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“Challenges to the establishment of CCAMLR Marine Protected Areas (MPA): A stakeholder analysis of interests and positions”

Master-Arbeit im Studiengang: Integrated Natural Resource Management

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## **Summary**

Marine protected areas (MPAs) are used in spatial management for fisheries and conservation purpose. Since the alarming reports on the status of the world's oceans, MPAs have been on the international agenda for over a decade as they promise various ecological and socioeconomic benefits. The CCAMLR (Commission for the Conservation of Antarctic Marine Living Resources) is the fisheries management regime in the Southern Ocean that is committed to establishing MPAs. Member states have however repeatedly failed to reach consensus on the proposals for MPA establishment in the Southern Ocean. Two MPA proposals have recurrently been tabled and at least two other proposals are being planned and will be subject of the debate in the coming negotiations. The argument of MPAs in the Southern Ocean consumes a lot of time and vigor while defining the political agenda of CCAMLR's everyday business.

This thesis explores the causes of the absence of consensus on MPA establishment in the Southern Ocean by looking at the diverging interests and positions of the CCAMLR member states on MPAs in general and on the tabled MPA proposals. This research realizes a critical three step stakeholder analysis (henceforth SHA) approach. The three steps are the identification of stakeholders by predefined criteria, identification and categorization of stakeholder positions and interests, and investigation of relationships by means of an actor-linkage matrix. The data for the SHA are acquired by analysis of socio-economic interest data and a literature based content analysis of annual Commission reports and media reports using the MAXQDA software. Based on SHA results the author is able to identify challenges to the establishment of CCAMLR MPAs. The conflict situation between members can be assessed. By examination of arguments made in the MPA discourse the author estimates the severity of the identified barriers to MPA establishment. This research ultimately discusses ideas to overcome the identified challenges to find consensus and to manage potential and manifested conflicts effectively.

In the first step of the SHA, member states are identified as key stakeholder based on the criteria of legitimacy for decision-making. Categorization shows that generally all stakeholders have a high interest in marine Antarctic research, all proponents have a high interest in conservation, and almost all unsupportive stakeholders have a high interest in fisheries. Yet, there are several member states that strive for both conservation/MPAs and fishing. According to the results, Russia, China, and Ukraine are clearly positioned against MPAs in general. Japan does not generally refuse the establishment but has repeatedly

criticized the tabled proposals. Korea appears very supportive of the idea of MPAs, yet Korea, Brazil, Chile and Uruguay have not clearly stated support of both or one of the tabled proposals. The content analysis showed that positions of several Member States altered, and that the number of actors in favor of MPAs increased in the last five years. Investigation of relationships by means of the actor-linkage matrix shows conflict potential among members. A manifested conflict is recorded among MPA proponents and the above identified unsupportive stakeholders. A conflict is only potential among future proponents and unsupportive stakeholders. Challenges to MPA establishment are summarized in the following clusters: (1) Concerns on MPAs necessity, effectiveness and enforceability, (2) different interpretations of CCAMLR's legal mandate and the convention text, (3) the need to balance different interests, (4) the fear of injustice in access rights, (5) and strained relationships by lacking trust and collaboration ultimately resulting in a momentum that does not allow the MPA establishment.

It is concluded that compromises of the negotiating parties to find common ground is necessary as it has to be an unanimous decision. Compromise most likely includes concession by at least one group of proponents and unsupportive stakeholders. Assessment encourages the assumption that involvement of unsupportive stakeholders in the planning of MPAs is indispensable. A transparent and proactive planning can prevent the manifestation of conflicts. Results also suggest that finding consensus on any CCAMLR MPA is currently impeded by a weak momentum that would require a shift of both the patterns of interaction and overcoming the dichotomy of interests by long-term policy-oriented learning. This study reveals both weaknesses and advantages of the chosen approach to research. It is suitable to structure the *mélange* of conflicting interests and positions in a highly dynamic and complex system. However, the use for formulating exact recommendations for specific actions is limited.

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## **List of Abbreviations**

AOA	Antarctic Ocean Alliance	NGO	Nongovernmental Organizations
ARK	Association of Responsible Krill	NZ	New Zealand
ASOC	Antarctic and Southern Ocean Coalition	OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
AT	Antarctic Treaty	R&M	Research and Monitoring Plan
ATCM	Antarctic Treaty Consultative Meeting	RFMO	Regional Fisheries Management Organization
ATCP	Antarctic Treaty Consultative Parties	RS	Ross Sea
ATS	Antarctic Treaty System	SC	Scientific Committee
AWI	Alfred Wegener Institute	SCAR	Scientific Committee on Antarctic Research
BAS	best available science	SCP	Systematic Conservation Planning
CBD	Convention on Biological Diversity	SHA	Stakeholder Analysis
CCAMLR	Commission or Convention on the Conservation of Antarctic Marine Living Resources	SM	Special (intercessional) Meeting
CCAS	Convention for the Conservation of Antarctic Seals	SNA	Social Network Analysis
CM	Conservation Measures	SOISS MPA	South Orkney Southern Shelf MPA
COLTO	Coalition of Legal Toothfish Operators	SPZ	Spawning Protection Zone
COP	Conference of the Parties	SRZ	Special Research Zone
CP	Consultative Party	SSMU	Small Scale Management Unit
EARS MPA	East Antarctic Representative System of MPAs	SSRU	Small-Scale Research Unit
EEZ	Exclusive Economic Zone	TAC	Total Allowable Catch
EU	European Union	UK	United Kingdom
GPZ	General Protection Zone	UNCLOS	United Nations Convention on the Law of the Sea
HS MPA	High Seas MPA	UNCSD	United Nations Conference on Sustainable Development
IAATO	International Association of Antarctica Tour Operators	US	United States (of America)
IMO	International Maritime Organization	WG	Working Group
IP	Information Paper	WG-EMM	WG on Ecosystem Monitoring and Management
IUCN	International Union for Conservation of Nature	WG-FSA	WG on Fish Stock Assessment
IUU	Illegal, Unreported and Unregulated (fishing)	WP	Working Paper
IWC	International Whaling Commission	WS	Workshop
MPA	Marine Protected Area	WS MPA	Weddell Sea MPA
		WSSD	World Summit on Sustainable Development



## **1. Introduction**

### **1.1. Background**

Coastal and marine areas are sensible spaces that offer various benefits to living organisms including humans. It is a fact, that marine ecosystem provide us with services such as sources of food and the regulation of climate. They are however increasingly affected by anthropogenically induced change such as pollution, fishing, and climate change associated effects such as the distortion of ocean chemistry. The global community has made several commitments to establish protected areas especially in the marine environment due to the various benefits that they promise to all lifeforms. Marine Protected Areas (MPAs) have the potential to secure the status quo of marine ecosystems impeding further ecological deterioration by interference. Ideally MPAs reduce present adverse effects on marine ecosystems and their users. In the best case, MPAs improve natural habitats and alleviate resource-use conflicts. If they are well planned and managed they provide benefits for conservation while managing fisheries increasing local added value and enhancing food security. Hence, MPAs are tools to manage marine resources for conservation purpose while often aiming to attend fishing interest also. However, MPAs are attributed a certain status of protection which restricts certain human activities. Such restrictions can potentially lead to conflicts among actors such as planners and users. The planning and decision-making of MPAs thus often has to balance conflicting views.

The Southern Ocean is an exceptional example of governance on international level. It is based on an international commitment to cooperatively manage a vast area devoted to peace and science<sup>1</sup>. The Antarctic community represented by the ATS (Antarctic Treaty System) committed to designate MPAs in Antarctic waters driven by international agenda. CCAMLR (Commission or optionally Convention on the Conservation of Antarctic Marine Living Resources) operates within the ATS as a framework convention on fisheries management<sup>2</sup>. Though being primarily responsible for fisheries management, CCAMLR has wider responsibility for the protection of marine Antarctic ecosystems and has been commissioned to plan, establish and manage MPAs in the Southern Ocean. The lead for planning MPAs in the Convention Area was taken by individual CCAMLR member states. So far, only one MPA has been decided upon by consensus (South Orkney Southern Shelf MPA in 2009), one has

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<sup>1</sup> Article 2, Environmental Protocol

<sup>2</sup> <https://www.ccamlr.org/en/organisation/convention-area> (retrieved on October 17, 2015)

been fully laid aside (Antarctic Peninsula Ice Shelves MPA, which has become a Special Area for Scientific Research), and two have been repeatedly negotiated in at least four meetings of the CAMLR Commission or the Scientific Committee (SC). MPAs have been proposed by the US and New Zealand in the Ross Sea (RS MPA) and in the form of a Representative System of MPAs in the East Antarctic (EARS MPA) by Australia, France and the EU. 2012, Germany has declared its willingness to take the lead in the development of an MPA in the Weddell Sea (WS MPA). Chile and Argentina are currently planning an MPA in planning domain 1<sup>3</sup> on the Western part of the Antarctic Peninsula adjacent to the WS MPA planning area (see Figure 5 for CCAMLR planning domains).

The CAMLR Commission is recognized for scientific based decision making and as a pioneer organization in conservation due to a well implemented ecosystem-based management approach. Designating MPAs in the Antarctic that exceed the size of many of its member states would also acknowledge CCAMLR's position as exemplary international regime. The media and member states have voiced concerns on serious consequences of failure for CCAMLR's reputation. The situation appears to be a hurting stalemate and a test to international cooperation. Fulfilling commitments made seems to progress slowly if not stagnating. Current and future conservation efforts in the form of MPAs in the Antarctic and other areas beyond national jurisdiction may be affected by negotiation outcomes. Ultimately, all parties involved are troubled by a loss of time and vigor by this timely negotiation conflict. It appears that interests are conflicting and positions hardened, which has caused repeated failure of finding consensus on pending CCAMLR MPA proposals.

## **1.2. Research aims and research question**

This thesis aims to explore the general challenges and causing factors for conflict by looking at differing positions, interest and charged relationships. Against the given background this research would serve several aims. This study may contribute to a general discussion before plans of any MPA are finalized. It may provide substance on the involvement of disregarded but relevant stakeholder interest whether, which may ultimately enhance communication between stakeholders. It can increase the degree to which stakeholders' expectations are satisfied, and thus increase democratic and legitimized decision-making. Results from this analysis could potentially be further used in a profound conflict assessment, conflict

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<sup>3</sup> SC-CAMLR-XXXIII/BG/20, <http://www.ccamlr.org/en/sc-camlr-xxxiii> (retrieved on October 17, 2015)

management or for strategy building. Both, advisors, potential mediators, scientists and policy-makers benefit from an analysis of interests, positions and the assessment of the conflict potential.

In light of the described background and research aims a major research question arises: *Why has the establishment of CCAMLR MPAs repeatedly failed, despite international commitments and concessions made? What are challenges to the planning, negotiation, decision-making process under CCAMLR that are caused by conflicting stakeholder interests?*

Subsequently the research answers the following questions in the following order:

- Who are the stakeholders involved in the MPA designation process? Who are key stakeholders? How do they differ in terms of sector, action-level and option to participate in the planning and decision-making processes?
- What are interests and positions of the different stakeholder on MPAs in general and on the pending proposals?
- How are stakeholder positions, challenges to the establishment of MPAs and solutions to these challenges depicted in the media?
- How can stakeholders be categorized in term of interests, position, and relationships?
- What are options to manage key stakeholders based on the potential for conflict and threat to the establishment of MPAs? How can conflict potential in future negotiations be reduced? Have lessons been learned from other pending CCAMLR MPA proposals in the planning of the WS MPA? What are the chances to find agreement in the coming negotiations?
- Is SHA a useful instrument for analyzing the conflict situation in international negotiations on MPAs and for finding solutions to challenges that MPA establishment faces?

Special focus in this thesis is placed on the WS MPA due to the fact that the author has spent substantial time in actively participating in the technical and political planning process of the WS MPA in a period of almost two years observing and participating in several meetings.

### **1.3. Structure of the thesis**

- Chapter two displays the background on MPAs as a policy tool, the management regime and the different CCAMLR MPA proposals, with special emphasis on the WS MPA. The chapter increases understanding of the stakeholder community and to better differentiate between positions taken on individual proposals.
- Chapter three provides a detailed account of the conceptual background providing theory taken largely from social sciences on stakeholder analysis. It discusses strengths and weaknesses and serves the criteria to answer the overarching research question and subsidiary research questions in the discussion.
- In chapter four, the chosen research design and applied methods most appropriate to answer the research question are delineated. Specific limitations to the research are discussed.
- Chapter five, six and seven display the results from the SHA partitioned in the processes ‘identification’, ‘categorization’ and ‘investigation of stakeholder relationships’.
- In Chapter eight results from the SHA are being discussed, the conflict is described in more detail, options to overcome challenges are assessed, and the potential for conflict to the WS MPA proposal is discussed.
- In Chapter nine the research is critically examined, results from other studies are compared and the chosen methods are discussed in terms of their appropriateness.
- In Chapter ten conclusions are drawn from the research.

## **2. Research object background<sup>4</sup>**

### **2.1. Marine Protected Areas**

Protection of certain areas for the use of resources or as sacred sites has a long tradition and has been practiced for over 2000 years. The modern concept of protected areas has been practiced since the nineteenth century and has spread since. MPAs are defined by IUCN as *‘Any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment’* (Kelleher und Kenchington 1992). MPAs are coastal or marine areas where activities like fishing, research or passage can

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<sup>4</sup> This chapter is largely consistent with the work carried out in a student research project on the planning of CCAMLR MPAs titled *‘Marine Protected Area (MPA) planning under CCAMLR – An analysis of practical and methodical difficulties in the planning of CCAMLR MPAs and Systematic Conservation Planning’*

be restricted. Each MPA is managed under a different set of rules, which are chosen according to the overall objective of the area. The establishment of MPAs has two main objectives: (1) counteracting the overfishing of commercial species (fish, invertebrates) or rebuilding overfished stocks, and (2) preventing the degradation of used ecosystems by humans or restoration of already degraded ecosystems and preservation (Arntz and Laudien 2010; Groves 2003). Or more precisely, MPAs are for conservation or fishery management purpose. Moreover, MPAs contribute to “*sustaining ecosystem services, preserving cultural and spiritual values, and providing places for research and education*” (Leslie 2005:1702).

Compared to terrestrial reserves, MPAs are characterized by less discrete boundaries, usually less frequent anthropogenic interaction, relative openness, variability and interconnectedness to their environment and its forces such as tides, circulation patterns, and heavy intervention by fishing activities. High connectivity causes MPAs to be very susceptible to anthropogenic induced change which does not only affect the surface but a three-dimensional space. Hence, ecology and management is fundamentally different and protected areas are not comparable with terrestrial systems. But also MPAs are highly incomparable with each other as the planning and management practices differ substantially: a multitude of factors shape each biological, economic and socio-political context. Management factors like the overall strategies and the level of restriction or protection, but also the need and the supply for management capabilities, involvement of legal instruments and stakeholders, and financial means in particular may differ from area to area. In the end each MPA and the associated processes of planning, decision-making and implementation are unique and based on the numerous singularities.

Literature describes several benefits of MPAs, such as effective conservation of endangered species, a general increase in biomass, population densities, organism size and diversity (e.g. Gell and Roberts 2003; Lester et al. 2009; Stobart et al. 2009, McCook et al. 2010). Authors suggest that MPAs can be used as a fishery management tool for increasing spill-over effects into fishing grounds (Ward et al. 2001; Toropova et al. 2010:18). Yet, academics have published contrasting examples: highly mobile species may be depleted despite MPA establishment (Halpern and Warner 2003), fishing effort may shift spatially and enhance depletion elsewhere (Hilborn et al. 2006), and the effect on fisheries that are not overfished or well-regulated has been described as little or non-existent (Halpern and Warner 2003). Agardy et al. (2011) warns of a “*blind faith in the ability of MPAs to counteract loss of biodiversity*”.

The authors suggest shortcomings such as (1) the size of MPAs would be often too small to be effective – the scale is not matched to issue and context, (2) fishing can be displaced into other areas and similar disrupting effects may appear, (3) MPAs may create an illusion of protection through a new label, (4) poor planning is often comprising design flaws such as the protection of ‘wrong’ habitats, and poor management often induces failure, (5) MPAs fail easily due to unprotected surrounding and environmental degradation.

Central to this debate is the MPA efficacy – the ability to reach the MPA objectives due to effective implementation of conservation measures (see for example Kleiman et al. 2000; Pomeroy et al. 2005; Himes 2007). Objectives have often not been met because expectations on benefits have been too high and costs through resource restrictions and impact on people are usually underestimated. Many MPAs lack provisions, regulations, funding, community support, stakeholder participation, and enforcement of regulations (Kelleher et al. 1995). Poor planning that lacks clear objectives and a scientific basis is the major point of being inefficient (Lundquist and Granek 2005). MPAs are only efficient when functioning in a network and a broader ecosystem-based management approach (Toropova et al. 2010: 69; Allison et al. 1998). Inefficient protected areas are also known as ‘Paper Parks, because they only exist on paper but management of the area is dysfunctional.

Despite the challenges that planning, implementation and enforcement of MPAs pose, they have been globally successful in a variety of cases. The recognition and the use of these tools have increased over the last decades. The world community has decided to add the vision of increasing the coverage of marine areas under protection on the political agenda. In 2002, there has been a global commitment to create a representative network of MPAs by 2012 at the World Summit on Sustainable Development (WSSD). In 2010 the COP of the CBD adopted the Aichi Targets which included the establishment of 10% of coastal and marine protected areas worldwide by 2020. In 2012, this goal was reaffirmed at Rio+20 UNCSD. CCAMLR agreed to join this movement to develop a global network of MPAs by 2012<sup>5</sup>.

Modern MPA design is based on ecological principles and theories such as biogeographical theory (MacArthur 1967) which *“tells us that bigger reserves are better, the closer they are the better, the more circular the better, and that reserves should be linked by habitat*

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<sup>5</sup> CCAMLR, XXVIII, para 7.19

*corridors*” (Margules and Pressey 2000:247). Spatial autecological requirements also need to find consideration in the planning of MPAs: one species may have different requirements for space within its life cycle. Other considerations for reserve selection include population dynamics, source-pool effects and source-sink population structures that need to be accounted for in spatial planning (ibid.). Several authors suggest that larger reserves are generally better than small ones especially as they account for uncertainty (e.g. MacArthur 1967; McClanahan and Mangi 2000; Neigel 2003). Methods for site selection range from simple more basic methods to structured approaches such as Systematic Conservation Planning – SCP (Margules and Pressey 2000) that also consider the above described ecological principles and criteria for identifying sites for MPAs. Systematic methods increasingly gain importance and are seen to have “*real benefits in guiding effective conservation investments*” (Pressey and Bottrill 2009:264). Systematic concepts are science-based: certain areas will be included in the MPA because acquired data on the occurrence of representatives suggest that inclusion will contribute to preserve certain ecosystems, communities, habitats or species and hence contribute to the representation of biodiversity.

MPAs are generally designated by one state within its territorial waters, in most instances within national Exclusive Economic Zones (EEZ). There are examples of transnational systems that are managed cooperatively in networks, which is for instance the case in the Mediterranean. Only single MPAs have up to date been designated in areas beyond national jurisdiction as high seas marine protected areas (HS MPA). HS MPAs pose particular challenges because the acquired expertise is hardly transferrable. However, beside the SOISS MPA there have only been two other examples of HS MPA (Brooks et al. 2014): the Pelagos Sanctuary for Mediterranean Marine Mammals and a network of seven MPAs in the Northeast Atlantic established in 2010 by OSPAR (OSPAR Network of Marine Protected Areas).

## 2.2. The Antarctic Treaty

Antarctica has been governed for over 50 years by the Antarctic Treaty (AT) that has been signed in 1951 and been ratified in 1961. Governance of Antarctica is built on this treaty which is an international agreement to govern Antarctica for scientific and peaceful purpose<sup>6</sup>. The Treaty was negotiated in (climax) times of the Cold War which has led to such peaceful outcomes. The AT now (2015)<sup>7</sup> counts 52 state parties, including 29 Consultative Parties (CP) which are responsible for leading the management of Antarctica. Only the CPs are allowed to participate in decision-making. The Antarctic Treaty System (ATS) is the regime that consists of the follow-on agreements of the Antarctic Treaty signed in 1961 preserving scientific investigation and introducing the ban of military activity on the Antarctic continent. The ATS includes inter alia CCAMLR, the Convention for the Conservation of Antarctic Seals (CCAS) and the Environmental Protocol to the Antarctic Treaty (Madrid Protocol).

## 2.3. CCAMLR

The CAMLR Convention operates within the ATS as a framework convention on fisheries management in the Southern Ocean. It has wider responsibility for the protection of marine Antarctic ecosystems. It was established in 1982 with the overall objective of conserving the marine life in the Antarctic as multilateral response to concerns that were raised about the increase of krill harvesting and associated effects on Antarctic marine ecosystems. The CCAMLR is an international body comprising 25 Members<sup>8</sup>; 24 states and the EU as a full member represented by the European Commission. Further eleven countries have acceded to the Convention<sup>9</sup>. These states are equally legal affected without having signed the Convention. Nevertheless, they are not allowed to fish in the Convention Area<sup>10</sup>.

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<sup>6</sup> AT Preamble 1959

<sup>7</sup> <http://www.ats.aq/e/ats.htm> (retrieved on October 17, 2015)

<sup>8</sup> Members are: Argentina, Australia, Belgium, Brazil, Chile, People's Republic of China (hereafter China), European Union (EU), France, Germany, India, Italy, Japan, Republic of Korea (hereafter Korea), Namibia, New Zealand, Norway, Poland, Russia, South Africa, Spain, Sweden, Ukraine, United Kingdom (UK), United States of America (USA) and Uruguay.

<sup>9</sup> Bulgaria, Canada, Cook Islands, Finland, Greece, Mauritius, Netherlands, Islamic Republic of Pakistan, Republic of Panama, Peru and Vanuatu. <http://www.ccamlr.org/en/organisation/about-ccamlr> (retrieved on October 17, 2015)

<sup>10</sup> <http://www.ccamlr.org/en/organisation/membership> (retrieved on October 17, 2015)





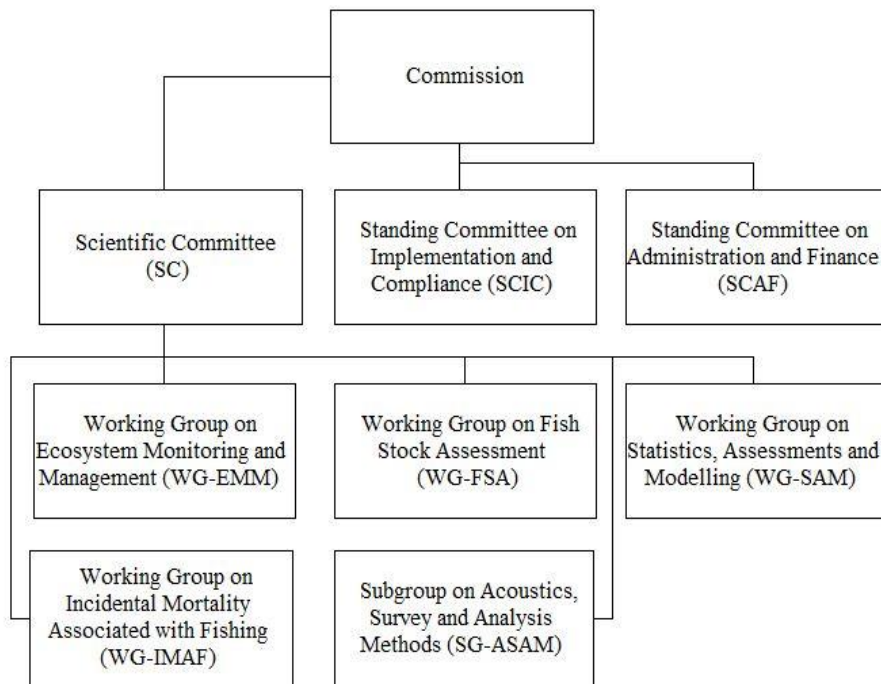
- *the Commission* (CCAMLR) as a decision-making body, decisions are based on consensus by members of the Commission. The Commission has two subsidiary bodies: a Standing Committee on Implementation and Compliance, and a Standing Committee on Administration and Finance,
- *a Scientific Committee* (SC) that advises the Commission using the best science available,
- *Conservation Measures* (CM) which are binding<sup>11</sup>
- non-binding *resolutions*
- ‘*CCAMLR's Membership and provisions for international cooperation and collaboration*’ that are contribution requirements such as attaining annual meetings of SC and the Commission
- *a Secretariat* based in Hobart, Tasmania, Australia, that supports the work of the Commission and SC by facilitating communication between Members, production and circulation of documents, managing scientific data and the Catch Documentation Scheme for reporting and tracking of toothfish catch, monitoring compliance with CM and other decisions.
- a number of working groups (WG) established by the SC that meet during the year and assist in formulating scientific advice on key areas (see Figure 2).

CCAMLR’s exceptional role as leader in conservation in the high seas is well known to be proactive and precautionary. CCAMLR’s success is based on employing both, the precautionary and the ecosystem approach (Kock 2000, Kock et al. 2007; Constable 2011, Constable et al. 2000). The *precautionary approach*<sup>12</sup> minimizes risks in decision-making by collecting all available data. Potential effect of uncertainties and gaps in the data are determined before making decision. Thus, risks of long-term adverse effects are minimized, rather than delaying decisions until all necessary data are available. Moreover, the convention’s management is based on the *ecosystem approach* which takes into account whole ecosystems and dependent and related species. Instead of following a traditional single species approach and maximum sustainable yields, CCAMLR tries to account for the complex relationship between organisms and abiotic processes impacting marine Antarctic ecosystems as a whole (Miller 2011:105). Because regulating ecosystems as a whole is currently not possible due to a lack of knowledge and adequate tools (Kock 2000:9), the approach focuses on regulating human activities such as fishing to decrease adverse effects on the ecosystem. CCAMLR aims to maintain

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<sup>11</sup> Article IX, 6

<sup>12</sup> Article II, 3 (a) to 3 (c)



**Figure 2** CCAMLR's institutional bodies

productive levels of targeted stocks and avoids impacts that are ‘*not potentially reversible over two or three decades*’<sup>13</sup>. The ecosystem approach has been defined by the CBD (COP 5) as a “*strategy for the integrated management of natural resources that equitably promotes both conservation and utilization*”. CCAMLR has been the first global convention that has adopted the ecosystem approach.

CCAMLR can put forward with several milestones and lessons learned. For instance, the bycatch mortality of seabirds has been decreased from approximately 7,000 seabirds in 1997 close to zero in 2013. Illegal, unreported and unregulated (IUU) fishing in the convention area has been reduced from 40,000 tons per year in the 1990s to less than 2,000 tons per year in 2010/2011 (Hain 2014:356). CCAMLR's Ecosystem Monitoring Program has been an exemplary of ecosystem-based management. The program is monitoring land-based predators and krill and potentially also revealing ecosystem changes including climate change (Brooks et al. 2014:304).

The combination of conservation and fisheries management under CCAMLR is unusual and unique compared to other regional, intergovernmental arrangements. Normally, the two aspects are separated from each other in single regional marine agreements (e.g. in the

<sup>13</sup> Article II, 3 (c)

Northeast Atlantic). Also the composition of fishing and non-fishing members is unique. Though since 1982, the number of fishing states has increased four-fold (Brooks 2013) and now more than half are interested in harvesting, still they all have the same say in decision-making. CCAMLR's dual responsibilities are based on one essential principle: Conservation includes 'rational use', which allows for harvesting of marine living resources for scientific and commercial purpose under conditions defined by the convention text and agreed conservation measures<sup>14</sup>. These requirements include the above described precautionary approach and an ecosystem based management approach, that both have high scientific requirements for decision-making (Constable 2011, Kock 2007, Miller 2011). Uncertainties and data gaps find consideration and new data are consecutively incorporated. Science plays a role of paramount importance under CCAMLR. Obligating Conservation Measures must be formulated, adopted and revised under '*the basis of the best scientific evidence available*'<sup>15</sup>. Nevertheless, the extent to what scientific evidence is required, is not fully clear (Miller 2011:106).

Fisheries management under CCAMLR results in fishing not being permitted unless MS reach an agreement to fish. It is a reversed burden of proof: areas are closed to commercial fishing rather than open until proven overfished. CCAMLR members notify the intent to fish at the annual CCAMLR meeting and the Commission every year. With unanimous approval fishing activity can be conducted. CCAMLR manages licensed 'new', 'exploratory', 'research' and 'established' fisheries. A new fishery is conducted for a species using a particular fishing method in a statistical subarea or division. New fisheries can become exploratory fisheries when required information to assess stocks and potential impact on other species has been collected. Research and commercial fishing is occurring in so-called small-scale research units (SSRUs), which however can be closed to fishing activities. Fishing activities inside the Convention Area are only allowed for Members that issued licenses to their flagged vessels detailing the specific areas, species and time periods that fishing is authorized. To mitigate adverse effects on stocks and the environment, CCAMLR has introduced several measures that are legally binding for all vessels licensed in the Convention Area. These include seasonal fishery closures and statutory provisions on gear, fishing techniques and application standards. Trawling for instance is forbidden in all high seas and exploratory fisheries as part of a precautionary management. It further uses a number of

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<sup>14</sup> Article II, 2

<sup>15</sup> Article IX, 1 (f)

compliance systems to monitor fishing activities such as vessel licensing, inspections of vessels and ports, monitoring transshipment, vessel monitoring systems by the use of satellite data and an online catch document scheme for *Dissostichus* spp. to reduce IUU fishing. The latter is a system that tracks toothfish from the moment harvested along its trade cycle to the point of sale.

#### **2.4. Exploitation of marine living resources in the Antarctic**

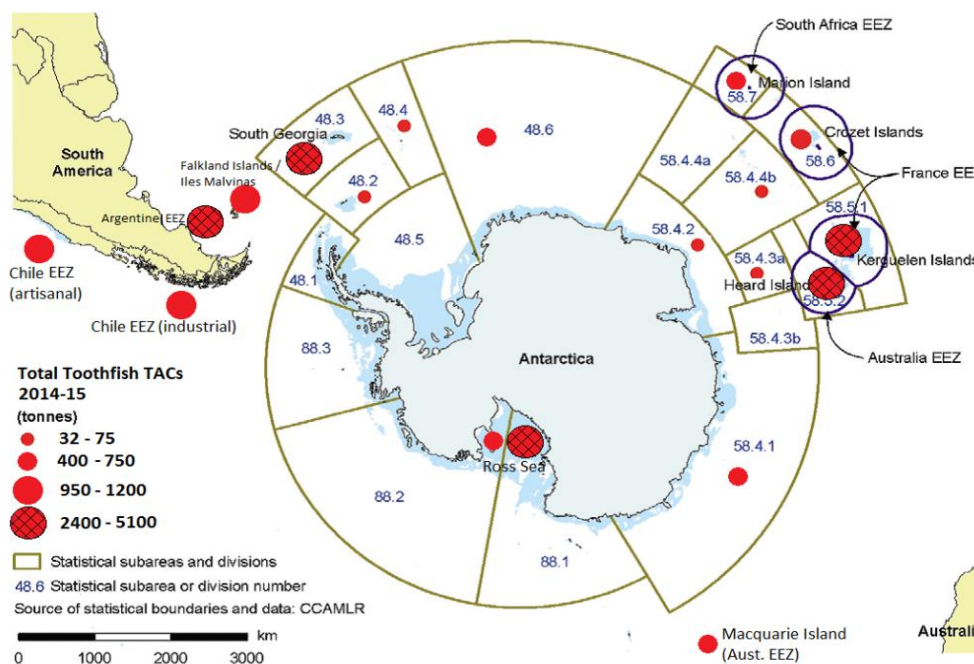
In the Antarctic exploitation of living resources has been the major human activity with sealing being the first commercial business beginning in the 16<sup>th</sup> century (Mill 1905), until populations were decimated to stocks not promising sufficient profit. In the late 19<sup>th</sup> century whaling became a large industry due to a high demand for whale oil used for oil lamps, soap and margarine. Whaling caused large whale species to decline to 2.5% to 6% of initial population sizes (Kock and Shimazu 1994). Only in 1987, the IWC moratorium paused commercial whaling worldwide. Yet, most whale populations are far from being recovered. In the Southern Ocean only Japan continues whaling for scientific purpose. However, the quantity and quality of the scientific publications by Japan on whales attract criticism from the media, nongovernmental organizations (NGOs), several researchers and other nations. Exploitation in the Southern Ocean has led to a decimation of stocks of seals, King penguins, several whale and demersal fish species (Kock 1992, 2000; Constable 2000; Croxall and Nicol 2004), moreover, most fish stocks had been overfished up to less than 10% of initial stocks before the CAMLR Convention came into force in 1982 (Kock 1992) and most fish populations have still not recovered (Marschoff et al. 2012). Additionally, fish stocks have tremendously suffered under IUU fishing in the Convention Area in the last fifty years (Agnew et al. 2009) which peaked in 1997 with estimated catches of 32,000 tons. However, it has decreased since by over 95% with existing activity in the Indian Ocean sector and the Ross Sea (Miller 2011). Large scale fishing of Patagonian toothfish (*Dissostichus eleginoides*) commenced in the 1990s and Antarctic toothfish (*D. mawsoni*) in the 2000s (Collins et al. 2010). Today<sup>16</sup> krill (*Euphausia superba*), toothfish (*Dissostichus* spp.)<sup>17</sup>, and Mackerel icefish (*Champsocephalus gunnari*) are in essence the marine living resources that are harvested in the Southern Ocean and regulated by CCAMLR. Krill remains the largest fishery in terms of tonnage in the Southern Ocean. Yet the value for toothfish is twenty times higher

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<sup>16</sup> Data retrieved via [www.ccamlr.org](http://www.ccamlr.org) for the season 2014/2015 (on June 13, 2015)

<sup>17</sup> The genus Toothfish can be distinguished in two different recognized species that are both targeted by CCAMLR members.

than for krill and considered of great commercial importance to the profiteers (Brooks 2013). The large divergence between toothfish and krill in value per ton is inter alia based on the rapidly decreasing quality of krill. Toothfish, sometimes termed ‘white gold’, is profit-yielding due to its stocks, fish size<sup>18</sup> and the market price per kilo. In the season 2011/12 catches<sup>19</sup> in the Convention Area comprised approximately 14,700 tons of toothfish (Hain 2014). There are large Total Allowable Catches (TAC) with about 3,000 tons in the Ross Sea, statistical Subarea 48.3 but also in the French and Australian EEZ (see Figure 3 and Table 12 and Table 13). Mackerel icefish is solely targeted in two established fisheries (Subarea 48.3 and Heard and McDonald Islands in Division 58.5.2.). Members are licensed to harvest Antarctic Krill in Subareas 48.1 to 48.4, Subarea 48.6 and Divisions 58.4.1 and 58.4.2. They are all established fisheries, despite fishery in Subarea 48.6 which is an exploratory fishery. However, currently there has only been harvesting in Subareas 48.1 to 48.4. Krill is seen to have great potential with an estimated biomass of almost 390 million tons in the Southern Ocean (Atkinson et al. 2009).



