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Original Article

MPAs in ABNJ: lessons from two high seas regimes

Danielle Smith[1,*] and Julia Jabour[2]

[1]*Faculty of Law and the Institute for Marine and Antarctic Studies, University of Tasmania, Private Bag 89, Hobart, Tasmania 7001, Australia*
[2]*Institute for Marine and Antarctic Studies, University of Tasmania, Private Bag 129, Hobart, Tasmania 7001, Australia*

**Corresponding author: tel: +61 3 6226 2066; fax: +61 3 6226 7623; e-mail: danielle.smith0@utas.edu.au*

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Establishing a network of marine-protected areas (MPAs) in areas beyond national jurisdiction (ABNJ) is viewed as an important measure to protect marine biodiversity. To date 12 MPAs have been established: two in the Southern Ocean and 10 in the North-East Atlantic region, and more are proposed. The Southern Ocean MPAs were adopted by Members of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) in a complex, slow and challenging process. The North-East Atlantic MPAs were established under the OSPAR Convention and although the MPA network was established swiftly, doubts remain about whether it was a successful institutional development for the protection of marine biodiversity or just a network of 'paper parks'. This article analyses the planning and negotiation processes that took place in establishing the 12 current MPAs to identify lessons useful for establishing MPAs in ABNJ in the future.

Keywords: areas beyond national jurisdiction, CCAMLR, marine-protected areas, OSPAR.

Introduction

Currently, there are 12 marine-protected areas (MPAs) in the high seas or areas beyond national jurisdiction (ABNJ): two in the Southern Ocean and 10 in the North-East Atlantic region. This article investigates the planning and negotiation processes involved in establishing them under the 1980 *Convention on the Conservation of Antarctic Marine Living Resources* (hereafter referred to as the CAMLR Convention) and the 1992 *Convention for the Protection of the Marine Environment of the North-East Atlantic* (hereafter referred to as the OSPAR Convention). The Commissions established under the CAMLR Convention and the OSPAR Convention are officially referred to as CCAMLR and the OSPAR Commission, respectively. These two regimes have been chosen as the only regimes advanced enough in the process of establishing a network of MPAs in ABNJ. For this reason the approaches taken by both regimes will be analysed and compared with the aim of providing lessons learned for future MPA establishment in ABNJ.

Areas beyond the national jurisdiction amount to nearly half of the Earth's surface, comprising 64% of the ocean's surface (GEF, 2016) and containing 90% of its total biomass (Matz-Lück and Fuchs, 2014). The high seas are increasingly coming under threat from human activities such as pollution, overfishing, mining and geoengineering. The global marine area that is being fished has risen from 10 to 70% since 1950 (Jones, 2014). Advances in new technologies such as deep-sea bottom trawling and fish aggregating devices have enabled fishing vessels to fish farther and deeper (Pew Charitable Trusts, 2015) and the emergence of new deep sea mining technologies are accessing energy and mineral resources previously unattainable (IOO, 2016). At the 2002 World Summit on Sustainable Development (WSSD) States agreed to the establishment of a network of MPAs for all oceans by 2012. A Convention on Biological Diversity (CBD 1992) Protected Areas Working Group was convened in 2004 and the outcomes were transmitted to the 2006 UNGA Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity in ABNJ. By 2010, it was clear the original target would not be reached and at the CBD COP10, a new goal was set (Aichi Biodiversity Target 11) to protect 10% of coastal and marine areas through systems of protected areas by 2020.

MPAs in both hemispheres have been critically analysed in the scholarly literature (Brooks, 2013; Cordonnery *et al.*, 2015; Freestone *et al.*, 2014; Hislop and Jabour 2015; Jacquet *et al.*, 2016; Jakobsen, 2016; Lahl, 2015; Matz-Lück and Fuchs, 2014; Molenaar and Oude Elferink, 2009; O'Leary *et al.*, 2012; Smith

et al., 2016; Sothieson, 2014) discussed the roles that regional organisations have played in designating MPAs in ABNJ and provided a comparative overview of CCAMLR and OSPAR Commissions. However, Sothieson's study pre-dated the adoption of the Ross Sea region MPA, and did not analyse the planning and negotiation processes undertaken during the designation process. Our article builds on Sothieson's work and addresses this gap. We do not however, discuss future management, monitoring and enforcement of the high seas MPAs. Nor does this article assess the impact current MPAs have on existing human activities.

The first two sections of this article provide an overview of MPA progress in the Southern Ocean under the auspices of CCAMLR, and in the North-East Atlantic region under the OSPAR Commission, and identifies the challenges and issues encountered in the planning and negotiation processes. The discussion section provides a comparative analysis of the similarities and differences in the structures of both regimes and MPA processes. The final section draws from the successes and challenges of both regimes and suggests a number of lessons learned that could be applied by other regimes aiming to establish MPAs in ABNJ.

