

2010-2011 Weekly Field Reports

Copacabana, King George Island

Science report:

1. Penguins: Presently, 47% of our Adélie penguin study nests and 68% of our gentoo penguin study nests have hatched chicks.

Peak hatch for both species was complicated by a sudden snowstorm on Thursday 2 December, which resulted in snow drifts and buried nests. The snow drifts were variable, with some penguins snowed in up to or above their heads and other areas snow-free. Some chicks were lost, mostly due to water from melting snow in the nests, since young chicks cannot thermoregulate and are particularly vulnerable to changes in temperature, particularly if they get wet. Fortunately the snow is melting quickly and almost all of the heavily drifted areas have little to no snow remaining.

We paid another visit to the chinstrap penguin colonies at Demay, Uchatka, and Patelnia on Monday 29 November to take egg measurements and conduct nest censuses. Just like with the Adélie and gentoo penguins earlier this season, we measured both eggs (length, width and weight) in fifty nests. The volumes and weights of the eggs are indicative of the early breeding condition of the females.

Our 2010-11 measurements are similar to the 20-year average:

Measurement	2010-11	20-year Average
1 st egg weight	105	104
2 nd egg weight	100	99
1 st egg volume	96.96	96.66
2 nd egg volume	93.28	92.55

The nest census numbers indicate that the chinstrap penguin colonies in our study area continue to decline after a brief period of stability. We counted 1,017 pairs occupying nests this year, considerably more than the 825 pairs found last year, which was abnormally low due to the deep snow pack in the colonies that year. This year's counts, however, were 10% lower than the colony counts recorded during the 2006-07 through 2008-09 seasons (1,150, 1,128 and 1,128 respectively).

2. Skuas: This week marks our first complete check of every skua territory in our study area on the western shore of Admiralty Bay. Approximately 1/4 of the 159 active skua territories followed have eggs. The recent snowstorm resulted in the loss of two brown skua nests and one south polar skua nest; however, skuas are capable of laying another clutch of eggs after a loss. We are hoping these pairs will re-lay as we continue to monitor all the skua territories for clutch initiations.



4. Seals: We conducted two seal censuses this week, covering the beaches along the entire western shore of Admiralty Bay. On Monday, 29 November, the census from Copacabana to Patelnia resulted in 296 elephant seals (93 weaners, 191 juvenile/unknowns, five females and seven males), which is not surprising, since there is a large breeding area near Patelnia. Our Pt. Thomas census found only one elephant seal.

5. Other: We helped our visiting doctoral student, Mike Polito, collect all 20 of his Adélie penguin feather and blood samples from Point Thomas for his stable isotope study of penguin diets.

Weekly Weather:

As mentioned previously, we had a 24-hour snowstorm on Thursday 2 December that buried penguins, sent drifts over skua nests, and even completely buried a southern giant petrel (who stuck it out and is still on its nest). Although Thursday 2 December stood out as a snowy day, it snowed almost every day this week. A significant low pressure (964.3 mb) cell resulted in southerly winds of 15-20 knots and snow from Monday, 29 November until Saturday, 4 December. Sunday, 5 December, was our only snow-free day.

The 2010-11 Copa Field Team:

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