

# ANTARCTIC TOURISM

## *A Frontier for Wilderness Management*

BY GORDON CESSFORD

*[Editor's Note: Antarctica is the largest contiguous area of wilderness on Earth. As inhospitable to humans as it may be most of the time, the Antarctic is nonetheless a vital and valuable area. The IJW is pleased to feature five articles on Antarctica in this issue, more exposure to one subject in one issue than we have given previously. Special thanks go to the efforts of IJW guest editors Gordon Cessford and Paul Dingwall of the Department of Conservation, New Zealand, for coordinating a comprehensive, up-to-date perspective on the great southern wilderness.*

*-Vance G. Martin, Executive Editor (International)]*

**Abstract:** Antarctic tourism has grown rapidly in recent years, bringing an influx of new visitors to add to the traditional scientific occupants of the continent. To date, tourism impacts on the wilderness environment have been relatively benign, and tourists accept that their visits may be subject to limitations. But the prospect of continued growth and diversity of activities brings some concerns about the adequacy of existing rules for managing tourists and calls for continued surveillance and research.

**D**EBATE OVER WHETHER ANTARCTIC TOURISM IS GOOD OR BAD IS NOT MUCH HELP. It is internationally accepted as a legitimate activity, Antarctic tourist numbers are growing, and recently even a comprehensive Antarctic tourism guidebook has been published (Rubin 1996). All the signs show that Antarctic tourism is here to stay. Now the important discussion must focus on how tourism can be encouraged to operate in ways that minimize disturbance and further enhance the wilderness and scientific values already attributed to Antarctica. This may require determining how tourism activities take place on-site, promoting better interactions between tourism and the operation of scientific programs and stations, and identifying ways to enhance the experiences of tourists so they become stronger advocates for Antarctic conservation and science after their return home. To gain a perspective on how this could occur, it is helpful first to understand the current features of Antarctic tourism and tourists.

A visit to Antarctica is a unique and wonderful experience. Understanding Antarctica will tell us much more about the global processes affecting the world environment and our place in it, and a special regime of international cooperation is required to manage our interactions with Antarctica—it is not “owned” by anyone. Following is an Antarctic tourist’s response, when asked the main things she would tell other people about her Antarctic experience. It captures some of the key issues about Antarctica as a growing tourism destination and as a place valued by humans: “The vastness and peace. The importance of the Antarctic in determining climate, weather, and oceanic features in the rest of the world. The necessity of international planning and cooperation to protect this area.”

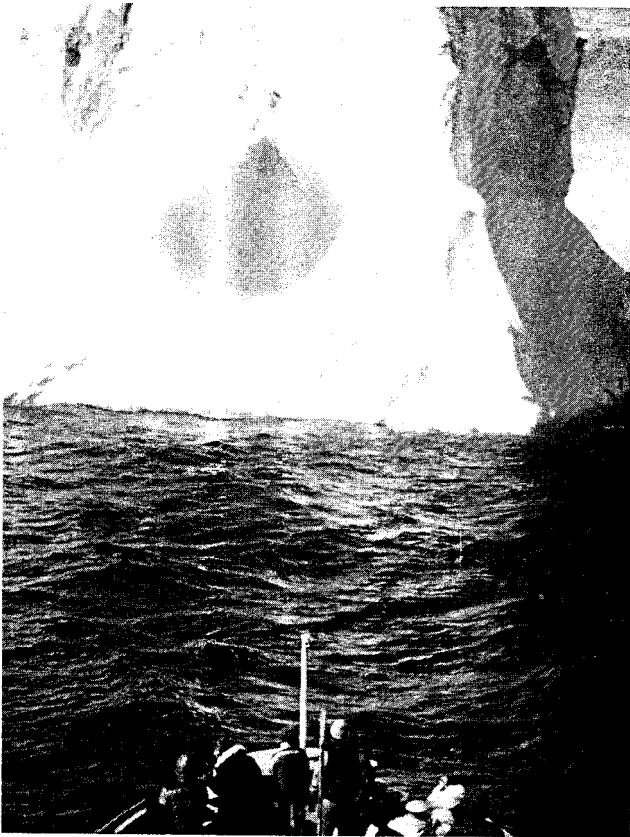
### **The Context for Antarctic Tourism**

Although Antarctic tourism is growing rapidly, it is only a tiny fraction of the international tourism industry. While hundreds



Do tour vessels at heavily visited historic sites on the Antarctic Peninsula represent overcrowding? Photo by *Antarctica NZ*.

of millions of tourists travel internationally each year, numbers in Antarctica are now reaching 10,000 in the four-month summer season (see Figure 1). This may seem a small number for a wilderness continent larger than the United States and Mexico combined (14 million square kilometers), but visits are focused on only a few accessible natural and historic features. Most are in the less than 0.5% of the surface area (56,000 square kilometers), which is free of permanent ice and is an area equivalent in size to Denmark, Sri Lanka, or West Virginia. But the largest single ice-free area (the Dry Valleys) is only 2,500 square kilometers, approximately the same size as Yosemite National Park. The remaining ice-free areas are mainly mountaintops and coastal outcrops speckled widely over the vast Antarctic continent. Antarctica’s sparse terrestrial life is



Seaborne tourists view an iceberg. Photo by Paul R. Dingwall.

