

THE KRILL: AN ENVIRONMENTAL ISSUE



What is Krill?

Krill, derived from the Norwegian word for "whale food" refers to **small shrimp-like crustaceans**. Currently, 82 species of krill have been described. Krill typically measure between 1 and 6 centimeters in length and have an average lifespan of 5 years. They form swarms ranging from 10,000 to 30,000 individuals per cubic meter.



Role and Importance of Krill

Krill is a key species in coldwater ecosystems, playing a crucial role in maintaining the balance of these ecosystems.

It serves as the foundation for numerous food chains and has a significant impact. Some key marine species rely on krill as their primary food source, including:

- Baleen whales, which primarily feed on krill and can consume around 4 tonnes per day.
- Seals and sea lions, whose krill consumption is measured in kilograms.
- Seabirds such as penguins and albatrosses, whose krill consumption can vary from several kilograms depending on the species and size.
- The majority of fish species, which daily consume several grams of krill.

Krill forms an important food base for many marine species. The loss of krill could not only jeopardize these species but also disrupt the entire food chain, leading to far-reaching consequences.

Threats to Krill

Overfishing

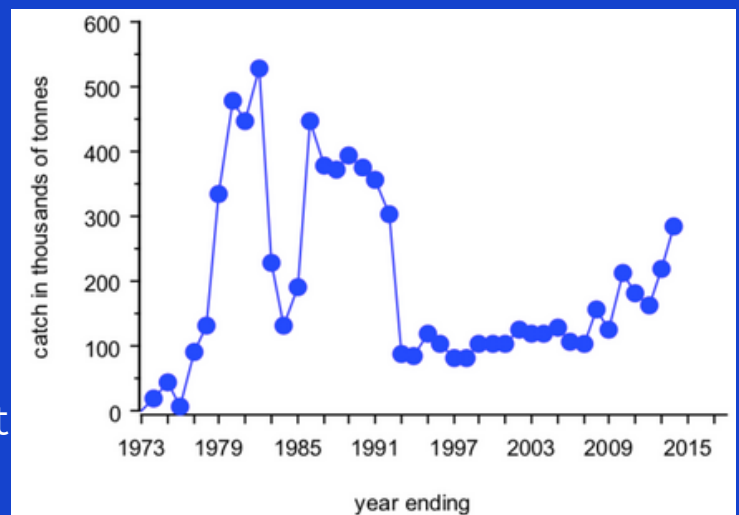
In addition to its role in the marine ecosystem, krill is also harvested by humans for various reasons :

- It serves as a valuable food source for aquaculture.
- In the food industry for its oil, nutritional supplements, its rich protein content, vitamin A, and omega-3 fatty acids.
- Krill is also used in the cosmetic industry.

Due to these diverse sectors relying on krill fishing, there is considerable pressure on krill stocks.

The total global harvest of krill from all fisheries is estimated to be around 150 to 200,000 tonnes per year. This is equivalent to the amount consumed by 50,000 whales in a year.

Krill is primarily found near the surface (0-200m) due to its consumption of phytoplankton, which is abundant in the upper layers of the ocean where sunlight is available. This makes it relatively easier for fishermen to catch.



Krill Catches in the Southern Ocean from 1973 to 2014

Overfishing, therefore, poses significant challenges in the protection and conservation of marine mammals, particularly baleen whales, for which krill represents a primary food source.

Global warming

Krill indeed faces the additional threat of climate change, which has significant implications for its survival. Rising water temperatures and the disappearance of sea ice, on which krill relies for feeding and reproduction, can have a profound impact. These changes can reduce available habitats for krill and limit their food supply.

Furthermore, alterations in ocean currents resulting from temperature changes can affect the distribution and availability of krill. **It is crucial to consider this threat when making decisions regarding krill conservation and management.** The combined effect of multiple threats to krill can have a domino effect, leading to irreversible consequences for whales and the entire ecosystem they inhabit.

Solutions for Krill Conservation

It is important to establish policies for protection and sustainable management in order to preserve these individuals and the entire ecosystem.

One possible solution is :

- The establishment of marine protected areas that regulate aquatic activities.
- Another solution is the implementation of fishing quotas.
- Creating global awareness of krill importances to the ecosystem.

Additionally, conducting modeling of the future distribution of krill, taking into account climate change, can be valuable for anticipating their distribution and implementing appropriate management plans.



Together, let's protect whales and save our ocean !

References

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