

Regulating Antarctic Tourism and the Precautionary Principle

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forward,¹¹⁰ and the reporting fatigue generated by having states submit multiple reports to both committees, the consolidation of the two committees into a single body and incorporation of the 1267 Committee's monitoring team into the newly established CTC support body—the Counter-Terrorism Executive Directorate¹¹¹—may make sense. Of course, if the Council did decide to combine the two committees, it would want to preserve the consolidated list despite its flaws—given its legal and political value in the international campaign against terrorist financing—and be able to make better use of it.

Any effort by the Council to consolidate the two committees would need to include an extensive public relations campaign to explain to the broader UN membership what specific benefits would accrue from a merger; the insignificance in practice of the perceived differences between the two bodies; and the increase in the Council's focus on capacity building, rather than on naming and shaming, to which consolidation would lead. Some UN members, however, would inevitably be concerned that it might have the opposite effect, i.e., a reduction in the Council's focus on capacity building. Again, the public relations campaign would need to pay particular attention to assuaging this concern.

While consolidation would increase the focus on capacity building, the Council would retain its authority to name and shame those failing to comply with the Al Qaeda/Taliban sanctions regime (or the obligations imposed by Resolution 1373). In any event, the Council is unlikely to be able to exercise this naming and shaming power against "noncompliant" states unless it can first determine whether the lack of compliance is due to lack of will or lack of capacity. For the time being, however, the lack of capacity of many states—as identified by both the 1267 Committee and the CTC—and the time it will take to make technical assistance available to those interested in enhancing their capacity and for them to accept and implement the assistance, make it difficult, if not impossible, to distinguish the unwilling from the unable.

REGULATING ANTARCTIC TOURISM AND THE PRECAUTIONARY PRINCIPLE

*By Kees Bastmeijer and Ricardo Roura**

Antarctic tourism is a rapidly growing industry. From 1958 until 1987, an average of fewer than 1000 tourists visited Antarctica each season. In the 1993–1994 season, the tourists visiting Antarctica outnumbered the scientists for the first time.¹ In recent years (1999–2003), between 13,000 and 15,000 tourists made landings in Antarctica,² and during the last season (2003–2004) this number increased by 45 percent to more than 19,500 (see figure 1, p. 764).³ The estimate of total passengers for the 2003–2004 season, including those not landing, is over 27,000. This trend

¹¹⁰ See, e.g., MAKING TARGETED SANCTIONS EFFECTIVE: GUIDELINES FOR THE IMPLEMENTATION OF UN POLICY OPTIONS, pt. III (Peter Wallensteen, Carina Staibano, & Mikael Eriksson eds., 2003), available at < http://www.smartsanctions.se/stockholm_process/reports/Final%20report%20complete.pdf > (discussing the important role that capacity building plays in the implementation of targeted UN sanctions such as the Al Qaeda/Taliban sanctions).

¹¹¹ SC Res. 1535 (Mar. 26, 2004).

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¹ For an overview of the development of Antarctic tourism until 1993, see Debra J. Enzenbacher, *Tourists in Antarctica: Numbers and Trends*, 28 POLAR REC. 17 (1992); Debra J. Enzenbacher, *Antarctic Tourism: An Overview of 1992/93 Season Activity, Recent Developments, and Emerging Issues*, 30 POLAR REC. 105 (1994).

² IAATO Overview of Antarctic Tourism 2002–2003 Antarctic Season, Antarctic Treaty Consultative Party Meeting [ATCM] Doc. XXVI ATCM/IP 71 (2003), available at < <http://www.iaato.org/info.html> >. For Antarctic tourism statistics, see also the Web site of the International Association of Antarctic Tour Operators (IAATO), at < http://www.iaato.org/tourism_stats.html >.

³ IAATO Overview of Antarctic Tourism: 2003–2004 Antarctic Season, Doc. XXVII ATCM/IP 63 (2004), available at < <http://www.iaato.org/info.html> >.

Note: The black bars are actual figures, and the hatched white bars figures projected by the International Association of Antarctic Tour Operators (IAATO). The gray bar at 1991 indicates the year of adoption of the Protocol on Environmental Protection to the Antarctic Treaty. The data set applies only to seaborne tourists participating in mostly commercial tourism operations, that is, passengers on large ships (carrying several hundred to more than 1000 passengers), standard small to medium-sized ships, and yachts (some of which may not carry paying passengers), whether landing or not. For the period 1998–1999 to 2003–2004, some discrepancies in actual tourist numbers are found in the IAATO sources. In these cases, the lower figure was used. The passenger total will be approximately 5% or more higher when adding the figures on fly-sail operations, nonlanding overflights, air-supported landings, and several unreported types of tourism, including government-sponsored tourism, which are not included here. In addition, the total number of *people* transported to Antarctica by tour operators is higher since these figures exclude officers, staff, and crew (e.g., a total of over 40,000 people in 2003–2004).

Sources: Phillip John Tracey, *Managing Antarctic Tourism* 48 (2001) (unpublished PhD dissertation, University of Tasmania) (actual data 1957–1958 to 1991–1992); IAATO Overview of Antarctic Tourism 2003–2004 Antarctic Season, Antarctic Treaty Consultative Party Meeting Doc. XXVII ATCM/IP 63, at 4 (2004) (actual data 1992–1993 to 2002–2003); Summary of Estimates for 2003–2004 Season, *in id.* at 17, app. A (actual data 2003–2004); Summary of Estimates for 2004–2005 Season, *in id.*, app. E (n.p.) (estimate for 2004–2005); IAATO, 6 Year Survey of the Dominant Tourist Activities and Trends Since the Ratification of the Environmental Protocol and a Five Year Estimated Forecast of Upcoming Activities, ATME Paper No. 11, at 1 (2004) (projections 2005–2006 to 2008–2009); IAATO, 2003–2004 Tourism Summary (Sept. 11, 2004), at < http://www.iaato.org/tourism_stats.html > .

is likely to continue. In recent years, much larger ships have entered the market,⁴ and during the last season, “fly-sail” or “fly-cruise” operations were started: tourists are brought to the Antarctic by aircraft (avoiding the discomfort of the Southern Ocean) and then make excursions on yachts or ships.⁵ By global

⁴ See, e.g., Alan D. Hemmings, *Icewatch*, LIVING PLANET, July 2000, at 31, 38–39 (noting that “there will be pressures to move to larger, less specialized ships”).

⁵ See the Web site of Antarctica XXI (“The First Air Cruise to Antarctica”), at < <http://www.antarcticaxxi.com/> > . It has been noted that the establishment of air links to Antarctica introduces new tourism opportunities. See, e.g., Norway, Report of the 2001 Norwegian Antarctic Inspection Under Article VII of the Antarctic Treaty and Article 14 of the Protocol on Environmental Protection to the Antarctic Treaty, [Committee for Environmental Protection] Doc. IV CEP ATCM XXIV/WP 25, at 2 (2001), available at < <http://www.cep.aq/> > .

tourism standards, the numbers of tourists are very small. It should be remembered, however, that the Antarctic resident population in summer does not exceed 5000.

Not only has tourism in the Antarctic intensified, but also the diversity of tourist activities has increased. Besides the “classic” ship-based tourism on small and medium-sized vessels—now also conducted with ships with a capacity of up to 500 passengers—other forms of tourism currently include yachts, the fly-sail operations mentioned above, large vessels (sometimes carrying over 1000 passengers), land-based tourism (whether supported by air or by sea), and nonlanding overflights. Activities conducted in the Antarctic today on a commercial basis include helicopter excursions, skiing expeditions, mountain climbing, snowboarding, kayaking, marathons, and scuba diving.⁶ Government-sponsored tourism has occurred intermittently for a number of years,⁷ although the details of these operations are sketchy. In addition to tourism, other types of commercial and noncommercial nongovernmental activities are being developed. Photography and film and art projects are well-known examples, but more recently various other activities have been conducted, such as the collection of meteorites for nonscientific purposes.⁸

To aid in understanding the development of tourism in Antarctica—and more particularly, to be able to make general predictions about the future development of Antarctic tourism—it is useful to have some knowledge of the development of nature-based tourism worldwide. The Québec Declaration on Ecotourism, adopted at the World Ecotourism Summit in 2002, notes the “growing interest of people in travelling to natural areas, both on land and sea.”⁹ This trend is richly documented and considerable attention has been devoted to determining which factors have caused it. For instance, at the 2003 World Park Congress it was explained that “[f]or the last 50 years advances in airline technology, energy efficiency, information technology, human social welfare and education led to increases for long distance travel” and that “[s]uch travel affects many parks.”¹⁰ Figures provided by various organizations on nature-based tourism in regions of the world underline the trend described above. Thus, in Europe, according to the World Tourism Organization, “the number of tourists . . . is expected to double in the next 25 years” and “most of the increase . . . will come from alternative forms of travel not involving the classic ‘sun and sand’ tourism.”¹¹ Research also indicates that the more remote places are becoming increasingly popular. For instance, the European Environmental Agency states with regard to the Arctic that “[i]n recent decades, tourism has become a major industry in some areas of the region.”¹² About 40,000 tourists visit Svalbard each year,¹³ and a comprehensive set of regulations was recently developed to protect the wilderness there from adverse impacts of tourism.¹⁴ The increase in the diversity of tourist activities in “wilderness areas” may be illustrated by the “World

⁶ Kees Bastmeijer, *Tourism in Antarctica: Increasing Diversity and the Legal Criteria for Authorisation*, 7 N.Z. J. ENVTL. L. 85 (2003).