**Figure 3** Map indicating the Total Allowable Catches (TACs) for toothfish for the 2012/13 season. Most of these toothfish TACs were set by CCAMLR. Source: <http://www.colto.org/toothfish-fisheries/> (retrieved on October 17, 2015)

<sup>18</sup> At times the toothfish may exceed 100 kg, but usually it is ranging from an average weight of 7-10 kg. Toothfish may reach about fifty years of age and around 2 meters of length (e.g. Collins et al. 2010)

<sup>19</sup> Catches refer to fish, whereas landings are processed catches.

## 2.5. Established and proposed CCAMLR MPAs

**Table 1** Decisions and activities under CCAMLR since 2002 (Compiled from CCAMLR annual meeting reports 2002–2013). (Adopted from Brooks 2013).

Year	Events
2002	Recognition of WSSD commitment, added agenda item for MPAs <sup>20</sup>
2005	First CCAMLR MPA Workshop (WS)
2007	CCAMLR Southern Ocean Bioregionalisation WS
2008	Identification of 11 priority areas (Figure 5, 2011 refined into planning domains, see Figure 5)
2009	Adoption of South Orkney Islands Southern Shelf MPA (CM 91-03)
2009	Committing to a network of Southern Ocean MPAs <sup>21</sup>
2011	Second CCAMLR MPA WS
2011	Adoption of CM 91-04, a framework for establishing CCAMLR MPAs
2012	Technical WS on developing SCP for MPA <sup>22</sup>
2013	Special CCAMLR and SC-CAMLR intersessional meeting on MPAs

In the last decade, the international community has put effort in commitments for MPA establishment worldwide. The ATCP agreed to commission the CCAMLR to adopt a network of MPAs in the Southern Ocean in 2002<sup>23</sup>. Within the last ten years Members of CCAMLR have been working on establishing a representative network of MPAs in the Southern Ocean. In Table 1 the history of major MPA-related decisions and activities under CCAMLR is displayed. General discussions of CCAMLR MPAs began in 1999<sup>24</sup>. In 2002, the ATS and CCAMLR made clear that the objective to establish a worldwide representative network of MPAs by 2012 is an objective for the Southern Ocean<sup>25</sup>. The workshops in 2005, 2007 and 2012 endorsed the use of MPAs and paved the way for subsequent MPA planning. In 2009, the MPA South Orkney Islands Southern Shelf (SOISS MPA) was adopted by CCAMLR as the first HSMP in the Convention Area and the first entirely HS MPA worldwide.

<sup>20</sup> CCAMLR-XXI, para 4.20

<sup>21</sup> CCAMLR-XXVIII, para 7.19

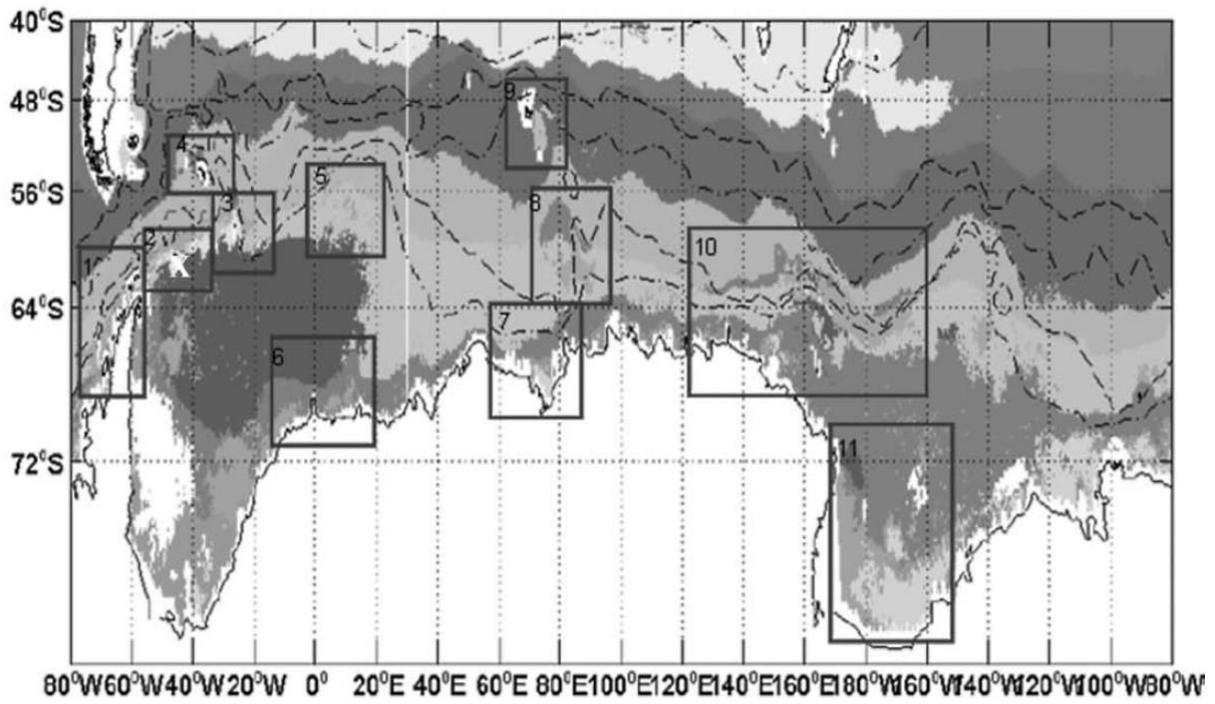
<sup>22</sup> SCP is an iterative process for identifying candidate sites to protected areas. It is a process with high interplay of policy-part and scientists. Its efficacy can be highly dependent on a high degree of stakeholder participation. (Margules and Pressey 2000)

<sup>23</sup> ATCM XXV, CCAMLR-XXI, para 12 and 88

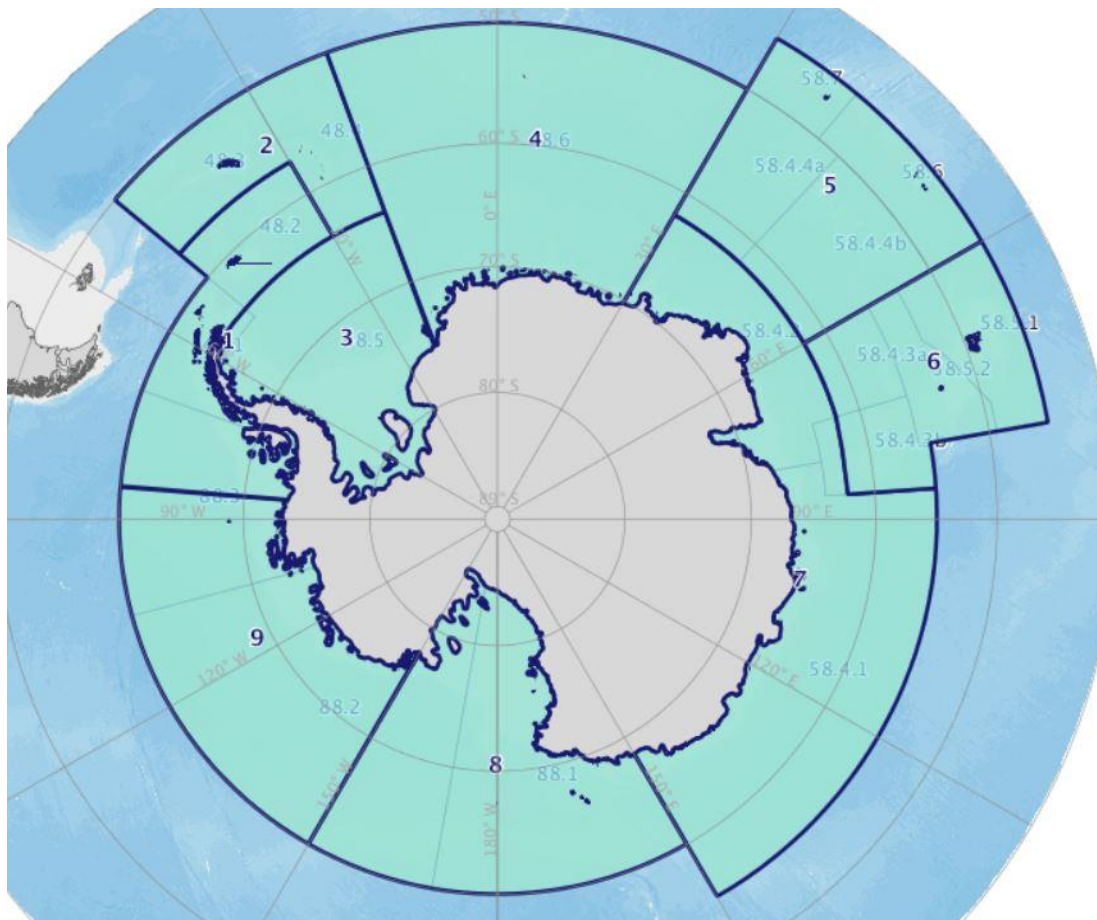
<sup>24</sup> CCAMLR-XVIII, para 4.9.

<sup>25</sup> ATCM XXXIV; CEP 7; CCAMLR-XXVIII, para 7.19; SC-CAMLR-XXVIII, paras 3.27–3.28





**Figure 5** CCAMLR priority areas for marine protected areas (MPAs) identification (CCAMLR-XXVII). Numbers refer to area and are not in priority order. 1, Western Antarctic Peninsula; 2, South Orkney Islands; 3, South Sandwich Islands; 4, South Georgia; 5, Maud Rise; 6, eastern Weddell Sea; 7, Prydz Bay; 8, Banzare Bank; 9, Kerguelen; 10, northern Ross Sea/East Antarctica; 11, Ross Sea Shelf. From SC-CAMLR (2008: Annex 4, fig. 12), Source: Miller (2011:115).



**Figure 5** CCAMLR MPA planning domains. 1: Western Peninsula – South Scotia Arc; 2: North Scotia Arc; 3: Weddell Sea; 4: Bouvet Maud; 5: Crozet – del Cano; 6: Kerguelen Plateau; 7: Eastern Antarctica; 8: Ross Sea; 9: Amundsen – Bellingshausen. Source: [www.ccaml.org](http://www.ccaml.org) (retrieved on October 17, 2015)



In 2011, a general framework for the definition of CCAMLR MPAs was adopted (CM 91-04) which confirmed the commitment by CCAMLR to establish a global network of MPAs<sup>26</sup>. Priority areas for MPA planning that were set in 2008 (Figure 5) were replaced. In 2011, the planning of MPAs in the CCAMLR area has been divided in nine so-called MPA planning domains<sup>27</sup> as displayed in Figure 5. Basis for the planning is the historical involvement of members in the given areas (Brooks 2013:282). The CM 91-04 is an important legally binding framework for the establishment of MPAs under CCAMLR. CM 91-04 is used for ‘*the common actions and requirements for the declaration, administration and management of CCAMLR MPAs*’<sup>28</sup>. Key guidelines that are to be found in the CM 91-04 are, inter alia: the compliance with Articles of the CAMLR Convention and international law such as UNCLOS, requirement to base decision on the best science available, achieving the protection of representative habitats and ecosystems, biodiversity, key ecosystem species and processes and vulnerable, rare or unique features and habitats, establish reference areas for monitoring anthropogenic induced changes, establish specific objectives, restrictions, spatial boundaries, and a determined period of designation, development of a management, research and monitoring plan, and the requirement for a review every ten years or as agreed by the Commission. In 2011, several planning groups have presented their planning efforts. The Australian proposal for a network of MPAs in the East Antarctic (EARS MPA)<sup>29</sup> and two scenarios from the US and NZ<sup>30,31</sup> for a Ross Sea MPA (RS MPA) were tabled to the SC. After coming to an agreement, the two proponents of the RS MPA came to the decision to join their proposals and tabled a joint redrafted proposal. In the following years the proposals for an RS MPA<sup>32</sup> and EARS MPA, as well as a proposal by EU and UK for an Antarctic Peninsula Ice Shelves MPA were examined by the SC and Commission, and were rejected<sup>33</sup>. The latter was intended to study ecosystem process and climate change effects under retreating glaciers. Due to extensive discussion and several Members doubting about the necessity of such an MPA as it is currently well protected by the shelf ice itself<sup>34</sup>, the EU changed the MPA to a Special Area for Scientific Research. In July 2013 a special

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<sup>26</sup> CCAMLR-XXX, para 12.38

<sup>27</sup> CCAMLR-XXX, para 7.4; SC-CAMLR-XXX, Annex 6, Figure 3

<sup>28</sup> CCAMLR-XXX, para 12.38

<sup>29</sup> CCAMLR-XXX, para 7.24

<sup>30</sup> CCAMLR-XXX, paras 7.10 and 7.11

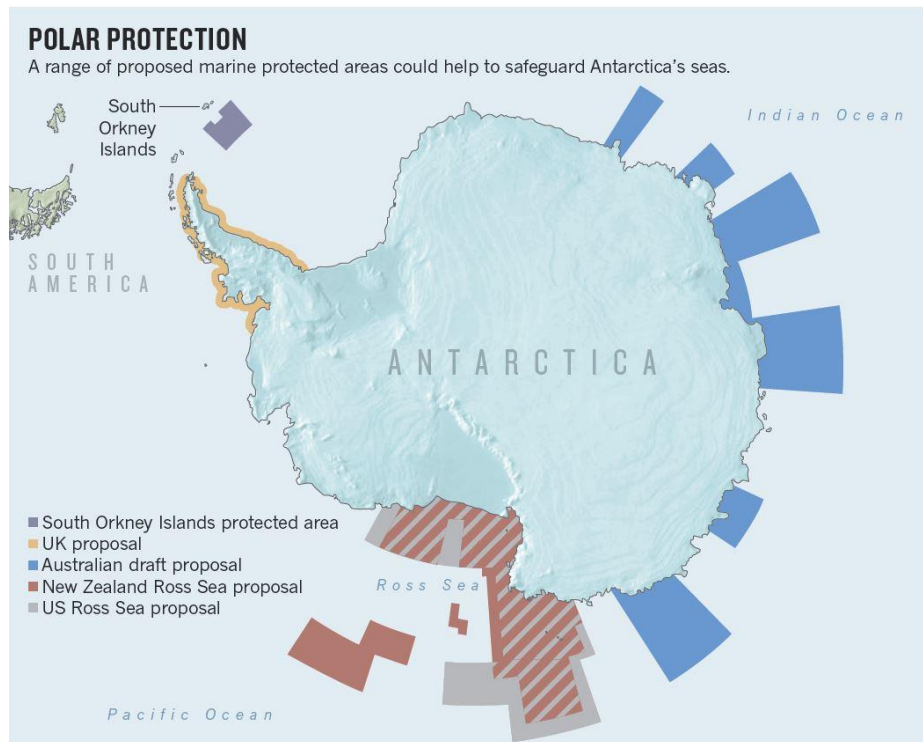
<sup>31</sup> CCAMLR-XXX, para 7.11

<sup>32</sup> Here RS MPA stands for the actual Ross Sea MPA proposal. In the past, the term RSMPA has been used to describe a ‘representative system of MPAs’ in the Antarctic (e.g. SC-CAMLR-XXX/11) or East Antarctic

<sup>33</sup> SC-CAMLR-XXX, para 5.67; CCAMLR-XXXI, para 7.62

<sup>34</sup> SC-CAMLR-XXXI, Annex 6, paras 3.26f.

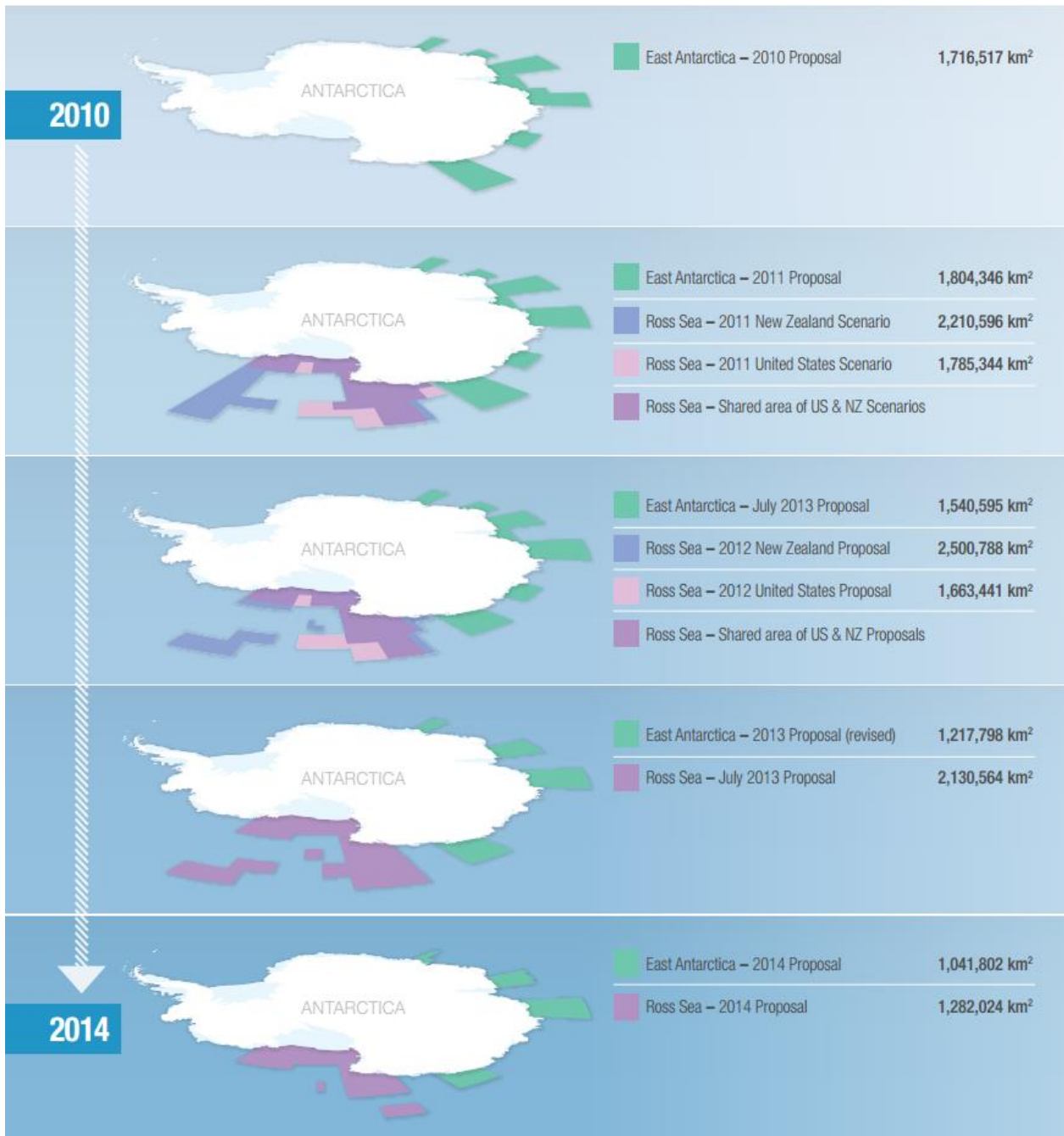
intercessional meeting (SM) had the key task of discussing MPAs and tabled proposals. At the SM as well as in the other regular meetings unanimous decisions on any MPA have failed repeatedly. Also in October 2014, CCAMLR has met regularly and has neither adopted the EARS MPA nor the RS MPA proposal. In the course of negotiation both proposals have been changed considerably in size and design (see Figure 7), yet despite all compromises,



**Figure 6** Established and proposed MPAs in 2012. Source: Cressey 2012a

consensus has not been found. Note, that although the originally proposed size of the proposed MPAs has been significantly reduced, they would be still very large protected areas. It can be assumed that in 2015 revised proposals will be tabled and negotiated.

Despite the agreed SOISS MPA, the US and New Zealand Ross Sea MPA (RS MPA) proposal and the East Antarctica Representative System of Marine Protected Areas (EARS MPA) proposal by Australia, France and the EU (see Figure 6), there are currently other planning activities. In 2012, Germany has declared its willingness to take the lead in the development of an MPA in the Weddell Sea (WS MPA). Subsequently, the Alfred Wegener Institute (AWI) was commissioned by the German government to collect and analyze scientific data and also to identify potential MPAs and conservation objectives in the Weddell Sea. A scientific background paper has been submitted in the meantime and the complete proposal will



**Figure 7** Infographic demonstrating the changes made in the EARS MPA and RS MPA proposals from 2010 to 2014. Source: [http://antarcticocean.org/wp-content/uploads/2014/10/12503-AOA-Infographic-MPA-map\\_CCAMLR.pdf](http://antarcticocean.org/wp-content/uploads/2014/10/12503-AOA-Infographic-MPA-map_CCAMLR.pdf) (retrieved on October 17, 2015)

presumably be handed in in 2015. In the following the proposals will be presented and difficulties that occurred in the planning process will be discussed.

### 2.5.1. South Orkney Islands Southern Shelf (SOISS) MPA

The UK SOISS MPA proposal was submitted and comprises an area in the planning domain of slightly less than 94,000 km<sup>2</sup>. In this area, that has about the size of Hungary, all fishing activities, the disposal of waste and other dumping is prohibited. The area is further used for a better coordination of scientific research. This protected area is also the first entirely high seas marine reserve (no-take) in the world. At the same time the size of the MPA represents only 0.5% of the CCAMLR Convention Area. The proposal went through the year it was tabled with only little opposition (Brooks 2013:282). The MPA “*includes representative examples of two pelagic bioregions [...], and incorporates an area of key importance for winter penguin foraging and unique oceanographic frontal systems*”<sup>35</sup>. It is a large continental shelf area of rectangular shape except of the adjacent northern area between the MPA and the South Orkney Islands (see Figure 8). This northern area and the area between MPA and South Orkney Islands are intentionally left out to trade-off interest in marine living resources and possible displacement of human use. The area adjacent to the islands is left out, though it receives a high conservation value according to the results from analysis by the decision-support software MARXAN<sup>36</sup> (Figure 8). Despite a high amount of krill and being a major foraging areas of penguins and other seabirds, this areas was left out to bypass interference with Small Scale Management Units (SSMUs<sup>37</sup>) already managing that area for krill fisheries. Secondly, the rectangular area in the north has been left out because of member’s interest in exploratory crab fishery. SOISS MPA has been planned with the means of systematic conservation planning (SCP) and bioregionalisation<sup>38</sup>, followed by manual selection due to expert knowledge considering trade-offs based on fisheries interests and spatial constraints, e.g. aspiring straight borders making it easier to navigate and manage the MPA. The planning area has been intentionally selected because of a high level of available data. This distinguishes the area from other MPA planning areas and it has been a pilot project for the

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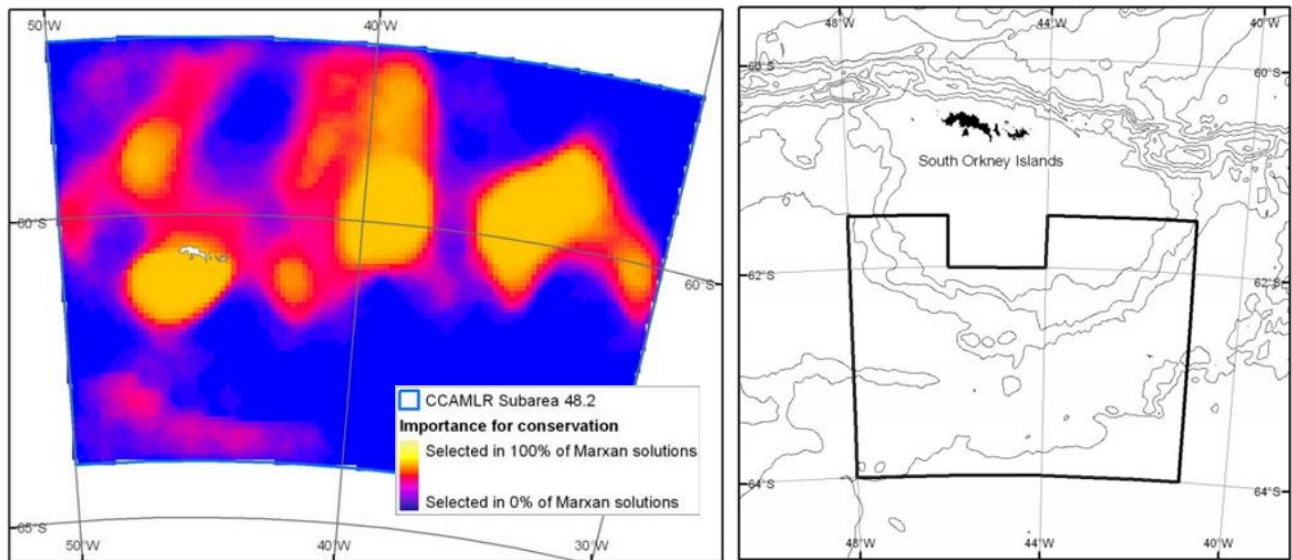
<sup>35</sup> SC-CCAMLR-XXVII, para 3.16

<sup>36</sup> MARXAN is a frequently used and successful tool for supporting the decision on what areas to include in MPAs. It is a freely available planning software which provides advice to a range of planning challenges such as the overall design of new MPAs and MPA systems, reviewing performance of MPAs, natural resource management and also climate change scenarios.

<sup>37</sup> SC-CAMLR XXVIII/14

<sup>38</sup> Bioregionalisation is used to describe habitat diversity classifying data based on environmental, ecological and biological attributes. It is a process that may help to simplify and summarize complex relationships between the environment. It is algorithm-based and can be used with relatively little data over a large area and makes the acquisition of additional data redundant. Outputs are so-called ‘*bioregions*’ that appear as discrete spatial areas with relatively homogenous and predictable properties (species, physical and ecological habitats) that can be used for further analyses and decision-making. It is a process that is already firmly established and repeatedly endorsed under CCAMLR (e.g. SC-CAMLR-XXVI, paragraph 3.75, CCAMLR-XXVII para 7.1)

application of the SCP approach<sup>39</sup>. Though the MPA as important feeding area for Adélie penguins, MPA effectiveness has not been assessed yet (Martin et al. 2012:12f). In the last meeting in 2014, the five years since establishment of the SOISS MPA were reviewed in a SOISS MPA Report<sup>40</sup>.



**Figure 8** Output from MARXAN analysis undertaken as part of a systematic conservation planning process for the South Orkney Islands. Adapted from SC-CAMLR, Annex 4 page 208 Source: <https://www.ccamlr.org/en/system/files/e-sc-xxviii-a4.pdf> (retrieved on October 17, 2015)

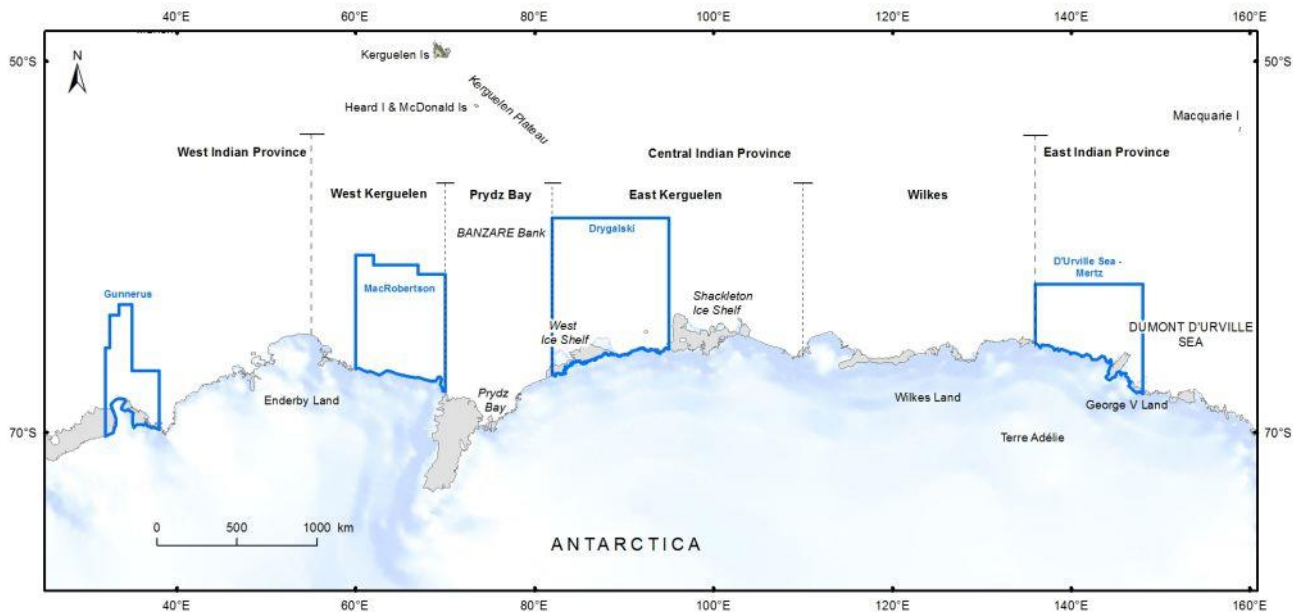
**Figure 8** Spatial boundaries of the SOISS MPA, taken from CM 91-03. Source: <https://www.ccamlr.org/sites/drupal.ccamlr.org/files//91-03.pdf> (retrieved on October 17, 2015)

<sup>39</sup> SC-CAMLR-XXVII, Annex 4, para 3.49

<sup>40</sup> SC-CAMLR-XXXIII, paras 5.51 – 5.76

### 2.5.2. East Antarctic Representative System (EARS) of MPAs

The overall objective of the EARS MPA is to establish a system of MPAs that in combination represents all biogeographic areas in Eastern Antarctica. The EARS MPA proposal up to now has the longest history of being tabled without being adopted though having sacrificed about half of the originally planned area to be protected (see Figure 7). Australia, later joined by France and the EU, has compiled a proposal based on the best scientific evidence available in a data-poor region<sup>41</sup>. Though being revised several times in terms of MPA boundaries as well as textual work, the proposal was rejected recurrently. The system of MPAs currently covers around one million square kilometers of the initially proposed surface of approximately 1.63 million km<sup>2</sup>. In the beginning it encompassed seven conservation areas with distinct biogeographic values which are supposed to be home to characteristic and significant marine organisms (flora and fauna). The proposal was changed and now only encompasses four areas.



**Figure 9** Map of the proposed East Antarctic Marine Protected Area as proposed in 2014. Source: [http://www.antarctica.gov.au/\\_data/assets/image/0007/146455/varieties/antarctic.jpg](http://www.antarctica.gov.au/_data/assets/image/0007/146455/varieties/antarctic.jpg) (retrieved July 14, 2015)

The EARS MPA planning group used methods for estimating the shape of the protected area notwithstanding the “*inherently large ecological uncertainties prevailing in the region*” (Brooks 2013). Spatial models collected biological, hydrographic, benthic and geophysical

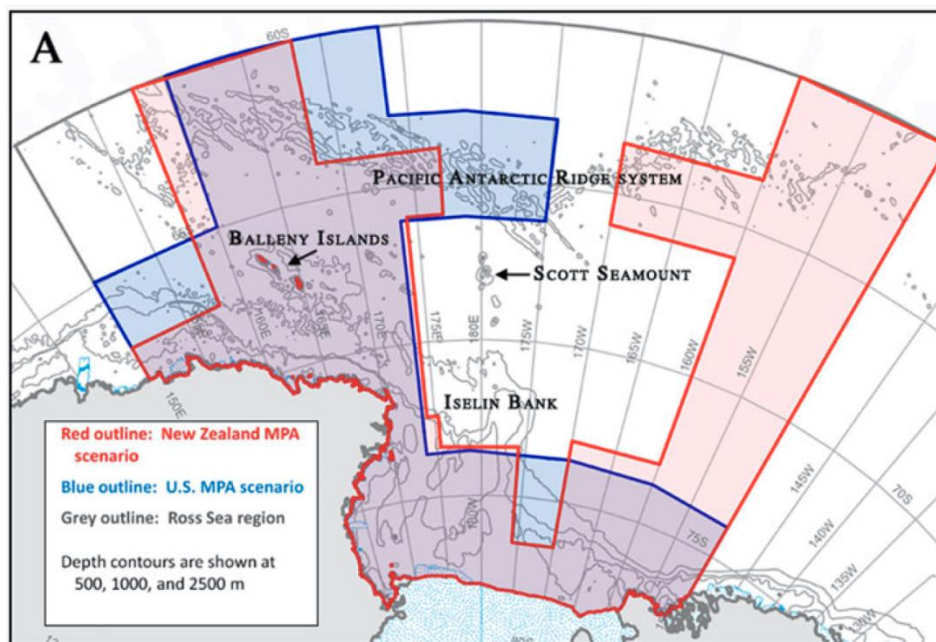
<sup>41</sup> SC-CAMLR-XXX, para 5.63



data. Bioregions were used as a proxy for species richness and community composition. It is providing extensive planning that is mainly based on the bioregionalisation to determine pelagic and benthic environmental types. MPAs have been chosen either for benthic or pelagic or both values. Data layers were treated and clustered with respective software. These methods and most of the data are based on the efforts of the expert workshop on circumpolar regionalization in 2006 (Grant et al. 2006). Planning is based on the ecological principles of CAR (comprehensiveness, adequacy, representativeness)<sup>42</sup> which have intentionally been chosen to plan in data-poor regions. In the process planners would ask the question if a candidate area would add significant value in respect to the described CAR principles. Hypothetically this concept is successful, if the biodiversity outside the MPA gets degraded and CAR values would be preserved inside.

### 2.5.3. Ross Sea (RS) MPA

The Ross Sea has been described as one of the last remaining marine ecosystem with minor



**Figure 10** MPA scenarios for a Ross Sea MPA by the United States (blue) and New Zealand (red) as presented to the Scientific Committee in 2011 (based on Delegation of New Zealand 2011 and Delegation of the United States 2011). Source: Brooks (2013:284)

<sup>42</sup> CAR is a candidate approach for planning of MPAs under CCAMLR (e.g. SC-CAMLR XXIV, para 12-14). It comprises the following principles: Comprehensiveness intends areas to include the full range of ecosystems within and across each bioregion. Adequacy indicates the size of the area is adjusted to ensure protection of ecological viability and integrity of populations, species and communities. Representative areas shall reflect biotic diversity of ecosystems.

anthropogenic influence despite comparably high fishing activity (Halpern et al. 2008). With one of the most complex and unique Antarctic marine ecosystems it has an evolutionary value comparable with the Galapagos Islands, Hawaii, or Madagascar (Eastman and Ainley 2009). Two differently planned scenarios for an RS MPA proposal were tabled in 2011 at the SC (see Figure 10). Planning approaches as well as interests differed fundamentally: The US scenario proposed an area that displaces a large area for commercial toothfish fishing. As seen in Figure 10, the area closed to fishing in the US scenario would have been smaller compared to the NZ scenario, though NZ engages in toothfish fishing and the US does not. The main constraint of merging these two proposals to one has been the area of the NZ tagging program (acquiring tag and recapture data), which NZ was interested in maintaining in a continuous and integer manner (Brooks 2013). This area has been deliberately excluded from fishing in the US proposal with the idea to close this very productive area for reference of impacts on the ecosystem by fishing that occurs outside this area.

