



The imperiled role of sea ice in supporting the living resources of the polar oceans (*Iceflux-NL*)

Fisheries in the polar oceans are on the rise. In the Southern Ocean, catches of Antarctic Krill are growing due to increased market demands in combination with improved efficiency of techniques of fishing and processing.

In recent years the trigger level for closure of the krill fishery in the Antarctic Peninsula area was reached twice (2010 and 2013).

At the same time, evidence grows that krill populations depend on algae and microscopic life under sea ice and as a consequence may be under pressure from climate change.

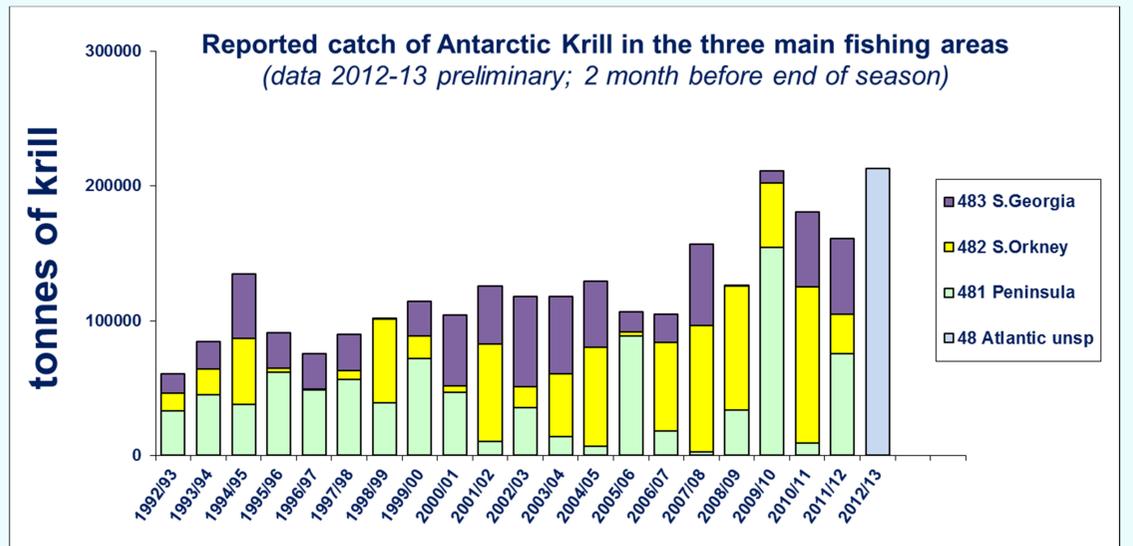
The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) aims to protect not just the exploited stocks such as that of Antarctic Krill, but also those of dependent species including marine birds and mammals.

As a consultative member of the Antarctic Treaty and signatory of CCAMLR the Netherlands support the ecosystem based management under CCAMLR.

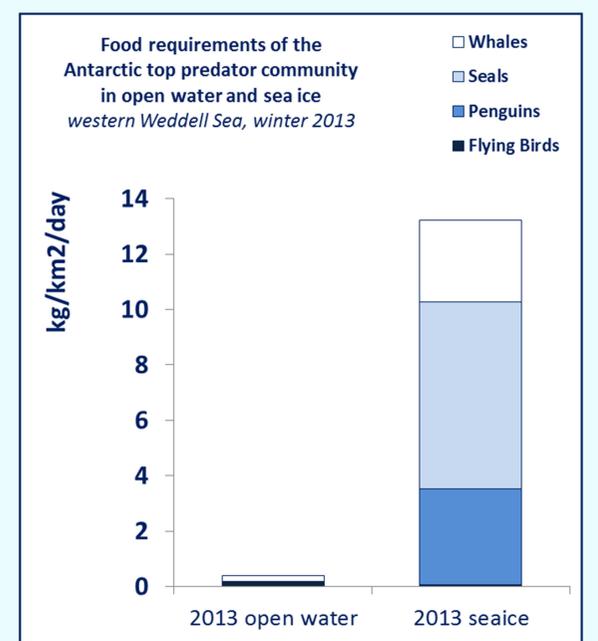
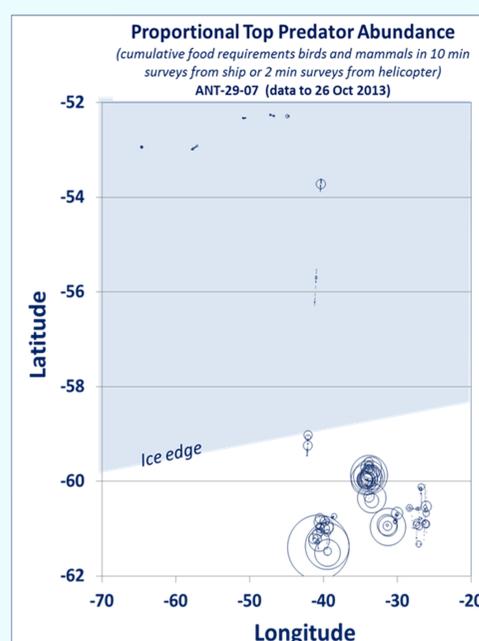
To substantiate a Dutch policy role in CCAMLR, IMARES has joined the German AWI in the 'ICEFLUX' project. In this study we aim to clarify and quantify processes in sea ice dependent food webs.

For this purpose IMARES has developed the Surface and Under-Ice Trawl (SUIT) which samples quantity and diversity of marine life directly under ice (see *Iceflux* poster by Fokje Schaafsma).

In a direct link between availability of resources and dependent predator species IMARES also assesses food requirements of marine birds and mammals.



Results of top predator surveys on Polarstern expedition ANT-29-07, 14 Aug to 16 Oct 2013



The winter distribution of the top predator community, expressed as their combined daily food requirement emphasizes preference for the sea ice, indicative for high productivity and availability of food stocks