

Weekly Situation Report B-232
Monday Oct 10 – Friday Oct 21
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B-232 is deploying to McMurdo Station twice during austral summer 2011-2012. The primary goal of the Oct-Nov field season is to locate Weddell seals that we outfitted with satellite tags last Jan-Feb, and recover the tags. Over the winter months the tags transmitted information on animal location, diving behavior, and temperature and conductivity information from the water column. However, bandwidth and transmission constraints mean that not all the recorded data is recovered via the satellite link. Retrieving the tag allows us to recover all the collected data, and significantly improves the information on animal behavior and winter oceanography. This is particularly true for the late winter months, as wear and tear on the antenna that occurs when seals swim around ice eventually causes antenna breakage, and this further reduces the amount and quality of the data transmitted. When we recover the tag, we also assess the physiological condition of the animal: this allows us to assess diet, how behavior influences growth and health, and to examine the relative impact of exercise on aerobic capacity. Samples collected during recovery are compared to similar samples collected when tags were deployed. For comparative purposes, additional, non-tagged animals are also handled.

Our first deployment began Oct 10, when four team members, Kim Goetz (UCSC), Luis Huckstadt (UCSC), Linnea Pearson (UAA) and Michelle Shero (UAA) deployed to the ice. Co-PI Jennifer Burns (UAA) arrived October 17th. Lab setup, unpacking, and training went well, and by the end of the week we were able to start our science mission. In order to achieve our first goal of locating tagged seals, Kim and Luis have worked closely with Helo-Ops to fly two surveys using the A-Star Helicopter equipped with an external set of Yagi antennas. This allows us to search for the seals using their attached VHF tag, while position fixes from satellite tags provide clues about the general area in which to search. In addition to regular, requested flights, helo scheduling will let us know if there is space available on flights to further sites (Crozier, Royds, Marble Point) for one pax with a handheld receiver and antenna. This may allow us to get 'extra' eyes & ears out looking for the seals without burning more of our precious helo time (thanks Susie!)

We are working closely with B-009, who are also keeping an eye out for our tagged animals. To date, three tagged females (11-03, 11-12, and 11-21) from last season have been located: one was found during a helicopter search, and two have been found by B-009 (thanks B-009!). Two of these females have recently pupped; we will wait a few more days until handling them so that both mom and pup can recover from the birthing process, and a strong pair bond can form. Unfortunately, one of the seals had already lost her satellite tag. In general, it seems that seals are a bit late arriving into the sound, perhaps because of the very cold and windy conditions we have been experiencing.

As everyone is aware, the ice conditions this season are far different from what has been 'normal' in McMurdo for the past several years, as last winter there was extensive open water in Erebus Bay, and much of the very thick multi-year ice finally broke out. In combination with a late freeze up, and significant snow, this means that the ice is potentially more dynamic and more heavily fractured. FSTP has been working hard to open the sea ice to travel, but cracks between the EGT and the Delbridge islands have made accessing that area difficult (current access is by helicopter or piston bully only). Science teams are working with FSTP to monitor conditions, and the three resident seal groups 9B-009, B-232 & B-470) have advocated for a route into the area via a route over the top of the EGT (as has been done in the late 1980s/early 1990s) or alternatively, a bridge over the crack that is currently preventing access into the area north of the EGT. Since much of our work locating animals takes place by snow-machine, and many of our tagged animals are likely to return to the large colonies at the Razorbacks and Turks Head, this limit on travel in that area has the potential to significantly impact our science. Following consultations with FSTP, and in the hopes of reducing the amount of time before more of the sea ice becomes open to travel, we have offered to provide field team members to FSTP to assist in their ice assessments. So, at the end of our first two weeks, we are set up and ready to work, have seen some of our target animals, but are waiting for ice conditions and access to improve.



Our targets: Seal 11-03 with her pup at Hutton Cliffs on 10/19/11, and Seal 11-21 at Cinder Cones 10/18/2011 (still pregnant). Note that the antennas on both satellite tags have been abraded away; this degrades the transmission strength and reduces reception. Recovering these tags is our first priority