

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

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Science Report

Seabirds

1. On 7 December we weighed and measured both eggs from a sample of 50 chinstrap penguin nests with two eggs.
2. On 11 December we weighed and measured both eggs from a sample of 50 gentoo penguin nests with two eggs.
3. All 50 nests in our gentoo reproductive study have initiated clutches; 2% have only laid one egg, 16% have lost one egg, and 14% have failed. All 100 nests in our chinstrap reproductive study have completed their clutches; 12% have lost one egg, and 9% have failed.
4. We continue to re-sight and monitor banded known-age penguins. To date, 39 known-age gentoo penguins have initiated clutches; 89.7% are incubating partial or full clutches, and 10.3% have failed. Currently, 37 known-age chinstrap penguins have initiated clutches; 91.9% continue to incubate partial or full clutches, and 8.1% have failed.
5. We continue to monitor brown skua territories for nesting activity. To date, one pair has one egg, 15 pairs have begun incubating two eggs, and one pair has failed.
6. There are currently 40 active kelp gull nests on the island with newly born chicks observed in several of them.

Pinnipeds

7. On 14 December we completed early-season perinatal captures of Antarctic fur seals. In total, we captured and instrumented 30 adult female fur seals with VHF radio transmitters. Thirteen have also received time depth recorders, six of which have GPS location capability. Total mean capture time was 49 min (st.dev. = 9; n = 30; range: 20-72 min). Mean total time on gas anesthesia was 32 min (st.dev. = 6; n = 30). Mean mass for the 30 females was 50.0 kg (st.dev. = 5.5; n = 30; range: 41.4-63.6 kg). All females were captured and weighed within 48 hours of parturition.



8. We completed the first round of deployments of diving and location instruments for studies of foraging range and effort. We are now collecting at sea foraging location data on six lactating fur seals using time depth recorder (TDR) instruments with fast-loc GPS technology. Two of the six females have completed their first trip, one of which has departed on her second trip. Two are currently on their first trip and two have not departed to sea yet.
9. As of this morning, 21 of our 30 CCAMLR attendance females have departed Cape Shirreff for their first trip to sea. Seven have completed their first trip to sea. Trip duration thus far has ranged from 1.6 to 3.7 days.
10. We are monitoring pup growth of our CCAMLR attendance females and have gotten a post-perinatal mass on eighteen of the pups whose mothers have departed sea.
11. At the last census of fur seal study beaches on 16 December, we recorded a total of 498 adult females and 745 pups (728 live and 17 dead).
12. On the last Phocid census on 15 December, we counted 199 Southern elephant seals, 38 Weddell seals, one adult female tagged Leopard seal, and two crabeater seals.
13. We have deployed PIT (Passive Integrated Transponder) tags on thirteen adult tagged female fur seals thus far this year. This is the eighth year of deploying PIT tags to address the high incidence of tag loss in the population. Four of these tags were placed in females that were previously flipper tagged, but had not yet received a PIT tag.
14. A third set of twin fur seals was born in the study area this week. One of the three sets was born to a former attendance study female.

Weather

15. Snow and cool temperatures were the name of the game this week. As we summarize our 6th week of weather observations, we have yet to have a week with a mean temperature above zero. The mean temperature for the week was -0.5°C . The high temperature for the week was only 1.6°C and the low was -2.2°C . The mean wind speed was 10.6 mph, with a maximum wind gust of 33 mph. Prevailing winds this week were from the west (62.7%). Our rain gauge only recorded 0.03 inches this week despite the accumulation of about 6 inches of snow. With quite a bit more cloud cover this week, the mean daily solar radiation this week was only 13,730 watts per sq. meter.



Camp

16. Our three Chilean neighbors departed early this week via helicopter. Their personalities and presence will be missed. Their stay was brief, but they were able to make several improvements to the Chilean camp (new flooring, new window, etc.). One of the three, along with a large scientific party, is expected to return on or about the 5th of January.
17. A clear deck passage between main camp and the shower/drying room was shoveled/picked this week, in addition to clearing snow and ice from the north and west sides of the supply hut.
18. The ATV was taken out of winter storage and is running well. The ATV shed was shoveled out, and the ATV will be stored outside for the foreseeable future in order to provide much needed indoor storage room.
19. The entire interior northern wall of the main camp was cleared, and the mold removed/cleaned with bleach along with all of the windows.
20. We have just started using our 5th water barrel for the season (of 14 full barrels left at closing). We have been using snow melt to supplement where possible. Normally, we would have set up the rain gutters to harvest rainfall; however, our extremely cold weather and recent heavy snow falls have prevented that option thus far.
21. Christmas decorations were brought out this week and hung around camp with care, in hopes that Saint Nicholas soon will be there.

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