Southern Ocean MPAs

Established under the CAMLR Convention in 1982, CCAMLR has 24 Member States and the EU, along with a further 11 acceding States that do not participate in decision-making. CCAMLR's role is to implement the objectives and principles set out in Article II of the Convention (Article IX), which is conserving Antarctic marine life. CCAMLR practises an ecosystem-based management approach, which notably does not exclude harvesting as long as it is carried out sustainably and takes account of the effects of fishing on other components of the ecosystem (CCAMLR, 2017a). A Scientific Committee (SC-CAMLR) was also established when the CAMLR Convention came into force to provide a forum for consultation and cooperation concerning the collection, study and exchange of information about marine living resources. Decisions are made by consensus of Members at the annual CCAMLR meetings, and legally binding rules – such as the establishment of an MPA – are contained within Conservation Measures.

History of Southern Ocean MPAs

The WSSD goal initiated discussions with CCAMLR Members about establishing a network of MPAs and much work has been undertaken by CCAMLR to meet this goal, however, reaching agreement between CCAMLR Members has been slow and challenging (see Supplementary Figure S1) for a chronological summary of CCAMLR's progress developing MPA concepts and proposals).

In 2011, a CCAMLR Workshop on MPAs was held during which areas that had previously been identified as 'priority areas' for MPAs were replaced by nine 'planning domains' each of which was to be reviewed for MPA potential based on scientific criteria (CCAMLR, 2012, para 5.57). Also in 2011, CCAMLR adopted Conservation Measure (CM) 91-04 to provide a 'General framework for the establishment of CCAMLR MPAs'. This Conservation Measure is legally binding.

The EU submitted a proposal in 2011 for a 'no take' MPA to afford protection to newly exposed habitats after ice shelves collapse, and the establishment of newly-exposed biodiversity during colonisation of these areas. However, following discussions during the 2012 Commission meeting, many delegations questioned the necessity of establishing an MPA for the purpose of carrying out research on newly exposed ice shelf ecosystems. To accommodate these concerns, the EU relegated the 'no take' MPA proposal to the status of a Special Area for Scientific Research where harvesting could still take place.

Other MPA proposals that have been put forward have suffered significant reductions in the original scale and ambition. A proposal for an East Antarctic Representative System of MPAs was put forward by Australia and France in 2010. Through CCAMLR meetings from 2011 to 2014 this proposal has been negotiated and revised a number of times and is now approximately 30% smaller than the original proposal (ASOC, 2014).

The primary objective of the CAMLR Convention is the 'conservation of Antarctic marine living resources' (Article II(1). Importantly, the Convention also states that 'the term "conservation" includes rational use' (Article II(2). Recently the meaning of 'rational use' has generated significant discussion due to proposals made within CCAMLR to establish MPAs in the Southern Ocean that were likely to have a 'no take' component. CCAMLR (2017) indicates that an MPA is a 'marine area that provides protection for all or part of the natural resources it contains'. Within an MPA certain human activities are 'limited, or entirely prohibited, to meet specific conservation, habitat protection, ecosystem monitoring or fisheries management objectives'(CCAMLR, 2017b).

States in favour of MPAs have argued that 'rational use' within the CAMLR Convention area includes establishing areas for protection. These protected areas could be designated as either 'no take' MPAs prohibiting fishing entirely, or multiple use MPAs that allow a certain level of fishing which could include closed areas, closed seasons and set catch limits. States contesting MPAs have instead argued that 'rational use' within the CAMLR Convention area allows for the exploitation of marine resources. The interpretation of 'rational use' as it applies to the CAMLR Convention is discussed further in Section Southern Ocean MPAs .

Despite the existence of CM91-04, only two MPAs have been adopted to date: the South Orkney Islands southern shelf MPA in 2009 – the world's first high seas MPA, and the Ross Sea region MPA in 2016 – the world's largest high seas MPA. The negotiation process for both highlights the scientific justification, legal and political nuances of adopting Southern Ocean MPAs.

The world's first high seas MPA

The South Orkney Islands southern shelf proposal was put forward by the UK and adopted through CM91-03 in 2009. The proposal was for a designated 'no take' zone and met with little resistance from CCAMLR Members. This was largely due to there being no impact upon fishing interests. When Russia expressed concern over a possible future crab fishery in the northern section of the proposed MPA, that area was excised from the proposal (Cordonnery *et al.*, 2015). Japan was only able to accept the proposal because the current fishing area was excluded altogether. Furthermore, Japan made clear its opinion that the same consideration should be given to fisheries interests in any future establishment of MPAs. Although Korea and Russia supported Japan's statement a significant number of States rejected the notion that

MPAs and fishing activities should be mutually exclusive (CCAMLR, 2009, 21, para 7.5, 7.7).

