

2015-2016 Weekly Field Reports

Cape Shirreff, Livingston Island

Report 1
November 2, 2015

Opening Report

Spirits are high as opening camp tasks and preliminary science proceed apace at NOAA's Antarctic Marine Living Resources (AMLR) Program's Cape Shirreff field station!

After a few travel challenges, the 2015 Cape Shirreff opening crew arrived in Punta Arenas, Chile on the 17th & 18th of October to begin the 2015/16 field season at the AMLR field station on Livingston Island. Participants are Wiley Archibald, Anthony (Tony) Kroeger, Whitney Taylor, Matthew Klosterman, and the Camp Leader, Doug Krause. We departed Punta Arenas for the Antarctic aboard the *R/V Laurence M. Gould* on 22 October at 15:00. Fortunately, a lull between low pressure systems allowed for relatively mild sea conditions while crossing Drake's Passage. We arrived at Cape Shirreff on the morning of Monday 26 October.



The ship pushed through several thick bands of brash ice as it approached Cape Shirreff, but fortunately the conditions at the operations point were quite favorable. The ship arrived at 06:30, gear staging began at 07:00 and Zodiacs were launched by 09:00. We spent the next five hours transferring cargo from ship to shore. A group of good-natured, energetic volunteers from the ship assisted on deck and ashore moving provisions onward to the camp. Two electronics technicians from the ship came ashore and helped set up the generator plus the VHF and HF radio systems. Just after 14:00, the ice concentration

at the ship increased and all on-shore volunteers were called back to the ship. By that time, however, all NOAA cargo and crew had been transferred to shore. By 15:00 the ship was underway to Palmer Station. The total number of zodiac trips for gear and personnel was estimated at fifteen.

Snow cover for the Cape at arrival was slightly below average for this time of year, although there has been plenty to allow for the sledding of cargo from the boat beach to the camp. Just after our arrival, and continuing through today, brash ice is packed along the coast of all study beaches.

All overwinter storage bins remained intact, and there was no damage to the camp or the emergency hut/bird blind on the north end of the cape.



Seabirds:

1. In our first days after arrival, we helped to set up camp at the main cabin. We went out several times to check on the status of the colonies and acquaint ourselves with some of the brown skua territories. Additionally, we have opened the “Skua” shack/emergency shelter and brought out several loads of supplies and equipment.
2. The penguin colonies are about 75% covered in snow. The penguins present on the colonies are overwhelmingly gentoos, and are beginning to show nest building and courtship behavior. There are only a few pairs of Chinstraps present at the colonies, and they have yet to display any courtship behavior.
3. Brown skuas are slowly appearing, with a single pair present around camp, and individual birds at several territories.
4. A few shags are present at Shag Rock, but have not begun nest building in earnest.



Pinnipeds:

5. We conducted our first breeding elephant seal census on 29 October. The initial two harems on Media Luna Beach have recently split into three. One bull is maintaining a harem of 24 females, one has 14 females, and one has eight. We’ve counted 57 pups, which is an increase over the 11 pups born at Cape Shirreff last year.
6. We initiated our weekly cape-wide phocid census on 31 October. We counted 78 adult southern elephant seals, one juvenile and 57 pups. We also observed one adult female Weddell seal with her pup, and three juvenile crabeater seals.
7. Of particular note was the observation on 29 October of two crabeater seals together exhibiting mating behavior on one of our study beaches. The female had bloody bite marks on her neck and back, and the male had blood on its face. Both animals had departed by 30 October.



8. We have not yet conducted a formal first census of the U.S.-AMLR fur seal study site. However, thus far we have not seen any female fur seals and have only observed adult males on territory.
9. Our two time-lapse cameras set-up last March on at a common leopard seal haul out beach were recovered and over 9,000 photos from Mar-Oct were downloaded.

Weather:

10. The weather station was installed on 29 October 2015. Weather data, therefore, is summarized for the past five days rather than the full week. The mean temperature was -2.0°C with a high of 0.3°C and a low of -4.2°C . Mean wind speed was 12.0 mph with a maximum of 36 mph. Winds were predominantly from the west. Winds seem to be contributing to significant brash ice accumulating in coves around the cape. Total precipitation was 0.1 inches though this does not quantify snow accumulation. Snow was observed for at least a portion of each day since camp opening. Mean solar radiation was 9981 W/m^2 . Sunrise occurred between 04:32 and 04:45 for the week. Sunset occurred between 20:41 and 20:53. We also recovered our overwinter temperature logger which provided high resolution temperature data from March-November.

Camp:

11. The camp opening has gone quite well. As of the afternoon of October 27, all methods of communication were established (i.e. e-mail, VHF, HF, and iridium).
12. Daily check-in communications (Mon-Sat) via iridium phone have been established with Palmer Station.
13. The camps electrical system is completely functional with four solar panels and one wind generator in operation. Various appliances that require 110V electricity are periodically supplied by our gasoline generators.



14. The one major system failure at camp opening was the propane oven. After several days of creative cooking, though, we managed to troubleshoot the problem (thank you, Jesse Senzer!) and we're back up and cooking.
15. On opening day the NOAA ATV was fitted with all terrain snow tracks, and has proven quite valuable in moving heavy cargo from the landing beach up to camp (see photo below).
16. We are very grateful to the captain, officers and crew of the *R/V Laurence M. Gould* for their support in opening the Cape Shirreff field camp. We extend our deepest appreciation and gratitude to all of the people who helped offload our cargo, especially Lindsey Loughery (MPC). Lindsey, her crew, and the scientist volunteers did an exceptional job that made this one of the quickest, safest openings in recent memory.
17. Thanks are also extended to the staff of the NOAA Southwest Fisheries Science Center, Antarctic Ecosystem Research Division in La Jolla, California for their support in getting the 2015/16 field season off to a good start. In particular, thanks to Dr. George Watters, Jeremy Rusin, Stephanie Sexton, Dr. Mike Goebel, LTJG Jesse Senzer, Jen Walsh, Dr. Jefferson Hinke, and Anthony Cossio.



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