⁷ See, e.g., Doc. XXVII ATCM/IP 63, *supra* note 3.

⁸ See, e.g., Scientific Committee for Antarctic Research, Antarctic Meteorites, Doc. XII SATCM/WP 19 (2000); New Zealand, Report to CEP IV on the Question of Collection of Antarctic Meteorites by Private Expeditions, Doc. IV CEP XXIV ATCM/WP 9 (2001); CEP Res. 3(2001), Collection of Meteorites in Antarctica, *all available at* < <http://www.cep.aq/> > .

⁹ World Ecotourism Summit, Québec Declaration on Ecotourism (May 22, 2002), *available at* < <http://www.world-tourism.org/sustainable/IYE/quebec/anglais/quebec-eng.pdf> > .

¹⁰ Paul F. J. Eagles, International Trends in Park Tourism: A Macro View of Park Tourism Finance 2, paper presented at World Parks Congress, Durban, South Africa (Sept. 8–19, 2003), *available at* < http://www.conservaionfinance.org/WPC/WPC_documents/Apps_12_Eagles_v1.pdf > .

¹¹ European Commission, Using Natural and Cultural Heritage to Develop Sustainable Tourism 1, 3, *available at* < <http://europa.eu.int/comm/enterprise/services/tourism/studies/ecosystems/heritage.htm> > (last modified June 26, 2003).

¹² European Environment Agency, The Arctic Biogeographical Region—Warming up and Changing? §2.3.4, *available at* < http://reports.eea.eu.int/report_2002_0524_154909/en/page001.html > (visited Sept. 22, 2004).

¹³ Travelling in Svalbard, *at* < http://www.sysselmannen.svalbard.no/travel_en.htm > (last modified Sept. 14, 2004).

¹⁴ Svalbard Environmental Protection Act, Act of June 15, 2001, No. 79, Norway. Under the Act, various regulations have been adopted, including the Tourist Regulations of 1997. For the Act and the Tourist Regulations, see Laws and Regulations, *available at* < http://www.sysselmannen.svalbard.no/laws_enviro_en.htm > .

Ice Golf Championship,” which will be held from March 24 to 28, 2005, in Greenland, “the only golf tournament in the World where golfers play between huge icebergs.”¹⁵

These general notions and the arbitrary selection of concrete examples indicate that the developments in the Antarctic are manifestations of a worldwide trend, and that they are very likely to continue. Predictions of future growth in the Antarctic tourist industry indicate that most categories will increase—such as large vessels and land-based tourism—whereas only the categories of smaller vessels (carrying fewer than fifty passengers) and yachts will remain consistent or increase just slightly, respectively.¹⁶

On the basis of this overview of the developments in Antarctic tourism, this Note examines the international regulation of Antarctic tourism. After discussing one of the main management issues with respect to Antarctic tourism—the assessment and prevention of cumulative impacts—we introduce the Antarctic Treaty System (ATS) and analyze the existing instruments to address cumulative impacts. The Note next inquires into the status and possible practical relevance of the precautionary principle to the management of Antarctic tourism. Finally, the international debate on Antarctic tourism since 1991 and the measures that have been adopted by governments and industry to prevent adverse impacts by tourist activities in the Antarctic are described, particularly with a view to evaluating the extent to which the precautionary principle is being applied.

I. ANTARCTIC TOURISM AND CUMULATIVE IMPACTS

Recent developments in Antarctic tourism raise concerns about the risk of cumulative impacts on the intrinsic values of the region. Tourism patterns since the early 1990s¹⁷ indicate a trend toward the concentration of visits in a relatively limited number of Antarctic sites and a parallel trend toward visiting new sites. For reasons of accessibility, cost, and tourist attraction, most tourism is currently conducted in the region of the Antarctic Peninsula, although some other areas are in the process of development. All of those areas, which are often ice free, are usually biologically rich or otherwise have outstanding aesthetic, wilderness, historic, or scientific value, or a combination of those values, and are potentially susceptible to cumulative impacts. Furthermore, the tourism season, which usually extends from November to March, coincides with the peak of the breeding season for many Antarctic species. The detection, minimization, and management of cumulative impacts is therefore an issue closely associated with tourism.

Cumulative impacts are “the results of additive and aggregative actions producing impacts that accumulate incrementally or synergistically over time and space.”¹⁸ In the Antarctic context, cumulative impact has been defined as the impact of combined past, present, and reasonably foreseeable future activities. These activities may occur over time and space.¹⁹ Conceptually, all activities in a certain area contribute to the cumulative impacts in that area, although as regards Antarctica interest has centered on the possible cumulative environmental impacts of commercial ship-based tourism, which currently constitutes the bulk of the industry.²⁰ In many

¹⁵ The World Ice Golf Championship, at <<http://www.greenland-guide.gl/icegolf/>> (visited July 22, 2004).

¹⁶ IAATO, 6 Year Survey of the Dominant Tourist Activities and Trends Since the Ratification of the Environmental Protocol and a Five Year Estimated Forecast of Upcoming Activities, Antarctic Treaty Meeting of Experts [ATME] Paper No. 11 (2004).

¹⁷ Tourism Statistics, at <<http://www.iaato.org>> (visited Sept. 23, 2004).

¹⁸ This is the definition used by the International Association for Impact Assessment, taken from ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (Frank Varclay & Daniel A. Bronstein eds., 1995).

¹⁹ Cumulative Environmental Impacts in Antarctica: Minimisation and Management, Proceedings of IUCN Workshop on Cumulative Impacts in Antarctica, Washington, D.C. (Sept. 18–21, 1996) (M. de Poorter & J. C. Dalziell eds., 1996). The Protocol on Environmental Protection to the Antarctic Treaty, *infra* note 31, refers only to “cumulative impacts in the light of existing and known planned activities,” see Annex I, Arts. 2(1)(b), 3(2)(f), but the ATCM Guidelines for EIA in Antarctica, available at <<http://www.cep.aq/>>, state: “A cumulative impact is the combined impact of past, present, and reasonably foreseeable activities. These activities may occur over time and space and can be additive or interactive/synergistic” *Id.* at 11 (visited Sept. 23, 2004).

²⁰ See, e.g., ASSESSMENT OF THE POSSIBLE CUMULATIVE ENVIRONMENTAL IMPACTS OF COMMERCIAL SHIP-BASED TOURISM IN THE ANTARCTIC PENINSULA AREA (Robert J. Hofman & Joyce Jatko eds., 2001), available at <<http://www.nsf.gov/pubs/2002/nsf02201/nsf02201.pdf>> [hereinafter ASSESSMENT OF POSSIBLE IMPACTS].

locations, the activities of tour operators and national Antarctic programs or other operators take place simultaneously, but in other locations tourism is dominant and potentially the main contributor to cumulative impacts.²¹

Possible cumulative impacts associated with ship-based tourism have been identified. These include impacts on landscape, fauna, flora, historical artifacts, and science programs and support activities in the areas visited, or on nearby marine areas. Potential impacts may include, among many others, footpath development, littering, damage to floral assemblages, declines in the number and sizes of breeding colonies, appropriation of historic artifacts, interference with research activities, and coastal or marine pollution.²² These impacts may result from a variety of processes: for example, the incremental effects of the crowding of activities in time or space; effects occurring after a time lag or away from the causal activity; effects of the fragmentation of habitats; and “nibbling” effects of numerous small impacts. Discussion of the diverse typology of cumulative impacts falls beyond the scope of this Note. For present purposes, it suffices to note that cumulative impacts may affect a broad group of Antarctic values, develop through complex processes, and have effects that are not immediately apparent or easily linked to their cause.

Site characteristics influence the nature and severity of potential cumulative effects. For instance, a sensitive site that is logistically convenient to tour operators is potentially more vulnerable to cumulative impacts than an equally sensitive site that is less accessible to visitors. In addition, some sites have characteristics that may influence cumulative impacts for reasons that are unique to the tourism activity, such as distinctive or novel features, and thus are more likely to attract visitors than areas that lack such novelties.²³ In addition, tour operators may give preference to sites where the “wilderness experience” can be maximized.²⁴ Overall, a network of sites where tourism activity occurs is being established throughout the Antarctic region. Cumulative impacts may occur at some of these locations, particularly where both environmental sensitivity and tourism interest are high. It should be noted that even for Antarctic shipborne tourism the debate on cumulative impacts is largely focused on the terrestrial environment and on the sites where tourists disembark. The impacts of reaching the landing site, including those of long-distance shipping and ship-to-shore transport, are generally ignored. This inattention contrasts with concerns raised by some nongovernmental organizations about cruise tourism in the Arctic and elsewhere.²⁵

II. THE ANTARCTIC TREATY SYSTEM AND EXISTING LEGAL INSTRUMENTS TO ADDRESS CUMULATIVE IMPACTS

The described developments in Antarctic tourism and the related concerns regarding cumulative impacts prompt the question of responsibility for addressing these concerns. Many wilderness areas in the world are protected against the adverse impacts of human activities by the state that enjoys sovereign power over the territory concerned. Antarctica, however, is not subject to undisputed territorial sovereignty.