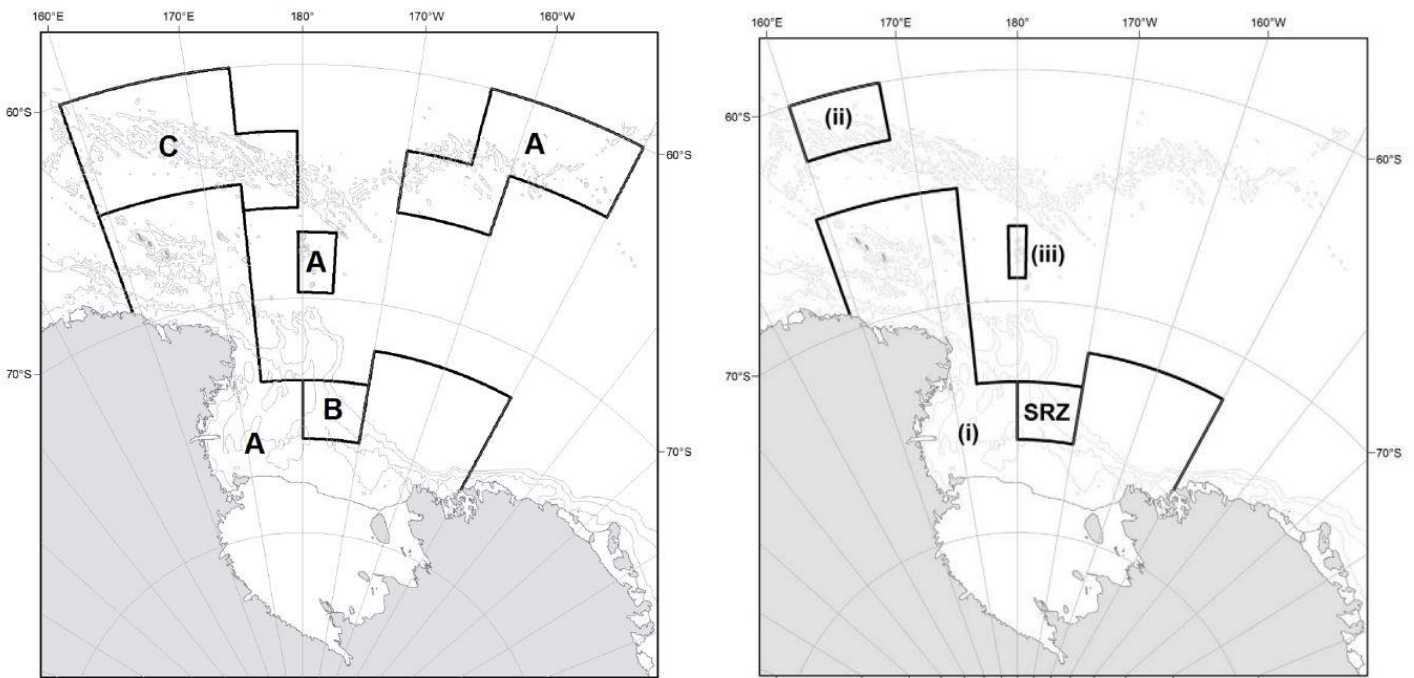
The two planning groups came to their scenarios using different ways of proceeding. The joint RS MPA proposal based on agreements and political reconciliation. In 2012, the two separate proposals were merged to a joint proposal after reaching compromise about protection objectives and MPA boundaries. The joint proposal comprised about 2.27 million km<sup>2</sup> and offered a Special Research Zone (SRZ), a Spawning Protection Zone (SPZ) and the General Protection Zone (GPZ). The latter is considered a no-take zone prohibiting commercial fishing on an area of about 1.6 million km<sup>2</sup> (Brooks 2013). The SPZ is supposed to be open seasonally during summer fishery. With the intention to have an area where the major target species (toothfish – *Dissostichus* spp.) may spawn, this area was supposed to be closed in the winter months<sup>43</sup>. In the SRZ tagging rates would be increased in order to decrease pressure by commercial fishing. Hence, major areas would be regulated by this RS MPA proposal though still excluding productive fishing grounds. In 2013, the size of the MPA was reduced from 2.27 to 1.337 million km<sup>2</sup> in 2013 (see Figure 7) due to political concessions and criticism brought forward by other member states. The SPZ in the Northwest was annulled and replaced by a smaller GPZ, as shown in Figure 11. The concept of the SPZ has been removed due to opposition in the SC, because spawning has not been verified and protection would have been only seasonal. The GPZ in the Northeast has been removed and has been reduced around the Scott Seamounts. From 2013 to 2014 only “*minor textual suggestions* [... as ...]

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<sup>43</sup> SC-CAMLR, IM-I, paras 2.2 to 2.3, 2.8; CCAMLR, SM-II, paras 3.3 to 3.11



*largely a procedural step*”<sup>44</sup> were undertaken. The changes have been in response to recommendations from the SC, EMM and other MS raising concerns in bilateral talks. Main reason for the larger changes was a lack of adequate evidence to reason e.g. the closing of large areas to protect spawning toothfish in the SPZ. The joint proposal that is based on bilateral agreement has been declared scientifically sound and was agreed to be forwarded to the Commission as policy matter.

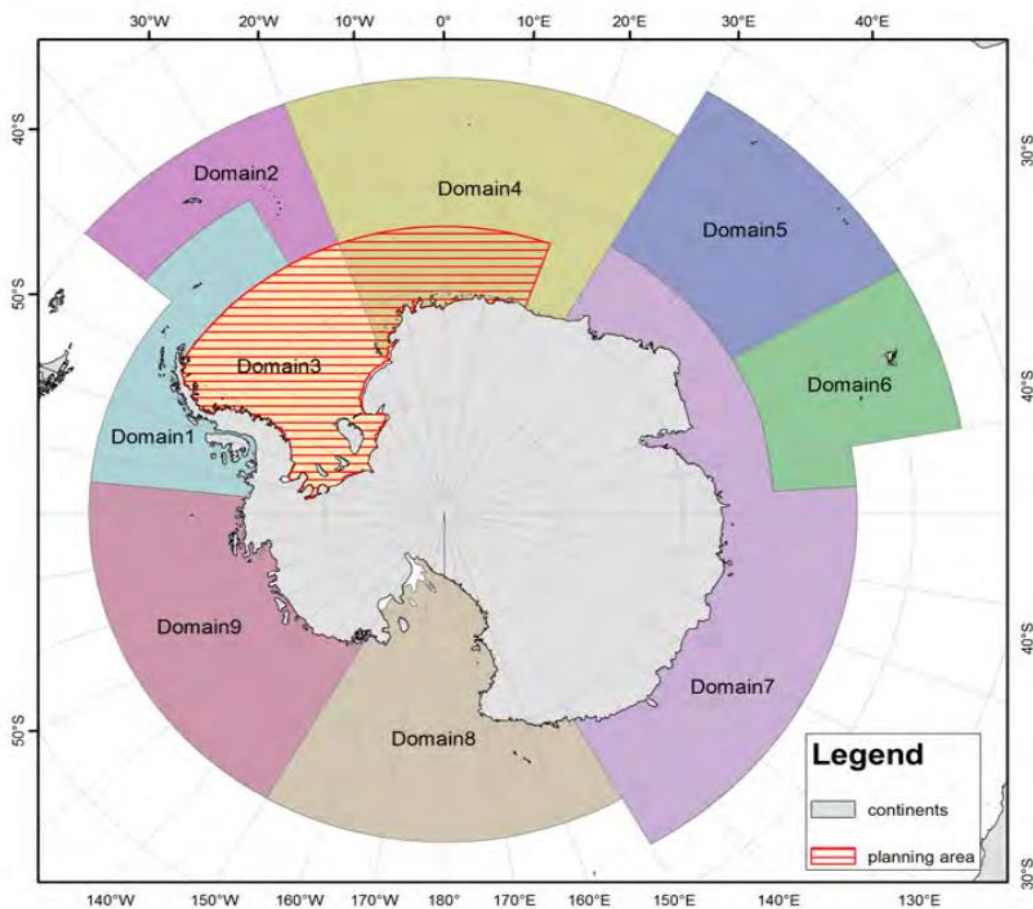


**Figure 11** Boundaries of the RS MPA in 2012 and 2013-SM (left) and in 2013 and 2014 (right). General Protection Zone (A), the Special Research Zone (B), and the Spawning Protection Zone (C). (i), (ii) and (ii) constitute the General Protection Zone in the current proposal.

<sup>44</sup> <http://www.mfat.govt.nz/ross-sea-mpa/tabs/proposal.php> (retrieved July 13, 2015)

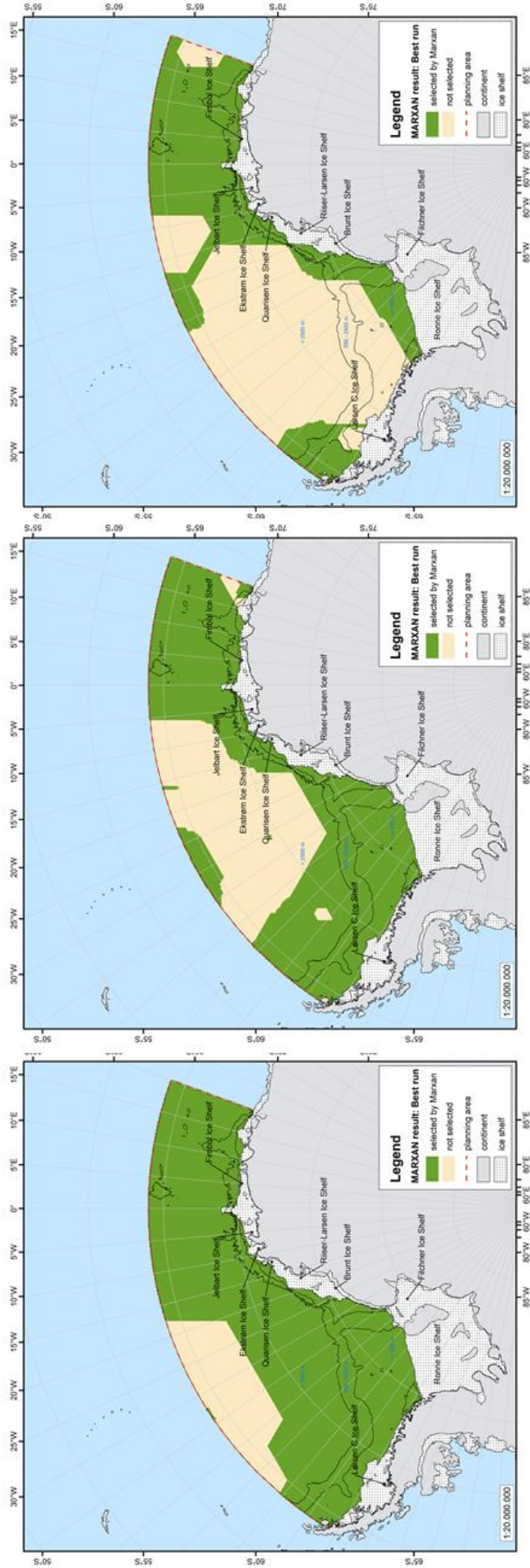
#### 2.5.4. Weddell Sea (WS) MPA

The German government commissioned the AWI to collect and analyze scientific data and to identify potential protected areas and conservation measures in the Weddell Sea. The scientific background paper on the WS MPA planning – a review of all collated data – has already been circulated in the meeting of the Scientific Committee in 2013 and 2014<sup>45</sup>. The proposal will presumably be presented in the regular SC meeting in October 2016 and possibly negotiated at the subsequent CAMLR Commission meeting in the following week.



**Figure 12** Planning area for the evaluation of a WS MPA (red shaded area) and the nine planning domains defined by the CCAMLR Planning domain boundaries follow existing CCAMLR statistical reporting subarea boundaries where possible. Source: SC-CAMLR-XXXIII/BG/02

<sup>45</sup> SC-CAMLR-XXXIII/BG/02 [http://epic.awi.de/36329/1/BGP\\_WS\\_MPA\\_14\\_sc-xxxiii-bg-02.pdf](http://epic.awi.de/36329/1/BGP_WS_MPA_14_sc-xxxiii-bg-02.pdf) (retrieved July 13, 2015)



**Figure 13** WS MPA Scenarios resulting from MARXAN Analyses. From left to right (Scenario A, B, C) weighting factors on what level of protection the different features of the system were ascribed to are decreasing. Taken from second international expert workshop of the WS MPA planning group. Note that these scenarios are preliminary and do not consider all relevant data only data that was available for analyses in April 2015. Source: AWI.

## **WS MPA planning activity**

Germany has been conducting scientific research in the Southern Ocean since the 1980s and to a large extent in the Weddell Sea. Because of its historical involvement, Germany has been offered to take the lead in the planning of an MPA in the Weddell Sea. The German planning group started its work in 2013 and has held several workshops on national and international level with different levels of stakeholder participation. Member states were invited to two technical workshops and a CCAMLR e-Group that encouraged debate about data, methods, protection objectives etc. online. They have been encouraged to contribute their expertise. The Russian scientist A. Petrov has for instance co-authored a chapter about fisheries in the scientific background paper to the WS MPA submitted to the SC. AWI scientists conducted a first assessment of the available data collated and defined a planning area of relatively homogenous biogeographic characteristics for further planning as seen in Figure 12. The planning area overlaps with the planning domains 3 and partly domain 4 and was adopted at the 32<sup>nd</sup> meeting of the CAMLR Scientific Committee in 2013<sup>46</sup>. It is an area of about 4.2 million square kilometers and reaches the size almost corresponding to the current size of the European Union. The planning area is described in the SC-CAMLR-XXXIII/BG/02 and Teschke et al. (unpublished). For WS MPA planning, different datasets covering environmental parameters and biological records of the past 30 years were compiled. National data were supplemented by data from internet portals, but also by CCAMLR data on research fishing (see Figure 14). By means of various statistical methods the data on distribution patterns of important species of the Weddell Sea (e.g. Antarctic krill, seal populations) were analyzed and refurbished. Simultaneously, conservation objectives have been elaborated following the general CCAMLR framework for MPA establishment CM 91-04.

The Planning group ultimately developed different scenarios (see Figure 13) that used different weightings in MARXAN analyses for potential MPA designs. Scenarios A, B, C ascribe those different weightings (also ‘targets’) to the protection objectives. A weighting would e.g. imply to protect 30% of a certain protection objectives such a community or biogeographic region. In scenario A (left) all targets are set comparably high, resulting in a large area of protection as suggested by MARXAN. On the contrary, scenario C has the lowest weightings of protection objectives resulting in a smaller MPA recommendation. After identification and evaluation of potential sites for the MPA scientific planning is completed.

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<sup>46</sup> SC-CAMLR-XXXII, para 5.23

Deciding which scenario will be the basis for a WS MPA proposal is policy issue that will find reconciliation between the responsible departments and ministries on national level. Currently the protection objectives are prioritized by the WS MPA planning group and essential decisions such as the weighting of those protection objectives are pending. Open questions also include how the areas will be monitored and managed as these duties need to be adjusted to the MPA size. Here the balancing of interests and the best strategy in negotiations has to be duly considered. Taking high weighting factors for protection (e.g. Scenario A) would entail a higher risk of interfering with user interests. When essential decisions have been made, the proposal is submitted in the fall of 2016 at the 35<sup>th</sup> meeting of the CAMLR Scientific Committee.

### **Users in the WS MPA planning area**

Human activity in the Weddell Sea takes places to a comparably low extent according to SC-CAMLR-XXXIII/BG/02. In this paper, expeditions and other human activities in the planning area are duly described. Further, there is a comparably negligible tourism-associated activity, minor fishing, and some logistical operations to permanent research stations and facilities (see Chapter 6.2.5). Research activity is not limited to German efforts; numerous other CCAMLR members have conducted research regularly or occasionally in the Weddell Sea. Marine living resources harvesting is limited to krill fishery at the northern fringe and to *Dissostichus* research fishery on the south-eastern slope. In CCAMLR Subarea 48.6, exploratory longline fishery started in 2003/04 and has continued since by Japan, the Republic of Korea, and South Africa. In the Weddell Sea Subarea 48.5 fishing has been comparably limited. Most fishing vessels have been prevented by the difficult ice conditions. Solely Russia has commenced a new fishery in 48.5 (options 1, 2, 3, Figure 14) to conduct stock assessment of *D. mawsoni* in the eastern Weddell Sea. Catches in 2012/2013 were of approximately 60 tons and 2013/2014 of 229 tons of *D. mawsoni*. Due to anomalies in the data which could be explained by abnormal stocks (e.g. due to advection) or IUU fishing, several experts from other member states raised concern in the meetings in 2014<sup>47</sup>. Though the program was envisaged for a five year period, the Russian data have been quarantined until investigations have been completed and contradictions are dispelled. Though being considered highly important for evaluating cost function and to assess toothfish populations (Hain 2014) to find a balance in the different interest, the data under quarantine cannot be considered in the WS MPA proposal.

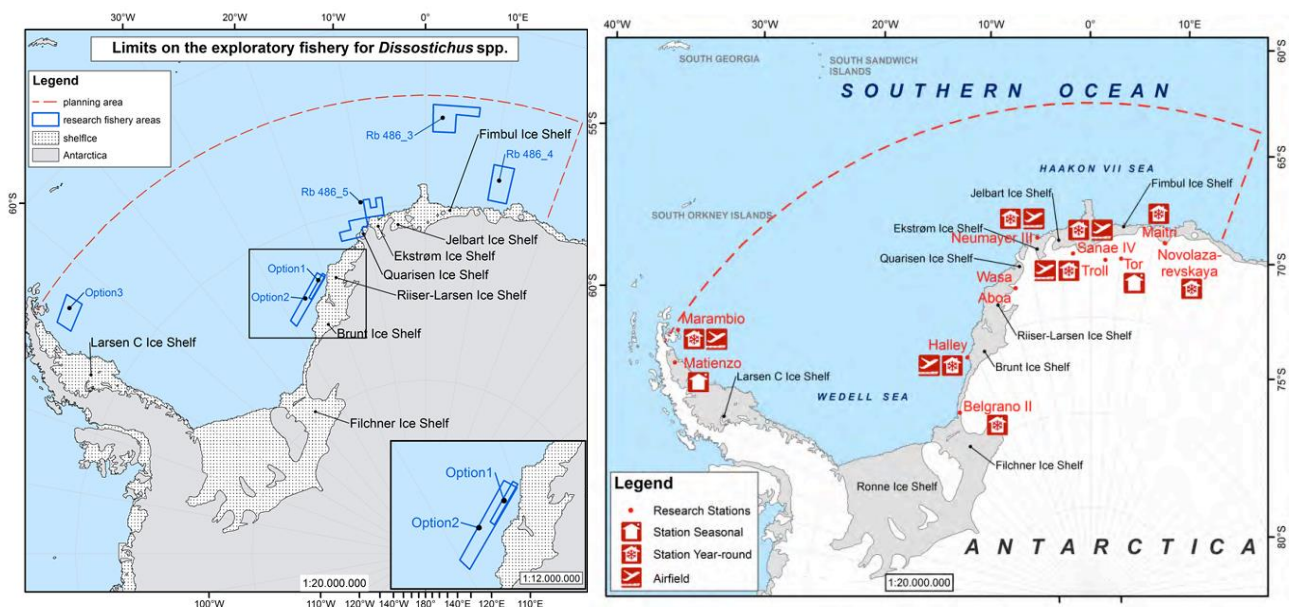
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<sup>47</sup> SC-CAMLR-XXXIII, paras 3.230 to 3.234; CCAMLR-XXXIII, paras 5.63 to 6.68



## Germany's involvement in Antarctic research

To the authors knowledge there are only sparse publications on the political motives of Germany to engage in Antarctic policy-making and Antarctic research in the past and present. German political interest for research and policy making in the Antarctic have been critically investigated by Kehrt (2014). Research cruises to Antarctica or in the Southern Ocean require massive governmental commitment. With the establishment of the Alfred Wegener Institute in 1980, the German Antarctic research station Neumayer in 1980/1981 and the construction of the icebreaker FS Polarstern, Germany made substantial effort to enter the ATCM. Financial



**Figure 14** Left: Exploratory fishery of *Dissostichus* spp. in the WS MPA planning area. Source: AWI. Right: Map of the research stations and facilities bordering the WS MPA planning area. Source SC-CAMLR-XXXIII/BG/02

commitment by the federal government has been enormous covering a figure in the hundreds of millions Deutsche Mark for the measures taken in the scope of the accession to the ATS (ibid. 421f.). According to the author, it is likely that resource-oriented German Antarctic-research can be explained by the reform of UNCLOS and associated losses of German fishing grounds in the North Sea and Iceland due to the newly introduced concept of EEZ. Krill research has been the “ticket d’ entrée” into the ATS for Germany (ibid. 420). However, krill did not serve the primarily promoted abstract goal of world food security and closing existing gaps in protein sources, but geopolitical motives for access to global marine resources and reducing dependencies from primary sector imports. Hence, investment in the krill research and fishing has been a strategic decision. German engagement did not promise to provide immediate profits due to the long distance. It can thus be seen as long-term engagement and securing of potential resources (ibid. 420). Beside the new options for exploitation, research and the associated knowledge brought the chance to stage Germany (Federal Republic of

Germany) on a global setting of Antarctic policy. The first German krill expedition has taken place in 1975/76 with the objective to explore occurring fish and food resources, thus investigating potential commercial fisheries in this area. Germany's motivation is for example revealed in the expedition report where it has been explicitly stated that economic and political motives have been vital for the cruise (Hempel, 1979).

#### **2.5.5. Other MPA planning domains**

There is sparse information on other MPA planning activity available. Some member states have commenced planning MPAs. Experts have met in Chile in 2012 conducting a first technical workshop and have announced a second workshop during 2015 for an MPA in the Western Antarctic Peninsula in domain 1 led by Chile and Argentina. This area is characterized by comparably high fishing, scientific research, and tourism activities (see also Chapter 6.2). There is comparably little known about the planning activity, as documents are inaccessible to the public. Cooperation with the adjacent WS MPA planning area may be outstanding especially regarding overlapping protection targets such as occurring populations such as penguin colonies. Norway has further undertaken preliminary discussions about planning around Bouvet Island (domain 4)<sup>48</sup>. This area also includes the Maude Rise feature overlapping with an area potentially identified by MARXAN analysis of the WS MPA planning group (see Figure 13). Here, it is also eventually required to have coordination meetings with the different planning groups. However, it appears that the Maude Rise planning group has not made substantial progress yet. It remains to be seen if the area around Maude Rise will find consideration in the WS MPA proposal and if not if the data can and will be used by the respective Norwegian planning group. In 2012, collaboration between Sweden, the USA and Korea has been proposed to progress MPA planning in domain 9 in the Amundsen and Bellingshausen Seas region off of West Antarctica<sup>49</sup>.

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<sup>48</sup> CCAMLR-XXXII, para 5.79; SC-CAMLR-XXXII, para 5.26

<sup>49</sup> CCAMLR- XXXI, para 5.59; SC-CAMLR-XXXI, para 5.29

### 3. Theory of stakeholder analysis

SHA theory provides an analytical framework to evaluate results and data sampling methods. This Chapter gives a short survey about stakeholder theory, the term stakeholder, and the typology of methods and steps of SHA. It is largely based on a literature review on stakeholder theory given by Reed et al. (2009) and Grimble and Chan (1995) including a topology of methods that can be applied, a comprehensive set of consecutive steps for SHA. A detailed practical guide for SHA categorization of stakeholders based on their attributes in policy projects is given by Schmeer (2000). The latter also provides templates for categorization and tabling stakeholder attributes.

#### 3.1. Defining the term stakeholders

Within the literature there exists a variety of definitions to the term stakeholder. Yet, a definition is often disregarded in natural resource management and other wide-ranging research (Billgren and Holmén 2008:554). Specification of what is meant by stakeholder in the course of the study is convenient and increases understanding over purpose of the study and the role the convener of the SHA plays.

The term stakeholder has a long history of use in several disciplines. Though Freeman's definition (1984:46) has often been quoted as the basis for stakeholder theory, it first appeared in 1708 "*to describe a third party entrusted with the stakes of a bet*" (Reed et al. 2009:1934). But who actually is a stakeholder in the system under analysis and who do we focus on in our analysis? The choice of definition and the purpose given by a convener of the analysis may specify who a stakeholder is and if he is a subject to analysis that appears legitimate to the convener. Conversely, the definition used, can reflect how the researcher classifies him- or herself (Wu 2007:416). Definition and derived focus as basis for analysis thus reflects the justification of SHA. Particularly in the policy context, analyses purposefully aim for a better involvement of stakeholder groups that may be marginalized if there is no intervention (normative SHA). Therefore they must be made explicit by identification based on that very definition. The convener of a SHA has great influence on stakeholder identification and potential involvement in future activities. Defining stakeholders often is based on a pragmatic wish to draw certain boundaries on *who is in and why*<sup>50</sup> or *who or what really counts* (Freeman 1994:411). Definition implies that there is some exclusiveness. The majority of

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<sup>50</sup> Title to Reed et al. (2009)



SHA for instance start from an anthropocentric perspective that largely excludes most non-humans. But what about future generations or the wider society, don't they have a stake in the system under analysis? Or as discussed by Ramírez 1999 (104);

*“[...] a logical question arises: Who decides on the purpose of the analysis and who counts most? In other words, who is a stakeholder? The question refers ultimately to the relationship both between the stakeholder and the problem and between the stakeholder and the analyst or convener”*

The variety of definitions can be confusing, just for the business literature Mitchell et al. (1997) found 27 definitions. Most of the definitions given in the literature are based on Freeman's stakeholder theory to some extent. He defined stakeholders as those who are affected or affect a decision or project. Meanwhile, some definitions are narrower and more pragmatic. Stakeholders have been described as:

- *“... any individual, group and institution who would potentially be affected, whether positively or negatively, by a specified event, process or change.”*(Gass et al. 1997:122)
- *“... any group of people, organized or unorganized, who share a common interest or stake in a particular issue or system...”* (Grimble and Wellard 1997:175)
- *“... natural resource users and managers.”* (Röling and Wagemakers 1998:7)
- *“... persons, groups or institutions with interests in a project or programme.”* (ODA 1995:2)
- *“... any group or individual who may directly or indirectly affect – or be affected...”* (Buanes et al. 2004:211)
- *“... who have the capacity to affect the policy, or those who may be affected by the policy”* (Gilmour and Beilin 2007)

Most definitions in this context share either the interest or potential influence of stakeholders on a given system or issue. The definition given by ODA (1995) shows how widely the term may be applied. Anyone could be interested in a project like a Marine Protected Area in the Southern Ocean. It would be a prohibitively high effort to involve all interested parties in the analysis to the same extent. In the end, there is no ultimate definition but it appears that a definition is vital and should also be given nevertheless.

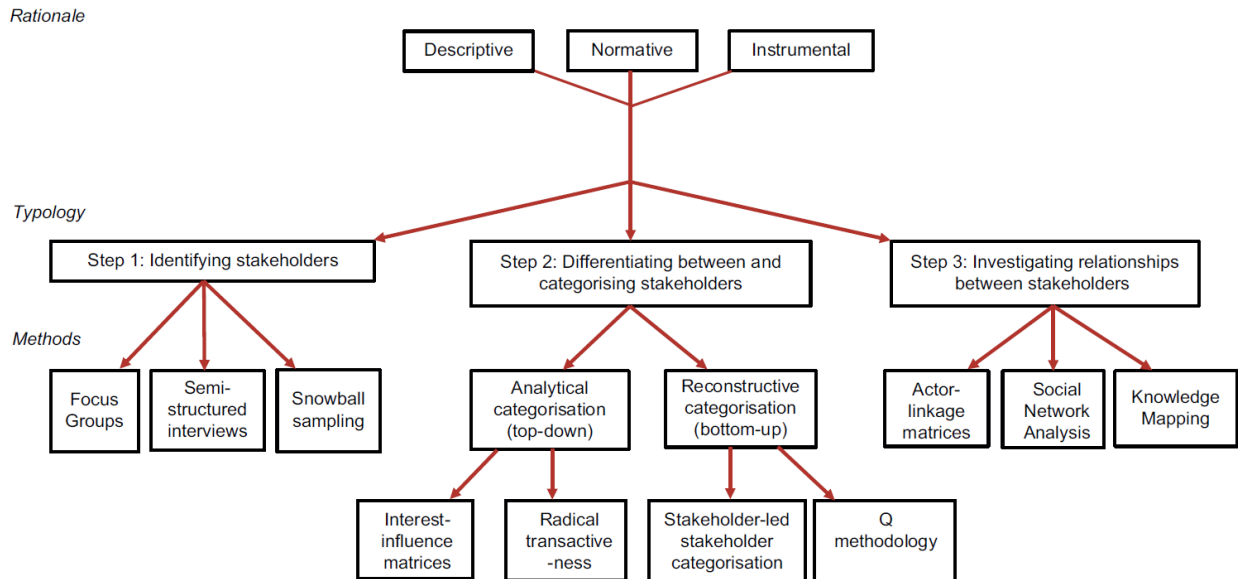
### **3.2. Stakeholder theory and rationale**

Stakeholder theory has its origin in business management. It is a theory of organizational behavior management<sup>51</sup> and business ethics of organizational management. Robert E. Freeman, an American philosopher and professor of business administration, is considered to

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<sup>51</sup> Organizational behavior management can be understood as an aspect of management where psychological principles are applied in management or training after behavior and system analysis. It is aiming to improve work performance or safety in a management system.

be the founder of stakeholder theory, for which he is widely known, namely based on his work in *Strategic Management: A Stakeholder Approach* (1983). In business management firms used SHA to meet their strategic objectives. It was primarily applied to defeat, mobilize or neutralize the analyzed stakeholders in instrumental SHA. Later, the approach has become an important tool in public policy science provoked by a shift in policy making paradigm in the 1990s (Parnell 2007:50). Policy since then ascribed stakeholders a greater importance in decision making, which set the basis for application in stakeholder analysis in this field (Brugha and Varvasovszky 2000). SHA infiltrated various other fields and has been adapted and still finds great popularity. Due to the influence of the different disciplines and a long period for parallel adaption of SHA, there is a widespread confusion on the definition to stakeholders, stakeholder analysis, its concepts and applications (Reed et al. 2009:1933). With the introduction of a normative SHA approach and the empowerment of marginalized stakeholders, perspectives had to be fundamentally widened, which also led to increased complexity of the theoretical background. SHA is perceived as “*slippery creature*” (Weyer 1996, cited after Reed et al. 2009) with its several meanings showing a “*muddling of theoretical bases and objectives*” (Donaldson and Preston 1995). Theory still evolves and despite the variety of approaches can best be seen as a set of different tools that are highly flexible in its applications. According to Ramírez (1999:102) SHA is used empirically “*to discover existing patterns of interaction; analytically to improve interventions; as a management tool in policy-making; and as a tool to predict conflict*”. Due to its various usages in different projects across several disciplines SHA is management approach, method, and analytical framework at the same time. In the end, SHA always aims for similar things; to identify and describe stakeholders and relationships. The theory behind the different disciplines that use SHA may differ, however they all have one objective in common: They all identify multiple claims and can provide a basis for a better understanding of a complex system. SHA thus provides a multi-dimensional dataset for deductive, inductive or comparative analysis (Burgoyne 1994). But what are the justifications to convene a SHA? The theoretical basis to SHA can be rationalized (Reed et al. 2009) (rationale, see Figure 15) in normative, instrumental and descriptive approaches. Firstly, the normative SHA is focused on an identification of stakeholders and anticipates an involvement of marginalized stakeholders. SHA may furthermore be used instrumentally as a tool to manage stakeholder behavior. Both, the normative and instrumental SHA would usually require a descriptive SHA.



**Figure 15** Schematic presentation of rationale, typology and methods for stakeholder analysis. Source: Reed et al. (2009:1936)

The descriptive approach is rarely conducted on its own; nevertheless, it is an antecedent to both normative and instrumental approaches (Reed et al. 2009:1935). Normative approaches to SHA are endorsed widely as they involve legitimization of stakeholder in the decision making process. It legitimizes decisions that involve (certain) stakeholders (e.g. Donaldson and Preston 1995) or even entitles people “*a right to participate*” in the management of their environment or system (Reed et al. 2009:1935). Instrumental stakeholder theory is of a more pragmatic nature aiming to understand “*how organisations, projects and policy-makers can identify, explain, and manage the behavior of stakeholders to achieve desired outcomes*” (Reed et al. 2007:1936). Business literature on SHA often makes use of instrumental approaches. Understanding how to influence stakeholders to reach desired outcomes forms an essential part of businesses management. Associated stakeholder research often implies some sort of strategic purpose for e.g. product design or better marketing, this may also include conflict assessment between groups of stakeholders to overcome those in future activities.

In the policy context, recognizing stakeholder’s views and interests has become partially a legal requirement increasing accountability of projects and policies. Normative rationale of SHA is however often used instrumentally in the policy process for policy making, or how stated by Reed et al. (2007:1936):

*“...normative justifications for stakeholder analysis may lead to instrumental outcomes. The normative basis suggests that stakeholders should be involved in decision-making processes and thus feel some level of ownership of these processes. By doing this, stakeholder analysis may serve instrumental ends if it leads to the transformation of relationships and the development of trust and understanding between participants”.*

### 3.3. Stakeholder analysis: typology of methods

**Table 2** Different approaches to stakeholder analysis taken from the literature, providing an overview on consecutive steps,

<b>Grimble and Chan (1995)</b>	<b>ACERA<sup>52</sup></b>	<b>Billgren and Holmén (2008:552)</b>	<b>Reed et al. (2009:1947)</b>
Clarify objectives and purpose of the analysis			Identify focus (e.g. issue, organization or intervention)
Place issues in a systems context, develop understanding of system and decision-makers			Identify system boundaries
Identify stakeholders	Identify stakeholders	Identify and categorize stakeholders of influence	Application of methods: Stakeholder identification, categorization
Analysis of stakeholder interests, characteristics, circumstances	Analysis of the perceptions and influence of the stakeholders	Understand why changes occur	
Analysis of patterns of interaction and dependence <sup>53</sup>	Mapping stakeholder interests including power relations	Identify change makers	investigating relationship
Definition of management options	Use of maps to advance objectives (e.g. of a project)	Develop best practices for natural resource management	Take action: recommend future activities and stakeholder engagement

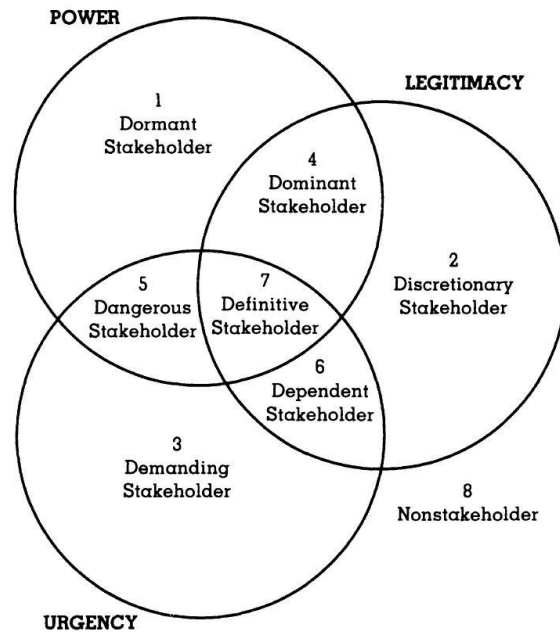
Academics have made effort to describe SHA as a set of consecutive steps using different methods. Examples are given by Grimble (1995:7) Reed et al. (2009), Billgren and Holmén (2008) and by ACERA (2008) as shown in Table 2 They all combine the four common processes, (1) identification of stakeholders, (2) description of stakeholder attributes and patterns to categorize stakeholders, (3) investigation of stakeholder’s mutual relationships as basis (4) to introduce change in management or other future activities to reach desired outcomes which however may differ according to the purpose or objective of the research. All approaches show high correlation with each other and include the typology of methods given by Reed et al. (2009). This typology provides a differentiation of technical approaches and possible methods for data collection for the respective SHA steps as seen in Figure 15.

