Human activities in Antarctica have notably created a microcosm, a world within a world. Enthusiasts from more than 50 countries work in collaboration toward common objectives in the fields of science, logistics, tourism, policy, and law. Antarctic tourism exemplifies international cooperation, as science did beginning with the International Geophysical Year (IGY) of 1957–1958. Cooperation within the tourism industry and interaction with Antarctic Treaty Parties has successfully transcended political boundaries. The foresight in the development of the Antarctic Treaty in 1959 and the subsequent Antarctic Treaty System (ATS), their recommendations, resolutions, measures, and decisions for environmental protection and peaceful usage has shown its value. However, the management of tourism has essentially been left to the industry to operate responsibly. The tourism industry, meanwhile, has developed its own standards for over 40 years (International Association of Antarctica Tour Operators [IAATO], 2009, 2010a, 2010b), sometimes working in conjunction with the ATS, though more often than not advancing more rapidly because they were directly involved in on-site operations and less fettered by the requirements of a wider political consensus.

The tour operators, through the IAATO, observed firsthand what policies and procedures had to be introduced to protect the integrity of the wilderness and physical environment in Antarctica. Through industry interaction with the scientific community, protection of Antarctic ecosystems was possible by the development of numerous operational procedures to mitigate for potential impacts to historic sites, scientific study sites, and flora and fauna even prior to the adoption of the Protocol on Environmental Protection to the Antarctic Treaty in 1991 and subsequent policies linked to it. The IAATO was also formed in 1991, and since its inception, the tourism industry has grown. The concern toward environmental protection and safety grew in response, and subsequently, the industry developed over 45 voluntary procedures to proactively manage the complexities of industry growth, such as mandatory briefing to implement ATCM Recommendation XVIII-1 “Guidance for Those Organising and Conducting Tourism and Non-Governmental Activities in the Antarctic,”
wildlife watching guidelines; site-specific guidelines; boot, clothing, and equipment decontamination guidelines; ship scheduling and communication requirements and procedures; emergency contingency planning; and many more (IAATO, 2009).

Procedures established for vessel operations through the vessels’ flag states, ship classification societies, and international bodies such as the International Maritime Organization (IMO) have evolved to provide for safe operation of vessels and protection of human life in polar waters. The recent adoption of the Polar Shipping Guidelines by the IMO may also serve to enhance the safety of all vessels operating in polar regions. The future success of the industry group to effectively manage tourism will depend on its vigilance to enforce its own guidelines and work in close cooperation with groups such as the IMO and the ATS in order to assure that the most effective processes are in place and implemented. Can the industry continue to effectively regulate and manage its own activities as it has done in the past and what roles do the Antarctic Treaty Parties, national governments, and other regulatory bodies need to undertake in the future?

COOPERATION

Since the early 1960s, an unexpected element of human activity has arisen in Antarctica. The founders of the Antarctic Treaty did not anticipate tourism as a likely activity in Antarctica, nor could they have foreseen how rapidly it would thereafter develop. Upward of 40,000 tourists now visit Antarctica each year, compared with a small fraction of that number 40 years ago. A single commercial tour vessel in the early 1970s, MS Lindblad Explorer, led to the development of an industry that presently encompasses small, six-person yachts to 3000-passenger-capacity cruise ships and numerous aircraft as well as a diversification of both ship- and land-based activities, plus kayaking, camping, skiing, and climbing. Tour operators, crew, and expedition staff work together to operate safe and responsible voyages. Tourism development in the Antarctic and subantarctic islands (Landau, 2007) has since led to expeditioners exploring the Arctic, Amazon, and a myriad of coastlines worldwide with tourists. Multiple languages are spoken on nearly every Antarctic departure. Many of the expedition staff have migrated from science, policy, and logistics sectors within national program operations to extend their Antarctic careers by sharing their knowledge with tourists. Scientists, station staff, and accompanying research equipment are transported on tourist ships to and from the Antarctic. Numerous research projects have been initiated by scientists on the basis of their experience with tourist ships, and the funding for various environmental projects has come from donations from tour companies, suppliers, foundations, and tourists.

REGULATION AND MANAGEMENT

Yet in many ways, regulation of tourism remains an enormous challenge. Because the Antarctic tourism industry has established selected standards and procedures ahead of government regulation, a quandary has developed for regulators. Antarctic Treaty Parties (ATPs) spend considerable time in discussions involving tourism practices and whether they are acceptable. The ATPs are the decision makers for Antarctica, but time-consuming hurdles of discussion and mutual agreement become obstacles because of the consensus requirement. The consensus process has both pros and cons relative to tourism. From the tourism standpoint, the operators have steamed ahead at a remarkable pace, developing the noted operational procedures to manage tourism. Conversely, the ATPs are lagging behind in either adopting the industry standards or creating their own because of the difficulty in reaching a consensus on whether or not a procedure is effective. In order to match the uneven pace of development, it has now reached a point where a new way forward could be forged, creating an innovative partnership between law, science, and tourism, consistent with the spirit of the Antarctic Treaty. Since Antarctica is not owned by any one country, the sheer diversification of countries’ legal processes, tour operators, and tourists representing over 60 countries from around the world calls for a robust cooperative process to assure the long-term protection of Antarctica. The industry group IAATO needs to maintain its global outreach program and to not be seen as too attached to any one ATP, and the ATPs could look more realistically at officially adopting important operational procedures to even out the fast-paced guidelines developed by the industry.

