



Abundance of Commerson's and Peale's dolphins in inshore waters of the Falklands Islands estimated by aerial survey

DA07



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BACKGROUND

- Commerson's and Peale's dolphins are the only two cetaceans with a year-round presence in inshore waters of the Falkland Islands
- Their abundance and distribution in the Falklands waters are unknown
- Lack of data restricts management decisions and inclusion into on-going national spatial planning and inshore ecosystem-based fisheries assessment
- Population structure within South America indicates the presence of geographical subpopulations and preliminary analyses on Falklands Commerson's and Peale's dolphins suggest they are genetically separated from continental populations

OBJECTIVES

- To map summer/autumn distribution of Commerson's and Peale's dolphins in inshore waters of the FI
- To estimate abundance of Commerson's and Peale's dolphins in inshore waters of the FI



Commerson's dolphin
Cephalorhynchus commersonii

Least Concern
IUCN 2017



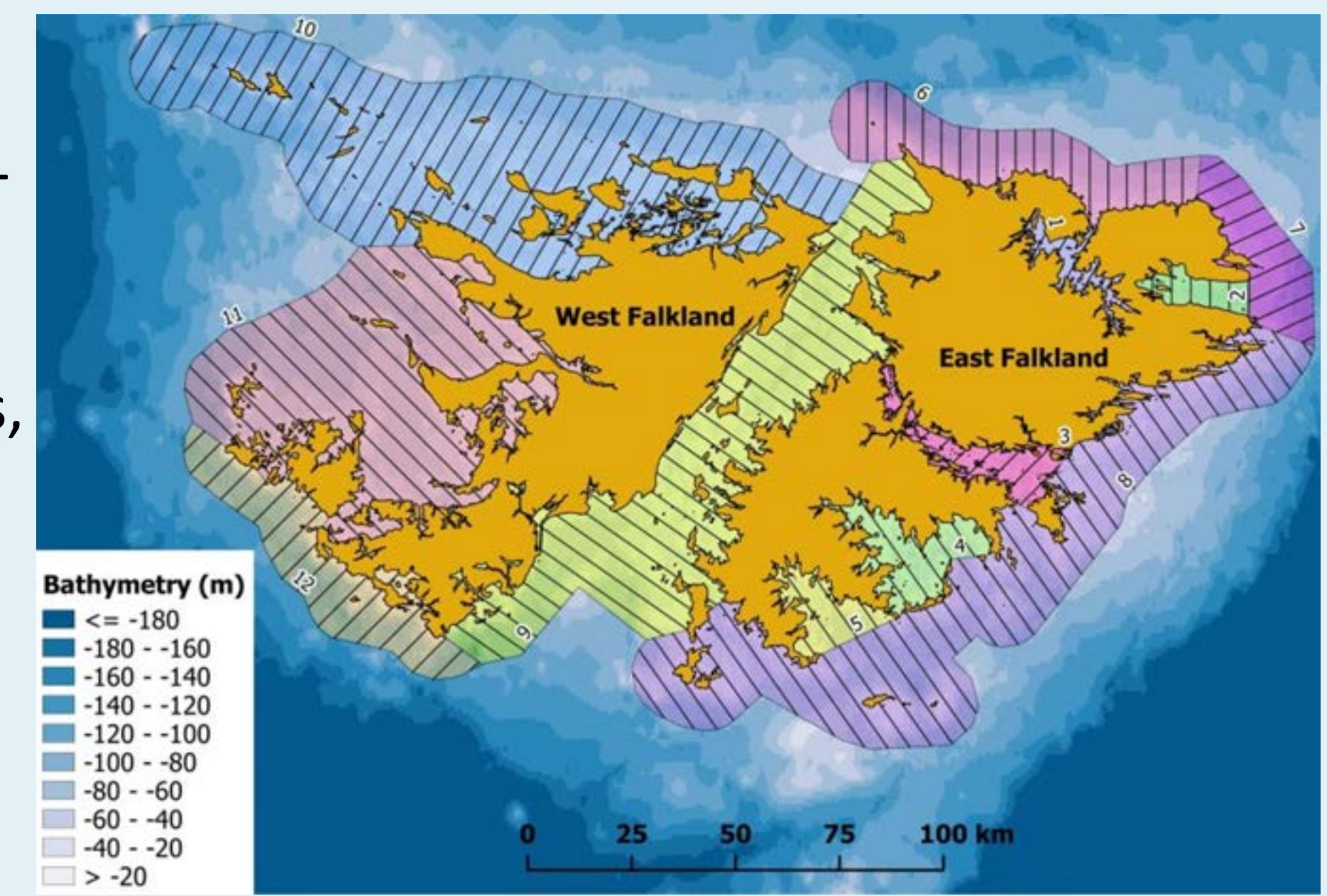
Peale's dolphin
Lagenorhynchus australis