<sup>52</sup> The ACERA (Australian Centre of Excellence for Risk Analysis) is of particular interest as it has been used by a student research project in a similar context (Sovacool 2008) considering the creation of a CCAMLR MPA as a motion by the Australian delegation, later to become the EARS MPA. For the ACERA-method Cf. Gilmour and Beilin (2007).

<sup>53</sup> \*e.g. conflicts and compatibilities, trade-offs and synergies

### 3.3.1. Stakeholder identification

Identification of stakeholder is a crucial but difficult process as groups are often manifold, large and diffuse. Identification constitutes the foundation of SHA. The focus is narrowed down by certain criteria, which can e.g. be the definition of the term stakeholder. Boundaries of the system under analysis should be based on well-founded criteria such as geographic or demographic criterions (Clarke and Clegg 1998; Reed et al. 2009:1937). Methods for identification are various. Most include a literature review and often some sort of interaction with the stakeholders. The process requires a good



**Figure 16** Stakeholder typology for identification and prioritization by present relationship attributes. Source: Mitchell et al. (1997:874)

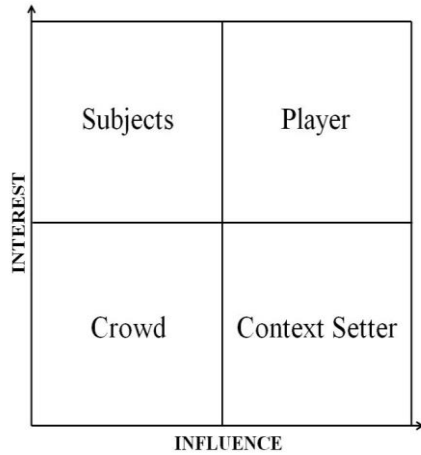
knowledge of the system or project (also phenomenon) under investigation for defining boundaries in social and ecological aspects under consideration. If the system has clearly defined boundaries, stakeholders can comparably easily be identified (Reed et al. 2009:1937). The identification is usually an iterative process and the list of identified stakeholders is amended over the time of the analysis. Reed et al. (2009) describes possible methods for data collation: focus groups, semi-structured interviews or snowball sampling or a combination of these methods. If good knowledge exists the identification can be done on own assumptions without consulting stakeholders directly (Reed et al. 2009:1937).

A cohesive approach that will find its application in this thesis is the stakeholder identification and prioritization approach by Mitchell et al. (1997). Stakeholder feature one or more of the given relationship attributes (power, legitimacy, urgency)<sup>54</sup> by which they are classified for further prioritization in management, as shown in Figure 16.

<sup>54</sup> According to Mitchell et al. (1997:869) Power is a “relationship among social actors in which one social actor, A, can get another social actor, B, to do something that B would not have otherwise done”. Legitimacy is a “generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, definitions”. Urgency is the “degree to which stakeholder claims call for immediate attention”.

### 3.3.2. Stakeholder categorization

Results from collating data on stakeholders can be listed in a stakeholder table and then be used for categorization, also often called stakeholder mapping. The identified stakeholders are



**Figure 17** Interest-Influence Matrix with associated classes. Source: after Eden and Ackermann (1998).

differentiable on the basis of stakeholder interest, positions, other attributes, relationships including conflict. Categorization of stakeholder interests visually exhibits attitudes towards the system under analysis and thus serves as valuable incentive for further discussions (Gilmour and Beilin 2007). Results can be used to display position in a spectrum, or to put different attributes in correlation. The categorization process has been widely applied and is probably the richest in different technical methods for both data acquisition and further (graphical) data use. Methods for categorization may either be analytical or reconstructive (Dryzek and

Berejikian 1993). Reconstructive categorization methods are based on the definition of parameters and classes by the stakeholders themselves in order to better reflect concerns of the involved. Hare and Pahl-Wostl (2002) for example used a card-sorting approach in a stakeholder-led categorization. Another reconstructive approach is the Q methodology which uses empirical analysis of stakeholder perceptions instead of theoretical perspectives (Barry and Proops 1999). Here, the stakeholders assign how much they agree with statements drawn from discourse. Hence, this method can be used to identify social discourses (Reed et al. 2009:1937). The analytical categorization is based on observation of the convener of the analysis and is “*embedded in some theoretical perspective on how a system functions*” (Hare and Pahl-Wostl 2002:50). Analytical categorization analyses often produce matrices or venn diagrams, and are popular in studies in the field of policy or development (Reed et al. 2009:1939). Categories or attributive information can be processed in a compacted but systematic manner. A graphical display is used to draw conclusions by the researcher on the interplay of categories such as needs, power, interest, knowledge, positions, alliances, relationship, conflict etc. The analytical categorization has been used to investigate:

- cooperation and competition / relative power and interest (Freeman 1984)
- interest and influence (Lindenberg et al. 1981),
- importance and influence (Grimble and Wellard 1996)

- potential for cooperation and threat (Savage et al. 1991)
- urgency (of claim on the system), legitimacy (of relationship with the system), and power to influence (Mitchell et al. 1997).
- networks and coalitions (Freeman and Gilbert 1987)

Besides a great amount of academic literature on analytical categorization, there is a high amount of grey literature on stakeholder mapping found on the internet, which are methods that are applied by agencies, consultants or governments such as the Stakeholder Circle (Bourne and Walker 2008). A very common approach in SHA is the investigation of interest and influence (Lindenberg et al. 1981), in the form of an interests-influence-matrix. The approach has further been combined with underlying classes of crowd, subjects, context setters and key players (e.g. by Eden and Ackermann 1998; De Lopez 2001) as shown in Figure 17. Classes may be helpful for subsequent strategic planning in normative and instrumental SHA e.g. on how to address or involve those classes of stakeholder. Such classes or describing attributes for categorization can support the information derived from analyses and increase analytical power (Reed et al. 2009:1938). Also the labels '*supportive*' or '*unsupportive*' are such attributing categories. The categorization within the spectrum of positions ('*Position Map*' after Schmeer 2000:16) can further be used to describe relationships as it reveals potential alliances between the stakeholders. To increase transparency the use of a stakeholder table has been recommended as groundwork (e.g. ODA 1995). Differentiation of stakeholder information is presented in table which increases understanding of the end-user and giving the opportunity to repeat the categorization process. A stakeholder table template is provided by Schmeer (2000) or ODA (1995).

### **3.3.3. Investigating stakeholder relationships**

Investigation of stakeholder relationships is essential for any SHA. As shown in Figure 5, the actor-linkage matrix (see ODA 1995; Grimble and Chan 1995) is one method to investigate relationships between stakeholders. Here, a two-dimensional matrix is developed describing relationships using codes such as conflict, complementary, or cooperation. These matrices build up on the categorization process. Strictly speaking, there is no great difference to the analytical categorization process. Another common possibility is the development of a Social Network Analysis (SNA). In the SNA patterns of communication, trust and influence between actors in social networks are investigated usually convened by means of a structured interview or questionnaire. It may be used to identify the boundaries and structures of a network.

Knowledge mapping investigated the content of information between actors and is often used in conjunction with the SNA. It analyses interactions and knowledge by means of semi-structured interviews. It is a useful method to gain insight into power balance and possible coalitions.

### **3.4. SHA strengths and weaknesses**

SHA is a useful tool that however has its weaknesses and limitations, which can be different depending on the purpose (rationale) and step of the SHA.

SHA is an approved tool that has also found its application in similar policy contexts: it has been applied in forest reserve conservation (Mushove and Vogel 2005), coastal zone management and planning (Rockloff and Lockie 2004; Buanes et al. 2004), the Tasmanian Marine Protected Areas Strategy (Stump and Kriwoken 2006), Californian Marine Protected Area Policy and associated conflicts based on opposing interests (Weible 2007). Moreover it has been applied for stakeholder identification within the planning process of (what later became) the EARS MPA initiated by the Australian delegation (Sovacool 2008). It was used to identify opportunities and restraints for Macquarie Island – a Tasmanian State Biosphere Reserve between New Zealand/Tasmania and Antarctica (Parnell 2007).

SHA can potentially foster discussion and provide the basis for encouragement of stakeholder participation irrespective of whether or not involvement was anticipated. This means, any SHA has the potential to increase democracy and transparency in decision making (Brugha and Varasovszky 2000). It may thus lead to more effective, legitimate and creative outcomes (Hall 2000). It may reduce conflict by providing a basis for exhibiting the conflict and underlying interests and positions, thus encouraging stakeholders to find a middle ground and shared understanding of conflicting views for future cooperation. Beyond that, it is a systematic basis with the potential for actors to understand complex systems. It is seen as a heuristic tool which can offer good solutions though dealing with incomplete knowledge (Mitchell et al. 1997). Weible (2007:96) exhibits that SHA is a convenient tool if the convener looks at the political feasibility as it elucidates project or policy riskiness and viability. The author suggests that SHA compared to policy analysis can better understand political contexts because the effectiveness of policy analysts is “*limited because of their inattention to politics*”.

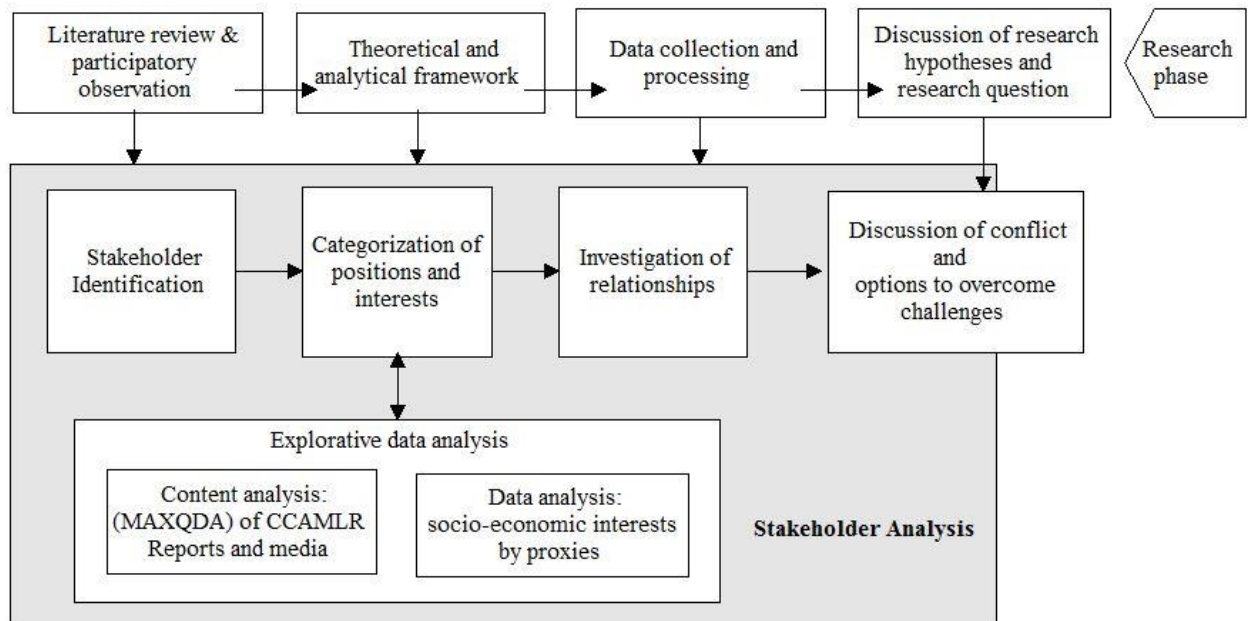


SHA is not a universal remedy for decision making and conflict management. Outcomes can and often are biased due to a number of deficits. First of all, the subject of analysis is characterized by a highly dynamic nature. SHA will mostly be a snapshot in time, and stakeholders groups, representatives, drivers, agendas, access to resources (such as finances), and influence in the decision-making process may alter substantially in a short period. Interests, priorities and the capacity to influence change over time, therefore SHA is best done on a continuous basis. The convener has to be cautious not to exclude stakeholders from the data acquired in the beginning as they may be outdated, biased or incomplete. There is always the risk of bypassing stakeholders which may have several reasons. It is possible that parties involved are deliberately ignored in the identification process by the convener or other stakeholders that provide necessary information for identification. SHA is further biased by the assumptions made by the convener, who provides the definition and basis for identification of stakeholders. The convener (or the client) chooses purpose of the research, stakeholders for interaction, methods and is responsible of how rigorously applied methods are.

Results taken from the analysis may be subjective. Consequently, the SHA is open to exploitation by the convener, the stakeholders participating especially if they are providing data for the analysis and also by the end-user. The end-user may use results for several purposes such as to reason future activity, but may also be led unintentionally by the research, making incomplete or wrong assumptions. The end-user may use incomplete or inaccurate information from the research – for example: The individuals approached for the research are representatives of groups that are perceived as one interest group, however the individuals of this groups have variations of these interests and also self-interests which may lead to misinterpretation of facts. The stakeholders participating may have hidden agendas and responses may be pretextual, therefore usefulness of results may be impaired (Brugha and Varasovszky 2000). This issue can be particularly challenging to the convener when trying to withdraw information from powerful social actors, e.g. from governments or other actors from the macro level. Such hidden agendas and covert interests can distort analysis' representativeness and repeatability. Actors that are already very influential may use the results of the SHA for further marginalization of minor stakeholder groups as the research reveals interests, positions, and relationships (Weible 2007:96). If such knowledge becomes public, conflict may even be aggravated or new conflict can be generated (Grimble and Chan 1995; ODA 1995).

Analytical categorization suffers under particular drawbacks. It tends to identify the ‘usual suspects’ (Reed et al. 2009:1939) which may be disadvantageous for powerless or marginalized groups (Calton and Kurland 1996; Grimble and Chan 1995). This kind of analysis is often used without the active participation in categorization process of stakeholders themselves. It is based on the assumptions of the researcher which may lead to a reflection of prejudice. Categorization often includes matrices explaining alliances, interests, policy positions but lack a “*theoretical basis for explaining the causal interdependence among these variables and how a combination of these variables affects belief and policy change*” (Weible 2007:97).

## 4. Methods



**Figure 18** Research design, displaying phases of research and the SHA framework including methods for data collation. Arrows indicate feedback to subsequent processes.

The research design includes the iterative research phases shown in Figure 18. A general literature review and participatory observation prior to the actual research has led to a first research focus and the choice of the SHA as theoretical and analytical framework. SHA in this research includes an identification of stakeholders, analytical categorization of interests and positions, and the investigation of relationships. This approach proposes to use two different data sources to feed the SHA. Stakeholder interest is acquired by interest data proxies on resource uses in the Convention Area and in the MPA planning areas. Interests and position data on MPAs in general and on particular proposals will be acquired by content analysis using the software MAXQDA. On this basis, points of conflict and options to overcome obstacles are discussed.

### 4.1. Summary of definitions

A summary of definitions is given to increase understanding and to associate wording that can be context-dependent.

A stakeholder is any group or individual that affected by decisions on MPAs. As this applies for the wider society, we introduce the term ‘definitive’ stakeholders that are subject to

stakeholder identification. In this research definitive stakeholders are defined as natural research users and managers that can and are legitimated to influence decisions taken in the stakeholder community.

Stakeholder involvement or engagement describes the process of actively letting stakeholder participate in planning, decision-making, or management. These stakeholders are not necessarily directly affected by the decision. In this research, stakeholder involvement signifies the engagement of other member states in MPA-related processes.

Negotiation is a discussion process that is aiming for agreement. Authors describe negotiating as a process of conflict management (Redpath 2013:102). In case of CCAMLR, negotiation describes the general pattern of interaction and the decision-making process.

A stakeholder's interest describes the common concern, desired advantages or benefits. In this particular context, the concept of interests describes a stakeholder's goal or (socio-economic, cultural) ambitions to the aspects fisheries, conservation and science. A position taken in negotiation process or articulated in other forums describe the point of view or attitude towards a project or policy. In this case, it covers the position towards MPAs for managing fisheries and conservation purpose. In other words: One has the desire to conduct sustainable fisheries in an area (interests) but the position not to want the MPA in the respective area. Another approach is to ask for WHAT is desired (position) and WHY it is demanded (interest) (Maiese 2004). Position and interests form a case specific relationship. Not wanting MPAs can for example be interpreted both, interest and positions taken in negotiation process.

A conflict describes the disagreement that is usually prolonged (Maiese 2004). Conflict is a complex situation describing stakeholder relationships. A definition is e.g. given by Thomas (1992) *“the process which begins when one party perceives that another has frustrated, or is about to frustrate some concern of his”*.

#### **4.2. Participatory observation**

Participatory observation (or observing participation) of the stakeholder community has been applied at selected occasions to observe stakeholder interaction. It is used as a complementary method for SHA for gaining a profound understanding of the system under analysis.

Participatory observation is "*the systematic description of events, behaviors, and artifacts in the social setting chosen for study*" (Marshall and Rossman 1989:79). It has been used to formulate the research question and to increase comprehension of the technical and political practices of MPA planning. Events for participatory observation of the German WS MPA planning group are shown in Table 3. Most of the observations have taken place at the AWI as part of a study research project and in several meetings for the planning of the WS MPA in the meetings in Bremerhaven and Berlin, Germany. The author gained insight into the technical and political planning of the WS MPA and stakeholder interaction in such workshops. It also enhanced knowledge on Germany's mélange of interests and motivations for MPA creation in the Weddell Sea.

**Table 3** Time frame of selected meetings for participative observation of the WS MPA planning group

<b>Time</b>	<b>Meetings</b>
September 2013	First national meeting of the planning group of the WS MPA. Data review and road map development. Bremerhaven, Germany
March/April 2014	Internship as preparation for a Study Research Project at the AWI. Bremerhaven, Germany
April 2014	Second national preparation meeting First international expert workshop for the planning of WS MPA (data review). Bremerhaven, Germany
March 2015	Third national meeting for further data analyses and first appraisal of possible protection objectives and preparation for the international workshop in April. Bremerhaven, Germany
April 2015	Second international workshop for the planning of the WS MPA (data analyses, draft management, draft zoning and draft research and monitoring plan review). Berlin, Germany

Secondly, participatory observation has been applied to investigate communication procedures, paradigms and operational processes of CCAMLR. Observations have been made in the meetings CCAMLR-XXXIII. In October 2014, the author spent one month in Hobart, Australia for participating in the meetings of WG-FSA, SC, and Commission. At the SC and Commission meetings the author was able to observe negotiation on the EARS MPA and RS MPA, as well as the review of the SOISS MPA, and the presentation of the WS MPA scientific background document. Observation enabled insights into how MPA proposals are negotiated, stakeholder behavior, patterns of interaction, and communication within the stakeholder community.

### **4.3. Stakeholder analysis**

SHA has been chosen as method because of its strengths as heuristic tool and its importance as precursor for assessing conflict situations. The SHA was considered appropriate a tool to discuss the research question raised in Chapter 1. The SHA follows a systematic procedure following a three step approach of stakeholder identification, categorization, and investigating relationships iteratively. Analysis of the conflict potential and solutions to the challenges MPA negotiations face are found in the ensuing discussion. Data for SHA are acquired from secondary sources. This research proposes to use SHA based on data from content analysis and analysis of socio-economic interest data to investigate stakeholder interests and positions. It is providing a data-led categorization that minimizes subjectivity that is known to be a significant weakness of stakeholder analysis (see Chapter 3.4)

### **4.4. Identification**

Stakeholder identification in the CCAMLR community focuses on actors that are legitimized to make decisions. Criteria for identification are given by Mitchell et al. (1997). Solely stakeholders with power, legitimacy and urgency qualify as stakeholder in this research. Only identified stakeholders find consideration in the categorization process. Identification is based on the background acquired by means of the literature reviewed (CCAMLR reports and other respective documents of the ATS as major source) and participatory observation of stakeholder meetings. The identification includes a description of role and capabilities of other actors in the system and the stakeholder community that are not regarded in this study.

### **4.5. Categorization**

Analytical categorization aims to display the complex conflict situation in MPA negotiations. From the set of attributes for categorization suggested by Schmeer (2000) the attributes interests, position, and relationship are used for mapping. Stakeholder mapping is based on data acquired by two sources of secondary data. A broader perspective is less likely to overlook crucial information on stakeholder interest to investigate the given research question. Two different methods of explorative data analysis have been chosen to provide diversity in perspective. Data were collected by means of a content analysis using MAXQDA and interest describing proxies. Interest can be described by both sources, whereas position and relationship analysis are based on the content analysis. A more comprehensive picture is given, because content analysis can be complemented by the interest data and vice versa.

Differences in interests are known to constitute the backbone of disputes among different parties and should therefore be accurately documented. SHA has often been used to understand a range of diverse and potentially conflicting interests. In this research interests are assessed and classified on a spectrum from advantageous to disadvantageous for the proposed policy— meaning the MPAs. Interests that converge most closely with MPA objectives are perceived beneficial for the stakeholder behind the development of a policy (proponents). Listing all the different interests, irrespective if overt or hidden, allows the convener to exhibit interests as a conglomerate that may also be conflicting for the stakeholders themselves.

Positions as indicative attributes were chosen for the SHA, because authors have suggested that conflict in negotiation is often based on hardened positions and not necessarily solely on conflicting interests (Fisher et al. 2011). Positions on the phenomenon under research are usually articulated in some form in discussions within the stakeholder community. In this case, positions are taken from annual Commission reports and media reports. They are thus either self-reported (report) or perceived by others (media). The position is mapped by the researcher on a spectrum from *'supporting'* over *'neutral'* to *'unsupportive'*. If position data from the media and reports is not corresponding, the mismatch is explained by the researcher and considered in the mapping process.

#### **4.5.1. Content analysis by means of MAXQDA**

Content analysis is aiming to determine patterns and themes from written, spoken or published communication. The method was chosen for this research as it is an inexpensive way to establish quantitative data from qualitative sources. Elicitation and evaluation of data follows a systematic rule guided approach for *'Qualitative Content Analysis'* after Mayring (2000, 2010). By means of the professional software MAXQDA<sup>55</sup> qualitative and mixed methods data analysis could be warranted while providing a concept for structuring and coding text. The use of MAXQDA allows to work within the text and secure information that may be relevant to answer the research question. In the program text passages (*'codings'*) are associated to *'categories'* (also *'codes'*). MAXQDA can be used for different quantitative uses. The software automatically counts the numbers of codings associated to a category. Results can be exemplified in different matrices, tables or maps. Such graphical functions were used to refurbish data in order to display the data systematically in the form of matrices

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<sup>55</sup> VERBI GmbH, Berlin

that enhance visualization. The author used MAXQDA to convene a qualitative content analysis of CAMLR Commission reports of the last seven Commission meetings since the first proposal for an MPA (SOISS) has been tabled. Moreover, a second operation has been convened for media reports of the last five years.

After Commission reports were read for the first time, policy related statements were collected in separate documents and associated to the member states, which has facilitated text work with MAXQDA. Media reports have been fed into MAXQDA without prior treatment. To obtain an overview of text structure and to elaborate the first predefined deductive categories, the respective documents were read again before they were fed into the software. Predominantly, a deductive category system that oriented on the research question has been applied. Inductive categories that are generated from the text, that were not anticipated in the beginning, were also recorded. A '*coding agenda*' – including a comprehensive set of categories, based on category definitions and coding rules can be found in Table 4 and Table 5 for the respective analysis. The coding agenda was elaborated while repeating coding operations in '*loops*'. It is a combination of predetermined deductive categories (e.g. '*support*', '*criticism*') that are based on the research question and the respective theory, and inductive categories that arose within the course of the content analysis. The category system in the graphical program interface (see Figure 19) was revised recurrently. During one loop in MAXQDA text passages that were to be encoded are compared with existing categories and subcodes. The convener compared existing elements within the same text (e.g. statements by a nation), within the same text passage and within a meeting in case of the Commission reports. Categories have been compared within the two different sources (media and reports) to increase comparability of interest and position data.

Coding operation followed certain coding rules that resulted from the specific structure of the reports. These included:

- The same category was associated solely once per statement.
- Statements that are made by more than one stakeholder (e.g. 'the proponents' 'many' or 'some' members), are either neglected, or coded for all parties.
- Proponents cannot be coded supportive or unsupportive of their own proposal. A proponent's position towards MPAs and towards their own proposal was not subject to coding, except for EU members to the EARS MPA proposal.



- Ecological reasons for MPA establishment have been neglected due to the number of possible codings.
- Proposals including background documents were not used to assess positions of proponents. With the exception of tabled documents that clearly reveal positioning.
- Quantitative analysis of unsupportive codings can be coinciding with other codings such as policy requirements.
- Codings may be ambiguous or implicit. Coding often requires discretionary decision by the convener.

**Table 4** Coding agenda of deductive categories of annual Commission reports. Table includes categories, definition and coding rules, coding example and associated subcodes. Samples are taken from MAXQDA analysis based on CCAMLR Reports (2009 till 2014).

<b>Category</b>	<b>Definition and coding rule</b>	<b>Coding example</b>	<b>Subcodes</b>
<b>Position: Support</b>	Clear statements on support for the policy, either on a specific proposal or general support for MPA as management tool. Proponents are excluded from assessing supportiveness of own proposals.	<i>"... strongly supports both these proposals towards establishment of MPA, one in the Ross Sea region and the other in the East Antarctic zone."</i>	MPAs; EARS MPA; RS MPA
<b>Position: Unsupportive</b>	Clear opposition on specific MPA proposals or criticism that indicated unsupportive positioning (partially overlapping with 'policy requirements')	<i>"the RSRMPA proposal does not adequately identify the vulnerabilities to be protected"</i>	MPAs; EARS MPA; RS MPA;
<b>Interest: Motivation</b>	Motivation to establish an MPA as stated by stakeholders representing interest in the drivers to establish policy; ( <i>Why have an MPA?</i> ). Ecological reasons are excluded.	<i>"The adoption of the proposal would send an important signal to international discussions on MPAs."</i>	Conservation, commitments
<b>Interest: Concerns</b>	Sticking points reflecting interests by a stakeholder in the policy and policy process. Include the subcategories general concern, particular concerns on tabled proposal, and other concerns that include concern on the collaborative process and decision-making process	<i>"At the same time, some Members questioned the size and border of the suggested MPA" "... sought information on how the legitimate rights of fishing states and others undertaking scientific research would be appropriately protected"</i>	General, particular, other
<b>Interest: MPA characteristics and requirements</b>	Policy requirements for MPA planning, design, management and implementation.	<i>"... feels strongly that the MPAs adopted by CCAMLR should have a solid scientific basis"; "They require, in addition, periodic revisions and well-designed management plans"</i>	Adequate sizing, justified clear boundaries, best science available, etc.

After all documents were coded on the basis of the coding agenda, the text-retrieval function used to receive a list of codings (Figure 19, window bottom right) to fill the stakeholder with information relevant to the research. This function is particularly useful, inquires included e.g.

'retrieve all codings from unsupportive stakeholders on MPA policy requirements' which ultimately is providing a summary of interest in policy design or processes.

A simplified example for coding operations is illustrated based on the following text passage:

*"Other countries, including Norway, China and Japan queried the science and the size of the proposed reserves and wanted the inclusion of a 'sunset clause', which meant the decision could be reviewed in the future."* (BBC, Oct 2013)

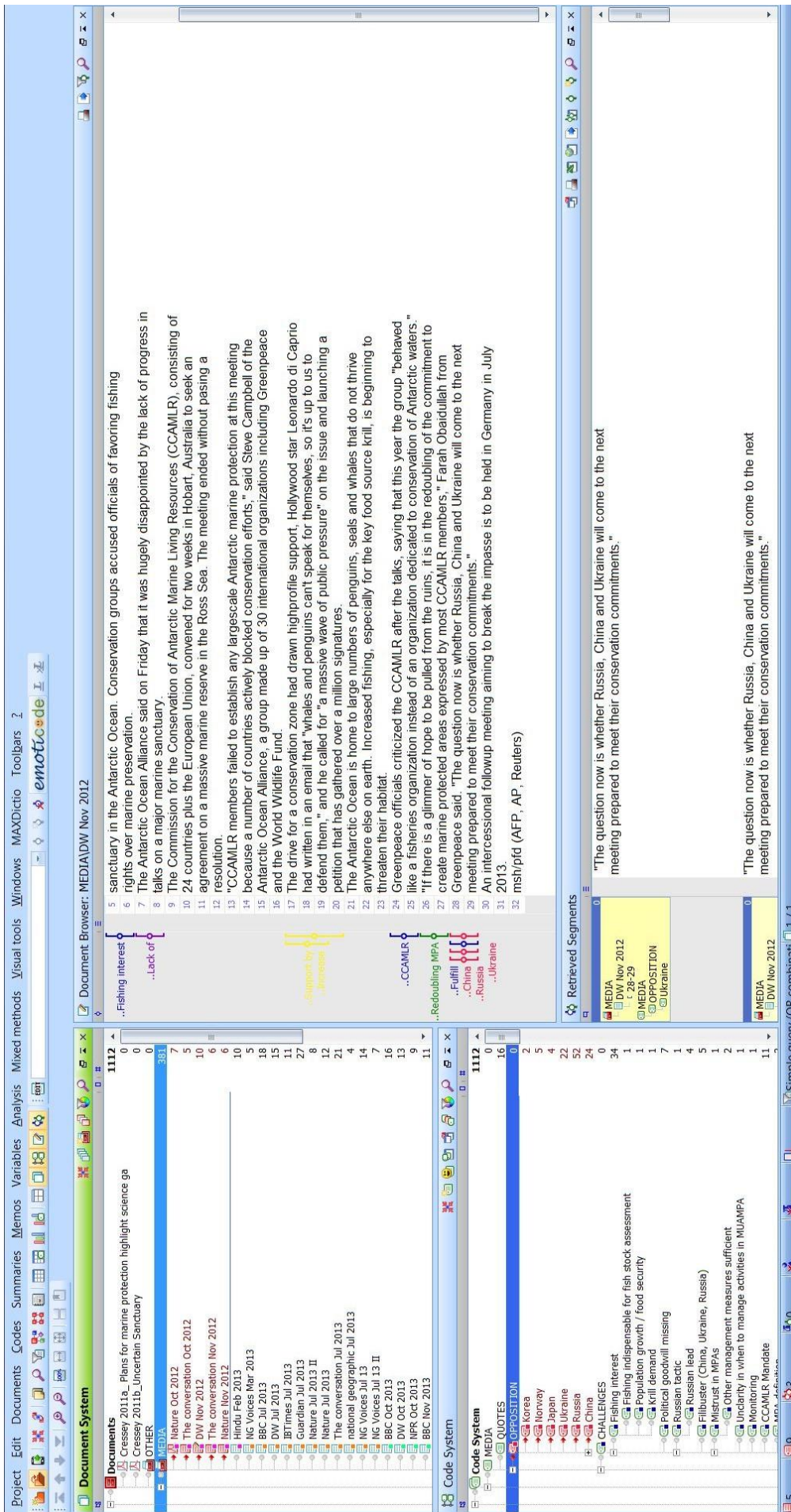
This sentence comprises various codes within the same text passage. Coding operation included the categories 'opposing position' by (1) 'Norway', (2) 'China', and (3) 'Japan'. Moreover the categories 'challenges' (4) 'Scientific basis', (5) 'MPA size', and (6) 'Sunset clause' were used.

**Table 5** Coding agenda of deductive categories for media content analysis. Table includes categories, definition and coding rules, coding example and associated subcodes. Samples are taken from MAXQDA analysis based on media reports (2012 till 2015)

Category	Definition and coding rule	Coding example	Subcodes
<b>Opposing position</b>	Reported veto, block or opposition of member state towards general MPA negotiations and on the tabled proposals	<i>"Antarctic Marine Reserves Again Blocked by Russia"</i>	China, Russia, Ukraine, ...
<b>Challenges</b>	Perceived challenges and subjects to discussion that are hindering the process of finding consensus on CCAMLR MPA proposals	<i>"Russia and Ukraine, which have fishing interests in the region, ran out on the clock filibuster-style ..."</i>	Scientific basis, MPA size
<b>Solution</b>	Recommendations or suggestions on options for alleviating conflict, increasing acceptance of proposals, overcome obstacles	<i>"We should start to look for compromise solutions for the two proposals that are on the table"</i>	Diplomatic outreach, increase public pressure

Media articles for content analysis are mostly online articles from newspapers and blogs including headlines and captions from the last four years until May 2015 (see Appendix for sources). Articles were obtained by entering the search key words 'CCAMLR', 'Marine Protected Area' 'Ross Sea', 'East Antarctica', and 'Weddell Sea', with different constellations in google news search. Articles of relatively short length and of most low profile news-homepages have not been considered. In total 36 articles have been fed into MAXQDA.

Coding was based on a slightly different coding agenda (see Table 5). Media content analysis had to follow similar coding rules as described above, to avoid unnecessary duplication of codings and the adequate association of codes. Perceptions and opinion of interviewed NGOs and officials were not treated differently to the opinion reflected by the author of the article.



**Figure 19** Program interface in MAXQDA within coding operation. Right top: Text document with codes (green) associated to respective codings (text passages, indicated by green square bracket. Right bottom: Screen used for text retrieval providing list with codings (e.g. category 'Support' of documents 1,2,3) from activated documents and categories (indicated by red shading). Left top: List of documents, each document providing MPA-related statements from annual Reports. Right Bottom: List of codes/categories 'codesystem' showing codes and subcodes (left) and number of codings (right)

#### 4.5.2. Data analysis of socio-economic interest data

Socio-economic proxies displaying stakeholder interests are explored to illuminate commonalities with interests apparent in the MPA debate. The data provide complementary information for the development of a stakeholder table and interest categorization such as the interest-position-grid in Chapter 6.3. The different uses in the Southern Ocean including commercial fishing, research (including research fishing), and logistical operations are considered relevant. In Table 6 the data considered in the SHA are shown.

