

Preliminary scientific report on the Ardrossan Sperm Whales (Dec. 2014)

Catherine Kemper, Ikuko Tomo and David Stemmer (South Australian Museum)

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Stranding information

One observer saw two large whales swimming in the shallows at high tide off Parara Road, south of Ardrossan, at 1800 hrs on 7 Dec. 2014. Another observer said he watched a large commotion in the water about 700 to 800 m south of Parara Road (and several hundred metres from shore) late on the same day and that a group of at least 20 dolphins were jumping over the whales and slapping them with their tails. On the morning of 8 Dec. reports were made of six to eight whales dead on the beach. The carcasses were spread over a distance of about 2 km, with the northern most one near the Ardrossan jetty. As word spread, people came to view the spectacle. Department of Environment, Water and Natural Resources staff were on hand to control the site.

One of the whales, estimated to be 7–8 m, either did not fully strand or was able to get itself off the mudflats and swim away. On 8 Dec. it was seen near Port Vincent by an oyster farmer. It was in very shallow water and was ‘encouraged’ back into deeper water by DEWNR staff in a DPITI boat. Photos of the animal show a deep cut or scar in the blubber near the blowhole. It was apparently later seen near Troughbridge Island.



Photo: C. Vicente and J. Hicks DEWNR

Summary of whale data and specimens collected

The whale numbers represent a south to north sequence with the most northerly being the whale moved from the jetty.

Museum no.	Sex	Total length (m)	Age class	Reproduction	Specimens collected	Comments
14.045	female	11.2	adult	–	Part lower jaws, all teeth Skin for genetics.	swabbed for bacteria
14.046	female	10.0	adult	not lactating	Part lower jaws, all teeth. AMWRRO sampled blubber. Barnacles. Skin for genetics.	swabbed for bacteria
14.047	female	10.7	adult	not lactating	Part lower jaws, all teeth except 5 cut out by persons unknown. AMWRRO may have sampled blubber. Barnacles. Skin for genetics.	swabbed for bacteria. Piece of ambergris collected from near this whale.
14.048	female	11.0	adult	not lactating	Part lower jaws, all teeth. One upper jaw tooth (accessory). Barnacles. Cestode cysts from blubber. Some squid beaks from stomach. Skin for genetics.	swabbed for bacteria.
14.049	female	10.6	adult	–	Part lower jaws, all teeth. Some squid beaks from stomach. Skin for genetics. Intestinal content sample for SARDI.	swabbed for bacteria.
14.050	female	10.7	adult	not lactating (mammary tissue small and inactive). Uterus and	Full skeleton. Left bulla and periotic in formalin. All teeth, plus one accessory tooth from upper jaw. Clitoris.	swabbed for bacteria.

				ovaries not found.	Cestode cysts. Barnacle? Squid beaks from stomach. Skin for genetics. Spermaceti oil. Intestinal content sample for SARDI.	
14.051		11.1	adult	not lactating	Part lower jaws, all teeth. 13 accessory teeth from upper jaws. Skin for genetics.	



Location of Sperm Whale carcasses on 10–12 Dec. 2015.

Scientific studies and results

Swabs collected from the blowhole and genital slit of most whales showed no evidence of pathological bacteria.

A subset of teeth will be sent to Vicki Hamilton for estimating the age of each whale. This is expected to be completed towards the end of the year. Vicki will also investigate the carbon/nitrogen isotope ratios in order to determine the broad diet range of these whales and to get a picture of where in the Southern Ocean they are feeding. She may also subsample the ambergris for isotope studies.

The full skeleton of 14.050 is being macerated in warm water and will be available for study by early in 2016. It will be possible to determine if the animal was full grown (physically mature) after it is prepared.

The ear bone from 14.050 was fixed in formalin and will be scanned by CT in order to determine if damage occurred that could have been caused by anthropogenic sound.

The teeth from the lower jaws have been numbered in their sequence along the jaw. These jaws will be prepared

The squid beaks collected from the stomachs of some of the whales will be identified, preferably to species.

The genetic samples (skin) may be used by Flinders University whale researchers to investigate the potential for population subdivision in Australian waters.

The cestode parasites will be added to the helminth parasite collection at the SA Museum and be used in future studies by parasitologists worldwide.

The barnacles will be identified and added to the Marine Invertebrate collections at the SA Museum and be used in future studies.

Gross pathology was carried out on only one whale (14.050) but this was hampered by advanced autolysis. The heart looked normal and the liver and lung, although decomposed, looked normal. Histopathology backed this observation up. The back of the skull was very red, indicating that the whale had thrashed around on stranding. Deep haemorrhaging was noted in several places on the body, both externally and internally. There were numerous squid sucker scars on the skin, particularly on the head.

Most of the whales had many scars on the head, probably caused by squid suckers. There were superficial cuts on most of the whales and we believe these were caused by razor fish on the mudflats.



Many scars (presumably caused by squid suckers) were seen on the heads of some of the whales.

Photo: Yorke Peninsula Council



Note the severe bruising on the belly of this whale.

Photo: Mark Davison, DEWNR

Display potential

The SA Museum is investigating options for putting the full skeleton on temporary display at the beginning of 2016. A display will include interpretive materials and the results of the some of the research listed above.

There is also an agreement with the Ardrossan Museum to return one of the lower jaws for display there. It is likely that some of the teeth will be kept at the SA Museum, since they are so valuable for research into the future. There is the potential to cast the teeth but this has not yet been discussed with the Ardrossan Museum.