The South Orkney Islands MPA was designated to afford protection to example pelagic bioregions, seasonal sea ice areas, areas of high primary productivity and frontal areas. However, a report submitted to CCAMLR by the EU (Trathan and Grant, 2014) showed that several pelagic bioregions and geomorphic zones present in Subarea 48.2 remained unrepresented. Brooks (2013) suggests the South Orkney Islands MPA fails to protect the regions adjacent to the Islands which have the highest conversation value, and suggests that this biologically rich area (used by penguins and seabirds foraging for krill) was left out so as not to interfere with the krill fishery. It is therefore questionable whether the establishment of the first high seas MPA is a true reflection of CCAMLR's progress or simply a case of picking the 'low hanging fruit'.

Russia, Ukraine, Japan and China were among the most vocal critics of proposals for Southern Ocean MPAs. Russia's main concerns about the proposed East Antarctic MPA, for example, related to whether the boundaries corresponded to the objectives; the period of designation; and the catch limit for toothfish in the special research zone (CCAMLR, 2015, 45, para 8.47, 8.49). China stated that there were substantial issues from both 'legal and scientific perspectives', including the identification of objectives of each MPA and appropriate ways to achieve conservation including rational use (CCAMLR, 2015, 45, para 8.50). Ukraine made it clear that CCAMLR should delegate responsibility for MPAs to the 1991 Committee for Environmental Protection (CEP) established under the *Protocol on Environmental Protection to the Antarctic Treaty* (CCAMLR, 2013b, 27, para 7.22). Ukraine suggested there was not enough scientific evidence to support the designation of MPAs and the current size of the MPA proposals may eventually compromise the Convention's aims (CCAMLR, 2013a, 20. para 3.69). Japan also shared this view (CCAMLR, 2010, 32, para 7.10). Therefore, the main issues raised by CCAMLR Members were CCAMLR's legal competency and scientific justification for establishing MPAs in the Southern Ocean.

Political and legal nuances

Political agendas and fishing interests in the Southern Ocean have been the major contributing factors to MPA opposition. An analysis of CCAMLR meetings from 2009–2014 identified that leading Members opposed to MPAs (Russia, Japan, Ukraine and China) have strong fishing interests in the Southern Ocean (Lahl, 2015). These Members were reported to have krill fishing interests in subarea 48.2, where the South Orkney Islands MPA is located (Brooks, 2013). Tang (2017) suggested that China's emerging interests in krill fisheries might explain their reluctance to agree to MPAs. Christian (2016) further pointed out that Russia's main interest was in harvesting toothfish in areas that fall within the Ross Sea region MPA, further supported by Brooks' data (2013).

There was also an undercurrent of suspicion that MPAs were being used as a tool to support or extend sovereign claims to Antarctic territory. An analysis of Russian Antarctic policy concluded that the CCAMLR area was considered the global commons and thus not subject to any sovereign claims (Lukin, 2014, 220). Christian (2016) noted New Zealand's counter-perspective that no advantage for territorial sovereignty claims on the Antarctic continent would be derived from establishing an MPA.

China appeared to be mounting a more fundamental argument based on the objectives of the CAMLR Convention. Their argument disputed whether its objective would allow for the establishment of MPAs. Because the CAMLR Convention contains no express definition of the meaning of 'rational use', Members have sought to interpret the term so as to support their position regarding the advancement of MPAs. Tang (2017, 72) for example, suggests there is a need for the 'reinterpretation of rational use and a transition of the established balance between conservation and rational use.' Russia expressed a similar view (Lukin, 2014, 219): 'designated areas must not swallow up the main areas for harvesting marine bio-resources in the Southern Ocean'. Jacquet *et al.* (2016) undertook a comprehensive assessment of the various interpretations of 'rational use' at CCAMLR meetings from 1982–2014 and concluded that disagreement over the term was largely due to the views and interests of fishing nations rather than any scientific differences.

Taking guidance from the rules of treaty interpretation under the *Vienna Convention on Law of the Treaties* (Vienna Convention 1969), especially Articles 31 and 32, Smith *et al.* (2016) determined that the CAMLR Convention favors an interpretation of 'conservation' that includes measures that restrict or prohibit extractive activity in certain areas. Therefore, a legal interpretation would likely find that Article II was broad enough to support the establishment of 'no take' or 'restricted take' MPAs in the CAMLR Convention area.

The world's largest high seas MPA

The Ross Sea region MPA proposal was originally submitted as two separate propositions: one by the US and the other by New Zealand, in 2012. However, these two Members were encouraged to work together on a joint proposal and a hastily drafted revision was resubmitted. A further revised proposal was resubmitted again in 2013 (twice), 2014, and 2015 but each time failed to achieve consensus. Some CCAMLR Members were opposed to the proposal, framing arguments in relation to the balance between conservation and rational use. The environmental non-governmental organization (NGO), Antarctic and Southern Ocean Coalition (ASOC), was highly active during the MPA campaigns and successful in raising public awareness of conservation objectives. Through continuous lobbying, and CCAMLR meeting discussions, all Members except for China and Russia were in agreement by 2015. After further lengthy discussions, China eventually issued a statement in support of the MPA. However, Russia would only agree to further intersessional discussion of the proposal, thereby withholding consensus (CCAMLR, 2015, 58, para 8.108, 8.109).

