STATUS AND TRENDS FOR ARCTIC CONSERVATION MEASURES

ARCTIC COUNCIL

CAFF
Conservation of Arctic Flora and Fauna

PAME
Protection of the Arctic Marine Environment

Status and Trends for Arctic Conservation Measures

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Authors

Tom Barry, Hólmgrímur Helgasson, Soffia Guðmundsdóttir

Cover photograph

Bowhead whale. Vicki Beaver/Alaska Fisheries Science Center, NOAA Fisheries Service

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QUICK FACTS

1. The extent of protected areas in the Arctic has doubled since 1980. While progress has been made, it has not been evenly distributed across ecosystems.

2. As of 2021, 20.77% (2.96 million km^2) of the Arctic's terrestrial area and 5.24% (935,778km^2) of the Arctic's marine areas are protected.

3. Protected area coverage of the Arctic's terrestrial ecosystems exceeded the Aichi Biodiversity Target of 17%, while protected area coverage of marine areas fell short of the Aichi Biodiversity Target of 10%.

4. The extent of protected areas in the Arctic's marine environment has increased almost five-fold since 1980.

5. The extent of terrestrial protected areas within the CAFF boundary has almost doubled since 1980.

6. Within the Arctic there are 115 areas recognised under global international conventions. These include 12 World Heritage sites; 81 Ramsar sites; and 22 protected areas under OSPAR.

7. Fourteen Ecologically or Biologically Significant Marine Areas (EBSAs) have been identified, covering 4.2 million km^2, or 22.9%, of the Arctic marine area.

STATUS AND TRENDS FOR ARCTIC CONSERVATION MEASURES

Providing an overview of the status and trends of protected areas and Other Effective area-based Conservation Measures in the Arctic

1. OVERVIEW

The Conservation of Arctic Flora and Fauna (CAFF) and Protection of the Arctic Marine Environment (PAME) working groups of the Arctic Council developed this update on the 2017 indicator report (CAFF-PAME 2017). It provides an overview of the status and trends of protected areas in the Arctic and an overview of Other Effective area-based Conservation Measures. The data used represents the results of the 2020 update to the Arctic Protected Areas Database submitted by each of the Arctic Council member states. This report uses the International Union for the Conservation of Nature (IUCN) definition for protected areas (Box 1) which includes a wide range of Management Categories – from strict nature reserve to protection with sustainable use. Consequently, the level of protection and governance of these areas varies throughout the circumpolar region.

2. INTRODUCTION

Protected areas are the cornerstones of biodiversity conservation (CBD 2021) and the Arctic Council has long recognised that "the Arctic environment needs to be protected as a basis for sustainable development, prosperity, lifestyles and human well-being" (Kiruna Declaration 2013). In recent years it has released a range of recommendations and products focused on advancing the protection of large areas of ecologically important Arctic habitats, building upon existing and on-going domestic and international processes, and implementing appropriate measures for their conservation (Annex 1). For example the Council has identified ecologically and culturally sensitive marine areas with regards to shipping (AMAP/CAFF/SDWG 2013); released a Framework for a pan-Arctic Network of Marine Protected Areas (PAME 2015), conducted work on Modelling Arctic Oceanographic Connectivity (PAME 2021); and launched an initiative to provide an overview of the current range and understanding of international criteria used for identification of "Other Effective Area-Based Conservation Measures[1]" (OECMs) in the Arctic. These priorities are also reflected in Strategic Goal #2 Healthy and Resilient Arctic ecosystems of the new Arctic Council Strategic Plan 2021-2030 which is focused on promoting pollution prevention, conservation and protection of Arctic biodiversity, ecosystems, and species habitats; and which has a range of associated strategic actions designed to achieve this goal (Box 2).

This report responds to actions identified in the Framework for a pan-Arctic network of Marine Protected Areas (PAME 2015) and Actions for Biodiversity, 2013-2021: implementing the recommendations of the Arctic Biodiversity Assessment (CAFF 2015); and the Arctic Marine Strategic Plan, Goal 2: Conserve and protect ecosystem function and marine biodiversity to enhance resilience and the provision of ecosystem services (PAME 2015); and the Arctic Council's Strategic Plan 2021-2030. It catalogues the extent of protected areas across the Arctic and the trends regarding protected area establishment. It helped track progress towards meeting Arctic Council goals and supported Aichi Biodiversity Targets 1 and 11 adopted in 2010 by Parties to the United Nations Convention on Biological Diversity (CBD) now replaced by Target 3 under Goal 1 of the Kunming-Montreal Global Biodiversity Framework to: "Reduce threats to biodiversity" (Goal 1) and (Target 3): "Ensure and enable that by 2030 at least 30 per cent of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved

1. Other effective area-based conservation measures (OECMs) is a conservation designation for areas other than protected areas that are achieving the effective in-situ conservation of biodiversity.

and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities, including over their traditional territories". This Target in turn contributes towards achieving relevant targets within the Sustainable Development Goals.

