

# The Antarctic Site Inventory – 2012 Annual Report

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## To all Oceanites supporters and friends . . .

The 2012-13 field season of Oceanites' Antarctic Site Inventory has begun, our 19<sup>th</sup> season monitoring penguin population changes in the markedly warming Antarctic Peninsula. Since last writing to you, much has happened, all to the good.

Our extended visit to Deception Island last season was stupendously successful, counting all of that location's chinstrap penguin nests — the first time that's been done in one season, let alone in two weeks! With these data in hand, we wrote a new paper describing significant chinstrap penguin declines throughout the Antarctic Peninsula region and the overriding influence of regional climate change. This paper and other Inventory results were again reported by the US delegation to the annual Antarctic Treaty Consultative Meeting. Our educational SKYPE classrooms continued apace.

This coming season, we've planned another data gap-filling yacht trip focusing on the population increase and range expansion of gentoo penguins. There also will be nine data-collecting departures onboard Antarctic tour ships, during which we hope to deploy more audio and video stations to monitor select penguin populations.

We want to thank you for all of the support you've given us. We're still 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.

You're truly helping us keep our work alive, and I'm confident that many more successes lie ahead. Thanks for your support, and, as always . . . Keep Dreaming Penguins!

With all best wishes,  
Ron Naveen

President, Oceanites, Inc.  
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## The 2012-13 Antarctic Site Inventory Field Season – Counting Penguins, Round 19

The Inventory's 19th field season is already underway and involves four different platforms — eight departures on either *Akademik Ioffe* or *Akademik Sergey Vavilov*, expedition ships operated by One Ocean Expeditions, and one departure with Cheeseman's Ecology Safaris onboard the expedition ship *Ortelius*, which also will assist in transferring an Inventory team to the yacht *Golden Fleece*.

Our effort onboard *Golden Fleece* involves tracking gentoo penguins in the southern Antarctic Peninsula. As reported previously, ours is the only project monitoring the significant penguin population changes in this region — Adélies and chinstraps declining significantly, gentoos increasing both their range and numbers.

We'll be onboard *Golden Fleece* in January 2013 working south of Petermann Island in what's affectionately known as "French Antarctica," which was originally charted by the famed explorer Jean-Baptiste Charcot. This opportunity springs from the support of The Tinker Foundation, which is generously assisting the Inventory's two-year campaign to visit "data gap" sites that we've visited infrequently in our history. Filling these gaps will greatly advance the analyses presently underway to ascertain precisely how changes are being driven in the markedly warming Antarctic Peninsula ecosystem.

Last season, we installed passive audio monitors at two locations 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. We plan to install additional audio monitors this season and, over the next two seasons, add video monitors to our array. 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.

The roster of Antarctic Site Inventory researchers for the 2012-13 field season includes: Ron Naveen, Heather Lynch, Steven Forrest, Melissa Rider, Rosemary Dagit, Aileen Miller, Rebecka Brasso, Paula Casanovas, Elise Larsen, Lesley Thorne, Michelle LaRue, and Phil McDowall.

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### **Antarctic Peninsula-wide chinstrap penguin declines**

The Inventory placed a four-person team on the yacht *Pelagic* in December 2011 to census all of nesting chinstrap penguins at Deception Island, one of the most frequently visited locations in Antarctica. The census occurred over 12 days in the harshest of conditions, including persistent clouds, precipitation, and occasional, gale force winds.

This was the first time this island's chinstrap penguins have been fully counted in one season, a total of 79,849 breeding pairs, including 50,408 breeding pairs at the large amphitheater of penguins called Baily Head.

Combined with a simulation designed to capture uncertainty in an earlier estimate, the evidence strongly suggested a significant (>50%) decline in the population of

chinstrap penguins breeding at Baily Head since 1986/87.

The results have now been published in *Polar Biology* ("First direct, site-wide penguin survey at Deception Island, Antarctica, suggests significant declines in breeding chinstrap penguins").

The paper notes that the decline of chinstrap penguins at Baily Head is consistent with declines in this species throughout the region, including at sites that receive little or no tourism.

The Baily Head analysis was abetted by high-resolution satellite imagery from the 2002/03 and 2009/10 seasons that suggested a 39% decline over this seven-year period, thus providing independent confirmation of the chinstrap population decline.