Data Deficient
IUCN 2008

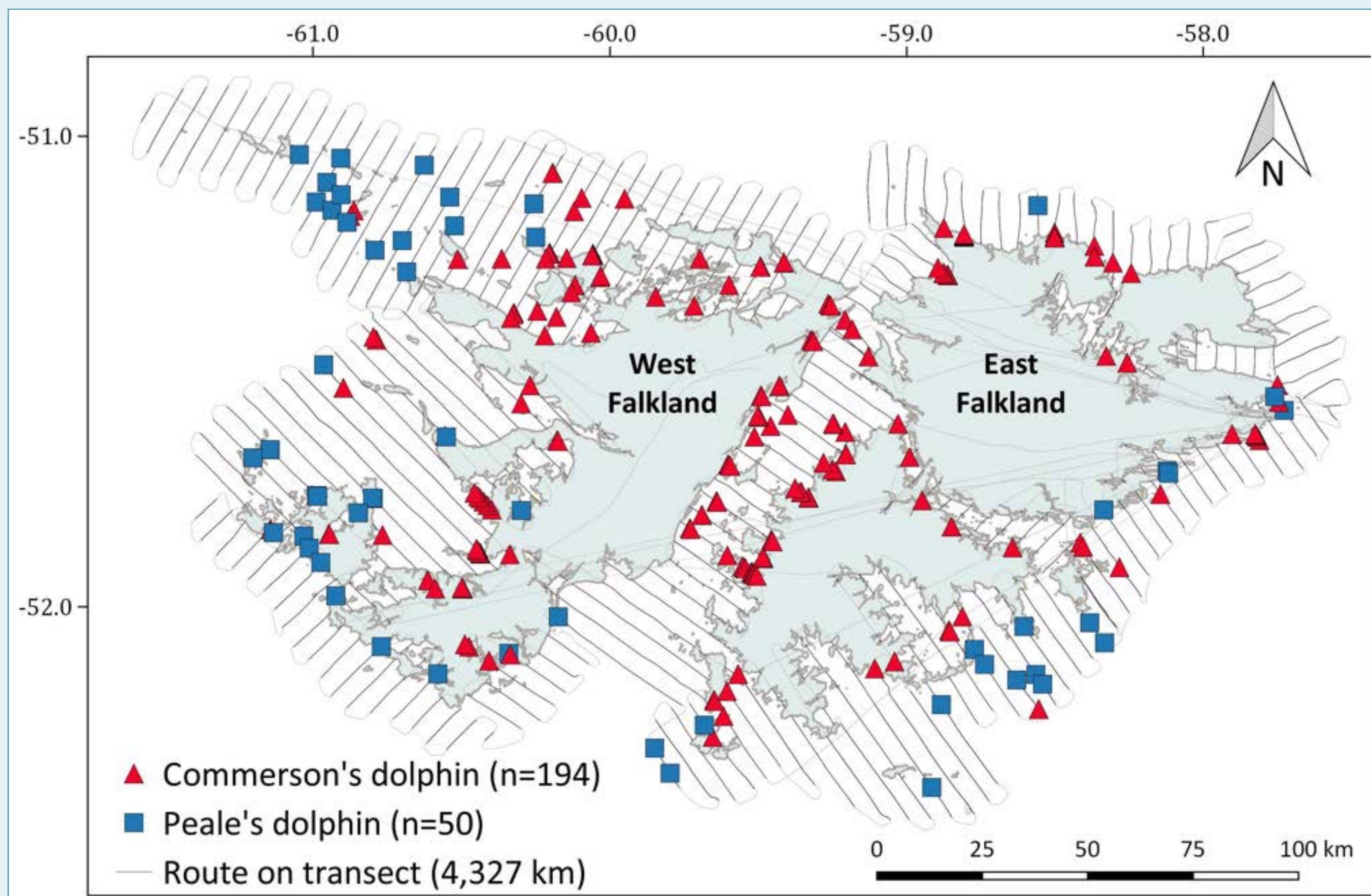


METHODS

- Survey design by *Distance 6.2*, 10km from coast, study area 19,314 km², 12 strata, 217 transects, 4,300km effort, 4.7km mean line spacing, 0.82 mean coverage probability
- Line transect methods, conventional and multiple co-variate distance sampling, single platform, 2 observers, $g(0)=1$ (see 'NEXT STEPS')
- Platform aircraft *Britten-Norman BN-2B Islander*, speed 167km/h, altitude 150m

