

2014-2015 Weekly Field Reports

Cape Shirreff, Livingston Island

Report 17
February 23, 2015

Seabirds:

1. Chinstrap chicks have begun to fledge this week. On February 22nd, we started weighing fledglings immediately before they depart to obtain a measure of condition. We will continue to collect these data throughout the fledging period.
2. We have finished monitoring known-age gentoo penguins. Of the 43 known-aged gentoo penguins that initiated clutches, 26% have chicks that have creched and 74% failed.
3. On February 19th we banded 250 chinstrap penguin chicks. In the future, resights of the bands will help us determine cohort survival and with luck, some of these penguins will become part of our known age reproduction study.
4. Of the twenty one pairs of brown skuas that we are monitoring, five nests are still active and 16 nests have failed. We have started collection of “48 day” measurements of brown skua chicks. We collect these weights and measurements at 48 days of age to determine their gender and to assess their general health condition.
5. A significant portion of the week was spent compiling and proofing data collected over the course of the season.

Pinnipeds:

6. Another fur seal pup of the original 32 CCAMLR attendance study females has died, which brings the total to 27 females who have now lost their pups.
7. Average trip lengths continue to be around four days, though the sample sizes are becoming smaller due to pup losses (females are not monitored for trip durations after a pup is lost).
8. We continue to monitor our adult tagged female population and mother-pup pairs to get a measure of reproductive success and loss of pups due to leopard seal predation. As of February 22nd, our estimate for pup loss to leopard seal predation is 73.3%.

