THE SEA 1 (1992) [hereinafter JOYNER, ANTARCTICA AND THE LAW OF THE SEA]. The Southern Ocean, or Antarctic Ocean, is the body of water encircling the south polar continent. *Id.* at 17. The Antarctic continent and its surrounding waters cover one-tenth of the Earth’s surface. *Id.* at 10, 143.

29. *Local News from All Over: Oceania*, *supra* note 2 (citing John Shears, British Antarctic Survey).

30. See Sir Michael Wood, *Foreword* to ANTARCTICA: LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE v, vi (Gillian Triggs & Anna Riddell eds., 2007).

31. *Local News from All Over: Oceania*, *supra* note 2 (citing John Shears, British Antarctic Survey). Melting of Antarctic ice sheets at a rate of 150 cubic kilometers per year consequentially causes the sea level to rise 0.4 mm each year. HUNTER ET AL., *supra* note 1, at 641. “Climate change may also have contributed to the spectacular collapse of Antarctica’s Larsen B Ice Shelf in 2002 . . .” *Id.* The ice shelf measured more than twice the size of New York City. *Id.* Glacial ice seven times the size of Manhattan broke away from the Wilkins ice shelf in 2008. *Western Antarctic Ice Chunk Collapses*, ABC NEWS, Mar. 25, 2008, <http://abcnews.go.com/print?id=4521002>. After the collapse, only a narrow strip of thin ice holds the rest of the Wilkins ice shelf, measuring almost the size of Connecticut, to the mainland. *Id.* Scientists originally predicted the Wilkins shelf would collapse in 2023. *Id.* Although it is normal for icebergs to break away from the Antarctic mainland, collapses of this magnitude are unusual. *Id.* However, it is a rarity that is becoming more common as global warming worsens. *Id.*

icebergs calving³² from disintegrating Antarctic Peninsula ice shelves.³³ More cruise ships in Antarctic waters call into question the newcomer captains' abilities to navigate these areas.³⁴ Experience in interpreting ice conditions is vital to avoid collisions or groundings that could jeopardize the integrity of ships' hulls.³⁵

The seriousness of climate change and its effects have elevated climate change to a global environmental priority.³⁶ Climate change and environmental concerns now command mainstream attention, as evidenced by the response to the 2006 documentary, "An Inconvenient Truth,"³⁷ featuring former U.S. Vice President Al

32. Calving occurs when a mass of ice breaks away from a tidewater glacier or ice shelf. *DICTIONARY OF GEOLOGICAL TERMS* 71 (Robert L. Bates & Julia A. Jackson eds., 3d ed. 1984).

33. Roach, *supra* note 11 (citing Jo Jacka, Chief Science Editor, *Journal of Glaciology*).

34. *See id.* "Experience may become even more important as the climate continues to warm . . ." *Id.* (citing Jo Jacka, Chief Science Editor, *Journal of Glaciology*). Experienced ice pilots are always on board when the tour vessels enter the Antarctic Treaty area. E-mail from John F. Spletstoesser to author, *supra* note 6.

35. *See* Roach, *supra* note 11.

36.

Imagine for just a moment that everything I'm saying about [global warming] is true—then nothing else matters very much, and if [NASA climate scientist] Jim Hansen is correct that we have less than ten years before we cross the point of no return, then why would you spend your time on anything else?

AN INCONVENIENT TRUTH (Paramount Classics 2007) (quoting former U.S. Vice President Al Gore).

37. *Id.* The film went on to win an Academy Award while Al Gore and the Intergovernmental Panel on Climate Change won the 2007 Nobel Peace Prize. Sarah Lyall, *In Nobel Speech, Gore Calls for Urgent Climate Action*, *N.Y. TIMES*, Dec. 11, 2007, at A1. The year following the release of "An Inconvenient Truth," long-time environmental activist Leonardo DiCaprio created, produced, and narrated his own feature-length documentary about global environmental issues. Caryn James, *The Baby-Faced Kid Has Developed Quite a Stare*, *N.Y. TIMES*, Oct. 29, 2006; *see also* *THE 11TH HOUR* (Warner Independent Pictures 2007); Leonardo DiCaprio Eco-Site, <http://www.leonardodicaprio.org/> (last visited Oct. 7, 2008). Another of DiCaprio's planned environment projects is a television reality show that transforms an ordinary town into a green town. James, *supra*. The wildlife of Antarctica and the conservation issues surrounding the South Polar Region have also recently shared in the Hollywood limelight. *See, e.g.*, *HAPPY FEET* (Warner Bros. 2006) (exposing the negative consequences of overfishing, pollution, and human activity in Antarctic waters); *MARCH OF THE PENGUINS* (Warner Independent Pictures 2005)

Gore.³⁸ Growing environmental consciousness is important because environmental law is strongly influenced by culture and social norms.³⁹ Climate change stories grace the pages of *Vanity Fair* and sales of hybrid cars are on the rise.⁴⁰ Just as many consumers are consciously making greener personal choices, some businesses, including cruise lines, are also making green business decisions that facilitate sustainable tour operations and pacify passengers' environmental concerns.⁴¹ Increased environmental awareness encourages sustainable development and consequently more sustainable tour alternatives.⁴²

Environmental awareness and concern about Antarctic cruise ship activities have particularly intensified in the aftermath of the *Explorer* incident.⁴³ Climate change concerns, coupled with cruise ship

(documenting the life cycle of Emperor penguins in the Antarctic).

38. Alex Williams, *Buying Into the Green Movement*, N.Y. TIMES, July 1, 2007 [hereinafter Williams, *Buying Into the Green Movement*]. Kermit the Frog may have first sung the lyric, "It's not easy being green" in 1970, but today being "green" is culturally and socially in fashion. JIM HENSEN, *Bein' Green, on SESAME STREET PLATINUM: ALL TIME FAVORITES* (Sony Wonder 1995); see Williams, *Buying Into the Green Movement*, *supra*. "[Earth-friendly] choices are rendered fashionable as celebrities worried about global warming appear on the cover of *Vanity Fair*'s 'green issue,' and pop stars like Kelly Clarkson and Lenny Kravitz prepare to headline acts on July 7 at the Live Earth concerts at sites around the world." Williams, *Buying Into the Green Movement*, *supra*.

39. HUNTER ET AL., *supra* note 1, at 101 ("[I]t is critical to understand the rich interplay among culture, social norms, and law if we are to succeed in making international environmental law a more powerful force for achieving environmental sustainability.").

40. Williams, *Buying Into the Green Movement*, *supra* note 38. In the new millennium, the green movement and cultural patterns surrounding environmentalism have emerged as society internalizes choices that are environmentally friendly. See HUNTER ET AL., *supra* note 1, at 102.

41. See *infra* text accompanying notes 233-58.

42. See *infra* text accompanying notes 113-23.

43. See James Barnes, Editorial, *Why the White Wilderness Needs Our Care*, BBC NEWS, Mar. 31, 2008, <http://news.bbc.co.uk/1/hi/sci/tech/7317421.stm> ("I am sure that general awareness of risks from shipping to the Antarctic and its wildlife has been heightened by recent accidents in the region."). James Barnes is an international environmental lawyer and has spent thirty-five years working on environmental treaties. *Id.* Mr. Barnes currently acts as the executive director of the Antarctic and Southern Ocean Coalition (ASOC). *Id.*; see also discussion *infra* Part II.B.2.

incidents, have sparked some groups to voice concern about Antarctic tourism activities. Even so, the concern for climate change and Antarctica's environment is not universal. Some individuals make light of the recent cruise ship pollution accidents as well as mock the seriousness of climate change's effect on the Antarctic region.⁴⁴

Nonetheless, nongovernmental organizations, such as the Antarctic and Southern Ocean Coalition (ASOC), fear that tourism growth may occur outside the management of the Antarctic Treaty⁴⁵ and outside the regulations of the International Association of Antarctica Tour Operators (IAATO).⁴⁶ According to the ASOC, tourism in the Antarctic has enjoyed "steep annual increases, diversification, and geographic expansion" without oversight from a comprehensive plan to regulate tourism.⁴⁷ The ASOC's apprehension

44. See, e.g., Posting of Legendary 240 to Cruise Ship Runs Aground In Antarctic, <http://www.cbsnews.com/stories/2007/01/31/world/main2416177.shtml> (Jan. 31, 2007, 10:53 EST). The following is an example of a segment of the population's reaction to the *Explorer* incident:

Whoa . . . wait a minute! Al Gore said the polar ice was melting and the oceans are rising. So, how in the name of all things meteorological could a ship ground itself on rocks near such a global catastrophe? Quick, get a spin going on this for the liberals to repeat. How about this; [sic] "The flow of water from the melting glaciers was so strong that it created cavaition [sic] near the glacial shelf thereby sucking the ship downward against the rocks. George Bush is to blame!"

Id.

45. Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794, 402 U.N.T.S. 71 [hereinafter Antarctic Treaty].

46. ANTARCTIC & SOUTHERN OCEAN COAL., A DECADE OF ANTARCTIC TOURISM: STATUS, CHANGE, AND ACTIONS NEEDED 5 (2008), <http://www.asoc.org/Portals/0/ASOC%20-20Future%20of%20Antarctic%20Tourism%20031708.pdf> [hereinafter A DECADE OF ANTARCTIC TOURISM] (noting this growth is "evidenced by the use of flags of convenience—which becomes more likely as larger conventional cruise liners . . . rather than dedicated polar vessels, are used in Antarctica"). The ASOC has been bringing attention to these tourism related problems since 2001. ANTARCTIC & SOUTHERN OCEAN COAL., TOURISM AND THE DUTY FOR ATCP ACTION, IP/85, at 3 (2007) [hereinafter TOURISM AND THE DUTY FOR ATCP ACTION].

47. A DECADE OF ANTARCTIC TOURISM, *supra* note 46, at 3. The existing regime has only been able to develop "local and technical fixes, given effect through voluntary guidelines." *Id.* Another problem for the ASOC is that the existing regulation tends to be reactive to tourism developments. *Id.* However, some researchers argue that "there is no other [self-regulation tourism] model that has

concerning larger cruise ships in Antarctica stems from the fact that the larger vessels are not equipped with ice-strengthened hulls.⁴⁸ Further, the ASOC is concerned by the larger vessels' use of heavier grade fuel oils that could pose significant environmental risk to Antarctica.⁴⁹

The ASOC and other groups call for the Antarctic Treaty Consultative Parties⁵⁰ to approve measures prohibiting certain sized passenger vessels from operating in Antarctic waters, regardless of

been as successful as IAATO's for the last 15 years continuously." Robert A. Lambert, "Observing" Sustainable Tourism in Antarctica: The International Association of Antarctica Tour Operators' Observer Scheme 3-4 (Feb. 2007) (unpublished manuscript, on file with author) (citing Denise Landau, executive director of the IAATO). "IAATO exemplifies the idea that the most effective way to understand and address long-term cumulative environmental impacts from tourism, and to develop private sector initiatives and standards, is through collective endeavour [sic] based on years of shared experience." *Id.*

48. A DECADE OF ANTARCTIC TOURISM, *supra* note 46, at 5; cf. Richard Jacobsen, *Ship Sinking Raises Concern About Antarctica Tourism*, SAN DIEGO UNION-TRIB., Dec. 23, 2007, available at http://cfx.signonsandiego.com/uniontrib/20071223/news_lt23antarct.html (quoting Princess Cruises' spokeswoman Julie Benson as saying ice-strengthening is unnecessary because "we cruise in the summer months when it's relatively ice-free, and our ships transit only in open-water areas with very limited ice floes [sic]").

