

The CCAMLR Ecosystem Approach to the Management of Marine Harvesting

by

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DECLARATION

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ABSTRACT

The conservation processes known collectively as the 'ecosystem approach' to the management of ocean harvesting were initiated by the Convention on the Conservation of Antarctic Marine Resources (CCAMLR).

The expectation of large-scale harvesting in the Southern Ocean of a major prey species, Antarctic krill, prompted the inclusion in the CCAMLR Convention of mechanisms to regulate harvesting such that the needs of species within the Southern Ocean ecosystem were taken into account as well as those of harvesters. Signed in 1980, it is often claimed that CCAMLR was the first conservation-centred convention. It has set a pattern for benign harvesting practices worldwide.

The CCAMLR model of fishery management is critically examined in this study in order to determine whether and in what ways it is useful in the living resource management of the Southern Ocean and possibly in other regimes in the world. The question of whether it has been successful or not is a complex one that cannot be answered simply by 'yes' or 'no'. The question is therefore divided into several sub-questions, which are addressed in eight chapters.

Legal, political and biological aspects of marine harvesting in the Southern Ocean are identified. Pre-existing international law relating to the Southern Ocean is examined to ascertain attitudes to conservation of species and ecosystems. It is argued that attitudes of the Antarctic Treaty parties towards the conservation of the Antarctic regions and their biota facilitated the development of ecosystem paradigms and enabled them to conclude a convention.

The three central chapters of the thesis analyse the implementation of the ecosystem standard. This was a slow and difficult process, beset as it was with lack of information, political dissent between parties within the Antarctic Treaty and pressures from outside. Work was undertaken to enhance the knowledge of Southern Ocean ecosystems to lend validity to advice used in making decisions on harvesting levels. It was difficult to keep pace with concurrent changes in harvesting patterns. Nonetheless, progress made in implementation of ecosystem standards in the Southern Ocean began gradually to influence ocean harvesting regimes elsewhere in the world.

It is argued that changes in international law concerning state responsibility on the high seas will be required before ecosystem approaches to living resource management can become fully effective. Several alternative schemas for ocean management combining ecosystem considerations and enforcement methods are therefore proposed. The inseparable dual aims of these will be to ensure a reliable supply of protein for human use while maintaining or restoring as far as possible the integrity of ocean ecosystems.

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The map of the CCAMLR area is adapted from a map supplied by the CCAMLR Secretariat. Figures 2a and 2c were produced by Polar Science and Logistics Services of Hobart. Figure 2d was adapted from an image supplied by Dr Judy Clarke and figure 7 was adapted from images produced by Mr John Cox, both of the Australian Antarctic Division.

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There are lots of good fish in the sea!

(Gilbert 1885)

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ACRONYMS AND ABBREVIATIONS

AAT	Australian Antarctic Territory
Agreement SFS&HMFS	Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks
APIS	Antarctic Pack Ice Seals (SCAR)
ASOC	Antarctic and Southern Ocean Coalition
ATCM	Antarctic Treaty Consultative Meeting
ATCP	Antarctic Treaty Consultative Party
BAS	British Antarctic Survey
BAT	British Antarctic Territory
BIOMASS	Biological Investigation of Marine Antarctic Systems and Stocks
BWU	Blue Whale Unit
CBD	Convention on Biological Diversity
CCAMLR Convention	Convention on the Conservation of Antarctic Marine Living Resources
CCAMLR Commission	Commission for the Conservation of Antarctic Marine Living Resources
CCAMLR	The CCAMLR regime
CCAS	Convention on the Conservation of Antarctic Seals
CCSBT	Convention on the Conservation of Southern Bluefin Tuna
CEMP	CCAMLR Ecosystem Monitoring Program
CFP	Common Fisheries Policy (EU)
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPD	Critical Period Distance
CRAMRA	Convention on the Regulation of Antarctic Mineral Resource Activities
DWF	Distant Water Fisheries
EEC	European Economic Community (now EU)
EEZ	Exclusive Economic Zone
ERS	Ecologically Related Species (in CCSBT)
EU	European Union (formerly EEC)
FAO	Food and Agriculture Organization of the United Nations
FFA	South Pacific Forum Fisheries Agency
FIBEX	First International BIOMASS Experiment
FIDS	Falkland Islands Dependency Survey
FOE	Friends of the Earth
GESAMP	Group of Experts on the Scientific Aspects of Marine Environmental Protection
GOSEAC	Group of Specialists on Environmental Affairs and Conservation (SCAR)
ICCAT	Convention for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Seas
ICRW	International Convention for the Regulation of Whaling
ICSU	International Council of Scientific Unions
IGY	International Geophysical Year
IMO	International Maritime organization
IOC	Intergovernmental Oceanographic Commission
ISR	Integrated Study Region (in CEMP)

IUCN	International Union for the Conservation of Nature and Natural Resources; also World Conservation Union
IWC	International Whaling Commission.
LOSC	Law of the Sea Convention
Madrid Protocol	Protocol on Environmental Protection to the Antarctic Treaty
MARPOL	International Convention for the Prevention of Pollution from Ships
MMC	Marine Mammal Commission (US)
MMPA	Marine Mammal Protection Act (US)
MSY	Maximum Sustainable Yield
n.m.	nautical mile (1.852 km)
NAFO	Northwest Atlantic Fisheries Organization
NGO	Nongovernmental Organization
Ramsar	Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971
Rec. ATCM	Recommendation of Antarctic Treaty Consultative Meeting
SCAR	Scientific Committee on Antarctic Research
SC-CAMLR	CCAMLR Scientific Committee
SCOI	Standing Committee on Observation and Inspection (CCAMLR)
SCOR	Scientific Committee on Oceanic Research
SIBEX	Second International BIOMASS Experiment
UK	United Kingdom of Great Britain and Northern Ireland
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCLOS III	United Nations Third Conference on the Law of the Sea
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNGA	United Nations General Assembly
USA	United States of America
USSR	Union of Soviet Socialist Republics
VMS	Vessel Monitoring System
WG-CEMP	Working Group on CCAMLR Ecosystem Monitoring Program (CCAMLR)
WG-DAC	Working Group on Development of Approaches to Conservation (CCAMLR)
WG-EMM	Working Group on Ecosystem Monitoring and Management (CCAMLR)
WG-FSA	Working Group on Fish Stock Assessment (CCAMLR)
WG-IMALF	Ad Hoc Working Group on Incidental Mortality Associated with Longline Fishing (CCAMLR)
WG-Krill	Working Group on Krill (CCAMLR)
WWF	Worldwide Fund for Nature International

A note on designations of CCAMLR meetings and documents.

CCAMLR meetings are identified thus:

Commission meetings	CCAMLR-Roman numeral year
Scientific Committee meetings	SC-CAMLR-Roman numeral year

Reports emanating from meetings of either body are designated the same way, with the addition of paragraph numbers § or page numbers as appropriate.