

# Tides of time

Glacier Bay National Park in Alaska is part of a World Heritage site that includes the U.S. Wrangell-St. Elias National Park and the Canadian national parks Kluane in the Yukon and Tatshenshini-Alsek Park in British Columbia

The shores and islands of Glacier Bay were covered in ice as recently as 200 years ago. Today, it is the location of the world's largest non-polar ice fields.

United Nations Educational, Scientific and Cultural Organization

In partnership with

World Heritage Centre

JAEGER-LECOULTRE

PEOPLE | Scott Gende, coastal ecologist and senior science adviser, Glacier Bay National Park and Preserve, Alaska

## A scientific research project to limit whale-watching ships' impact on sea mammals

Growing up in a small town in the American Midwest, Scott Gende didn't have much contact with wildlife, whales or glaciers. His hometown of Rock Island, Illinois, was "about as far away from a coastal environment as you can get," he jokes. His only real exposure to the outdoors came once a year, when his father took him fishing in Northern Ontario.

"I immediately fell in love with being in the forest, on the water, all things biology," recalls Gende, who is coastal ecologist and senior science adviser for the National Park Service in Alaska, including Glacier Bay National Park and Preserve.

As a biology student at Iowa State University, Gende discovered ecology as a course of study. A summer job in Juneau, Alaska, after graduation led to studies for a master's degree in fisheries and ocean sciences at the University of Alaska.

His interest was initially in the ecology of coastal forests, but he realized there was such a strong connection between land and oceans that it was almost impossible to separate the two. So his interests expanded

to encompass marine systems as he pursued his Ph.D. at the University of Washington School of Aquatic and Fishery Sciences in Seattle. He then worked with the National Marine Fisheries Service in Alaska before accepting his current position with the National Park Service in July 2003.

The park system he helps oversee contains the largest non-polar ice field in the world and some of the world's longest and most spectacular glaciers. It is unique in part because of its wide variety of ecosystems (marine, coastal forest, mountain, subalpine, alpine tundra).

Gende describes the area as "a global hot spot for humpback whales that migrate from Hawaii to Alaska to feed during the summer and then migrate back for reproductive activities in Hawaii."

One of the biggest challenges for Glacier Bay is balancing the number of visitors that come to the park with conservation of the wildlife and other resources. Tourists come to the park almost exclusively during the summer



Scott Gende.

WILLIAM PARIS

months, and 95 percent come aboard cruise ships, an important way for people to experience the wonders of Glacier Bay. Cruise ships' impact on marine life there is minimal in nearly all cases, but in rare cases it can be deadly.

Cruise ships have been known to strike and kill humpback whales. "Collisions are a rare event," explains Gende, "but they almost always result in the death of the whale." Less dramatic but more frequent is the noise created by ship propellers, which affects how whales communicate, forage and orient themselves. "It's important," he says, "to understand how and to what extent ship visitation will impact whales and other marine mammals, such as threatened Steller sea lions."

The conflicting interests of finned versus limbed mammals is not exclusive to Glacier Bay, of course. As Gende admits, the interests of tourists and the protection of natural resources are often in conflict. "You always want to balance access to a world resource with the potential impact of that visitation," he says,

adding that scientific research is an important tool for helping to achieve that balance. He says that the park's suite of scientific studies aimed at understanding the impact — both positive and negative — of tourism help make Glacier Bay "one of the best-managed natural areas in the world for balancing tourism and access versus protection of wilderness and wildlife."

Carrying out this strategy, he adds, are "biologists and managers at Glacier Bay who have dedicated their lives to preserving this area and using science to guide their management decisions."

One research project focused on placing observers on cruise ships entering Glacier Bay. "This is the first and largest project to record large-ship, large-whale interactions by shipboard observers," says Gende. "The project has been successful in helping us understand how often ships encounter whales, how close they get and what measures can be taken to minimize the potential for collision, such as slowing ships down. It's really exemplified the science-based management framework that Glacier Bay has undertaken over the last six years."

C.F.

OCEAN / CORBIS

**About World Heritage**

The aim of the World Heritage Convention, adopted by UNESCO members in 1972, is "to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding universal value to humanity."

"Tides of Time" is a partnership among Jaeger-LeCoultre, UNESCO's World Heritage Centre and the International Herald Tribune. The series presents some of the people who are helping preserve marine sites on the World Heritage List.

To see videos about World Heritage marine sites, visit the "Tides of Time" archive at [whc.unesco.org/tidesoftime](http://whc.unesco.org/tidesoftime)

### Jaeger-LeCoultre expands its support of culture

Jaeger-LeCoultre, a benchmark in Swiss fine watchmaking, is a supporter not only of World Heritage marine sites but also of world culture, notably of cinema. The watchmaker has been a partner with the Venice International Film Festival for seven years, and this year began partnerships with the Shanghai International Film Festival and the Abu Dhabi Film Festival.

At the festival, which was held in Abu Dhabi Oct. 13-22, the Indian actor and producer Saif Ali Khan received the Jaeger-LeCoultre Glory to the Actor Award in recognition of his achievements and his efforts in the development of the Bollywood film industry. Cinema is family heritage for Khan; he is the son of the acclaimed Indian actress Sharmila Tagore and the late India cricket captain Mansoor Ali Khan Pataudi.

