Tourism in Antarctica: Edging Toward the (Risky) Mainstream

Travel to one of the most remote parts of the planet is booming. What does that mean for the environment and visitor safety?

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Published Feb. 26, 2020  Updated Feb. 27, 2020

In January, the Coral Princess, a ship with 2,000 berths and a crew of nearly 900, plowed through the frigid waters off the Antarctic Peninsula, cruising past icebergs, glaciers and mountains clad in snow. The cruise, which had been advertised at less than $4,000 per person, is remarkably cheaper than most Antarctic expeditions, which often charge guests at least three times that amount for the privilege of visiting one of the wildest parts of the planet. Visitors to the region — and the ships that carry them — are growing in number: Antarctica, once accessible only to well-funded explorers, is now edging toward the mainstream.

But managing tourism is a tricky issue in this distant region where no individual government has the power to set the rules, and the challenge is becoming more complex as Antarctica's popularity grows. During the current austral summer, which runs from roughly November to March, visitor numbers to Antarctica are expected to rise by nearly 40 percent from the previous season. Some observers warn that such rapid growth risks imperiling visitor safety and adding pressure to this fragile region, which is already straining under the effects of climate change, commercial fishing for krill, toothfish and other species, and even scientific research.

Human activity in Antarctica falls under the governance of the Antarctic Treaty system, a model of international cooperation that dates to the Cold War era. But day-to-day management of tourism is regulated by the tour operators themselves, through a voluntary trade association that sets and enforces rules among its members. Observers agree that this system has worked well since it was set up in the 1990s, but some worry that booming tourist numbers could push the old system to a breaking point. They say that the consultative parties to the Antarctic Treaty system — governments like those of the United States, France, New Zealand, Argentina and some two dozen others — must act more quickly to manage tourism, and protect the region's value as a wilderness.

“The bottom line for us is that there aren't a lot of hard rules governing tourism. It's mostly voluntary,” said Claire Christian, executive director of the Antarctic and Southern Ocean Coalition (ASOC), a network of more than 15 conservation groups that serves as an observer to the Antarctic Treaty system. “Right now, there is a lot of good will. But that's not something you can guarantee.”

A booming industry

Tourism in the Antarctic began with a trickle in the 1950s, but the industry remained exclusive and expensive. Expeditions grew steadily and by the late 1980s, a handful of companies were offering sea- and land-based trips. In 1991, seven private tour operators came together to form the International Association of Antarctica Tour Operators (IAATO). Among other things, the group's aims were to promote “environmentally safe and responsible travel”; improve collaboration among its members; and create — among the operators' paying clients — a “corps of ambassadors” who could advocate conservation of the Antarctic region after they returned home from their trips.

Visitor figures soon began to creep up, increasing from roughly 6,700 in the 1992-1993 season to nearly 15,000 by the end of that decade, according to IAATO figures. Apart from a dip after the 2008 financial crisis, numbers have risen steadily ever since. More than 56,000 tourists visited Antarctica during the 2018-2019 season. The figure for the current season is expected to rise to more than 78,500, more than double the total from a decade ago. The vast majority of visitors come by cruise ship, setting sail from ports like Ushuaia in Argentina or Punta Arenas in Chile.

Meanwhile, IAATO has been gaining an average of two to five operators every year, according to Lisa Kelley, IAATO's head of operations. Its members now include 48 tour operators, as well as five provisional members (Princess Cruises among them) and more than 60 associates — travel agents, marketers and others that work in the industry but don't run their own tours.

“At the end of the day, we're all a bunch of competitors,” said Bob Simpson, vice president of expedition cruising at the luxury travel company Abercrombie & Kent and a former chair of IAATO's executive committee. “But it's in our best interest to work together and cooperate,” he added, “to ensure this extraordinary place is protected for future generations.”

Mr. Simpson said that IAATO has been “remarkably successful” in promoting sustainable travel to the region, noting that, in his view, the education and experiences that they offer their guests outweigh the negative impact of the carbon emissions associated with the trip.