Finally, in 2016 Russia consented to the world's largest high seas MPA and the Ross Sea region MPA was established through CM91-05 (coming into force December 2017). Coincidentally, President Putin signed a decree making 2017 the Year of Ecology for Russia (RT, 2016). Whether this had any weight on the final negotiations of the MPA is unknown.

The negotiation process required compromise. The joint Ross Sea MPA proposal of 2012 covered an area of approximately 2.1 million km^2. However, the current MPA spans 1.55 million km^2, a reduction of almost 40% (ASOC, 2014). This does not count the area under the Ross Ice Shelf, which when added would make the MPA larger than 2 million km^2. The Ross Sea MPA is split into zones with specific purposes: three General Protection Zones

('no take' areas); a Special Research Zone (SRZ); and a Krill Research Zone (KRZ) (MFAT, 2017).

About 72% of the MPA is closed to fishing (CCAMLR, 2016). Directed toothfish fishing will be allowed but limited within the SRZ – an area designated to better establish the characteristics and estimate the stock of the toothfish populations that exist in that part of the Ross Sea. Directed krill fishing is also allowed, but will be limited, in both the SRZ and KRZ. These fishing restrictions will require the revision of a number of existing Conservation Measures.

Negotiations between CCAMLR Members resulted in the opening of areas closed to Patagonian toothfish fishing outside the MPA upon its entry into force, meaning that overall toothfish catch limits in the Convention area would remain similar. In addition, the proposal's 50-year lifespan was reduced to 35 years and with provisions within CM91-05 for periodic revision.

North-East Atlantic MPAs

The *Convention for the Protection of the Marine Environment of the North-East Atlantic* (the OSPAR Convention) was adopted in 1992 and came into force in 1998. Fifteen signatory States (12 of which border the North-East Atlantic) agreed initially to combat marine pollution but this would later develop into concern over other environmental issues.

The OSPAR Commission, similar to CCAMLR, applies the ecosystem approach plus a number of environmental law principles including the polluter pays and precaution to the protection and preservation of the marine environment.

The decision-making system within the OSPAR Commission is also consensus-based. However, according to Article 13(1) of the OSPAR Convention, should unanimity not be attainable, the Commission may adopt decisions or recommendations by a three-quarters majority vote of Contracting Parties. In practice, the OSPAR Commission seeks full consensus for its legally-binding decisions.

History of North-East Atlantic MPAs

The idea of building a network of MPAs was adopted at the OSPAR Ministerial Meeting in 1998. Similar to CCAMLR, the OSPAR contracting parties have committed to the global MPA goals (see S2 for a chronological summary of progress towards to developing MPA concepts and proposals). In 2003, parties agreed to the objective of establishing an extensive and consistent network of MPAs by 2010, adopting guidelines for the identification, selection and management of MPAs in the OSPAR area.

Over the period 2005–2012 the 12 States bordering the North-East Atlantic region selected and nominated sites as components of the OSPAR Network of MPAs. By October 2014, the OSPAR Network of MPAs comprised a total of 413 MPAs, ten of which were located in ABNJ (OSPAR Commission, 2015).

Political and legal nuances

The duties of OSPAR parties are set out in Article 10 of the Convention. Annex V of the Convention provides the general obligations '*On the Protection and Conservation of the Ecosystem and Biological Diversity of the Maritime Area*'. Although Annex V offers an ambitious and wide margin of appreciation, this is limited by the actual remit of the OSPAR Convention.

OSPAR Convention Annex V Article 3 enables the Commission to setup programmes for the protection of the marine environment by way of legally binding decisions and non-legally binding recommendations in accordance with the procedure laid down in Article 13 (2, 6). Rochette *et al.* (2014) suggest that the limited scope of non-binding OSPAR Recommendations on the management of high seas MPAs reflects the 'non-comprehensive' competence of the OSPAR Commission with regard to regulating human activities in ABNJ. In practice, non-binding recommendations are equally accepted as binding decisions by the parties since the consensual agreement was required to adopt them.

The OSPAR Convention does not cover all human uses of the oceans that may interfere with MPAs because its mandate does not include fisheries management (Article 4(1)) or maritime transport [Article 4(2)]. However, Annex V, Article 4 does stipulate that OSPAR Commission shall endeavour to cooperate with the competent authorities, which are the North-East Atlantic Fisheries Commission (NEAFC) and the International Maritime Organization (IMO) respectively. Consequently, OSPAR is not entitled to regulate either the most prominent form of resource extraction or marine pollution (Matz-Lück and Fuchs, 2014). In addition, mineral extraction is managed by the International Seabed Authority (ISA) convened under the 1982 Law of the Sea Convention (LOSC).