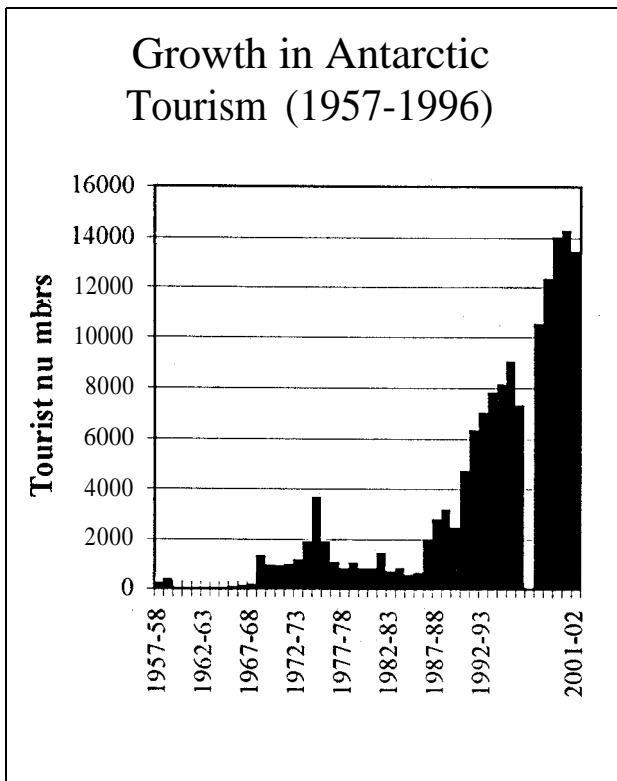
highly concentrated on these rocky “islands” in a “sea” of ice, particularly in the coastal areas close to the life support provided by the sea. The direct human influences that occur in Antarctica are also highly concentrated in the more accessible of these ice-free coastal areas, including past and present scientific stations and current tourism activities. So while the continent is vast and the human numbers low, the interaction of people and environment occurs largely in the very limited ecosystems most important for the marginal life that exists. In this situation, the presence and behavior of even relatively small numbers of people take on added significance.

Arenas (Chile) or Ushuaia (Argentina) in vessels ranging from comfortable cruise ships carrying 400 or more passengers, to expedition-style yachts carrying fewer than 10. Most vessels between these extremes are chartered craft, especially a variety of ice-strengthened Russian research vessels and icebreakers, which have been converted for tourism use and carry 30 to 100 passengers. The availability of these vessels from the early 1990s and the increasing use of shipborne helicopters has significantly increased the volume and scope of seaborne tourism options as well as the range of sites able to be reached. Due to ease of accessibility and the concentration of attractions on the peninsula, most future growth in all types of Antarctic tourism is likely to occur here.

Smaller numbers of vessels travel from New Zealand and Australia to destinations mainly in the Ross Sea region, usually complemented by visits to the New Zealand and Australian Subantarctic islands (recently nominated for World Heritage status). This, however, involves about 10 days voyaging across the notoriously stormy Southern Ocean, compared with 3 to 5 days to the peninsula. The longer seatime raises travel costs, reduces the proportion of time spent ashore, is less comfortable for passengers, and limits the types of vessels that may safely visit (see Figure 2). In addition, there is often uncertainty about reaching some sites when ice conditions are unfavorable. It is unlikely that seaborne tourism to the Ross Sea will grow substantially in the next few years unless more voyages using Russian vessels become available.

Aircraft also travel from South America, usually carrying small numbers of adventure-oriented tourists to inland sites for climbing, skiing, and wilderness expeditions. Other opportunities for airborne access are currently being investigated elsewhere in the Antarctic, including trials of flights from South Africa (IAATO 1997). Antarctic sightseeing overflights from New Zealand were also proving popular before ceasing after a tragic crash in 1979. These have resumed recently from Australia and are again proving popular. Even when viewed from great height and at considerable expense,

Figure I-Growth in Antarctic Tourism



### The Pattern of Antarctic Tourism

Human activity in Antarctica is overwhelmingly concentrated on the Antarctic Peninsula (see p. 23 of Dingwall article in this issue for map), which contains almost half of the 40 or so scientific stations in Antarctica, and over 90% of tourism activity (see Figure 2). In essence, Antarctic tourism consists of ship visits to the Antarctic Peninsula, combining scenic cruising with brief visits ashore to view unique wildlife and historic sites. Most Antarctic tourists voyage from Punta