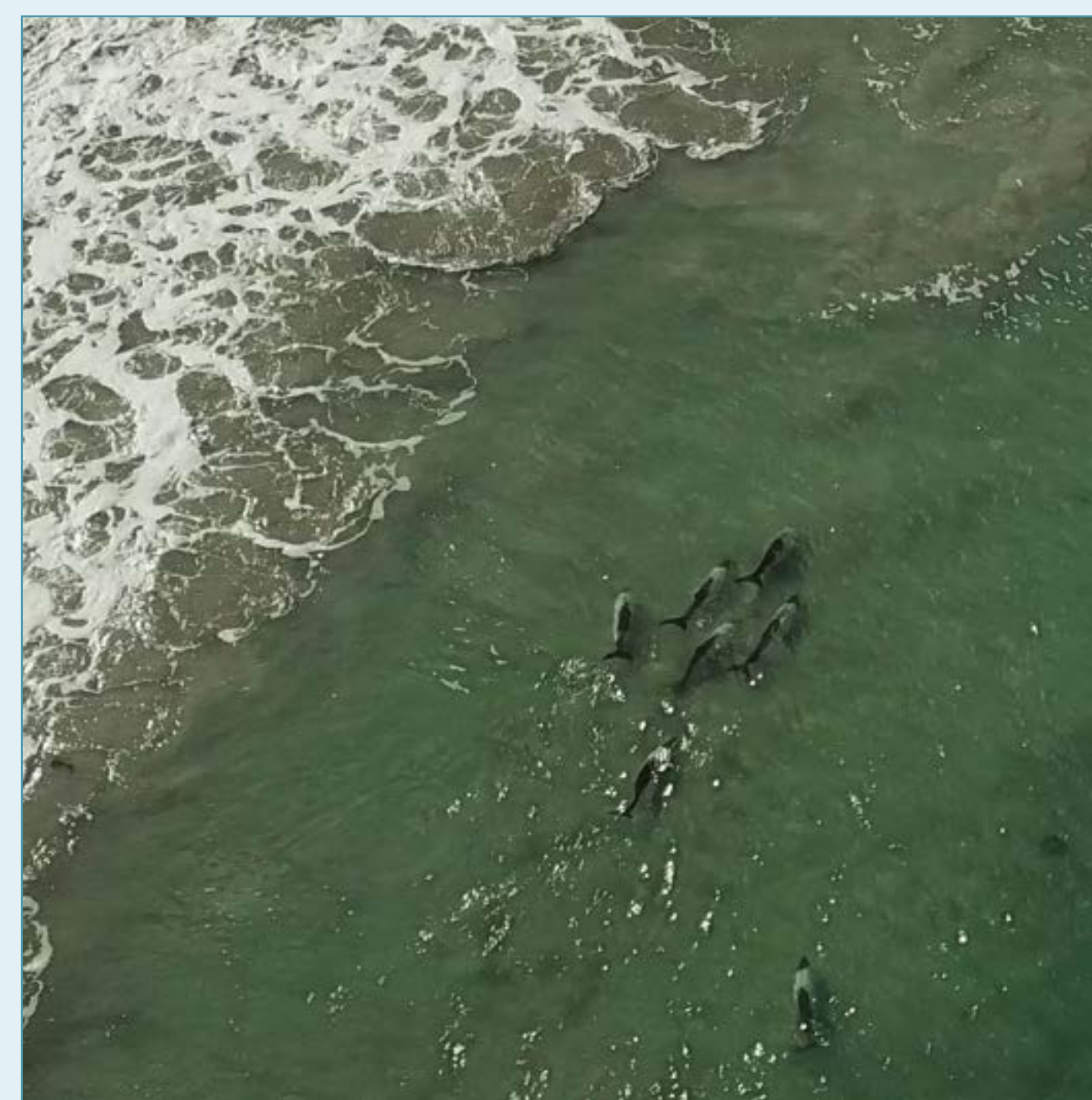


RESULTS