²¹ See IAATO, Chairman’s Report from the Aspen Meeting on Antarctic Tourism, Doc. ATCM XXV ATCM/IP 30 4 (2002), available at <<http://www.iaato.org>> (“There was emphasis on the importance of addressing the possible cumulative impacts of ship-borne tourism, particularly at sites where there are regular landings.”).

²² *Id.* at 5–7.

²³ *Id.* at 8.

²⁴ *Id.*

²⁵ See World Wildlife Fund (WWF), Cruise Tourism in the Arctic, at <http://www.panda.org/about_wwf/where_we_work/arctic/what_we_do/tourism/index.cfm> (last modified May 28, 2004) (“WWF is concerned about the overall impacts on the marine and coastal environments of the Arctic caused by the increased traffic of all types of vessels, and the variability in tour operator and tourist conduct on the voyages.”). For a detailed report, see, for example, MICHAEL HERZ & JOSEPH DAVIS, CRUISE CONTROL: A REPORT ON HOW CRUISE SHIPS AFFECT THE MARINE ENVIRONMENT (2002), available at <<http://www.oceanconservancy.org/site/DocServer/cruisecontrol.pdf?docID=141>>. Awareness about the effects of cruising in the Antarctic marine environment may be increasing. See IAATO, *supra* note 21, at 5 (“It was pointed out that cumulative impacts upon the marine environment are an issue that may also warrant attention.”).

The Antarctic Treaty and Environmental Protocol

During the first half of the twentieth century, seven states laid territorial claims to parts of the continent, but these claims became the subject of international disputes. In 1959 the claimant states and five other states involved in Antarctic research signed the Antarctic Treaty.²⁶ A central element of the Treaty is the “agreement to disagree” of Article IV: the position of each contracting party with regard to the legal status of Antarctica is respected and the contracting parties agree to manage Antarctica collectively. Safeguarding international peace and ensuring the freedom of scientific research are the two pillars of the Antarctic Treaty. It was also agreed that other states wishing to become contracting parties to the Treaty and able to demonstrate their interest in Antarctica by conducting “substantial scientific research activity” could receive “consultative status.”²⁷ Today, there are twenty-nine consultative parties.²⁸ The consultative parties discuss Antarctic management issues at the Antarctic Treaty Consultative Meetings (ATCMs) where decisions are made by consensus.²⁹ Since the Treaty was promulgated, several other conventions and more than two hundred recommendations have been adopted, a set of instruments collectively known as the Antarctic Treaty System.³⁰

With the adoption of the Protocol on Environmental Protection to the Antarctic Treaty (Protocol) in 1991, protection of the Antarctic environment became the third pillar of the ATS.³¹ By signing and ratifying the Protocol, its contracting parties “commit themselves to the comprehensive protection of the Antarctic environment and . . . designate Antarctica as a natural reserve, devoted to peace and science.”³² The Protocol entered into force in January 1998 and applies to most human activities south of sixty degrees south latitude. Fundamental environmental principles are laid down in Article 3 of the Protocol, making clear that the values it protects include “the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research.”³³ Engaging in mineral resource activities for other than scientific purposes is forbidden,³⁴ and all other activities must be subjected to a prior environmental impact assessment (EIA).³⁵ Permit requirements must be in place for taking or harmfully interfering with Antarctic flora and fauna, introducing non-native species into Antarctica, and entering Antarctic Specially Protected Areas.³⁶ Furthermore, provisions on waste management on land and at sea must be respected.³⁷ The Protocol prohibits damaging any historic site or monument.³⁸ It

²⁶ Antarctic Treaty, Dec. 1, 1959, 12 UST 794, 402 UNTS 71.

²⁷ *Id.*, Art. IX(2).

²⁸ At the twenty-seventh ATCM, May 23–June 4, 2004, Ukraine became the twenty-ninth Antarctic Treaty Consultative Party. Draft Final Report of XXVII ATCM, para. 25 (2004) [hereinafter Draft XXVII ATCM Report].

²⁹ ATCMs are hosted by the consultative parties in alphabetical order in English. At present, the ATCMs are held annually and last two weeks. At ATCMs, business is conducted in four official languages and by means of working groups, of which there are currently four: Liability, Legal & Institutional Matters, Tourism, and Operational Matters.

³⁰ For a comprehensive discussion of the ATS, see, among others, F.M. AUBURN, *ANTARCTIC LAW AND POLICY* (1982). For a discussion of recent institutional developments in the ATS, see Karen Scott, *Institutional Developments Within the Antarctic Treaty System*, 52 INT'L & COMP. L.Q. 473 (2003). For a discussion of the Convention on the Conservation of Antarctic Marine Living Resources, see Erik Jaap Molenaar, *CCAMLR and Southern Ocean Fisheries*, 16 INT'L J. MARINE & COASTAL L. 465 (2001).

³¹ Protocol on Environmental Protection to the Antarctic Treaty, Oct. 4, 1991, 30 ILM 1455 (1991) [hereinafter Protocol].

³² *Id.*, Art. 2. To date, thirty-two states have become contracting parties to the Protocol: all twenty-nine consultative parties, plus three contracting parties to the Antarctic Treaty that do not have consultative status (Canada, Greece, and Romania).

³³ *Id.*, Art. 3(1).

³⁴ *Id.*, Art. 7.

³⁵ *Id.*, Art. 8 & Annex I.

³⁶ *Id.*, Annexes II, V.

³⁷ *Id.*, Annexes III, IV.

³⁸ *Id.*, Annex V, Art. 8.

also calls for the conclusion of an annex on liability for environmental damage.³⁹ A Committee for Environmental Protection (CEP) was established to advise the ATCM on implementing the Protocol and furthering the protection of the Antarctic environment.⁴⁰ On the basis of advice from the CEP or on its own initiative, the ATCM may adopt additional measures in accordance with Article IX of the Antarctic Treaty.⁴¹

Relevant Instruments Under the Environmental Protocol

With the exception of some designated protected areas (representing a very small percentage of the Antarctic continent),⁴² no part of Antarctica is in principle off limits to the tourism industry. At present, access of tour operators to Antarctica is primarily controlled by EIA requirements.⁴³ The EIA—in parallel with environmental monitoring⁴⁴—constitutes the key instrument of the Protocol to detect, minimize, and manage the environmental impacts of tourist activities. Article 8, paragraph 2 of the Protocol makes explicit that the EIA obligations also apply to tourist activities.⁴⁵ Although concerns were expressed about the development of tourism during the negotiations on the Protocol, “the prevailing view was that the Protocol and its Annexes should be designed to address generically all activities in Antarctica.”⁴⁶

The Protocol stipulates that cumulative impacts be considered as a component of the EIA process,⁴⁷ although the level of analysis this “consideration” requires is not defined. Broadly speaking, impact assessments can be defined as “the process of identifying the future consequences of a current or proposed action.”⁴⁸ To assess cumulative impact, an EIA should consider the effects of a proposed activity and those of other activities in the area.⁴⁹ Both past and present activities, as well as those that can reasonably be expected in the foreseeable future, are to be taken into account. Thus, the role of cumulative impact assessment in composing an EIA is “to extend

³⁹ Obligations as regards a liability annex are laid down in Article 16 of the Protocol. Negotiations on a liability annex started in 1992 and agreement is expected to be reached within the next two years. The chairman of the working group on liability stated that it was his “aim to conclude negotiations on the Annex by the ATCM in Stockholm” (to be held June 6–17, 2005). Draft XXVII ATCM Report, *supra* note 28, para. 72.

⁴⁰ The CEP was established by Article 11 of the Protocol. Its functions are stated in Article 12.

⁴¹ Protocol, *supra* note 31, Art. 10(1)(b).

⁴² In 1997 the total land area that was protected was 790 square kilometers, equivalent to approximately 0.007% of the continental area of Antarctica. See JAMES D. HANSOM & JOHN E. GORDON, ANTARCTIC ENVIRONMENTS AND RESOURCES: A GEOGRAPHICAL PERSPECTIVE 270 (1998). This area will have increased somewhat since the entry into force of the Protocol in 1998.

⁴³ At the Antarctic Tourism Workshop held by Antarctica New Zealand on June 23, 2000, two teams debated the statement that “Market Forces and Environmental Impact Assessment are enough to manage tourism.” The chair declared the negative team the winner by a narrow margin. ANTARCTICA NEW ZEALAND, PROCEEDINGS OF THE ANTARCTIC TOURISM WORKSHOP 3 (2000) (on file with authors).

⁴⁴ See, e.g., Protocol, *supra* note 31, Art. 3(2)(e).

⁴⁵ Article 8(2) of the Protocol provides:

Each Party shall ensure that the assessment procedures set out in Annex I are applied in the planning processes leading to decisions about any activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required under Article VII(5) of the Antarctic Treaty, including associated logistic support activities.

⁴⁶ Mike G. Richardson, *Regulating Tourism in the Antarctic: Issues of Environment and Jurisdiction*, in IMPLEMENTING THE ENVIRONMENTAL PROTECTION REGIME FOR THE ANTARCTIC 71, 75 (Davor Vidas ed., 2000) [hereinafter IMPLEMENTING ENVIRONMENTAL PROTECTION].