49. A DECADE OF ANTARCTIC TOURISM, *supra* note 46, at 5. The ASOC notes that this makes for a "compelling case" to prohibit the use of such fuels within the Antarctic Treaty area. *Id.*

50. The Antarctic Treaty has a two-tiered system to distinguish the decision-making Consultative Parties from other treaty parties. Antarctic Treaty, *supra* note 45, arts. IX, XII; MARK W. JANIS & JOHN E. NOYES, CASES AND COMMENTARY ON INTERNATIONAL LAW 675 (3d ed. 2006). Only Consultative Parties can vote at international meetings. Antarctic Treaty, *supra* note 45, arts. IX, XII; JANIS & NOYES, *supra*, at 675-76; Jonathan D. Weiss, *The Balance of Nature and Human Needs in Antarctica: The Legality of Mining*, 9 TEMP. INT'L & COMP. L.J. 387, 394 (1995). The original treaty signatories and countries demonstrating "substantial scientific research" are Consultative Parties. Antarctic Treaty, *supra* note 45, art. IX(2). At the treaty's inception there were twelve parties joined as Consultative Parties. *Id.* at preamble. Forty-six states are parties to the Antarctic Treaty, but only twenty-eight of them are Consultative Parties. British Antarctic Survey, *The Antarctic Treaty Explained*, http://www.antarctica.ac.uk/about_antarctica/geo_political/treaty/explained.php (last visited Oct. 8, 2008). The Antarctic Treaty may be binding on non-parties by establishing special treaty obligations (*erga omnes*). Bruno Simma, *Antarctic Treaty as a Treaty Providing for an "Objective Regime,"* 19 CORNELL INT'L L.J. 189, 189 (1986) (stating that literature debates whether the Antarctic Treaty is an example of a "true objective treaty regime").

whether the vessels land or not.⁵¹ These groups ask Antarctic Treaty governments to work together to develop high operating standards for Antarctic vessels and make long-term decisions to protect the Antarctic environment.⁵² Argentina and Britain have been the most supportive of requests to implement stricter conditions for all Antarctic cruise operators since the *Explorer* incident.⁵³ After the *Explorer's* demise, the actions of the ASOC and other groups will likely have a greater impact as concern for the Antarctic environment grows.

B. *Extent and Effects of Cruise Ships in Antarctica*

Almost 31,000 tourists were expected to travel to Antarctica during the 2007-2008 season.⁵⁴ While these tourists follow the footsteps of Ernest Shackleton⁵⁵ and other ill-fated explorers, an estimated 13,960 tourists cruised Antarctic waters without ever setting foot on shore.⁵⁶ The number of cruise ships sailing to Antarctica has

51. TOURISM AND THE DUTY FOR ATCP ACTION, *supra* note 46, at 4. The ASOC believes such regulations would “remove the risks from very large cruise liners completely, and has the administrative elegance of generic application across all vessels [sic] types operating in the area.” *Id.*

52. Barnes, *supra* note 43.

53. *Argentina Wants Stricter Rules for Antarctic Tourism*, MERCOPRESS, Nov. 25, 2007, <http://www.mercopress.com/vernoticia.do?id=11971&formato=pdf>; *see infra* notes 110, 229-31 and accompanying text.

54. Int’l Assoc. of Antarctic Tour Operators, *IAATO Overview of Antarctic Tourism 2006-2007 Antarctic Season*, IP/121, at 22 (June 18, 2007) [hereinafter *Overview of Antarctic Tourism*]. The number of Antarctic travelers has quadrupled from a decade ago. *Local News from All Over: Oceania*, *supra* note 2. The first regular commercial Antarctic cruise set sail across the Drake Passage to the Antarctic Peninsula in 1996 with 94 passengers aboard the *Lapataia*. Bauer & Dowling, *supra* note 4, at 197.

55. In the early 1900s, Shackleton, riding Manchurian ponies, pioneered the route to the South Pole. JOYNER, *ANTARCTICA AND THE LAW OF THE SEA*, *supra* note 28, at 7. *See also* Sarah Krakoff, *Mountains Without Handrails . . . Wilderness Without Cellphones*, 27 HARV. ENVTL. L. REV. 417, 442 (2003) (“With superior technology, ordinary folk can retrace the icy steps of Ernest Shackleton, Robert Peary, and other ill-fated explorers without any of the original risk.”).

56. *Overview of Antarctic Tourism*, *supra* note 54, at 22. However, the Antarctic the scientific explorers experienced is quite different than the Antarctic experienced by modern cruisers. Gone are the concerns of “deprivation and life-threatening conditions”; the problem cruise passengers encounter is trying to find

steadily increased since the 1990s.⁵⁷ The following summarizes the tremendous increase in Antarctic cruise tourism in recent years:

During 1992-93, 10 ship operators with 12 vessels made 59 voyages to (and landed 6704 individuals in) Antarctica; during 2000-1, there were 15 operators in 32 vessels that made 131 voyages to (and landed 12,109 persons in) Antarctica; but during 2004-5, the most recent year for which statistics are available, at least 35 operators with 52 vessels made 208 voyages to (and landed 22,834 individuals in) Antarctica.⁵⁸

The larger cruise ships have been sailing to Antarctica since 2000, when Holland America Line's *ms Rotterdam* made a "three-day drive-by" of the continent.⁵⁹ And every year more cruise lines consider adding Antarctic cruises to their ships' itineraries.⁶⁰

time to fit in hot tubbing, putt-putt golf, and tea time. *In Shackleton's Wake, With a Hot Tub*, N.Y. TIMES, June 10, 2007, available at <http://travel.nytimes.com/2007/06/10/travel/10antarctica.html>.

57. See ASOC's Antarctic Tourism Campaign, *supra* note 2.

58. Christopher C. Joyner, *The Emerging Legal Regime for Navigation Through Antarctic Ice-Covered Waters*, in ANTARCTICA: LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE 61, 70 (Gillian Triggs & Anna Riddell eds., 2007) [hereinafter Joyner, *The Emerging Legal Regime*]. See *Overview of Antarctic Tourism*, *supra* note 54, for statistics on the 2006-2007 Antarctic tour season.

59. Helvarg, *supra* note 7; Brett S. Deutsch, *Sinking Raises Questions About Antarctica Tourism*, DALLAS MORNING NEWS, Dec. 31, 2007, http://www.dallasnews.com/sharedcontent/dws/fea/travel/thisweek/stories/DN-antar_c_1230tra.State.Edition1.d925de.html. The *ms Rotterdam* has a passenger capacity of 1316 and has a crew of 593. Holland America Line, *Onboard Our Ships*, <http://www.hollandamerica.com/cruise-vacation-onboard/Rotterdam> (follow "Ship Facts" hyperlink) (last visited Oct. 9, 2008). Three other cruise ships, similar in size to the *Rotterdam*, made Antarctic voyages in 2002 and 2003. Helvarg, *supra* note 7. Some of the larger ships ferry their passengers ashore via Zodiac rubber rafts. *Id.*

60. See Helvarg, *supra* note 7.

Despite high prices,⁶¹ the Antarctic tourism industry continues to expand.⁶² While at one time only two cruise ships visited the continent, now often ten ships at a time will travel in Antarctic waters.⁶³ The absence of restrictions on the number of vessels in Antarctic waters has allowed Antarctic cruise tourism to grow uninhibited.⁶⁴ The increased traffic requires the tour operators to confer nightly by radio in order to avoid schedule conflicts at certain sightseeing spots.⁶⁵ Some ships with more than 400 passengers spend as long as twelve hours ferrying passengers from the ship to penguin colony breeding sites.⁶⁶ One critique, then, of industry self-management is that the industry's codes of conduct only superficially address damage to sensitive environments by visitors.⁶⁷

Increased tourism in Antarctica has created new environmental pressures and raised new concerns.⁶⁸ The problems of tourism that afflict all destinations, including an increase in the number of visitors

61. For example, passengers on the ill-fated *Explorer's* nineteen-day cruise paid up to \$14,000 for a suite. Federico Quilodran & Richard Jacobsen, *Cruise Ship Sinking Raises Concern Over Tourism Boom*, HOUSTON CHRON., Nov. 30, 2007, available at <http://www.chron.com/disp/story.mpl/travel/5335785.html>. Cruising to the Antarctic can be a very lucrative business. Indeed, during the 1996-1997 season, the market value of the Antarctic tourism industry was estimated to be between \$44 and \$55 million. Debra Enzenbacher, *Antarctic Tourism Policy-Making: Current Challenges and Future Prospects*, in ANTARCTICA: LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE 155, 172 (Gillian Triggs & Anna Riddell eds., 2007). An Antarctic cruise can cost between \$3000 and \$20,000. Helvarg, *supra* note 7.

62. Enzenbacher, *supra* note 61, at 171.

63. Helvarg, *supra* note 7.

64. Enzenbacher, *supra* note 61, at 171.

65. Helvarg, *supra* note 7.

66. *Id.*

67. STEPHEN PAGE, TOURISM MANAGEMENT: MANAGING FOR CHANGE 358 (2003).

68. See Roach, *supra* note 11; see also discussion *infra* Part II.B.1. Boats during the summer tourist season visit the same penguin colony every day. Roach, *supra* note 11. Antarctic tourists now outnumber the scientists who are based on the continent. Paul L. Stoller, Comment, *Protecting the White Continent: Is the Antarctic Protocol Mere Words or Real Action?*, 12 ARIZ. J. INT'L & COMP. L. 335, 359 (1995). Although there may be more tourists than scientists in Antarctica, it is estimated that the tourist industry's human impact on the continent is 0.52% compared to the 99.48% attributed to scientists and staff based in Antarctica. Bauer & Dowling, *supra* note 4, at 203.

and uncontrolled visitor activity, have started to take their toll on Antarctica.⁶⁹ But for the reasons discussed in Part III, virtually no governmental regulations govern commercial tourism in Antarctica.⁷⁰ Except for the locations designated by Treaty Parties as management areas, there is “essentially no constraint on where you can go, what you can do, and how many of you can do it” in Antarctica.⁷¹

The only obligation a tour operator must fulfill is one that is required of everyone in Antarctica—to conduct a prior Environmental Impact Assessment (EIA).⁷² The Antarctic EIA acts as the “sole gatekeeper” for access to the region.⁷³ Proposed tour activities that are determined to have “less than a minor or transitory impact” on the environment can proceed with operations.⁷⁴ EIA requirements are

69. See Woodruff A. Polk, Comment, *Welcome to the Hotel Antarctica: The EPA’s Interim Rule on Environmental Impact Assessment of Tourism in Antarctica*, 12 EMORY INT’L L. REV. 1395, 1400-02 (1998) (describing tourism’s environmental impact upon Antarctica).

70. See *infra* Part III. None of the Antarctic Treaty provisions directly address tourism. José-Roberto Pérez-Salom, *Sustainable Tourism: Emerging Global and Regional Regulation*, 13 GEO. INT’L ENVTL. L. REV. 801, 823 (2001) (noting that although little progress has been made with tourism focused agreements, the Consultative Parties continue the attempt to address tourism issues).

71. ASOC’s Antarctic Tourism Campaign, *supra* note 2; see also E-mail from John F. Spletstoeser to author, *supra* note 6. Management areas can only be entered by permit; thus, while excluding tourism activities, these areas are reserved for science and related studies. E-mail from John F. Spletstoeser to author, *supra* note 6.

72. Protocol on Environmental Protection to the Antarctic Treaty art. 8, Oct. 4, 1991, 30 I.L.M. 1455, available at http://www.ats.aq/documents/recatt/Att006_e.pdf [hereinafter Environmental Protocol]. Accord Lorne K. Kriwoken & David Rootes, *Tourism on Ice: Environmental Impact Assessment of Antarctic Tourism*, 18 IMPACT ASSESSMENT & PROJECT APPRAISAL 138, 142-46 (2000) (outlining in detail the three assessment tiers).

73. Alan D. Hemmings & Ricardo Roura, *A Square Peg in a Round Hole: Fitting Impact Assessment Under the Antarctic Environmental Protocol to Antarctic Tourism*, 21 IMPACT ASSESSMENT & PROJECT APPRAISAL 13, 21 (2003) (noting, however, that “[t]his is not a role EIA plays in most other parts of the world. Usually it occurs after some other mechanism . . . has determined that the activity (or activities like it) is justifiable, desirable, [or] socially acceptable . . .”). Companies registered in Antarctic Treaty signatory states must complete an EIA. Environmental Protocol, *supra* note 72, art. 8(2); Kriwoken & Rootes, *supra* note 72, at 148.

74. Protocol on Environmental Protection to the Antarctic Treaty, Annex I arts. 1(2), 2(2), Oct. 4, 1991, 30 I.L.M. 1455, available at <http://www.ats.aq/>

open to broad interpretation and are enforced through domestic legislation by the different Antarctic Treaty signatory parties.⁷⁵ Besides the EIA, several voluntary measures were added to the Antarctic Treaty System, including “pre-trip and post-trip notification . . . contingency planning, and site-specific guidelines.”⁷⁶

1. Cruise Ship Pollution

Cruise ships, like all vessels, discharge waste in order to operate in an effective and safe manner.⁷⁷ A small cruise ship carrying 1400 passengers can produce several tons of waste each day.⁷⁸ Generally, there are seven categories of cruise ship waste: sewage, gray water, air emissions, hazardous waste, solid waste, ballast water, and oily bilge water.⁷⁹ Sewage or “black water” comes from the ship toilet waste.⁸⁰ “Gray water” is the waste water collected from the ship sinks,

documents/recatt/Att008_e.pdf [hereinafter Environmental Protocol Annex I].

