



**Sit. Rep. #7
24 December 2007
US AMLR Field Station
Cape Shirreff, Livingston Island, Antarctica**

Seabirds:

1. In the five weeks since mean chinstrap clutch initiation, 67% of nests in our reproductive study have failed. Hatching is expected to begin in the next few days.

2. In the three weeks since mean gentoo clutch initiation, 44% of nests in our reproductive study have failed. Many of these nests in the reproductive study failed before they were banded, so we cannot accurately determine how many birds in the reproductive study have initiated a second clutch.

3. Of the 18 known aged chinstrap penguins that have nested this year, three are incubating eggs and 15 have failed. Of the 12 known aged gentoo penguins that have nested this year, five are incubating their first clutches and eight have failed. Two of these failed nests have laid second clutches.

4. We continue to record observations of known aged penguins that visit the colony, and are now observing visits of gentoo penguins that were banded here last year as chicks.

5. Twenty one pairs of brown skuas have now nested at Cape Shirreff. Of these, one pair has failed and twenty are currently incubating clutches.

6. The first kelp gull chick was observed on December 12. To date, 24 kelp gull pairs have initiated nests around the Cape and four have failed.



Pinnipeds:

7. We completed the first round of deployments for the foraging studies. We are now collecting data on five lactating female fur seals using Mk 10 GPS/TDR instruments. These instruments have external temperature probes that will allow us to measure

thermocline depth at location. Currently two females are out on their first trip, two females just returned from their first trip, and one female is on her second trip.

8. All of the 28 attendance females instrumented with VHF radio transmitters have departed on their first trip to sea. Of these 23 have completed the first trip, seven have finished two trips and one female just returned from her fourth trip. We completed the post perinatal mass measurements on the pups of the attendance females. Rate of pup mass gain during the perinatal period was 140.3 grams/day (S.E. = 12.4, n = 28), which is similar to last years rate of 138.4 (S.E. = 15.8, n = 22).



9. The number of new tagged females arriving for the first time this week has decreased. Only six new tagged females arrived on our study beaches.

10. Of the adult tagged females population observed last year on our study beaches (n=220), 80.5% have been resighted this year and 87.6% of those gave birth. This years return rate is much lower than last years return rate of 87.0% for the same time period, however

nativity is similar (2006-07: 88.3%).

11. The rate of pup production has decreased considerably and only a few pregnant females are recorded every day. At the last census (23 Dec), pup production totaled 1804 pups (live and dead). Pup production is 89.5% of last years' totals for the same date. The lower pup production this year could be due to a lower over-winter return rate of females, which we are seeing in the tagged females.

12. So far this season, we have seen 66 fur seals that were tagged as pups during previous seasons. About half of these are from the 1999/00 (n = 22) and 2001/02 cohorts (n = 13). Thirteen of the 66 fur seals are offspring of tagged females, two of them from the same female.

13. We saw an adult female elephant seal with a yellow flipper tag earlier this week. This is the fourth flipper tagged elephant seal this season. Two were tagged previously at Cape Shirreff and two have been tagged elsewhere. A few adult females are starting to arrive for the annual molt. We are keeping an eye out for females that we deployed satellite linked data recorders on last February so that we can recover the instruments.

Cape Shirreff Weather for the Week:

14. Summer is approaching, along with Christmas and the New Year! We recognized the solstice on the 21st, so the days are starting to get shorter now.

15. This week has been the warmest of the season, with an average of two degrees above zero Celsius. The high for the week was all the way up to 12.7 degrees, and the overnight low was 1.5 degrees below zero, a bit less than freezing.

16. Wind for the week has been intermittent, with several very nice, calm periods punctuated by some rather blustery times. The average for the week has been 10.3 mph, and the gustiest day was Monday with wind speeds up to 44 mph. Most of the wind has been from the west and northwest.



17. Precipitation has been scant this week. Only 0.6 inches measured on Thursday, and 0.8 inches on Saturday. This adds up to a season total of nearly $\frac{1}{2}$ inch of measured precipitation.

Field Station Notes:

18. On Thursday the 20th, we welcomed some new neighbors, as the rest of the Chilean crew arrived by ship. This brings the total complement on the cape (AMLR researchers plus Chilean colleagues) up to nine.

19. This is Christmas Eve, so we are all looking forward to the holiday and plans to celebrate with the Chilean crew. Baking cookies, preparing pumpkin for pies, and wrapping gifts going on as the days until Christmas wind down.

20. Our thoughts are of home, family, and friends as we enter the holiday. Best wishes to all for a happy Christmas with plenty of joy and peace for the season.

Report submitted by AMLR researchers currently rain-dancing at the Cape Shirreff field station on Livingston Island. These reports are posted at <http://swfsc.noaa.gov/aerd-field.aspx>. Photos by M. Goebel (NMFS/AERD).