⁴⁷ Protocol, *supra* note 31, Art. 3(2)(c) & Annex I, Arts. 2(1), 3(2)(f). For an analysis of its application to tourism, see Alan D. Hemmings & Ricardo Roura, *A Square Peg in a Round Hole: Fitting Impact Assessment Under the Antarctic Environmental Protocol to Antarctic Tourism*, IMPACT ASSESSMENT & PROJECT APPRAISAL, Mar. 2003, at 13; Lorne K. Kriwoken & David Rootes, *Tourism on Ice: Environmental Impact Assessment of Antarctic Tourism*, IMPACT ASSESSMENT & PROJECT APPRAISAL, June 2000, at 138.

⁴⁸ International Association for Impact Assessment, Home Page, at < <http://www.iaia.org> > .

⁴⁹ Lourdes M. Cooper & William R. Sheate, *Integrating Cumulative Effects Assessment into UK Strategic Planning: Implications of the European Union SEA Directive*, IMPACT ASSESSMENT & PROJECT APPRAISAL, Mar. 2004, at 5, 6.

the temporal and spatial boundaries of the assessment and set the assessment within the context of the wider area or region.”⁵⁰

The criteria of intensity and duration of the impacts were designed to determine the level of EIA required under the Protocol. The three-tiered EIA system of the Protocol refers to whether impacts are less than, no more than, or more than “minor and transitory.” The greater the intensity and duration of impacts, the greater the detail and scrutiny required in the EIA. Cumulative impacts, if and when they occur, may be “minor or transitory” in the terminology of the Protocol, but they may also be more serious. For example, tourism could plainly be a factor in introducing or translocating alien species or diseases, but this process is not well understood or monitored. Although the risk may be low, the potential consequences may be severe, and the impacts are difficult to assess in an Antarctic EIA.

In our view, the assessment of cumulative impacts is one of the gaps in the existing EIA process as applied to Antarctic activities. As stated by William Bush, “[T]he cumulative impact of less significant activities is likely to be the main loophole by which activities can proceed without adequate caution.”⁵¹ Conceptual constraints also hamper the application of EIA to tourism, as envisaged by the Protocol. These derive from applying an EIA system that was developed for scientific activities and associated logistics at a few discrete sites, where environmental reference states can be established and impacts monitored by the operators themselves, to the transient, fast-moving, multisite activities that characterize contemporary Antarctic tourism. Current impact assessment processes are not well suited to evaluating cumulative impacts.⁵² Additional constraints are practical, and concern the way EIA requirements are implemented by tour operators. The latter drew up less than 20 percent of the Initial Environmental Evaluations (IEEs) produced over the period 1991–2002.⁵³ Recent analysis of tourism EIAs suggests that “[k]ey aspects of EIA, including scoping, critical assessment, monitoring and auditing are either poorly developed or absent.”⁵⁴ No Comprehensive Environmental Evaluations, which are the highest level of EIA under the Protocol, have been produced for Antarctic tourism, even though some IEEs describe such tourism in certain instances as “involving multiple cruises within a season, and across several years, involving transport of many hundreds (possibly thousands) of persons to tens of different sites spread across a huge area, where diverse activities will take place. This is a substantially more complex scenario than anticipated for IEE application.”⁵⁵ In addition, tourism EIAs tend to focus on the assessment of impacts resulting from a single season or from a few seasons at most. They do not usually, to our knowledge, address the impact on sites becoming tourism “destinations,” that is, sites that will continue to be visited repeatedly by tourists on a seasonal basis for the foreseeable future and that will therefore be exposed, in a sense, to permanent human activity.

Several proposals that additional tools be used to evaluate Antarctic tourism have been put forward. These include Strategic Environmental Assessments, regional assessments, and cumulative impacts assessments.⁵⁶ The International Association of Antarctica Tour Operators (IAATO) conducted a “programmatic” EIA for its 1997–1998 season, which complied with U.S. domestic

⁵⁰ *Id.* at 6.

⁵¹ William Bush, *Means and Methods of Implementation of Antarctic Environmental Regimes and National Environmental Instruments: An Exercise in Comparison*, in IMPLEMENTING ENVIRONMENTAL PROTECTION, *supra* note 46, at 21, 25.

⁵² Hemmings & Roura, *supra* note 47. A similar concept was expressed by Argentina at the seventh CEP meeting and twenty-seventh ATCM. Interim Final Report of the Committee for Environmental Protection (CEP VII), paras. 74, 75 (2004), available at <<http://www.cep.aq/>> [hereinafter Interim CEP VII Report].

⁵³ Hemmings & Roura, *supra* note 47, at 17.

⁵⁴ Dianne Gee, EIA and the Antarctic Tourism Industry, WHOSE BUSINESS IS IT? IMPACT ASSESSMENT FOR INDUSTRIAL DEVELOPMENT: ABSTRACTS VOLUME 27–28 (2004) (poster presented at IAIA 24th Annual Conference).

⁵⁵ Hemmings & Roura, *supra* note 47, at 19.

⁵⁶ See, e.g., ASOC, Antarctic Strategic Environmental Assessment: Application to the Growing Antarctic Tourism Industry, Doc. XII Special ATCM/IP 10 (2000), available at <<http://www.cep.aq/>>; Kriwoken & Rootes, *supra* note 47.

legislation,⁵⁷ and some industry IEEs have involved the operations of five or more companies. However, questions remain as to whether these “programmatic” EIAs better evaluate cumulative impacts or are simply “large” EIAs meant to cut down on the proponent’s paperwork.

Ex post environmental monitoring complements ex ante assessment of impacts.⁵⁸ Over the years, several attempts have been made to monitor the impacts of tourism visits on specific sites;⁵⁹ a nonprofit organization, Oceanites Inc., conducted a major program in tourism landing sites on the Antarctic Peninsula.⁶⁰ This work is financially or logistically supported by some Treaty parties and the tourism industry.⁶¹ The scope of this Note does not permit a detailed analysis of environmental monitoring in Antarctica, which is an ongoing subject of debate and intersessional work.⁶² However, the monitoring programs currently in place, although worthwhile in their own right for inventorying the flora, fauna, and other characteristics of various sites visited by tourists, will not easily establish clear cause-and-effect linkages between tourism activity and environmental changes. There are simply too many potential causes of environmental change, such as the natural variability of indicator species and climate change, in addition to the potential contribution of human activities, including tourism.⁶³ Thus, it remains to be seen whether current monitoring approaches will provide the answers needed in a timely manner to inform decisions on the management of tourism.

We conclude that EIA and monitoring obligations under the Protocol are necessary, but not sufficient, to address the issue of cumulative impacts adequately.⁶⁴ Gaps in knowledge can be seen in relation to potential adverse cumulative impacts of tourist activities, and current monitoring initiatives cannot yet fill these gaps. For instance, what is the status of wildlife populations at sites frequently visited by tourists? Has this status changed in any way as a result of tourism? These basic questions can perhaps be answered with any certainty about only a few sites frequently visited by tourists. Furthermore, uncertainties abound with regard to the actual and potential impacts of tourism and the future development of the Antarctic tourist industry.

These uncertainties and gaps in knowledge raise questions about the status of the precautionary principle in Antarctic management and the practical relevance of the principle to the Antarctic tourism debate.⁶⁵

⁵⁷ Kriwoken & Rootes, *supra* note 47, at 145–46.

⁵⁸ Conceptually, both ex ante assessment and ex post monitoring of impact are indeed part of the EIA process. In the Antarctic context, somewhat confusingly, there are monitoring initiatives that take place independently of EIA processes, and some EIA processes that do not include a monitoring component.

⁵⁹ See, e.g., Melissa Giese, *Guidelines for People Approaching Breeding Groups of Adélie Penguins* (Pygoscelis adeliae), 34 POLAR REC. 287 (1998); Donna L. Patterson, Andrea L. Easter-Pilcher, & William R. Fraser, *The Effects of Human Activity and Environmental Variability on Long-Term Changes in Adélie Penguin Populations at Palmer Station, Antarctica*, in ANTARCTIC BIOLOGY IN A GLOBAL CONTEXT 301, 306 (A. H. L. Huiskes et al. eds., 2003).

⁶⁰ See United States, Monitoring and Assessment of Activities: Approaches Taken by the Antarctic Site Inventory, Doc. XXVII ATCM WP 11 (2004), available at < <http://www.ats.org.ar/27atcm/> > (“In ten seasons of fieldwork, beginning in November 1994, the Antarctic Site Inventory has demonstrated an ability to reach Antarctic Peninsula visitor sites frequently and cost-effectively. Through February 2004, Inventory researchers have made 570 visits to 89 Peninsula locations.”).

⁶¹ See United Kingdom, Proposed Amendment of Recommendation XVIII-1 (1994): “Site Guidelines” for Sites Visited by Tourists, Doc. XXVII ATCM/WP 26 (2004), available at < <http://www.ats.org.ar/27atcm/> > .

⁶² Interim CEP VII Report, *supra* note 52, Annex 6.

⁶³ Presentation by Oceanites Inc. at the ATME, Norway (Mar. 22–25, 2004).