75. Kriwoken & Rootes, *supra* note 72, at 148.

76. MACHIEL LAMERS ET AL., INT’L CTR. FOR INTEGRATED ASSESSMENT & SUSTAINABLE DEV., SELF-REGULATION OF TOURISM IN ANTARCTICA: EXPLORING THE CONDITIONS FOR SUCCESS AND FAILURE 5 (2007), available at http://www.2007amsterdamconference.org/Downloads/AC2007_LamersEtAl.pdf.

77. Aaron Courtney et al., *Multijurisdictional Regulation of Cruise Ship Discharges*, 19 NAT. RESOURCES & ENV’T 50, 50 (2004).

78. Ron O’Grady: *Cruise Ships Threaten Disaster in Antarctic*, N.Z. HERALD, Sept. 13, 2006, http://www.nzherald.co.nz/topic/story.cfm?c_id=272&objectid=10400974.

79. Andrew Schulkin, Note, *Safe Harbors: Crafting an International Solution to Cruise Ship Pollution*, 15 GEO. INT’L ENVTL. L. REV. 105, 109 (2002) (listing six categories of cruise ship waste); see also Eric V. Hull, Comment, *Soiling the Sea: The Solution to Pollution is Still Dilution—A Re-Evaluation of the Efficacy of 40 C.F.R. § 122.3 and Annex IV of MARPOL*, 3 BARRY L. REV. 61, 82 (2002) (listing ballast water as a type of cruise ship waste). A typical cruise ship, during a weeklong voyage, produces more than eight tons of solid waste, one million gallons of gray water, and about 210,000 gallons of sewage. PEW OCEANS COMM’N, AMERICA’S LIVING OCEANS: CHARTING A COURSE FOR SEA CHANGE 4 (2003), available at http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/env_pew_oceans_final_report.pdf.

80. Schulkin, *supra* note 79, at 109-10. The germs contained in sewage can “contaminate shellfish beds and harm other life, while phosphates, nitrates and other wastewater compounds can trigger huge growths of algae that cloud the water, reduce oxygen, smother corals and kill fish.” Charles Q. Choi, *Cruise Lines Face More Policing of Waste Disposal*, N.Y. TIMES, Mar. 25, 2007.

showers, galleys, and laundry.⁸¹ Air emissions include the pollutants released into the air from ship engines, including carbon dioxide, carbon monoxide, and particulate matter.⁸² Hazardous waste can come from dry cleaners, photo processing labs, and hair salons on board the cruise ships.⁸³ Solid waste, such as plastic, is prohibited from being dumped into the ocean.⁸⁴ Ballast water is seawater the ship takes on to provide ship stability and to adjust a ship's draft during loading.⁸⁵ Operation of a ship's equipment creates oily bilge water that accumulates at the bottom of the ship's hull.⁸⁶

Unfortunately, the operation of ships can have serious and grave consequences for the waters the ships navigate. For example, an oil spill of hundreds of tons of heavy grade fuel from a large vessel's breached hull off Antarctica's remote shores would require several years to clean up and could pose a serious threat to wildlife colonies located near the continent's shores.⁸⁷ The increased number of icebergs and growing ship traffic only intensifies the possibility of

81. Schulkin, *supra* note 79, at 110.

82. *Id.*

83. *Id.* at 111.

84. International Convention for the Prevention of Pollution from Ships, Nov. 2, 1973, 1340 U.N.T.S. 184, *as amended by* Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973, Feb. 17, 1978, 1340 U.N.T.S. 61 [hereinafter MARPOL]. Annex V: Regulations for the Prevention of Pollution by Garbage from Ships, 12 I.L.M. 546; 33 U.S.C. §§ 1901-11 (2008) (adopting Annex V of MARPOL which proscribes the discharge of nondegradable plastics); Schulkin, *supra* note 79, at 111; *see also* U.S. GEN. ACCOUNTING OFFICE, REP. TO CONG. REQUESTERS, GAO/RCED-00-48, MARINE POLLUTION: PROGRESS MADE TO REDUCE MARINE POLLUTION BY CRUISE SHIPS, BUT IMPORTANT ISSUES REMAIN 40-52 (2000), *available at* <http://www.gao.gov/archive/2000/rc00048.pdf> [hereinafter GAO].

85. Uniform National Discharge Standards, Acronyms and Definitions, <http://unds.bah.com/acronyms.html> (last visited Oct. 16, 2007). Ballast water can contain pollutants, including oil, and is the "largest single source of non-native species introductions into coastal and estuarine waters." Hull, *supra* note 79, at 82.

86. Schulkin, *supra* note 79, at 111.

87. *See* Rachel Williams, *Tourism Threat to Earth's Last Great Wilderness*, GUARDIAN (London), Apr. 30, 2007, at 9, *available at* <http://www.guardian.co.uk/environment/2007/apr/30/travelsenvironmentalimpact.frontpagenews> [hereinafter Williams, *Tourism Threat*] ("Nature is a great healer and will clean everything up over time, but because heavy fuel oil is so persistent it could be several years before the environment righted itself.").

accidents resulting in oil spills.⁸⁸ More ships sailing to Antarctica also increases the likelihood of introducing foreign species to the region when they are discharged in ship ballast water or detach from ships' hulls: these invasive species threaten to upset the environmental balance of Antarctica.⁸⁹ As mentioned earlier, another concern with cruise ships sailing to the Antarctic is that they burn fuel and thus add to emissions, consequently helping to cause climate change.⁹⁰

2. *The ms Nordkapp and ms Explorer Incidents*

Concern for the increased shipping traffic along the Antarctic continent crystallized with the 1989 wreck of the Argentine navy ship *Bahia Paraiso*.⁹¹ The transport ship ran aground offshore; the tear in its hull spilled 250,000 gallons of diesel oil into the Antarctic Peninsula waters near the U.S. Palmer Station.⁹² Probably the worst environmental incident in Antarctica to date, the oil spill killed

88. Roach, *supra* note 11.

89. *Will Cruise Ship Change Antarctica?*, *supra* note 9. For example, the North Atlantic spider crab has acclimated itself to the waters of the Antarctic Peninsula. *Id.*; see also *Local News from All Over: Oceania*, *supra* note 2 ("The spike in tourism is starting to have a harmful impact on the area's delicate ecosystems. Environmentalists fear that the growing number of visitors will disturb wildlife, trample rare mosses and lichens, and, perhaps accidentally introduce non-native species to the unique bioregion.").

90. See *supra* notes 20-23 and accompanying text; see also Joyner, *The Emerging Legal Regime*, *supra* note 58, at 70 ("[The] sharp spike in the number of ships visiting the Antarctic region invites elevated concern about ship safety and that the possibility of accidents, oil spills, and vessel-source pollution in circumpolar waters."). One of the major environmental concerns for Antarctica has always been the condition of the ozone layer over the South Pole. Ozone depletion is more extensive over Antarctica because the region's cold high air and ice clouds intensify the chemical reaction of chlorofluorocarbons and other ozone destroying chemicals. Andrew C. Revkin, *Record Ozone Hole Refuels Debate on Climate*, N.Y. TIMES, Oct. 10, 2000, at F3.

91. Christopher C. Joyner, *Protection of the Antarctic Environment Against Marine Pollution Under the 1991 Protocol*, in PROTECTING THE POLAR MARINE ENVIRONMENT 104, 105 (Davor Vidas ed., 2000) [hereinafter Joyner, *Protection of the Antarctic*]; Helvarg, *supra* note 7.

92. Joyner, *Protection of the Antarctic*, *supra* note 91, at 105; Helvarg, *supra* note 7. The ship at the time of the incident, on its way to an Argentine station, was carrying tourists and supplies. Joyner, *Protection of the Antarctic*, *supra* note 91, at 105.

various marine life in the area including seals, penguins, and krill, and compromised several scientific U.S. marine projects.⁹³

Eleven months before the *ms Explorer* accident became headline news, a Norwegian cruise ship, the *ms Nordkapp*, became the first tour ship to have an accident in Antarctic waters when it ran aground while passing through the entrance to Whalers Bay.⁹⁴ Even though none of the nearly 300 passengers on board the *Nordkapp* were injured, the natural environment was not as fortunate—the damage to the hull caused a small amount of fuel to spill into the surrounding waters.⁹⁵ A scientist from Spain's Gabriel de Castilla army base confirmed that traces of hydrocarbons were found along more than five kilometers of Deception Island's interior shore.⁹⁶ Fortunately, the *Nordkapp* ran on marine diesel fuel, which tends to disperse quickly in water.⁹⁷

93. Joyner, *Protection of the Antarctic*, *supra* note 91, at 105.

94. Williams, *Tourism Threat*, *supra* note 87; *Cruise Ship Stranded in Antarctica*, MSNBC, Jan. 31, 2007, <http://www.msnbc.msn.com/id/16901659>; *Royal Navy Assists Damaged Cruise Ship*, ROYAL NAVY, Feb. 1, 2007, <http://www.royalnavy.mod.uk/server?show=ConWebDoc.7919&outputFormat=print>. At the time of the incident, the *Nordkapp* was on its way to Argentina. *Cruise Ship Stranded in Antarctica*, *supra*.

95. Williams, *Tourism Threat*, *supra* note 87; *Cruise Ship Stranded in Antarctica*, *supra* note 94. Of the 294 passengers, 119 were Americans. *Cruise Ship Stranded in Antarctica*, *supra* note 94. Although the *Nordkapp* was able to free itself from the rocks and was able to navigate under its own steam, its passengers were transferred to the *ms Nordnorge*. *Id.* "The 404-foot Nordkapp, built in 1996, and the virtually identical Nordnorge cruise the Antarctic during the southern hemisphere summer." *Id.*

96. Cruisebruisse.com, *Cruise Ship Runs Aground*, http://www.cruisebruisse.com/MS_Nordkapp_grounding_January_29_2007.html (last visited Oct. 16, 2008). *But cf.* Linda's Cruises Blog, *Grounding of MS Nordkapp Did Not Cause Environmental Damage in Antarctica*, <http://cruises.about.com/b/2007/02/14/grounding-of-ms-nordkapp-did-not-cause-environmental-damage-in-antarctica.htm> (Feb. 14, 2007) (citing a Feb. 6, 2007, press release stating that "Norwegian Coastal Voyage and its parent company, The Hurtigruten Group, are reporting that no environmental damage or traces of pollution have been found at . . . the site of the MS Nordkapp's recent grounding"). A spokesman for Hurtigruten Group, the *Nordkapp's* owner, said that he was unaware of any spill at the time of the incident. Cruisebruisse.com, *supra*. Even though they did not observe any oil spillage, they placed oil protection equipment around the ship. *Id.*

97. Williams, *Tourism Threat*, *supra* note 87 (quoting John Shears, British Antarctic Survey). "This is consistent with the fact that marine gas oil easily evaporates and rapidly degrades, helping to minimize any effect a spill may have on

The consequences of the spill would have been more serious if the ship had been running on the heavy fuel larger cruise ships generally use.⁹⁸ Heavy fuel oil is “exceptionally difficult to clean up” and “[a] spill of hundreds of tonnes [sic] of heavy fuel close to the [Antarctic] shoreline could see thousands of penguins getting coated in oil.”⁹⁹ Even though natural processes will remove traces of pollution,¹⁰⁰ the Antarctic environment requires several years to recover from a heavy fuel oil accident.¹⁰¹ Furthermore, the remoteness of the Antarctic region complicates clean-up efforts and potentially worsens any incident—by the time the clean-up equipment arrives from South America or the United States, the spilled oil will have spread, causing further damage.¹⁰²

In November 2007, the cruise ship *ms Explorer*¹⁰³ hit an iceberg near the South Shetland Islands.¹⁰⁴ A day after the Liberian-flagged ship sank, the oil slick from the wreckage spanned an area of five by

the environment.” Linda’s Cruises Blog, *supra* note 96.

98. See Williams, *Tourism Threat*, *supra* note 87.

99. *Id.* (quoting John Shears, British Antarctic Survey).