**Table 6** Interest data considered in categorization process to display national interest in conservation, science, fisheries. \* No comprehensive data available

Source	Interest proxy
Percentage of MPA in national waters	Conservation
Advisors from NGOs in national delegations	Conservation
Engagement in Antarctic research by publication activity	Conservation, Leadership
National Antarctic Spending on Antarctic (Research) Programs	Science
Particular research/fishing interest in planning areas	Science, fisheries
Advisors from fishing sector in national delegations	Fisheries
Landings and value of catches in the Convention Area and planning areas	Fisheries Fisheries
Tourism associated Navigation	Navigation, Logistical operations
National Antarctic facilities	Logistical operations
Antarctic claims	Geopolitical interest

Though focus was put on fishing activity in the Convention Area and in the MPA planning areas, data on tourism, territorial claims and navigation have been displayed and find consideration in the discussion following the actual SHA. Proxies have been chosen by the amount and quality of data available for analysis and their significance to complement information from content analysis. Other datasets that are not shown in the table have proven less indicative or irrelevant. Note, that solely the data describing interest in fisheries could be associated to both, the stakeholders and the respective planning areas.

#### 4.6. Investigating relationships

Based on the collected data from the identification and categorization process, relationships of stakeholder are assessed. As a full account of stakeholder relationships would require acknowledging a multitude of information on historical cooperation and conflicts, bilateral

agreements, values or other qualities, the research solely investigates conflict potential in the MPA negotiations. Manifested and potential conflicts among member states are exemplified in the actor-linkage matrix. In this two-dimensional matrix the relationships are categorized either cooperative (cooperatively planning or support of planning), not distinctive (ambiguous) or as conflict (manifested or potential). It allows the author to draw assumptions on how likely conflict may emerge among members. Based on the information gathered, it is possible to assess the conflict that is elaborated in the discussion.

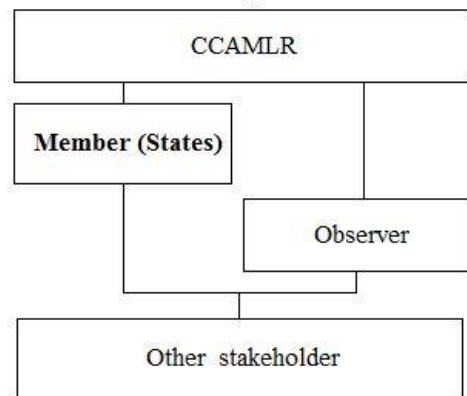
Based on the data on position towards CCAMLR MPAs in general, the author has further exemplified roles that stakeholders occupy in the community. The roles are ascribed according to proximity of the members to each other in e.g. cooperation in planning and collectively proposing MPAs. Despite the information how members are officially involved in MPAs, the number of supporting and unsupportive statements from content analyses are used to describe roles. Roles are illustrated in a venn diagram differentiated in

- ‘Anti’: The stakeholder is actively against MPAs in general and MPA proposals,
- ‘None’: The stakeholder is passively negative,
- ‘Allow’: The stakeholder appears indifferent to the subject and is letting it happen,
- ‘Help’: Stakeholders actively engage in e.g. taking a clear position or dispelling concerns by other members,
- ‘Make’: Stakeholder actively make it happen by planning and/or proposing MPAs.

Assessing relationships by means of SNA or knowledge mapping could not be convened as this would require primary data. Relationships are further considered in the discussion chapter.

## 5. Results of stakeholder identification

CCAMLR is providing a geographically well-defined and discrete area that is associated with clear regulations on legitimacy of stakeholders and with clear patterns of social interaction. Hence the basis for identification of stakeholder groups is including definitive stakeholders particularly clear. The stakeholder analyses resulted in the identification of four different actor levels as illustrated in Figure 20, coinciding largely with the results by Sovacool (2008). On that basis, the following larger entities that stakeholders are attached to are classified:



**Figure 20** Four leveled stakeholder community under CCAMLR.

- vetoing Member(state)s
- CCAMLR as forum and decision making body,
- observers such as interest groups, organizations, and states, that are allowed to participate in CCAMLR meetings under special status
- and other stakeholders, a group without specific status in the CCAMLR community including subnational stakeholder and other institutions.

Member states are represented by delegations that are composited of different advisers from foreign ministries, fishery ministries, other officials, scientists, and representatives from the fishery sector or sometimes even from NGOs. Members are states that have qualified as members by the underlying provisions. Based on CCAMLR's membership provisions for international cooperation and collaboration, members have to make contribution and must attain annual meetings of the Commission and the SC. The 25 Members including the EU have legally committed to the Convention through signature, approval or ratification and contribution to CCAMLR's annual budget. To become a member to CCAMR, states have to first feature acceding state status and apply for membership. CCAMLR's 11 acceding states are bound by the same regulations as ratification, but do not contribute financially and do not participate in decision-making. They participate in the CCAMLR meetings as observers.

CCAMLR as Commission with its subsidiary bodies as decision-making body is a group that unites subordinated actors. CCAMLR is the aggregate of all member states and the CCAMLR

government bodies such as working groups and the CCAMLR Secretariat. CCAMLR is bound by the CAMLR Convention and other international legal requirements set by the ATS, UNCLOS and other regimes. CCAMLR as stakeholder will not be further regarded as separate entity as it is represented by the conglomerate of member states to the commission.

As indicated in Figure 20, observers do not have the same capacities as Members and are not legitimized to participate in decision-making. Stakeholder power of observer is limited, which is governed by the CAMLR Convention and Rules of Procedure. In the Rules of Procedure Part IV, Rules 30 to 35, it is stipulated that any non-member state and any organizations named in Article XXIII (2) & (3) or any intergovernmental or non-governmental organization to which Article XXXII (3) may apply, can be invited to send observers if regarded as appropriate, if no Commission member objects and further rules of procedure are respected. Only three interest NGOs (ASOC, ARK and COLTO) are allowed to send observers. Meetings may still be closed to NGOs if requested by any member (Joyner and Chopra 1988). Also other intergovernmental organizations and Regional Fisheries Management Organizations (RFMO) are participating as observers. Observers may be invited by the CCAMLR chairman to address the attendees unless any member objects. Observers are allowed to table information documents that are neither translated nor necessarily discussed. Observer participation in the SC is based on similar Rules of Procedure (SC Rules of Procedure), despite that NGOs are not granted access to working groups.

Other stakeholders comprise a group of any other stakeholder that is only indirectly affecting the policy process. They are neither associated to members, observers, nor to the Commission and its related institutional bodies. Yet, in case of subnational interest groups or other institutions they may be represented by observers or member states.

Only member states shows all attributes set by Mitchell et al. (1997) and thus qualify for definitive stakeholders and will thus find further consideration in the SHA.

## **6. Results of stakeholder categorization**

### **6.1. Content analysis**

#### **6.1.1. Results from analysis of the Commission reports**

##### **Positions**

Table 7 has been developed to exemplify support and opposition by members as derived from Commission reports. The table is based on MAXQDA coding operations that can be found in the Appendix. As seen in table, proponents of EARS MPA and RS MPA are fully supportive of each other. Chile, Argentina and Uruguay are recorded fully supportive of the RS MPA despite several unsupportive statements in the beginning. Only in three cases a clear change in position has been noticed (Chile, Norway, and Uruguay). Chile and Uruguay changed their position on the RS MPA but remain rather skeptical about the EARS MPA. Norway clearly changed position on both MPA proposals. It changed from expressing a hostile position on the tabled proposals to being clearly supportive of both adapted proposals. Russia has positioned in its statements and seven background papers on MPAs submitted meetings<sup>56</sup>. Contrary to China and Ukraine, Russia has at least once stated to support the idea to implement a network of MPAs in the Southern Ocean in general<sup>57</sup>. Yet it did not agree to any specific proposal and has voiced the most concerns on both MPAs in general and the pending proposals. There was no coded statement made by China or the Ukraine expressing general support of MPAs for conservation purpose. Japan and Korea have recurrently been recorded supporting the idea of MPAs in general but remain critical on the MPA scenarios. During coding operations, it was noted that in CCAMLR-XXXI Ukraine occurred as the strongest critique beside Russia, whereas in CCAMLR-XXXIII China has taking this more active role in raising concerns repeatedly expressing concerns on MPAs in general and tabled proposals.

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<sup>56</sup> CCAMLR-XXXIII/BG/09 Marine Protected Areas in the Antarctic Treaty System

SC-CAMLR-XXXIII/BG/25 The influence of ice conditions on the longline toothfish fishery in the Ross Sea and the likely impact that the introduction of marine protected areas (MPAs) will have on catches

SC-CAMLR-XXXIII/BG/26 The designation of Marine Protected Areas (MPAs) in Antarctic waters

SC-CAMLR-XXXIII/BG/27 Proposal by the Russian Federation to open areas of special scientific interest in the CCAMLR Convention Area (Part 1, Ross Sea and East Antarctica)

SC-CAMLR-XXXIII/BG/28 MPAs in the area regulated by the Convention on the Conservation of Antarctic Marine Living Resources (background, plans and reality)

SC-CAMLR-XXXIII/BG/29 Is it necessary to establish MPAs in Divisions 58.4.1 and 58.4.2 to protect krill resources from the impact of fishing?

<sup>57</sup> CCAMLR-XXXII-SM, para 3.79



**Table 7** Results of content analysis of stakeholder’s positions taken in annual CAMLR Commission reports (2009-2014). A checkmark indicates that a support of MPAs in general or specific proposals has been voiced. The number in brackets is the unsupportive (minus) and positive (plus) coded segments from stakeholder’s statements. Color has been used for presentation of the data: Clearly supportive positions are marked green, where ambiguous positions are colored orange. Unsupportiveness has been indicated by red shading.

	General Position	Position EARS MPA	Position RS MPA	Change in positioning?
Argentina	√ (+6)	√ (+1)	√ (+2/-2)	
Australia	-	-	√ (+3)	
Belgium	√ (+1)	√ (+3)	√ (+3)	
Brazil	√ (+5)	(-4)	(-3)	
Chile	√ (+6)	(-1)	√(+2/-3)	√ (RS)
China	(-9)	(-1)	(-1)	
EU	-	-	√ (2)	
France	-	-	√ (3)	
Germany	-	√ (4)	√ (4)	
India	√ (+1)	√ (+1)	√ (+1)	
Italy	√	√ (+1)	√ (+2)	
Japan	√ (+3/-2)		(-2)	
Korea	√ (+7/-1)		(-1)	
Namibia	√ (1)			
New Zealand	-	√ (2)	-	
Norway	√ (7)	√ (+1/-4)	√ (+1/-5)	√ (RS/EARS)
Poland	√ (2)	√ (1)	√ (1)	
Russia	√ (+1/-12)	(-6)	(-6)	
South Africa	√ (+1)	√ (+2)	√ (+1)	
Spain	√ (+1)	√ (+1)	√ (+1)	
Sweden	√ (+1)	√ (+1)	√ (+2)	
Ukraine	-11	-1	-1	
United Kingdom	-	√ (+3)	√ (+3)	
USA	-	√ (+2)	-	
Uruguay	√ (+1/-1)	(-2)	√ (+1/-1)	√ (RS)

**Interest: Motivation for MPA establishment**

Quantitative analysis of motivations for MPAs (single proposals and MPA in general) has been limited to motives found in Table 8. The number of supporting statements that revealed motivation speaking in favor for the MPA proposals based on positive ecological outcomes was prohibitively high. Ecological motivations were repeated annually, especially by the proponents. As seen in the table below, motivation to establish MPAs was mostly expressed by proponents or members that have announced to propose MPAs in the Southern Ocean. As shown in the previous paragraph, the majority of member states generally advocated the creation of MPAs in the Southern Ocean. Reasons for establishment however tend to differ slightly. Clearly fulfilling commitments made within CCAMLR and looking at the international context, as well as the threat to CCAMLR's reputation have been a clear argument in favor for MPAs. Despite the proponents also South Africa and Korea attach importance to fulfilling commitments made which implies the establishment of MPAs.

**Table 8** Results from content analysis of stakeholder’s motivation to establish MPAs excluding ecological reasons (CAMLRL Commission reports 2009-2014). Numbers indicate the number of times a stakeholder named motive for MPA establishment. Actual proponents are shaded dark grey and future proponents are shaded light grey.

	<b>Commitments</b>	<b>Fulfill CCAMLRL objectives</b>	<b>CCAMLRL Reputation</b>	<b>Society interest</b>
<b>Members of the Commission</b>		1		
<b>Argentina</b>		1		
<b>Australia</b>	8	2	1	
<b>Belgium</b>		1	1	
<b>Brazil</b>				
<b>Chile</b>	1	1		
<b>China</b>				
<b>EU</b>	6		3	2
<b>France</b>	1	1	1	
<b>Germany</b>	3		1	
<b>India</b>				
<b>Italy</b>				
<b>Japan</b>				
<b>Korea</b>	1			
<b>Namibia</b>				
<b>New Zealand</b>	1	1	1	
<b>Norway</b>				
<b>Poland</b>				
<b>Russia</b>				
<b>South Africa</b>	1			
<b>Spain</b>				
<b>Sweden</b>				
<b>Ukraine</b>				
<b>United Kingdom</b>	3		2	
<b>Uruguay</b>				
<b>USA</b>	3			1
<b>Segments</b>	28	8	10	3
<b>Documents</b>	10	7	7	2

### **Interest: MPA characteristics and requirement**

MAXQDA analysis resulted in 17 categories to describe necessities of an MPA. The coded segments described what MPAs should include and on what basis MPAs should be planned and established. Here, categories may encompass different requirements but are summarized to the aspects found in the table. This has resulted in more explicit categories and categories that are wider and have occasionally required a higher degree of interpretation. According to the data displayed in Table 9 most members require MPAs to balance multiple interests. This includes formulations such as *'to balance conservation and rational use'*, *'to ensure sustainable harvesting'*, *'allow multiple uses'*, and *'enable research'* (including exploratory fishery). MPAs should account for interest in data by *'ensuring data access'* that is e.g. collected based on defaults set in the Research and Monitoring plan (R&M). Another point that reoccurred is the interest in legal consistency with the ATS, the CAMLR Convention including Article IX and II including the Convention's objectives and principles (notably the precautionary principle), international requirements for MPAs, and UNCLOS. Legal consistency would also entail MPAs to be based on the CM 91-04 as necessary framework for establishing MPAs.

Members have expressed that MPAs should account for a multitude of things. They should provide (in decreasing order): a) a basis of the best science available consistent with CM 91-04, b) R&M as well as a management plan<sup>58</sup>, including periodic revisions and an adaptive management (as part of the management plan), c) adequate size (or more precisely to be of sufficient or adequate scale to meet the protection objectives), d) clear and justified boundaries, e) clear objectives and f) be based on common planning approaches, namely SCP and bioregionalisation. Specific requirements were e.g. voiced by China: MPA proposals should provide information on the impact of rational use and should be considered case by case. One main argument is the inclusion of a sunset clause that will result in ceasing of protection status after the proposed period. Uruguay, Norway, Korea, Japan, China, and Brazil declared themselves in favor of a sunset clause, whereas other members of the Commission including Belgium, EU and USA have clearly stated their preference of not restricting the period of designation. Requirements that caused great debate were furthermore the wish to

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<sup>58</sup> Further including surveillance and IUU fishing control and clearly defined administrative objectives

provide ‘sufficient’ evidence for MPA (China, Japan, Ukraine)<sup>59</sup> including the evidence of threats that are posed to the area (China, Russia).

**Table 9** Results from content analysis of stakeholder’s interest in the design of MPAs and characteristics that an MPA should entail (CAMLRL Commission reports 2009-2014). Numbers indicate the number of times a stakeholder named aspect that MPA should include or principles it should be based upon.

	Balance multiple interest	Legal consistency	CM 91- 4 as framework for establishment	Justified and clear boundaries	Adequate size	planning (& Bioregionalisation)	Clear objectives	Information on impact on rational use	by case consideration	Sunset clause	No sunset clause	Periodic revisions and adaptive management	Management plan	Research and Monitoring plan	Best Science Available	Sufficient data / evidence	Based on identified threats
<b>M. of Commission</b>	2	2	1	2	2		1			1	2		1	2			
<b>Argentina</b>		5	2										3				
<b>Australia</b>	14	4	2				1					3	1	2	2		
<b>Belgium</b>			1								1						
<b>Brazil</b>			1	1	1					2		2			2		
<b>Chile</b>		1	1		3							1	1		1		
<b>China</b>	11	12			1			1	1	1				1	3	2	3
<b>EU</b>	1	3	1								1	1	1	2	2		
<b>France</b>	2		1			1						1	1	1	2		
<b>Germany</b>	1																
<b>India</b>																	
<b>Italy</b>																	
<b>Japan</b>	6		1		1		1			1		1	1	3	2	1	
<b>Korea</b>	2	1		1	1		1			1			1		2		
<b>Namibia</b>	1																
<b>New Zealand</b>	2	1	3	1		4									4		
<b>Norway</b>	1	2			2					1				3	5		
<b>Poland</b>																	
<b>Russia</b>	3		1	1	3		1					1	2	1	1		2
<b>South Africa</b>	2	1															
<b>Spain</b>															1		
<b>Sweden</b>	2																
<b>Ukraine</b>	2	2	1		1									1	1	1	
<b>United Kingdom</b>	1	1												1	6		
<b>Uruguay</b>	6	3	1		1					1				1	1		
<b>USA</b>	2	10	2								3	1			3		
<b>Segments</b>	61	48	19	6	16	5	5	1	1	8	7	11	12	18	38	4	5
<b>Documents</b>	18	14	14	5	10	2	5	1	1	7	4	8	9	11	16	3	2

<sup>59</sup> Brazil’s formulation for example can be associated to something between sufficient and best available science “Brazil favours and promotes the multilaterally agreed establishment of MPAs in the CCAMLR area supported by strong scientific foundations” CCAMLR-XXXII, para 7.49. Similar formulations have been used by the Chilean delegation “MPAs supported clear scientific evidence” CCAMLR-XXXI, para 7.100.

## Interest: Concerns

**Table 10** Results from content analysis of stakeholder's concern in the establishment of MPAs and on characteristics that tabled MPA proposals entail (CAMLRL Commission reports 2009-2014). Numbers indicate the number of times a stakeholder named aspect that was of general, particular or other concern or when they have dispelled concerns by other members.

	<b>GENERAL CONCERNS (SUM)</b>	Skeptic about large size	Enforcement challenging (SUM)	<i>IUU and MPA success</i>	<i>Logistical challenges</i>	<i>Responsibilities</i>	<i>Resources for R&amp;M challenging</i>	Legal implications	CCAMLRL Mandate	Protection status given	Criticism Report/Review SOISSMPA	<b>PARTICULAR CONCERNS (MPA)</b>	<b>DISPEL CONCERNS (SUM)</b>	<b>OTHER CONCERN (SUM)</b>
<b>M. of Commission</b>	4	2					2							
<b>Argentina</b>														
<b>Australia</b>													3	2
<b>Belgium</b>													2	
<b>Brazil</b>	1	1										1		
<b>Chile</b>	3	3										1	1	
<b>China</b>	8							2	2	5	1			2
<b>EU</b>													2	3
<b>France</b>														2
<b>Germany</b>													1	
<b>India</b>														
<b>Italy</b>														
<b>Japan</b>	2	1	1	1								1		2
<b>Korea</b>	1	1										2	1	
<b>Namibia</b>														
<b>New Zealand</b>													3	4
<b>Norway</b>	2	2										4		
<b>Poland</b>														
<b>Russia</b>	17	4	2		1	1			4	2	5	2		
<b>South Africa</b>														
<b>Spain</b>														
<b>Sweden</b>														1
<b>Ukraine</b>	13	2	1	1					3	6	1			1
<b>United Kingdom</b>													3	2
<b>Uruguay</b>	6	1	1		3			1						
<b>USA</b>	1		1	1									2	1
<b>Segments</b>	58	17	6	3	4	1	2	3	9	15	7	11	18	20
<b>Documents</b>	11	9	5	3	2	1	1	2	4	3	3	6	9	9

Interest describing concerns were organized in the subcategories of ‘*General Concerns*’, ‘*Particular Concerns*’, ‘*Other Concerns*’ and ‘*Dispel Concerns*’.

Ten members raised general concerns and almost half the members have at some point raised concerns on the proposed size of MPAs including size associated problems with R&M.

Ukraine, Russia and China have repeatedly questioned an additional status of protection.

Members suggested that sufficient protection was already given by the existing management regime (Convention area already being an IUCN MPA category IV) and CCAMLR fishery related measures that are in place. These three members have further doubted the CCAMLR mandate to establish MPAs e.g. by calling for a valid definition of the term MPA. They also criticized the SOISS MPA review process and Report that was subject of discussion at CCAMLR-XXXIII in 2014. Russia and China have raised concerns about the

representativeness of the report due to its legal basis as it was established before CM 91-04 has been adopted and due to comparably little results showing MPA efficacy. Many members, including Japan and Ukraine, have pointed out the newly arising difficulties with IUU fishing that would need to be adequately addressed<sup>60</sup>. Logistical challenges, responsibilities of enforcement and the certainty to/resources for enforcement especially in terms of R&M have caused debate.

Particular concerns raised on the tabled proposals included the scientific basis for catch limitations and the limited data on toothfish spawning in the RS. Russia has criticized both proposals for protecting fished areas as these “*areas that have been previously fished and, as such, cannot be considered as pristine*”<sup>61</sup>. Further the number of MPAs in the EARS MPA proposals has been subject to debate. Other concerns included the failure to reach consensus and consequences of not implementing MPAs. The EU describes its concerns on CCAMLR’s reputation (that also finds consideration in MPA motivation, see above).

Upsetting consequences could arise from not fulfilling commitments made. Failure may create the impression (to externals) of a decision-making process that is prioritizing individual economic interest;

*“This failure is sending the wrong signal that individual economic interests are overriding the common good which we believe is not in the spirit of the Antarctic Treaty System.”* (EU, CCAMLR-XXXI, para 7.91)

Concerns on the process of decision-making and collaboration have raised concerns. This category includes for instance the allegation that concessions made have undermined

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<sup>60</sup> CCAMLR-XXIX, para 7.15, CCAMLR-XXX, para 7.7, CCAMLR-XXIX, para 7.10 Japan, CCAMLR-XXXI, para 7.97 Ukraine

<sup>61</sup> CCAMLR-XXXIII, para 7.50

objectives of MPAs (Sweden); members have been driven by economic interest instead of the wish to conduct scientific research in decision making. Behavior by certain members was criticized, because it would prevent progress (USA), members would missing political will (France, New Zealand). France has pointed out that an explanation is a different interpretation of the Convention:

*“[France] is disappointed, but is also concerned about the tenor of some of the discussions we have heard here. It does seem as though a very small number of delegations do not share the same interpretation of the Convention as do the overwhelming majority.” (CCAMLR-XXXIII, para 14.2)*

Australia, New Zealand and the EU have repeatedly paraphrased their disappointment about opponents that would use formalities to prevent progress in finding consensus. First and foremost the procedure of handing scientific advice resulting from extensive discussion on the scientific basis of the MPA proposals to the Commission though being considered best available science (BAS) has been prevented by several members. Those members required additional discussion, advice or science before issues were given to the Commission and thus being ready for further discussion and referendum. This claim becomes apparent in the statement by the UK:

*“It is a worrying precedent that clear agreements previously made by the Scientific Committee and its working groups have been ignored or overlooked by some Members of the Commission, and that recognized procedures have been blocked during this meeting with the result that discussions on these important issues have been curtailed.” (UK, CCAMLR-XXXI, para 7.93)*

The EU expressed their lack of understanding on the ‘conundrum raised in CCAMLR-XXXIII/26 and SC-CAMLR-XXXIII/BG/27 and XXXIII/BG/28’<sup>62</sup> on Russian requirements for MPAs that appear contradicting.<sup>63</sup> In this documents Russia requires MPAs to be pristine areas without being impacted by anthropogenic activities. At the same time MPAs should qualify by providing data on the impact on rational use. Such information would be based on data acquired by research fishing.

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<sup>62</sup> CCAMLR-XXXIII, para 7.56

<sup>63</sup> Also in CCAMLR-XXXIII, para 7.50 Russia states that one reason it could not agree to the proposals is the fact that the proposals “included areas that have been previously fished and, as such, cannot be considered as pristine”



Concerns on collaboration have further been raised by members that are perceived opposing to MPAs. Ukraine has stated “*CCAMLR has gradually turned into an organisation focused just on their conservation*”<sup>64</sup>. China has described its concern e.g. pointing out “*that there remained fundamental and technical differences between Members*” indicating conflicting interests and priorities, or different understandings of procedures. China reiterated that there were different interpretations on the right ‘*trigger level*’ for the precautionary principle that would require further clarification<sup>65</sup> in order to find consensus. Japan raised concern on the clarity and comprehensibility of discussing MPAs. Discussions on MPAs have been confusing due to a lack of criteria to discuss the MPAs in a consistent manner. Consequently, Japan proposed a checklist<sup>66</sup> to facilitate discussions.

Several members (mostly proponents) aimed to dispel concerns raised that are described above. According to their statements responsibilities for MPA enforcement and R&M were clear, threats to MPAs would not need to be identified to justify an MPA (no legal requirement), and the legitimacy of the SOISS MPA Report was given. Korea and Chile supported the view that CCAMLR has the legal competence to establish MPAs. Australia, New Zealand and the US further responded to the assumption that MPAs were a tool to exercise sovereignty or geopolitical control<sup>67</sup> and that MPAs

*“[...] do not reflect an attempt by coastal States to exercise sovereignty, sovereign rights, or jurisdiction on the high seas; that it is a long-settled rule of international law, which is reflected in Article 92 of the LOS Convention, that States have exclusive jurisdiction over their vessels while on the high seas; and that it is fully within the authority of States to limit the activities of their flagged vessels in specified areas of the high seas” (XXXII-SM 3.21).*

New Zealand has criticized Russian argumentation raised in the negotiation and in several background papers. NZ aimed to dispel most concerns in a very detailed statement<sup>68</sup>. The statement is in itself summarizing all sticking points and concerns that have been raised by Russia (and partly China) that are also described above. Though mostly referring to the RS MPA they can equally be applied to most concerns raised for the EARS MPA. Points raised were:

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<sup>64</sup> CCAMLR-XXXI, para 7.97

<sup>65</sup> CCAMLR-XXXIII, para 7.52

<sup>66</sup> CCAMLR-XXXIII/27 ‘*Consideration on a standardised procedure to establish CCAMLR marine protected areas (MPAs) in accordance with the Conservation Measure 91-04*’

<sup>67</sup> CCAMLR-XXXIII, para 7.66

<sup>68</sup> CCAMLR-XXXIII, para 7.65

- Single members prevented establishment of a drafting group for the RS MPA to work with the text of the CM that would make the RS MPA legally binding.
- Russia suggested RS MPA being based on insufficient science, requiring additional scientific research. Though RS MPA was extensively discussed, endorsed by the SC, and accepted by majority of CCAMLR members. Further the requirement for '*sufficient*' science would object BAS<sup>69</sup> and thus neglect the precautionary approach.
- Russia suggested that MPA boundaries were '*arbitrary*' or '*unsubstantiated*' because they were simply straight lines. According to NZ this claim is not valid as the SCP approach – endorsed for MPA planning – has resulted in optimal spatial solutions. Straight lines were used by request of members to facilitate logistical operations including fishing and compliance with other CMs, straight lines further comply with international and CCAMLR best practices.
- Russia and China suggested that existing fishery management measures such as the closing of SSRUs were sufficient for protection. According to NZ, these measures would not warrant effectively fulfilling CM 91-04 and the protection of objectives related to biodiversity, habitat and ecosystems.
- China suggested the Convention Area to be IUCN Category IV MPA. According to NZ, certain areas require further protection as outlined in the CM 91-04 preamble.
- Russia and China have raised concerns on the impact of the MPA on rational use. NZ responded that the RS MPA proposal would facilitate rational use. Boundaries are premised by the least impact on fishing effort possible while ensuring accomplishment of protection objectives. Displaced fishing effort will be redistributed outside the MPA and no overall reduction was intended. Further, the RS MPA includes research fishing in the SRZ (Chapter 2.5.3). Article II of the CAMLR Convention would not imply that CCAMLR's primary objective was the preservation of fishing effort and planning would require a balanced approach between the two requirements conservation and rational use. Concessions made in reducing the RS MPA considerably would reflect good faith accounting for members concerns.
- NZ stated that most points raised in CCAMLR-XXXIII/BG/09 on MPAs in the ATS by Russia have already been extensively discussed at CCAMLR and many would be correct.

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<sup>69</sup> CM 91-04, para 2 and Article IX.1 (f), CCAMLR

Except that R&M was the exclusive responsibility of MPA proponents but of all members as agreed by SC<sup>70</sup> and as outlined in the RS MPA draft R&M.

- A linkage between MPA establishment and exercising territorial claims as pointed out in the above mentioned paper has been rejected by NZ. Neither declaring a territorial sea nor establishing an EEZ in the area adjacent to the NZ claim would be indicative of that assumption. NZ would commit to principles on territorial claims outlined in Article IV AT. They further do not “*see any advantage for territorial sovereignty claims on the Antarctic continent that would be derived from establishing an MPA in the Ross Sea region*” that is based on collective decision-making and management by CCAMLR. There were no benefited responsibilities to the RS MPA proponents.
- NZ rejected the allegation made by Russia in SC-CAMLR-XXXIII/BG/26 “*that the MPA is part of a deliberate ploy to create a monopoly on fishing for toothfish by countries with toothfish catch in their own EEZs*”. According to NZ, the fishing activity and landings from national EEZ and the Ross Sea would not withstand this accusation.
- The same paper covers concerns on the legal basis to establish CCAMLR MPAs. According to NZ, CCAMLR and the ATCM have reaffirmed CCAMLR’s mandate that is inter alia grounded on CM 91-04. Therefore “*‘No further ‘normative legal act’, ‘juridical definition’ or approval from any other international organisation [was] required.’*”

### **6.1.2. Results from media analysis**

Media content analysis resulted in a set of categories ‘*general observations*’, ‘*positions*’, ‘*interests and challenges*’ and ‘*solution to overcome obstacles*’. All Figures are based on the matrices produced by MAXQDA that are to be found in the Appendix.

#### **General observations**

It was noted, that the overall interest in the topic of MPAs is high though already having surpassed the peak of attention at the SM in July 2013 as shown by the number of statements and media attention to that time. From the 36 media reports in total 381 codings have been created. Content is framed mainly around negotiation outcomes, political tension, the content of MPA proposals, or about high profile individuals raising awareness on CCAMLR MPAs. It has been noted that observations made in the media appear to be most likely overlapping with conservationist interests, often corresponding indirectly or citing eNGOs’ viewpoints. Media

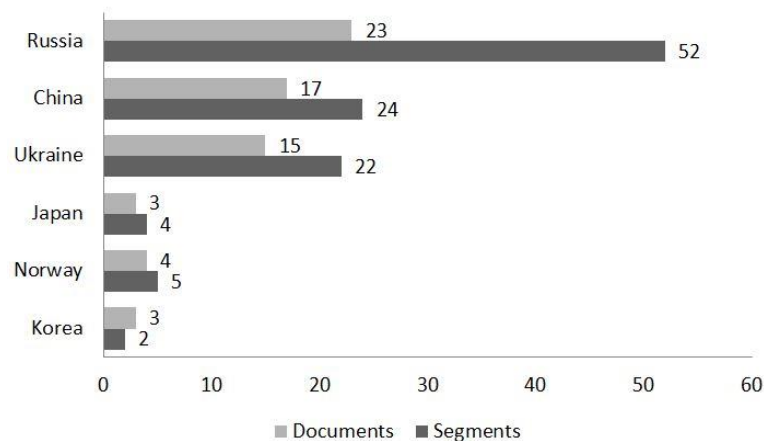
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<sup>70</sup> SC-CAMLR-XXXIII, para 5.42

interest for the RS MPA has been significantly higher than for the EARS MPA. Media has created high public pressure reinforced by ASOC online petitions and a ‘*Scientists’ Consensus Statement on Protection of the Ross Sea*’<sup>71</sup> signed by over 500 scientists, as well as the support by high profile individuals such as athlete Lewis Pugh, actor Leonardo di Caprio or United States Secretary of State John Kerry. Single articles even miss out on giving account about the EARS MPA. Both proposals are often not differentiated in terms of positions, challenges and solutions.

### Positions

The MAXQDA analysis resulted in a matrix (Appendix) that was summarized in Figure 21. From looking at the data it becomes clear that Russia has been perceived consistently critical and has repeatedly named to be responsible for negotiation outcomes. Russia has repeatedly – up to five times – suggested opponent within one article. China appeared consistently unsupportive but is not named as often as Russia. It has been stated, that China actively



**Figure 21** Number of times media discussed opposition by particular member states. Results are distinguished in number of coded documents where members were mentioned to be unsupportive and number of segments that were coded in total.

