14 March 2022

Contribution from the **Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)** to the Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, on the topic of "Implementation of an ecosystem approach to fisheries management", in respect of the fifteenth round of Informal Consultations pursuant to paragraph 66 of UN General Assembly resolution 76/71.

CCAMLR experience with implementing the Ecosystem Approach to Fisheries Management

The Convention on the Conservation of Antarctic Marine Living Resources (the Convention) is an international agreement established to conserve Antarctic marine living resources and is an integral part of the Antarctic Treaty system. The Convention applies to all marine living resources within the Antarctic marine ecosystem.

The objective of the Convention, set out in Article II, is the conservation of Antarctic marine living resources, where the term 'conservation' includes rational use. The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) gives effect to the Convention's objective and its principles of conservation.

In October 2021, at its 40th Meeting the Commission adopted a Declaration to reaffirm its commitment to achieving the objective of the Convention.

CCAMLR adopts conservation measures which regulate fishing and related activities in the Convention Area in accordance with the Convention's objective and principles of conservation:

> Article II
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> 1. The objective of this Convention is the conservation of Antarctic marine living resources.
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> 2. For the purposes of this Convention, the term 'conservation' includes rational use.
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> 3. Any harvesting and associated activities in the area to which this Convention applies shall be conducted in accordance with the provisions of this Convention and with the following principles of conservation:
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> (a) prevention of decrease in the size of any harvested population to levels below those which ensure its stable recruitment. For this purpose its size should not be allowed to fall below a level close to that which ensures the greatest net annual increment;
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> (b) maintenance of the ecological relationships between harvested, dependent and related populations of Antarctic marine living resources and the restoration of depleted populations to the levels defined in sub-paragraph (a) above; and

(c) prevention of changes or minimisation of the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades, taking into account the state of available knowledge of the direct and indirect impact of harvesting, the effect of the introduction of alien species, the effects of associated activities on the marine ecosystem and of the effects of environmental changes, with the aim of making possible the sustained conservation of Antarctic marine living resources.

There are currently three types of fisheries in CCAMLR waters. Toothfish are deep-water, slow-growing fish that live close to the seabed and can reach up to two metres in length. They are caught on bottom-set longlines. While Patagonian toothfish (*Dissostichus eleginoides*) are present in the northern region of the Convention Area, Antarctic toothfish (*Dissostichus mawsoni*) dwell in the southern region on the Continental shelf and slope surrounding Antarctica. They are much sought after for human consumption and the combined annual catch is about 15 000 tonnes.

Antarctic krill (*Euphausia superba*) is a shrimp-like crustacean which lives close to the ocean surface. Its distribution extends around the entire continent. Populations of Antarctic krill are very large and in the Scotia Sea (south Atlantic sector) alone there are about 60 million tonnes. Krill is a key prey item for many marine animals in Antarctic marine ecosystems. For humans, krill is a source of oil, used as a health supplement and is eaten as canned or frozen krill tails. It is also used in aquaculture feed.

Catches of krill, taken by pelagic trawlers, are limited to a small proportion of the population size. In the Scotia Sea, where most of the fishing takes place, the current precautionary catch limit is 5.61 million tonnes. However, until the Commission has defined an allocation of this total catch limit among smaller management units, the current allowable catch is further limited to a trigger level of 620 000 tonnes, and catches must be spatially distributed so as to protect krill-dependent species such as penguins and seals. The catch in 2020 was about 450 000 tonnes.

There is a small fishery for mackerel icefish (*Champsocephalus gunnari*) around some sub-Antarctic islands. Icefish is sold as a table fish.