100. See, e.g., DAVID S. PAGE & EDWARD S. GILFILLAN, A TEN-YEAR STUDY OF SHORELINE CONDITIONS IN THE EXXON VALDEZ SPILL ZONE, PRINCE WILLIAM SOUND, ALASKA (1999), <http://www.bowdoin.edu/faculty/d/dpage/html/evos10yr.shtml> (documenting the environmental recovery from the Exxon Valdez spill). “[W]hile initial impacts of oil spills can be severe, there are very effective natural mechanisms that produce rapid recovery in most spills.” *Id.*

101. Williams, *Tourism Threat*, *supra* note 87.

102. *Id.*

103. “From its beginning until its demise, the Explorer was an Antarctic pioneer.” Ian Austen, *Misgivings Rise Along With Antarctic Tourism*, N.Y. TIMES, Nov. 26, 2007, at A3. “Launched in 1969 . . . [the *Explorer*] was the first ship built specifically to ferry tourists to Antarctica. When it disappeared beneath the polar region’s waters . . . it became the first commercial passenger ship to sink there.” *Id.* “[The *Explorer*] joined countless ships that have sunk in the southern oceans since the 16th century when Sir Francis Drake discovered the passage that separates Antarctica from South America.” Deutsch, *supra* note 59.

104. “*Explorer*” Accident Raises Enviro Concerns in Chile, SANTIAGO TIMES, Nov. 29, 2007, <http://www.asoc.org/Portals/0/pdfs/2007/EXPLORER%20ACCIDENT%20RAISES%20ENVIRO%20CONCERNS%20IN%20CHILE112907.pdf> [hereinafter “*Explorer*” Accident]; David Haskel & Tom Azzopardi, *Oil Spills: Argentina Will Seek Damages, Tourism Limit Following Canadian Shipwreck Off Antarctica*, 30 BNA’S INT’L ENV’T REP. 1004, Dec. 12, 2007. All of the passengers and crew were rescued without harm. *Id.*

eight kilometers across the South Shetland Islands' waters.¹⁰⁵ After the November incident, Argentina initially sought to rectify the damages by asking for international limits on Antarctic tourism and looking into the possibility of suing the Canadian travel company involved.¹⁰⁶ At the same time, the Chilean government attempted to mitigate the damage caused by the fuel spill by spending over \$50 million trying to disperse the oil around the site where the *Explorer* went down.¹⁰⁷ There was also concern that the ship's paint and its heating and air conditioning systems would affect the area around the accident site, which is known for its rich biodiversity and large penguin population.¹⁰⁸

Several groups anticipated an incident like the *Explorer's* sinking would eventually happen due to the Antarctic cruise industry boom.¹⁰⁹ At a May 2007 conference of Antarctic Treaty Consultative Parties, the United States and Britain voiced concerns regarding the tourism situation in Antarctica and the threat of a potential disaster.¹¹⁰ Many of the cruise ships sailing to Antarctica are not equipped with reinforced or double hulls typically designed for sailing in icy waters.¹¹¹ Some

105. Haskel & Azzopardi, *supra* note 104. According to Romina Picolotti, Argentina's Environment Secretary, the *Explorer* had "185,000 liters (almost 49,000 gallons) of fuel in its tanks, which could buckle under the pressure in waters that thousands of meters deep." *Id.* Fortunately, the *Explorer* "used a light diesel fuel that is more easily removed from the water's surface than heavier fuels." *Id.*

106. *Id.*

107. *Id.* "[T]he Chilean navy had used its icebreaker ship to mechanically disperse a long slick of ship diesel that appeared at the site where the cruise ship sank." *Id.*

108. "*Explorer*" Accident, *supra* note 104; cf. E-mail from John F. Spletstoesser to author, *supra* note 6 (noting the *Explorer* incident occurred in the "middle of Bransfield Strait, nowhere near a wildlife colony").

109. Austen, *supra* note 103. The number of tourists traveling to Antarctica on cruise ships increased eighty-two percent from 1992 to 2001. Press Release, Fifty-Seventh General Assembly, First Committee, Disarmament Committee Begins Discussion on Antarctica: Focus on Benefits of 1959 Treaty, Environmental Issues, U.N. Doc. GA/DIS/3243 (Oct. 30, 2002).

110. Austen, *supra* note 103.

111. *Id.*; see also Deutsch, *supra* note 59. These ships usually keep a distance from the Antarctic shore and only venture closer at the height of the summer to avoid ice. Austen, *supra* note 103; see also Deutsch, *supra* note 59 ("Princess' goal is to 'avoid ice, not cruise into it,' so it sails only at the peak of the summer season when ice floes are at a minimum."). As an extra precaution, Princess Cruises' ships

fear that commercial tensions from the flood of tourists to the area will create a dangerous environment out on the water as ships will be “under greater pressures to meet the time slots for visiting key sites.”¹¹²

C. Sustainable Tourism

The tourism sector continues to grow as more people are staying longer on vacation and traveling to more distant and exotic destinations.¹¹³ As one of the world’s largest industries, the tourism sector is estimated to generate over 260 million jobs and \$9.2 trillion by 2011.¹¹⁴ In spite of this rapid growth, the tourism industry and the environment can function symbiotically; the tourism industry utilizes Earth’s natural wonders to operate profitable tours while the resulting revenues can then be used to preserve or restore those wonders.¹¹⁵ But the tourism industry can also parasitically exploit Earth’s natural wonders to the detriment of the environment.¹¹⁶ At this stage, the conflicting interests of the tourism industry and the environment develop into what has been described as a “turbulent association.”¹¹⁷ The objective of sustainable tourism is to avoid this conflict by

sailing Antarctic itineraries carry an experienced Antarctic ice pilot, an extra mariner, and a tour group observer in addition to the ship’s standard bridge officers. Deutsch, *supra* note 59. Despite keeping distance, “[a]voiding ice near the South Pole . . . may not always be possible.” Austen, *supra* note 103. “Some areas act as ice bottlenecks and can rapidly swing from being open water to being clogged with heavy concentrations of ice.” *Id.* Even for “most rugged vessel[s],” sailing during the region’s summer months, October to April, can be difficult when faced with “blinding sleet, fog, high winds and treacherous seas.” Quilodran & Jacobsen, *supra* note 61.

112. Austen, *supra* note 103 (quoting a British government paper presented at the meeting of treaty nations in May 2007).

113. Alison Gill et al., *The Challenges of Integrating Tourism Into Canadian and Australian Coastal Zone Management*, 26 DALHOUSIE L.J. 85, 87 (2003); see also Bauer & Dowling, *supra* note 4, at 196 (“As global tourism increases, experienced travellers [sic] are seeking new and remote places to visit.”).

114. *Id.*

115. Williams, *Reconciling Tourism and the Environment*, *supra* note 18, at 27.

116. *Id.* at 26.

117. *Id.* at 27.

combining “present benefit with the protection of future opportunities.”¹¹⁸

The concept of sustainable tourism is derived from the general principle of sustainable development.¹¹⁹ Sustainable development focuses on meeting the “needs of the present without compromising the ability of future generations to meet their own needs.”¹²⁰ The 1992 United Nations Conference on Environmental and Development’s Agenda 21 outlines a sustainable development plan of action.¹²¹ Even though Agenda 21 does not specifically address tourism, the business and industry recommendations “allude to the promotion of sustainable tourist entrepreneurship.”¹²² Sustainable tourism is economically viable and, at the same time, it protects the resources that are needed for future tourism.¹²³

The ambiguity of sustainable tourism and sustainable development enables acceptance of these concepts on a universal level. Even though international groups may envision sustainability in different ways and have different opinions on how to achieve it, they do agree on the overall framework. For example, during the Second International Conference on Climate Change and Tourism in October 2007, the international community agreed that the tourism industry has an important role in sustainable development and has a strong

118. Gill et al., *supra* note 113, at 90.

119. See Williams, *Reconciling Tourism and the Environment*, *supra* note 18, at 29.

120. World Comm’n on Env’t and Dev., *Our Common Future*, at 54, U.N. Doc. A/42/427 (Aug. 4, 1987). The Brundtland Report popularized the sustainability concept, which was later reinforced at the 1992 Rio “Earth Summit.” Gill et al., *supra* note 113, at 90.

121. Conference on Environment and Development, 1992, *Agenda 21*, U.N. Doc. A/CONF.151/4, available at <http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm> [hereinafter *Agenda 21*]; Pérez-Salom, *supra* note 70, at 809 (stating that the 1992 conference “marked a beginning of an international consensus regarding the need for sustainable development”). The Earth Summit and Rio Declaration recognized “sustainability as the primary focus of international environmental law.” H. Edwin Anderson, III, *The Benchmark Draft of the Earth Charter: International Environmental Law at the Grassroots*, 11 TUL. ENVTL. L.J. 109, 110 (1997).

122. Pérez-Salom, *supra* note 70, at 809-10. See *Agenda 21*, *supra* note 121, ¶¶ 30.1-30.30 for the recommendations concerning the role of business and industry within sustainable development.

123. Gill et al., *supra* note 113, at 90.

relationship to the global climate.¹²⁴ The conference attendees agreed there is a “need to urgently adopt a range of policies which encourages truly sustainable tourism that reflects a ‘quadruple bottom line’ of environmental, social, economic and climate responsiveness.”¹²⁵

III. GOVERNING LAW IN ANTARCTICA

“The law of the sea and Antarctica are intimately related.”¹²⁶

Currently, three separate legal regimes attempt to govern cruise ships and environmental pollution issues in the Southern Ocean: (1) the Antarctic Treaty System; (2) general international law; and (3) the flag state law.¹²⁷ This section explores the shortcomings of the three regimes in adequately addressing the environmental concerns surrounding Antarctic cruise tourism.

A. *The Antarctic Treaty System*

Antarctica is considered a legal anomaly—counterbalancing unresolved sovereignty¹²⁸ claims and global commons tendencies.¹²⁹ Most of the international agreements that govern Antarctica focus on

124. Davos Declaration, *supra* note 21, at 2 (“[C]limate is a key resource for tourism and the sector is highly sensitive to the impacts of climate change and global warming . . .”). The Davos Declaration identified climate change as “one of the greatest challenges to sustainable development” and urged the entire tourism industry to take action in mitigating its causes. *Id.*

125. *Id.*

126. JOYNER, ANTARCTICA AND THE LAW OF THE SEA, *supra* note 28, at 41.

127. Ivana Zovko, *Vessel-Sourced Pollution in the Southern Ocean: Benefits and Shortcomings of Regional Regulation*, in ANTARCTICA: LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE 191, 197 (Gillian Triggs & Anna Riddell eds., 2007).

128. Sovereignty is defined as the “authority accrued to a state which permits it to exercise control or jurisdiction over some territory and the persons, property, and material interests there.” JOYNER, ANTARCTICA AND THE LAW OF THE SEA, *supra* note 28, at 42.

129. *Envtl. Def. Fund v. Massey*, 986 F.2d 528, 529 (D.C. Cir. 1993) (“Antarctica is generally considered to be a ‘global common’ and frequently analogized to outer space.”).

protecting Antarctica's natural environment.¹³⁰ In general, the Antarctic Treaty of 1959 governs Antarctic human activities.¹³¹

Before the Antarctic Treaty, the *res nullius* lands¹³² of Antarctica were the source of constant disputes over sovereignty and control.¹³³ Article IV of the Antarctic Treaty does not solve the issue of sovereignty, but allows all of the parties to the Treaty to focus on other Antarctic-related issues by suspending and preserving

130. See, e.g., Agreed Measures for the Conservation of Antarctic Fauna and Flora, June 2-13, 1964, 17 U.S.T. 991 at 996; Conservation of Antarctic Seals, Convention for the Conservation of Antarctic Seals, June 1, 1972, 29 U.S.T. 441; Conservation: Antarctic Marine Living Resources, Convention on the Conservation of Antarctic Marine Living Resources, May 20, 1980, 33 U.S.T. 3476; Environmental Protocol, *supra* note 72.