Abercrombie & Kent and other IAATO members agree to abide by the organization's bylaws and guidelines, as well as the rules set out by the Antarctic Treaty system. These govern things like the number of passengers allowed ashore during site visits, staff-to-visitor ratios, and the amount of experience required of the crew.
The rules also stipulate that vessels — like the Coral Princess — that carry more than 500 people are not allowed to make landings; they can only “cruise” off the coast. Smaller vessel expeditions — offered by companies such as Abercrombie & Kent, Hurtigruten and Lindblad Expeditions, among others — are allowed to make landings, and their passengers might have the opportunity to disembark with guides to walk, kayak, snowshoe, or even camp or ski onshore.

Membership in IAATO remains voluntary, although all Antarctic tour operators must obtain a permit to travel in Antarctica from one of the parties to the Antarctic Treaty. For now, Ms. Kelley said, every passenger ship operating in the Antarctic is either a member or provisional member of IAATO, apart from some private yachts, defined as vessels carrying 12 or fewer passengers. She is confident that the organization is ready to accommodate the surge in tourist numbers.

“We've learned our lesson from the previous two big spurts of growth,” Ms. Kelley said in a recent phone interview. “We've really looked at our systems carefully and really worked on trying to make them as robust as we possibly can.”

Safety concerns

Other observers are less confident that rising tourist numbers are sustainable. The risks range from possible damage to sites that tourists visit to the potential growth in non-IAATO tour operators to ensuring visitor safety.

Accidents are rare, but not unheard-of. In November 2007, the MS Explorer, a Liberian-flagged vessel carrying about 100 passengers and 50 crew, cracked its hull on submerged ice, then started to take on water and list severely. Those aboard evacuated to lifeboats around 2:30 a.m., then floated in the cold for more than three hours before another ship, the cruise liner Nordnorge, rescued them. No one was killed or injured, but that was in part because of the weather.

“Within two hours after the passengers and crew were aboard the Nordnorge, the weather conditions deteriorated with gale force winds,” according to the official investigative report into the incident, which was conducted by the Liberian Bureau of Maritime Affairs. “If the Nordnorge's speed to the scene had been reduced due to rough sea conditions, there may have been fatalities from hypothermia.”

The environment didn't fare as well. The MS Explorer slipped beneath the waves carrying more than 55,000 gallons of oil, lubricant and petrol; two days later, an oil slick spread over an area of nearly two square miles near the site of the wreck. A Chilean naval ship passed through to try to speed up the dispersal of the fuel, but the report noted that the “oil sheen” was still visible more than a year later.

Ms. Kelley said that measures have been introduced since the Explorer incident, including the International Maritime Organization's new “polar code,” which, she said, imposes “real limits on where and how vessels can operate and how new ships should be built.” Fuel tanks must now be situated away from the vessel's hull, for example; navigation officers are required to have more experience and environmental rules have been tightened.
But as visitor numbers grow, so, too, does the risk of an accident. And while all tour operators in the Antarctic are currently IAATO members or provisional members, a status that offers them a degree of support, there is no guarantee that companies new to the region will see the value in joining the organization. If they decide to go it alone, there is nothing to stop them.

“There have been incidents, but we have always been quite lucky in the sense that maybe the weather conditions were right or there were other ships around,” said Machiel Lamers, an associate professor at the Environmental Policy Group of Wageningen University in the Netherlands. “Having a couple of thousands of passengers and crew in Antarctic waters is, of course, another thing than having a couple of hundred.”

A fragile environment

Scientists warn that the rise in tourism also increases the risk of disrupting the fragile environment. The introduction of invasive species — nonnative crabs or mussels clinging to the hull of a ship, foreign plant seeds stuck in the lining of a tourist's parka — remains an important and ever-present threat. There is also evidence that populations of penguins and other wildlife have been disturbed by human activity in some areas. At the popular Hannah Point, there have been two reported instances of elephant seals falling off a cliff because of visitor disturbance. At other sites, historic structures have been marred by graffiti.

The Antarctic Treaty parties have drawn up “site visitor guidelines” for 42 of the most popular landing sites; these govern things like where ships are allowed to land, where visitors are allowed to walk, and how many landings are allowed per day. But the IAATO website lists more than 100 landing sites on the Antarctic Peninsula. Those with no guidelines in place may become more popular as tour operators try to avoid the crowds.

