

## Progress Report SP 2014-018

# Distribution and abundance estimate of Australian snubfin dolphins (*Orcaella heinsohni*) at a key site in the Kimberley region, Western Australia

Marine Science

### Project Core Team

Supervising Scientist

Kelly Waples

Data Custodian

Holly Raudino

Site Custodian

Holly Raudino

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Project Team

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Program Leader

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Directorate

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K Waples, H Raudino

## Context

The current lack of knowledge of the Australian snubfin dolphin (*Orcaella heinsohni*) meant that its conservation status could not be properly assessed in 2011 due to insufficient information on population dynamics and distribution. This species is known from tropical coastal waters of Australia and New Guinea, but tend to be shy, evasive and difficult to study. Although they range southwards to the the Pilbara region of Western Australia, there has been little Western Australian-based research on this species and much of this remains unpublished. This project will compile existing data on snubfin dolphins across the Kimberley to gain a better understanding of their habitat use and distribution. The collation of data into a single database will also facilitate the study of population structure and demographics based on recognised individual animals. This project will assess dolphin distribution across the Kimberley region between 2004-2012.

## Aims

- Provide a quantitative abundance estimate of snubfin dolphins for Roebuck Bay in Western Australia that will be used as a baseline for this population and will also enable comparison with abundance estimates of the species from sites at Cleveland Bay (Qld) and Port Essington (NT).
- Compare methods for abundance estimation (mark-recapture versus distance sampling) and the suitability of these methods for abundance estimation of this species.
- Map the extent of occurrence and area of occupancy of snubfin dolphins in the Kimberley by combining traditional knowledge and dolphin sightings from indigenous sea rangers and scientific survey sightings.
- Refine and populate a purpose built and standardised database that will support long term data collection and curation in WA and facilitate data-sharing between jurisdictions.

## Progress

- A manuscript on cross-cultural knowledge of the distribution of snubfin dolphins in the Kimberley is being revised based on feedback from reviewers. This research has been accepted for presentation at the 2017 Biennial Conference on the Biology of Marine Mammals.
- A manuscript on snubfin dolphin abundance contrasting distance sampling and mark-recapture survey techniques in Roebuck Bay is undergoing final statistical analysis and revision prior to submission.
- Additional data collected from Roebuck Bay in 2013 and 2014 has been added to the database using a grant from the Commonwealth Government and administered by James Cook University.

## Management implications

- Collation of scientific and traditional knowledge of a poorly understood marine mammal species of high conservation value means managers now have baseline knowledge of the abundance of snubfin dolphins in the proposed Yawuru Nagulagun / Roebuck Bay Marine Park.
- Establishment of a database for all dolphin research and monitoring where survey and photo-identification data is collected to ensures that standardised data is available for assessing population abundance and distribution. It also provides the capacity to develop sighting histories for individual animals, thus providing a better understanding of population demographics and life history. This database can also be used for information sharing across jurisdictions and between research organisations.

- The broad-scale collation of information and modeling has provided relevant information on area of occupancy and extent of occurrence that can be used to more accurately assess the conservation status of snubfin dolphins.
- Partnerships have been established with indigenous sea ranger groups to develop survey methodologies, data storage and reporting structures that are consistent with healthy country plans and reserve management plans.

## **Future directions**

- Submission of a manuscript on a population estimate of the Australian snubfin dolphin in Roebuck Bay to a peer-reviewed journal.
- Revision of a manuscript on cross-cultural knowledge of the distribution of the Australian snubfin dolphin in the Kimberley to include species distribution modelling.
- Utilisation of new (2013 & 2014) data to investigate long-term site fidelity and home range of individual snubfins in Roebuck Bay.