131. Antarctic Treaty, *supra* note 45; Floren, *supra* note 26, at 467. The Antarctic Treaty was signed in Washington, D.C., by the United States, Argentina, Australia, Belgium, Chile, the French Republic, Japan, New Zealand, Norway, the Union of South Africa, the Union of Soviet Socialist Republics, and the United Kingdom of Great Britain and Northern Ireland. Antarctic Treaty, *supra* note 45. The treaty entered into force on June 23, 1961. *Id.* The Antarctic Treaty is "open for accession by any State which is a Member of the United Nations." Alfred van der Essen, *The Arctic and Antarctic Regions*, in A HANDBOOK ON THE NEW LAW OF THE SEA 525, 549 (René-Jean Dupuy & Daniel Vignes eds., 1991); see also Floren, *supra* note 26 (assessing problems commercial mining may present to the natural environment of the Antarctic Treaty area). The Antarctic Treaty and "closely associated agreements, [are] known collectively as the Antarctic Treaty System (ATS)." *Id.* at 467-68.

132. *Res nullius* lands belong to the first finder, as this type of land has no natural owner. Floren, *supra* note 26, at 469 n.6.

133. *Id.* at 469. The Cold War between the United States and the Soviet Union is said to have been the driving force behind creating a binding agreement to govern Antarctica. *Id.* By 1950, seven states (Argentina, Australia, Chile, France, New Zealand, Norway, and the United Kingdom) claimed sovereignty over land in Antarctica. van der Essen, *supra* note 131, at 545, 547; Floren, *supra* note 26, at 469. In 2004, the Antarctic Treaty Secretariat was established in Buenos Aires. Antarctic Treaty Secretariat, <http://www.ats.aq/> (last visited Oct. 21, 2008). The Antarctic Treaty Secretariat, made up of Consultative Parties representatives, acts as an "impartial administrative organ." Patrizia Vigni, *The Secretariat of the Antarctic Treaty: Achievements and Weaknesses Three Years After its Establishment*, in ANTARCTICA: LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE 17, 19, 35 (Gillian Triggs & Anna Riddell eds., 2007). Approximately 200 recommendations presented at Consultative Meetings, covering a range of issues including those related to tourism and environmental protection, have been adopted. U.S. Dep't of State, Treaties, <http://www.state.gov/g/oes/ocns/9570.htm> (last visited Oct. 21, 2008).

sovereignty claims.¹³⁴ The Treaty established the principle that mankind could only use Antarctica for “peaceful purposes” and could not allow Antarctica to “become the scene or object of international discord.”¹³⁵ Parties to the Treaty must “exert appropriate efforts” to ensure “no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty.”¹³⁶ Critics take issue with this clause, believing it too loosely drafted because it fails to identify whether “no one” refers to only nationals of signatory countries or includes nationals of non-Party countries, such as foreign flagged cruise ships.¹³⁷

The 1991 Antarctic Environmental Protocol¹³⁸ and its Annexes apply generally to all activities in Antarctica including, indirectly, tourism,¹³⁹ and this agreement specifically prohibits pollution in Antarctic waters.¹⁴⁰ Mirroring the standards of the MARPOL 73/78,¹⁴¹ the Environmental Protocol prohibits discharges of oil,¹⁴² noxious liquid,¹⁴³ garbage,¹⁴⁴ and sewage.¹⁴⁵ Frankly, however, the

134. Antarctic Treaty, *supra* note 45, art. IV; JOYNER, ANTARCTICA AND THE LAW OF THE SEA, *supra* note 28, at 63-64. However, “[b]y way of criticism, Article IV simply delays and procrastinates the time when the question of sovereignty disputes will have to be addressed.” JOYNER, ANTARCTICA AND THE LAW OF THE SEA, *supra* note 28, at 64.

135. Antarctic Treaty, *supra* note 45.

136. *Id.* art. X.

137. HUNTER ET AL., *supra* note 1, at 1131. Additionally, it is unclear under the treaty what constitutes “appropriate efforts.” *Id.*

138. Environmental Protocol, *supra* note 72.

139. Marie Jacobsson, *The Antarctic Treaty System: Legal and Environmental Issues—Future Challenges for the Antarctic Treaty System*, in ANTARCTICA: LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE 1, 9 (Gillian Triggs & Anna Riddell eds., 2007); Deutsch, *supra* note 59.

140. Joyner, *Protection of the Antarctic*, *supra* note 91, at 106-07.

141. MARPOL, *supra* note 84 (regulating incidental waste discharges). The MARPOL acronym is derived from the first three letters of the words marine and pollution. See *id.* MARPOL addresses accidental and ordinary use discharges of pollutants at sea. Tasha J. Power, Comment, *Vessel-Based Pollution: Major Developments in 2004*, 16 COLO. J. INT’L ENVTL. L. & POL’Y 153, 155 (2004).

142. Protocol on Environmental Protection to the Antarctic Treaty, Annex IV art. 3(1), Oct. 4, 1991, 30 I.L.M. 1455, available at http://www.ats.aq/documents/recatt/Att011_e.pdf.

143. *Id.* art. 4.

144. *Id.* art. 5.

Environmental Protocol can only be as effective as the Consultative Parties make it¹⁴⁶ and coming to a consensus on implementing resolutions is a slow process.¹⁴⁷ Moreover, the Environmental Protocol lacks the “diplomatic framework and the legal substance” mechanisms necessary to deter violations and enforce environmental obligations.¹⁴⁸ A mixture of complex law, politics, and national interest prevent the Antarctic Treaty signatories from creating more forceful regulations.¹⁴⁹ The consequence of failing to bring Annex VI of the Environmental Protocol,¹⁵⁰ which addresses liability, into force is that a significant instrument in managing the Antarctic environment is missing.¹⁵¹ The inability to develop liability mechanisms illustrates how the lagging Antarctic Treaty System cannot keep up with the high-powered tourism industry.¹⁵² Without anything more binding than the Antarctic Treaty System, regulation of Antarctic tourism is weak.¹⁵³ Moreover, it is difficult to enforce any regulations in the vast Antarctic region.¹⁵⁴

145. *Id.* art. 6.

146. Joyner, *Protection of the Antarctic*, *supra* note 91, at 123. Annex IV, however, contains some loopholes. Williams, *Reconciling Tourism and the Environment*, *supra* note 18, at 61, 61 n.206 (describing the exemptions listed in the Annex allowing discharges in special circumstances).

147. Austen, *supra* note 103.

148. Joyner, *Protection of the Antarctic*, *supra* note 91, at 120.

149. *See id.* at 121-22 (“[G]iven the complex law and politics and high national interests at stake, completion of the negotiations for a liability annex acceptable to all seems to remain a distant diplomatic ambition.”).

150. Protocol on Environmental Protection to the Antarctic Treaty, Annex VI, June 17, 2005, 45 I.L.M. 5, *available at* http://www.ats.aq/documents/recatt/Att249_e.pdf [hereinafter Environmental Protocol Annex VI] (providing a limited liability regime for environmental Antarctic emergencies).

151. A DECADE OF ANTARCTIC TOURISM, *supra* note 46, at 5; *accord* Joyner, *Protection of the Antarctic*, *supra* note 91, at 121 (“The Protocol thus remains unfinished business.”).

152. LAMERS ET AL., *supra* note 76, at 5 (citing Kees Bastmeijer & Ricardo Roura, *Current Development: Regulating Antarctic Tourism and the Precautionary Principle*, 98 AM. J. INT’L L. 763, 776 (2004) (stating the “legal and regulatory framework for tourism has not developed as fast as the industry itself”)).

153. LAMERS ET AL., *supra* note 76, at 5 (noting “[m]any regulations specifically applying to Antarctic tourism are not legally binding”).

154. *Id.*

Although there is no mention of tourism in the Antarctic Treaty, the instrument has spawned principles and procedures for regulating Antarctic tourism.¹⁵⁵ Tourism issues have been discussed at Antarctic Treaty Consultative Meetings since 1966.¹⁵⁶ Currently, Antarctic tourism regulation depends on the efforts of the private sector and the Antarctic Treaty Parties.¹⁵⁷

The inability of the Antarctic Treaty to settle the territorial sovereignty disputes in Antarctica continues to muddy the waters in attempts to determine maritime jurisdiction.¹⁵⁸ Antarctica's status as the only continent without a recognized sovereign state frustrates the establishment of coastal states' legal rights and the authority to impose its laws upon foreign flagged vessels in a coastal state's territorial waters.¹⁵⁹ Regulating the cruise ships that sail in Antarctic waters becomes problematic. For example, the *Golden Princess* is registered in Bermuda, which is not a party to the Antarctic Treaty or any other treaty governing Antarctica.¹⁶⁰ Even if states, such as Argentina, did regulate cruise ships, the restrictions would only apply to ships originating from Argentinean ports¹⁶¹ and determined cruise tour operators could simply bypass the regulations by rerouting from other ports.¹⁶² Therefore, only a flag state or the states in which the cruise

155. Triggs & Riddell, *supra* note 12, at xv. However, the Treaty recommendations that touch on tourism are weakened by vague and inadequate wording. Pérez-Salom, *supra* note 70, at 823.

156. Pérez-Salom, *supra* note 70, at 823.

157. Triggs & Riddell, *supra* note 12, at xv.

158. JOYNER, ANTARCTICA AND THE LAW OF THE SEA, *supra* note 28, at 67.

159. *See id.* at 75. The Antarctic Treaty and other international agreements do not resolve this issue as these documents make no mention of maritime jurisdiction. *Id.*

160. *Will Cruise Ship Change Antarctica?*, *supra* note 9 (quoting Alan Hemmings, polar policy specialist at Canterbury University).

161. Deutsch, *supra* note 59.

162. *Id.*; cf. E-mail from John F. Spletstoesser to author, *supra* note 6 (noting that cruise ships registered in non-Antarctic Treaty states do not have many rerouting port options because all of the southernmost countries are members of the Antarctic Treaty). “[I]f companies chose to re-route, it would involve a total changeover of port agents, provisioning, and other factors, to say nothing of longer distances to sail to and from Antarctica.” E-mail from John F. Spletstoesser to author, *supra* note 6.

companies are based can control and enforce rules upon the cruise operators.¹⁶³

B. International Law

International marine pollution law is based on a combination of customary law and international conventions regulating ocean pollution.¹⁶⁴ Three main conventions form the foundation of marine pollution law: (1) the 1982 United Nations Convention on the Law of the Sea (UNCLOS);¹⁶⁵ (2) the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78);¹⁶⁶ and (3) the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention).¹⁶⁷ Generally, under these principles and conventions, “[s]tates have the obligation to protect and preserve the marine environment” from pollution.¹⁶⁸

However, most of the treaties pertaining to the sea are not applicable to the Antarctic waters because the region does not fit the definition of areas governed by such treaties.¹⁶⁹ For example, Article 234 of the UNCLOS, expressly referring to the polar regions,¹⁷⁰ affirms the coastal state’s right to enforce vessel pollution regulations

163. Generally, ships sailing under a state’s flag are “subject [to] its exclusive jurisdiction on the high seas.” United Nations Convention on the Law of the Sea art. 92, Dec. 10, 1982, 1833 U.N.T.S. 397, *available at* http://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf [hereinafter UNCLOS]. *See Austen, supra* note 103.

164. Joyner, *Protection of the Antarctic, supra* note 91, at 106.

165. UNCLOS, *supra* note 163.

166. MARPOL, *supra* note 84.

167. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Dec. 29, 1972, 26 U.S.T. 2403, 1046 U.N.T.S. 120 [hereinafter London Convention] (regulating deliberate waste discharges).

168. UNCLOS, *supra* note 163, art. 192; *see also* Joyner, *Protection of the Antarctic, supra* note 91, at 106.

169. *See van der Essen, supra* note 131, at 525. For example, Antarctica is not considered part of the special areas provided for in the London Convention or MARPOL 73/78. *Id.*

170. UNCLOS, *supra* note 163, art. 234; *see also* van der Essen, *supra* note 131, at 525. It is believed that UNCLOS “actually produced greater ambiguity concerning jurisdictional responsibilities and uses of Antarctic waters.” JOYNER, ANTARCTICA AND THE LAW OF THE SEA, *supra* note 28, at 75-76.

within the exclusive economic zone (EEZ).¹⁷¹ However, this right is frustrated by sovereignty disputes or non-recognition of sovereignty claims by other states.¹⁷² States that do not recognize Antarctic claims to sovereignty treat the Antarctic waters as part of the high seas.¹⁷³ The disputes over territory consequently render most of the Southern Ocean part of the high seas, subject to international law and the obligations associated with high seas regions.¹⁷⁴ Thus, flag states are only required to ensure that vessels flying their flag are in compliance with generally accepted international laws and regulations regarding pollution.¹⁷⁵

C. Flag State Jurisdiction

Regardless of the Antarctic sovereignty disputes, a large part of the Southern Ocean is beyond any of the claimant states' jurisdiction.¹⁷⁶ These areas include the land and maritime zones beyond the coastal state jurisdiction of Africa, Australia, and South America, and claims on the Antarctic continent, in addition to the maritime areas adjacent to unclaimed portions of the Antarctic

171. UNCLOS, *supra* note 163, art. 234; *see also* van der Essen, *supra* note 131, at 527. A coastal state has a right under UNCLOS to establish an EEZ extending 200 nautical miles from its coast. UNCLOS, *supra* note 163, art. 57; Bernard H. Oxman, *The New Law of the Sea*, 63 A.B.A. J. 156 (1983), in LOUIS B. SOHN & JOHN E. NOYES, *CASES AND MATERIALS ON THE LAW OF THE SEA* 6, 10 (2004). Within the EEZ, coastal states' rights include the right to control the "exploration, exploitation, conservation, and management of living and nonliving natural resources in the waters and the seabed and subsoil . . . [and] the right to control the dumping of wastes" Oxman, *supra*, at 10-11.

