

# 2015-2016 Weekly Field Reports

## Cape Shirreff, Livingston Island

Report 13  
January 25, 2016

### Seabirds:

1. Peak crèche for gentoos in the western colonies occurred on 22 January. To date, 20% of gentoo reproductive nests continue to guard at least one chick, 38% have crèched and 42% have failed. Chinstrap reproductive nests remain firmly in the guard stage with 49% of study nests guarding chicks, 1% in crèche stage, and the remaining 50% have failed.
2. We continue to monitor known-age penguins. Of the 29 known-aged gentoo penguins that initiated clutches, 34% have at least one chick, 14% have crèched and 52% have failed. Of 33 known-aged chinstraps that have initiated clutches, 39% have at least one chick and 61% have failed.
3. On 19 January we deployed two PTTs and two GPS tags on brooding gentoos, and recovered four TDRs from chinstrap penguins.
4. On 19 January we also recovered a “Little Leonardo” datalogger that had been deployed by Korean scientists working out of the King Sejong station on King George Island. The owners of the device have been contacted and plans for return of the instrument following the end of our season have been coordinated.
5. In the past week, we collected four diet samples from chinstrap penguins and our final four diet samples from gentoo penguins. Chinstrap penguin diet samples have consisted almost entirely of Antarctic krill (*Euphausia superba*) with trace amounts of fish. Gentoo penguin diet samples were a mix of Antarctic krill and fish.
6. Of the 14 pairs of brown skuas that we are monitoring, eight nests are still active and six nests have failed.

### Pinnipeds:

7. We currently have 14 TDRs deployed on females, eight of which include GPS capabilities. In addition, we deployed two new TDRs with accelerometer and flow meter capabilities. Four TDRs on females with living pups were also re-epoxied to ensure



continued data collection. In total, 18 female fur seals currently have TDR instruments.

8. Twenty four of our 31 CCAMLR attendance females have completed six trips to sea with living pups. Thus far mean trip duration has been 3.64 days (n = 147, s.d.: 1.18, range: 0.35 – 7.10 days). However, trip six durations are noticeably shorter with mean of 2.92 days (n = 20, s.d.: 1.02, range: 0.44 – 4.56 days).
9. To date we have weighed 16 pups of attendance females upon their departure for trip seven. Average mass gained is 131.3 grams per day (s.d.: 31.4, range: 86.7 – 184.9 g/d).
10. The loss of study pups over the last week has brought our female attendance population with living pups down to 25.
11. We continue to monitor mother pup pairs in our adult tagged female population to get a measure of reproductive success and loss of pups due to leopard seal predation. Our current estimate for pup loss to leopard seal predation is at 20.4%, contributing to an overall mortality rate of 25.2%.
12. We have sexed and collected DNA samples from 82 pups of tagged fur seals. Of the sampled pups, 60.9% are female.
13. On 23 January we completed the second sample of CCAMLR pup weights. Mean mass for males was 11.9 kg (n = 54, s.d: 1.7, range: 8.0-15.8kg) and for females was 10.8 kg (n = 46, s.d.: 1.5, range: 7.4-16.2 kg). These values represent approximately a one kilogram increase over last year's mean pup masses at this time (10.9 kg and 9.7 kg respectively).
14. We have continued to see more juvenile fur seals show up in recent days. In total we have seen 153 tagged animals, of which 18 are four-year-olds, one is three-years-old, and eight are two-year olds.
15. We have begun to collect our sixth fur seal diet sample of ten scats. However, low tides and foul weather have made collecting all ten scats difficult this week. We expect to complete the sample by tomorrow.



16. On 22 January we completed our 13th weekly Cape-wide phocid census. We increased our high leopard count for the season, recording 13 leopard seals hauled out throughout the Cape. In addition, we counted 276 southern elephant seals and 11 Weddell seals, but no crabeater seals.

*View of the San  
Telmo Islands  
looking west  
from the  
highest hill on  
Cape Shirreff.  
Photo by Wiley  
Archibald.*



17. Our tagged leopard count has jumped to 15 as of this week. However, we still only have 46 total resights of these animals and have not tagged any new animals.
18. We have seen 28 tagged Weddell seals, eight of which were tagged this season. We also collected DNA from one newly tagged Weddell this week.

### **UAS Missions:**

19. UAS missions were not flown this week. We expect to begin flights again in the coming week.

### **Weather:**

20. The mean temperature for the week was  $0.9^{\circ}\text{C}$  with a high of  $4.1^{\circ}\text{C}$  and a low of  $-0.9^{\circ}\text{C}$ . The precipitation accumulation for the week was 0.10 inches. Total precipitation since 29 October is 1.70 inches. Despite snow fall this week, the fourth snow stake is finally snow free. The average wind speed was 11.6 mph this week with a maximum of 45 mph. Winds were predominantly from the west (66.9%) followed by easterlies (19.6%). Solar radiation was 12405 watts per meter squared.





**Camp:**

- 21. Four new 100 gallon water barrels were moved from the beach to camp. These will be used to replace old barrels and increase our water storage capabilities.
- 22. Jesse began the arduous process of scraping paint from the outer walls of the cabin. After scraping the north wall of the main hut, she and Mike began repainting the wall, however weather prevented further painting.
- 23. We installed a new boot brush on the deck in an attempt to limit dirt tracked indoors.
- 24. Thanks to a wet week, we are up to over six barrels of fresh water.



*Submitted by AMLR researchers currently residing at the Cape Shirreff field station, Livingston Island. Images provided by Wiley A. and Mike G.*