⁶⁴ See ANTARCTICA NEW ZEALAND, *supra* note 43, at 13. According to one of the opponents, “[EIA] simply evaluates impacts from single projects or expeditions. It is rarely good at assessing cumulative impacts and does not ask relevant public policy questions about alternatives and the desirability or otherwise of a proposal.” *Id.*

⁶⁵ For discussions on the precautionary principle, see REINTERPRETING THE PRECAUTIONARY PRINCIPLE (Tim O’Riordan, James Cameron, & Andrew Jordan eds., 2001); JONATHAN VERSCHUUREN, PRINCIPLES OF ENVIRONMENTAL LAW: THE IDEAL OF SUSTAINABLE DEVELOPMENT AND THE ROLE OF PRINCIPLES OF INTERNATIONAL, EUROPEAN, AND NATIONAL ENVIRONMENTAL LAW (2003). See also Shirley V. Scott, *How Cautious is Precaution?: Antarctic Tourism and the Precautionary Principle*, 50 INT’L & COMP. L.Q. 963 (2001) (discussing the different approaches of the ATS members to managing mining and managing tourism and concluding: “Tourism is covered by only a very weak application of the precautionary principle while the application of the precautionary principle to the issue of mining has been ‘extreme’. The principal factor behind this anomaly appears to be political opportunism.” *Id.*).

III. THE PRECAUTIONARY PRINCIPLE

Reasons for Applying the Precautionary Principle to Antarctica

The Protocol does not clearly oblige the contracting parties to take the precautionary principle into account in decision making.⁶⁶ It can be argued that such an obligation derives more implicitly from particular provisions of the Protocol (e.g., Art. 3(2)(c)). However, it can also be argued that since the relevant parts of Article 4 of the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA)—clearly reflecting the precautionary principle—were not transferred to Article 3 of the Protocol, the negotiating states did not accept an obligation to take the precautionary principle into account in implementing the Protocol. Nonetheless, various strong arguments can be made for applying the precautionary principle to the management of human activities in Antarctica:

- Application of the principle would harmonize with the designation of Antarctica as “a natural reserve, devoted to peace and science,” in Article 2 of the Protocol.⁶⁷
- The precautionary principle has been codified in other international and regional agreements on the protection of natural areas.⁶⁸
- Application of the principle would be consistent with the proactive approach of the Antarctic Treaty System. In the past, the consultative parties of the ATS adopted legal instruments concerning human activities without knowing whether these activities would be initiated or whether they would result in significant impacts on the Antarctic environment (e.g., the Convention on the Conservation of Antarctic Seals and CRAMRA).⁶⁹
- The Protocol itself contains specific prohibitions that are (at least partly) based on the precautionary principle (e.g., the prohibitions on mineral resource activities⁷⁰ and keeping dogs in Antarctica).

James Cameron notes the difference between *prevention*, which applies to known threats, and *precaution*, which applies to uncertain threats.⁷¹ In the Antarctic context, not all activities carry the same degree of uncertainty. While there are inherent risks to operating in Antarctica, and not all Antarctic operators work on the basis of the same level of operational experience or standards, most “traditional” Antarctic operations are characterized by a relatively low degree of uncertainty. They are usually conducted by tried and tested methods. The implementation of Protocol requirements, such as education and training, contingency plans, and the application of mitigating measures, can contribute to minimizing the risks and impacts of an activity. However, as the uncertainties and risks increase, for instance as a result of “novel” activities or the rapid growth of a particular activity, the considerations change. In the Antarctic context, this formula applies as much to tourism as to subglacial lake research and the establishment of air links. The uncertainty that attaches to the direct, indirect, and cumulative impacts of these activities is not always of a low level. Under some circumstances, applying the precautionary principle becomes necessary so as to act in accordance with the objectives and spirit of the Protocol.

⁶⁶ On the status of the precautionary principle under the Protocol, see KEES BASTMEIJER, *THE ANTARCTIC ENVIRONMENTAL PROTOCOL AND ITS DOMESTIC LEGAL IMPLEMENTATION* 293–98 (2003); Scott, *supra* note 65.

⁶⁷ See Scott, *supra* note 65, at 966.

⁶⁸ See VERSCHUUREN, *supra* note 65; see also James Cameron, *The Precautionary Principle as International Law, in REINTERPRETING THE PRECAUTIONARY PRINCIPLE*, *supra* note 65, at 121, 133.

⁶⁹ Personal communication to authors from Alan Hemmings (May 2001). For the conventions, see Convention on the Conservation of Antarctic Seals, June 1, 1972, 29 UST 441; Convention on the Regulation of Antarctic Mineral Resource Activities, June 2, 1988, 27 ILM 859 (1988) (CRAMRA has not entered into force, see BASTMEIJER, *supra* note 66, at 44–46).

⁷⁰ See Scott, *supra* note 65.

⁷¹ See, e.g., James Cameron, *The Precautionary Principle: Core Meaning, Constitutional Framework and Procedures for Implementation*, paper presented at the Institute of Environmental Studies, University of New South Wales (Sept. 20–21, 1993).

Practical Implications of Applying the Precautionary Principle

Both domestic and international discussions on the subject clearly indicate the importance of showing the practical implications of applying the precautionary principle. For example, should any uncertainty about the environmental impacts of tourist activities in Antarctica automatically lead to the prohibition of Antarctic tourism? The answer is no, as this interpretation would transform the precautionary principle into an absolute norm, which is not its purpose as developed in international and domestic environmental law.⁷² Its aim is to ensure that “uncertainties” about the impacts of an activity (or set of activities) are weighed in the decision-making process. The decision is not only based on the socioeconomic advantages of a project or activity and any adverse environmental impact that is 100 percent certain to take place; gaps in knowledge and risks are also taken into account.⁷³ Generally speaking, a reasonable chance that serious adverse impacts will take place combined with questionable socioeconomic importance or available alternatives will push the “pointer” to requirements for additional precautionary measures or even to a “no go” or “not yet” decision.

Applying the precautionary principle in the Antarctic tourism debate may theoretically result in a range of measures that may be appropriate for different spatial and temporal scales. It may result, for example, in imposing certain general conditions on Antarctic tourism as a whole, and specific restrictions regarding particular regions or sites.⁷⁴ Thus, the precautionary principle may be applied as a practical instrument to the management of tourism, which may result in imposing certain restrictions on tourist activities, without having to limit its application to extreme measures such as the banning of Antarctic tourism altogether.⁷⁵

In our view, some of the practical results implied by application of the precautionary principle to Antarctic tourism might include:

- improving the applicability of EIA to tourism;
- generally improving the process of ex ante assessment of cumulative impacts rather than expecting that ex post monitoring will provide all the answers;⁷⁶
- prohibiting tourist activities in potentially sensitive sites where environmental monitoring is lacking or insufficient (e.g., Baily Head on Deception Island in the South Shetland Islands, one of the twenty most visited tourist sites on the entire continent because it contains one of the largest Antarctic penguin colonies, which is situated at the center of a narrow valley, forcing visitors to circulate through dense concentrations of seabirds);
- establishing temporal or spatial limitations for certain sites as required by their specific values and characteristics, including limiting the number of visitors where appropriate (e.g., Hannah Point on Livingston Island in the South Shetlands, a frequently visited site with a high degree of biodiversity including sensitive species such as [breeding] giant petrels, where visitors tend to disperse over the entire area rather than concentrate on a single access route);

⁷² See VERSCHUUREN, *supra* note 65, at 37–41; Scott, *supra* note 65, at 965.

⁷³ Cameron defines risk as an “amalgam of the probability of an event occurring and the seriousness of the consequences should it occur. Thus, a high-risk strategy is one that either combines a relatively high probability with relatively innocuous consequences or one that combines a relatively low probability with relatively serious consequences.” Cameron, *supra* note 71, at 7.

⁷⁴ It has been suggested that some penguin species may habituate to human presence and that “[f]or this reason, managers may suggest that visits be conducted in areas that have consistently received some level of tourism, rather than concentrating on ‘expedition touring’, in which the focus is to visit new colonies and retreat into areas rarely visited.” Patterson, Easter-Pilcher, & Fraser, *supra* note 59, at 306.

⁷⁵ See Scott, *supra* note 65, at 965 (stating that “it is now clearly recognised that the precautionary principle does not have to be applied in an absolutist fashion”); see also Richard Laws, *Unacceptable Threats to Antarctic Science*, NEW SCIENTIST, Mar. 30, 1991, at 4, 4 (holding that “[i]n view of the facts, one unrealistic proposal—that all activities be considered high risk until proven not to be—is quite unacceptable”).

⁷⁶ This may include the use of Strategic Environmental Assessment approaches. See, e.g., ASOC, *supra* note 56; see also Chairman’s Report from Antarctic Treaty Meeting of Experts on Tourism and Non-governmental Activities in Antarctica, Doc. XXVII ATCM/WP 4, para. 12 (2004), available at <<http://www.ats.org.ar/27atcm/>> [hereinafter ATME Report].

- concentrating tourist activities in designated areas to be managed in such a way that these activities may be conducted in a sustainable manner;
- preventing access to any site that has not been visited before, so as not to expand the number of sites exposed to a human presence; and
- adopting restrictions on the permissible types of tourist activities.

While some of these measures may have to be permanent, others may be put in place until more knowledge is gained about the effects of tourist activities on the values that should be respected in accordance with Article 3 of the Protocol.