172. van der Essen, *supra* note 131, at 527-28.

173. *Id.* at 550.

174. JOYNER, *ANTARCTICA AND THE LAW OF THE SEA*, *supra* note 28, at 212. "[T]he waters south of 60° South latitude, including those superjacent to the continent, are not subject to any particular national jurisdiction nor any designated offshore coastal zones." *Id.* at 212-13.

175. UNCLOS, *supra* note 163, art. 217(1) ("States shall ensure compliance by vessels flying their flag or of their registry with applicable international [pollution] rules and standards Flag States shall provide for the effective enforcement of such rules, standards, laws and regulations, irrespective of where a violation occurs."); SOHN & NOYES, *supra* note 171, at 11.

176. Zovko, *supra* note 127, at 197-98.

continent.¹⁷⁷ In these areas, a cruise ship's flag state has exclusive jurisdiction.¹⁷⁸

To navigate international waters, a commercial cruise ship must register with a country and have that state confer nationality on the ship.¹⁷⁹ While on the high seas,¹⁸⁰ "the flag state . . . retains exclusive legislative and enforcement jurisdiction" over ships that sail under its flag.¹⁸¹ The cruise industry tends to flag its ships with states allowing open registries, otherwise known as "flags of convenience."¹⁸²

177. *Id.*

178. UNCLOS, *supra* note 163, art. 92(1) ("Ships . . . shall be subject to [the state's] exclusive jurisdiction on the high seas.").

179. *See id.* arts. 91-92. "Ships shall sail under the flag of one State only and, save in exceptional cases expressly provided for in international treaties or in this Convention, shall be subject to its exclusive jurisdiction on the high seas." *Id.* art. 92. The country of registry determines the conditions for the "grant of its nationality." *Id.* art. 91. Along with requiring compliance with international conventions, flag states have certain rules concerning crew nationality, ship owner citizenship, and ship building requirements. Cruise Lines International Association, Background—Maritime Industry, <http://www.cruising.org/industry/tech-intro.cfm> (last visited Oct. 22, 2008) [hereinafter CLIA].

180. The high seas are considered to be "all parts of the sea that are not included in the territorial sea or in the internal waters of a State." Convention on the High Seas art. 1, Apr. 29, 1958, 450 U.N.T.S. 11, *available at* http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_1_1958_high_seas.pdf [hereinafter 1958 Geneva Convention].

181. JOYNER, ANTARCTICA AND THE LAW OF THE SEA, *supra* note 28, at 194; *see also* 1958 Geneva Convention, *supra* note 180, art. 6; UNCLOS, *supra* note 163, art. 92. However, a flag state's exclusive jurisdiction is not always absolute. JOYNER, ANTARCTICA AND THE LAW OF THE SEA, *supra* note 28, at 194.

182. *See* Maria J. Wing, Comment, *Rethinking the Easy Way Out: Flags of Convenience in the Post-September 11th Era*, 28 TUL. MAR. L.J. 173, 174-77 (2003) (explaining the history behind flags of convenience and international challenges associated with this practice). Almost ninety percent of all commercial vessels making U.S. ports of call are foreign flagged. CLIA, *supra* note 179. A ship is considered to be flagged under an open registry, or "flag of convenience," when the registry possesses the following features: (1) the country of registry allows non-national owners to register ships; (2) the country of registry has a relaxed registering process; (3) the registry fee and annual taxes are low; (4) the country of registry relies economically on the payments from its registry; (5) the country of registry does not require ships to be manned by its nationals; and (6) the country of registry is ill equipped to impose or enforce national and international regulations. JANIS & NOYES, *supra* note 50, at 703-04 (citing Committee of Inquiry into Shipping, *Report* 51, Cmnd. 4337 (1970)). Thirty-two countries are identified by the International

Panama, Liberia, Malta, the Bahamas, or other developing nations are usually the choice of registry for cruise ships.¹⁸³ Non-U.S. flag registries dominate the cruise ship registry list because U.S. laws are generally “some of the most restrictive of all maritime nations.”¹⁸⁴ Vessels registered with flags of convenience states account for more than fifty percent of all tourism vessels visiting Antarctica.¹⁸⁵ Statistically, it is more likely a future pollution incident will involve a flag of convenience tourism vessel.¹⁸⁶ Unfortunately, flags of

Transport Workers’ Federation (ITF) as flag of convenience providers. International Transport Workers’ Federation, FOC Countries, <http://www.itfglobal.org/flags-convenience/flags-convenien-183.cfm> (last visited Oct. 23, 2008) [hereinafter FOC Countries]. Typically, flags of convenience allow ship owners to enjoy lower taxes and less stringent regulations than that of their “home” country. Stephen Thomas, Jr., *State Regulation of Cruise Ship Pollution: Alaska’s Commercial Passenger Vessel Compliance Program as a Model for Florida*, 13 J. TRANSNAT’L L. & POL’Y 533, 534-35 (2004); Douglas Frantz, *Sovereign Islands: A Special Report On Cruise Ships, Silence Shrouds Crimes*, N.Y. TIMES, Nov. 16, 1998, at A1 (“Every major cruise ship sailing out of American ports is registered with a foreign country, usually Panama or Liberia. . . . The foreign registry means the ships and their owners avoid American corporate income taxes and many American laws, though more than 80 percent of their passengers are American.”). In contrast to open registries, countries with “closed” registries, like the United States, impose strict vessel registry criteria. Michael A. Becker, *The Shifting Public Order of the Oceans: Freedom of Navigation and the Interdiction of Ships at Sea*, 46 HARV. INT’L L.J. 131, 142 (2005).

183. Schulkin, *supra* note 79, at 115. The economies of these nations rely heavily on the revenue generated from vessel registration fees. *Id.* By 2000, ninety of the 223 cruise ships in the world belonged to Panama or Liberian registries. U.S. ENVTL. PROT. AGENCY, CRUISE SHIP WHITE PAPER 3 (2000), available at http://www.epa.gov/owow/oceans/cruise_ships/white_paper.pdf [hereinafter CRUISE SHIP WHITE PAPER]. Carnival Corporation, the largest cruise line group in the world, flags its ships in Liberia, Panama, the Bahamas, the Netherlands, the United Kingdom, Bermuda, and Italy. Thomas, Jr., *supra* note 182, at 540. This cruise line group has “over sixty ships operating world-wide, including Carnival Cruise Lines, P&O Princess, Holland-America Line, Costa Cruises, [and] Cunard Line.” *Id.* at 538. The world’s second largest cruise company, Royal Caribbean Cruises, Ltd., has its ships flagged in Liberia, Norway, and Panama. *Id.* at 539-40.

184. Hull, *supra* note 79, at 67. Besides requiring the vessel owner to be a U.S. citizen, U.S. registry requires seventy-five percent of the vessel’s crew to be U.S. citizens or residents, and the hull, superstructure, and majority of the interior must be constructed in U.S. ship yards. CLIA, *supra* note 179.

185. Zovko, *supra* note 127, at 193-94.

186. Rebecca Becker, Note, *MARPOL 73/78: An Overview in International*

convenience countries are notorious for their lack of enthusiasm in enforcing international convention obligations upon ocean-going commercial ships.¹⁸⁷ Convenience registry critics feel these nations are not only reluctant to discipline major contributors to their economies, but also do not have the resources to enforce regulations or even punish polluters.¹⁸⁸

The deficiencies in the Antarctic Treaty System, international law, and the flag state regimes thwart effective solutions to Antarctica's environmental issues and problems. Frankly, there is no simple answer on how to address regulating cruise ships and pollution prevention issues.¹⁸⁹ International treaties are too general to adequately address and "respond to the specificities of a pristine polar marine environment," and most importantly, fail to "surpass the political and jurisdictional impediments caused by the unresolved legal status of Antarctica."¹⁹⁰ And at the regional level, the Antarctic Treaty System "is not advanced enough to regulate all of the relevant aspects of the phenomenon of vessel-sourced pollution."¹⁹¹ The diverse scope of tour activities and tour operators involved, as well as other factors, prevent a single international agreement from effectively controlling and regulating Antarctic tourism.¹⁹² Thus, it will be necessary for the different Antarctic tourism sectors to take it upon themselves to promote a sustainable approach to tourism.

IV. ACHIEVING SUSTAINABLE ANTARCTIC CRUISE TOURISM

Fortunately, in the absence of recognized sovereigns and enforcers, the cruise tour operators' self-interest works as a powerful

Environmental Enforcement, 10 GEO. INT'L ENVTL. L. REV. 625, 634 (1998).

187. Martin Davies, *Obligations and Implications for Ships Encountering Persons in Need of Assistance at Sea*, 12 PAC. RIM L. & POL'Y J. 109, 110 (2003).

188. Schulkin, *supra* note 79, at 115.

189. See Zovko, *supra* note 127, at 221 ("[T]he only statement one can make with outmost [sic] certainty is that neither the global or [sic] regional approach alone is or can be effective.").

190. *Id.* at 192.

191. *Id.*

192. See Williams, *Reconciling Tourism and the Environment*, *supra* note 18, at 69.

and effective substitute.¹⁹³ The cruise industry's survival depends on keeping the natural environment pristine—no one wants to travel to polluted and degraded ports of call. Indeed, the continuation of the Antarctic cruise market is contingent on sustaining the natural environment. Despite all the negativity and environmental concerns connected with Antarctic tourism, many environmental groups and supporters endorse ship-based tourism because it arguably has the least impact on the environment.¹⁹⁴ The inherent nature of cruising makes it more sustainable than other Antarctic tourist alternatives. With facilities located on the ships, the self-contained tour therefore has less of an impact on shore.¹⁹⁵

Some Antarctic cruise tour operators also stress responsible travel and try to minimize visitor impact.¹⁹⁶ “[C]reating consciousness, comprehension and respect among passengers” is vital to developing sustainable cruise tourism.¹⁹⁷ Several cruise operators have naturalists, geologists, historians, and other experts on board to educate and introduce tourists to the wonders of the Antarctic.¹⁹⁸ Dedicated to Antarctic stewardship, tour operators educate their passengers on the need to save Antarctic wildlife and natural habitats.¹⁹⁹ For example, cruise tour operator Quark Expeditions educates passengers on the

193. *Id.* at 64 (“In terms of international environmental law responding to the pressures created by the tourism industry, Antarctica provides an encouraging case study for consideration.”); accord LAMERS ET AL., *supra* note 76, at 21 (“Self-regulation has proven to be very successful in terms of membership and provides the only option in the Antarctic for effective on-site tourism management and regulation.”) (noting the IAATO has successfully self-regulated and managed Antarctic tour operators).

194. Deutsch, *supra* note 59.

195. See Williams, *Reconciling Tourism and the Environment*, *supra* note 18, at 58.

196. Baerbel Kraemer, *Reducing the Environmental Impacts of Cruise Ships in the Arctic and Antarctic*, UNEP INDUSTRY & ENV'T, at 37 (July-Dec. 2001), available at http://www.uneptie.org/media/review/vol24no3-4/UNEP_p1_49.PDF.

197. *Id.*

198. *Id.*; International Association of Antarctica Tour Operators, Company Descriptions, http://www.iaato.org/company_descriptions.html (last visited Oct. 24, 2008) [hereinafter Company Descriptions]. See Lambert, *supra* note 47, at 8-12, for an in depth description of operators' procedures to ensure tourists are aware of, and comply with, Antarctic Treaty regulations.

