

Sit. Rep. #12
US AMLR Field Station
Cape Shirreff, Livingston Island, Antarctica
22 January 2007

Seabirds:

1. The failure rate for chinstrap reproductive nests has remained the same this week at 29%. This is lower than those recorded at the same time last year. The failure rate of our non-disturbance chinstrap nest study is similar to the reproductive study at 26%.

2. We have finished taking 21 day masses of the chinstrap chicks in the reproductive study. Average chick one mass is 1687 grams and chick two mass is 1498 grams. Chick one mass is 7% higher than last year and chick two mass is 12% higher. Chick one mass is not different from the 9 year mean and chick two mass is 5% higher.

3. In the past week, we completed 1 round of diet sampling on chinstraps and 1 round on gentoos. We collected five chinstrap samples on 17 January. The diet samples consisted mainly of Antarctic krill (*Euphausia superba*). 48% of the krill were females, 24% were males, and 28% were juveniles. The mean adult length was 45mm and the mean juvenile length was 31mm. The five gentoo samples were collected on 18 January and like last week contained mostly fish. The krill that were present in the gentoo diets were 78% females, 6% males, and 15% juveniles. The mean adult length was 50mm and the mean juvenile length was 30mm.

4. In the past few days, we have retrieved all 9 time-depth recorders and 16 satellite transmitters from adult chinstraps and gentoos. We will be re-deploying these instruments at the end of this week to coincide with the AMLR in-shore survey.

5. Of the 21 skua pairs on Cape Shirreff that have laid eggs this season, 9 have chicks, 4 are still incubating eggs, and 7 have failed. Four pairs relayed. The one pair of skuas that is either a pure south polar pair or birds that are hybrid brown skua and south polar now has two chicks.

Pinnipeds:

6. We have recovered all of the five first round deployments of satellite-linked transmitters (PTTs) for recording foraging locations at sea. We now have PTT's and TDR's deployed on five adult fur seal females, which will remain on until the end of January. We have recorded 28 foraging trips from 10 females since 19 December.

7. All females in our core sample (non-primiparous females) have completed at least three trips to sea. All but 3 females have completed 6 trips to sea, two of which lost their pups before



completing 6 trips. They have completed a total of 161 trips. Mean trip duration for each trip is as follows: first trip: 2.4d (s.d.=1.0, n=22), second trip 2.3d (s.d.=1.0, n=22), third trip 2.9d (s.d.=1.1, n=22), fourth trip 3.0d (s.d.=0.9, n=21), fifth trip 3.1d (s.d.=1.0, n=20), sixth trip 3.1d (s.d.=0.9, n=19).

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 two trips to sea. Six females have completed 6 trips to sea. Trip duration tends to be longer for the young females. 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 3.3d (s.d.=1.8, n=11), fourth trip 3.5d (s.d.=1.3, n=9), fifth trip 3.4d (s.d.=0.9, n=8), sixth trip 3.6d (s.d.=1.0, n=6).

9. We continued identifying the sex of tagged females pups. We have identified the sex of 65.0% of tagged females pups and we have collected DNA from 61 pups.

10. Daily tag resights continued this week. We have re-sighted 74 fur seals tagged as pups in previous years. This week we saw our third tagged yearling of the season and it was the pup of one of our tagged adult females. Thus far, of the 500 per annum tagged we have seen the following percent return for the last eight year classes: 1997, 1.2%; 1998, 1.0%; 1999, 4.8%; 2000, 1.8%; 2001, 3.6%; 2002, 1.8 %; 2003, 0.6%; 2004, 0.0%; 2005, 0.6%.

11. We weighed 100 pups yesterday for the second CCAMLR pup weight protocol measurement, with our Chilean colleagues.

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

13. We still have one leopard seal transmitting PTT data. The other leopard seal lost the PTT earlier this week. We have regularly seen 5 leopard seals hauled out on our study beaches and we commonly see predation events at high tide.

14. This week we saw two elephant seals with yellow flipper tags. These seals have been tagged at a location other than Cape Shirreff.

Weather for the week:

15. The Cape Shirreff weather window has been open wide this week. Sunshine has prevailed with the exception of slight precipitation on Monday. The total for the week was only 0.09 inches of rain. Gusty winds from the west and south were the order of the day for the duration. The weekly average was 11.2 mph, and on Saturday there were gusts to 54 mph. The wind generator and solar panels have been doing well keeping our 12 volt electrical system up to charge. Even with all of the sun, the temperature has averaged a cool 3.3 degrees Celsius, ranging from 0.4 to 10.1 degrees.

Camp:

16. With the dry weather, routine maintenance and painting on the station buildings has been progressing nicely.

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