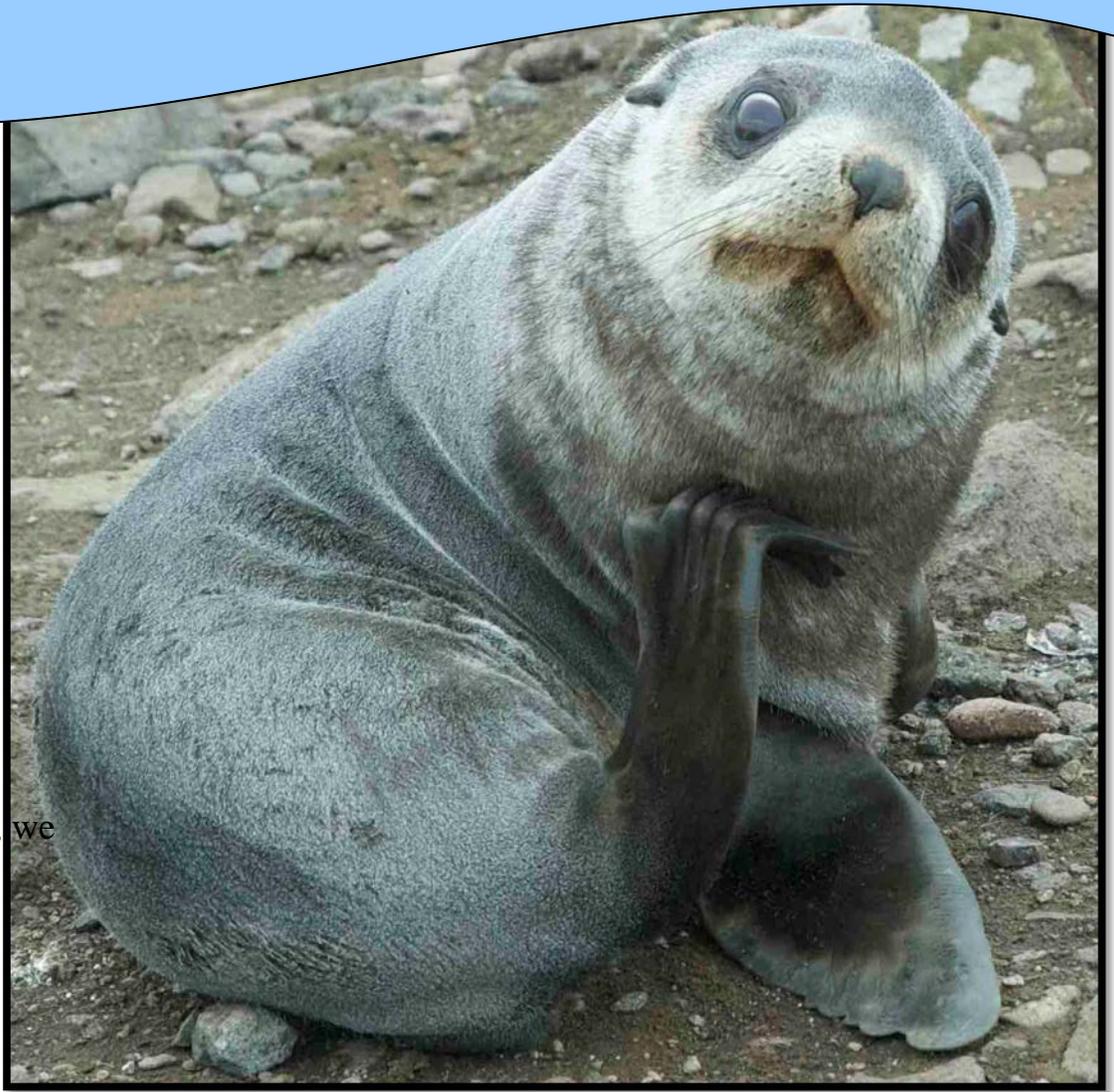


9. On February 18th we collected the fourth sample of CCAMLR pup weights. The average weight for male pups was 15.0 kg (SE=0.19, n=42, range=10.4-20.5) while the average for females was 12.8 kg (SE=0.14, n=63, range=9.6-15.8).
10. We have tagged 180 fur seal pups for future demographic studies and cohort success. Eight of these are pups of tagged females. Our remaining 20 tags for this season will be deployed in the coming week.
11. We recaptured four adult female fur seals that were injected with an enriched glycine solution earlier this season. We collected a whisker from these females and gave them a second injection. These injections place a marker on their whiskers that we can use to further understand whisker growth.
12. We have started to deploy conductivity-temperature-depth (CTD) instruments on Weddell seals. These instruments will remain in place for the duration of the austral winter and provide data on Weddell seal behavior and oceanography of the region. To date, we have deployed two instruments: one on a female and one on a male.
13. On February 20th we completed our sixteenth weekly Cape-wide phocid census. We counted 106 southern elephant seals, 14 Weddell seals, and nine leopard seals.
14. This week we collected our tenth and final fur seal diet sample of ten scats. In total, 100 scats have been collected, and 93 have been processed.
15. As of February 22nd we have recorded 378 sightings of 36 tagged leopard seals. We have recorded an additional 53 sightings of untagged or otherwise unidentified leopard seals which have been added to our photo-identification database.
16. We had an unusual visitor to our study area. A juvenile male fur seal was observed on one of our study beaches with tags from a different study. The tag coloration was the same as a tag we found in our study area earlier this month. Both tags are all white, and tag we found this week has British Antarctic Survey (B.A.S.) stamped on the inside. We will inform our British colleagues about our observations of this animal.



UAS Missions:

17. On February 16th, a window of good weather allowed us to continue our aerial surveys. The hexacopter flew missions over the remaining penguin colonies on the north side of the Cape including colonies 5, 6, and 8-12. Upon checking the quality of images, we identified a small part of colony 10 that was not covered in the aerial photographs. On February 18th, we re-surveyed colony 10 and obtained 100% coverage on this second attempt. Overall, we are pleased with the results, having covered the western penguin colonies within three days of the chinstrap census, and the eastern colonies within three days of the gentoo census.
18. The hexacopters have now been packed and our 2014-15 UAS season has come to a close. We had no mechanical failures. We are now focusing on completion of recording geo-reference points for all penguin colonies and other points on the cape for mapping purposes.



Weather:

19. This week's weather was similar to last week's, resulting in generally mild but dark days. The mean temperature for the week was once again 2.1 °C, and again with a high of 5.5 °C. The low temperature, however, dropped to -0.2 °C, our second day of subzero temperatures in over a month. The wind, while ever present, only averaged



11.1 mph with a high of 43 mph. Most winds came from the west (62.1%), while the rest were spread amongst the south, north, and east (13.8%, 13.1%, and 11.1% respectively). Dark, gloomy days left the mean daily solar radiation at just 10,963 watts per sq. meter, and precipitation only totaled 0.15 inches for the week. In addition, daylight has continued to drop, now 14 hours 57 minutes as of February 22nd. The occasional break in the clouds has given us some of our first glimpses of stars, including the Southern Cross perched high above the camp.

Camp:

20. Window covers are being installed as conditions permit.
21. All rain barrels at the camp and the penguin blind are full (very useful for next season).
22. We continue to move supplies using the ATV to/from the landing beach. We plan to take advantage of the next good weather day to transport the weather port case to the camp.
23. The solar array installation continues. We affixed the L brackets to the rooftop and are awaiting a light wind day to install the array itself. We plan to rewire both wind generators and to mount the controller to the distribution panel in the workshop.
24. The re-caulking of the north side of the supply hut appears to be keeping water out. Thus far no other problematic areas for water leakage have been found.
25. We have not had much time to repair the faulty generators, and will probably cycle through the working two as our time on the Cape winds down. The two problem generators will be prepared for shipment to La Jolla.
26. The highly anticipated arrival of our Italian colleague Dr. Nicola Pussini (DVM) occurred this week. The *R/V Gould* arrived at Cape Shirreff on the 17th and safely dropped Nicola off, also bringing fresh produce and goodie bags for all. The *Gould* was also kind enough to take two zodiac loads of burnable trash (all trash is removed each season).



Submitted by AMLR researchers currently residing at the Cape Shirreff field station, Livingston Island.