

U.S. Antarctic Marine Living Resources Program
2013/2014 Weekly Field Reports
Cape Shirreff, Livingston Island

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Science Report

Seabirds

1. We have set up all chinstrap and most of the gentoo reproductive success plots.
2. In the gentoo reproductive study of 50 nests, three (6%) nests have completed clutches of two eggs, and five (10%) have clutches of one egg. In the chinstrap reproductive study, only 1 (1%) nest out of 100 study nests has one egg, with no full clutches observed. None of the East colony reproductive study penguins have initiated clutches.
3. We continue to re-sight all banded birds. Currently, one known-age chinstrap has been observed with one egg; none of the known-age gentoos have initiated clutches.
4. Snow coverage of all penguin colonies is approximately 65%. Gentoos on exposed areas have started initiating clutches, but birds on snow-covered colonies have only just started nest building. Chinstraps have started to establish nests and less than 5% have been observed with one egg.
5. Brown skuas are re-establishing pair bonds and have been observed in pairs around Cape Shirreff and at the penguin colonies.
6. An Adélie penguin was observed on Playa Larga on 16 November, and on Colony 29 the next day.

Pinnipeds

7. There are three female elephant seals that are still suckling pups. We have captured and tagged 26 of 36 pups born on the Cape this year. Tissue from the flipper tag hole punches was collected on all pups tagged. The tissue will be archived at the Southwest Fisheries Science Center archive for later DNA analysis.
8. At the last census of fur seal study beaches on 16 November we recorded four adult female and no pups.



9. We have recorded five tagged fur seals including one adult female. The rest have all been adult males first tagged as pups.
10. Our phocid census on 15 November yielded 48 southern elephant seals and 21 Weddell seals. No crabeater or leopard seals were reported.
11. On 17 November we had a juvenile male leopard seal show up on one of our study beaches. We were able to place a tag on this individual as well as collect a DNA sample and vibrissae.
12. In an effort to expand our VHF monitoring range on fur seal study beaches, we have begun a project to relocate one of our VHF signal logging systems. The historical system on Maderas Ridge will be moved to the peak of Cerro Aymar , and the antenna configuration changed from omnidirectional to a two 4-element-Yagi directional array. Construction on a structure to house the new system is underway.
13. Our unmanned aerial system hexacopter was unpacked, set up, calibrated and tested this week. We hope to accomplish a test flight as soon as there is a break in the weather. Our goals for aerial coverage this season include 1) coverage of all penguin colonies in synchrony with manual ground nest counts; 2) increasing our sample size of leopard seal photos used to estimate size, mass, and nutritive condition; and 3) expanding our coverage of Antarctic fur seal breeding areas.

Weather

14. It was slightly warmer this week with a few snow storms mixed in for good measure. The mean temperature for the week was -1.1°C (s.d.:1.2). The high temperature for the week was 3.1°C and the low was -3.9°C . Total precipitation recorded for this week was 0.04 inches. We had an almost even split in wind direction between east (35.2%) and west (41.8%). The mean wind speed was 9.9 mph (s.d.: 5.9). Maximum winds were 39 mph. Mean daily solar radiation for the week was 14,449 (Wm^2). Sunrise and sunset are now 03:44 and 21:45 and we continue to gain about 6 minutes of sun per day.

Camp

15. The ongoing repairs to the HF radio system seem to have come to a positive conclusion. We installed a half-wavelength dipole antenna, tuned to 4125 KHz, across the length of camp. Since the antenna installation we have had superior quality communications with Palmer Station, and can even tune into BBC news broadcasts (sometimes).



16. Fluctuating temperatures, ice accumulation, and age are taking their toll on several of the doors at camp. This week all doors were repaired including replacing hinges, door knobs, and clearing rust/debris.
17. Thirteen of the sixteen water barrels were dug out of the ice and snow this week and moved alongside the main and supply huts. The second water barrel was used up this week, and replaced in the main camp with the third. We continue to use snow melt to supplement the liquid water supply.
18. The second of our four 3 Kw generators failed this week, after several days of consistently burning off oil, likely due to a bad seal. The other two generators were serviced, swapped out, and are in good working order.
19. Other: All of the 12 Volt fluorescent lights in camp were replaced this week with high efficiency LED bulbs. The 12 Volt shower pump finally gave up the ghost and was replaced.

Presented by Doug Krause and Michelle Goh, with assistance from Kevin Pietrzak, McKenzie Mudge, and Trevor Joyce at the Cape Shirreff Field Camp, Livingston Island, South Shetland Islands, Antarctica