The OSPAR Commission and NEAFC work on the same issues of protection of vulnerable marine ecosystems (VMEs) and biodiversity, however they do not have overlapping mandates regarding the types of measures that they have legal competence to adopt. In 2004, NEAFC, on a precautionary basis, closed some areas for bottom trawling to protect VMEs. At the time, the parties to the OSPAR Convention were in the process of adopting measures to protect MPAs in ABNJ. Although the OSPAR parties acknowledged the need to consider possible overlaps and for coordination with other organisations such as NEAFC, no active initiatives were taken (Kvalvik, 2012). This resulted in a situation whereby the NEAFC map of closed areas to bottom trawling only partially overlapped the OSPAR MPAs.

There might be good reason to establish OSPAR MPAs to protect areas where fishing is not taking place (i.e. areas deeper than 2000 m), and where NEAFC area closures for bottom trawling may not extend into OSPAR MPAs. However, as Kvalvik (2012, 40) points out 'the areas should be harmonized at least to such a degree that it does not create a situation where activities undertaken under the regulation by one institution are violating protective measures adopted by the other'. Both OSPAR Commission and NEAFC are heavily dependent on scientific advice from the International Council for the Exploration of the Sea (ICES), which noted the considerable overlap between the areas and recommended that a coordinated approach be taken.

In order to establish an integrated platform for cooperation among relevant international organisations, OSPAR parties proposed and developed a 'Collective Arrangement between competent authorities on the management of selected areas in ABNJ in the North-East Atlantic', underpinned by previous memoranda of understanding. Although not a legally binding instrument, the collective arrangement sought to foster commitment to cooperate and to coordinate information exchange in the development and implementation of appropriate measures for the conservation and management of certain areas that would be selected by the different organisations (Rochette *et al.*, 2014). However, when it came to formulating text for a 'Collective Arrangement' between the regimes, it became clear that the NEAFC was the only regime

able to finalise the agreement in 2014. Efforts to bring on board other key regimes, such as ISA and IMO, are continuing to result in largely positive but to date non-committal responses.

Ten OSPAR MPAs are considered to be in ABNJ, a number of which are situated within areas subject to a submission by an OSPAR contracting party to the UN Commission on the Limits of the Continental Shelf (CLCS) for an extended continental shelf (ECS), making for a potential overlap of MPAs within state jurisdiction and outside of state jurisdiction. To add to this complex governing issue not all MPAs afford protection to the seabed, subsoil and water column (OSPAR Commission, 2015). Figure 1 illustrates the ten MPAs in relation to their jurisdictional status. This has led to difficulties in the establishment of some high sea MPAs as discussed below.

The world's first pilot high seas MPA

In March 2005, at the OSPAR Meeting of the Working Group on MPAs, Species and Habitats (MASH), the World Wide Fund for Nature (WWF), an observer to OSPAR meetings, launched a formal nomination of the Rainbow Hydrothermal Vent Field MPA (OSPAR Commission, 2005, para 5.8) as the first pilot high seas MPA in the OSPAR area. It was assumed that there was no national jurisdiction over the area as it was situated on the continental shelf beyond 200 nm of the Autonomous Region of Azores. When WWF put forward its proposal, however, Portugal had formed a Task Group for the Extension of the Portuguese Continental Shelf, which encompassed the Rainbow proposal as part of its ECS. The government of Portugal had engaged in the search for various mineral deposits, including on various seamounts in six defined areas in this area. One of the concessions under consideration was located outside the Portuguese Exclusive Economic Zone (EEZ) in the vicinity of the Rainbow proposal (Rochette *et al.*, 2014).

This created legal complexities over the jurisdiction of the Rainbow proposal, which until 2005 had been favourably supported by OSPAR parties. Ribeiro (2010, 192) stipulated that recognition of the environmental jurisdiction of Portugal on the continental shelf beyond 200 nm, even when the definition of its limits was not yet concluded, was the only correct solution in the current stage of evolution of the law of the sea. From this understanding, until Portugal's submission to the CLCS is confirmed, a state of 'standstill' must ensue in which restraint must be exercised by both the coastal state in exploitation of living resources beyond 200 nm, and third party states in fishing for sedentary species. Secondly, in terms of environmental jurisdiction, the coastal state should exercise immediate power, utilising the precautionary principle. Portugal could however, nominate MPAs under Annex V of the OSPAR Convention (Ribeiro 2010, 194).