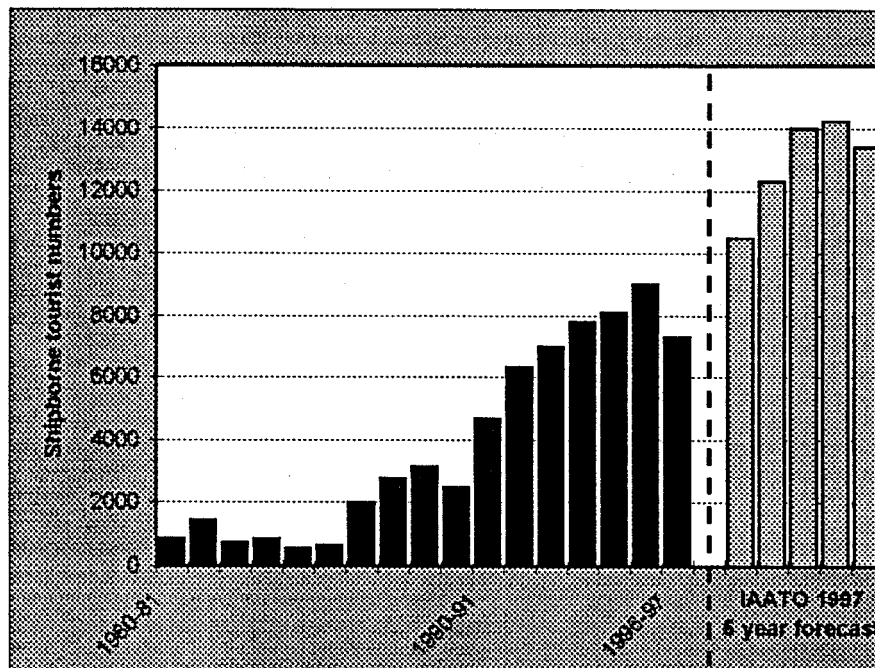
Antarctica is a highly attractive tourist destination, reflecting the commonly stated desire of people to visit it someday.

### The Impacts of Antarctic Tourism

Any wilderness manager confronted with tourist demand for visiting rare and highly specific natural and historic features would have difficulty coping with a series of sites spread widely over a vast continent. Adding complexity is the lack of on-site management presence, the commercial pressures driving tour providers, and the lack of a clear mandate to make binding decisions. For those concerned about the continued viability of Antarctic ecosystems and the integrity of the many historic sites, the prospect of growing tourism numbers in these circumstances is not a welcome one. Tourists will inevitably have impacts, and these may be particularly acute because tourists specifically seek the most valued natural and historic features: People may try and get “just a little bit closer” for their penguin photograph; want to pick up that historic hut item for a closer look; souvenir “just a few” wind-sculptured stones; or walk “just a little” way into that specially protected area and maybe unknowingly trample unnoticed lichens, mosses, soils, or rock features.

However, the localized impacts of tourism on features at Antarctic sites should be seen in the wider context of natural environmental fluctuations, global and regional human activities, and the ongoing localized effects of station operations and science programs. Although tourists greatly outnumber scientists, Headland (1994) compared the relative tourist and nontourist “presence-days” in Antarctic environments (i.e., how many people were present, what they were doing, and for how long), and estimated that less than 1% of direct human effects in Antarctica could be attributed to tourists. This does not mean that tourism impacts should be ignored, as they add to the cumulative effects of stations and science programs (see Dalzeill and De Poorter article in this issue), but shows that there should be a focus on station operations when prioritizing actions to reduce human impacts. Tourist impacts should be subject to exclusive focus only where they particularly threaten the natural and/or

**Figure 2—Seaborne Tourist Increases in Antarctica and 5-Year Forecast for Continued Rise in Numbers**



historic values. In the vicinity of existing stations, it is unlikely that environmental impacts from tourist activity would be more significant than those associated with the station.

The most pervasive impact from tourism has actually been on the operation of the stations themselves. Tourists display a particular interest in station visits, which are usually seen as an integral part of the Antarctic experience. In positive terms, this provides welcome changes in station routines, allows more direct advocacy of the research being done to an interested audience, provides opportunities for generating revenue from postal and souvenir services, and has enabled greater logistical cooperation between station and tour operations. In some cases, tour vessels have provided transportation of staff and materials for management and research purposes.

