

Science Report

Seabirds

1. Currently one out of the 50 nests in the gentoo reproductive study have begun to hatch, 72% still have eggs, and the other 26% have failed. The chinstrap eggs have not yet begun to hatch in our plots. Currently 74% still have eggs and the other 26% have failed.
2. The nests of known-aged gentoo penguins have not hatched any more chicks. The one nest that had chicks failed, 82% still have eggs, and the rest have failed. The failure rate of known-aged chinstrap penguins is higher than the reproductive study nests at 45%.
3. Of the 20 brown skua pairs attending territories 65% have laid eggs. Out of these, three pairs have already lost a full clutch of eggs.
4. We have deployed GLS instruments on 4 pairs of brown skuas. These instruments are very small and attach to a leg band. They record light levels and will give us information on where these birds go overwinter once they are recovered next season.
5. There are currently 40 active kelp gull nests on the cape. Wilsons and black bellied petrels have begun to show up in large numbers this last week.

Pinnipeds

6. We completed early-season perinatal captures of Antarctic fur seals on 14 December. Total mean capture time was 31 min (st.dev.:9.0; n=39). Mean total time on gas anesthesia was 18 min (st.dev.:5.0; n=38). Over half of our sample for CCAMLR trip duration protocol is known-aged with a mean age of 13.3 years (st.dev.:3.1; n=17). Mean mass for the thirty females was 50.2 kg (st.dev.:6.5; n=31; range: 38.0-65.2 kg). All females were captured and weighed within 48 hours of parturition.
7. Six females of the 14 females instrumented with ARGOS satellite linked transmitters over winter returned with their instrument. Five of the six have been recovered. We will recover the sixth one after she returns from her first or second trip to sea. Another six females returned without their instruments. The remaining two females have not yet arrived.



8. We have recovered nine of the 17 geolocation light sensors deployed on Antarctic fur seal females over winter. Another six have returned but have not yet been recaptured.
9. We completed the first round of deployments of diving and location instrument for studies of foraging range and effort. We are now collecting at sea foraging location data on six lactating female fur seals using time depth recorder (TDR) instruments with fast-loc GPS technology. Four of the six females have left for sea on their first trip and two have already completed one trip.
10. As of this morning 22 of our 30 CCAMLR attendance females have departed Cape Shirreff for their first trip to sea. Sixteen have completed their first trip to sea. Trip duration thus far has ranged from 0.4-6.8 days.
11. We are monitoring pup growth of our CCAMLR attendance females and have gotten a post-perinatal mass on fourteen of the pups whose mothers have departed sea.
12. At the last census of fur seal study beaches on 17 Dec we recorded a total of 633 adult females and 1056 pups (1022 live and 34 dead).
13. On the last Phocid census on 17 December we counted 241 Southern elephant seals, 23 Weddell seals, two adult female tagged Leopard seal, and one crabeater.
14. We have deployed 10 PIT tags (Passive Integrated Transponder) on adult tagged females thus far this year. This is the sixth year of deploying PIT tags to address the high incidence of tag loss in the population.
15. Our sightings of Leopard seals are increasing. We have one tagged leopard seal that has been observed twice taking fur seal pups on land. Pups have not yet begun entering the water and playing in tide pools so they are much less accessible to leopard seals.

## Weather

16. We lost considerable amounts of snow cover this week. The mean temperature for the week was 1.6°C. The high temperature for the week was 3.7°C and the low was -0.7°C. We had two days of high winds this week resulting in a mean wind speed was 19.8 mph for the week. The maximum wind gust of 72 mph. Total precipitation this week was 0.33 inches. Mean daily solar radiation this week was 13,693 watts per sq. meter.



## Camp

17. The increased precipitation has allowed us to fill two of our four empty freshwater barrels replenishing our water supply that was used the first six weeks after opening camp while most of our supply was still frozen.
18. Our thoughts are of home, family, and friends as we begin the holiday week. Best wishes to all for a Merry Christmas from the Cape Shirreff crew: Mike, Kevin, McKenzie, Jay, and Nicole.



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