In 2006, Portugal proposed the nomination of Rainbow to be included in the OSPAR Network of MPAs. Acceptance of the proposal and recognition of Portuguese jurisdiction over the Rainbow MPA within the OSPAR framework was confirmed in the 2007 OSPAR report on the MPA Network. The Rainbow MPA encompasses only the seabed, with no scientific case to extend the MPA to the water column (OSPAR Commission, 2015). Thus OSPAR's recognition of Portuguese jurisdiction over the Rainbow MPA 'is truly a legal treasure' (Ribeiro 2010, 196) and enabled the issue be resolved quickly.

The Charlie–Gibbs MPAs

A different approach was taken in negotiations of another MPA with conflicting areas of competence. The Charlie–Gibbs Fracture Zone (CGFZ) MPA was proposed in 2009 in an ABNJ. In the same year, Iceland made a submission to the CLCS for an ECS, part of which encompassed the Charlie-Gibbs area (Ministry for Foreign Affairs of Iceland, 2009). Following this submission, the official position of Iceland, which had thus far been supportive of establishing the MPA, changed. Iceland's view was that Charlie–Gibbs should not include the seabed area covered by Iceland's submission.

A separate working group was established by OSPAR parties to try to resolve the dispute and three options were proposed. One option would have reduced the area only with respect to the seabed but not the water column, but this was not acceptable to Iceland. OSPAR parties finally chose the only option that took account of Iceland's concerns: to establish an MPA covering the

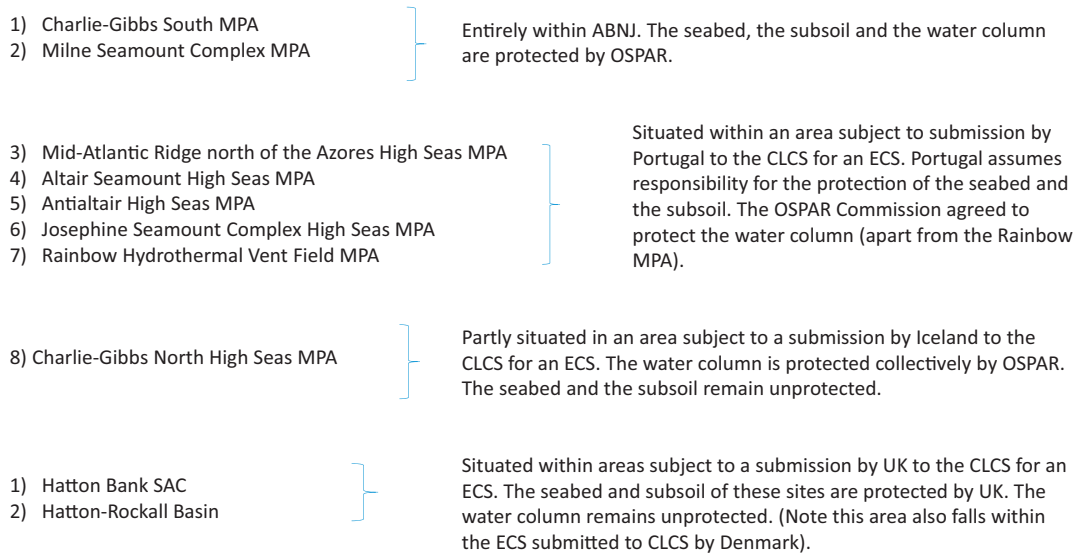

Figure 1. OSPAR High Seas MPAs.

seabed and superjacent waters in part of Charlie–Gibbs where the seabed was not subject to Iceland's submission. The proposal was renamed the Charlie-Gibbs South MPA and the resultant area reduced from 232 900 km^2 to 145 420 km^2 (Winkelmann, 2011).

In 2012, the OSPAR Commission finally settled on finding a consensual solution for the previously omitted northern part of Charlie–Gibbs relating only to the water column, but not to the seabed under Iceland's ECS submission – and the Charlie-Gibbs North MPA was established. However, now less than half of the originally intended seabed area fell within the scope of the MPA (Winkelmann, 2011).

The two approaches discussed above highlight the different strategies of compromise and cooperation that were employed by OSPAR parties to resolve conflicts of competence. A further four MPAs were established in areas that overlap with Portugal's submission to the CLCS. Within the preamble of these MPA decisions, the Commission 'does not merely refer to the general regime of CLCS, as was the case with the CGFZ MPA. In contrast OSPAR Commission 'notes and welcomes' that Portugal has announced that it will take the necessary measures at the national level to achieve the OSPAR conservation objectives for the seabed potentially under its jurisdiction' (Matz-Lück and Fuchs, 2014, 162). Thus, success in managing this dual regime will ultimately depend on the willingness of States to engage cooperatively.

Discussion

The previous sections provided an overview of the approaches taken by the regimes. This next section will analyse and compare the similarities and differences in the planning, negotiating and establishment of MPAs in both the Southern Ocean and North-East Atlantic region.

