

SOCIETY FOR MARINE MAMMALOLOGY: SMALL GRANTS IN AID OF RESEARCH (2018)
GRANT REPORT

PROJECT TITLE: Temporal and intra-individual foraging patterns of Ross seals inferred from bulk stable isotope signatures.

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Project Summary:

The Ross seal (*Ommatophoca rossii*) is the scarcest and least studied of all the Antarctic pinnipeds. Several aspects of their foraging ecology remain unstudied and to date no study has analysed temporal and intra-individual variations in their diet. This study made use of bulk stable isotope analyses of serially sampled whiskers from 23 Ross seals collected in the Weddell Sea to study seasonal and intra-individual variations in their diet. This will be the first time-series data of its kind for this species.

Research questions:

The aim for this project is to provide the first time-series records of Ross seal diet. We will use bulk stable isotope analyses of $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ from sub-sections of longitudinally sampled whiskers to quantify intra- and inter-individual variability. The specific aims are:

- a) Determine seasonal diet patterns between individuals based on $\delta^{15}\text{N}$ values
- b) Determine within-individual variation in trophic level based on $\delta^{15}\text{N}$ values
- c) Determine inter- and intra-individual variations in foraging zones based on geographical $\delta^{13}\text{C}$ gradient

Project Progress:

At the start of the project, the samples had already been collected.

All lab work has been done successfully, data analysed and the manuscript is written.

The paper draft is just awaiting final comments from co-authors before submission. I suspect the manuscript will be submitted before the end of January 2021 to a peer-reviewed journal. The Marine Mammal Society is thanked and acknowledged in the paper's "Acknowledgements."

Outcomes:

The funding helped run extra samples on one of the least studied marine mammals in the Southern Ocean. We foresee the successful publication of the results. Submission of the manuscript is imminent.

We appreciate the support of the Society for Marine Mammalogy and thank the Committee of Scientific Advisors, Board of Governors of the Society and the Society's Treasurer.