

Whale odyssey in the southern Oceans (Part 1)

By Marina Costa

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From the 2nd to the 31st of December Dr Ander de Lecea and myself, the SAERI 'Fine Scaling the design of Falkland Islands Marine Management Areas' (hereafter called MMA) team, were embarked on the [RRS James Clark Ross](#) to carry out a study in the southern waters of the Falkland Islands and off the Antarctic Peninsula.



The MMA is a two-year Darwin Plus funded project aimed to assess potential marine areas in the Falkland Islands against international criteria for Marine Protected Areas (more information available at www.south-atlantic-research.org/mma-fine-scaling-the-design-of-falkland-islands-marine-management-areas/). The objectives of the research cruise were to gather benthic data along the Burdwood Bank to provide information useful for the Falkland Islands marine spatial planning, and along the Antarctic Peninsula to study the effects of glacial retreat on marine biological systems.

Other than the benthic data collection, the cruise offered an unmissable opportunity to carry out some dolphins and whales observation in the southern Atlantic and Southern Oceans. Cetaceans' information in the southern region is in fact difficult to obtain because of the high costs associated to the vessel needed to conduct dedicated surveys in harsh and remote offshore environments. Platforms of opportunity became therefore very useful for researcher to fill this gap in knowledge.

We began our journey from Mare Harbour, East Cove Falkland Islands on the 2nd December 2018. The first destination was the Burdwood Bank, an undersea plateau located about 200 km south of East Falkland at depths ranging from 50 to 200m. The observation platform was the 'Monkey Island', the JCR upper deck located at 17 meters from the sea surface. From this position we had not only an excellent view ahead but we were also completely sheltered by real and apparent (due to vessel speed) winds allowing

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observation for many consecutive hours even in rough conditions. During the transfer to the Burdwood Bank we could not remain in observation too long because we had to undergo few safety training and setup the sampling instruments we would have used in the sampling stations. Unpacking and making everything to work is the hard bit at the beginning of any research cruise.

Although short, our observation effort was rewarded. The first sighting of the cruise occurred 20 km southeast of Lively Islands. A black shadow with a whitish saddle on its back, approached the ship from starboard, fast swimming underwater in the direction of the bow. The animal never emerged and after 8 minutes of searching we decided to save the encounter as one individual of either killer or pilot-whale. Not bad for 30 minutes of observation!

In the night we reached Burdwood Bank and immediately began the sea bottom mapping that does not require to be carried out with light. The day after sea conditions were pretty good and as soon as the sun was out, we began the instrument testing that require almost all day. On the 4th we finally began the biological



sampling with pelagic and benthic nets. During these two days we could stay in observation on the Monkey Island for about five hours. The result was very good: one group of eight pilot whales, four sei whales, and two large whales identified as possible fin whales, and other four unidentified cetaceans. The observation rate of 3.5 animals per hour re-inforce our hypothesis that the area of Burdwood Bank is an important hot spot of biodiversity.

In the afternoon of the 5th of December data collection was successfully concluded and the captain announced that our new route was 180 degree: Antarctic Peninsula here we come! The excitement on board was quickly wiped up by the incoming weather forecast. A storm with winds up to 50 knots was

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quickly approaching and was supposed to keep us company for the next three days...

We enjoyed some more hours of observation on the Monkey Island with few nice fin whale encounters until the captain announcement that all outside areas on the ship were off-limit until new order. The risk to be wiped out by the waves (now around 10m) was too high. We were not discouraged by the weather and we quickly obtained the permission to carry on the observation from the bridge comforted by a dry and warm environment and the availability of coffee and tea at will. The only con was that visibility was now reduced to less than 100-150 meters due to the sea conditions. The only possibility to spot a whale was... well, to nearly collide with it – in the hope that the whale was able to avoid it!



For several hours we did not have any encounter but, as biologist know well, zeros are data (and the most common for who decided to study cetaceans). The captain was also forced to modify the route to avoid the extreme rolling that at least a couple of time sent people flying across the room with their chairs and laptops, luckily without any major damage.

To be continued...





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