The industry believes that tourism has been successfully managed and regulated by voluntary guidelines or best practices since the 1960s, well before the formation of the IAATO in 1991 (Spletstoesser, 1999, 2000). From the point of view of environmental protection, this modus operandi is a precarious situation. Is good will enough? Laws passed by governments or operational requirements set forth by shipping-related organizations such as the
IMO, ship classification societies, ship registries, etc., or aviation authorities are more rigorously being considered, as tourism numbers and vessel incidents have increased. The industry currently has little ability or authority to impose legal restrictions or limit the operations of any company active in Antarctica. Yet it has achieved remarkable success in working with industry competitors to develop agreed management techniques thus far.

The makeup of the tourism industry has changed dramatically from single-family-owned businesses to large, globalized corporations. The strong sense of stewardship and environmental protection now relies primarily on the expedition staff, whereas in the past it was the policy of the company owners, many of whom were also the expedition leaders. Some critics claim that without legal oversight and jurisdiction, the self-regulatory nature of the industry must change so that the ATPS can resolve situations by stronger action.

Since 2005, there has been an annual increase in incidents involving tourist vessels in Antarctica. One specific incident ignited the interest of the international shipping regulators and the ATPs: the sinking of the MS Explorer on 23 November 2007. The vessel sank in the Bransfield Strait 40.23 km southeast of King George Island in the Antarctic Peninsula. All 91 passengers, 9 expedition staff, and 54 crew were safely rescued by another tourist vessel that was sailing nearby. There were no human casualties, no major injuries, and only one minor injury. The vessel hit ice, resulting in a 3.1 m hole in the hull of the ship (Bureau of Maritime Affairs, 2009). This sole example served as a sort of wake-up call. The close cooperation within the industry itself, their computerized ship-scheduling program, the master contact list of all tourist vessels and air operators, and the ability to produce timely information on the vessel’s progress (IAATO, 2009), as well as favorable weather averted a disaster. Passengers, crew, and expedition staff were rescued from the MS Explorer’s Zodiacs and lifeboats and transferred to another tourist vessel, the MV Nordnorge. In addition, the MS Endeavour remained in regular contact in case another vessel was required to assist. The MV Nordnorge sailed directly to King George Island and disembarked all rescued persons from the MS Explorer at the Chilean Base Presidente Frei. Airplanes were chartered from Uruguay and Chile, and everyone was flown to Punta Arenas, Chile, to connect with onward flights home. The industry demonstrated that the operating practices that IAATO had in place proved to be effective. From the time the ship’s captain issued a Mayday call, all vessels operating in Antarctica were on standby and ready to assist. The IAATO office personnel kept all its members, vessels, governments, stakeholders, and the press from around the world advised of developments. Potential environmental impacts (e.g., fuel, hardware being washed ashore, etc.) were monitored for the remainder of the Antarctic season by industry operators. It was a monumental effort by industry and some governments and national program operators. The sinking of the MS Explorer served to illustrate the grave importance of the industry group working closely together and with the ATPs.

Recently, the IMO and the ATPs have emphasized the need for the international acceptance of the Polar Shipping Code, a document that has been in draft form for nearly 10 years. The IMO has banned the use of heavy fuels in Antarctica, posing challenges to both large cruise ships and expedition ships, which prefer to burn the less-expensive, sulfur-laden heavy fuel. The tourism industry has responded by collaborating on a tiered risk assessment approach, intended to provide tour operators with a framework for voyage planning and risk assessment and also a structure for governments to use in their permitting and authorization of tourism activities in Antarctica.

**CONCLUSION**

The continuing efforts of the tourist industry and the ATPs to achieve a high level of protection of the environment, its marine and terrestrial ecosystems, and human life in Antarctica have shown success in resolving issues as they arise. An acceptable working solution, tourism self-regulation, remains until the ATPs and the industry reach a mutual agreement on a process that satisfies both. In 1959, the signatories of the Antarctic Treaty boldly agreed one of the most powerful strategies the world had ever seen. As human activities have increased in Antarctica, we have reached yet another crossroad. How do we manage the increase of our human footprint in Antarctica? Keeping with the spirit of the Antarctic Treaty, a holistic approach to the management and regulation of not just tourism but all human activities is needed. What better gift can we give future generations than new management tools to protect one of the greatest marine and terrestrial wildernesses on Earth?

**LITERATURE CITED**

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