The Inventory remains in the forefront describing region-wide changes in the Antarctic Peninsula, where, in the last 60 years, it's warmed by 3° C. (5° F.) annually and by 5° C. (9° F.) in winter. Two of the three predominant penguin species — chinstrap and Adélie — are declining significantly and gentoo penguins, the third of these species, are expanding both their numbers and range. These divergent responses are an ongoing focus of our Inventory work effort.

Despite considerable attention in the policy and management community about the potential impact of tourism on Peninsula penguin populations, the overwhelming evidence is that climate is responsible for the dramatic changes being detected.

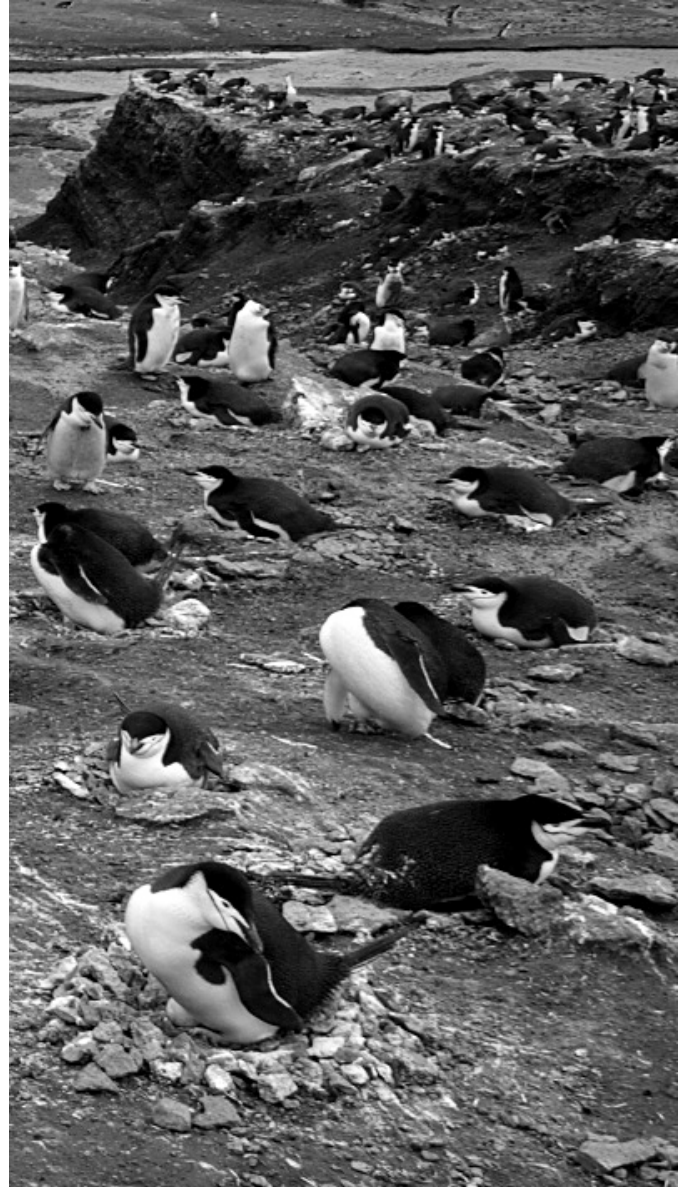
## News

• **New Film Coming About Oceanites and the Antarctic Site Inventory.** During the 2011-12 Antarctic field season, a team of accomplished, documentary filmmakers from Getzels Gordon Productions accompanied Oceanites / Antarctic Site Inventory scientists as they censused penguins in the Antarctic Peninsula.

The footage includes the chinstrap penguin censusing at Deception Island and the resulting documentary — *The Truth About Penguins* — is expected to air in 2012.

The film also will generate numerous short, educational video clips that, ultimately, will be posted in the University of Antarctica on the Oceanites website.

• **Results, 2011-12 Season.** As reported by the US delegation at the 2012 Antarctic Treaty Consultative Meeting, the Inventory, over 18 seasons, has now made 1,227 site visits and collected census and descriptive data at 169 locations. During the recently concluded 2011-12 field season, the Inventory made 74 visits and collected data at 46 sites.



All photographs by Ron Naveen, ©2012 Oceanites, Inc.

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