199. See Company Descriptions, *supra* note 198.

proper conduct on shore through lectures and staff-produced plays.²⁰⁰ Exposing an exponentially growing number of tourists to Antarctica enables more of the world's population to become aware of the dangers that the region's fragile environment faces. Undoubtedly, the experience of visiting Antarctica allows tourists to appreciate the beauty and uniqueness of the South Pole firsthand and become passionate advocates for its protection.²⁰¹ Another key to sustainable cruise tourism is raising environmental awareness among the crew members. Cruise lines educate their employees about the importance of protecting the environment.²⁰² Some cruise lines have created programs to encourage shipboard and shoreside employees to submit ideas suggesting better environmental procedures and policies.²⁰³

200. Brian Witte, *Calls for Regulation of Rising Antarctica Tourism*, USA TODAY, Aug. 17, 2006, available at http://www.usatoday.com/travel/destinations/2006-08-15-antarctica_x.htm. While on shore, the staff monitors passengers' behavior. *Id.* Virtually all of the tour operators traveling to Antarctica have policies and programs similar to Quark Expeditions. E-mail from John F. Spletstoesser to author, *supra* note 6.

201. Kraemer, *supra* note 196, at 37. Cruise ships enable more people to experience the wonders of the Antarctic, who then in turn become "ambassadors" working to preserve environments worldwide. Deutsch, *supra* note 59 (citing Maj De Poorter, University of Auckland professor); Helvarg, *supra* note 7 (citing Joyce Jatko, environmental officer); Lambert, *supra* note 47, at 14 (noting the personal experience of witnessing the "powerful environmental awakening emerging amongst" Antarctic cruise ship passengers).

202. The cruise lines place environmental officers on board to enforce environmental regulations, oversee treatment and waste systems, in addition to training the crew about their environmental responsibilities. Signaling the change in corporate culture, employees who throw trash overboard or illegally discharge waste are fired. Lee Hayhurst, *Are Cruising's Ethics All at Sea?*, TRAVEL WKLY., Sept. 8, 2006, at 33. Royal Caribbean employees must sign a pledge to protect the environment and are required to explain the concept behind the Save the Waves to passengers. Royal Caribbean Cruises Ltd., *Royal Caribbean and the Environment: Save the Waves*, <http://www.royalcaribbean.com/ourCompany/environment/saveTheWaves.do> (last visited Oct. 26, 2008).

203. *Inside Passages*, Dec. 2006-Jan. 2007, at 19 (on file with author). At Holland America Line, the program requires that the ideas either "directly reduce the potential environmental impact of a significant environmental aspect . . . have a high benefit-to-cost ratio, or immediately save the company money." *Id.* Some cruise lines have also created an environmental hotline for employees and passengers to report suspected pollution violations. Edwin McDowell, *For Cruise Ships, A History of Pollution*, N.Y. TIMES, June 16, 2002, at D3.

It is important to remember that tourism in Antarctica is a legitimate activity.²⁰⁴ Since “the Antarctic Treaty System allows for freedom of access,” tourists cannot be stopped from visiting Antarctica.²⁰⁵ Yet, some believe the legitimacy of tourism is “contingent . . . [and] must be subject to some constraints”²⁰⁶ For example, the increase in tourism to Antarctica has prompted many of the ASOC members to contemplate a limit on the number of tourists allowed to travel there annually.²⁰⁷ The ASOC pushes for a system of checks and controls in the Antarctic that the industry must follow and abide by in other areas of the world.²⁰⁸ Without the checks and controls, it is feared that the result would be a tourist free-for-all. Some fear that without strict regulations Antarctica will become another Disneyland.²⁰⁹ Others feel the number of tourists is manageable, in part because Antarctic tour operators are becoming more sophisticated in conducting tours.²¹⁰

Since 1991, the IAATO has been providing oversight and encouraging self-regulation of the tourism activity in Antarctica.²¹¹

204. See Environmental Protocol, *supra* note 72, art. 3(4); Hemmings & Roura, *supra* note 73, at 23.

205. Roach, *supra* note 11 (citing Denise Landau, executive director of the IAATO).

206. HUNTER ET AL., *supra* note 1, at 1149.

207. Roach, *supra* note 11.

208. See Witte, *supra* note 200; ASOC’s Antarctic Tourism Campaign, *supra* note 2.

209. Roach, *supra* note 11. The ASOC hopes “signatory nations to the Antarctic Treaty . . . will impose new controls on the tourism industry.” *Id.*

210. Witte, *supra* note 200 (quoting Denise Landau, executive director of the IAATO).

211. *Local News from All Over: Oceania*, *supra* note 2; accord Bauer & Dowling, *supra* note 4, at 196 (“[The IAATO] aims to manage tourism in the south in a sustainable and responsible way.”); Lambert, *supra* note 47, at 3 (“IAATO expects the highest standards of operational behaviour from its member companies, and that they also display a comprehensive understanding of the overall impacts they are having on the Antarctic environment.”). Seven tour companies founded the organization in the hope of promoting “environmentally responsible travel.” International Association of Antarctica Tour Operators, About IAATO: Objectives, <http://www.iaato.org/objectives.html> (last visited Oct. 26, 2008). “IAATO is viewed to know more about tourism since its members make their living from it and have first-hand experience of the issues affecting that industry.” Enzenbacher, *supra* note 61, at 175. However, participation in the association is voluntary. *Local News from*

The IAATO is aware that “[e]ffective self-regulation and the development of best practices by industry, government and the science community are necessary in order to protect the Antarctic environment.”²¹² To ensure new cruise operators follow IAATO guidelines, observers appointed by IAATO sail with ships on their maiden voyage to Antarctica.²¹³ While on board, the observers monitor waste disposal and make sure the cruise ships are in compliance with the IAATO regulations to prevent cigarettes, food, and even stray golf balls from going overboard.²¹⁴

Besides following IAATO’s guidelines and regulations, cruise tour operators can adopt a process similar to the New Zealand Sustainable Tourism Charter Project to facilitate best business practices. The Charter Project, a vehicle of the New Zealand Ministries of Tourism and the Environment, stresses the importance of environmental management within the tourism industry, and promotes sustainable New Zealand business practices throughout the nation’s different regions.²¹⁵ On the individual business level, the Charter

All Over: Oceania, supra note 2. Holland America Line, Princess Cruises, and Crystal Cruises are among the member cruise tour operators. International Association of Antarctica Tour Operators, IAATO Membership Directory 2008-2009, <http://apps.iaato.org/iaato/directory/> (last visited Oct. 26, 2008). Three other large cruise ship companies (P&O Cruises, Celebrity Cruises, and Peace Boat) have IAATO membership applications in progress. *Overview of Antarctic Tourism, supra* note 54, at 20. Although the organization currently has 102 members, five percent of the tour companies operating in Antarctica are not members of the IAATO and do not follow the organization’s environmental guidelines. Deutsch, *supra* note 59; E-mail from Denise Landau, Executive Director, IAATO, to author (Apr. 2, 2008, 13:23 PST) (on file with author). IAATO tour operators serve about ninety-five percent of Antarctic tourists. Lambert, *supra* note 47, at 3.

212. Ozgur Tore, *Sustainability is Antarctica’s Tourism Main Challenge*, FOCUS ON TRAVEL NEWS, Feb. 24, 2008, <http://www.ftnnews.com/content/view/755/31/lang,english/> (quoting Denise Landau, executive director of the IAATO); *see also* Denise Landau, *Antarctic Tourism: What Are the Limits?*, at 7, http://www.iaato.org/docs/tourism_limits.doc (last visited Oct. 26, 2008) (stating that the “IAATO is dedicated to the development of a more detailed and tactical approach in order to attempt to manage the industry, minimize environmental impacts and create the highest possible operating standards for operators and visitors”).

213. Tore, *supra* note 212.

214. *Id.*

215. Ministry of Tourism, Sustainable Tourism Charter Project, <http://www.tourism.govt.nz/sustainability/what-is-government-doing/charter-project>

Project gives members the tools and assistance needed in order to implement sustainable practices.²¹⁶

The Charter outlines a six-step process for its members.²¹⁷ First, a business performs a high-level analysis to assess its current practices and feasibility of implementing sustainable practices.²¹⁸ Next, a Charter assessor visits the business to review the current operations and business practices.²¹⁹ With the information gathered from the site visit, the assessor prepares and delivers a report.²²⁰ The report discusses a variety of topics, including ways to improve energy efficiency, reduce waste, substitute hazardous substances with low environmental impact products, and train staff on environmental sustainability issues.²²¹ The assessor then assists the business in developing “Action and Monitoring Plans” to improve environmental performance.²²² Finally, after implementing the plans, the business conducts annual reviews and produces progress reports to refine and enhance the business’s sustainable tourism policies and practices.²²³

The Charter Project’s “bottom-up” approach would allow the cruise tour operators to pinpoint and focus on issues concerning their particular operations.²²⁴ Addressing sustainable Antarctic tourism on an individual business level is critical because, in addition to

.html (last visited July 28, 2008). Over 160 New Zealand businesses have signed the Charter. *Id.*

216. *Id.*

217. See Nelson New Zealand, Responsible Tourism Charter Process, <http://www.nelsonnz.com/sustainable.tourism/charter.process> (last visited Oct. 26, 2008), for a graphic illustrating the Charter Project process.

218. *Id.* The high-level analysis requires a business to complete a “Sustainable Business Practices Checklist; Rate current performance against charter [guidelines]; [perform a] Value Chain Analysis; [and] Identify main sustainability issues for [the] business.” *Id.*

219. *Id.* The assessor also identifies areas where the business can improve. *Id.*

220. *Id.*

221. *Id.*

222. *Id.*

223. *Id.*

224. Ministry of Tourism, *supra* note 215. “Businesses are required to monitor their progress on areas such as waste management and minimisation [sic] practices, workplace practices that encourage sustainability, community involvement, supply chain management, and sustainable design.” *Id.*

intensifying, the industry is also diversifying.²²⁵ Besides the ship and fly-sail operations, Antarctic excursions include helicopter rides, ski and snowboarding expeditions, mountain climbing, kayaking, marathons, and scuba diving.²²⁶ On the larger scale, the Charter Project process provides tour operators with a “platform on which to build a framework for industry-wide sustainable practices.”²²⁷ This framework will then allow the Antarctic cruise industry to work in partnership with the IAATO and Antarctic Treaty Parties in “articulating a direction and identifying opportunities” to achieve sustainable tourism development.²²⁸

V. THE IMPLICATIONS OF THE ARRIVAL OF MAJOR CRUISE LINE SHIPS TO ANTARCTIC WATERS

The ASOC is concerned by the presence of Holland America Line and Princess Cruises’ larger cruise vessels in Antarctic waters.²²⁹ This concern was apparent among the British delegates bound for the 2007 Antarctic Summit who urged tougher regulation of cruise ships.²³⁰ One suggested regulation from the British delegates was to ban ships that do not have strengthened hulls from sailing in areas with more than ten percent of ice coverage.²³¹

Although some are wary of the presence of the larger ships in Antarctic waters, in actuality the major North American cruise line ships are more amenable to sustainable tourism than the smaller cruise ships operating in the Antarctic. North American cruise line ships, such as the *Amsterdam* and *Golden Princess*, are much younger than the thirty-nine-year-old *Explorer* and other ships sailing in the polar

225. Kees Bastmeijer & Ricardo Roura, *Current Development: Regulating Antarctic Tourism and the Precautionary Principle*, 98 AM. J. INT’L L. 763, 765 (2004).

226. *Id.*

227. Ministry of Tourism, *supra* note 215.

228. TOURISM STRATEGY GROUP, NEW ZEALAND TOURISM STRATEGY 2010 (2001), <http://www.tourism.govt.nz/strategy/str-reports-2010/str-rep-2010full.pdf> (mapping a path for sustainable tourism growth).

