

**Core Elements Of An
Ecosystem-Based Management Package
For The Antarctic Krill Fishery
- 1 May 2007 -**

THE THREAT

Antarctica is the last great wilderness and home to exceptional concentrations of wildlife, including penguins, whales, seals and albatrosses. It plays a critical role in global environmental processes. This region requires special protection. For present and future generations, we must ensure preservation of Antarctica's ecological and aesthetic values as well as its use for peaceful purposes and globally important scientific research.

Antarctic krill (*Euphausia superba*) play a central role in the Antarctic food web. The different components of the Antarctic marine ecosystem rely, directly or indirectly, upon the health of the krill populations. Maintaining krill's role in the ecosystem is a key management responsibility for at least three reasons: to conserve predators that depend on krill; to maintain the overall functions of the Antarctic marine ecosystem; and to maintain the health of fish stocks.

Antarctic krill are particularly vulnerable to climate change. One study found that the density of krill in the Southwest Atlantic—home to more than 50% of the Southern Ocean krill—has declined up to 80% since the 1970s.¹ Similarly, the Intergovernmental Panel on Climate Change (IPCC) has highlighted the Southern Ocean's particular vulnerability to climate change, projecting impacts on the food web in which krill is the key element. The impact on the Southern Ocean ecosystem of increasing ocean acidity from raised carbon dioxide levels is a particular concern highlighted.

CCAMLR conservation measures for Antarctic krill are not yet adequate to avoid fishing-related ecosystem impacts. Although current fishing is still well below established catch limits, these limits are set for large scale areas. Current limits do not take into account the ecological relationships between krill, dependent species and fishing operations, which occur at much smaller scales. The existing fishery for krill is highly concentrated in certain areas of the South Atlantic, coinciding almost entirely within the foraging ranges of land-based predators. This is no surprise: wildlife colonies and commercial fishers seek the same bounty. As predators and fishers compete for krill in these localized areas, the potential for damaging impact is significant.

THE ASK

The Antarctic Krill Conservation Project (AKCP)² partners call on Antarctic Treaty Contracting Parties, and especially the Member Nations of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), to adopt by 2009 a highly precautionary, integrated and effective ecosystem-based management package for Antarctic krill. That management package will maintain the functional relationships in the Antarctic marine ecosystem, ensure that krill abundance and availability for predators are not

¹ A. Atkinson *et al.*, "Long term decline in krill stock and increase in salps within the Southern Ocean," *Nature*, 432 (2004), pp. 100-103.

² The Antarctic Krill Conservation Project is dedicated to the protection of Antarctic krill to help conserve the region's marine ecosystem and living resources. It is a cooperative effort by conservation organizations worldwide, working with CCAMLR member nations, scientists and other key stakeholders

compromised, and recognize the special sensitivity of Antarctica to the impacts of global warming.

In addition, AKCP partners call on those nations to prevent expansion of the Antarctic krill fishery until an ecosystem-based management package has been approved, and the likely impacts of climate change are better understood and effectively taken into account.

The ecosystem-based management package for Antarctic krill should include the following elements:

1. **Catch Limits:** Establishment of krill catch limits that take into account trophic linkages, and sufficient krill availability for local predators and ecosystem needs.
2. **Precautionary Principle:** A highly precautionary approach to krill fishing that recognizes uncertainty and prioritizes the collection of necessary data.
3. **Small Scale Management Units:** The allocation of krill catch limits within Small Scale Management Units (SSMUs) established in Area 48 in a manner that will:
 - Assure sufficient krill abundance in each SSMU to satisfy the forage needs of krill predators and eliminate the risk of local depletion, with special attention given to critical breeding areas and seasons.
 - Respond to an adaptive management procedure for all SSMUs that incorporates relevant information as it becomes available, especially from CCAMLR's Ecosystem Monitoring Program (CEMP). This should enable detection of fishing-related impacts on krill predators, and adjusting management decisions accordingly.
 - Incorporate annual variability into the krill management regime, with special consideration to climate change and other environmental factors.
4. **Regulatory Scheme:** A regulatory system in the CCAMLR Area that:
 - a) **Scientific Observers:** Requires all krill-fishing vessels to have scientific observers on board, in accordance with CCAMLR's Scheme of International Scientific Observation.
 - b) **Vessel Monitoring System:** Mandates all krill-fishing vessels to maintain a Vessel Monitoring System under the same requirements applicable to other CCAMLR fisheries.
 - c) **Catch Data Reports:** Requires fine-scale and effort catch data reports from krill vessels, using cross-fleet comparisons for the different fishing methods
 - d) **Mitigation of by-catch:** Ensures that by-catch in the krill fishery is adequately detected and consequently mitigated.
 - e) **IUU Fishing:** Establishes and implements effective mechanisms against Illegal, Unregulated and Unreported (IUU) fishing for krill, especially by non-Contracting Parties.