

# The Antarctic Site Inventory – 2011 Annual Report

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## To all Oceanites supporters and friends . . .

The 2011-12 field season of Oceanites' Antarctic Site Inventory field work is underway, our 18<sup>th</sup> season monitoring penguin population changes in the vastly warming Antarctic Peninsula.

Our analyses now reveal that chinstrap penguins are declining as significantly as Adélie penguins are in this region, while gentoo penguins continue expanding both their numbers and range.

To understand this better, we're adding new analytical tools to our arsenal — particularly, remote sensing via satellite photos — and with our logistics prospects for the next two seasons, visiting so-called “data gap” sites that we haven't been able to census regularly.

At this year's Antarctic Treaty Consultative Meeting, the U.S. and U.K. presented papers about our work, fulfilling our commitment to keep the Antarctic community informed about the latest penguin population data and analyses from the Peninsula. The 3rd edition of our acclaimed *Antarctic Peninsula Compendium* was published in advance of this meeting, and copies distributed to every delegation.

I'm immensely grateful to all of you who support our work. We're the *only* nongovernmental, publicly supported organization doing scientific research in Antarctica, and we continue producing important, cost-efficient work that advances the cause of Antarctic conservation for future generations.

Onward and upward! More successes lie ahead, we're grateful for your support, and, as always . . . keep dreaming penguins!

With all best wishes,  
Ron Naveen

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- Remote Sensing



## The 2011-12 Antarctic Site Inventory Field Season – Counting Penguins, Round 18

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The Inventory's 18th field season began in November, with Inventory teams working from three different platforms. The tour ship we're utilizing is the *Akademik Ioffe*, a Russian vessel operated by the Canadian company One Ocean Expeditions. We'll be with her for six departures through early February 2012. As well, we have a stint in early December onboard the U.S. National Science Foundation vessel, *Lawrence M. Gould*.

And totally special for us this season will be the yacht PELAGIC, which we'll be utilizing exclusively for science and penguin-counting during a 2+ week period in December. This aspect springs from the support of The Tinker Foundation in New York, which is generously assisting a two-year campaign by the Inventory to visit "data gap" sites that we've visited only infrequently in the 17-year history of the project. Censuses at these "gap" sites will greatly advance the analyses presently underway to ascertain precisely how changes are being driven in the vastly warming Antarctic Peninsula ecosystem.

Also on our radar this season is the first-ever, site-wide census of all chinstrap penguin nests at Deception Island in the northern Antarctic Peninsula. Chinstraps nest in a number of colonies here, one of which, Baily Head, is subject to specific site visitation guidelines that are regularly reviewed by the Antarctic Treaty countries. This site-wide chinstrap census necessarily will assist Treaty countries in managing the island as a whole and updating applicable guidelines as appropriate.

Also at Baily Head, we'll be installing two passive audio recording devices so we may "listen in" to the chinstraps' breeding season, from the loud courtship calls of returning pairs to the squeaks of their chicks begging for food. Data from these devices will be used in our ongoing research into the timing of penguin breeding and how it may be affected by climate change.

We'll also have the opportunity to survey Hannah Point on Livingston Island, which the Inventory has visited only a few times over the last decade. It is a crowded, species-rich location, which, because of Treaty-mandated guidelines, is off-limits to tourism visitation during the penguin egg-laying season.

Our 18<sup>th</sup> season finds us again tracking changes throughout the Peninsula. New analyses by our colleague, Heather Lynch (publication in review), reveal that the Peninsula's chinstrap penguin population is declining as significantly as that of the Adélie penguins in this region, while gentoo penguins continue to flourish, expanding both their numbers and geographic range.

The roster of Antarctic Site Inventory researchers for the 2011-12 field season includes: Ron Naveen, Heather Lynch, Thomas Mueller, Steven Forrest, Melissa Rider, Rosemary Dagit, Michael Polito, Rebecka Brasso, Paula Casanovas, and Elise Larsen.

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### **Antarctic Peninsula Compendium, 3<sup>rd</sup> edition**

The 3<sup>rd</sup> edition of Oceanites' acclaimed *Antarctic Peninsula Compendium* was published in June, just prior to this year's Antarctic Treaty Consultative Meeting in Buenos Aires. The U.S. and U.K. announced its availability and copies were distributed to all delegates.

This new edition covers all 142 locations the project has censused in its 17-year history, and is the cornerstone "Bible" used by everyone concerned with Antarctica — from diplomats and scientists, to tour operators and their staff, environmentalists, and interested citizens.

A PDF version of this new edition is freely downloadable from the Oceanites website and hard copies may be purchased from a variety of "on demand" publishing outlets, including AMAZON.

### **Remote Sensing**

Oceanites' collaboration with the Polar Geospatial Center at the University of Minnesota has begun.

We're now receiving photos from a number of satellites and, under the direction of our colleague, Heather Lynch (see **News**, p. 4), undertaking a massive effort to count penguins from space!

This high-resolution commercial satellite imagery will be used to catalog all potential penguin colonies (detected via guano deposits) on the Antarctic Peninsula, some of which may be currently unknown and, as yet, not included in current ecosystem analyses.

Newly discovered colonies will be "ground-truthed" — confirmed and checked in the field — over future field seasons, as logistics permit.

## News

• The U.S. Board on Geographic Names has honored Ron Naveen by naming a geographic feature for him — *Naveen Cove* (63° 24' 40" S, 58° 05' 45" W) — on the north side of the isthmus connecting Cockerell Peninsula to Trinity Peninsula just north of Lafond Bay on the north Coast of Trinity Peninsula. This honor recognizes more than 25 years leading Antarctic research teams and the founding of Oceanites in 1987.

• Heather Lynch, who's led scientific analysis for Oceanites and the Antarctic Site Inventory for several years, has taken a position as Assistant Professor of Ecology & Evolution at Stony Brook University. Dr. Lynch and her graduate students will continue the scientific mission of the Antarctic Site Inventory, using a variety of computational and mathematical techniques to better understand the rapidly changing ecosystem of the Antarctic Peninsula and sub-Antarctic Islands.

A major focus will be the optimization of biological monitoring via the integration of remote sensing and targeted and opportunistic field data collected by the Antarctic Site Inventory. The remote sensing effort is facilitated (as noted on p.3) by the Polar Geospatial Center at the University of Minnesota.

This integration of statistics, imagery analysis, and field work is a genuinely unique approach to regional-scale monitoring that significantly advances our understanding of penguin population changes and will serve as a prototype for similar programs in other remote locations around the world.

More information on the new Lynch Lab can be found at: [lynchlab.wordpress.com](http://lynchlab.wordpress.com)



All photographs by Ron Naveen, ©2011 Oceanites, Inc.

- p.1 Adélie penguin, Petermann Island
- p.2 Antarctic Terns, Cuverville Island
- p.3 Adélie penguins on ice, Penola Strait
- p.4 Chinstrap penguins, Barrientos Island

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