Pollution from ships is another concern. Although the International Maritime Organization's polar code introduced new measures to control pollution, it still allows ships to dump raw sewage into the ocean if they are more than 12 nautical miles, roughly 13.8 miles, away from the nearest ice shelf or “fast ice” — stationary sea ice attached to the continent or grounded icebergs. It also fails to regulate discharges of “graywater,” runoff from ships' sinks, showers and laundries that has been shown to contain high levels of fecal coliform as well as other pathogens and pollutants. Concerns about pollution are perhaps all the more worrying given the arrival of Princess Cruise Lines, which — alongside its parent company, Carnival Corporation — has been heavily fined for committing serious environmental crimes in other parts of the world.

A spokeswoman for Princess Cruises stressed in an email that the company is “committed to environmental practices that set a high standard for excellence and responsibility to help preserve the marine environment in Antarctica.” Negin Kamali, Princess Cruises' director of public relations, added that the company meets or exceeds all regulatory requirements for Antarctica.

Fuel pollution, especially carbon emissions — is another concern, although there have been some positive steps. In 2011, the use of heavy fuel oil in the Antarctic was banned under the International Convention for the Prevention of Pollution from Ships (MARPOL). Today, ships in the region generally use less-polluting marine diesel, although some — like the MS Roald Amundsen, run by the Norwegian company Hurtigruten — have gone a step further, supplementing their traditional fuel with battery power. Princess Cruises is currently testing similar technologies, said Ms. Kamali.

In the background, warmer temperatures are making the entire continent more vulnerable to external threats.
“It’s important to understand that all of these impacts — climate change, fishing, tourism — are cumulative,” Cassandra Brooks, an assistant professor in environmental studies at the University of Colorado Boulder, wrote in an email. “Given the sheer carbon footprint of Antarctic tourism, and the rapid growth in the industry, these operations will become increasingly difficult to justify.”

The way forward

Antarctic Treaty parties are aware that tourism growth will require a new approach. But it’s not clear what steps they will take, nor how quickly they will act. And reaching consensus — which is what decision-making within the Antarctic Treaty system requires — can be a slow and arduous process.

In April 2019, the government of the Netherlands hosted an informal meeting to discuss how to manage Antarctic tourism. The participants — including representatives of 17 treaty parties, IAATO and ASOC, the civil society group, as well as other experts — identified “key concerns” related to the predicted growth in ship tourism: pressure on sites where tourists visit, the expansion of tourism to new areas, and the possible rise in tour operators who choose not to join IAATO, among other issues.

The group’s recommendations were presented to the Antarctic Treaty’s Committee for Environmental Protection as well as to the most recent annual meeting of the treaty parties in July. The discussions seemed to go in the right direction, said Ms. Christian, but they are still a long way from implementing major changes.

Stronger regulations could come in many forms, including a prohibition on potentially disruptive activities such as heli-skiing or jet-skiing, both of which are currently allowed; a general strengthening of the Antarctic Treaty system’s existing guidelines for visitors, which already instruct people not to litter, take away souvenirs, or get too close to wildlife, among other things. Parties to the Antarctic Treaty system could also establish protected areas that could be made off limits to tourist vessels, or agree to enact domestic laws to enable authorities to prosecute visitors for Antarctic misbehavior (penguin cuddling, for instance) after they return home.

Or the treaty parties could go even further: They could require all passenger vessels to obtain IAATO membership before being granted a permit, or set a cap on the total number of visitors allowed each season. Most observers agree that both steps would be politically very difficult to enact, mainly because treaty parties have diverging views of what Antarctic tourism should look like.

Tour operators and some academics maintain that tourism in Antarctica is vital because it creates awareness and builds a network of people who will go home to fight for stronger protections in the region. But — as with scientific research, or any human activity in Antarctica — the risks and potential negative impacts of tourism must be weighed against its benefits.

Whatever policy steps might be on the table, self-regulation in the tourism industry is no longer sufficient, said Ms. Brooks, who adds that Antarctica is already straining under its many pressures.

“IAATO is truly amazing in what they have accomplished, but it’s difficult to imagine how they will manage to control this burgeoning industry,” she wrote in an email. “It’s equally difficult to imagine how more than 78,000 people visiting Antarctica as tourists won’t have a negative impact on the region.”