Thick-billed murres *Uria lomvia* at Cape Parry, NT: Breeding Season 2021/22

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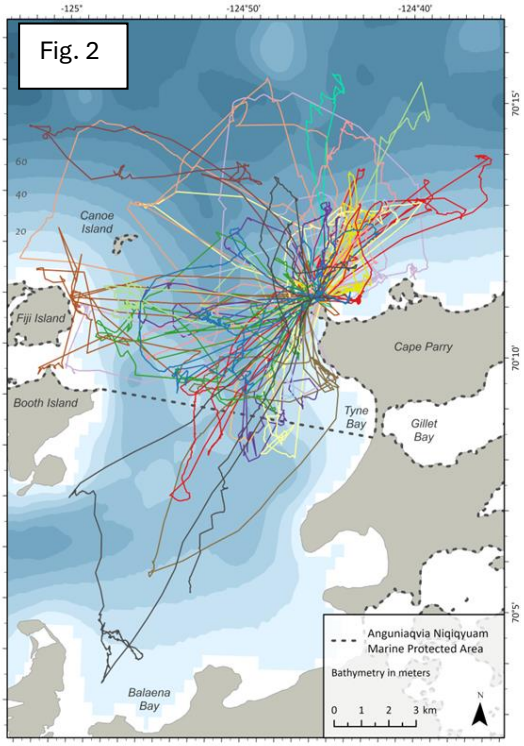
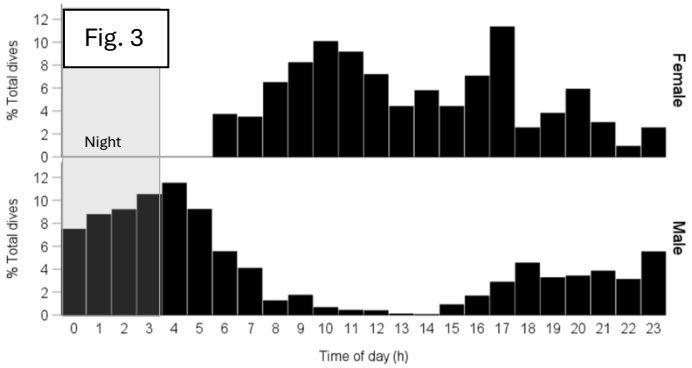
Cape Parry is home to one of the smallest (1,350 birds[1,2]), and most isolated colonies of thick-billed murres (*Uria lomvia*) in the western Canadian Arctic (Fig. 1). Murres, like penguins, dive deep underwater to capture prey but unlike their southern counterparts they also can fly.



Unlike other colonies in the Atlantic and Pacific, information about the population status of Cape Parry murres and where they feed was unknown. This information is needed to determine whether the boundaries of the Anguniaqvia Niqiqyuam Marine Protected Area (ANMPA) were sufficient. To address this information gap, we investigated the spatial distribution, diving behaviour, diet, and body measures of male and female thick-billed murres breeding at Police Point, the eastmost point of the Cape Parry Peninsula.

In 2021, we tracked 23 chick-rearing adults (7 females and 16 males) using small data loggers that record both location and dive depth. We also took body measurements, sampled feathers for sexing, and visually identified prey species delivered to chicks. Cape Parry murres made short foraging trips (5 km average) mostly within the ANMPA.



Males and females feed in similar areas but at different times of the day. Night diving, mainly done by males, was shallower (< 20 m) and more frequent than day diving (up to 70 m).

Murres concentrated diving north and northeast of Police Point ("core-use areas", Fig. 4). They fed their chicks only with fish (no invertebrates) up to 142 mm with a majority (81–90%) being Arctic Cod *Boreogadus saida*, Daubed Shanny *Leptoclinus maculatus,* and Sandlance *Ammodytes* sp., with more Artic Cod delivered in 2022 than in 2021 (Fig. 5). Murres can change diets

and foraging ranges when prey is scarce so they can be a very useful early indicator of harmful environmental changes.

Fig. 4

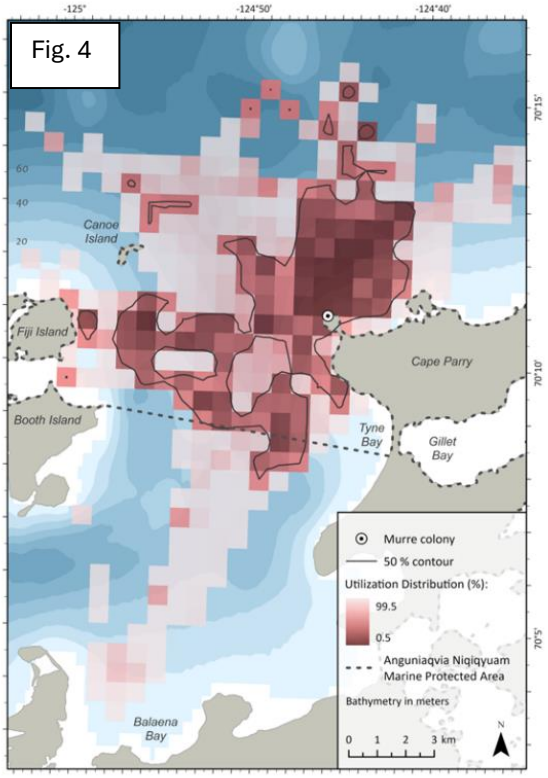
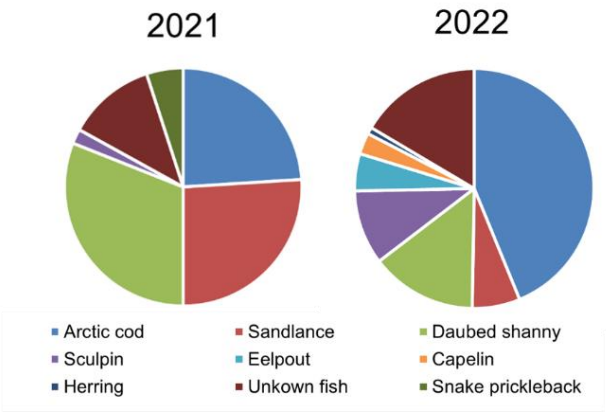


Fig. 5



In body size Cape Parry murres are not as big as the Pacific murres as previously thought[3] (Gaston 1984) but larger than the Atlantic murres particularly males.

Why is this study important?

1. Shows that foraging trips during the chick raising period for this population are quite short and confirms that the marine boundaries of the ANMPA appear to be adequate for this species. Such short trips are expected for a small population[4].
2. Provides the first data on foraging ranges, diving and diet of Cape Parry murres. This information can be used for monitoring changes to key prey (e.g. Arctic cod) in the Amundsen Gulf in the future.
3. Provides new morphological data of Cape Parry murres placing them in between Atlantic and Pacific colonies in body size, indicating their mixed ancestry.

References

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2. Johnson, S.R. & Ward, J.G. 1985. Observations of Thick-billed Murres (*Uria lomvia*) and other seabirds at Cape Parry, Amundsen Gulf, N.W.T. *Arctic* 38:112–115.
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