This report is based on information submitted by the Arctic Council Member States and includes information on the extent and coverage of Arctic protected areas (marine and terrestrial); Protected areas recognised under international conventions; Additional areas important for marine biodiversity; and the 2021 Arctic Protected Areas inventory. There is no single agreed-upon definition of the Arctic and for the purpose of this indicator report, the CAFF boundary is used to define the geographical extent of the Arctic. This covers 32.2 million km^2, 57% (18.4 million km^2) of which is marine and 43% (14 million km^2) terrestrial (Fig. 1). It is important to note that some boreal forest is included within this boundary and is therefore included in the calculations presented in this report.

BOX 1. PROTECTED AREAS DEFINITIONS

A protected area as defined by the IUCN World Commission on Protected Areas, and as used in the Pan-Arctic MPA Framework is: a "clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values" (IUCN 2016). IUCN defines seven Management Categories of protected areas:

- **Ia Strict Nature Reserves**: are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphical features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values
- **Ib Wilderness Areas**: are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.
- **II National Parks**: are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities
- **III Natural Monument or Features**: are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value
- **IV Habitat/Species Management Areas**: aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.
- **V Protected Landscape/ Seascapes**: A protected area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural, and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.
- **VI Protected Areas with Sustainable Use of Natural Resources**: conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems.

BOX 2. ARCTIC COUNCIL STRATEGIC PLAN 2021-2030: GOAL 2 – HEALTHY AND RESILIENT ARCTIC ECOSYSTEMS

Promote pollution prevention, monitoring, assessment, conservation and protection of Arctic biodiversity, ecosystems, and species habitats, based on best available science, and respecting the importance of sustainable development for all current and future generations of Arctic inhabitants;

2.1. Promote **protection of the vulnerable Arctic ecosystems** based on best available science and traditional knowledge and local knowledge, providing for conservation of biodiversity in the region, and supporting responsible use of its natural resources;

2.5. Promote action on issues that are critical to maintaining the health of Arctic ecosystems, as well as Arctic inhabitants, and encourage cooperation among Arctic States on **ecosystem approach to management** in the Arctic to advance conservation and sustainable use based on best available science;

2.6. Support work on **protection and restoration of wetlands and habitats** that are vital for Arctic species;

2.7. Support international efforts on **conserving nature and biodiversity** and providing Arctic, including Indigenous, perspectives on such efforts.

3. ARCTIC PROTECTED AREAS (MARINE AND TERRESTRIAL) OVERVIEW

KEY MESSAGES

The extent of protected areas in the Arctic (Fig. 1) has doubled since 1980. While progress has been made, it has not been evenly distributed across ecosystems and this report does not analyse how well the suite of protected areas meet the test of being an "ecologically connected, representative, and effectively-managed network of protected and specially managed areas that protects and promotes the resilience of the biological diversity, ecological processes and cultural heritage" (PAME 2015) of the Arctic.

As of 2021[2], 20.77% of the Arctic's terrestrial area and 5.24% of the Arctic's marine areas are protected (Fig. 2). Protected area coverage of the Arctic's terrestrial ecosystems exceeded Aichi Biodiversity Target 11 which aimed for at least 17% of terrestrial and inland water to be protected by 2020. The protected area coverage of marine areas fell short of the Aichi Target for 10% of coastal and marine areas to be protected. It is important to note that the terrestrial figures include some protected areas in the boreal forest. While the level of terrestrial protected areas is laudable, there remain important gaps in representation and connectivity that are not reflected by the figures. While Aichi Target 11 did not specify exactly how the target should be applied (e.g., by country, region, or ecosystem), using it for comparative analysis offers a useful tool to chart progress over time.

2 Some marine areas reported in 2017 as MPAs were reclassified and were not included in 2020 which makes comparison between 2017 and 2020 challenging.

