

Dolphin population status in the Pilbara

The Department of Biodiversity Conservation and Attractions Marine Science Program has recently estimated the population size for Australian humpback dolphins (*Sousa sahulensis*) and the Indo-Pacific Bottlenose dolphin (*Tursiops aduncus*) at a regional scale for the first time.

Between 2015 and 2017, annual aerial surveys were carried out across the Pilbara Coastal Region, with the survey team clocking over 150 hours in the air. Sightings made by onboard observers were confirmed by photos taken from cameras mounted on the plane wing. Around 400,000 high-quality images of approximately 1cm pixel resolution, telling the two dolphin species apart, were reviewed.

The surveys found population estimates were in the low thousands for both species, with fewer Australian humpback dolphins than Indo-Pacific bottlenose dolphins. The Australian humpback dolphin has been nominated for listing as threatened and vulnerable to extinction under the *Commonwealth's Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Dolphin densities were greatest in nearshore waters, with hotspots in Exmouth Gulf, the Dampier Archipelago, and Great Sandy Islands. These results provide a base for a spatial risk assessment to better understand the overlap between pressures and important dolphin habitats in the highly industrialised Pilbara Region.

Raudino HC, Bouchet PJ, Douglas C, Douglas R and Waples K (2023) Aerial abundance estimates for two sympatric dolphin species at a regional scale using distance sampling and density surface modelling. *Frontiers in Ecology and Evolution*. 10:1086686. <https://www.frontiersin.org/articles/10.3389/fevo.2022.1086686/full>

Raudino, H.C., Cleguer, C., Hamel, M., Swaine, M., and Waples, K. (2022) Species identification of morphologically similar tropical dolphins and estimating group size using aerial imagery in coastal waters. *Mammalian Biology* 102, 829-839 <https://doi.org/10.1007/s42991-021-00214-2>



Above: Taken from Raudino et al 2023, Australian humpback dolphins left (yellow arrow), Bottlenose dolphins right (red arrows). Difference in rostrum length and body colouration are key aspects to species identification. Photo - DBCA