As the number of tourist visits has increased, however, the physical disturbance of station operations and scientific programs has become particularly acute at stations on the Antarctic Peninsula. Some stations now impose limits on visits allowed, or at least require considerable advance notice and visitor adherence to strictly enforced codes of conduct

while ashore. This provides the control required to ensure that both the tourists and the managers can obtain the benefits of station visits, without seriously compromising station operations. This outcome can be achieved for station visits because of the on-site presence of management authority, and its acceptance by both tourists and tour providers. Achieving the same outcome at those sites where no direct management control by official authorities is possible represents the main challenge for Antarctic tourism management. But how does one stop tourists from going closer to get that penguin photograph when there is nobody there to inform them?

### Managing Antarctic Tourism Impacts

Part of the answer to this question lies with the tourists themselves. A high degree of Antarctic interest and motivation is suggested by their choice of an Antarctic trip in the first place. They are making an expensive choice compared with other tourism options, and in most cases they are accepting the probability of experiencing considerable discomfort at sea for relatively short visits ashore. Coming from the more affluent and better educated



A tourist interacts with emperor penguins. Photo by *Antarctica NZ*.

sectors of society (predominantly from Europe and North America), generally being from older age groups, and mostly having professional and managerial backgrounds, these tourists have high expectations of quality visit-experiences, featuring spectacular scenery, fascinating wildlife, and significant heritage in a wilderness context.

hancing the already extensive interpretation and information opportunities associated with visits. In general, it appears that in many ways Antarctic tourists are already particularly receptive to the need for some regulation of visits ashore, to the types of regulations managers would wish to apply, and to the types of conservation and environmen-

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## How do you stop tourists from going closer to get that penguin photograph when there is nobody there to inform them?

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The few studies made of Antarctic and Subantarctic tourists have indicated that these high expectations are being achieved. Furthermore, research conducted by Cessford and Dingwall (1996) found that there was a high degree of tourist acceptance of the regulations imposed for controlling visits ashore and no real demand for development of any visit-related facilities. Apart from some interest in provision of toilet options while onshore, a need that all public space and wilderness managers would recognize, the only notable development that preferences expressed were for en-

tal messages managers may wish to convey. In essence, there do not appear to be any significant "customer-demand" pressures on tour operators to undertake their tours in ways that might seriously compromise Antarctic wilderness values or ecological integrity.

Because almost all Antarctic tourism visits are on self-contained ships, there is no need for any onshore facilities. This removes the main source of most possible impacts from human activity at sites, and places the focus more specifically on simply minimizing the effects of the brief site-visits. In turn, this requires more

specific and localized tasks for research and monitoring related to impact assessment and site management. To achieve the best management of sites, more understanding of specific human-environment interactions is required. For example, how do different wildlife species perceive the repeated presence of humans, and what are the long-term consequences of their short-term behavioral responses? While recognizing that there is much to learn, and acknowledging the vulnerability of the values involved, there is still a need to provisionally establish some working guidelines.

Substantial progress has been made toward achieving site-management guidelines. On the one hand, nations administering activities in Antarctica under the Antarctic Treaty have adopted the Madrid Protocol, which provides a system under international law for environmental management of all human activities in Antarctica (see p. 22 of Dingwall article in this issue). While not distinguishing between different types of human activity, the Protocol does provide a basis for treaty nations to develop their own management policies specific to Antarctic tourism. For example, New Zealand recently passed domestic legislation providing for regulations and guidelines governing visits to the Ross Sea region (anon 1997). In this situation, New Zealand has extended its ability to promote these regulations by requiring that an official government representative accompanies each visiting ship. While this requirement can be legally enforced in New Zealand's Subantarctic island territories, in the international realm of Antarctica it can only be achieved through mutual agreement between authorities and operators. To date this arrangement has worked well, despite the costs involved for both parties. The managers establish some oversight of visits, while the operators achieve a greater measure of official endorsement, and sometimes the added interpretive services of an experienced professional.

On the other hand, the International Association of Antarctic Tour Operators (IAATO), which includes almost all Antarctic tour operations, has also developed its own bylaws, codes of conduct, and visitation guidelines. Thus, in most

cases, visits to Antarctic sites will be controlled by groups under the supervision of experienced guides who are applying established visit protocols. This enables visitors to enjoy an informative, interesting, and safe experience, while avoiding sensitive areas or inappropriate behaviors. These voluntary codes and guidelines also extend beyond the normal competitive behaviors of business, going as far as including cooperation between different tour operations to minimize visit congestion at particularly popular sites.

## Conclusion

Clearly, a growing consensus between tourism and management interests, combined with the willingness of most tourists to accept environmental controls on their visits, is an encouraging basis for achieving an environmentally sustainable tourism industry in Antarctica. Following the precautionary approach represented by the Madrid Protocol and IAATO initiatives, the working rules represented by the developing guidelines can continue to be applied as the best practices available. But ongoing research, moni-

toring, and consensus are still required in order to continue improving our understandings of the impacts and, if necessary to further refine these working rules. **IJW**

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