



Sit. Rep. #8
31 December 2007
US AMLR Field Station
Cape Shirreff, Livingston Island, Antarctica

Seabirds:

1. Chinstrap penguin nests in our reproductive study have begun to hatch; the first chick was observed on 24 December. To date, 9% of chinstrap nests have begun to hatch, 22 % remain on eggs and the remaining 69% have failed.

2. In addition to the reproductive study, we also follow the fate of 50 chinstrap nests in a manner that minimizes disturbance to the birds. Comparing the fates of these non-disturbance sites to our reproductive sites allows for an assessment of the impact of human disturbance on nest success. Currently, rates of failure are similar in both studies: 72% of nests in the non-disturbance sites have failed compared to 69% of nests in the reproductive study.



3. Gentoo penguins in our reproductive study continue to incubate eggs and are expected to hatch within the next week. To date, 52% of gentoos are incubating eggs and 46% have failed. Due to inclement weather early in the season, gentoo clutch initiation has occurred over a much wider time period than in past years, and many pairs have initiated second clutches after failing. Since our reproductive sites currently do not accurately represent these 'late nesters', we have selected 13 such nests to follow in addition to our reproductive study.

4. Of the 19 known aged chinstrap nests in the colony, one has hatched, one remains on eggs and 17 have failed. Of the 13 known aged gentoo nests in the colony, eight remain on eggs (three of these are incubating their second clutch) and five have failed.

5. Of the 24 pairs of brown skuas that are attending territories, 14 are incubating eggs, six have failed and four have not initiated clutches. On a recent excursion to Punta Oeste

(a point of land adjacent to Cape Shirreff) we visited two skua territories and found one pair incubating two eggs.

6. We have located 31 kelp gull nests around Cape Shirreff. Of these, 24 are currently incubating eggs, two have hatched and five have failed.

Pinnipeds:

7. We have 28 attendance female fur seals instrumented with VHF transmitters for recording CCAMLR protocol on trip and visit durations. As of 30 December, all 28 females have completed their first postpartum trip to sea. Mean trip duration was 4.08 days (s.d. = 1.48) which is higher than last year's 1st trip average of 2.4 days (s.d.=1.2). Twenty six females have completed two trips to sea, thirteen have completed three trips, two females have completed four trips and one female just completed six trips. Seventy-one trips have been completed so far, lasting on average 3.8 days. Maximum trip duration has been 8.3 days (compared to 5.2 days last year).



8. We have five female fur seals instrumented with time depth recorders/GPS recorders (Mk 10) for recording foraging range and behavior at sea. Two completed their third trip, two have completed two trips, and one is currently out on her second trip.

9. Ten new known-aged animals (tagged as pups on Cape Shirreff) were observed this week. To date we have seen 76 known-aged fur seals; over half are from the 99/00 and 01/02 cohorts. This week we saw our first tagged two-year-old.

11. The arrival of tagged adult females continues to decrease. We only had four new arrivals this week; one of those was a primiparous four year old. The proportion of tagged females sighted this year out of the expected tagged population from last year (220) reached 83.2% and the natality rate is

86.9%. The over winter survival rate and natality rate are lower than last year (survival = 88.0%, natality, 88.4%).

12. This week we started to determine the sex and collect DNA of tagged female pups. To date we have determined the sex of 32.1% of the pups and have collected DNA from 44 pups.

13. Pup production reached a maximum of 1823 pups. Our pup count is 85.0% of last years pup productions (2145 pups). These data agree with our tag return data for adult females that show a decrease in over-winter return and natality compared to last year.

14. Pup mortality thus far is 4.4 %, which is higher than last years pup mortality at the same date (3.2%). Pup mortality is expected to increase in the coming month due to leopard seal predation. We have seen two leopard seals in our study area this week.

15. We calculated the median date of pupping as 6 December which is the same as last year. This ties with last year for the earliest median date of pupping on record. Mean date of parturition of tagged females is also 6 December.

16. Today is the start of the second week of fur seal diet studies. To date we have collected 10 scat samples. All scats have been krill scats.

17. We continue to keep an eye out for elephant seals returning with instruments we deployed last February. This week we have seen 3 new flipper tagged elephant seals. Two of these were tagged at Cape Shirreff: one was instrumented 2 years ago and one was tagged as a weaned pup two years ago. We also saw a leopard seal that was tagged at Bird Island this week.

Cape Shirreff Weather for the Week:

18. This week (the first full week of Austral summer) has been rather variable, with clear sunny periods and wet, windy, snow, sleet, and rainy periods. Overall the temperature averaged 2 degrees Celsius with a high of 10.7 degrees. The coldest temperature recorded was slightly below freezing at -0.9 degrees C.

19. Tuesday was a little bit rough with gusting winds up to 52 mph, well above the overall average of 11 mph. Winds were generally out of the West and Northwest throughout the week.

20. Friday was wet, with 0.2 inches of rain recorded, bringing the weekly total to slightly over ¼ inch. Since we have been on station, there has been 0.89 inch of precipitation measured.



Field Station Notes:

21. This week was a big week on the Cape with holiday celebrations. Christmas eve was celebrated at our neighbor's camp with traditional Chilean treats and gifts exchanged. Christmas day we enjoyed a hearty breakfast with fresh baked cinnamon rolls and then opened up the gifts, which were sent down and carefully squirreled away for the big day. Many thanks to our friends and families for their thoughtful gifts and surprises. We continued the celebration by hosting the Chilean camp to dinner; smoked turkey, stuffing, mashed potatoes, and all the rest for a traditional feast.

22. The wet weather has enabled us to keep our rain collecting barrels topped off and the wind has kept the generator whirring and the battery bank charged up. The snow is low enough that seals cannot reach the wires for the solar panel, and the intermittent sunshine gives a boost to the camp power.

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).