

Report on body condition of ADS *T. aduncus*

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This summary was prepared for the ADS bottlenose dolphin working group (lead by DEW) investigating the health of dolphins in the sanctuary. The group was formed following the death or disappearance of several emaciated dolphins during late 2020 and 2021.

The report is based on specimens lodged in the SA Museum collection and is based on the external appearance of whole dolphins. Most of the dolphins were studied by the SA Museum, with a few having been photographed by Roseworthy Veterinary School, University of Adelaide.

Dolphins ($n = 52$) were collected from 1987 to 2021. Photos and notes on the external appearance of the body were made at necropsy. In some cases, additional information was sourced from photos of animals before they were made available to the Museum. Observations made at the time of necropsy were verified using the photographs.

Four features were examined (Kemper et al. 2016) and recorded as degree of presence (or absence) of 1) a dorsal concavity behind the head, 2) a concavity along the lateral body (indicative of loss of epaxial muscle mass), 3) convexities along the lateral peduncle (indicating loss of tissue over the transverse processes of the vertebrae) and 4) convexities in the thorax (indicating loss of tissue over the ribs). Since number 4 was rarely observed, it was excluded from the analysis. Each feature was rated 0 (absent), 1 (visible, but not extreme condition) and 2 (clearly visible/extreme condition).

Neonates (less than about 2 months old) were excluded from the analysis because they were often decomposed. Each dolphin was assigned a category of condition using the following methodology. In some cases, it was not possible to evaluate all three features because the data were not available. Scores were totalled (maximum 6) and expressed as a proportion of the total available: 0 = robust, 0.17 and 0.33 = slightly emaciated and ≥ 0.5 = moderately/very emaciated. Fig. 1 illustrates a moderately/very emaciated adult dolphin.

The number of dolphins in each body condition category was summarised for 5-year periods, as well as 2021 (Fig. 2). All time periods recorded moderately/very emaciated dolphins but the proportion appears to have been greater since 2005. The assumption is that the data after 2005 are the most meaningful because observer effort is likely to have been consistent after the creation of the ADS in 2005. One of the limitations of this study is that it does not take into account the dolphins that disappeared (died or emigrated) from the ADS.



Fig 1: 'Oriana', a moderately/very emaciated dolphin that died in 2018.

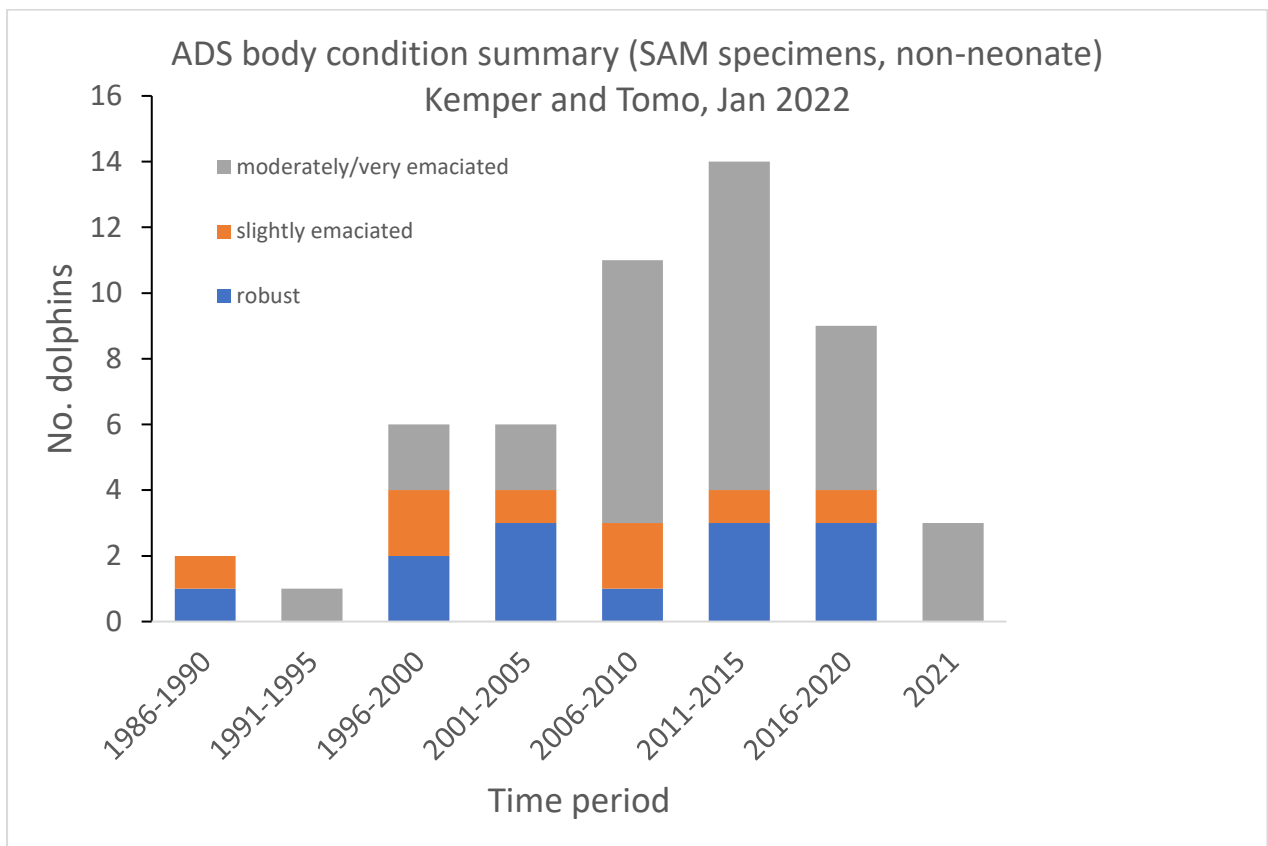


Fig. 2. Summary of dolphins evaluated for body condition from the ADS.