

Filippo Galimberti & Simona Sanvito

Elephant Seal Research Group

Report on a killer whale stranding at Sea Lion Island, Falkland Islands

Sea Lion Island, Falkland Islands, 16/11/2016

General information

Date: 12/11/2016

Time: 15:38

Place: Sea Lion Island (SLI), Falkland Islands; north east sand beach

Coordinates: S52.4241721, W059.0642869

Killer whale class: adult male

Killer whale identity: ESRG_014, named Leo, see ESRG photo-identification catalogue (www.eleseal.org); first identified by ESRG in November 2013, first picture in which we recognized him December 2010; regular resident at SLI, observed also in 2014/2015 and 2015/2016 seasons.

Summary of stranding

The following is a brief summary of the events related to the stranding of killer whale (KW) Leo at Sea Lion Island in November 2016. Please note that times during rescue attempt are approximate because all ESRG operators were in the water helping in the rescue.

12/11/2016, 15:22: observed (non yet stranded) by ESRG field helper Laura Redaelli (LR) on the north side of the East Point of SLI; then patrolling north east sand beach, approx 20-50 m from the beach, moving in direction East-West

15:38: observed resting from the distance, very close to the beach (5-20 m), probably already stranded

15:50: LR called by radio PIs Filippo Galimberti (FG) and Simona Sanvito (SS), who reached the place and confirmed stranding; Leo was trying to get back to open water with massive movements of the tail, and was emitting clearly audible vocalizations

16:00: FG asked field helpers to recruit extra people to push Leo back to open water

16:10: Leo vomited apparently freshly eaten food two times

16:30: ESRG team was joined by Micky Reeves (MR, Sea Lion Lodge manager) and some lodge guests; beginning of rescue operation; lacking appropriate floating equipment we tried to use tide and incoming swell waves to push Leo back to open water; we kept trying for more than one hour, being completely unsuccessful, Leo was separated from open water by a large sand bar with very shallow water

17:30: Leo vomited again remains of prey, identified as belonging to elephant seals

17:40: more people reached the stranding site, including lodge staff and more lodge guests; we tried to orient Leo head toward the water using ropes and pulling by Land Rover, but we were again unsuccessful

17:50: two other killer whales visited the stranding site, at a 50-100 m distance from the beach; these were Pinnone and Topone (see ESRG catalogue), previously observed travelling with Leo in numerous occasions

18:30: ESRG team stopped rescue attempt due to fatigue, extremely cold water, and lack of proper equipment; most other people had already left the stranding site; FG and SS left the stranding site but at least one ESRG team member remained at the stranding site at all time

19:15: FG and SS return to stranding site; Leo was still in same position as before

19:30: Leo vomited again two times prey remains

20:45: ESRG was notified that a Falklands Conservation (FC) rescue team, with floatation devices used to rescue stranded cetaceans, was arriving to SLI by helicopter

21:30: FC team begun rescue attempt, helped by FG and SS; unfortunately attempts to place flotation devices under Leo's body were not successful; tide was very low, and Leo's body was gradually sinking in the sand

22:15: Leo vomited again, including the full posterior third of an elephant seal, probably a class 2 juvenile (4 year old)

22:30: Leo was not breathing anymore; it was concluded that he was dead

Actions taken

With the help of MR and some lodge guests, members of the Elephant Seal Research Group lead by FG and including SS, Anna Agostini, Francesca Cellamare, Giulia Ercoletti, LR, and Maria Chiara Vinesi, tried to push Leo back to open water. We were definitely unsuccessful, due to lack of previous experience in managing KW stranding, lack of appropriate flotation equipment, and low decreasing tide. MR asked help to Falklands Conservation, that was able to arrange a team to come to Sea Lion Island with flotation equipment used in case of cetacean stranding. Unfortunately also this attempt resulted unsuccessful. Further details on the Falklands Conservation rescue attempt can be obtained from Sarah Crofts (email cso@conservation.org.fk).

External examination of carcass

On 15/11/2016, beginning 12:10, FG and SS carried out an external examination of Leo's carcass, taking pictures, measurements and samples. All the pictures, data and samples are available for examination, and the ESRG is keen to provide them to anybody who will make research use of that material. Please address requests to FG, fil_esrg@eleseal.org

Carcass was lying on right side, with head in ESE direction. Dorsal fin and tail were partially covered by sand. Dorsal fin was directed toward land. Penis was totally extruded. There were putrefaction gases already coming out from the mouth, that was partially open, and inside the belly, which looked tense and inflated. The carcass was complete but some part were already partially eaten by birds. Caracaras, dolphin gulls, kelp gulls, and giant petrels were present at or close to the stranding site. In particular there were signs of bird eating around the left eye, the belly button and the penis. There were numerous superficial signs of bird eating on most of the exposed body surface, but no significant bird opening in carcass, probably due to skin thickness of the freshly dead KW.

Although the tail itself was in natural position, the posterior part of the body, including the tail, was rotated respect to the body axis, because the body itself was lying on the beach on the right side, and this fact may have had an effect on accuracy of body measurements.

Measurements

We took measurement using a flexible fibre measuring tape 20 m long. All measurement were in cm, and precision was +/- 1 cm. Often we took two different measurement: one by keeping the measuring tape tight and the other one with the measuring tape adhering to the surface of body. We also took pictures with a scale, but we have not measured them until now.

Dorsal fin

- Front = 146 tight, 151 adhering
- Rear = 122 tight, 124 adhering
- Base = 91

Tail

- Point to point = 193 tight
- Point to half way (right) = 113 tight, 138 adhering
- Point to half way (left) = 91 tight, 138 adhering
- Point to base (right) = 106 tight, 114 adhering
- Point to base (left) = 108 tight, 121 adhering

Body

- Left side = 768 adhering (half tail to nose)
- Dorsal = 760 adhering (half tail to nose); nose to begin dorsal fin 300, begin dorsal fin to tail base 370, begin dorsal fin to half tail 460
- Ventral = 766 adhering (half tail to mouth); mouth to penis 440, mouth to belly button 516

Eye patch

- Length = 66
- Maximum height = 17

Left fore flipper

- Circumference = 332 adhering
- Maximum length = 129 adhering
- Maximum width = 87 adhering

Saddle patch

- Height = 80

Samples

We collected two kind of samples:

- skin (two samples), preserved in 95% molecular grade ethanol, that can be used for DNA extraction and molecular studies
- bubbler (four samples), preserved either in ethanol (same as above) or frozen (-20 degrees Celsius), that can be used to study contaminants

These samples are currently stored at Sea Lion Island, and are available to anybody that will use them for scientific research.

Conclusion

The lack of proper rescue/floatation equipment was instrumental in the total failure of the ESRG initial rescue attempt, notwithstanding the dedication of ESRG field helpers and other people that joined the rescue effort, that were in the cold water for a long time without a suitable equipment.

Notwithstanding the fast and well planned response of the Falklands Conservation team, the equipment arrived too late. Due to the regular presence of KW at SLI, and the occurrence of previous KW stranding (including one in which ESRG personnel successfully rescued a KW calf), we think that the presence on the island of a suitable flotation equipment would greatly increase the likelihood of a successful recovery if any other KW stranding will happen on the island in the future.

Address for correspondence:

Dr. Filippo Galimberti

ESRG

Sea Lion Island

Falkland Islands FIQQ 1ZZ

Email fil_esrg@eleseal.org

www.eleseal.org