

ANTARCTIC 2023-2024

Baleen whale abundance and distribution in key Southern Ocean krill fishing grounds (SEASON 3)

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ABSTRACT

This project seeks to quantify baleen whale abundance and distribution in Southern Ocean krill fishing grounds. The southwest Atlantic sector of the Southern Ocean is a hotspot for anthropogenic and ecological activity, and rigorous long-term scientific data is needed to ensure the area is managed responsibly. Current scientific methodology for estimating abundance and distribution of marine predators in the vast Southern Ocean is an expensive and logistically challenging. It involves deploying research ships to the remote locations to capture distance sampling data on the array of marine predators via line transect surveys. Ponant has afforded us the opportunity to deploy skilled MMSO (marine mammals and seabird observers) on board their Antarctic tour vessels to capture distance sampling data at a breadth and scale that is currently out of reach of national science programs. Through this partnership with Ponant and backing of CCAMLR's Ecosystem Management Program we will deploy skilled observers on vessels across the southwest sector Atlantic sector of the Southern Ocean. This data will enable us to estimate the spatial and temporal overlap between foraging krill predators, and krill fishing effort, and understand the impact this will have on the marine predator communities of this region.

The key objectives for this project are:

1. Estimate abundance and distribution for key krill predators, baleen whales, seals, and seabirds.
2. Determine the key environmental and physical oceanographic drivers of predator productivity on broad temporal and spatial scales.
3. Analyse the overlap between key krill predators and krill fishing to inform CCAMLR of the current risk to the Southern Ocean ecosystem.

Top predators, such as baleen whales are a key focus for researchers and tourists alike. The critical importance of baleen whales to the ecosystem is not lost on the modern eco-tourist. This project will present researchers with the opportunity understand the spatial foraging ecology of baleen whales, information that will feed back into the management of krill harvests, ensuring that they are kept at sustainable limits. This in turn feeds back into the sustainability of the Antarctic tourist industry which in

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*Access to the Southern Ocean on board the Polar Exploration
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part relies on healthy wildlife populations. We plan to deliver a presentation to guests on this critical research, as well as being available to guests, during daily wrap ups, mealtimes, and casually in passing. In addition, whale experts from this team, deployed onto tourist vessel will be able to field questions from across the broad spectrum of global whale research.