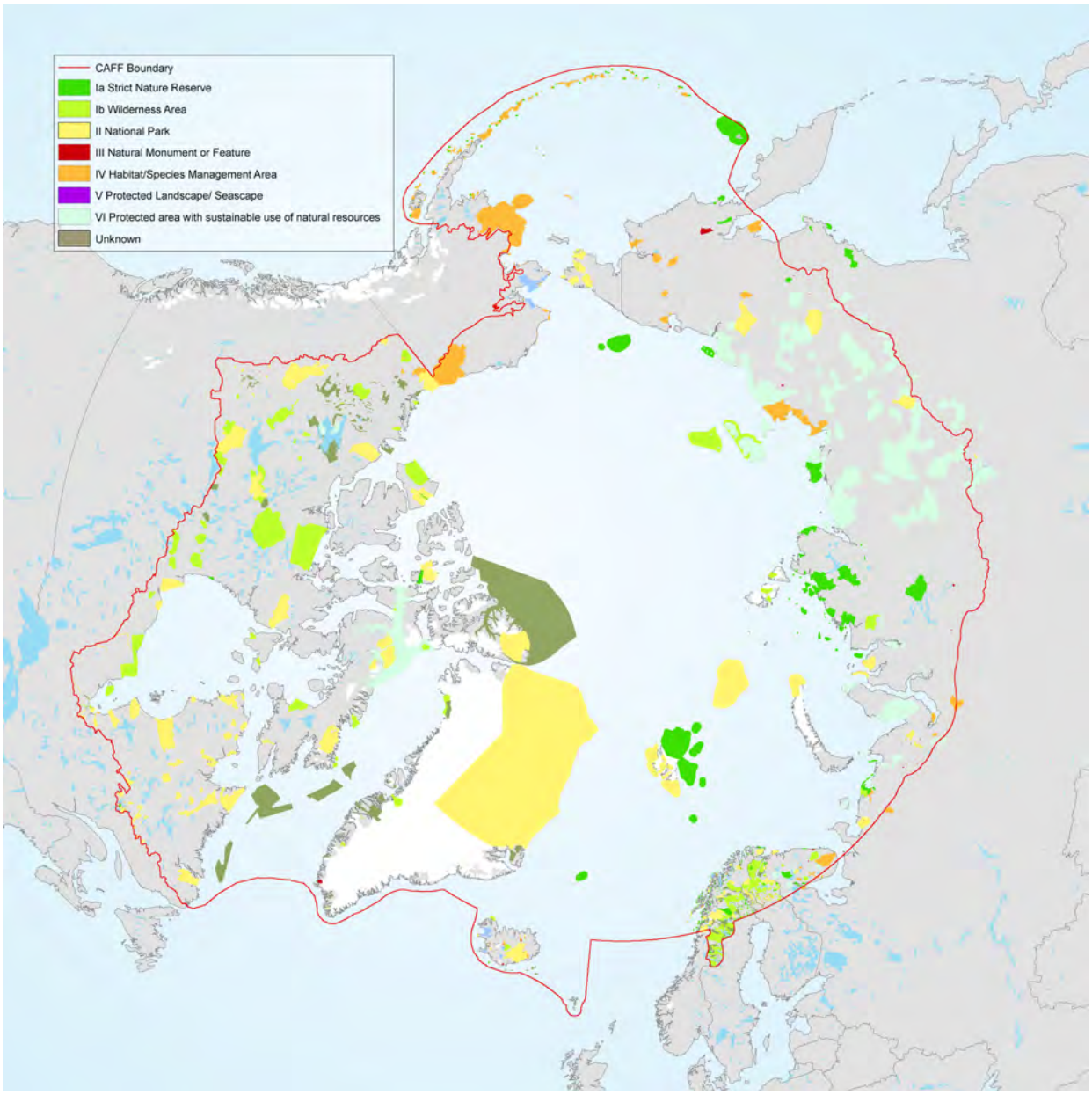

Figure 1: Protected areas in the Arctic classified by their IUCN Management Category, 2021. Due to scale not all protected areas are visible on maps in this report.

STATUS AND TRENDS

The first protected areas in the Arctic were established in Sweden and the United States at the beginning of the 20th Century. The total Arctic area (marine and terrestrial) under protection remained low until the 1970s, when it began to increase with additions of large areas such as the Greenland National Park. By 1980, 5.6% of the Arctic (marine and terrestrial) was classified under some degree of protection. This has steadily increased to the present when 11.96% of the Arctic (marine and terrestrial), 3.87 million km^2, has protected status (Fig. 2). Of the Arctic's marine areas 5.24% are protected and 20.77% of its terrestrial areas fall within protected areas. The nature of protection and governance of these areas varies throughout the circumpolar region, and there are varying levels of protection within and among countries.

In 2021 over 88% of all protected areas within the CAFF boundary have been assigned an IUCN Management Category. Protected areas falling in Category II, National Parks cover the largest total area while those in Category III, Natural Monuments or Features are the smallest. For marine areas, Category V is the most prevalent (see following sections for more detail). Figure 3 shows the distribution of protected areas by their IUCN Management Category.