IV. THE ANTARCTIC TOURISM DEBATE, 1991–2004

The Period from 1991 to 2003

The discussions on tourism in Antarctica at the ATCMs since 1991 show that, generally speaking, the consultative parties consider tourism in Antarctica to be legitimate “use.”⁷⁷ Although tourism does not belong to the same category as the activities at the core of the Antarctic Treaty and the Protocol—the preservation of peace, international cooperation, scientific research, and comprehensive environmental protection—the total prohibition of tourism in the Antarctic has never been discussed. However, as early as 1991, various consultative parties expressed the view that the Protocol could not regulate Antarctic tourism adequately. At the sixteenth and seventeenth ATCMs in 1991 and 1992, these states proposed that a separate annex on tourism be added to the Protocol,⁷⁸ but consensus on the need for such an annex could not be reached. At the eighteenth ATCM in 1994, consensus was reached on a nonlegally binding approach⁷⁹ by the adoption of Recommendation XVIII–1, which includes both guidelines for visitors to the Antarctic and guidelines for the organizers of nongovernmental expeditions. Between 1994 and 2001, “tourism and nongovernmental expeditions” was a separate agenda item at the ATCMs, but the general character of the discussions indicates that the issue was not regarded as a priority and no substantial additional legal measures to regulate Antarctic tourism were adopted.⁸⁰

Since 2001, the question of additional measures has received closer attention. That year, at the twenty-fourth ATCM, it was “noted that there is an increase in the diversity of tourism activities, which may present new management challenges,” and the consultative parties agreed on “the importance of appropriate management of Antarctic tourism.”⁸¹ At the ATCMs in 2002 and 2003, several contracting parties and observers submitted papers on the management of Antarctic tourism, but the discussions were brief and no legally binding measures were considered.⁸²

Self-Regulation in Antarctica: The International Association of Antarctica Tour Operators

For some of the consultative parties, the existence of a tourism industry association capable of taking self-regulatory initiatives may have constituted one of the reasons for postponing discussions on the management of tourism at the ATCMs. IAATO, which was founded in 1991 by

⁷⁷ For a summary of the tourism debate since 1991, see ASOC, ATCM Papers, Discussions, & Recommendations Relating to Tourism and Non-governmental Activities, Doc. XXV ATCM/IP 52/Rev. 1 (2002), available at <<http://www.cep.aq/>>; BASTMEIJER, *supra* note 66; Richardson, *supra* note 46.

⁷⁸ Chile, France, Germany, Italy, Spain, Draft Annex to the Protocol, Regulation Concerning Tourism and Non-governmental Activities, Doc. XVII ATCM/WP 1 (1992); see Richardson, *supra* note 46, at 77.

⁷⁹ FINAL REPORT OF THE EIGHTEENTH ANTARCTIC TREATY CONSULTATIVE MEETING, para. 59 (1994).

⁸⁰ Richardson, *supra* note 46, at 79–82.

⁸¹ FINAL REPORT OF THE TWENTY-FOURTH ANTARCTIC TREATY CONSULTATIVE MEETING, para. 106 (2001).

⁸² FINAL REPORT OF THE TWENTY-SIXTH ANTARCTIC TREATY CONSULTATIVE MEETING, paras. 129–52 (2003), available at <<http://www.ats.org.ar/27atcm/>>.

seven tour operators, represents the interests of the Antarctic tourism sector.⁸³ It is “dedicated to appropriate, safe and environmentally sound private-sector travel to the Antarctic.”⁸⁴ Currently, sixty-nine organizations are members (in different categories) of the association.⁸⁵ It takes many initiatives to increase the environmental awareness of its members. The IAATO bylaws include the obligation to respect the relevant provisions of the Protocol—which is particularly meaningful for members in states outside the Antarctic Treaty System—as well as various additional requirements on such matters as the qualifications and experience of expedition staff, and the numbers of visitors allowed to make landings in the Antarctic.⁸⁶ In addition to the bylaws, specific guidelines, for example, the Marine Wildlife Watching Guidelines, have been adopted.⁸⁷ An organization that applies for membership must take an IAATO observer aboard during one of its expeditions. After assessing whether the tour operator meets IAATO standards, the observer produces a report that forms the basis for the IAATO annual meeting to decide on the application for membership.

IAATO has expert status at the ATCM and is represented on some national delegations. While the work of IAATO is generally well regarded, the discussions at the twenty-seventh ATCM appear to indicate that an increasing number of consultative parties question whether the Antarctic environment can be adequately protected through self-regulation.

Outcome of the Twenty-seventh ATCM, 2004

The discussions on the adoption of additional measures for regulating Antarctic tourism continued at the twenty-seventh ATCM, which took place in Cape Town from May 23 to June 4, 2004.⁸⁸ The issues considered in Cape Town—following discussions in March 2004 at an Antarctic Treaty Meeting of Experts (ATME) on Antarctic tourism organized by Norway⁸⁹—included the need for an accreditation system for Antarctic tour operators, the establishment of a tourism database, the prohibition of structural tourism facilities in Antarctica, safety and self-sufficiency, and the development of site-specific guidelines.

Unlike previous ATCMs, the twenty-seventh meeting dealt with Antarctic tourism as an integral part of the agenda and made it the subject of a separate working group.⁹⁰ A key element of the debate was the growing acceptance that in the face of current developments in tourism, some regulatory action might be necessary.⁹¹ Various parties seem to consider accreditation as a possible next step in the regulation of tourism. However, the meeting in Cape Town did not take a decision on this issue. In the near future, parties will probably consider options as to how accreditation would work, specifically the role of the tourism industry (through IAATO), as well as how the chosen accreditation scheme would relate to authorizations processed under domestic legislation on implementing the Protocol.

⁸³ John Spletstoesser, *IAATO's Stewardship of the Antarctic Environment: A History of Tour Operator's Concern for a Vulnerable Part of the World*, 2 INT'L J. TOURISM RES. 47 (2000).

⁸⁴ About IAATO: Objectives, at <<http://www.iaato.org/objectives.html>> (visited Sept. 24, 2004).

⁸⁵ Report of the International Association of Antarctica Tour Operators 2003–2004, Doc. XXVII ATCM/IP 68 (2004), available at <<http://www.iaato.org/info.html>>.

⁸⁶ IAATO bylaws, May 2, 2004, available at <<http://www.iaato.org/bylaws.html>>.

⁸⁷ IAATO, Marine Wildlife Watching Guidelines, available at <<http://www.iaato.org/wildlife.html>> (last modified Jan. 2003).

⁸⁸ This section includes references to the Draft XXVII ATCM Report, *supra* note 28. The final report will be made available at the Web site of the twenty-seventh ATCM, <<http://www.ats.org.ar/27atcm/>>.

⁸⁹ Antarctic Treaty Meeting of Experts on Tourism and Non-Governmental Activities in Antarctica (2004), at <<http://www.npolar.no/atme2004/>>; ATME Report, *supra* note 76. This report and the papers submitted to the twenty-seventh ATCM by consultative parties and experts constituted the basis for the discussions on Antarctic tourism in Cape Town and are available at <<http://www.ats.org.ar/27atcm/>>.

⁹⁰ The Tourism Working Group established at the twenty-seventh ATCM held a four-day meeting during the second week of the ATCM (May 31–June 3, 2004).

⁹¹ According to nongovernmental organization experts at the ATCM, “[t]he most obvious aspect to the Cape Town debate was that nobody now disputes that tourism (and non-governmental activity—in the ATCM these are always conjoined twins) is increasing, may pose problems and needs regulation.” ASOC, REPORT ON THE XXVII ANTARCTIC TREATY CONSULTATIVE MEETING, para. 59 (2004), available at <<http://www.asoc.org>>.

The establishment of structural tourism facilities in Antarctica, and its implications regarding legal jurisdiction and the acquisition (or assertion) of property rights, was debated briefly (see p. 780 below). Australia proposed the establishment of an Antarctic tourism database, to be based on existing databases. Although most consultative parties supported the idea, a decision was postponed because of questions about financial aspects and the legal protection of confidential information under domestic legislation.

“Adventure tourism”—a term that loosely encompasses small, independent expeditions, some commercial, some private, and is usually applied to entities that are not members of IAATO—was also debated at Cape Town. Adventure tourism constitutes a small part of the overall tourism industry, but it concerns many parties because of its implications for search and rescue and associated costs. However, not all parties accepted that adventure tourism was “the problem,” as some portrayed it. Rather, the focus of the debate remained on tourism in all its forms, including mainstream tourism. Perhaps the most significant effect of this discussion was the deletion of the term “adventure tourism” from Resolution 3, Tourism and Non-governmental Activities: Enhanced Co-operation Amongst Parties, and its application instead to “Antarctic tourism” as a whole.⁹²

The discussions in Cape Town resulted in the adoption of some measures under Article IX of the Antarctic Treaty, including Insurance and Contingency Planning for Tourism and Non-governmental Activities in the Antarctic Treaty Area. In conjunction with this measure, the ATCM adopted Resolution 4, Guidelines on Contingency Planning, Insurance and Other Matters for Tourist and Other Non-governmental Activities in the Antarctic Treaty Area, with an annex containing guidelines for those organizing or conducting the activities. The measure and guidelines are designed to promote safety and self-sufficiency of tourist and other nongovernmental expeditions. These guidelines supplement those attached to the 1994 Recommendation XVIII-1. Furthermore, the resolution on enhanced cooperation among parties was adopted to prevent operators from exploiting jurisdictional loopholes in their domestic laws. In addition to these concrete decisions, the ATCM established several intersessional contact groups to continue the work on accreditation schemes, cumulative impacts, and environmental monitoring.