The Commission has implemented an ecosystem approach to fisheries management in the following ways:

- The conservation measures agreed by the Commission regulate fishing and related activities such as:
    - the authorisation and monitoring of fishing vessels in the Convention Area, including licensing, inspection, vessel monitoring systems and reporting of activities and movements;
    - transhipment and trade of harvested marine species
    - identification of IUU vessels and actions against such vessels
    - requirements for initiating and participating in new and exploratory fisheries
    - prohibiting the use of certain types of fishing gear
    - the collection and reporting of catch and effort data from fisheries
    - conducting research activities on Antarctic marine living resources
    - protecting the environment during fishing, minimising the mortality of incidentally caught birds and seals and the impacts of fishing on the ecosystem
    - setting catch limits for fisheries on toothfish, icefish and krill, as well as measures to limit the by-catch of species associated with these fisheries, and the closure of fisheries when catch limits set by the Commission are reached

    - the designation of the opening and closing of areas, regions or subregions for the purpose of protection and scientific study, including marine protected areas, vulnerable marine ecosystems, and areas for scientific research.
- CCAMLR's requirements for new and exploratory fisheries prioritise research and the acquisition of data, ensuring that fishing is not allowed to expand faster than the acquisition of information necessary to ensure that the fishery can be conducted in accordance with the principles set forth in Article II.
- CCAMLR's ecosystem approach to managing harvesting includes monitoring the effects of fishing on harvested species and on dependent and associated species. CCAMLR's ecosystem monitoring program (initiated in 1984) aims to detect and record significant changes in critical components of the marine ecosystem within the Convention Area and distinguish between changes due to harvesting of commercial species and those due to environmental variability. CCAMLR also monitors marine debris in the Convention Area.
- The Commission has agreed decision rules for determining catch limits for krill and fish that minimise the chances of recruitment impairment and ensure spawning biomass remains at high levels while taking ecosystem considerations into account. For krill fisheries, catch limits are spatially assigned to avoid the concentration of fishing in areas which are important for predators.
- CCAMLR is developing marine protected areas (MPAs) that are representative of the marine ecosystems in the Convention Area. CCAMLR has approved a general framework for establishing such areas. MPAs may include restricted, prohibited or managed activities and each established MPA has management, and research and monitoring to ensure the MPAs are meeting their objectives.
- CCAMLR makes decisions based on the best available scientific evidence. The Scientific Committee uses a variety of data to support its ecosystem-based approach, gathered through research projects undertaken by CCAMLR Members, from scientific observers on board fishing vessels, and from an array of research and monitoring programs.
- All vessels participating in CCAMLR fisheries must carry an independent scientific observer. Observers record and provide CCAMLR with information on gear configuration, including measures to reduce incidental mortality of seabirds and marine mammals; fishing operations including catch composition of target and by-catch species including size, weight and breeding condition; specific scientific data such as details of fish tagging and tag recaptures; observations on marine mammals and seabirds; and data on vulnerable marine ecosystems encountered by vessels.
- Concerned that IUU fishing compromises the objective of the Convention, CCAMLR has adopted specific conservation measures to promote compliance by vessels and vessel operators. CCAMLR has a procedure for maintaining IUU vessels lists.

Lessons learned

Over its almost 40-year history CCAMLR has developed and implemented the ecosystem and precautionary approaches to management set out in Article II. This has resulted in a body of scientific evidence on the ecosystem, on the fished species, on the interactions between fished species and other elements of the ecosystem, and on the potential impacts of fishing activities on

marine ecosystems and the wider environment, including consideration of how changes in the wider environment may impact target and dependent species.

Since its establishment in 1982, CCAMLR has set global benchmarks for long-term conservation including the rational use of marine living resources and implementation of the ecosystem approach to fisheries management. It has resulted in the following achievements:

- maintaining stocks of icefish, toothfish and krill at or above their target biomass level, safeguarding the sustainability of the ecosystem
- implementing the catch documentation scheme for toothfish species which is one of the pillars of CCAMLR's traceability regime
- reducing, and effectively eliminating IUU fishing from the Convention Area
- effective control and management of fishing and related activities in all areas of the Convention Area
- establishing the largest high seas MPA in the world, the Ross Sea region MPA
- dramatically reducing seabird mortality through mitigation measures and changes to fishing practices
- monitoring the ecosystem since 1984 using standardised methods and dedicated surveys
- identifying and protecting vulnerable marine ecosystems.