

## Thick-billed murres *Uria lomvia* at Cape Parry, NT: Non-breeding season 2021/22

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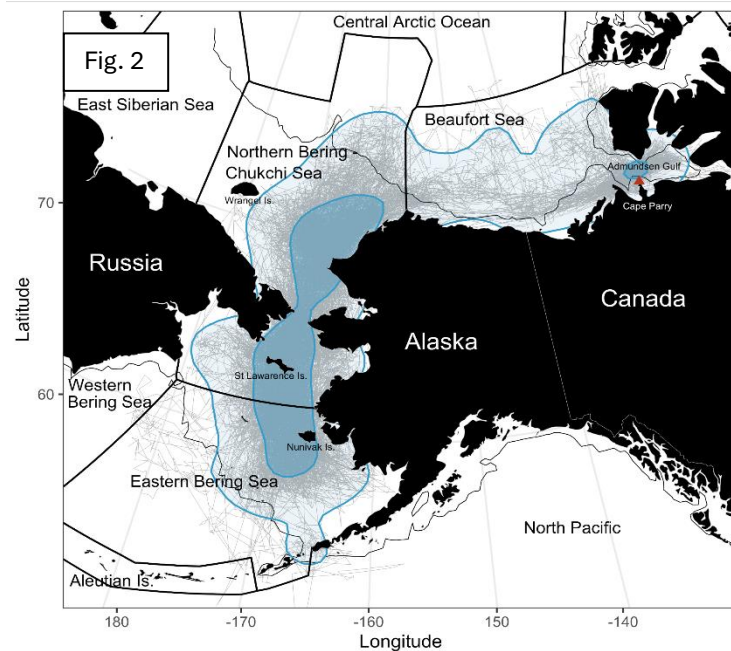
Cape Parry in the Inuvialuit Settlement Region is home to one of the smallest, most remote, and least studied populations of thick-billed murres *Uria lomvia* globally (Fig. 1). Knowing where they go and what they eat during the winter is needed to understand the threats they might encounter in the non-breeding season that could limit colony size (currently 1,350 birds<sup>1</sup>). A critical period is immediately after chicks and their male parents leave the breeding colony. For 2-3 months the chicks remain with their dads at sea, and during part of this time the molting adults and growing chicks are flightless and vulnerable.



Using geolocators (1 g), we tracked 41 murres (15 females and 26 males) during the 2021-2022 non-breeding period. We also determined diets and nutritional stress levels from feather stable isotope and corticosterone analysis.

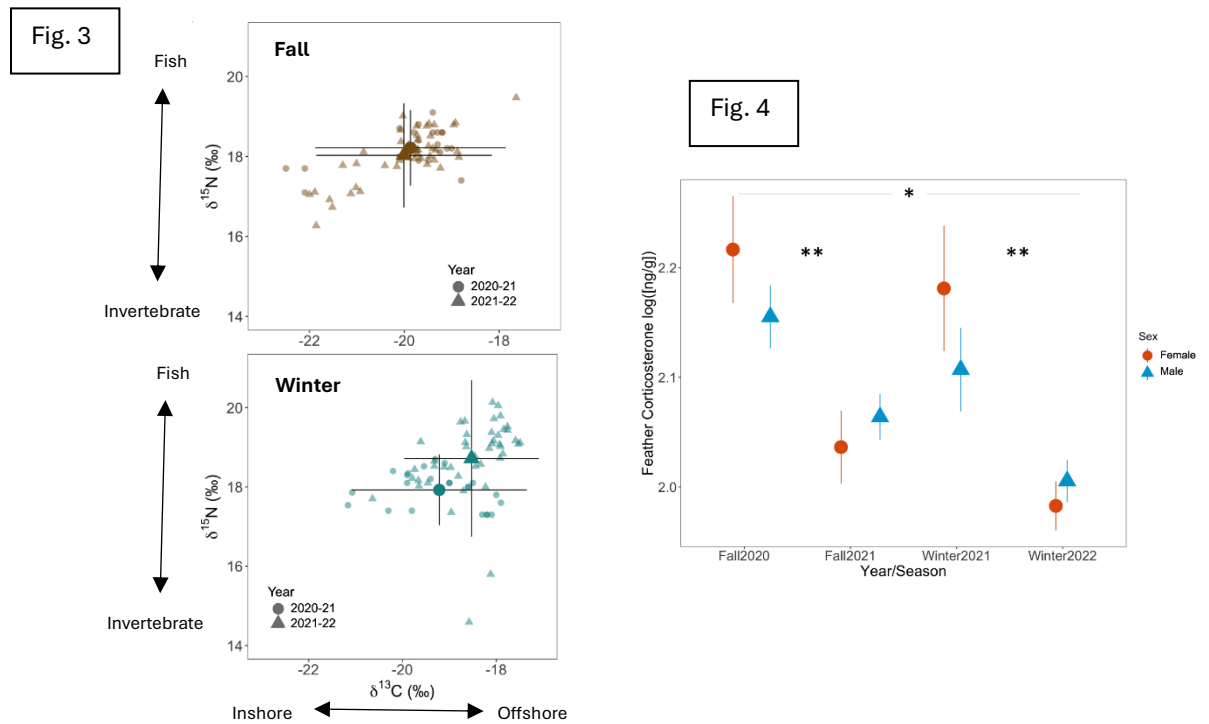
The Cape Parry murres all migrated westward, a distance of more than 2700 km one-way. During their migrations they mainly stayed on the continental shelves of the Beaufort, Chukchi and Northern Bering Seas (Fig 2). In the fall, molting areas for males were north and west of Cape Parry. Molting areas for females appear to be in the south-east Chukchi Sea.

In November, both male and female murres began to enter the Bering Strait, coinciding with the formation of sea ice cover in the Chukchi Sea.



In early May both sexes migrated north and east at the same time, coinciding with ice breakup in the Chukchi Sea.

All murrelets foraged at higher trophic levels (more fish than invertebrates) both in the fall and winter seasons (Fig. 3). A higher trophic level diet correlated with lower nutritional stress, although increased ice and wind coincided with higher nutritional stress in the fall 2020-21 compared with 2021-22 (Fig. 4). There were no differences in stress levels between males and females.



### Why is this study important?

1. Provides new information on the migration route, and core-use areas of Cape Parry murrelets during the non-breeding season.
2. Identifies important male-chick nursery areas and molting areas of males and females when murrelets are more vulnerable to disturbance at-sea.
3. Points to the fall season as the time when murrelets might be more food constrained in the Beaufort and Chukchi Seas than during the winter season in the Bering Sea.
4. Provides the first data on diet trophic levels and nutritional stress for the Cape Parry population during the non-breeding season.

### References

1. Hogan, D. & Sidler, A. 2023. Photo census surveys of thick-billed murrelets (*Uria lomvia*) at Cape Parry Migratory Bird Sanctuary, Northwest Territories. *Waterbirds* 46:31–39.