Investigating dolphin distribution in south-east Queensland, Australia.

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Introduction

- Understanding species distribution and the drivers to their ecological and environmental interactions is key for successful conservation[1].

- Many species' distributions are largely assumed from habitat suitability modelling, rather than confirmation of species presence[2].

- 14 dolphin species' are predicted in south-east Queensland (SEQ) waters[3]; two of these are listed as 'Vulnerable', two are listed as 'Near Threatened' by the IUCN Red List[4].

- Previous research in the Great Sandy and Moreton Bay Marine Parks, two embayment's in SEQ[6-8], with no published literature on any dolphin species between these two embayment's (Sunshine Coast).

- It remains unknown what dolphin species inhabit these waters and consequently, if some level of conservation or protection is needed between the marine parks.

Aims

1. Identify the dolphin species present in SEQ.
2. Investigate the distribution of each dolphin species.

Methods

- Using 20 years of StrandNet data (i.e., marine stranding's and Queensland shark control program bycatch data).

- Sightings from opportunistic boat-based surveys from 2022-2023.

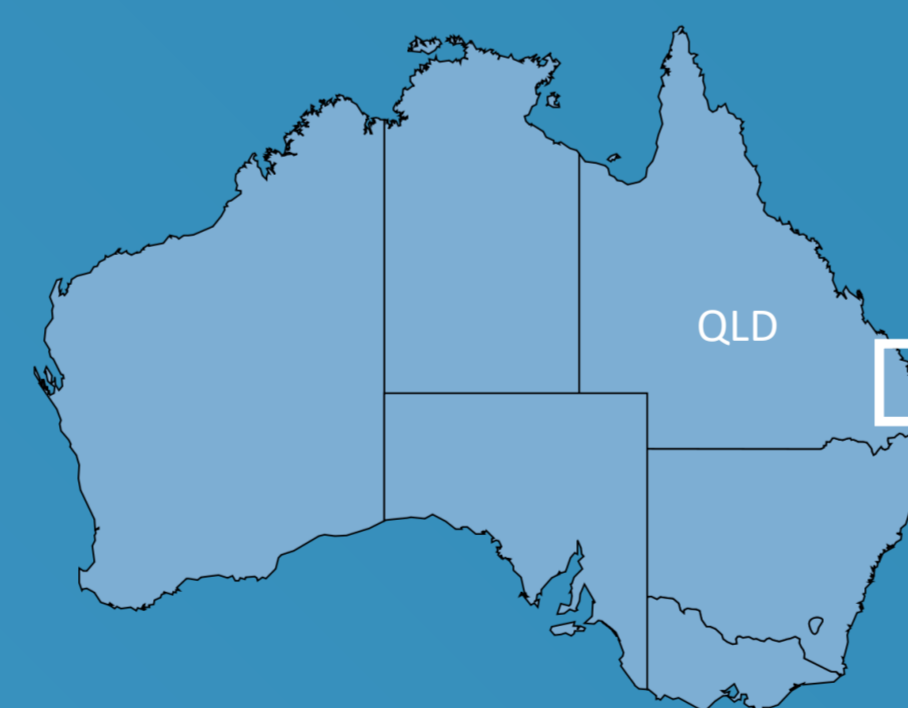- ArcGIS used to map StrandNet and boat-based survey GPS points.

Fig. 1: Map of mainland Australia, highlighting the study region.

Conclusion

- Confirmation of 11 dolphin species in SEQ, 3 species regularly sighted in SEQ coastal waters.

- Further boat-based studies needed in Sunshine Coast waters, as most data is currently limited to stranding's.

Future work:

➤ Home range estimates for each species and per individuals to further understand distribution.

➤ Connectivity analyses (spatial, behavioural, and genetic) in SEQ to inform conservation programmes, IUCN classifications and marine park planning.

Results

- StrandNet data confirms presence of 11 species in SEQ over last 20 years (Fig.2).