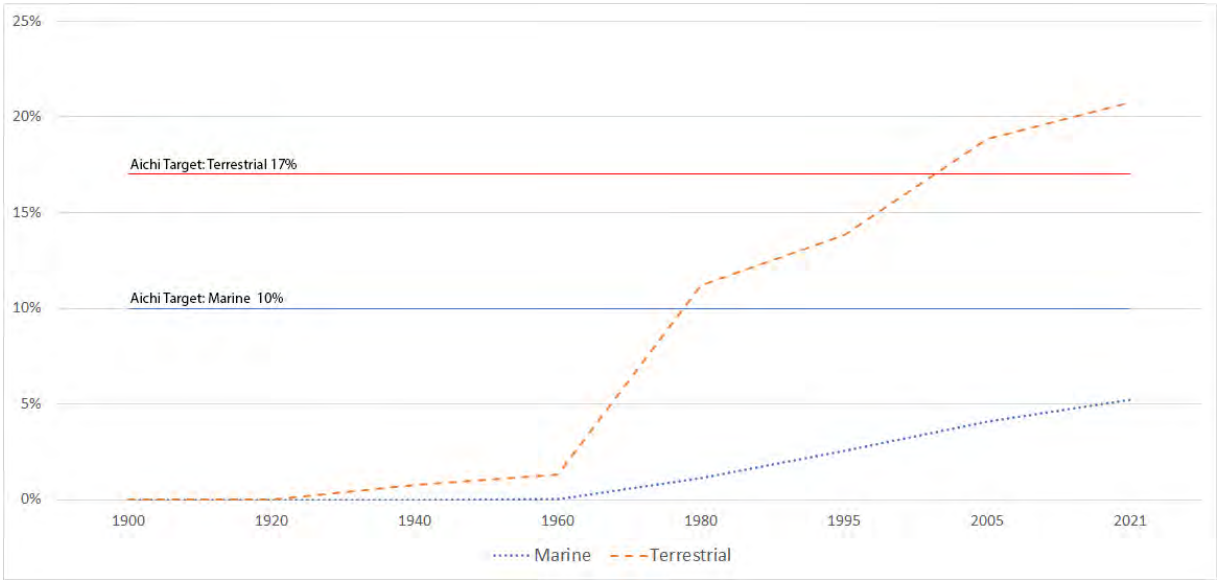

Figure 2: Trends in terrestrial and marine protected area coverage within the CAFF boundary, 1900-2021.

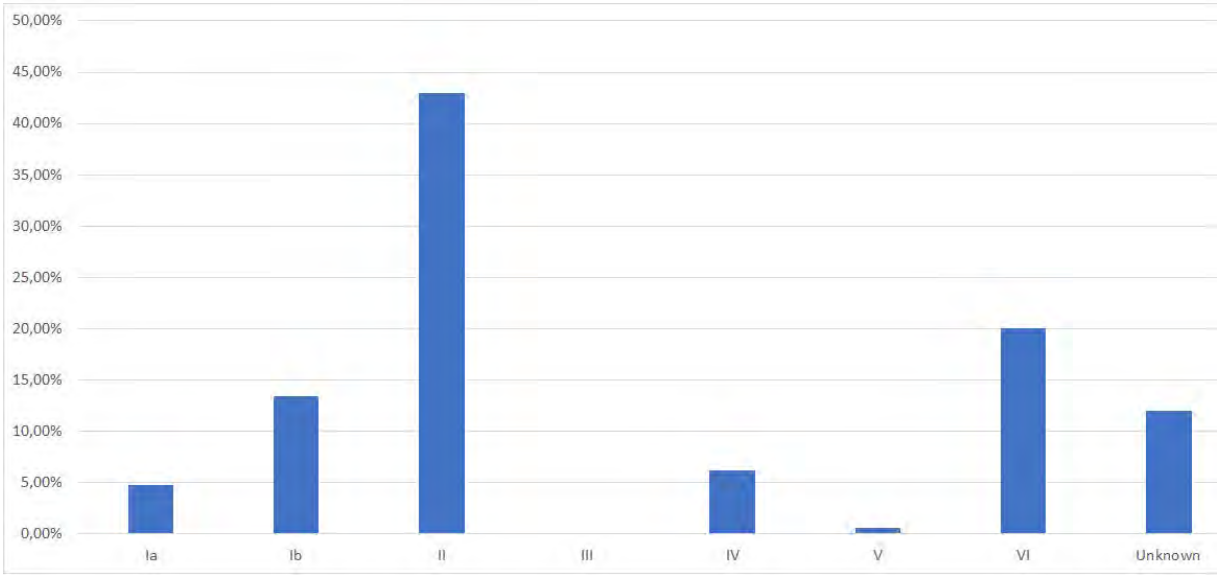

Figure 3: Distribution of protected areas (marine and terrestrial) across each of the six IUCN Management Categories, 2021.

4. PROTECTED AREAS RECOGNISED UNDER INTERNATIONAL CONVENTIONS

Within the Arctic[3] there are 115 areas recognised under global international conventions. These include 12 World Heritage sites[4] (three of which have a marine component); 81 Ramsar sites; and 22 protected areas under OSPAR, which together cover 1.25% (404,258 km^2) of the CAFF area (Fig. 4). Between 1985 and 2020, the total area covered by Ramsar sites[5] almost doubled, while the total area designated as World Heritage sites increased by about 50% in the same time period (Fig. 5).

Figure 4: Distribution of Ramsar, OSPAR and World Heritage sites within the CAFF boundary, 2022. (Source: Ramsar 2022; UNESCO 2022).

3. The CAFF Boundary is used to define the project area for this report; and aligns closely with the Boundaries used by PAME..

4. World Heritage Sites are cultural and/or natural sites considered to be of 'Outstanding Universal Value', which have been inscribed on the World Heritage List by the World Heritage Committee (UNESCO 2016).

5. Ramsar Sites are designated because they meet the Criteria for identifying Wetlands of International Importance. The first criterion refers to sites containing representative, rare, or unique wetland types, and the other eight cover sites of international importance for conserving biological diversity (RAMSAR 2016).

