



**Sit. Rep. #13  
4 February 2008  
US AMLR Field Station  
Cape Shirreff, Livingston Island, Antarctica**

### **Seabirds:**

1. Chinstrap penguin chicks in our reproductive study continue to crèche this week. To date, 7% of the nests have crèched, 15% contain chicks that are being brooded and 78% have failed since clutch initiation. This failure rate is unusually high: in the past ten years only 43% of nests followed in reproductive studies failed before crèche.



2. Gentoo penguin chicks have also begun to crèche this week. To date, 4% of gentoo nests have crèched, 38% contain chicks that are being brooded and 58% have failed.

3. Diet sampling of chinstrap and gentoo penguins continued this past week; we collected 10 chinstrap samples and five gentoo samples. Gentoo samples were composed mainly of fish; otoliths found were identified as *Gymnoscopelus nicholsi*, *Trematomus newnesi*, and

*Lepidonotothen kempii*. Two gentoo samples contained substantial amounts of krill. Chinstrap samples were almost entirely krill with some containing traces of fish, as well as amphipods such as *Hyperiella dilatata*.

4. We banded four brown skua chicks this week on four separate territories. The remaining 16 territories that had initiated clutches have failed.

### **Pinnipeds:**

5. We recaptured the last three of the round 2 foraging study females to recover instruments. We recorded 35 foraging trips from 10 females since 20 December. We deployed satellite tags on three females this week that will collect foraging location data in February and into the winter. They will be recovered next season.

6. Nineteen out of the 28 CCAMLR attendance females are still nursing their pups. Eight of the females have likely lost their pups to leopard seal predation.

7. Fur seal diet sampling continued this week with the collection of 10 scat samples from areas of suckling females. We have collected 70 scats this season.

8. We continued identifying the sex of tagged females' pups. We now have 88.8% of all the pups of tagged females sexed. We have also collected DNA samples from 123 pups of tagged females.

9. On 3 February we completed our third round of 100 pup weights cooperatively with the Chilean field party for CCAMLR.



10. 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. A total of 111 known-age individuals have been seen this season. Thus far, our surveys to resight the 500 per annum tagged as pups have resulted in the following percent return for the last ten year classes: 1997, 1.2%; 1998, 1.2%; 1999, 6.0%; 2000, 2.4%; 2001, 4.4%; 2002, 2.2%; 2003, 0.8%; 2004, 0.0%; 2005, 3.0%; and 2006, 1.0%. These tag returns have not been adjusted for tag loss and represent a minimum percent return.

11. This week we instrumented an additional 10 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.

12. Four leopard seals were instrumented with satellite tags and radio transmitters this week. Three of them also were instrumented with time depth recorders. The instruments will provide important data on the behavior of these seals and will allow us to better understand their potential impact on the fur seal population.

### **Cape Shirreff Weather for the Week:**

13. It's been a bit cooler this week, with an average temperature of 2.4 degrees as compared with last week's 2.6 degrees Celsius. Not much of a difference, but definitely

noticeable when viewed in conjunction with other weather conditions. The high was 7.8 degrees, and the low was 0.3 degrees, so a little more variation throughout the week.

14. Precipitation was recorded on five days, with the most (0.22 inches) falling on Sunday. This brings the total for the season to 2.49 inches.

15. The winds were pretty consistent throughout the week, averaging 12.7 mph with gusts to 43. Nearly every day had its periods of gusty winds. Thursday and Friday were the calmest. Most of the breezes were from the west and northwest.



#### **Field Station Notes:**

16. News of the week is the arrival of the *R/V Yuzhmorgeologiya* off the Cape last night (Sunday the 3rd). They took aboard the accumulated rubbish of the field camp operations. Two Zodiac loads were removed, which seems like a lot but is modest when one considers that it is all of the trash generated since the beginning of the season in November.

17. This morning (Monday the 4th) Drs. Goebel and Costa, and the penguin crew from the Cape went aboard the ship to transit to Desolation Island (off our coast to the east) to conduct a survey of the penguin rookeries and seal colony there.

18. This afternoon, the ship will depart to the north for additional seal colony census throughout the South Shetland Islands. There will be some change of staff here at Cape Shirreff, as Aileen Miller takes the reins as camp leader. The crew bid a fond farewell to LT Haner, as he returns to California to prepare for his next assignment.

19. Drs. Goebel and Costa will continue with the ship for the seal census. We have enjoyed their expertise and experience, and their enthusiasm for new aspects of research being conducted here at the Cape, especially the leopard seal instrumentation.

20. The Chileans had a resupply by helicopter on Monday the 28th.

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Report submitted by AMLR researchers currently consuming ice cream 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).