A longtime watch aficionado, Khan wears a personalized edition of Jaeger-LeCoultre's Reverso Grand Taille with the Pataudi family crest engraved on the reverse of the case. "We are very excited about this

partnership," says Eissa Saif Rashed Al Mazrouei, director of special projects for the Abu Dhabi Authority for Culture and Heritage, "because Jaeger-LeCoultre shares our dedication to cinema as an art form and to the recognition of the achievements of gifted actors from around the world. There are many ways our efforts complement each other, and we look forward to working with Jaeger-LeCoultre in the years to come."

Jérôme Lambert, chief executive officer of Jaeger-LeCoultre, notes his company's "longstanding connection with the film industry and strong commitment to supporting and promoting cinematic culture. As a major player in watchmaking history, Jaeger-LeCoultre is a true watchmaking legend, respected for upholding watchmaking traditions and maintaining the spirit of invention — a perfect fit in a region with shared regard for tradition and heritage mixed with modernity."

C.F.

### GLACIER BAY NATIONAL PARK AND PRESERVE | A diverse land- and seascape

## Alaskan marine wilderness faces threats from climate change and tourism

After voyages of discovery along the Alaska coast in 1879 and 1880, John Muir wrote: "How wonderful it seems that ice formed from pressed snow on the far-off mountains two or three hundred years ago should still be pure and lovely in color."

More than a century after the grandfather of the environmental movement's visit, the chilly coastal wilderness of Glacier Bay, Alaska is a prime slice of one of the planet's single largest conservation areas: the Kluane/Wrangell-St. Elias/Glacier Bay/Tatshenshini-Alsek UNESCO World Heritage Site.

Covering 98,391 square kilometers, or nearly 38,000 square miles, in Alaska and the Yukon and British Columbia in Canada, the vast area is noteworthy for a number of reasons: copious wildlife, wild rivers, extremely high peaks and the world's largest non-polar ice fields.

On the area's southern fringe, Glacier Bay's marine wilderness comprises a number of distinct landforms: snow-capped mountains, deep fjords, freshwater rivers and lakes, coastal plains and the blue-tinted tidewater glaciers about which Muir waxed eloquently more than 130 years ago.

Within the park, says Scott Gende, the park's senior science adviser, "There are a

number of places where you can go that really represent true wilderness. You don't hear anthropogenic sounds, you don't see other people. You are really at the edge of wilderness and at the center of being alone and being at one with nature."

The area has always been remote. Tlingit Indians lived around Glacier Bay in the distant past, and the area was no doubt frequented by Russian fur traders. In the latter part of the 19th century, there was sporadic mining, fishing and fur trading in what is now the park area, but the region remained largely uninhabited and untouched through the 1920s, when President Calvin Coolidge put the glacier-choked bay under federal protection.

Together with extreme isolation, this long history of conservation makes Glacier Bay one of the most pristine of any World Heritage Sites. In addition to the park's glaciers, visitors also encounter a variety of coastal plant communities, and both marine and terrestrial wildlife in large numbers: humpback whales, orcas, sea otters, Steller sea lions, harbor seals, grizzly and black bears, moose and wolves.

That's not to say that it hasn't changed at all. Some glaciers have retreated up to 40 miles since Muir first observed them. A little

more than a century before that, as late as 1760, glaciers covered the entire area of Glacier Bay.

"Climate change is certainly a concern," says Gende. How its influence will be manifested, however, is not clear, he adds. "We know so little about tidewater glacier dynamics. We know that climate change is going to have a dramatic impact on the parks. The challenge will be separating out and understanding how that will play out, and its impact to ecosystems and what we can do."

Glacier Bay's primary management concern (other than climate change) is minimizing the impact of tourism while affording access and enjoyment by visitors.

Although the park has a large land area, there are no roads in or out. It is possible for visitors to access the park via a nearby air strip and a short drive to the visitor center,

but nearly all arrive via water, primarily in cruise ships.

In 2003, the U.S. National Park Service updated quotas for all vessels entering the bay (including cruise ships and private boats), operating requirements that govern where they can go and what they can do within the park. An independent panel of federal, state and tribal scientists advises on the potential impact of increasing or changing cruise-ship numbers in Glacier Bay.

Without doubt, the ships will keep bringing in people who yearn to see the raw nature that Muir wrote about: "Out of the cold darkness and glacial crushing and grinding comes this warm, abounding beauty and life to teach us that what we in our faithless ignorance and fear call destruction is creation finer and finer."

J.R.Y.

**Tides of time: Glacier Bay National Park and Preserve** was produced by the IHT Creative Solutions department and did not involve the newspaper's reporting or editorial departments. It is the 30th in a series on UNESCO's World Heritage marine sites. The next installment, about the St. Kilda archipelago in Scotland, will be published Dec. 9. Text by CLAUDIA FLISI and JOSEPH R. YOGERT. For information on the IHT Creative Solutions program: [www.nytimesglobal.com](http://www.nytimesglobal.com)



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