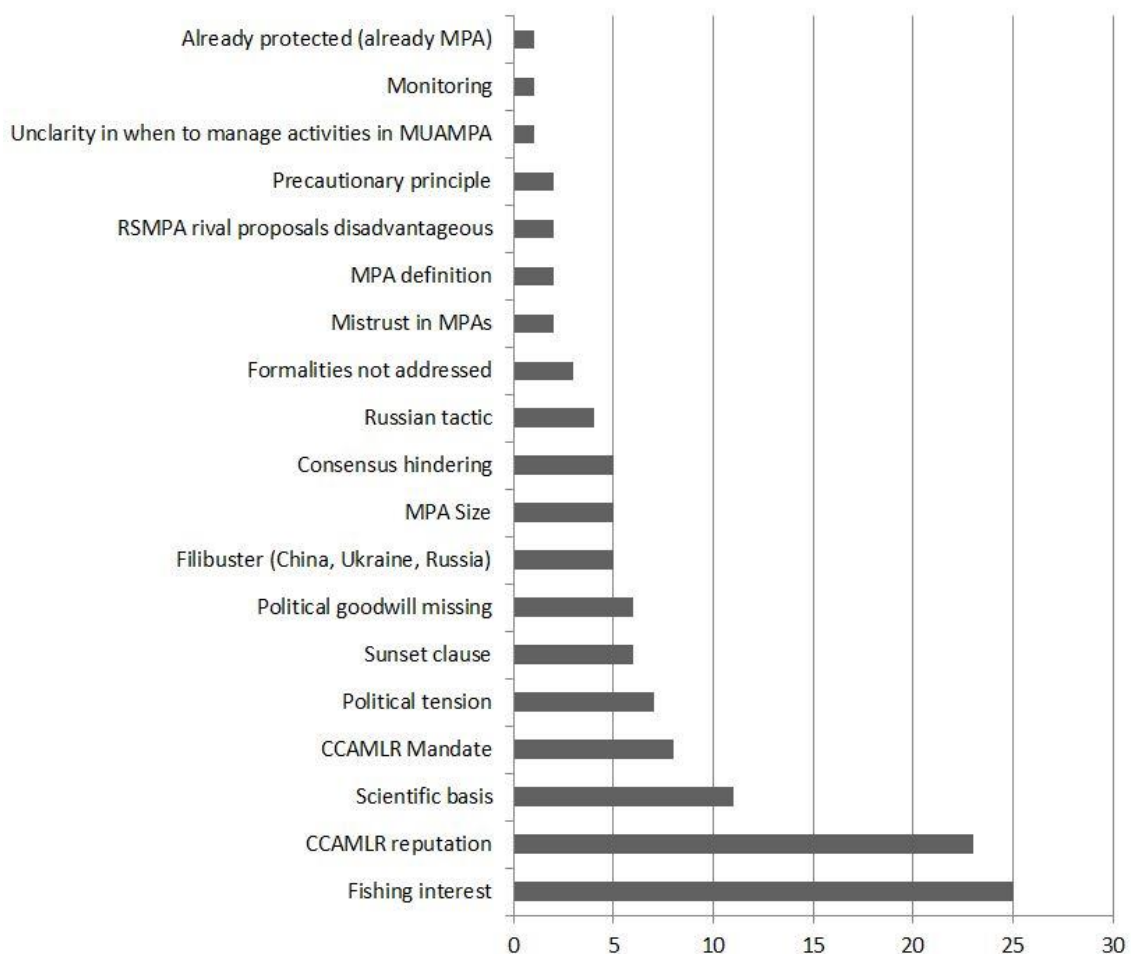
withdrew its support for the EARS MPA (BBC Nov 2013, ENS Nov 2013). Further, only China and Russia are recently (after October 2013) perceived as the main opponents. One report stated that Ukraine and Norway have been supporting both proposals in 2014 (The Guardian Oct 2014). The Sunday Morning Herald (May 2014) stated, ‘*Russia agrees to Antarctica marine reserves*’ in the Southern Ocean based on commitments and promising discussions at the ATCM. Apparently also China showed support of the MPA proposals in this

<sup>71</sup> [http://www.asoc.org/storage/documents/MPAs/Ross\\_Sea\\_Scientists\\_Statement\\_October\\_2011.pdf](http://www.asoc.org/storage/documents/MPAs/Ross_Sea_Scientists_Statement_October_2011.pdf) (retrieved July 14, 2015)

forum. Norway, Korea, Ukraine and Japan have not been accused opposing in the latest articles.

### Interests and challenges

Challenges to MPA establishment that were described by media included aspects on particular proposals, MPAs in general or challenges to CCAMLR as organization. First of all, many reports discussed CCAMLR’s reputation being at risk which would be a future challenge that the organization would need to face. A watering down of proposals has been described as factor for loosing reputation. Loosing CCAMLR’s reputation as flagship in conservation policy would result out of not fulfilling commitments made and missing out on political cooperation and would ultimately fail to inspire MPA movements elsewhere. Failing MPA establishment would lead to giving up all the resources invested in the planning of MPAs.



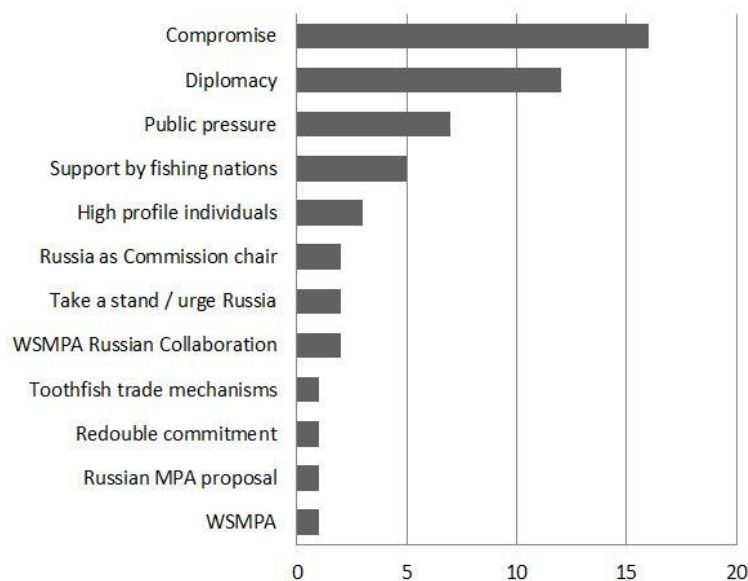
**Figure 22** Results from MAXQDA media content analysis of challenges as perceived by 36 media reports. Based on number of documents coded with respective challenge.

25 out of 36 media reports stated that different user interest, namely fishing interest, would be a general challenge to find consensus on CCAMLR MPAs, which was also associated with increasing demand for krill, global food security and population growth. About one third of reports described the demand for a good scientific basis that has been questioned by opponents or have generally reported disagreement on this particular point. This implies that proposals are challenged by the need to have a good scientific basis though only best available science is required by CCAMLR regulation such as CM 91-04. Current diplomatic tension causing a bad momentum that is affecting the negotiations has been recurrently been discussed. This includes a couple of assumptions; member states would have other more prominent things on their agenda including disagreement about Russia's foreign policy in the Ukraine including the annexation of Crimea and also the downing of the Malaysia Airlines flight MH17. It was suggested that geopolitical interest in Antarctic territories would cause diplomatic tension. Missing bilateral talks aggravate conflict between states, namely between the USA and Russia or UK and Russia resulting in a situation that has been described 'cold-war-alike'. Several members have been suggesting establishing sunset clauses to the MPA proposals to have a set date when spatial protection is revoked. It has been reported that the RS MPA has made compromise by leaving a permanence open (BBC Oct 2013). Other aspects that have been named to hinder finding consensus are accusations of opponents missing political goodwill, and to filibuster to postpone decision-making (namely China, Ukraine and Russia). Further, it was explicitly stated that Russia would use a tactic in leading other members to oppose. Russia has been accused to negotiate in 'bad faith' being the 'bête noir', 'repeat offender' or the nation leading other unsupportive member states. Tactics included the use of formalities to filibuster, delaying processes or further diluting proposals due to a fishing interest driven advantage. One example has been the surprising behavior of Russia and the Ukraine in the special intersessional meeting. Eight articles reported about Russia and the Ukraine requesting a valid MPA definition and questioning the CCAMLR to have a legal mandate to establish MPAs, despite the decision taken by the ATCM.

### **Solution to overcome obstacles**

Options to overcome challenges to MPA implementation and finding consensus have occasionally been discussed (see Figure 23). Almost all articles call for some form of compromise by addressing concerns. Most of them propose to influence opponents or to enhance diplomatic relationships by cooperation or by persuasion. Increasing public pressure

was suggested by means of reporting, wide spread (online-) petitions for MPA establishment<sup>72</sup> or involvement of high profile individuals. Single ideas included increasing the pressure by



**Figure 23** Results from MAXQDA media content analysis coded documents discussing solutions to challenges to MPA negotiations

redoubling political commitments. Winning other fishing nations over could lead to a more rigorous support of the MPAs. Here, Norway, Japan and Korea have been ascribed a potential key role. This could include taking a stand or urge Russia to overthink positions. One article suggested inviting Russia to plan and propose a MPA. In single cases the media has been expectant of Russia playing a key role. As Chair of the Commission in the coming negotiations or as potential co-proponent for the WS MPA proposal (DW, Jul 2014) chances for MPAs may increase. Alternatives to MPAs are also brought up, e.g. enhancing other mechanisms for Toothfish trade could evoke protection of this species. Involvement of high profile individuals has been recurrently subject to reporting. There has been heightened media interest in Lewis Pugh aiming to raise awareness for Antarctic MPAs and the RS MPA by doing five swims in the Southern Ocean. He was aiming to practice *'sports diplomacy'* having bilateral talks with Russian officials and

*“[Pugh] was surprised by a request to watch ice hockey with Russian defence minister Sergey Shoygu. ‘The minister told me: ‘You’re the most trusted person in this space. You don’t have any hidden agenda Lewis’,’ said Pugh. He believes Shoygu recognised the passion and*

<sup>72</sup> <http://antarcticocean.org/2014/10/global-efforts-to-protect-southern-ocean-blocked-by-china-and-russia/> (retrieved July 13, 2015)

desperation it takes to drive a person into the Bay of Whales. 'It's speedo diplomacy. Russians can all relate to ice swimming. They have all done an ice swim. You couldn't do this as a runner. They understand cold, they understand hardship. They appreciate seeing someone put their body where their mouth is,' he said." (The Guardian 2015)<sup>73</sup>.

### Position: The Antarctic Ocean Alliance (AOA) Scoreboard

At the meetings in Hobart in October 2014, the Antarctic Ocean Alliance invited members to express their position on a 'Scoreboard of Support for Antarctic Marine Protection' (see

CCAMLR Member	Argentina	Australia	Belgium	Brazil	Chile	China	EU	France	Germany	India	Italy	Japan	Korea	Norway	NZ	Philippines	Poland	Russia	SA	Spain	Sweden	Thailand	UK	USA	Ukraine	CCAMLR Member
Ross Sea								✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Ross Sea
East Antarctica		✓						✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	East Antarctica



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#Norway showing their true colours - giving #Antarctic #Marine Protected Areas a big tick of approval. #CCAMLR



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#NewZealand showing the world how its done-giving their tick of support to #Antarctic #Marine Protected Areas #CCAMLR

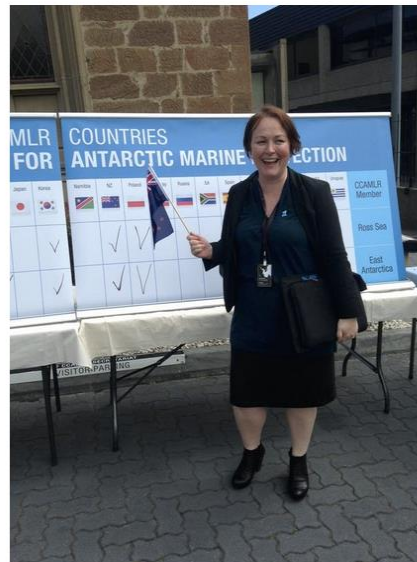


Figure 24 AOA Scoreboard in October 2014 in front of the CCAMLR Headquarters during Commission meeting (top). Norway (left) and New Zealand (right) taking positions supporting protection in the EA and RS as 'tweeted' by AOA via Twitter. Source: <https://twitter.com/Antarcticocean> (retrieved on October 17, 2015)

<sup>73</sup> <http://www.theguardian.com/environment/2015/apr/09/can-speedo-diplomacy-save-one-worlds-last-pristine-oceans> (retrieved July 13, 2015)



Figure 24). Members were encouraged to tick boxes to support generic marine protection in the two planning areas (not the proposals). Positioning data can partially be complemented. According to AOA several states did not participate including Russia, Ukraine, China, Japan, South Africa, India (not present in the meetings), Argentina, Brazil, Chile, Namibia and Uruguay. More surprisingly, Australia did not participate in this public display of political position on generic protection in the Ross Sea and East Antarctica.

### **6.1.3. Comparison of results**

Though categories for the content analyses differ, they often entail similar information on interests. Interest is reflected by ‘challenges’ in the media content analysis and ‘concerns’ taken from report analysis. They largely cover the same content, but media content analysis has shown other challenges of MPAs that could not be obtained from looking at annual reports, such as a missing momentum for MPA establishment. Reports did not reveal information about options to manage conflicting stakeholder interests. Whereas the media discussed several possibilities that will also be assessed in the discussion Chapter in more detail. Results from the two content analyses show differences in positions on MPAs in general.

Positions do largely coincide in both analyses. Both result in Russia, China and Ukraine categorized most opposing. Chile, Norway (due to initial position), Namibia, Uruguay, Brazil, Korea, and Japan are considered a potential threat. A shift in Norway’s position has been visible in both contents. Media misses out on the concerns made by Brazil, Chile and Uruguay that have raised concerns in the CCAMLR negotiation. Korea position however appears to be difficult to assess. It has been supportive in annual reports and Korea has been the first member state that ticked two boxes of the AOA score board for protection in the Southern Ocean. Still, Korea has raised several concerns on the MPA proposals tabled. In one article fed into MAXQDA analysis the political scientist A. Hemmings has ascribed Korea a ‘wildcard’-status being alternatingly both supportive or unsupportive of conservation efforts:

*“ You would put Russia and the Ukraine near the top of the states that are likely to be concerned about marine protected areas in the Antarctic on a large scale, along with China, Japan and, on and off, South Korea. ”* (The Guardian, Jul 2013)

This opinion would explain the difficulties in assessing position Korea’s position. Comparison of positions resulted in a position map illustrated in Figure 25. From the position map four

general groups of stakeholders can be identified: ‘Supporting’ members, clearly ‘unsupportive’ stakeholders (China, Russia, and Ukraine), ‘neutral’ stakeholders (Namibia). ‘Ambiguous’ positioned members are to be associated to more than one category.

<b>Supportive</b>	<b>Neutral</b>	<b>Unsupportive</b>
Australia		
France		
Germany		
New Zealand		
UK		
USA		
Belgium		
Italy		
Poland		
Spain		
Sweden		
Argentina		
India		
South Africa		
Chile		
Norway		
	Namibia	
		Uruguay
		Brazil
Korea		
		Japan
		China
		Russia
		Ukraine

**Figure 25** Position map of CCAMLR member states on MPAs. Based on results of the content analyses.

## 6.2. Interest data analysis

### 6.2.1. MPA and conservation interests

Interest in conservation and MPAs is expressed in various data. In this case the percentage of national waters declared MPA (Figure 26) are used as example for interest in conservation and MPAs in national policy making. As shown in Figure 26 most MPA-skeptics show comparably low percentages of national waters designated MPA. CCAMLR MPA proponents in turn tend to have a large quantity of national waters designated MPA. Russia and Ukraine show comparably large areas designated MPA compared to other states that are members to

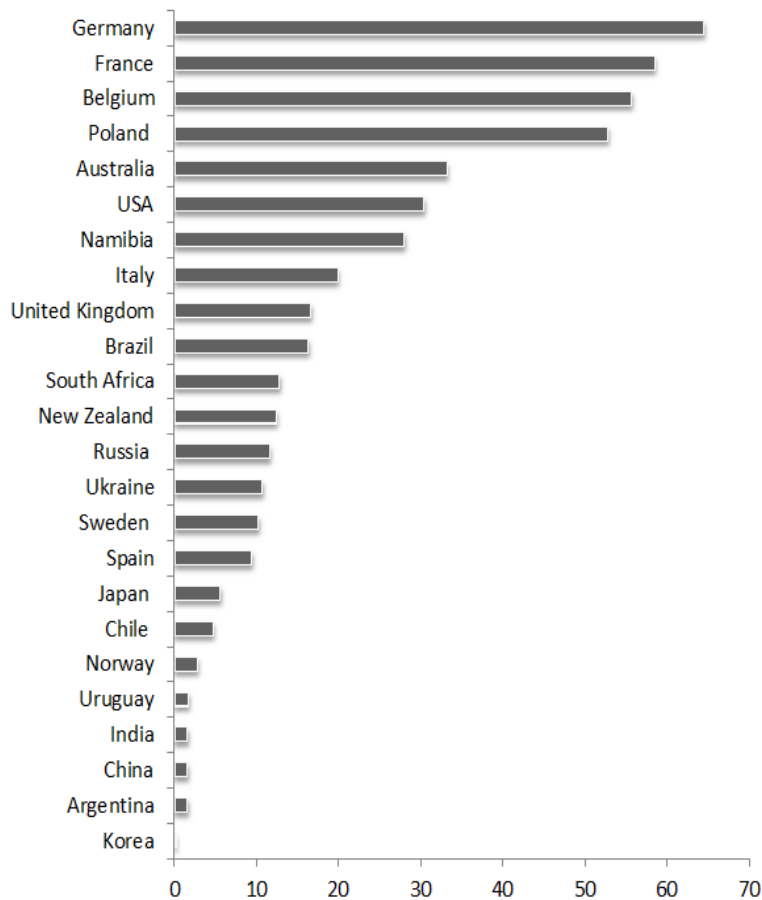


Figure 26 Percentage of territorial waters designated MPA. Data: Worldbank 2012

the EU and thus indirectly proposing MPAs in the East Antarctic. Despite being perceived more supportive than Russia and Ukraine, Spain and Sweden show very small percentages of MPA designated in their own backyards. We can conclude that supportive members tend to have a high percentage of national waters designated MPAs.

### **6.2.2. Fisheries and conservation: Interest representation in delegations**

Both national fishery and conservation interest can be indicated by the number of delegates from the two sectors fishing and conservation. These individuals have participated as advisors in national delegations in the Commission meeting. Based on the List of Participants found in the CCAMLR reports (2010-2014) advisors from these sectors have been counted and are exemplified in Table 11. Note that only representatives from fishing companies or NGOs have been considered. Yet the table has not taken account of representatives from scientific research institutes that may be involved in (research) fishing.

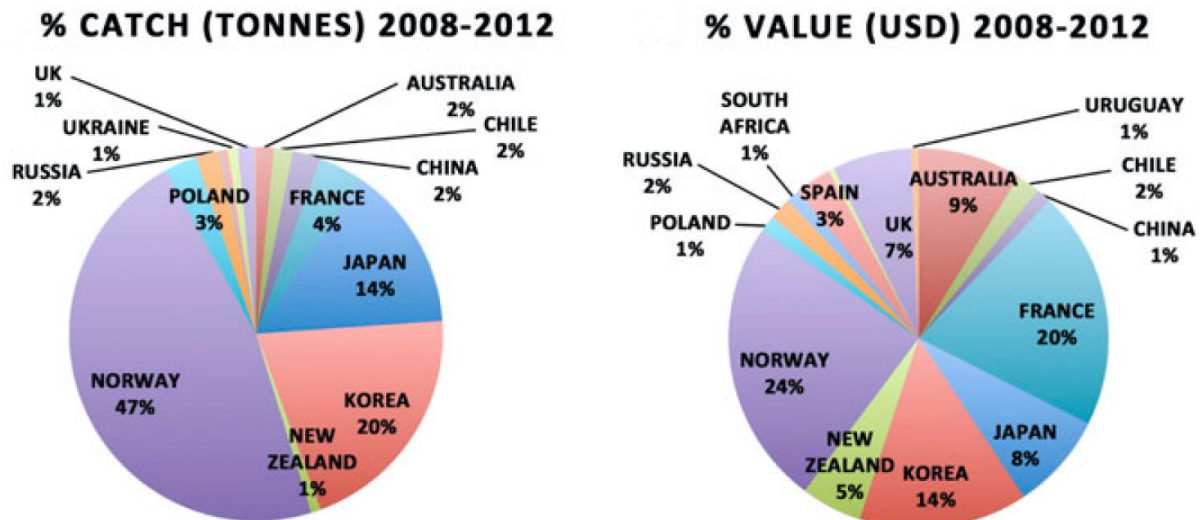
In the last five years the USA, UK, New Zealand, and Australia have allowed or invited NGOs to participate on a regular basis. Korea and South Africa have invited NGOs to single occasions. The same countries have usually also had representatives from the fishing industry. Korea has had by far the most fisheries representatives except of the last two meetings. Poland, Norway, China, Spain only occasionally brought representatives from the fishing industry. Australia, Chile, France, Japan, Korea, New Zealand, Russia, South Africa, Ukraine and the UK regularly bring representatives from the fishing industry. Looking at the given example, it appears that both supportive and unsupportive members have invited representatives from the fishing sector to participate in the meetings. Solely supportive actors, particularly proponents, have invited NGOs to participate as national delegation members.

**Table 11** Number of advisors from commercial and NGO sector as listed in the List of Participants in the CCAMLR reports (2010-2014)

Member	Advisors									
	XXXIII		XXXII		XXXI		XXX		XXIX	
	Fisheries	NGO	Fisheries	NGO	Fisheries	NGO	Fisheries	NGO	Fisheries	NGO
Argentina										
Australia	1	2	1	2	1	1	1	1	1	1
Belgium										
Brazil										
Chile	1		2		1		2		2	
China	1		1							
France	2		2		3		2		2	
Germany										
India										
Italy										
Japan	2		2		2		4		3	
Korea	1		6	1	9		7		5	
Namibia										
New Zealand	2	2	2	2	2	2	3	2	3	1
Norway					1				2	
Poland	1				1		1			
Russia	2		2		3		2		2	
South Africa			1		1		2		1	1
Spain			1		1					
Sweden										
Ukraine	1		2		2		3			
United Kingdom		1		1	1	1	2		3	
USA	1	1	1	1	1	1		1		1
Uruguay										
SUM	15	6	23	7	29	5	29	4	24	4

### 6.2.3. Interest in marine living resources

National fishing interest is reflected by data on the national licenses for fishing and the actual catches taken in the Convention Area and in the planning domains. As shown in Figure 27, more than half of the members have fishing interest in the Convention Area. From 2008 to 2012, Norway, Korea and Japan together have made up to more than 80% of all landings with Norway having the greatest financial benefit. The figures further reveal that the most un-supportive members are neither having comparable large catches nor comparably great financial benefits. Only Korea and Japan, who are both of ambiguous positions on MPAs, are benefitting from catches taken in the Southern Ocean.



**Figure 27** Left: Proportion of catch (combined) per country from 2008 to 2012. Right: Proportion of the financial value gained per country from 2008 to 2012. Source: Brooks (2013:293)

In Table 12 members fishing interest in the planning areas is exemplified by the number of nationally licensed vessels. In the WS MPA planning area there are comparably low catch limits with two licensed vessels (Korea and Japan). In the RS MPA planning area 3663 tons (3044t in 88.1 and 619t in 88.2) for toothfish is by far the largest catch limit. Here, several vessels are licensed, including four Russian and one Ukrainian vessel. Fishing interest in the EARS MPA planning area is reflected by comparatively small catch limit (724t in 58.4.1, 35t in 58.4.2). Catch limits for established fishery of *E. superba* in the East Antarctic are however enormous (440,000 tons in 58.4.1. and 2,645,000 in 58.4.2.). Yet the krill fishery is currently not conducted because of disagreement on catch limits of the individual SSMUs<sup>74</sup>. There is an established fishery of *E. superba* in domain 1 (48.1. and 48.2.) that has a catch limit of 434,000 tons with several members having licensed vessels available for this area.

**Table 12** Member's fishing interest in the planning areas, including catch limits, type of fishery and number of nationally licensed vessels for the season 2014/2015 of the respective statistical subareas.

Planning area	Catch limits (2014/2015) in tons	Type of fishery	Licensed vessels (Number)
<b>EARSMP</b>	759	Exploratory toothfish fishery	Japan (1), Korea (1), Spain (1)
	2,689,000	Established Krill fishery	<b>(currently not conducted)</b>
<b>RSMPA</b>	3663	Exploratory toothfish fishery	Australia (1), Japan (1), Korea (3), New Zealand (3), Norway (1), Russia (4), Spain (1), Ukraine (1), UK (2)
<b>WSMPA</b>	538	Exploratory toothfish fishery	Japan (1), Korea (1)
<b>Domain 1</b>	434,000	Established Krill fishery	Chile (1), China (8), Korea (2), Norway (3), Ukraine (1),
	-	New toothfish fishery	Ukraine (1)

<sup>74</sup> E.g. SC-CAMLR-XV para. 3.11; SC-CAMLR-XXVII paras. 3.9 and 3.32

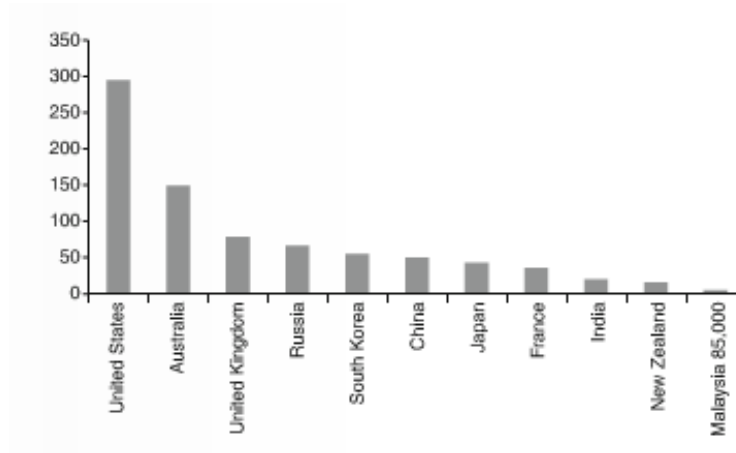
The data show that fishing interest in the RS MPA planning area is comparatively the highest, several members fish for the lucrative toothfish. The EARS MPA though having a great established krill fishery is already an area of conflicting interests. The WS MPA has minor fishing interest by two members. Domain 1 is an area where several, rather critical members are licensed to fish for krill. In Table 13 national fishing interest in the planning areas is put in a wider temporal context. National interest as of the last seven years in target species is displayed and associated to the respective planning areas. Many members are interested in the toothfish fishery in the Ross Sea, including most of stakeholders that were unsupportive of the RS MPA proposal. Resource interest in the EARS MPA planning area is less. Still, many of the members unsupportive of the EARS MPA have had interest in marine living resources in this particular area. A correlation between resource interest and opposition can clearly be derived from these examples.

**Table 13** CCAMLR targeted species (toothfish; *Dissostichus eleginoides* and *D. mawsoni*, icefish: *Champsocephalus gunnari* and krill: *Euphasia superba*) and CCAMLR Subareas and Divisions fished or licensed to fish by Members during the last seven years (2008–2015; modified after Brooks 2013). Fisheries include all established, exploratory and research fisheries within the Convention Area (including EEZs). See Figure 1 for subarea boundaries. The proposed Ross Sea MPA falls within Subareas 88.1 and partly 88.2, whereas the East Antarctic MPA falls primarily within Divisions 58.4.1 and 58.4.2 with a small portion in 58.4.3b (as in the proposal from July 2013). The WS MPA planning areas falls within 48.5 and 48.6.. Areas 48.1 and 48.2 correspond with planning domain 1. \*Note, that Russian data in the Weddell Sea is quarantined.

<b>Member</b>	<b>Species fished</b>	<b>Subareas/Divisions fished/licensed (2008-2015)</b>	<b>Planning Area</b>
Argentina	Toothfish	88.1, 88.2	<b>RS</b>
Australia	Toothfish icefish	58.5.2 (AUS EEZ), 88.1, 88.2	<b>RS</b>
Belgium	-		
Brazil	-		
Chile	Toothfish icefish krill	48.3, 88.1, 88.2 48.3 48.1, 48.2, 48.3, 48.4	<b>RS</b>  <b>D1</b>
China	Krill	48.1, 48.2, 48.3, 48.4	
France	Toothfish	58.4.3a, 58.4.3b, 58.4.4, 58.5.1, 58.6 (FR EEZ)	<b>EARS</b>
Germany	-		
India	-		
Italy	-		
Japan	Toothfish krill	48.6, 58.4.1, 58.4.2, 58.4.4, 58.4.3a, 58.4.4, 88.1 58.4.3a, 58.4.3b	<b>EARS, RS, WS</b>
Korea	Toothfish icefish krill	48.3, 48.6, 58.4.1, 58.4.2, 88.1, 88.2 48.3 48.1, 48.2, 48.3	<b>EARS, RS, WS</b>  <b>D1</b>
Namibia	Toothfish	58.4.1, 58.4.2, 58.4.3b	<b>EARS</b>
New Zealand	Toothfish	48.3, 48.4, 88.1, 88.2	<b>RS</b>
Norway	Toothfish krill	88.1, 88.2 48.1, 48.2, 48.3, 48.4	<b>RS</b> <b>D1</b>
Poland	Krill	48.1, 48.2, 48.3, 48.4	<b>D1</b>
Russia	Toothfish krill	88.1, 88.2, 48.5 48.2, 48.3	<b>RS, WS*</b> <b>D1</b>
South Africa	Toothfish	58.6, 58.7 (SA EEZ), 48.3, 48.6, 88.1, 88.2	<b>RS, WS</b>
Spain	Toothfish	48.3, 58.4.1, 58.4.2, 88.1, 88.2	<b>RS, EARS</b>
Sweden	-		
Ukraine	Toothfish krill	48.2, 88.1, 88.2 48.1, 48.2, 48.3, 48.4	<b>RS</b> <b>D1</b>
United Kingdom	Toothfish icefish	48.3, 48.4, 48.4, 88.1, 88.2 48.3	<b>RS</b>
USA	-		
Uruguay	Toothfish	48.3, 58.4.1, 58.4.3b, 88.1, 88.2	<b>EARS, RS</b>



#### 6.2.4. Interest in research activity and leadership



**Figure 28** Comparative Antarctic spend (million US Dollar) of some countries.  
Source: Brady (2013:2)

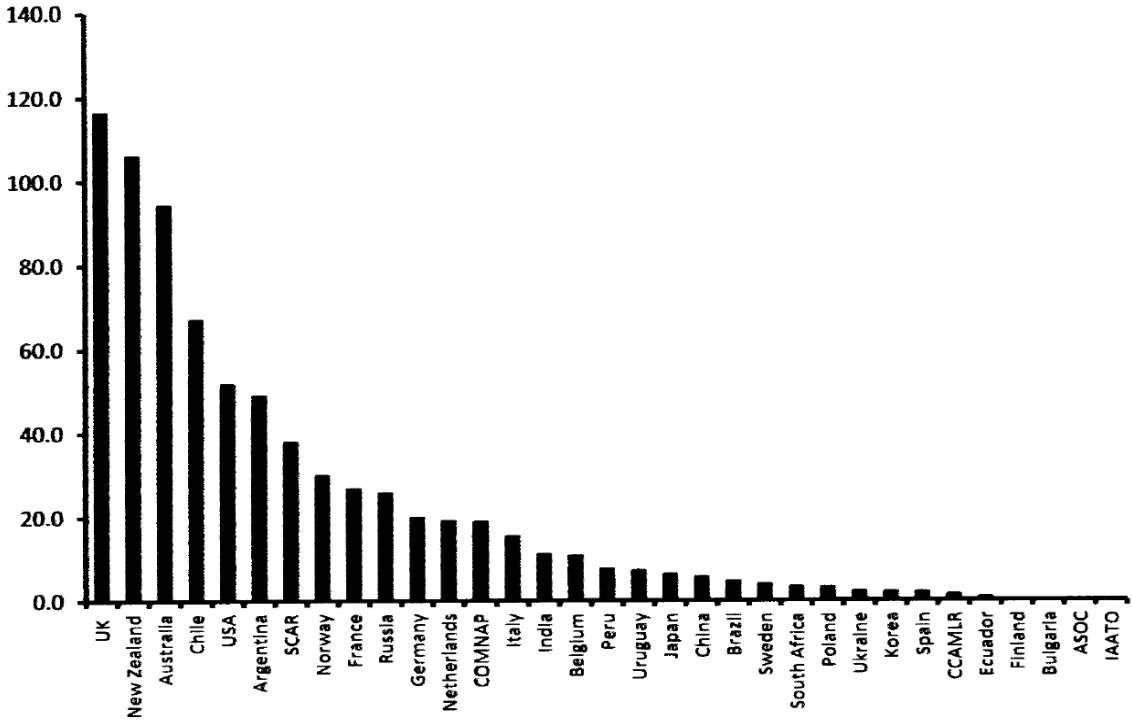
The ATS is considered an exclusive club where members are only admitted when a long-term commitment is ensured by contributing respective research, and building research stations or research vessels (Kehrt 2014). Polar research is the entry requirement to the ATCM, which decides upon use and possible exploitation of the Antarctic continent and waters<sup>75</sup>. Polar research thus has an important strategic function for political interests in the ongoing global, politically motivated competition for resources (Kehrt 2014; Dudeney and Walton 2012). National scientific interest and the interest in ‘having a say’ is primarily visible in national Antarctic spend. Unfortunately, to the knowledge of the author, comprehensive data are not freely available if altogether recorded. Data on spending in marine research are often pooled with research on land or with Arctic research. One example (Figure 28) comprises data for the CCAMLR members USA, Australia, UK, Russia, Korea, China, Japan, France, India and New Zealand. According to Brady et al. (2013), budgets for all Antarctic activities of the US remained consistently high, while Russia has recently spent less than the USSR in cold war times. China, Korea, India, and also Australia have encouraged investment in Antarctic activities. According to the authors, newly emerging interest by China, India and Korea would indicate an exploration of new options to gain international influence. It may further create a new sense of national pride as only a comparably strong economy permits to invest in

<sup>75</sup> Only consultative status enables nations to participate in decision-making. Nations have to demonstrate substantial scientific research activity (Article IX, para 2, AT). According to Dudeney and Walton (2012:2) these requirements are only vaguely formulated calling for the establishment of a research station and ‘*dispatch of a scientific expedition*’.

Antarctic affairs. The authors further explain the role of Antarctic research in the stakeholder community:

*“Research output is a key indicator of a nation’s level of influence and engagement in Antarctica. This is for two reasons: (1) engaging in scientific research in Antarctica is the institutional fig leaf justifying a state’s participation in Antarctic governance; and (2) knowledge, as always, is power, and states which can come up with scientific evidence to back up any policy changes they wish to promote are likely to be more influential.”* (Brady et al. 2013:2)

Dudeny and Walton (2012) derive similar conclusions about leadership interest of ATCPs by assessing the number of publications and treaty papers. The research builds on research carried out by Dastidar and Ramchandran (2008)<sup>76</sup> that has also assessed scientific outputs of ATCPs. Dudeny and Walton (2012) line out the role of science for leadership in the ATS showing that Russia, the USA and the seven claimant nations<sup>77</sup> set the political agenda and provide most of the science. This group shows a high effort in scientific and political outputs measured in the number of tabled documents as shown in Figure 29 and Figure 30. The



**Figure 29** Total amount of WPs produced by Consultative Parties to the AT (1992-2010), ordered by descending number. Source: Dudeny and Walton (2012:4)

<sup>76</sup> Authors assessed scientific outputs from 1980 to 2004 with the following ranking: 1. USA, 2. UK, 3. Australia, 9. Russia, 14. India, 19. China, 25. Korea (based on information from Brady et al. 2013)

<sup>77</sup> Argentina, Australia, Chile, France, New Zealand, Norway, United Kingdom

Authors have analyzed ATCM’s Working Papers (WP), Information Papers (IP)<sup>78</sup> and the number of peer-reviewed scientific publications over a time period of nearly 20 years (1992-2010). As seen in Figure 29, the UK shows the most WPs tabled, closely followed by NZ and Australia (together 42% of all WPs). The ten most active parties are all claimant states, US, Russia and SCAR. If WP and IP are aggregated the ten most active parties remain the same, solely France and Norway are replaced by ASOC and IAATO (International Association of

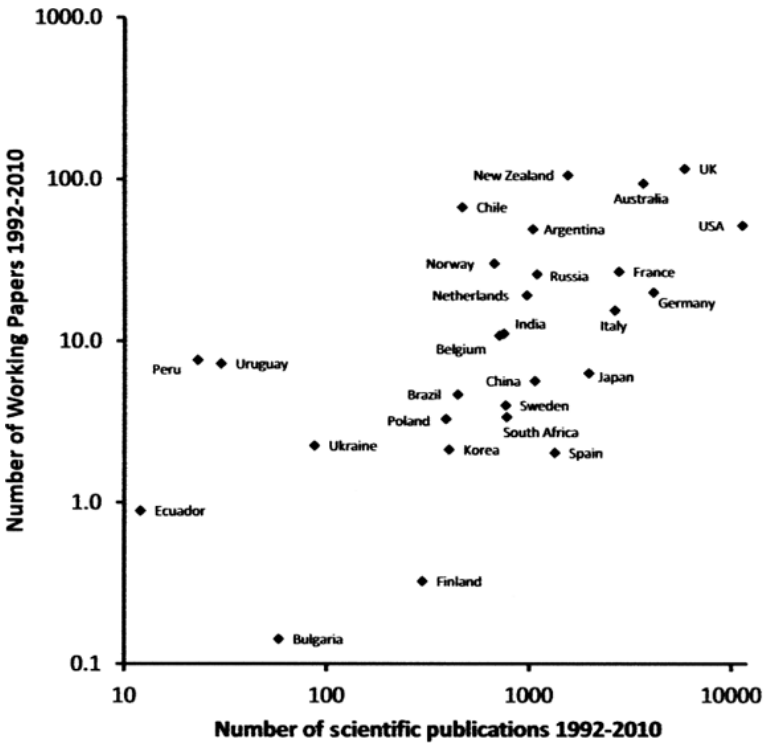


Figure 30 Graphic showing the a Log/log plot revealing relationship between the number of working papers and the number of scientific publications on Antarctic topics by ATCPs (1992-2010). Source: Dudeny and Walton (2012:7)

Antarctica Tour Operators). CCAMLR itself is party to the ATCM, but its engagement is described as “one of liaison and its input of papers reflects this passive approach”. Notwithstanding some methodological limitations (e.g. CP engagement is not solely reflected in this type of activity but on debating or revising proposals, limited selection of keywords for authorship analysis of peer-reviews publications), this research certainly gives an overview to draw conclusions on national scientific interest and policy-related activity.

