

Sit. Rep. #13
US AMLR Field Station
Cape Shirreff, Livingston Island, Antarctica
29 January 2007

Seabirds:

1. The chinstrap chicks in the reproductive study are continuing to crèche. So far 36% of these chicks have crèched. The failure rate continues to remain at 29%. We do not expect the failure rate to increase much before the remainder of nests crèche as mortality is typically low during the late chick-rearing stage.

2. We banded and weighed 180 gentoo chicks on 27 January with the help of our Chilean colleagues. The average mass was 4125g (588.63); 547g (SD=493g); this is 9% lower than last year and is 3% lower than the 9 year mean.

3. We deployed 16 satellite transmitters and 9 time-depth recorders on 25 January on adult chinstrap and gentoo penguins. The timing of this deployment coincides with the AMLR inshore oceanographic survey.

4. In the past week, we conducted 1 round of diet samples on gentoos, and 2 on chinstraps. There continues to be a substantial presence of juvenile Antarctic krill in the diet samples of the chinstraps, 63% of the krill were females, 15% were males, and 21% were juveniles. The mean adult length was 49mm and the mean juvenile length was 31mm. The five gentoo samples contained more krill than last week. The krill that were present in the gentoo diets were 87% females, 10% males, and 3% juveniles. The mean adult length was 51mm and the mean juvenile length was 30mm.

5. Of the 21 skua pairs on Cape Shirreff that have laid eggs this season, 8 have chicks, 10 have failed and 2 pairs are still incubating. This week we began banding the chicks.

Pinnipeds:

6. The last of our 22 CCAMLR attendance study females with a live pup completed her sixth trip to sea this week. In total 20 of the original 22 females completed six trips. Mean trip duration for the first six trips was 2.8 days (s.d.=1.0, Max=6.3, Min=0.7, n=127). The duration of trips increased slightly throughout the season. The mean is the same as last year.

7. Two pups were lost from the original sample of 22 during this period. Since completion of six trips to sea, three additional pups have been lost resulting in removal of their mothers from the attendance sample. Four of the five lost pups are thought to be due to leopard seal predation.



8. We have an additional twelve attendance females that are either primiparous or second-time breeders (all are four- and five-year-olds). All of these females have completed at least three trips to sea. Nine females have completed six trips to sea. Trip duration tends to be longer for the young females, especially for the earlier trips. Mean trip duration for each trip is as follows: first trip: 3.7d (s.d.=1.8, n=12), second trip 3.6d (s.d.=1.6, n=12), third trip 3.5d (s.d.=1.7, n=12), fourth trip 3.7d (s.d.=1.3, n=11), fifth trip 3.5d (s.d.=0.9, n=9), sixth trip 3.4d (s.d.=1.0, n=9).

9. This week we deployed satellite linked transmitters (PTT's) and time depth recorders (TDR's) on four females to start the third round of deployments. We will deploy instruments on one more female this upcoming week to complete round three deployments. We also recovered the PTT and TDR from one female from round two. We will recover the instruments from the remaining round two females during the next few days. Currently, we have eight females equipped with PTT/TDRs.

10. This week we initiated tagging pups of tagged females. We have tagged 56 pups and collected DNA from 90 pups of tagged females. We have also identified the sex of 69.5% of all tagged females pups

11. Fur seals tagged as pups in previous years are continuing to arrive. Thus far, of the 500 per annum tagged we have seen the following percent return for the last five year classes: 1997, 1.2%; 1998, 1.0%; 1999, 4.81%; 2000, 1.8%; 2001, 3.6%; 2002, 1.8%; 2003, 0.8%; 2004, 0.0%; and 2005, 0.8%. A total of 75 different known-age individuals have been seen so far on the cape.

12. Fur seal diet sampling continued this week with collection of 10 more scats.

13. We instrumented five newly molted southern elephant seals with instruments that will record location, depth of dives, temperature, and salinity over winter.

Cape Shirreff Weather for the Week:

14. Conditions at the Cape have been fair this week. Westerlies have prevailed with an average wind speed of 9.1 mph and a peak of 38 mph. A brief cold snap brought the temp to 0.6 degrees Celsius below freezing, but typically it has been warmer, with a 3.0 degree average and a high of 7.7 degrees Celsius. Precipitation in the form of rain and drizzle, and a lot of fog has accumulated only 0.06 inches this week.... just enough to fill our rain barrels.

Camp:

15. Sunday the 28th of January brought with it the *R/V Yuzhmorgeologiya* and the arrival of the inshore survey crew. Cape Shirreff hosts scientists from several academic institutions and national organizations for a nearshore survey of krill using multibeam sonar equipped inflatable boats and sonar buoys. The United States, Chile, Canada, Russia, the Republic of South Africa, and the United Kingdom are represented by the staff collaborating in research here at Cape Shirreff.

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