Overall, the tourism discussion in Cape Town—as previously in Norway—focused on various technical responses, rather than on the development of a comprehensive policy.

Characterizing the Current Measures: Conditions or Restrictions?

The discussions at the twenty-seventh ATCM show that the parties take the issue of tourism management in Antarctica seriously. Thus, the Antarctic tourism debate has entered a new stage. While at the previous ATCM in Madrid some consultative parties “stated that tourism activities were legitimate and that their regulation and management should be achieved through effective implementation of existing legal instruments,”⁹³ at the Cape Town meeting there was general agreement that certain issues, at least, needed additional regulation. However, the decision-making process is slow; the legal and regulatory framework for tourism has not developed as fast as the industry itself. The tourism debate and the measures adopted are characterized by an approach that “sets conditions”; substantial restrictions have not been imposed or seriously discussed. Whether this approach will enable the consultative parties to take the necessary steps in time to prevent adverse impacts on the Antarctic environment and system of governance remains to be seen. This question is difficult to answer because many related questions are still open. Are Antarctic tourism activities causing any adverse impacts on the Antarctic today? How will Antarctic tourism develop over the next ten years? Will potential problems be solved in a timely fashion by industry self-regulation?

⁹² All measures, decisions, and resolutions that were adopted by the twenty-seventh ATCM are available at <<http://www.ats.org.ar/27atcm/>> .

⁹³ FINAL REPORT OF THE TWENTY-SIXTH ANTARCTIC TREATY CONSULTATIVE MEETING, *supra* note 82, para. 130.

With regard to particular issues, the tourism sector itself has adopted guidelines and procedures that go beyond the Protocol. Examples include the current industry requirement of no more than a hundred passengers ashore at one time, and a staff-passenger ratio of 1:20; guidelines on the cleaning of boots after each visit to an Antarctic site to prevent the introduction and translocation of alien species and diseases; and guidelines on watching marine wildlife.⁹⁴ IAATO also plays a role in promoting compliance with the Protocol, particularly in view of the limited human and financial resources made available by some contracting parties to enforce their domestic Antarctic implementing legislation. However, whatever the industry's demonstrable concerns as regards minimizing environmental damage, plainly tour operators have to operate profitably in Antarctica. According to our observations, most measures that have been adopted by the tourism industry should also be characterized as *conditions* to engaging in Antarctic tourist activities,⁹⁵ conditions that do not substantially restrict Antarctic tourism initiatives. For instance, the limitation to no more than a hundred passengers ashore at one time does not pose serious restrictions in practice, as it is also justified for various practical reasons. IAATO may find it difficult to adopt such restrictions, given the commercial interests of its members, customer demands, and the dynamic nature of the industry. It may even be forced to weaken its bylaws to maintain its influence as the industry continues to grow and change.⁹⁶ For example, until 2001 IAATO required that its members carry no more than four hundred passengers on their vessels, but the association recently removed this upper limit to enable companies with larger-capacity vessels to join.⁹⁷ The Antarctic Treaty Parties should be aware of the possible limitations of self-regulation, particularly in the long term.

Is the Precautionary Principle Being Applied?

In our view, the above discussion justifies the conclusion that the consultative parties and the industry are applying the precautionary principle only to a limited extent. Most of the possible practical implications of the precautionary principle—identified above—are not being seriously discussed. Although improving the applicability of EIA to tourism receives attention and initiatives are taken to improve monitoring, we believe that the speed and character of the tourism developments in the Antarctic require a more fundamental discussion. At an international symposium on the future of the Antarctic Treaty System held in 1995, one of the participants stated that “the system has taken pride in the fact that we were almost always looking forward to the future and taking decisions before events occurred. I think that now we are uncertain and hesitate to address the problems in advance.”⁹⁸ In our view, the manner in which Antarctic tourism

⁹⁴ See IAATO bylaws, *supra* note 86.

⁹⁵ See ASSESSMENT OF POSSIBLE IMPACTS, *supra* note 20, at 10. The workshop determined nine possible impact avoidance and mitigation measures, only a few of which could be considered precautionary.

⁹⁶ See, for example, ASOC, Regulating Antarctic Tourism, Doc. XXV ATCM/IP 83, at 5 (2002), *available at* <<http://www.asoc.org>>, which states:

The present [tourism] industry—and its association—has particular historic roots in the small, owner/operated, ship-based, polar-specific companies of the late 80s

As the industry diversifies, however, the viability of this sort of association comes into question. It faces difficulties whichever way it turns. Hold onto existing small-ship terms of membership, and newer and larger operators cannot join—and the association loses influence Jettison problematical entry requirements to encourage new operators to join, and you maintain the influence, but invariably lower standards.

⁹⁷ IAATO, Report of the International Association of Antarctica Tour Operators (IAATO) Under Article III(2) of the Antarctic Treaty, para. 2.2.4 (2001), *available at* <<http://www.iaato.org/info.html>> (stating that “IAATO has embraced the changing nature of Antarctic tourism and would encourage support amongst Antarctic Treaty Parties as a possible way forward. Under the above categories of Membership, IAATO has been inclusive yet taken the precautionary approach until further scientific or aesthetic evidence proves otherwise.”).

⁹⁸ ON THE ANTARCTIC HORIZON: PROCEEDINGS OF THE INTERNATIONAL SYMPOSIUM ON THE FUTURE OF THE ANTARCTIC TREATY SYSTEM 96 (Andrew Jackson ed., 1995).

has been dealt with in the past decade appears to support this statement. Certainly, the consultative parties and other stakeholders should continue their work on solving concrete and pressing concerns, but—at the same time—they should adopt a more strategic approach to addressing Antarctic tourism, taking into account the precautionary principle. An important step would be to develop scenarios concerning the development of Antarctic tourism in the next ten years and seriously discuss the measures that would fit these scenarios.

The first step in a more serious application of the precautionary principle in regulating Antarctic tourism may be made in the near future. Some “signals” point to a growing awareness of the need to use a precautionary approach to tourism management. The report of the ATME reflects the expert participants’ acknowledgment that EIA and monitoring do not provide all the answers in time: “[T]he Meeting recognized the need to improve the assessment and monitoring of cumulative impacts, and considered that monitoring also had to provide for management responses if and when concerns arise, taking into account the precautionary approach.”⁹⁹ Furthermore, at the seventh meeting of the CEP in Cape Town, the use of the precautionary approach was discussed in the context of managing tourism landing sites. While recognizing the value of monitoring in the long term, the committee debated whether site-specific guidelines might be required for certain frequently visited places.¹⁰⁰ These guidelines would have some precautionary measures built in. Specifically, it was suggested that daily visitation time limits be established at some highly sensitive sites. According to the draft CEP report, “It was noted that no scientific advice is currently available to inform these restrictions, but that the approach taken in the guidelines is necessarily of a precautionary nature.”¹⁰¹ Since only a hundred passengers can land at any site at the same time, such limits would implicitly impose a cap on the number of tourists.¹⁰² One could question the need for ongoing tourist visits at sites defined as highly sensitive and instead recommend stricter precautionary measures, such as keeping such sites off-limits to tourism until sufficient information to inform management decisions becomes available. However, regardless of the specific merits of this proposal, the committee’s discussion appears to indicate some willingness to take precautionary action before there is conclusive evidence of damage resulting from tourism. The proposal will be further debated at the twenty-eighth ATCM, to be held in Stockholm in 2005.

V. REGULATING ANTARCTIC TOURISM: A CHALLENGE FOR THE ATS

Before concluding this Note, we wish to stress that the regulation of Antarctic tourism is more than an environmental issue. It is multifaceted, with dimensions that implicate financial liability, search and rescue, and complex political matters concerning, among others, the use of Antarctic territory subject to unresolved sovereignty claims and the intrusion of influential economic interests into the Antarctic Treaty System. Unbalances in any of these dimensions may trigger a response from the ATS; they may be exploited by individual states to promote their own agendas or they may be ignored at the expense of the stability of the entire system.

⁹⁹ ATME Report, *supra* note 76, para. 12.

¹⁰⁰ The United Kingdom stated in a working paper in 2004:

The collection of data at many of these sites continues. It is anticipated that such long-term information may assist the Parties ultimately in determining whether management plans under Annex V to the Protocol may be required for a number of these sites.

In the interim, we believe that the behavioural code set out in Recommendation XVIII-1 could be significantly enhanced by incorporating into it a set of Site-specific Guidelines.

United Kingdom, *supra* note 61 (emphasis added).

¹⁰¹ Interim CEP VII Report, *supra* note 52, para. 175.

¹⁰² The proposed time limits were of six to eight hours per day, depending on the environmental sensitivity of the sites. In practice, these time limits would have an effect on tourist landing sites only if the number of tourists exceeded several times current numbers.