A reduction in the size and ambition of MPA proposals has been a feature in both regimes negotiation processes. As previously discussed the proposal for an East Antarctic Representative System of MPAs was revised a number of times and is now approximately 30% smaller than the original proposal. The original Ross Sea MPA proposal has also been reduced by almost 40% (ASOC, 2014). Similarly, during the negotiations of the Charlie-Gibbs Fracture Zone MPA proposal, less than half of the originally intended seabed area falls within the scope of the current MPAs (Winkelmann, 2011).

The high seas of the North-East Atlantic region and Southern Ocean are vast, remote and difficult to access, resulting in large areas of limited knowledge of baseline environmental conditions. The precautionary approach is a management principle applied by both Commissions. The OSPAR parties widely accept this principle and have implemented it in designating MPAs in ABNJ (e.g. in areas with limited baseline environmental research). Whereas, some CCAMLR Members argue that there is not enough data to justify designating MPAs.

Competing interests between fishing and conservation are not as pronounced in OSPAR parties as with CCAMLR Members. There is a significant lack of economic activity in the OSPAR MPAs (Sothieson, 2014) whereas within CCAMLR, States that are interested in fishing outnumber the non-fishing States by a ratio of 5:3 (Brooks, 2013). Furthermore, an assessment of CCAMLR's Conservation Measures during 2016-2017 demonstrated that they were weighted towards fisheries management (76%), with just 14% focused on species/habitat protection and 10% on both (Nicoll and Day, 2017).

There is a significant difference in the number of members to both regimes. CCAMLR has 24 Members (plus the EU) whereas OSPAR has 15 contracting parties (plus the EU). Jacobson and Brown Weiss (1998) hypothesize that it is easier to reach a party consensus when less parties are involved, and this could be a contributing factor to the speed at which OSPAR parties reached consensus on the MPAs compared to CCAMLR.

All 12 coastal States bordering the North-East Atlantic selected and nominated sites as components of the OSPAR Network of MPAs. Young (1999, 77) notes that 'parties are more likely to comply with the requirements of regimes when they feel a strong sense of ownership regarding the arrangement'. When compared to CCAMLR not even half of the CCAMLR Members have put forward proposals for potential sites for MPAs. This could indicate a lack of ownership to invest in the regime objectives and may go towards explaining the difficulties reaching consensus.

Membership composition may also account for differing experiences between the two regimes resulting in variations in levels of cooperation, political will, and common ground (Sothieson, 2014). Of the 15 OSPAR parties, 12 are members of the EU, the remaining being Iceland, Norway and Switzerland, which form their own European Free Trade Association (along with Liechtenstein). Further, the parties of OSPAR are also represented in NEAFC through the EU. Russia is the only member of NEAFC that is not party to the OSPAR Convention. In contrast, the 24 CCAMLR Members have diverse interests with different levels of economic development, political systems, and level of input from civil society (Sothieson, 2014) which is likely to contribute to differences in priorities. The OSPAR parties already had well-established cooperative relationships on environmental protection issues (O'Leary *et al.*, 2012) before taking on the task of designating MPAs in ABNJ, which is likely to have contributed to the relatively faster progress.

Compared to the OSPAR regime, there is a strong imbalance between proactive and inactive Members within CCAMLR in both the scientific research into MPA designation and the ongoing monitoring and inspection system. The CCAMLR (2008) Performance Review raised the concern that only a minority of Members regularly submit scientific papers or are involved in regular scientific expeditions collecting data for the benefit of conserving wildlife. Research has also shown that Members opposing submission of routine data are also those who oppose the adoption of Conservation Measures by arguing there is not sufficient data to support such a measure (Nilsson *et al.*, 2016). This may reflect differing priorities in fishing and/or conservation.

The cooperation in the Southern Ocean between CCAMLR and the CEP stands out as a model with the decision by the two institutions to cooperate to establish a biogeographically representative system (Kvalvik, 2012). Both CCAMLR and the CEP mandate to protect the marine environment overlaps as the Environment Protocol also allows for the creation of protected areas with a marine component. Discussions between the two bodies resulted in agreement that CCAMLR would take the lead in establishing marine MPAs. In comparison, a lack of collaboration and communication between the OSPAR Commission and the NEAFC early on in the MPA process resulted in an inconsistent and partial overlapping network of MPAs/closed areas.

Both the CCAMLR and OSPAR regimes have granted NGOs observer status to meetings, which have 'championed' proposals for MPAs. Within the OSPAR regime, it was WWF that originally

suggested protecting certain ecologically important places in ABNJ. WWF undertook substantive collations of data in support of their arguments to persuade States to take action in support of agreed commitments, proposing the first pilot Rainbow MPA (Ribeiro 2010, Freestone *et al.*, 2014). Similarly, ASOC has been an active observer contributing data to CCAMLR meetings and generating public outreach material to increase the public profile and support for MPAs such as the Ross Sea, East Antarctic and the Weddell Sea proposals.