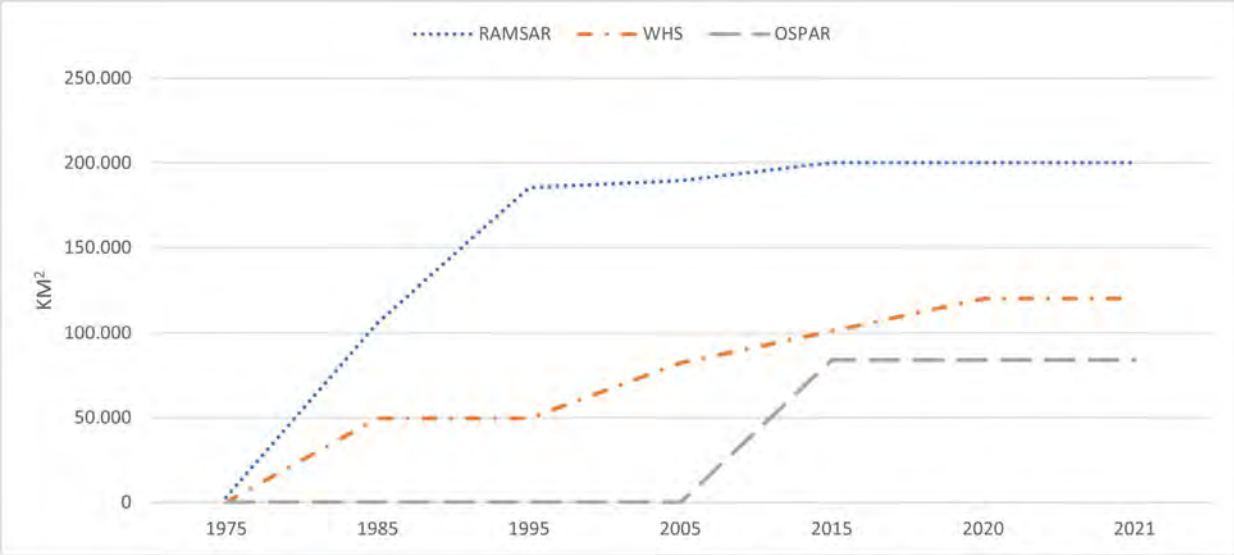

Figure 5: Changes in the total area of Ramsar, World Heritage sites and OSPAR protected areas within the CAFF boundary, 1975-2021. (Source: Ramsar 2022; UNESCO 2022; OSPAR 2022)

Kunming-Montreal Global Biodiversity Framework Target 3: "Ensure and enable that by 2030 at least 30 per cent of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed…"

Photo: Greenland. Carsten Egevang/ARC-PIC.com

5. MARINE PROTECTED AREAS

The extent of protected areas in the Arctic's marine environment (Fig. 6) has increased almost five-fold since 1980 (Fig. 7). In 2020, over 5% of the Arctic marine area (935,778km^2) was protected, which, when considered at a pan-Arctic scale, fell short of the Aichi Biodiversity Target 11 goal of 10% of coastal and marine areas to be protected by 2020 (Fig. 7). The marine protected areas are dominated by several very large areas with only 5.2% of the 484 marine protected areas assigned an IUCN Management Category. Protected areas falling in Category IV, Habitat/Species Management Areas, cover the largest area overall. Figure 7(b) shows the percentage of protected areas in each IUCN Management Category in 2021.

Figure 6: Marine protected areas in the Arctic classified according to their IUCN Management Category, 2021.

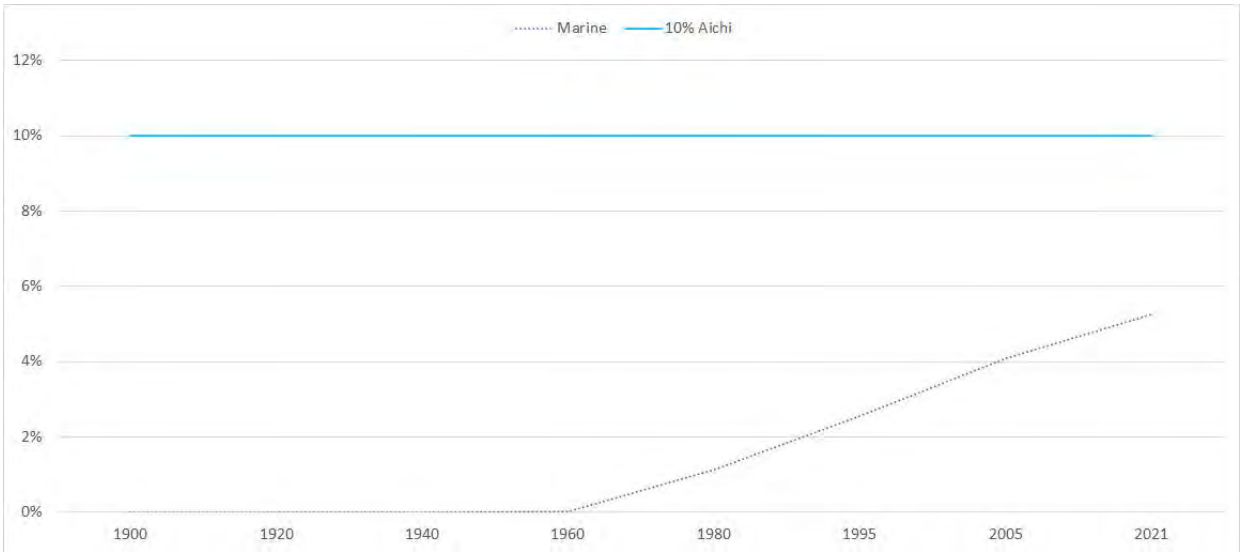

Figure 7: Trend in marine protected area coverage within the CAFF boundary, 1900-2021.

