

Sit. Rep. #9
US AMLR Field Station
Cape Shirreff, Livingston Island, Antarctica
2 January 2007

Seabirds:

1. Chick hatching is now complete for both our chinstrap and gentoo reproductive study nests. The failure rate of the gentoo reproductive study nests is the same as last week at 12%. This failure rate is similar to last year at this time. In the chinstrap penguin reproductive study 59% of nests have two chicks, 16% have one chick, and 25% have failed. This failure rate has dramatically increased from last week mostly due to nests in which the chicks hatched and the foraging parent has failed to return to feed the chicks before they died. This failure rate is also similar to last year at this time.
2. In the past week we began weighing gentoo chicks of all reproductive study and known-aged breeder nests. The mass, taken when chicks are 21 days old, is used as a measure of chick condition before they crèche.
3. Gentoo chicks began forming crèches a few days ago. However, the majority of nests are still attended by an adult. Chicks that have formed crèches no longer have an adult constantly attending them which allows the parents to spend more time foraging.
4. On December 29 we deployed radio transmitters on 18 breeding chinstraps to measure foraging trip durations during the chick-provisioning period.
5. Of the nests of known-aged chinstrap penguins 40% have one chick, 20% have one chick, and 40% have failed. This week the failure rate of known-aged gentoo penguin nests has increased from 19% to 31%.
6. The first brown skua chick was seen on 29 December. Currently, three pairs have two chicks, two pairs have one chick and nine pairs are still incubating eggs. None of the pairs that failed late in incubation have relayed.

Pinnipeds:

7. We have 22 attendance female fur seals instrumented with VHF transmitters for recording CCAMLR protocol on trip and visit durations. In addition to the CCAMLR sample we have 11 four- and five-year-old females first and second time breeders and three females suckling twins instrumented with VHF transmitters. As of 30 Dec, all 22 females have completed their first postpartum trip to sea. Mean trip duration was 2.4 days (s.d.=1.2) Seventeen have completed two trips to sea and two females have already completed six trips to sea. Seventy-four trips have been completed so far, lasting on average 2.5 days. This is similar to the average for the same time period last year. Maximum trip duration has been 5.2 days (compared to 5.9 days last year).

8. We have calculated the mass on the day of parturition for our CCAMLR attendance females (48.4kg, s.d.:3.9, n=23). This is similar to last year's females (49.6kg, s.d.:5.6, n=28). There was no difference in the pup mass at birth.

9. We have five female fur seal with a satellite-linked transmitter for recording foraging range and track-lines at sea. One has already completed four trips to sea and is on shore today. Three of the other four have completed two trips to sea, and one has completed only one trip but is due back from her second trip.

10. Seven new known-aged animals (tagged as pups on Cape Shirreff) were observed this week. These animals were mostly five- and seven-year-olds, from the 1999/00 and 2001/02 cohorts. To date we have seen 67 known-aged fur seals 60% are from 99/00 and 01/02 cohorts.

11. The proportion of tagged females sighted this year out of the expected tagged population from last year (225) reached 88.0% and the natality rate is 88.4%. The over winter survival rate is similar to last year. We continue to see young tagged four-year-olds arriving and giving birth for the first time. Of the five female 4-yr-olds that have arrived within our study area three arrived pregnant and have given birth.

12. Pup production reached a maximum of 2144 pups. Pup mortality thus far is 3.2%. However, leopard seals were first sighted within our study area this week and we expect predation mortality to increase. Our pup counts is a 0.7% increase over last year. These data agree with our tag return data for adult females that show a small increase in over-winter return and natality over last year.

13. We calculated the median date of pupping as 6 December one day earlier than last year and the earliest that has ever been recorded. Mean date of arrival and parturition of tagged females is also 6 December.

14. Today is the end of the second week of fur seal diet studies. To date we have collected 20 scat samples. All scats have been krill scats.

15. We instrumented our first leopard seal with a VHF radio transmitter and a satellite-linked transmitter (PTT). She has been observed hunting and eating fur seal pups on our study site. Yesterday we got some excellent photos of her hunting and swimming with the PTT. It is well placed to break the water's surface and transmit locations.

16. We recovered another over winter PTT from an elephant seal bringing the total of these expensive instruments recovered to three. We hope to get more in the coming weeks.

Weather for the week:

17. This week we has been relatively calm and dry with four days of full sun. We had only 0.37 inches of precipitation. Mean temperature was 3.1C with a high of 10.7C. The mean wind speed was only 9.5 mph with a maximum of 48.0 mph. Winds were primarily from the westerlies.

Camp:

18. We had our Chilean colleagues over for dinner on New Year's eve and they hosted New Year's day dinner at their camp.

19. We saw our first whales, a mother-calf pair of humpbacks.

20. We are looking forward to welcome new faces, mail, and re-supply of fresh produce when the *R/V Yuzhmorgeologiya* arrives in 8 days (9 Jan).

Report submitted by AMLR researchers currently residing at Cape Shirreff. These reports are also posted at <http://swfsc.noaa.gov/aerd-field.aspx>.