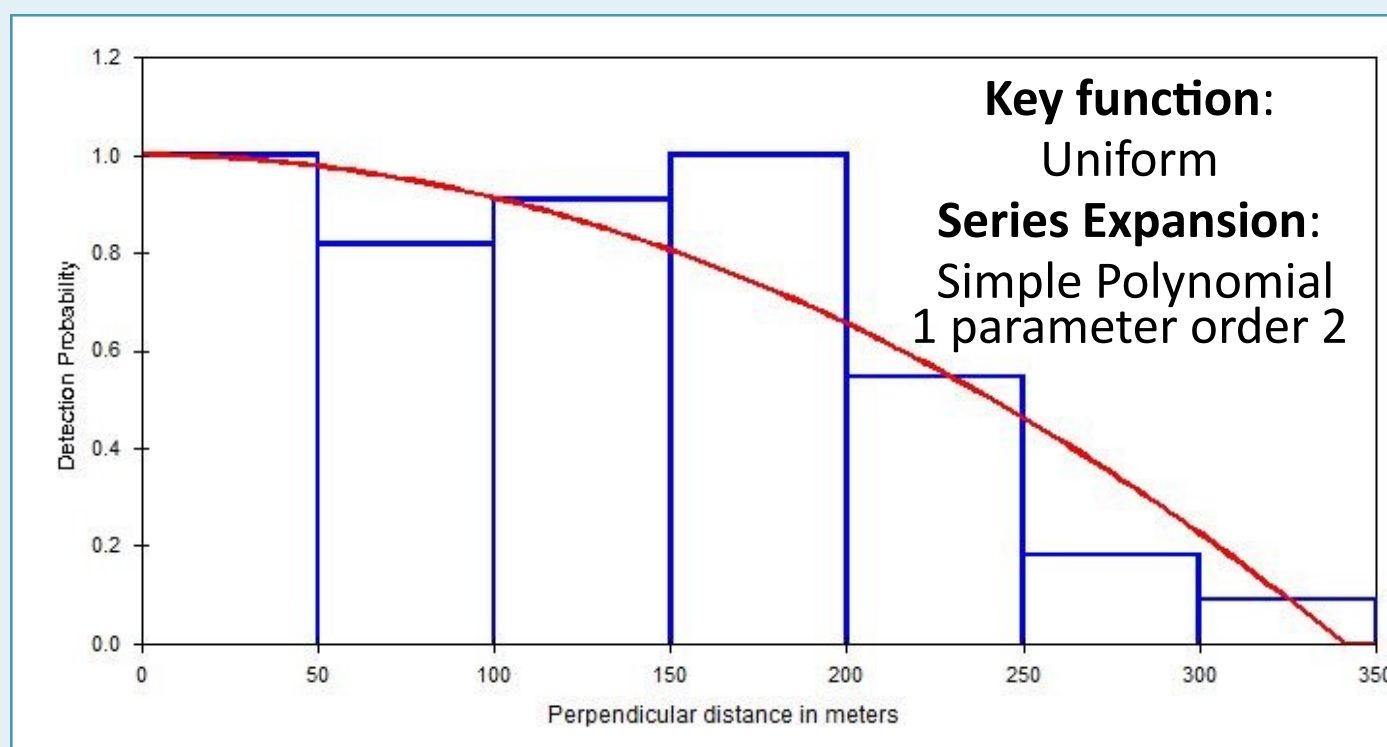
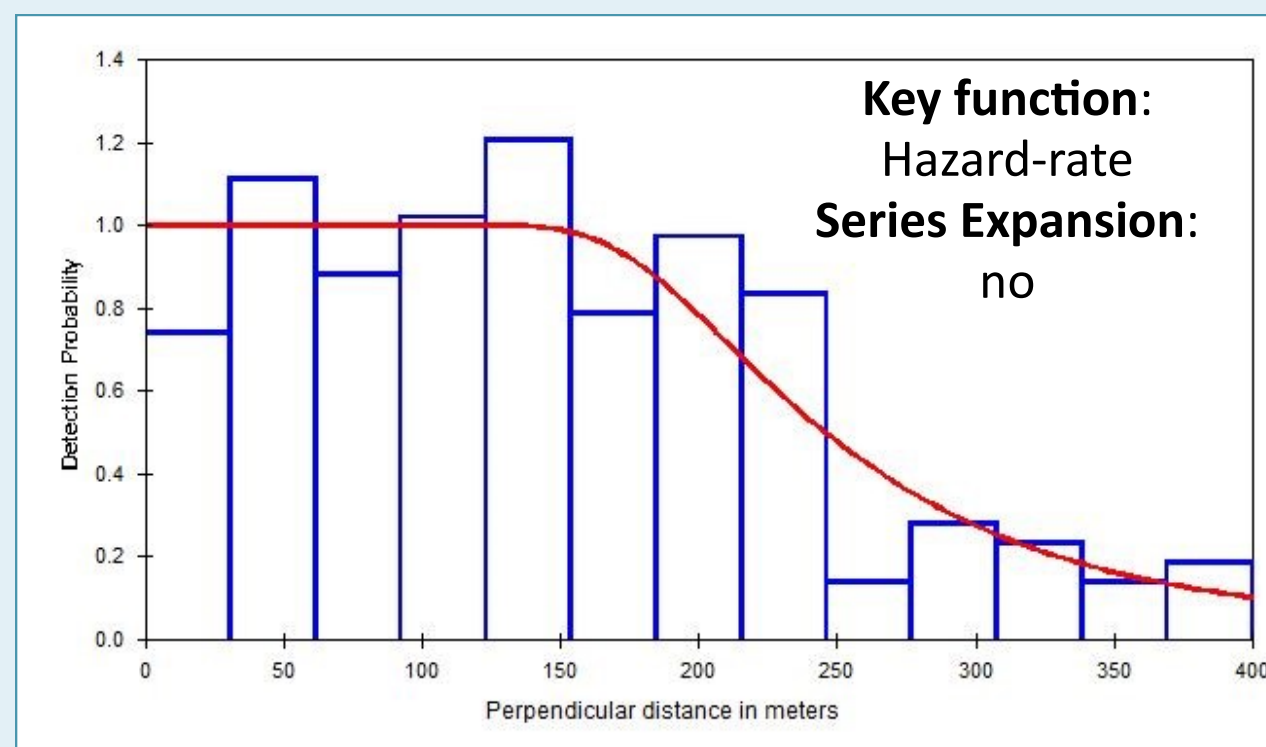


