

Seabirds:

1. In the second week since gentoo penguin peak hatch 88% of the reproduction study plots have at least one chick, 12% have failed. In the third week since peak chinstrap penguin hatch, 56% of the chinstrap penguin reproduction plots have at least one chick and 44% have failed.

2. We continue to monitor known-age penguins. Of the 27 known-aged gentoo penguins that initiated clutches 56% have at least one chick and 44% have failed. Of 68 known-aged chinstraps that have initiated clutches 32% have at least one chick and 68% have failed.

3. On 12 January we deployed nine satellite transmitters and six Time Depth Recorders (TDRs) on chinstrap penguins that are brooding chicks. The satellite transmitters will be used to determine where the penguins forage and the time-depth recorders give profiles of diving behavior. We will recover these instruments after one week of deployment.

4. To date, we have collected 15 diet samples from chinstrap penguins and 10 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. To date, we have found otoliths from the species *Gymnoscopelus nicholsi*, *Lepidonotothen kempii*, *Pleurogramma antarcticum*, and an unknown species.

5. Of the eighteen pairs of brown skuas that we are monitoring eight nests are still active, nine nests have failed and two of the failures have relayed.

Pinnipeds:

6. We recovered one of our GPS/time depth recorder (GPS-TDR) instruments from a female that lost her pup and re-deployed it. We currently have five GPS instruments and two ARGOS PTIs at sea collecting data on foraging locations. To date we have collected such information on 31 trips on eight females since mid-December.

7. Only 16 of our 29 attendance study females have completed six trips to sea. Five attendance females have lost their pups (likely to leopard seal predation) but only three before completing six trips.

8.. We continued identifying the sex and collecting DNA of tagged females' pups. We have identified the sex and collected DNA on 92.5% of tagged females' pups. Mortality rate since arrival of Leopard seals has increased to 15.0%.



9. Over-winter survival and natality rate of our adult tagged female population for 2009/10 is the lowest on record, 80.0% survival and 78.1% natality. Last year survival and natality were 83.5% and 83.1%, respectively.

10. Daily tag re-sights continued this week. We have re-sighted only 80 fur seals tagged as pups in previous years. To date we have seen no yearlings or two-year-olds.

11.. Fur seal diet sampling continued this week with the collection of ten more scats, bringing our total to 50.

12.. We recovered an over-winter satellite relay data loggers from a female elephant seal. The instrument records conductivity and temperature for every dive. We have also seen six females tagged in previous years. We are still hoping for a few more to return with instruments.

13. We observed a leopard seal arrive this week that has not been seen for two years. To date we have tagged five previously untagged leopard seals and have observed a total of 14 tagged. All, but one, have been females. We now have two leopard seals instrumented with VHF radio transmitters to record haul-out patterns.

Weather:

14. The weather this week on the Cape has been damp and foggy. We had a high of 9.5 ° C and a low of -1.1 ° C. The mean temperature was 1.9 ° C. This is the second week in which temperatures were above freezing at night. Mean wind speed for the week was 12.9 and the max. gust was 40.0mph. Most wind this week was from the east and north. We had 1.3 inches of precipitation this week.

Camp:

15. On Monday, 11 January we had a brief visit by a Chilean ship that dropped off three people, two microbial ecologists and one support person. They were scheduled to depart the island yesterday by helicopter but foggy weather prevented their departure. They are now scheduled to leave on 21 January.

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