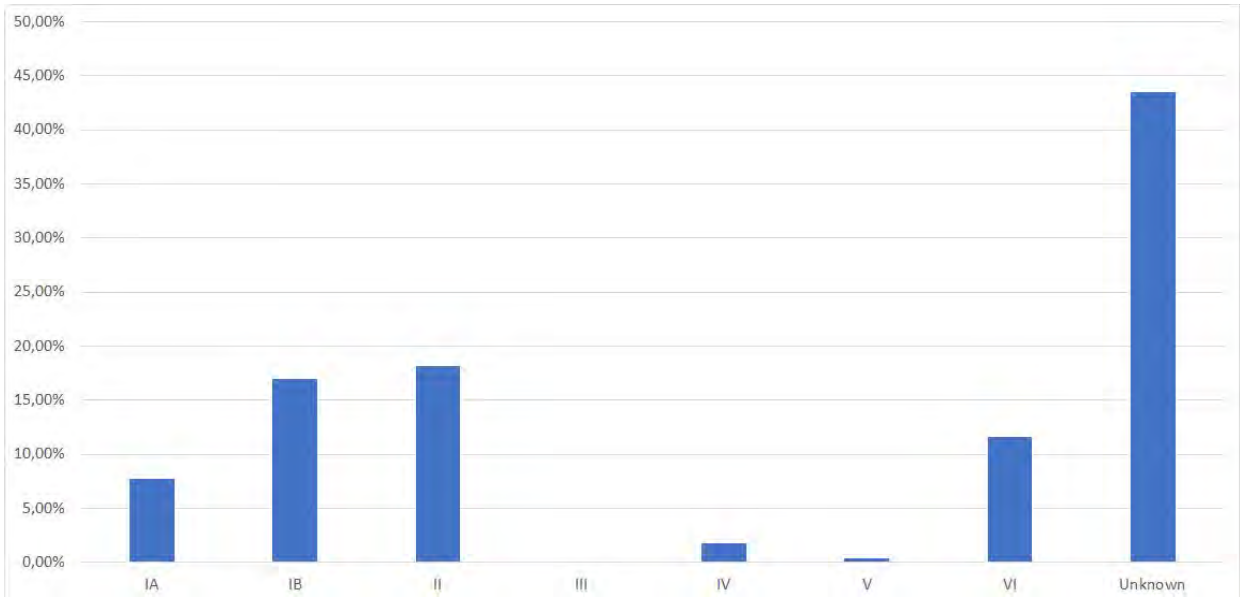

Figure 8: Distribution of marine protected areas across each of the six IUCN Management Categories, 2021.

6. OTHER AREA BASED MEASURES IMPORTANT FOR ARCTIC MARINE BIODIVERSITY

In 2018, the CBD adopted a definition of Other Effective Conservation Measures (OECM)[6], providing key elements for their identification and use across all ecosystems, complementing the IUCN definition of a protected area (Day et al. 2019). Both measures contribute towards the long-term conservation of biodiversity with the difference being that the primary objective of a protected area is conservation, while an OECM may have many objectives (IUCN-WCPA, 2019). While this report focuses on protected areas, the Arctic Council has initiated a project to provide an overview of the current range and understanding of international criteria used for identification of OECMs in the Arctic; and facilitate the exchange of information among Arctic Council members on the range of information and application of OECMs in the Arctic. Several Arctic States are also currently of identifying OECMs and it is envisioned that future reports will include a status of OECMs in the Arctic.

Area-based management tools are approaches that enable the application of management measures to a specific area to achieve a desired policy outcome. A wide variety exist, each with their own purpose, mandate, and authority. For example, Particularly Sensitive Sea Areas (PSSA), are areas identified as needing special protection through action by the International Maritime Organisation (IMO) to prevent, reduce, or eliminate the threat or identified vulnerability from shipping. Another example Ecologically or Biologically Significant Marine Areas (EBSA) are marine areas that support the healthy functioning of oceans and the services it provides. In 2008, the Parties to the CBD adopted scientific criteria for identifying EBSAs which supports the CBD's role in the work of the UN General Assembly with regards to marine protected areas beyond national jurisdiction. It does so through providing scientific and technical information and advice relating to marine biodiversity, including the application of ecosystem and precautionary approaches. In 2014, a CBD regional workshop identified EBSAs for the Arctic and confirmed that these areas fulfil the EBSA criteria (CBD 2014). Fourteen EBSAs were identified, covering 4.2 million km^2, or 22.9%, of the Arctic marine area (Fig. 9). Less than 2.5% of EBSAs lie within protected areas. There are no PSSAs designated within the Arctic.