Species	Encounter rate km	CV
Commerson's	0.043	0.14
Peale's	0.012	0.16

Species	Group size	CV
Commerson's	3.58	0.06
Peale's	4.53	0.14



Commerson's dolphins along Bertha's Beach - Falklands



Commerson's dolphin Detection probability (P)

Peale's dolphin Detection probability (P)

Species	Sightings	Truncation (m) - %	P	P CV	Effective strip width (m)
Commerson's	184	400 - 5%	0.66	0.06	262
Peale's	50	350 - 7%	0.65	0.05	228

CONCLUSIONS

- Density estimates for the Falklands are higher than the Patagonian shelf waters¹ and lower for the Magellanic Straits² (Commerson's)
- Preliminary result suggest genetic differentiation with the Patagonian populations and population structuring for Peale's dolphin between East and West Falklands

Publication	D _{ind} 100km ²	
	Commerson's	Peale's
This poster	29	11.6
Dellabianca <i>et al.</i> , 2016 ¹	7	3
Leatherwood & Kastelein, 1988 ²	241	-

NEXT STEPS

- To estimate availability bias using drones
- To estimate abundance of baleen whales
- To investigate genetic diversity of Commerson's and Peale's dolphins
- To study habitat use and preferences of Commerson's and Peale's dolphins in inshore waters of the FI
- To update Species Action Plan for the FI

SPONSORS



This study was funded by Darwin Initiative Darwin Plus project *Dolphins of the Kelp* (grant number DPLUS042)



Species	N	D _{individual} 100km ²	N/D _{individual} CV	D _{group} 100km ²	D _{group} CV
Commerson's	5,544	28.7	0.19	8.1	0.15
Peale's	2,250	11.7	0.22	2.5	0.17