<sup>78</sup> At the ATCM Meetings documents are (as it is the case for CCAMLR) either discussed in Working Papers (WPs), translated into Treaty languages which will be debated and require action, or in Information Papers (IPs, consistent with Background Paper, at CCAMLR) that are not translated and do not require discussion if not requested. NGOs such as the Tourism Association (IAATO) can raise their concern in the form of such Information Papers at the ATCM.

How and to which extent does national interest in scientific marine research affect positions towards CCAMLR MPAs? That is difficult to say; there may be skepticism or great support as many scientists are advocates for protecting Antarctica. MPA proposals do not intend to restrict research, yet actors might fear that scientific research cannot be convened as planned or may be linked to additional costs and restrictions. CCAMLR will have to authorize R&M, which beforehand was only subject to the environmental impact assessment by national authorities as provided for in the Environmental Protocol. Hence, members might fear additional bureaucratic expenses that are increasing skepticism. Marine research is not undisputed as certain research methods have adverse effects on the Antarctic fauna and flora such as the use of airguns for seismic measuring. The released acoustic noise can in particular harm marine mammals (e.g. Schwarzbach et al. 2014:349). Relatively high environmental stress has been documented in the Fildes region at King George Island in planning domain 1 (ibid. p. 349) due to a high density of research stations and a paved runway.

In the end, it has become visible that science occupies a special role in the Antarctic and is obviously also a tool to exercise power. Whereas a differentiation between scientific research and fishery research would be required to be more precise. Yet, all proponents have produced great numbers of scientific articles and policy working papers. All proponents are ahead in the number of scientific publications. Some of the nations that appear unsupportive of MPAs are also greatly involved in publication activity and the authoring of policy related papers. In the end, both supporting members and critics are considered key players in terms of science and leadership as suggested by the presented data.

### **6.2.5. Logistical operations**

There are a number of research stations that could potentially be affected by the MPAs as their logistical operations for national Antarctic programs are largely seaborne as shown in Figure 31. In and around the RS MPA planning area there are five CCAMLR members operating in four stations, whereas the Russian *Russkaya* Station is comparably far off and is probably only marginally affected<sup>79</sup>. In the East Antarctic there are at least five members operating nine stations<sup>80</sup>. Around the WS MPA planning area there are ten states, nine of which are

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<sup>79</sup> USA (McMurdo), New Zealand (Scott Base), Italy (Mario Zucchelli), Korea (Jang Bogo Station) and Russia (*Russkaya*)

<sup>80</sup> Australia (Casey, Mawson, Davis), Russia (Mirny, Molodyozhnaya, Progress), France (Dumont d'Urville), China (Zhongshan, Taishan), India (Bharati)

CCAMLR members operating twelve research stations<sup>81</sup>. Domain 1 is known for its high density of facilities (see also Figure 33), there are at least 17 states (including 14 CCAMLR members) operating 23 research stations<sup>82</sup>. Especially the WS MPA and domain 1 planning group are affected by the number of research stations and the need to have seaborne logistical operations.

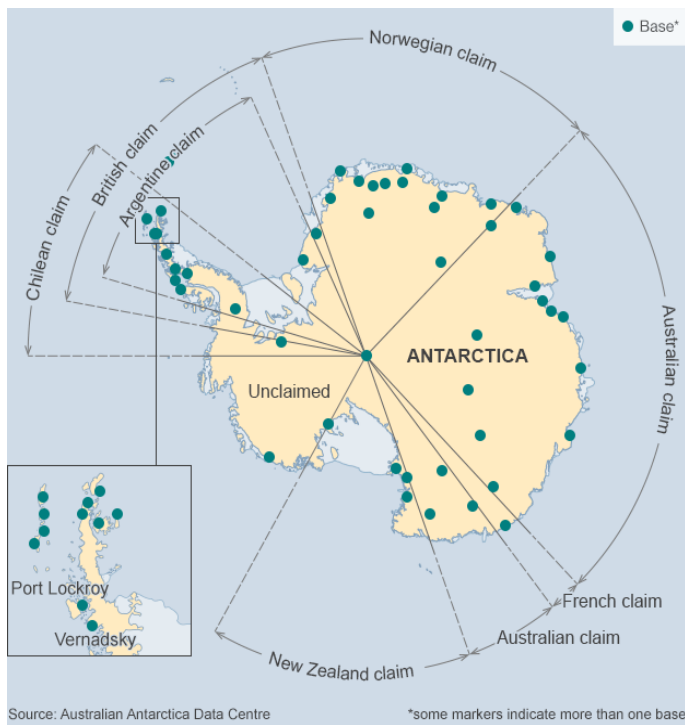


**Figure 31** Map of research stations in Antarctica from 2006. Source: (retrieved on October 17, 2015) [https://www.comnap.aq/Publications/Comnap%20Publications/COMNAP\\_Antarctic\\_Map\\_Edition3\\_2006\\_RGB.jpg](https://www.comnap.aq/Publications/Comnap%20Publications/COMNAP_Antarctic_Map_Edition3_2006_RGB.jpg)

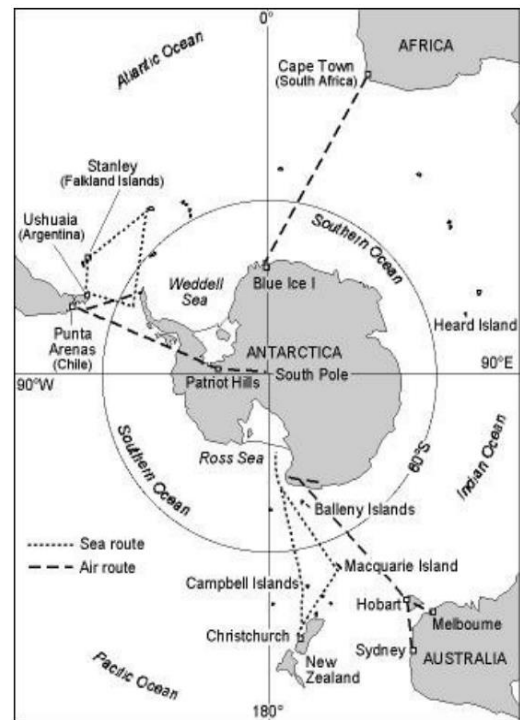
<sup>81</sup> Germany (Neumayer III), Argentina (Belgrano II, Marambio, Matienzo), Belgium (Princess Elizabeth), Finland (Aboa), India (Dakshin Gangotri which is discontinued, Maitri), Norway (Tor, Troll), Russia (Novolazarevskaya), South Africa (Sanae IV), Sweden (Wasa), and UK (Halley).

<sup>82</sup> USA (Palmer), UK (Rothera), Argentina (San Martin, Marambio, Esperanza), Ukraine (Vernadsky), Brazil (Comandante Ferraz), Spain (Juan Carlos, Gabriel de Castilla), Bulgaria (St. Kliment Ohridski), Chile (Captain Arturo Prat, Bernardo O' Higgins, Jubani); Ecuador (Madonado), Poland (Henryk Arctowski), Peru (Machu Picchu), Russia (Bellingshausen), China (Great Wall), Chile (Presidente Eduardo Frei, Professor Julio Escudero), Uruguay (Artigas), Korea (King Sejong), Czech Republic (Mendel)

## 6.2.6. Claims and geopolitical interest



**Figure 33** Map of territorial claims in the Antarctic including research stations. Data by Australian Antarctic Data Centre. Source: [http://icchef.bbc.co.uk/news/624/media/images/75735000/gif/\\_75735138\\_antarcticmapcorrect.gif](http://icchef.bbc.co.uk/news/624/media/images/75735000/gif/_75735138_antarcticmapcorrect.gif) (retrieved on October 17, 2015)



**Figure 33** Major seaborne and airborne tourist routes to Antarctica. Source: Kriwoken and Rotes (2000:139)

In the Antarctic there is a unique political situation because „*differing ‘positions of principle’ between claimant and non-claimant States with regard to the existence of territorial sovereignty [...]*” (Grant 2005: 782) exist. Nations were starting to claim regions of the Antarctic continent in the peaking cold war in 1959 (see Figure 33), but the claims have been set aside when the AT was signed<sup>83</sup>. The AT bypasses clarifying the sovereignty question. Instead of legally acknowledging asserted claims, it simply respects those claims. Claims are thus set aside in the sense of an ‘*agreement to disagree*’ (Bastmeijer and van Hengel 2009:3). Seven of the original 12 AT signatory countries – Argentina, Australia, Chile, France, UK, New Zealand and Norway – have claimed large areas of the Antarctic that are partly overlapping. Russia and the USA have reserved rights to claim parts in the future. Consideration of data on geopolitical interest in the SHA is challenging; it can only be concluded that members (historical) interest in a region may be reason to opposition by other members. The assumption that designating MPAs is an action to reaffirm claims has only been made by Russia in the MPA debate so far. Still, despite the WS MPA, all planning activity is exercised by the respective claimant.

<sup>83</sup> Article IV, Antarctic Treaty

### **6.2.7. Interest in tourism**

Antarctica is known to be one of the last wildernesses, which is resulting in flourishing tourism with 20,000 to 70,000 people visiting Antarctica annually (Tin et al. 2013:7). Antarctic tourism and conservation have an ambivalent relationship. Tourism is seen controversially because it is associated with anthropogenic induced change and environmental stresses (e.g. Schwarzbach et al. 2014). But sustainable tourism can be a strong driver in affecting positioning and a sustainable management. Most tourism operators are represented by IAATO participating in ATCM meetings, where tourism activities have been on the agenda since 1966. Regulated by the Environmental Protocol, tourism is only addressed indirectly by the requirement of an environmental impact assessment which is submitted to the respective national authorities before activities are carried out. Antarctic tourism started in the 1960s and is primarily seaborne (Trewby 2002:188). Tourism operators are largely based in neighboring areas such as the Falkland Islands (UK), Argentina, Chile, South Africa, Australia and New Zealand (See Figure 33). Information on nations that have considerable national interests in tourism in Antarctica is not provided. It is unclear how interest in tourism can be correlated with a member's position in the MPA debate. Interest in tourism could be both increasing skepticism about MPAs and associated economic losses or increasing economic gain by increasing touristic value. Yet, it is obvious that neighboring members that are benefitting from Antarctic tourism in general, tend to be in favor for MPAs.

### **6.2.8. Preliminary conclusion**

Almost all members have particular interests in the Antarctic. Yet only fishing interest can also be made traceably for the planning areas. All planning areas are subject to fishing interest in some form. Particularly the RS MPA planning area is a lucrative area for various stakeholders. Critics in turn tend to have strong interest in fishing (see also Interest-Position-Grid, Chapter 6.3). Key players in the negotiation never mind if supportive or not tend to be greatly engaged in scientific research and policy-making. All MPA supporters have placed MPAs and conservation high on their national agenda. MPA planning nations are key players showing high publication activity, most of them being claimants. Only some of them are involved in tourism and some of them in fishing. Needless to say that fishing interest appears to be the most significant proxy to describe conflicting interest causing unsupportiveness. Other interest data proxies vary in terms of their significance for the categorization of stakeholders. Taking for example tourism: Designating a protected area does not necessarily

contradict tourism. A high-priced sustainable tourism can be a strong driver for environmental protection by raising awareness and the wish to remain the worthiness of a visit. Conservation efforts are also often supported by tourism organizations in order to increase or preserve the touristic value of the area. A tourist that observes threats to the environment can act as ‘ambassador’ for the protection of the region and to bring issues to the public’s attention calling for political action. Though tourism activity is still of a small number compared to other regions of the world, and is of short time and has to comply with provisions of the Antarctic Treaty, its recommendation and protocols, tourism has the potential to destroy unique environments, jeopardize scientific research and cause considerable stresses to fauna and flora. Interest in ensuring logistical operations may be of significance in positioning despite the fact that navigation is regulated by the International Maritime Organization (IMO). In the literature there are several examples of opposition against MPAs originating from stakeholders who fear restriction in the freedom of navigation that is established under UNCLOS. Formulation in the conservation measures that make the MPA legally binding are often formulated relatively open<sup>84</sup> and without introducing regulations that might object other jurisdiction.

### **6.3. Interest-Position-Grid**

Comparing categorization results of the general position with interest data provides information on a possible correlation between interest and position. Despite fishing data, data did not allow for a clear evaluation if the respective interest is affecting a stakeholder’s position positively or negatively. Data on fishing interest in the Southern Ocean and in the planning areas from proxies’ analysis resulted in the following groups of stakeholders:

- (1) Supportive of MPAs with no fishing interests such as Germany, Italy, etc.
- (2) Supportive of MPAs with fishing interests such as Argentina, Australia
- (3) Unsupportive of MPAs with fishing interest such as Russia, Ukraine, Japan.
- (4) Rather unsupportive without fishing interest such as Brazil

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<sup>84</sup> For the SOISS MPA in CM 91-03 (5) it is stated: “*For the purpose of monitoring traffic within the protected area, fishing vessels transiting the area are encouraged to inform the CCAMLR Secretariat of their intended transit prior to entering the defined area, providing details of their Flag State, size, IMO number and intended course.*”



As illustrated in the position-interest grid in Figure 34 Chile, Korea and Uruguay could be associated to both supportive or unsupportive stakeholders. According to the results in the content analysis, Chile, Uruguay and Korea have shown ambiguous position in the negotiations.

Support	Germany Italy India Poland Sweden USA	Argentina Australia France New Zealand Norway South Africa Spain UK (Chile) (Korea) (Uruguay)
Opposition	Brazil	Russia Japan Ukraine (Chile) (Korea) (Uruguay)
	No fishing interest	Fishing interest

**Figure 34** Interest-Position-Grid for categorization of all member states. Members are categorized by fishing interest in the Convention Area and general Supportiveness of MPAs. Note that Namibia has neither positioned clearly not fished since 2008 and is therefore excluded from the position-interest grid.

#### 6.4. Stakeholder table

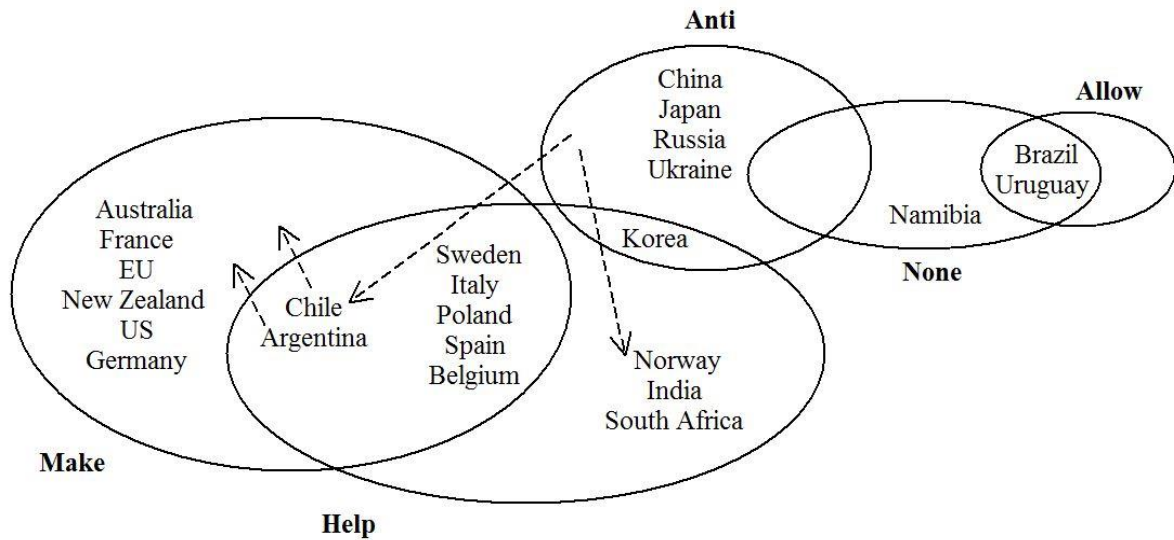
The stakeholder table (Table 14) is a summary of the results of the stakeholder categorization process. The table displays stakeholder interests and positions from content analyses, and the estimated role in the stakeholder community based on the position and relation towards MPAs (see Chapter 7). The assessed potential for conflict in terms of the establishment of CCAMLR MPAs and the interest in MPAs and their design based on text retrieval from MAXQDA are included. Note that only results from fishing interest could be visualized corresponding to the MPA planning areas.

**Table 14** Stakeholder table of CCAMLR member states displaying results from SHA categorization process

Stakeholder	Interest (proxies)	MPA conformity				Position (from content analysis)			Conflict potential	If unresponsive; interest in MPA design (text retrieval via MAXQDA)
		MPA	EARS	RS	WS	DI	MPA	EARS		
Argentina	Planning MPA in Domain 1									Legal consistency, CCAMLR objectives, Management plan with clearly defined administrative objectives and definitions
	Toothfish RS								Make-Help	
	EARSMPA proponent								Make	
	EU-Member (Proponent)								Make	
Brazil	Planning MPA in Domain 1								Allow- None	Size and numbers of the MPAs, boundaries, duration, strong scientific foundation, engage with all members, periodic revisions
	Toothfish RS								Make-Help (Anti)	Size, additional research for toothfish movement (RSMPA), periodic revisions, well-designed management plans, clear scientific evidence
China	Krill (Domain 1)								Anti	High interest in legal consistency, ensure rational use and research, persistence of adopted CMs, sunset clause, size, MPA necessity low (Already protected), well planned and enforceable R&M, more information on impact on rational use, case-by-case establishment, sound science, evidence of threat (excluding fishing), clarification of the threshold to the application of the precautionary approach, take concern of all parties
	EARSMPA proponent								Make	
France	EARSMPA proponent								Make	
	W-SMPA planning and proposing 2015								Make	
India	EU-Member (Proponent)								Help	
	Toothfish EARS/WS								Make-Help	
Japan	Toothfish EARS/WS								Anti	Interest in structured discussion (checklist), size and boundaries, enforcement taking account of IUU, information on fishing impact on MPA objectives, incorporate stock
	Krill (Domain 1)								Help - Anti	
Korea	Collaborating with Sweden in Domain 9								None	
	Toothfish EA								Make	
New Zealand	RSMPA proponent								Help (from Anti)	Size and number of MPAs, Match size with objectives and R&M, RSMPA catch limits in accordance with TAC, sound scientific justification (BAS) and recent and 'appropriate' data, ensure rational use, legal consistency, sunset clause, R&M.
	Toothfish RS								Make-Help	
Norway	Krill (Domain 1)								Anti	Protection mechanisms in place sufficient, fishing for R&M, ensure rational use, size of MPAs and associated R&M difficult (SOISSMPA as example), ensure logistical operations, clarification of responsibilities in management and R&M (no preferring responsibilities to certain states), take all views into account, CM 91-04 should contain'
	First discussions on planning in Domain 4								Help	
Poland	EU-Member (Proponent)								Make-Help	
	Krill (Domain 1)								Anti	
Russia	Toothfish RS								Help	
	Krill (Domain 1)								Make-Help	
South Africa	Quarantined fishing data in the WSMPA								Make-Help	
	Diplomatic tension / chair of Commission								Anti	Conventional measures and protection status sufficient, legal consistency (CCAMLR mandate and MPA definition), Accordance with existent CMs, ensure research and
Spain	Toothfish WSMPA								Make	
	EU-Member (Proponent)								Make-Help	
Sweden	Toothfish RS, EA								Make-Help	
	EU-Member (Proponent)								Anti	
Ukraine	Toothfish EA								Make	
	Krill (Domain 1)								Allow-None	Logistical and legal implications, skeptical about size, R&M impeded by size and conditions, take into account all factors (socio-economic, biological, environmental and institutional), ensure rational use, data access to all members (R&M), research and exploratory fishery within MPA, consideration of fishery displacement, clear legal framework ensuring MPA administered by CCAMLR, multiple uses, participation of all members in R&M
United Kingdom	EU-Member (Proponent)								Make	
	Planned established SOISSMPA								Make	
USA	Toothfish EA								Make	
	RSMPA proponent								Allow-None	
Uruguay	Toothfish RS, EA								Allow-None	

## 7. Results of investigating relationships

Relationships among stakeholders are of a complex plurality. In this case, we are able to investigate relationships from looking at the patterns of interaction in the MPA debate. As shown in Figure 36, the stakeholders occupy different roles that are explained in Chapter 4.6.



**Figure 36** Venn diagram of roles (Make, Help, Allow, None, Anti) member states occupy in relation to CCAMLR MPAs.

	Aus	Frar	USA	New	Ger	UK	Belg	Italy	Pola	Spa	Swe	Arg	Chil	Indi	Sou	Nor	Kor	Uru	Nam	Bra	Japa	Ukr	Chil	Rus
Australia	Dark Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
France	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
USA	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
New Zealand	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Germany	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
UK	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Belgium	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Italy	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Poland	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Spain	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Sweden	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Argentina	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Chile	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
India	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
South Africa	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Norway	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Korea	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Uruguay	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Namibia	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Brazil	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Japan	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Ukraine	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
China	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Russia	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green

**Figure 36** Actor-linkage matrix displaying relationship in the CCAMLR MPA negotiations. Relationships are categorized as either cooperative, conflict, or not distinctive. Cooperative relationships are either dark green (collectively planning) or light green (support as shown by categorization process), Conflict (yellow for potential and red for manifested conflict based on categorization results). White boxes indicate a relationship that qualifies as not distinctive or ambiguous. Note that Sweden, USA and Korea might cooperate in planning as mentioned in Chapter 2.5.5).

Basically two large fronts evolved that are based on members' roles in the MPA debate. Supporting stakeholders appear 'making' (proponents) or 'helping'. Unsupportive stakeholders are categorized 'anti', 'none' or 'allow' depending on their position (neutral, unsupportive or ambiguous). Despite single members that changed their position/roles (Norway, Chile, and Argentina), roles have been constant. Groups associated at the same role-cluster can potentially build alliances to strengthen their position and to act cooperatively to gain mutual benefits.

In Figure 36 an actor-linkage matrix has been developed based on the results from the categorization process. Itself is categorizing relationships between the members based on the occupied roles and positions on specific MPA proposals. One can assume that a conflict is already manifested between critics and members planning the respective MPAs. The manifested conflict is based on the opposed roles 'make' and 'anti', whereas conflict is only potential between future proponents and unsupportive members. A cooperative relationship is based on the category 'help'. Only relationships between key actors have been considered, others have not been categorized and are thus denoted 'not distinctive'. Potential conflict between different proponents cannot be precluded but is however not considered in the Figure above.

## 8. Discussion

### 8.1. Interpretation of SHA results: Challenges to MPA establishment

According to the results differing interests cause conflict potential in the MPA debate between proponents (and their supporters) and critics. The content analyses revealed that there are certain disputes between members. These points are discussed and interpreted in thematic clusters in the following.

#### Concerns on enforceability, effectiveness and necessity of MPAs

As shown in Chapter 6.1.1. unsupportive members have questioned the general effectiveness and enforceability of MPAs. The demand for a sunset clause and the call for ‘sufficient’ scientific data are examples of the skepticism towards MPAs.

Wariness on the effectiveness of MPAs may be caused by controversial academic literature and the difficulties to measure effectiveness of MPAs (e.g. Pomeroy et al. 2005). A great number of paper parks and studies reveal numerous challenges (see Chapter 2.1) to successful implementation of MPAs that have probably led to a general skepticism<sup>85</sup>. Funding for enforcement poses a practical challenge, particularly in extreme regions of harsh ice conditions like in the Southern Ocean. Costs of MPA enforcement are high and often underrated (Kaplan et al. 2010:1). The proposed areas allow for multiple uses but that aggravates enforcement by another degree. Fully (no-take) protected areas are easier to monitor and surveil, because any other activity than transit or permitted R&M raises suspicion in a no-take MPA. Multiple use MPAs require increased attention to boundaries and the permitted uses. In the end, the enforceability of MPAs remains an unresolved major concern.

Stakeholders agree on the need for R&M to measure how an MPA is doing and to assess how management can be adapted to improve MPA benefits. But the high demand for R&M and (short) periodic revisions may be based on an interest in refuting effectivity in order to debate functionality when the designation period ceases; *‘why should an MPA be carried on, if it does not provide scientific evidence of its raison d’être?’* Antarctic marine living resources

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<sup>85</sup> According to Zacharias et al. (2006) there has been bad experience with the Southern Ocean Sanctuary for the protection of cetaceans, because it was lacking scientific review. The review was commissioned by the IWC Scientific Committee and presented to the IWC in 2004. The review addressed a number of questions related to the effectiveness of the sanctuary that lacked formally stated goals such as biodiversity protection and measurable objectives.

will eventually become increasingly demanded due to population growth and climate change associated food security. Uncertainties on what the future might bring are hard to neglect and may cause opposition on MPAs without an expiration date. A sunset clause or an open formulation<sup>86</sup> that leaves the permanence open would account for such uncertainties.

The discussion about the effectiveness of the SOISS MPA in the review in 2014 has shown certain member's skepticism on the effectiveness of MPAs. But the review of MPAs and the adaption of R&M do not suffice questioning the status of the MPA but rather qualify as basis for the discussion on adaptive management, on how to improve R&M or modify boundaries and uses of the MPA.

In order to achieve the necessary protection objectives for endangered or vulnerable marine habitats and communities and to provide long-term protection, the MPAs are usually of an extensive area and do not have expiration dates. Traditional measures in fisheries management are often specifically tailored to individual species or fish stocks and are usually temporary. The major part of the Convention Area is already closed to fishing and well managed based on the valued convention principles. The convention area thus already experiences a highly sophisticated and exemplary management in terms of conservation by CCAMLR's conventional management. The added value by MPAs in comparison to conventional measures may not be recognizable to all parties. Opponents probably consider conventional measures as sufficient, but there is the legal requirement for further special consideration of areas for conservation given in the preamble to CM 91-04. Moreover, the conventional measures in the toothfish fishery have been criticized by authors in terms of their sustainability (e.g. Brooks and Ainley 2013:153), inter alia because "*all data to manage the [toothfish] fishery have been fishery dependent*". Concerns about the necessity and efficacy of MPAs are further reflected in different interpretations of the precautionary principle (see below).

### **Different interpretations of CCAMLR's legal mandate and the Convention text**

Whether the Convention Area is already an MPA or what exactly a CCAMLR MPA is, is not only a theoretical question. It may be of great implication for any pending MPA or future MPA planning, because it defines the legal protection that is established.

According to the Protocol on Environmental Protection to the Antarctic Treaty, Article 2, the entire Southern Ocean could technically be classified MPA. The Southern Ocean falls under

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<sup>86</sup>[http://www.nmfs.noaa.gov/ia/slider\\_stories/2013/07/ross\\_sea/ross\\_sea\\_mpa\\_proposal\\_for\\_web\\_story.pdf](http://www.nmfs.noaa.gov/ia/slider_stories/2013/07/ross_sea/ross_sea_mpa_proposal_for_web_story.pdf)  
retrieved (July 14, 2015)

CCAML jurisdiction, consequently there is no area that is not addressed in some way by management measures. The SC has endorsed the assumption that the Convention Area would qualify as an IUCN Category IV MPA<sup>87</sup>. This argument is used repeatedly by China to refute the necessity of MPA establishment or supposedly to question legal implications. But there are still areas that require further special consideration in a representative system of MPAs as stipulated in the preamble to CM 91-04.

Similar implications arise from the intervention made by Russia and Ukraine about the supposedly unclear (legal) definition of MPAs in the CCAMLR context. Russia concluded that the lack of juridical definition comes with an unstable legal mandate to establish MPAs<sup>88</sup>. In other terms, this would imply that the CCAMLR would have insufficient legitimacy to introduce MPAs. Though there is neither a current internationally agreed definition nor does CM 91-04 contain a clear definition of MPAs, several members are of the view that the definition would be apparent in CM 91-04 and sufficient for the MPA context<sup>89</sup>. The CCAMLR is legally entitled to close areas to fishing<sup>90</sup> and entitled to formulate legally binding CMs<sup>91</sup> which is both not precluding MPAs. The adoption of CM 91-04 is seen to have further reaffirmed CCAMLR's legal authority to establish MPAs.

China has repeatedly emphasized legal concerns about the tabled proposals for MPAs in the Ross Sea and East Antarctica especially in 2014. The RS MPA proposal for instance would fail to adequately identify threats to the system (whereas they exclude fishing from potential threats). In the reports, China has recognized and emphasized the legal basis for all protective measures to be CCAMLR Article II and IX. China agrees that for the proposed protective measures the precautionary principle applies, but sees the precautionary principle justified if three substantive preconditions are fulfilled. The precautionary principle would only apply if there was firstly significant threat and secondly sufficient scientific data proving the threat. Thirdly, the measures that are to be applied should be proportional to conventional conservation measures and existing restrictions. They therefore would require weighting of potential effects (particularly on rational use) as lined out in Article IX (e)<sup>92</sup>. Supporters see the incremental value of the two proposed MPAs in relation to the existing conservation measure as sufficiently recognizable. Still, China (in consent with Russia) has made clear that the above

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<sup>87</sup> e.g. SC-XXIX, para 5.31

<sup>88</sup> CCAMLR-XXXII-SM, para 3.18

<sup>89</sup> CCAMLR-XXXII-SM, para 3.60; CCAMLR-XXXIII, para 7.57

<sup>90</sup> Article IX, 2 (g)

<sup>91</sup> Article IX, 1 (f) and further elaborated in Article IX, 2 (a) – (i)

<sup>92</sup> The Commission shall “*identify conservation needs and analyse the effectiveness of conservation measures*”

mentioned Article IX (e) should be considered when establishing MPAs<sup>93</sup>. The members thus require a supplement assessment of the need and the effectiveness of the proposals before adoption. This interpretation of the Article is a questionable, because it could also be interpreted as reaffirmation of the legal mandate for the Commission to identify conservation needs.

It can be concluded, that in the CCAMLR different opinions on the precautionous establishment of MPAs prevail. They are e.g. exhibited by China requiring clarification on when exactly to apply the precautionary principle (threshold to trigger). The precautionary principle has its foundations in the Rio Declaration and the Kyoto Protocol where it does not include any juridical conditions or restrictions for action. It states

*“Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”* (Principle 15, Rio Declaration)

It encourages action based on discretionary decisions made by policy makers to prevent adverse environmental effects (threats) on a heuristic basis. It does not preclude taking action while threats are absent or not imminent. Also the IUCN Guidelines call for a proactive use of the precautionary principle<sup>94</sup>. In conclusion, there is no legal prerequisite to identify threats neither in the above mentioned Principle, the CM 91-04 nor in the Convention Text as it has also been pointed out by several members (Chapter 6.1.1). The application of the precautionary principle in areas of high uncertainty remains a major point of conflict. Members have recurrently demanded ‘strong’ scientific evidence, or ‘sufficient’ data for decision-making. Providing a lot of data would thus be the prerequisite to justify extensiveness of the MPAs. But the large size of MPA is based on the lack of data and application of the precautionary principle. Proponents consider MPAs to allow for data gaps and uncertainty, and *“the absence of scientific certainty was not considered sufficient reason to avoid designating MPAs”*<sup>95</sup>. Requiring sufficient data does not coincide with the concept of

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<sup>93</sup> CCAMLR-XXXIII, para 7.52

<sup>94</sup> There it is stipulated *“The Precautionary Principle requires more than careful anticipation, avoidance and mitigation of potential harm from human activities that are already underway or proposed for the future...”* (IUCN 2007)

IUCN, 2007. IUCN Guidelines for Applying the Precautionary Principle to Biodiversity, Conservation and Natural Resource Management. 2007. Source: [http://cmsdata.iucn.org/downloads/ln250507\\_ppguidelines.pdf](http://cmsdata.iucn.org/downloads/ln250507_ppguidelines.pdf) (retrieved on October 17, 2015)

<sup>95</sup> A. Constable in SC-CAMLR-XXIV, para 13



best available science<sup>96</sup> and ultimately results in neglecting or misinterpreting the precautionary approach. One can assume that it is very likely that the underlying articles are either misconceived or deliberately used to increase the argumentation for disapproval of the MPA proposals.

### **The need to balance different interests**

The mélange of interests makes it difficult to tell which interests are motivating single members to oppose. The SHA has shown that interest in fishing is not the single defining factor for opposition of member states on MPAs. Yet, it has been shown in the interest-position-grid that opposition and fishing interests coincide. Content analysis has also shown that MPA opponents do not conceal their vested interest in fishing in the convention area. They often note that they aspire to rationally use resources and they require proposals to be legally consistent with CCAMLR principles which include a balance between rational use and conservation. Most stakeholders – never mind their position towards MPA proposals – have raised the objective to develop MPAs that ‘balance multiple interests’ which essentially includes fishing, research and conservation. The EARS and RS MPA proposals have made substantial effort to balance multiple interests in the planning and negotiation process by making concessions in terms of MPA sizes. Yet, this seems not enough to agree to the proposals. Opponents are still unsatisfied as shown in Chapter 6.1.1. The restriction of research fishing in the MPAs would inhibit the estimation of fish stocks in still unknown areas and would make future assessment impossible. This may be hard to accept when future needs are yet unknown. It is challenging to overcome the ‘*dichotomy*’ of fishing and conservation interests (A. Rogers in Cressey 2012b; Sovacool 2008:34). Though CCAMLR has made it’s priority to balance conservation and rational use, at the moment the stakeholders do not seem able to find compromises due to perceived or actual incompatible goals.