Conclusion

The planning and negotiation processes that have resulted in the establishment of the CCAMLR and OSPAR MPAs have both common elements and differences, which have led to the following lessons learned:

(i) **Agreed selection criteria and process:** Having an identified and agreed upon selection process based on established criteria early on has shown to be a successful measure in enabling the swift establishment of MPAs in ABNJ as was proven in the North-east Atlantic region. In addition a common scientific/technical advisory body (such as ICES in the North-East Atlantic region) can enhance cross-sectoral cooperation and provide independent scientific advice that would give all States in a region a common scientific starting point for their efforts in planning MPA networks.

(ii) **Precautionary principle:** Accepting that science can only deliver so much in the vast remote high seas, and by balancing knowns and unknowns with prudent use of proxy evidence is likely to lead to success in establishing MPAs in ABNJ. As is States willingness to accept and apply the precautionary principle approach in the selection of MPAs in ABNJ. OSPAR parties are more willing to apply the precautionary principle and accept data poor areas, whereas, some CCAMLR Members are not and argue that a lack of data and uncertainty is a basis for not establishing MPAs.

(iii) **Conservation objectives:** The clarity of purpose of conservation objectives and agreed upon conservation objectives by all contracting parties to the regime is essential as was seen by the discrepancies in interpretations of the conservation objectives of the CAMLR Convention.

(iv) **Champions:** As can be seen from both CCAMLR and OSPAR regimes the role for a champion organisation was important. Much time and effort is required in building momentum, and raising awareness within stakeholder communities for MPA proposals. International regimes often do not have the time and resources required to focus on MPA proposals as their remit covers a myriad of other business. 'Champion' organisations can fill this role. Allowing NGOs to observe in meetings and contribute to the knowledge pool can be beneficial in both selecting MPA sites and raising public awareness and acceptance of MPA proposals.

(v) **Strong political commitment and willingness:** This is an essential component to the success of establishing MPAs in the high seas. Without such commitment, legal conflicts such as unregulated boundary issues may be intractable. The OSPAR regime demonstrated its political strength and willingness when faced with the issue of proposed ECS within OSPAR high seas MPA areas. Without such willingness, legal complexities may be used as reasons to deter engagement, as is the case with the differing interpretations of 'rational use' as it applies to 'conservation' within the CAMLR Convention.

(vi) **Coordinated partnerships**: Cooperation between competent authorities to achieve proactive measures and enhance protection of international space is a key factor to ensuring the effective establishment and management of MPAs in ABNJ. In the absence of adequate mechanisms for cooperation and coordination between competent institutions, such fragmented governance systems can lead to uncoordinated actions or even conflicting management decisions. As shown in the North-East Atlantic region a lack of cooperation between the NEAFC and OSPAR Commission lead to only partial overlapping areas of MPAs and closed areas.

Interaction between competent authorities would be most successful if it occurs early on in the process of establishing conservation and management measures as shown by the cooperation between CCAMLR and the CEP.

Although the recent OSPAR Collective Agreement is specifically designed for the institutional framework in the North-East Atlantic and does not yet fully encompass all competent authorities this international soft-law agreement might provide a model for other regions where collaboration is essential to the conservation of biodiversity in ABNJ.

Targets: Whilst the initial WSSD and CBD targets were arguably not met by both Commissions, these milestones were certainly formidable drivers resulting in significant work undertaken towards achieving these goals. It is clear the drive has not lost momentum with the World's largest MPA being established in 2016 in one the World's harshest and most remote places, the Southern Ocean.

Both CCAMLR and OSPAR Commission are continuing efforts towards establishing a network of MPAs to meet the new Aichi target 11 by 2020. Other regional seas Conventions have begun looking at the issues related to biodiversity in ABNJ. In 2012, the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean encouraged parties to describe the ecologically significant marine areas within their EEZ and ABNJ and establish MPAs where possible. In 2014, the Abidjan Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region agreed to set up a working group to address the conservation of marine biological diversity in ABNJ. In addition the Southeast Pacific has been selected to be one of the pilot regions to test and apply a methodology of area-based planning in ABNJ (UNEP, 2016).

The article has examined the planning, negotiation and establishment of MPAs in ABNJ in the Southern Ocean and the North-East Atlantic region and provided a number of lessons learned. These lessons could be applied to other regional seas programmes in establishing a network of MPAs in ABNJ as a step towards the conservation and sustainable use of marine biodiversity in ABNJ in the future. Although the newly created high seas MPAs are in the early stages of maturity, further work on the management aspects of these MPAs and the ongoing and future

monitoring, compliance and enforcement measures that could see the MPAs objectives realised, is required.

Supplementary data

Supplementary material is available at the *ICESJMS* online version of the manuscript.

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