Photo: Belugas. Yvette Barnett/Shutterstock.com

6. An OECM is a geographically defined area other than a protected area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the *in-situ* conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio–economic, and other locally relevant values' (CBD Decision 14/8, 2018).

Figure 9: EBSAs (Source: CBD 2022) and marine “areas of heightened ecological and cultural significance” (Source: AMAP/CAFF/SDWG, 2013).

7. TERRESTRIAL PROTECTED AREAS

The extent of terrestrial protected areas within the CAFF boundary (Fig. 10) has almost doubled since 1980 (Fig. 11). In 2021, 21% (2.96 million km^2) of the terrestrial area was protected. Protected area coverage exceeded Aichi Biodiversity Target 11, which aimed for at least 17% of terrestrial and inland water to be protected by 2020 (Fig. 11). It is important to note that the terrestrial figures include some protected areas in the boreal forest and also that the percentage of terrestrial area protected includes one very large park in Greenland that protects just one type of ecosystem and covers more than one quarter of the entire area protected in the Arctic.

Ninety-nine percent of terrestrial protected areas had been assigned an IUCN Management Category. Protected areas falling in Category V (31.1%), Protected Landscape/Seascapes, cover the largest area overall, while those in Category Ia, Strict Nature Reserves, cover 5.4% of the total protected area. Figure 12 shows the distribution of protected areas across IUCN Management Categories in 2021.

Figure 10: Terrestrial protected areas within the CAFF boundary classified according to their IUCN Management Category, 2021.

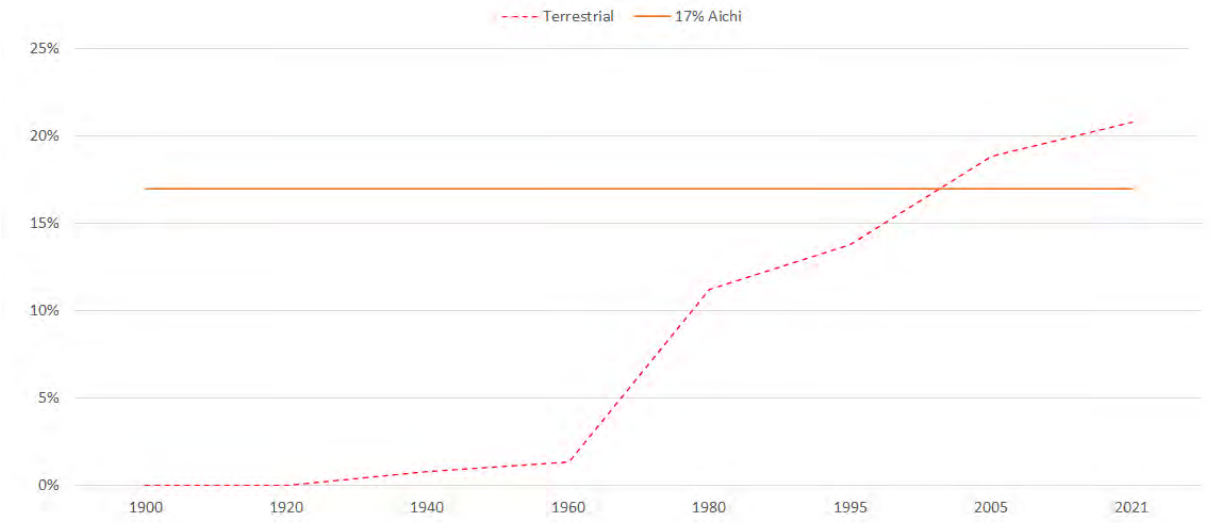

Figure 11: Trend in terrestrial protected area coverage within the CAFF boundary, 1900-2021.