### **The fear of injustice in the rights of access**

In the past MPA establishment has proven difficult because certain members fear to lose legal rights, particularly the freedom of the seas as stipulated in UNCLOS Article 78 (Grant 2005:42)<sup>97</sup>. This freedom ‘*is exercised under the conditions laid down by this Convention and by other rules of international law*’<sup>98</sup> and includes the freedom of navigation, overflight, to

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<sup>96</sup> CM 91-04, para 2 and Article IX.1 (f)

<sup>97</sup> [http://cmsdata.iucn.org/downloads/15\\_3\\_lowres.pdf#page=42](http://cmsdata.iucn.org/downloads/15_3_lowres.pdf#page=42) (retrieved July 14, 2015)

<sup>98</sup> [http://www.un.org/depts/los/convention\\_agreements/texts/unclos/unclos\\_e.pdf](http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf) (retrieved July 14, 2015)

lay submarine cables and pipelines, but also the freedom to fish and for scientific research as further qualified in UNCLOS. According to Brooks et al. (2014:292), this right is a misconception - an '*unfettered right to fish*', because the freedoms are limited by multilateral agreements, such as the 1995 UN Fish Stocks Agreement<sup>99</sup> and regional fisheries conventions such as CCAMLR. But the freedom of the high seas is also constrained by the obligations for parties to UNCLOS. They have the duty to conserve marine living resources and the environment in a cooperative manner<sup>100</sup>. Article 197 UNCLOS requires states to elaborate international rules and guidelines consistent with UNCLOS to achieve protection of the environment. Together this is seen to form the legal basis for MPA implementation in the high seas (Salpin and Germani 2010:178) without being contradictory to the freedom of the seas. Though this aspect has not been worded specifically in the reports, it is paraphrased by the repeatedly voiced importance of legal consistency with international law including UNCLOS and the need to balance member's interests.

Moreover, single members apparently fear a loss of rights in respect to sovereignty and benefitting responsibilities that come with being a proponent or an associate. Though this has only come up on single occasions as elucidated indirectly by New Zealand dispelling allegations made by Russia on the MPAs being a tool to perform sovereignty of territorial claims, it is obviously a serious fear that challenges MPA establishment. Anyhow, this fear is unsubstantiated by the legal framework existent, but this allegation exhibits serious diplomatic problems reflecting mistrust and apprehension on being left out or overlooked. The same applies for open questions about responsibilities in the enforcement and for R&M in MPAs.

### **Lacking trust, collaboration and momentum**

Relationships of members are affected by negotiation behavior. Negotiation techniques of unsupportive members have been criticized repeatedly in both the media and in the reports (mostly by proponents) as shown in Chapter 6.1.1 and 6.1.2. It was suggested that these members use 'unfair' tactics to achieve desired negotiation outcomes. Allegations go as far as the suggestion that unsupportive members are reluctant to find compromises. Results from content analysis allow for verification of the assumptions. Assertions such as a '*filibuster*'-tactic imply that legal but unfair tactics were used to prolong the argument. Results from the

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<sup>99</sup> 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

<sup>100</sup> Articles 116-119 and 192, UNLCOS

content analyses suggest that especially MPA-skeptic members China and Russia often seek to discuss formal criteria and interpret basic principles and CCAMLR documents differently. Legal aspects and formalities are used to challenge MPA proposals. Despite the above described use of questioning legal mandates or interpretation of the precautionary approach, this also includes concerns voiced by Russia, that not all relevant aspects have been considered by the SC. Consequently the conservation measures would not be ready to be drafted<sup>101</sup> or to be discussed in more detail in the Commission despite endorsement of the scientific basis of both proposals by the SC in 2011. Members have (repeatedly) impeded proposals to be moved from SC to the Commission to discuss policy matters. The SOISS MPA review debate allows interpretation of similar tactics; China's concern on the legal status of the report and Russia suggesting unsatisfactory results from the review process are tactics to delay the decision-making process and to question the function of MPAs. Needless to say that proponents and supporters use tricky tactics too. They often make use of arguments outside of the CCAMLR mandate to justify MPAs e.g. the protection of marine mammals as objective of the MPAs. This however has not been subject of analysis as ecological motivations for MPA establishment were dismissed. As shown by the results from content analyses, MPA supporters have cooperatively defended single unsupportive stakeholders when dispelling concerns. It appears to be a common tactic to isolate specific stakeholders and put them under pressure. Never mind if the allegations made are correct, finding common ground for decision-making and maintaining sound relationships for articulating compromise is heavily aggravated. Circumstances of negotiation are currently complicated due to mistrust and pressure tactics as also shown by the investigation of relationships in Chapter 7. The conflict has resulted in strained diplomatic relationships and members questioning the credibility of stakeholder's negotiation behavior and the organization itself. MPA Advocates use this threat to caution against the possibly reputation loss of CCAMLR to put unsupportive members under pressure. In conclusion, lacking trust and collaboration has caused diplomatic tension and a bad momentum for MPA establishment.

## **8.2. Overcome barriers to MPA establishment**

Based on formulation of problems to MPA establishment in the previous chapter, the author is able to derive ideas to overcome the restraints by strategic interventions.

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<sup>101</sup> After unanimous decision, the CM is handed to a drafting group that is processing text for subsequent negotiations.

The concerns on enforceability, effectiveness and necessity of MPAs can be met by different actions. Increasing for instance enforceability of MPAs will dispel a large and serious concern of MPA opponents. The extensive sizes of the proposals will eventually lead to difficulties in R&M and enforcement of the MPAs. This concern persists until enforcement is improved and resources for R&M are pooled or new institutions are created to enhance enforceability. One could assume that certain members probably do not believe that MPAs are necessary or provide more benefits than the actual restrictions by conventional management measures. This problem may be met by explanatory work, involvement of stakeholders in the planning process, and continuously defending unsubstantiated criticism while communicating uncertainties in the planning transparently.

Different interpretations and the dichotomy of interests are likely based on different conservation agendas, history, cultures and policy core beliefs. Stakeholders would need to overcome the differences in culture based values to create mutually compatible perspective. According to Weible (2007) a shift in the value ascribed to MPAs would require changing core beliefs by policy-oriented learning. This would take up much time and effort and would call for a gradual accumulation of the science supporting MPAs. As another option the author suggests the occurrence of external shocks which would lead to a change of socioeconomic conditions. National interest may be shifted or reinforced by external shocks. With a growing world population and the need for global food security in the light of climate change, conservation interest will most likely oppose the welfare of economically deprived members. A change of socioeconomic conditions that may gain momentum for MPA establishment are thus less likely.

Conflicting interests may therefore best be met by proactive and transparent planning, involvement of stakeholders in planning and raising awareness in bilateral talks. Meeting an opponent's concern or interest will likely include concessions. But addressing the above identified concerns and finding compromise as suggested would eventually entail a reduction in MPA size.

MPA advocates can use their resources to affect other stakeholders in different venues or use the media to increase public pressure. Involving and collaborating with both supporters and opponents increases an inclusive atmosphere and counteracts a lack of trust. The fear of injustice in access rights could also be alleviated by involvement and clarification of the legal situation. An early involvement in the planning of MPAs may enhance the basis to find

common ground in the negotiation and increase understanding of the course of decision-making within the planning process. Stakeholder involvement requires technical workshops, bilateral talks, or other mechanisms such as online exchange platforms (such as WS MPA e-group). Increasing transparency is known to be indispensable for managing manifested conflicts (Redpath et al. 2013; Ardron et al. 2014). An honest, sensitive and transparent communication of adverse MPA effects or unclarified aspects such as gaps of knowledge is best practice to encounter skeptics. Allowing critical examinations of MPA proposals is of particular important when addressing concerns of states that have fishing interest to dispel those concerns.

If conflicts are already manifested, there is the need to create an incentive for the stakeholder to reconsider the position taken in the MPA debate. For this purpose the pressure on unsupportive stakeholders could be increased by conservation NGOs or the media. NGOs are striving to raise public awareness and forming of opinion making use of different tactics and channels. Public awareness is used to create pressure to influence the development and implementation of national and international regulations. They can either influence the board public or government agencies at national as well as international level simultaneously by official or unofficial activities. One would conclude that public pressure would help the cause. But how public pressure by media sources will actually affect positions by unsupportive stakeholder is questionable. Furthermore, media attention and NGO efforts are already high. The media has suggested to 'take a stand' against unsupportive stakeholders, or to win key stakeholders over, especially opponents that generally do not object MPAs such as Norway, Korea or Japan. Increasing pressure on single members can have the wanted effects but also bears the risk of creating a greater conflict potential and hurting stalemates.

In conclusion, transparent and proactive planning and the involvement of stakeholder in order to recognize their interests can reduce the conflict potential and make opponents feel included. Despite actually preventing prolonged debates in the CCAMLR, advice can be valuable. Any of the problems identified above may be met by maintaining or improving diplomatic relations, defending unsubstantiated arguments made by unsupportive stakeholders, meet interests by concessions, and involve stakeholders to prevent members feeling left out in terms of interest and rights.

### **8.3. The WS MPA proposal**

This thesis is intended to place specific focus on the WS MPA proposal. In the following it will be assessed if the above identified challenges apply for the WS MPA proposal. Coming from the given analyses we derive assumptions over the overall potential of the WS MPA to be agreed upon based on advantages and disadvantages.

At first view the, WS MPA proposal combines several advantages. It has an exceptional data availability from which a large extent has been collated during German or collaborative research cruises. The German research activity in the Weddell Sea also provides a well-equipped research vessel that is able to conduct R&M and contribute to enforceability of an WS MPA. Moreover, the WS MPA planning has involved member states from an early stage of the planning process (see Chapter 2.5.4). Germany is comparably unburdened in the Antarctic historical context, which is benefitting for diplomatic endeavors for the WS MPA proposal. Germany neither claimed territory<sup>102</sup> nor conducts commercial fishing. It has an open agenda on its interest in maintaining scientific research and conservation. Interest data show that Germany has the greatest extent of national waters designated MPA compared to other CCAMLR members.

Though there is comparably minor interest in fishing in the WS MPA planning area, this does not exclude interest that may emerge in the future due to changing ice conditions. Korea, Japan, South Africa but also Russia have fishing interest in the planning area that need to be addressed duly. Several circumstances remain unfavorable. Fishing data are very limited as the Russian fishing data taken in the WS MPA is quarantined and can thus not be regarded. On this basis it is difficult to give recommendations on the restriction of fishing in the WS MPA as compared to other areas. Secondly, in comparison with EARS MPA and RS MPA there are many research stations in the WS MPA planning area. A clearly formulated and well communicated regulation in the draft proposal that ensures the logistical operations to the respective facilities would account for such interests. To a certain extent Germany is bound by EU interests in establishing the EARS MPA. This can be challenging when proposing a MPA that is comparatively small in size (see MPA scenarios in Figure 13 in Chapter 2.5.4). A proposal that is small in size (due to comparably low protection percentages) would

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<sup>102</sup> In early 1939 an Antarctic expedition of the Nazi Germany regime named an area in Queen Maude Land 'New Swabia'. Germany has however not made a formal claim to this territory which falls under the Norwegian claim.

eventually be a basis for achieving positive negotiations in the first attempts. Yet, a proposal that is mostly based on a good data basis, would at the one hand not fully regard the precautionary principle, but also set a precedent that undermines finding consensus on the establishment of other MPAs. The EARS MPA that is based on methods for designating areas of high uncertainty and limited data, and is proposed by the EU could be negatively impacted by a 'safe-played' WS MPA. A less precautionary approach would accommodate the demand for 'sufficient' science and thus have better chances to be agreed upon. On the contrary, a precautionary approach would effectively lead to a protection of the entire Weddell Sea (Figure 13). Such an MPA proposal would most likely not withstand the interest by many member states that have fishing interests. A large MPA would also raise concerns on enforceability and R&M. From a strategical point of view the MPA size is the eminent aspect. A large reserve (maximal demand) could produce negotiation substance for concessions but is very likely to experience the same concerns as the RS MPA and EARS MPA. A small reserve could benefit from the fresh start and the appearance as a symbolic gesture of accommodating stakeholder's interests. But it has less substance to trade-off and could also receive negative responses from other proponents. In conclusion, a medium sized WS MPA design corresponding to scenario B presented in Chapter 2.5.4 would most likely be successfully balancing conflicting interests.

In conclusion, the WS MPA is benefitting from a fresh start, minor fishing interest in the area, excellent data availability and the application of experience from the last five years including how to appropriately address concerns made in the previous negotiations, a well formulated R&M, and the early involvement of technical experts from opposing stakeholder and also the involvement of NGOs in a consistent and transparent planning process. Yet, chances of the WS MPA proposal to be adopted are highly depending on the final design and size of the WS MPA. As shown in the previous chapter, the current momentum in the CCAMLR indicates very clearly that a mutual understanding on MPAs in general is unlikely or questionable. Therefore, a failure of efforts for the German WS MPA proposal to reach a settlement in negotiation is also quite unlikely, despite all beneficial circumstances. Due to the comparably heated debate and the WS MPAs interdependencies with other proponents it would be recommendable to defer proposing the MPA to a later point in time.

#### **8.4. Comparison with other research**

There has only been one stakeholder analysis concerning CCAMLR MPAs to the author's knowledge. Sovacool (2008) has put focus on normative stakeholder identification. This has

mostly been done on a national level, for the Australian EARS MPA planning group. The research was conducted at a very early stage of MPA discussions under CCAMLR. The author also depicted motivations for an MPA based on primary data by expert interviews after the ACERA SHA method. The approach has proven useful for identification of stakeholders, also for identifying and describing stakeholder interests. However, defining options to overcome conflicting interests is not given by the chosen method (see Sovacool 2008:37f.). This has also proven challenging in this research, due to little reference given by stakeholder theory. This would suggest that, though including the aim of '*defining options for management*' as elementary part, the SHA lacks implementation criteria of how to overcome challenging interests beside increasing participation. Sovacool (2008:28f) exhibits interest for and against the creation of MPAs in the Southern Ocean planned by the Australian Delegation. Results by stakeholder interviews corresponded largely with the results from this research.

Brooks (2013) has investigated stakeholder's positions and interests. She discusses position taken in the CCAMLR special intercessional meeting in July 2013 and stakeholder interest in fishing. Results are based on detailed meeting observation and the review of the respective Commission Report<sup>103</sup> (Brooks 2013:288). Positions do largely coincide. Brooks has recorded more unsupportiveness of stakeholders. Concerns by Namibia and South Africa have not clearly been observed in content analysis as they have either been considered indifferent or even supporting. In this paper categorization of South Africa and Norway are based on clearly supporting statement that have been voiced after the SM in 2013. Brooks also investigated stakeholder interests, she exhibits member states fishing interest in divisions corresponding to the planning area of the RS MPA and EARS MPA and assumes correlation to the position taken in negotiation (as shown in Chapter 6.2.3).

The conflict and challenges to consensus have been subject to several publications. Most authors suggest that CCAMLR negotiations have repeatedly failed to reach consensus on MPAs (e.g. Hain 2014; Brooks 2013; Brooks et al. 2014; Samari 2015; Grant 2012; Hawkey et al. 2010; Beer et al. 2011). All authors agree, that a friction between interest in fishing and conservation are challenging. Different viewpoints and interests challenge finding balanced solutions to the MPA-debate. Authors agree that the dilemma is firmly anchored in the CAMLR Convention including inter alia Article II. The different interpretations of the

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<sup>103</sup> CCAMLR-SM-II, paras 3.15–3.39 and 3.46–3.69



precautionary approach and the concept of 'best available science' are seen very problematic (Samari 2015; Grant 2013). The lack of political will for conservation (Samari 2015:10) due to the different governments, cultures and histories (Hawkey et al. 2010) are considered hindering. Grant (2012), vice chair of the SC has described the situation as follows:

*"[The] acceptance of marine protected areas as key conservation measures has proved more difficult to achieve [compared to regulating catches by means of conventional management]. [...] some recent proposals appear to have been judged purely on whether the data are sufficient, rather than on whether they are the best available. If this judgement forms the basis for objections to an MPA proposal, then the precautionary approach is overturned and there is little opportunity for critical evaluation of the data which do exist. The question of 'how much data is enough?' is likely to have a different answer for every MPA proposal, depending on the characteristics, level of threat and feasibility of studying any particular area. Focusing on this question is a misinterpretation of the meaning of 'best available scientific evidence' in the context of MPA planning, and it risks undermining the ability of CCAMLR to make progress on establishing further MPAs where they are most needed."* Grant (2012:113)

Brooks (2013:289) also identified particular concerns and ranked them in order of presence: Concerns on (1) displacement of current and future fishing including concern on size and boundaries of proposed MPAs, (2) duration (sunset clause and request for short review periods), (3) sufficiency of R&M, (4) sufficiency of science showing threats and substantiating conservation objectives. Beyond this, the allegations by Russia and Ukraine, with support of the Chinese delegation, on the missing legal mandate to establish MPAs are seen problematic.

Based on a simple review of annual CCAMLR reports, Hain (2014:355f.) addresses most of the above identified challenges. (1) Because there are other high seas areas with a higher need for protection, conservation in the Antarctic is not seen to be of great importance by certain members. The ATS management regime provides already a MPA status, protection would hence appear redundant. (2) There are divergent views on the role of MPAs for fisheries management: Some members would prefer conventional measures such as TACs or the spatial or temporal closing of areas for fishing. (3) No coherent and internationally accepted definition of MPAs is a complicating factor. (4) Different opinions on appropriate sizing of proposed MPAs, the fear of associated displacement of fisheries, problems with stock assessment and the enforcement and monitoring of MPAs have been identified challenging in the MPA debate.

Hain (2014:359) suggests options to prevent conflicts on MPA establishment. Transparent planning and stakeholder involvement could increase chances for MPA establishment. Science supporting the proposals and the subsequent implementation of measures should be organized open and transparent. All CCAMLR Members including the nations with fishing interests in the Southern Ocean should be actively involved and informed in order to balance conservation and rational use interests. Planning groups should consider that MPAs are not the single instrument for achieving the protection objectives; they can be used in combination with other conservation measures. Other (conventional) regulations, that are e.g. fisheries related, have to be, according to the specific case, examined whether these should be part of the MPA management plan or should be negotiated separately as complementary measure. It should further be considered that certain protection objectives can only be achieved through measures outside of the mandate of CCAMLR. In this case, measures have to be taken in other areas of the ATS (e.g., under the Environmental Protocol) or within the framework of other global conventions such as the International Maritime Organization (IMO) of the United Nations for e.g. maritime pollution. Hain further recommends ensuring research in protected areas as the ATS acknowledges scientific research to have the same rights as conservation. Research can contribute to management, monitoring and enforcement. These research activities in the MPAs should however not jeopardize protection objectives. Scientists should apply for scientific research in future CCAMLR MPAs at the Commission, which then coordinates the research<sup>104</sup>.

Increasing enforcement has been recurrently suggested to override one of the main criticisms (Beer et al. 2011; Hawkey et al. 2010; Hain, 2014). Increasing enforcement would improve enforcement (including potentially increased IUU fishing) and R&M of large-sized MPA. Beer et al. (2011:29) proposes increasing cooperation and the pooling of resources to combat IUU fishing for MPA enforcement. Hawkey et al. (2010) suggest to increase surveillance patrols and information dissemination, e.g. by satellite technologies that are to be integrated or improved to support enforcements against newly developing IUU fishing activities. A formal agreement could increase IUU fishing prevention especially in MPA waters and the whole Southern Ocean (Beer et al. 2011). Brooks et al. (2014:314f.) recommend general points to overcome challenges to the establishment of HS MPA. Authors recommend procedural changes to increase compliance monitoring that would increase enforcement of

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<sup>104</sup> At this point scientific marine research is regulated through the environmental protocol. If research is not harvesting fish or krill for the research they are not to be coordinated by CCAMLR.

policies and regulations also against contracting parties. This could include evaluation of state member's by modern conservation standards and criteria and appropriate instruments to stimulate improvements of status quo by e.g. sanctions or assistance (Gjerde et al. 2013). A regular global review could include monitoring the state of enforcement and enforcement issues.

Brooks et al. (2014) suggest to reform existing institutional structures such as the consensus principle. It would be advisable to reconsider consensus as operating principle, because the consensus principle has been perceived hindering to achieve conservation outcomes in negotiation. Authors highlight the importance of consensus as all parties have equal premises nonetheless the parties are powerful or not. But the principle would often be misused for *"hamstringing the regulatory process and render any movements toward conservation impotent"*. This is particularly challenging when punishing non-compliant member states as they would not agree to harsh punishments. Therefore, authors suggest overthinking consensus agreement for conservation, compliance and, enforcement measures.

Marine conservation literature acknowledges the possibility to progress a multilateral agreement under UNCLOS that would provide a legal mandate for conservation in areas beyond national jurisdiction (Gjerde and Rulska-Domino 2012, Brooks et al. 2014). Such an *'agreement for marine biodiversity beyond national jurisdiction under the United Nations Convention on the Law of the Sea'* (Druel and Gjerde 2014) has already been demanded for by different actors, including scientists and NGOs<sup>105</sup>.

Most of the displayed results from other authors Hain (2014), Brooks (2013) and Sovacool (2008) are consistent with the results of this research. Some differences may be explained by the fact that the research has been convened at different points in time and within a highly dynamic stakeholder community. Still, stakeholder interest and the emerging conflicts do largely coincide. Specific solutions to manage conflict could not be substantiated by the

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<sup>105</sup> Institute for Advances Sustainability Studies, Germany. Ardron, Jeff, et al. "Advancing governance of the High Seas." IDDRI Policy Brief 6 (2013): 13. Source: [http://www.iass-potsdam.de/sites/default/files/files/policy\\_brief\\_1\\_2013\\_nachdruck\\_advancing\\_the\\_governance\\_of\\_the\\_high\\_seas.pdf](http://www.iass-potsdam.de/sites/default/files/files/policy_brief_1_2013_nachdruck_advancing_the_governance_of_the_high_seas.pdf) (retrieved on October 17, 2015)  
Global Ocean Commission. Source: <http://www.globaloceancommission.org/proposal-2-governing-the-high-seas/> (retrieved July 14, 2015)

chosen research approach to the same extent as other researchers have. Guidance by stakeholder literature is not given.

### **8.5. Evaluation of used methods**

Despite the above described weaknesses of the SHA approach specific limitations resulted from the chosen research design and chosen methods. The data from content analysis and interest data have come with disadvantages. Data are largely acquired from CCAMLR reports, thus they undergo a process of review that includes a review phase where many statements are retracted or adapted. This has resulted in a limited representativeness of interests and positions. Interest in the design of MPAs could not account for most of the scientific requirements for MPA establishment as they are subject to debate in the SC. The chosen approach cannot take account of interests or agendas that may be hidden. The variety of interest and position within the stakeholder group cannot be assessed. The chosen approach is constrained in taking account of dynamics: Positions are voiced by present delegation members that may change from one year to another. Investigating conflict and relationships may thus prove difficult due to high dynamics (Ramírez 1999:106). The chosen software does not provide the opportunity to display the course of a dynamical dispute. Coding operations and the source for coding pose additional limitations: Text passages can only be coded on the basis of the researcher's assumptions. In the end, limitations, related risks (and weaknesses) of the methods applied affect credibility and validity of the research, thus they are considered and duly addressed if possible.

Overall, the stakeholder analysis is a useful tool to describe conflict regarding the use and the design of MPAs for resource management under CCAMLR. By using data-led categorization interests and position were retrieved empirically from secondary sources. Renouncing primary data has prevented the convener to 'fall' for hidden agendas or stakeholder's self-interest that can be limiting in interviews and other primary acquired data. Still, a comparison with primary data acquired from the stakeholders would have complemented the data well. The common weaknesses of analytical categorization processes are a high degree of subjectivity caused by the number of assumptions that the convener has to make because the SHA is a heuristic tool dealing with incomplete knowledge. This disadvantage could not be completely eliminated. The chosen approach to content has for example proven difficult to differentiate between unsupportiveness and constructional criticisms. Yet, the combination of data sources has resulted in a broad and differentiated basis for categorization of stakeholders. Needless to

say, the sources for content analysis are not free from biases. The reports are open to the public and have undergone a process of filtering and adoption and hence do not reveal all points of concern and unresolved disputes on MPAs and their proposals. In the course of coding operations, it has been noted that the reporting of the MPA debate in the annual reports has changed in the course of the last six years. When MPA proposals were first tabled, reports have tended to note discussion points without associating criticism made to specific members. In the later years, statements were clearly associated to member states. This has led to practical implications on the assessment of positions of members. Furthermore, debates on RS MPA and EARS MPA were first separated clearly, but have become increasingly mingled in the latest reports. This could be explained by a significant change in the dynamic of the debate. It evolved from a more technical discussion to a fundamental debate on the size and restrictions of MPAs. This fact however has led to difficulties to ascribe statements to the members. This change of discourse could not be well captured by the chosen research approach. Another weakness remains; the stakeholder analysis is known to be a snapshot in time. Positions and the underlying interests may change over a short period due to external factors or stakeholder interaction.

The chosen research approach has proven very useful to gain a generic overview to structure the mélange of different opinions and to allow assumptions on inconsistencies in argumentation in the MPA debate. Still, the SHA would have benefitted from a smaller number of stakeholders in terms of more clarity and comprehensibility in the categorization process. Based on the SHA results the author concluded the main obstacles on MPA implementation though the stakeholder theory provides few guidelines on how to overcome challenges.

## **9. Conclusion**

This study envisaged to investigate challenges to the establishment of CCAMLR MPAs. It aimed to explore how the chosen data-led stakeholder analysis is best operationalized for this purpose. By investigating interests, positions and conflict potential among member states, ideas to overcome challenges in MPA negotiation were assessed. The chosen SHA method has proven useful in investigation interests, positions and relationships of key stakeholders of the CAMLR Commission in the general MPA debate and regarding specific MPA proposals. The SHA has shown that planning MPAs under CCAMLR is a complex process that requires

coordination of various interests. It has however limited use in defining options for strategic interventions.

In conclusion, momentarily the prospects of success for any MPA proposals are poor. Establishment of MPAs under CCAMLIR is seen controversial among member states and has caused conflicts between proponents and critics. Results further indicate that fishing interest can but must not be a defining aspect in positioning against MPAs. The underlying dichotomy, meaning the different values members ascribe to conservation is responsible for failing negotiations. An understanding can most likely be achieved if the negotiating partners approach each other's interests by finding compromise. A balance of interest is most likely to be reached by concessions. A compromise would most likely entail a reduction in size and lifting restrictions of the tabled proposals in order to evoke approval. The fear of being left out and not being able to assert rights can be met by communication among members and a proactive and transparent planning approach. In the end, core interests of individual stakeholders are unlikely to change without a major shift in understanding the value of MPAs by means of a timely policy-oriented learning process.

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## Appendix

**Table 15** Media sources for MAXQDA content analysis.

Source	Publ.	Author	Title
The Hindu	Feb 13	Rajgopal	Antarctica needs marine protected areas
The Guardian	Jul 13	Mathiesen	Russia and Ukraine likely to block huge Antarctic marine reserve
BBC	Nov 13		Antarctic marine reserves: Russia and China block plans
BBC	Mar 15	Marshall	Lewis Pugh: Swimmer has Ross Sea talks with Russia
BBC	Jul 13		No deal on huge Antarctic marine reserves
BBC	Oct 13	McGrath	Supporters in new push for scaled back Antarctic reserve
Nature.com	Oct 12	Cressey	Antarctic seas in the balance
Nature.com	Nov 12	Cressey	Disappointment as Antarctic protection bid fails
Nature.com	Jul 13	Cressey	Bid to protect Antarctic waters gets second chance
Nature.com	Jul 13	Cressey	Shock as Antarctic protection plans scuppered
Nature.com	Nov 13	Cressey	Third time unlucky for Antarctic protection bid
DW	Nov 13		Antarctic marine reserve proposal fails to win support
DW	Jul 13		Talks on creating Antarctic marine sanctuary break down
DW	Jul 14	Quaile	New hope for Antarctic Ocean?
DW	Oct 14	Quaile	China, Russia block Antarctic protection
DW	Oct 13	Quaile	Fishing ban to protect Antarctic seas?
DW	Nov 12		Conservationists slam Antarctic Ocean sanctuary failure
DW	Apr 14	Bevanger	Being cute 'won't save the penguins'
Environment News Service	Nov 13		Antarctic Marine Reserves Again Blocked by Russia
The Guardian	Nov 13	Milman	Delegates frustrated as talks to create huge Antarctic marine reserves fail
The Guardian	Oct 14	Mathiesen	Russia accused of blocking creation of vast Antarctic marine reserves
International Business Times	Jul 13	Johanson	Antarctica May Get World's Largest Marine Protected Areas After Meetings This Week
The Japan Times Opinion	Oct 14	Onodera, Christian	Japan's chance to develop Antarctic marine sanctuary
MercoPress.	May 14		Strong commitment to support Marine Protected Areas in Southern Ocean
MercoPress.	Nov 14		Australia confident of Antarctic Marine Protected Areas approval in 2015
National Geographic	Jul 13	Lee	Nations to Designate Antarctic Marine Protected Areas?
National Geographic Voices	Mar 13	Howard	John Kerry Urges Support for Ross Sea Antarctic Ocean Reserve
National Geographic Voices	Jul 13	Christian	Russia Prevents Designation of Large Marine Protected Areas in the Antarctic
National Geographic Voices	Jul 13	Brooks	Tragedy on the Antarctic High Seas
NPR	Oct 13	Harris	Delegates To Debate Watered-Down Plan For Antarctic Marine Preserve
The Sunday Morning Herald	May 14	Darby	Russia agrees to Antarctica marine reserves
The Conversation	May 15	Press	35 years on, is the deal to protect Antarctica's oceans working?
The Conversation	Jul 13	Press	Antarctic marine reserves: how many ways can you say "Nyet"?
The Conversation	Nov 12	Press	Don't write off Antarctic marine protected areas
The Conversation	Oct 12	Press	Conserving Antarctica: which protected area will it be?
Western Morning News	Mar 12	Wells	Antarctic swimmer Lewis Pugh takes to ice-cold water in just his Speedos as he calls on Russia to protect 'pristine' marine environment



Codesystem	Ara...	Aust...	Belg...	Brazil	China	EU	France	Ger...	India	Italy	Japan	Korea	Na...	New...	Nor...	Poland	Russia	Sout...	Spain	Swe...	Ukra...	Unit...	Uru...	USA	
<b>SUPPORT</b>																									
General support of MPA		6	1	5	6		1	1	1	3	7	1	1	7	2	1	1	1	1	1	1	1	1	1	1
Support for EARSMPA		1	3				4	1	1	1			2	1	1	1	2	1	1	1	1	3	1	2	2
support for RSMPA		2	3	2	2	3	4	1	2				1	1	1	1	1	1	1	2	3	1	3	1	1
<b>UNSUPPORTIVE</b>																									
General Unsupportive					9					2	1						12						11		1
Unsupportive RSMPA		3	3	1	1					2	1			5			6						1		1
Unsupportive EARSMPA		4	1	1										4			6						1		2
<b>MOTIVATION (excl. ecol. &amp; econom.)</b>																									
Commitments		8			1	6	1	3		1			1	1		1						3			3
Fulfill CCAMLR objectives		1	1	1	1		1						1	1											
CCAMLR Reputation		1	1		3	1	1						1									2			
Society interest					2																				1
<b>GENERAL CONCERNS</b>																									
Protection status given																									2
Already MPA																									2
Fisheries measures in place sufficient																									2
Sceptic about large size		2			1	3					1	1			2		4								1
Benefits of MPA controversial																									2
Enforcement challenging																									2
IUU and MPA success										1														1	1
Logistical challenges																									3
Responsibilities																									
Resources for R&M challenging		1																							
Certainty for R&M implementation		1																							
CCAMLR Mandate							2										4						3		1
Criticism Report/Review SOESMPA							1										5								1
<b>PARTICULAR CONCERNS</b>																									
DISPEL CONCERNS		3	2	1	1	1	2	1	1	1	2	1	1	3	4	2	2					3	3	2	2
<b>MPA REQUIREMENTS (MPA based on...)</b>																									
Balance multiple interest		2	14			11	1	2	1	6	2	1	2	1	2	1	3	2	2	2	1	6	2	2	2
Legal consistency		2	5	4		1	12	3		1	1	1	2	1	2	1	1	1	1	2	1	3	10	1	1
CM 91-04 as framework for establishment		1	2	2	1	1	1	1	1	1	1	1	3	1	3	1	1	1	1	2	1	1	1	2	1
Justified and clear boundaries		2			1	1							1	1	1	1	1	1	1	1	1	1	1	1	2
Adequate size		2			1	3	1			1	1	1	2	2	2	3	3	3	1	1	1	1	1	1	1
Systematic conservation planning (& clear objectives		1							1				4	4	2	1	1	1	1	1	1	1	1	1	1
Information on impact on rational use																									
Case by case consideration																									
Sunset clause		1			2	1				1	1	1	1	1	1										1
No sunset clause		2			1	1	1																		3
Periodic revisions and adaptive management			3		2	1	1	1	1	1	1	1	1	1	1		1	1	1	2	2	1	1	1	1
Management plan		1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	1	1	1	1	1	1
Research and Monitoring plan		2	2		1	2	1	2	1	3	1	1	3	4	5	1	1	1	1	1	1	1	1	1	3
Best Science Available			2		2	1	3	2	2	2	2	2	4	5	1	1	1	1	1	1	1	6	1	3	3
Sufficient data / evidence					2	1	2			1												1	1	1	1
Identified threats					3												2								2
<b>CONCERNS ON COLLABORATION</b>																									
SC advice / Commission-discussion and drafting			4			1	1	2	1					3											1
Science versus economic interest																									1
political will																									
prevent progress																									
Lack of criteria for discussing proposals																									1
Lack of criteria for discussing proposals position: high scientific demand higher than for On Russian / Ukraine comments										2															1
On Russian / Ukraine comments																									1
Concessions made have undermined MPA																									1

**Figure 38** Matrix of results from content analysis of Commission reports. Number of segments coded according to stakeholder support, opposition, motivation for MPA establishment, and concerns and requirements for MPA design.

Hiermit erkläre ich, dass die vorliegende Arbeit nicht für andere Prüfungen eingereicht worden ist und selbstständig geschrieben wurde. Sämtliche Quellen einschließlich Internetquellen, die unverändert oder abgewandelt wiedergegeben werden, insbesondere Quellen für Texte, Grafiken, Tabellen und Bilder, sind als solche kenntlich gemacht und mir ist bekannt, dass bei Verstößen gegen diese Grundsätze ein Verfahren wegen Täuschungsversuchs bzw. Täuschung eingeleitet wird.

Datum

Unterschrift