229. Deutsch, *supra* note 59.

230. Williams, *Tourism Threat*, *supra* note 87.

231. *Id.*

region.²³² The major cruise line ships also are constructed with better wastewater purification systems.²³³ These systems often outperform and achieve “much higher effluent quality standards than land-based wastewater treatment plants.”²³⁴ Passengers from large cruise ships generally do not “threaten to damage vegetation, import disease, discard litter, or interfere with wildlife” because the larger cruise ships are not allowed to land their passengers ashore.²³⁵ Additionally, as the majority of the North American cruise ship fleet operates in American waters at some point during the year, the large cruise lines have adopted and developed voluntary environmental standards for their ships that either meet or go beyond existing legal compliance regulations.²³⁶ The major North American cruise lines are members of the Cruise Lines International Association (CLIA), whose member lines’ procedures “meet or exceed the international requirements for

232. See Austen, *supra* note 103; Professional Travel Guide, Holland America Line, <http://www.professionaltravelguide.com/Cruise/Cruise-Lines/Holland-America-Line/Amsterdam/> (last visited Nov. 9, 2008) (stating the *ms Amsterdam* was completed in 2000); Professional Travel Guide, Princess Cruises, <http://www.professionaltravelguide.com/Cruise/Cruise-Lines/Princess-Cruises/Golden-Princess/> (last visited Nov. 9, 2008) (stating the *Golden Princess* was entered into service in 2001). Some of the ships operating in Antarctica are converted Russian troopships. Helvarg, *supra* note 7; Quark Expeditions, Clipper Adventurer: Expedition Ship, <http://www.quarkexpeditions.com/our-fleet/clipper-adventurer> (last visited Oct. 26, 2008).

233. *Durbin Urges EPA Release of Cruise Ship Study Ahead of Bill Rewrite*, INSIDE THE EPA, Sept. 29, 2006, § 39. Carnival Corporation, the largest cruise ship company in the world, incorporates a “green ship” concept into the design and construction of its new ships. Carnival Virtual Press Kit, *Carnival Committed to Minimizing its Environmental Footprint*, http://www.carnival.com/CMS/Articles/environmental_virtual_.aspx (last visited Oct. 26, 2008).

234. *Durbin Urges EPA Release of Cruise Ship Study Ahead of Bill Rewrite*, *supra* note 233 (quoting Michael Crye, president of the Int’l Council of Cruise Lines).

235. Williams, *Reconciling Tourism and the Environment*, *supra* note 18, at 61-62.

236. Gill et al., *supra* note 113, at 139; *Cruise Ship Industry Cites Voluntary Efforts in Opposing Mandates*, INSIDE GREEN BUS., Oct. 4, 2006 (“For example, California has passed no-discharge laws, Alaska has set strict effluent standards, Maine requires discharge permits, Hawaii requires reporting of discharges, and Washington and Florida have entered into voluntary agreements with industry to reduce cruise ship pollution.”).

removing oil from bilge and wastewater prior to discharge.”²³⁷ Although the smaller Antarctic cruise ships are obligated to meet pollution and environmental standards outlined in the comprehensive international agreements like the UNCLOS, the MARPOL 73/78, and the London Convention, some major cruise lines, including Holland America Line and Princess Cruises, follow stricter voluntary agreement obligations.²³⁸

Furthermore, the major cruise line ships, or “behemoths” as they are sometimes called, only maneuver in open water and are not permitted to land on the continent.²³⁹ Current IAATO regulations prohibit ships with 500 or more passengers from landing.²⁴⁰ However, there is no enforcement authority in Antarctica and not all the cruise tour operators belong to IAATO.²⁴¹ Some fear that the cruise industry will pressure the Antarctic Treaty Consultative Parties to allow the ships to sail closer to land and even permit landings.²⁴² The IAATO,

237. CRUISE LINES INT’L ASSOC., *CRUISE INDUSTRY WASTE MANAGEMENT PRACTICES AND PROCEDURES* (2006), available at <http://www.cruising.org/industry/PDF/CLIAWasteManagementAttachment.pdf>; Cruise Line International Association, About CLIA, <http://www.cruising.org/about.cfm> (last visited Oct. 26, 2008) [hereinafter About CLIA]. In 2006, the International Council of Cruise Lines merged with its sister organization, Cruise Lines International Association (CLIA). About CLIA, *supra*.

238. Schulkin, *supra* note 79, at 119; see also *Cruise Ship Industry Cites Voluntary Efforts in Opposing Mandates*, *supra* note 236. Also, some cruise lines are going beyond the agreements and have become innovative leaders in developing technologies that will minimize the ships’ environmental impact even further. For example, Holland America Line’s *ms Zaandam* will be the first cruise ship to test a Seawater Scrubber project. Press Release, Holland America Line, Holland America Line to Conduct Air Emission Reducing Seawater Scrubber Study: Holland America Line is the First Cruise Line to Run Trial with EPA Grant (Aug. 18, 2006), available at http://www.pscleanair.org/news/newsroom/releases/2006/pdfs/EPA_Grant_8_14_06.pdf. If the new technology operates as expected it will reduce nitrous oxide by ten percent, sulfur dioxide by over ninety-eight percent, and particulate matter between fifty and eighty percent. *Id.*; Holland America Line Seagoing Environmental Innovation, <http://www.hollandamerica.com/about-best-cruise-lines/Main.action> (follow the “Environment” hyperlink; then follow the “Seagoing Environmental Innovation” hyperlink) (last visited Oct. 26, 2008).

239. Deutsch, *supra* note 59.

240. *Id.*; see also Helvarg, *supra* note 7.

241. Helvarg, *supra* note 7.

242. Deutsch, *supra* note 59. However, Princess Cruises has no plans to land on the continent. *Id.* (quoting Julie Benson, Princess Cruises’ spokeswoman).

however, does not believe the possibility of larger cruise ships running aground is likely, because the major cruise lines do not venture close enough to the continent to risk grounding their ships out of safety concerns.²⁴³ For the past fifteen years, large cruise ships have been making voyages to Antarctica without incident.²⁴⁴ Further, Princess Cruises has operated in the area for four years and has not experienced any incidents.²⁴⁵ The two major cruise lines that operate in Antarctica, Holland America Line and Princess Cruises, both take pride in developing company policies that espouse strict environmental standards and practices.²⁴⁶

The major cruise lines are particularly conscious of and sensitive to the environmental consequences of operating their ships. The larger North American cruise lines realize that being environmentally friendly makes good business sense. After a series of illegal dumping cases,²⁴⁷ environmental fines,²⁴⁸ and highly publicized media stories,²⁴⁹ the industry has learned the hard way that there is a correlation between good environmental behavior and greater

243. Williams, *Tourism Threat*, *supra* note 87 (quoting Denise Landau, executive director of IAATO).

244. *Id.* (quoting a spokeswoman for Princess Cruises).

245. *Id.*

246. *Id.*; Holland America Line, Holland America Line's Environmental Commitment, <http://www.hollandamerica.com/about-best-cruise-lines/Main.action> (follow the "Environment" hyperlink) (last visited Oct. 26, 2008) [hereinafter Holland America Line's Environmental Commitment].

247. GAO, *supra* note 84, at 40-52 (reporting 104 confirmed cases of illegal discharges of oil, garbage, and hazardous wastes into U.S. waters and nearby seas between 1993 and 1998).

248. In the United States, some of the largest environmental fines ever levied against an industry have been given to the cruise industry. Hull, *supra* note 79, at 68. Royal Caribbean Ltd. faced \$27 million in criminal fines in 1999 when it pled guilty to federal felony violations for rigging ship pipes to bypass pollution monitoring equipment. Meredith Dahl, *The Federal Regulation of Waste from Cruise Ships in U.S. Waters*, 9 ENVTL. LAW. 609, 630 (2003); McDowell, *supra* note 203. Carnival Corporation had to pay \$18 million fines plus perform community service when it was discovered that ship engineers intentionally tricked oil content meters monitoring bilge waste discharges. McDowell, *supra* note 203.

249. Mass media exposed the illegal ocean-dumping practices of Princess Cruises when "two passengers videotaped ship employees dumping plastic trash bags filled with garbage into the Atlantic Ocean." Becker, *supra* note 186, at 625. The U.S. Attorney's Office levied a \$500,000 fine against the company. *Id.*

profits.²⁵⁰ This has created a “paradigm of corporate environmentalism” within the cruise industry.²⁵¹ By implementing sustainable environmental practices and policies, the larger cruise lines enjoy reduced costs, long-term profitability, and an improved reputation.²⁵² The cruise lines and their associations have established voluntary self-imposed standards advocating compliance beyond standing regulations.²⁵³ The major cruise lines have incorporated environmental mandates and mission statements into their business plans.²⁵⁴ Self-regulation gives the cruise industry the freedom and discretion to establish more effective environmental management practices and policies than those mandated under a compliance regime.²⁵⁵ Major changes in the industry confirm that its environmental policies and practices are genuine and an instrumental part of fleet operations. For example, cruise ships are now constructed with engines that use “cleaner burning fuels and technologically advanced propulsion systems.”²⁵⁶ Ships are also installed with multimillion-dollar Zenon treatment systems that filter sewage and wastewater into almost drinkable water.²⁵⁷ In the past ten years, Royal

250. Gill et al., *supra* note 113, at 141. This sentiment is echoed by the president and CEO of Holland America who said, “[s]afeguarding our guests, crews, ships and the environment in which we live and operate is not only the right thing to do, it is essential to the successful conduct of our business.” Holland America Line’s Environmental Commitment, *supra* note 246.

251. Gill et al., *supra* note 113, at 141.

252. *Id.*

253. *Id.*

254. *See, e.g.*, Holland America Line’s Environmental Commitment, *supra* note 246 (“Whenever we act or choose not to act, we need to ask ourselves whether doing so will maintain safety and prevent damage to the environment.”).

255. *Cf.* Pérez-Salom, *supra* note 70, at 826 (opining that in a self-regulated system, tourism industry’s “allegiance to sustainable tourism is doubtful” especially when “guidelines and codes are non-binding and non-enforceable,” and arguing for more regulation of every tourist activity in Antarctica).

256. ROSS A. KLEIN, *CRUISE SHIP BLUES: THE UNDERSIDE OF THE CRUISE INDUSTRY* 87 (2002). Ships now “rely on gas turbine engines and on diesel electric power plants.” *Id.* The cruise lines also install advanced podded propulsion systems like the Azipod and Mermaid because they are cost-effective and cheaper to maintain. *Id.*

257. Hull, *supra* note 79, at 95; Kim Murphy, *Alaska Seeks to Clean Up Cruise Ships*, L.A. TIMES, May 10, 2001, at A24; Press Release, Holland America, Zenon Happens! Holland America Ships Convert Wastewater to Near-Drinking Water

Caribbean has donated almost \$10 million to environmental organizations through its Ocean Fund program.²⁵⁸ From this conduct, it is clear that major cruise lines operators take stewardship of the oceans very seriously.

VI. CONCLUSION

The Antarctic Treaty System, international law, and flag state law either do not have the ability or will to control or enforce environmental regulations against the cruise tour operators. As such, the burden lies with industry groups, like the IAATO, as well as the operators themselves to control, regulate, and shape Antarctic environmental practices and policy. The large cruise lines have shown that even in a self-regulated environment, sustainable cruise practices and policies are achievable. It is possible for cruise tour operators to pursue economic self-interest, while also adhering to and promoting high environmental standards. The Antarctic cruise industry is conscious of the tenuous relationship between the condition of the Antarctic environment and the industry's prosperity. Moreover, the introduction of the major cruise lines' ships does not threaten to upset the effort to attain sustainable tourism in Antarctica. The major cruise lines follow strict environmental policies and have no interest in making landings or putting ships at risk. These cruise lines and the rest of the industry understand that becoming stewards of the Antarctic is important to passengers.²⁵⁹ Even for experienced Antarctic travelers the glamour of Antarctica has never worn off.²⁶⁰ The best way to preserve Antarctica's glamour is by continuing to expose tourists to its splendor in an environmentally sustainable manner.

Quality (July 30, 2001), *available at* <http://www.thetimesharebeat.com/archives/2001/htl/htlJuly126.htm> ("Holland America has a history of embracing new environmental technologies and exceeding existing regulations. The company . . . emphasizes waste reduction and recycling, compliance with all international environmental guidelines, and a decision to incorporate zero-discharge wastewater treatment plants and cleaner-burning propulsion technology into its ships."). Many shoreside facilities cannot compare with the level of wastewater treatment systems onboard the ships. Holland America Line's Environmental Commitment, *supra* note 246. Celebrity Cruises planned to spend more than \$50 million to improve the wastewater purification systems on nine of its ships. Choi, *supra* note 80.

258. Choi, *supra* note 80 (citing Michael Sheehan, spokesman for Celebrity Cruises).

259. Helvarg, *supra* note 7.

260. *Id.* (citing John Spletstoeser, former Field Coordinator, U.S. Antarctic Research Program).