Adequate regulation of Antarctic tourism represents a challenge to the ATS: "tourism is the first large-scale multinational activity on land in Antarctica that is not under direct government control or largely government funded, and thus in many senses the tourism issue poses the first real test of international governance of private activities in Antarctica."¹⁰³ For instance, the increase in Antarctic tourism and the multinational character of most tourist activities will raise more and more jurisdictional questions.¹⁰⁴ The Treaty and the Protocol do not clarify the issue of jurisdiction with regard to most persons in Antarctica.¹⁰⁵ The lack of clarity in this respect seems to be accepted by the consultative parties as a consequence of Article IV of the Treaty; however, the developments in Antarctic tourism will probably force the consultative parties to discuss this sensitive issue. Research has revealed substantial differences in the jurisdictional scope of application of the domestic Antarctic legislation of the various contracting parties to the Protocol, and individuals may try to use these differences to limit governmental intervention in their proposed activities.¹⁰⁶ The resolution on enhanced cooperation among parties, adopted at the twenty-seventh ATCM, may foreshadow a broader discussion of these issues. Moreover, the increase in activities by states that are not contracting parties to the Treaty and the Protocol is a concern. For example, the ATME in Norway "considered the challenges introduced . . . when tour companies and/or tourist ships operate from third party States," adding that "[i]n this context the current lack of a mechanism whereby the ATCM could engage with such third Parties was noted."¹⁰⁷ While this quotation refers to the power of the ATCM, it should be noted that the jurisdiction of the contracting parties to regulate Antarctic activities is not limited to the activities that are organized within their territories. Without prejudice to the positions of states with respect to territorial claims, various bases of jurisdiction under international law provide each contracting party with the power to apply its domestic legislation to Antarctic activities conducted by its nationals, activities involving ships and aircraft flying its flag, and activities proceeding from its territory. International law also leaves room for more creative approaches, such as the application of domestic legislation to persons who conduct substantial activities within the contracting parties' territory with respect to the solicitation of customers for Antarctic expeditions organized elsewhere. Various arguments support the view that each contracting party is in fact obliged to use a comprehensive approach in determining the jurisdictional scope of application of its implementing legislation. For instance, Article VII(5)(a) of the Treaty already obliges each contracting party to give the other contracting parties advance notice of "all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory." The explicit reference in several key provisions of the Protocol to this reporting obligation (e.g., those on EIA, environmental principles, waste management, and emergencies) appears to indicate that contracting parties should apply their implementing legislation to these activities.¹⁰⁸ This interpretation is also in harmony with the agreement, contained in Article X of the Treaty and Article 13, paragraph 2 of the Protocol, that "[e]ach of the Contracting Parties undertakes to exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity in Antarctica contrary to," respectively, the principles or purposes of the Treaty and the Protocol.

¹⁰³ Personal communication from Bernard Oxman to authors (July 19, 2004).

¹⁰⁴ See BASTMEIJER, *supra* note 66, at 434–38, 455–56.

¹⁰⁵ Provision is made only with regard to "Antarctic officials" under Article VIII(1) of the Treaty. The possibility under Article IX(1)(e) of the Treaty of adopting further measures regarding "questions relating to the exercise of jurisdiction in Antarctica" has never been acted upon. See William Bush, *Australian Implementation of the Environmental Protocol*, in IMPLEMENTING ENVIRONMENTAL PROTECTION, *supra* note 46, at 309, 312 (observing that "[t]he Protocol thus leaves unstated those for whom each party to the Protocol is responsible with regard to ensuring compliance; national legal systems cannot afford to allow such vagueness"); see also BASTMEIJER, *supra* note 66, at 104–22 (stating that there are strong arguments for the interpretation that each contracting party is to ensure that its measures to implement the relevant provisions of the Protocol address all activities identified in Article VII(5)(a)).

¹⁰⁶ See BASTMEIJER, *supra* note 66, at 132–53, 455–56.

¹⁰⁷ ATME Report, *supra* note 76, para. 30.

¹⁰⁸ Protocol, *supra* note 31, Arts. 3(4)(a), 8(2), 15(1)(a) & Annex III, Art. 1. For a comprehensive discussion of this issue, see BASTMEIJER, *supra* note 66, at 115–18.

In addition, questions may arise about the assertion of property rights by private individuals or commercial entities, such as through the long-term use of a site, which may include the construction of structural tourism facilities.¹⁰⁹ The establishment of such facilities in Antarctica and how it may affect legal jurisdiction and the acquisition (or assertion) of property rights are of concern to some parties, including some claimant states. At the ATME, New Zealand proposed prohibiting such facilities, and was supported by several (claimant and nonclaimant) consultative parties.¹¹⁰ While various claimant states have expressed concern about certain tourism and jurisdictional issues, positions may not necessarily be clear-cut or adhere to a claimant-nonclaimant divide. Different states may promote their interests in different ways. For instance, Chile—a claimant state that established the first Antarctic hotel adjacent to one of its stations in the 1980s¹¹¹—said at the ATME that “in its opinion the Antarctic Treaty System did not prohibit building a facility and indicated that according to Chilean legislation a public facility could be leased or made over as a concession to a tour operator.”¹¹² In Cape Town, there appeared to be little interest in discussing this issue in detail, but New Zealand is likely to submit a more developed paper at the next ATCM in Stockholm.

VI. CONCLUSION

Tourism in the Antarctic is increasing rapidly. Within less than fifteen years, it has increased from a total of approximately 4800 tourists in 1990–1991, to more than 19,500 landing passengers in 2003–2004.¹¹³ In view of the worldwide growth of nature-based tourism and specific developments in the Antarctic tourism sector (e.g., the start of fly-sail operations), Antarctic tourism is expected to increase even more. The members of the Antarctic Treaty System are actively discussing the need for measures in addition to the Protocol to manage Antarctic tourism. However, the measures that were adopted at the twenty-seventh ATCM and most of the options under discussion should be characterized as “conditions” that do not address the more fundamental questions facing Antarctic tourism in the medium and long term. The measures adopted by the consultative parties so far principally relate to the concrete problems that are experienced today (e.g., the costs of search-and-rescue operations for tourists in need of help) and for which sufficient proof is available. The additional measures adopted by the industry are intended to prevent or minimize the adverse impacts of tourism. Although IAATO’s contribution deserves to be recognized, generally speaking, the measures that have been adopted do not substantially affect the possibilities for the current tourist industry to undertake the initiatives it wishes and to continue to grow.

In our view, the conclusion is justified that the consultative parties and the industry—through IAATO—are applying the precautionary principle only to a limited extent. The above discussion on Antarctic tourism shows the potential value of the precautionary principle for Antarctic

¹⁰⁹ The case of Pendulum Cove on Deception Island is an example of the assertion of the right to use a site. This is one of the sites most visited by tourists in the whole Antarctic Peninsula, where they swim in volcanically heated waters. Tourist activity may in some instances interfere with the functioning of highly sensitive instruments used to measure volcanic activity. Indeed, it is the different manifestations of the same volcanic activity that draw both scientists and tourists to the site. During the discussions concerning the establishment of an Antarctic Specially Managed Area at Deception Island, tour operators stated that they have been visiting this site for over thirty years and that they should not be excluded from doing so in the future.

¹¹⁰ See, for example, ATME Report, *supra* note 76, para. 35: “Germany . . . suggested that permanent land-based tourism was not consistent with either the Antarctic Treaty or the Environmental Protocol and was also not in line with German domestic law because all permits must be restricted to a specific period.”; and *id.*, para. 36: “Norway expressed support for the New Zealand view that the issue of land-based tourism activities has not only environmental ramifications that need to be taken into account, but the matter was also a policy related [one] and raised issues such as sovereignty and jurisdiction.”

¹¹¹ See HANSOM & GORDON, *supra* note 42, at 253.

¹¹² ATME Report, *supra* note 76, para. 37.

¹¹³ Overview of Antarctic Tourism: 2003–2004 Antarctic Season, *supra* note 3, at 17; Hemmings & Roura, *supra* note 47. Note that the estimate of *total* passengers for the 2003–2004 season, including those not landing, amounts to over 27,000. Overview of Antarctic Tourism: 2003–2004 Antarctic Season, *supra*, at 17.

management and refutes the assumption that application of the principle always results in extreme solutions, such as completely banning particular categories of human activities. We do not advocate a total ban on tourism in Antarctica. However, in our view more strategic policy options and management measures should be considered to prevent irreversible damage in the future.

As mentioned above, these options and measures could be devised in response to scenarios projecting the development of Antarctic tourism for the next ten years. These developments and related uncertainties about potential cumulative impacts may require, now or in the near future, the adoption of *restrictions* on Antarctic tourist activities. Examples of such restrictions include limiting such activities at particular sensitive sites; prohibiting visits to “new,” previously unvisited sites; prohibiting the construction of tourism infrastructure ashore; and prohibiting or limiting certain new types of activities, such as fly-cruise operations. In the longer term, it may even be necessary to consider concentrating tourist activities in designated, well-managed areas. The involvement of the industry in debates about the management of tourism is necessary and its initiatives on self-regulation are welcome, but the consultative parties should also be aware of the possible limitations of self-regulation in view of the commercial interests involved.

Ultimately, the objectives, purposes, and principles of the Antarctic Treaty and its Protocol should guide tourism management strategies and policy. The precautionary principle may prove to be useful and steer us through uncertainty.