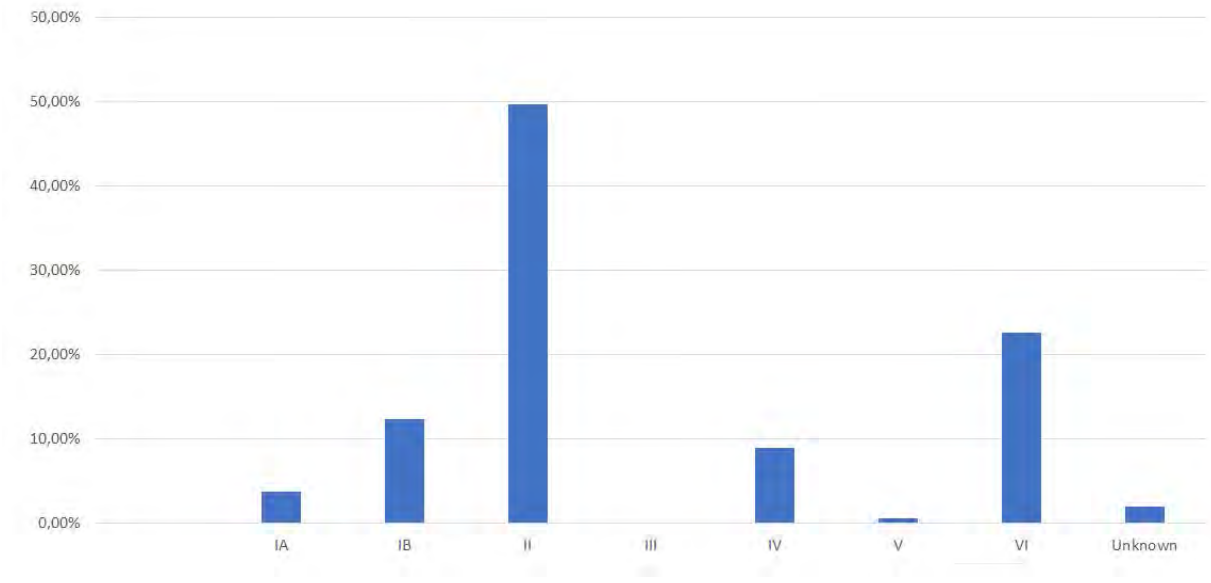

Figure 12: Percentage of terrestrial protected areas in each of the six IUCN Management Categories, 2021.

8. NEXT STEPS

Building upon the Arctic Council's activity described in this report work is underway to develop an overview of the current range and understanding of international criteria used for identification of OECMs in the Arctic. This will also facilitate a dialogue about how Arctic Council members are interpreting and applying the OECM definition and criteria in the Arctic. The role of Indigenous sustainable management practices, including Indigenous Protected and Conserved Areas, and other Indigenous stewardship measures, and their contribution to effective marine stewardship will be explored in the Arctic context through this project, and could be expanded upon in future work by the Arctic Council.

ARCTIC PROTECTED AREAS DATABASE

The data presented in this report comprising the 2021 update submitted by each of the Arctic Council countries can be found here: Protected areas data: https://abds.is/protectedareas

Photo: Tombstone Territorial Park, Yukon, Canada. Jef Wodniack/Shutterstock.com

ANNEX 1: KEY ARCTIC COUNCIL RECOMMENDATIONS AND GOALS

Arctic Biodiversity Assessment (ABA):

- Rec5: Advance the protection of large areas of ecologically important marine, terrestrial and freshwater habitats, taking into account ecological resilience in a changing climate.

- Rec6: Develop guidelines and implement appropriate spatial and temporal measures where necessary to reduce human disturbance to areas critical for sensitive life stages of Arctic species that are outside protected areas, for example along transportation corridors. Such areas include calving grounds, den sites, feeding grounds, migration routes and mounting areas. This also means safeguarding important habitats such as wetlands and polynyas.

- Rec7: Develop and implement mechanisms that best safeguard Arctic biodiversity under changing environmental conditions, such as loss of sea ice, glaciers, and permafrost.

Arctic Marine Shipping Assessment (AMSA):

- Rec2C: Arctic states should identify areas of heightened ecological and cultural significance in light of changing climate conditions and increasing multiple marine use and, where appropriate, should encourage implementation of measures to protect these areas from the impacts of Arctic marine shipping, in coordination with all stakeholders and consistent with international law.

- Rec2D: Arctic states should, taking into account the special characteristics of the Arctic marine environment, explore the need to internationally designated areas for the purpose of environmental protection in the regions of the Arctic Ocean. This could be done through the use of appropriate tools, such as “Special Areas” or Particularly Sensitive Areas (PSSA) designation through the IMO and consistent with the existing international legal framework in the Arctic.

Arctic Marine Strategic Plan (AMSP):

- Goal2 Strategic Action 10: Develop a pan-Arctic network of marine protected areas, based on the best available knowledge to strengthen marine ecosystem resilience, and contribute to human wellbeing, including traditional ways of life.

Arctic Ocean Review (AOR):

- Rec13: Arctic states should advance conservation of Arctic marine ecosystems by considering management measures in ecologically significant areas of the Arctic Ocean that Arctic states might pursue at the IMO, building on the results of the AMSA Recommendation II(D) Report on Specially Designated Arctic Marine Areas.

Framework for a Pan-Arctic Network of Marine Protected Areas:

- Goal1: To strengthen ecological resilience to direct human pressures and to climate change impacts, to promote the long-term protection of marine biodiversity, ecosystem function and special natural and cultural features in the Arctic.

- Goal2: To support integrated stewardship, conservation, and management of living Arctic marine resources and species and their habitats, and the cultural and social economic values and ecosystem services they provide.

- Goal4: To foster coordination and collaboration among Arctic states to achieve more effective MPA planning and management in the Arctic.

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Conservation of Arctic Flora and Fauna (CAFF)
Borgir, Norðurslóð
600 Akureyri
Iceland
Tel: +354 462-3350
caff@caff.is
www.caff.is

Protection of the Arctic Marine Environment (PAME)
Borgir, Norðurslóð
600 Akureyri
Iceland
Tel: +354 461-1355
pame@pame.is
www.pame.is