

Sit. Rep. #14
US AMLR Field Station
Cape Shirreff, Livingston
Island, Antarctica
5 February 2007

Seabirds:

1. The chinstrap chicks in the reproductive study have formed crèches. The mean day of crèche formation was 26 January. The average age of chicks when they first crèched was 34 days old. The overall number of chicks that crèched per nest was 1.10. This is similar to last year and 15% higher than the nine year mean of 0.94 chicks crèched per nest.



2. We conducted our annual chinstrap chick census on 4 February. We counted a total of 5299 chicks; this is similar to the number of chicks counted last year. This is 26% lower than the 10 year mean. The overall reproductive success from the census data is 1.17 chicks per nest.

3. In the past week, we conducted 1 round of diet samples on gentoos, concluding our gentoo diet sampling for the season, and 1 round on chinstraps. The percentage of female krill in the chinstrap diet increased from last week. 75% of the krill were females, 12% were males, and 13% were juveniles. The mean adult length was 50mm and the mean juvenile length was 31mm. The krill that were present in the gentoo diets were 52% females, 11% males, and 37% juveniles. The mean adult and juvenile length were similar to the chinstrap samples.

4. Of the 21 skua pairs on Cape Shirreff that have laid eggs this season, 9 have chicks, 10 have failed and 1 pair is still incubating.

Pinnipeds:

5. We retrieved the last three of the five second round satellite-linked transmitters recording at sea foraging locations on female fur seals. We have recorded 43 foraging trips from 15 females since 18 December. All females were also instrumented with time-depth recorders with fast response thermistors that have provided detailed temperature profiles with depth of each dive. We now have five PTTs deployed that will remain on until mid February.

6. Sixteen out of the 22 CCAMLR attendance females are still nursing their pups. Five have lost their pups, most likely to leopard seal predation.

7. We have an additional twelve attendance females that are either primiparous or second-time breeders. All of these females have completed at least four trips to sea. All but two have

completed six trips to sea. One of the twelve females may have lost her pup to leopard seal predation this week after completing six trips to sea.

8. Fur seal diet sampling continued this week with collection of 10 scat samples from areas of suckling females.

9. This week we continued tagging pups of tagged females. We have tagged 85 pups of known females. We have also identified the sex of 78.5% of all tagged females pups.

10. We are going to weigh for the third time 100 pups for the CCAMLR pup weight survey this afternoon.

11. Systematic surveys of defined areas of the cape have begun. This will give us a measure of tags sighted per unit of effort for different cohorts and for different areas of the Cape. Thus far, our surveys to resight the 500 per annum tagged as pups have resulted in the following percent return for the last nine year classes: 1997, 1.2%; 1998, 1.0%; 1999, 4.81%; 2000, 2.0%; 2001, 3.6%; 2002, 3.8%; 2003, 1.4%; 2004, 0.0%, and 2005, 0.81%. These tag returns have not been adjusted for tag loss and represent a minimum percent return.

12. This week we instrumented an additional seven female elephant seals with SMRU satellite linked CTD tags that will collect data on the seals diving behavior and location in addition to oceanographic data such as temperature and salinity profiles. We now have all twelve instruments deployed.

Cape Shirreff Weather for the Week:

13. Strong winds, up to a moderate gale, were the weather feature of the week. Easterlies moved in on Tuesday, wrecking havoc on the efforts of the inshore survey. Heavy seas prevented the inflatable boats from getting underway and operations were curtailed. While the weekly average was 11mph, the average wind speed on Wednesday and Thursday was 18 mph with sustained winds in the thirties, maximum speed recorded at the station was 36 mph. Temperatures were generally above freezing, with an average of 2.5 degrees Celsius, a maximum of 8.3 degrees was recorded. Measurable precipitation was present every day, accumulating a weekly total of 0.64 inches.

Station News:

14. The *R/V Yuzhmorgeologiya* arrived on the morning of February 1st, having finished the offshore portion of the survey effort. In spite of heavy weather, the inshore crew was able to make several runs with the Zodiac inflatable boats from the beach to the ship. Equipment used for the inshore survey was returned to the ship, and some supplies were brought ashore. There was also a changing of personnel here at the station. AMLR director Dr. Rennie Holt has headed back to California as scheduled. We will all miss his leadership, advice, and camaraderie here at the Cape. Additionally as scheduled, Cory Champagne has headed back to the mainland after a full field season from the opening. He has been a great asset to the projects here. We welcome

ashore Aileen Miller and Ryan Driscoll, who will be valuable additions until the end of the field season.

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