- 3 species have been sighted during vessel surveys (mainly conducted in the Great Sandy Marine Park): **Australian humpback dolphin, Common bottlenose dolphin and Indo-Pacific bottlenose dolphin**.
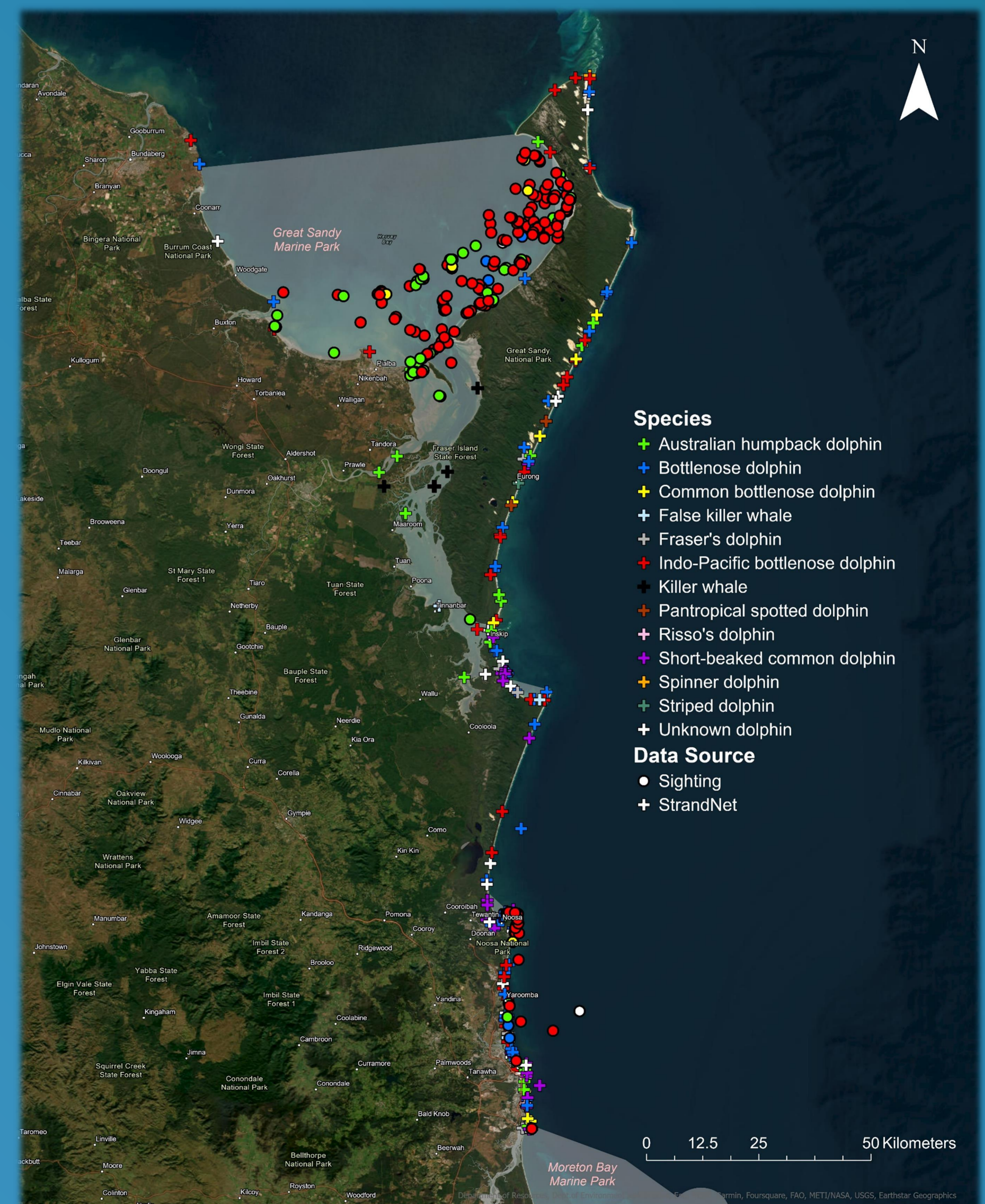

Fig. 2: 20 years of Strandnet data and sightings of dolphin species between 2022-2023 in coastal waters of south-east Queensland, Australia.

References
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