Sealing the fate of arctic marine mammals – challenges and opportunities of non-legislative international organisations

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Master thesis • 30 credits
Swedish University of Agricultural Sciences, SLU
Faculty of Natural Resources and Agricultural Sciences
Department of Urban and Rural Development
Environmental Communication and Management - Master's Programme
Uppsala 2021

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Credits: 30 credits

Level: Second cycle, A2E

Course title: Master thesis in Environmental science, A2E

Course code: EX0897

Programme/education: Environmental Communication and Management - Master's Programme

Course coordinating dept: Department of Aquatic Sciences and Assessment

Place of publication: Uppsala

Year of publication: 2021

Online publication: https://stud.epsilon.slu.se

Keywords: Arctic, marine mammals, Arctic Council, Conservation of Arctic Flora and Fauna, ecosystem-based management, North Atlantic Marine Mammal Commission.

Swedish University of Agricultural Sciences

Faculty of Natural Resources and Agricultural Sciences

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Abstract

The Arctic is changing rapidly as a result of climate change, putting endemic marine mammal species in greater danger than ever. In such circumstances, the management process in international organizations becomes more urgent. The Arctic Council and the North Atlantic Marine Mammal Commission are two international non-legislative bodies that manage marine mammals in the Arctic region. The challenges that organizations encounter are examined using the "What is the Issue Represented to be?" analytical framework based on interviews with experts in this field. Two central problems are addressed in detail: the Arctic Council's loss of control over the Arctic states' domestic policies and insufficient guidance provided by the ecosystem-based management approach that both organizations are using. The primary conclusion is that there is a need for a stronger feedback mechanism within the Arctic Council, as well as collaborative deepening the ecosystem-based approach and integrating indicators to track successes of the working processes.

Keywords: Arctic, marine mammals, Arctic Council, Conservation of Arctic Flora and Fauna, ecosystem-based management, North Atlantic Marine Mammal Commission.

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Abbreviations

AC	The Arctic Council
CAFF	The Conservation of Arctic Flora and Fauna working group
EBM	Ecosystem-based management
HoD	Head of Delegation
NAMMCO	The North Atlantic Marine Mammal Commission
SAO	Senior Arctic Officials
WPR	What is the Problem Represented to be?

1. Introduction

More than almost any other consequence of human civilization, anthropogenic climate change has the potential to profoundly alter Arctic ecosystems. Temperatures and sea levels are increasing, resulting in coastal and insular flooding (Kulp & Strauss 2019). Significant Arctic habitats, most notably sea ice (Landrum & Holland 2020), will be altered or destroyed, resulting in widespread redistribution of mobile species, the extinction of nonmobile species across large portions of their range, and possible species extinction (Albouy et al. 2020). Arctic endemic marine mammals are increasingly threatened by both anthropogenic factors such as shipping and harvest levels and biotic changes. At the same time, endemic marine mammal populations are likely to face increased predation from open water predators and competition as a result of subarctic marine mammal range expansion.

Insufficient monitoring at the regional or taxonomic level precludes the presentation of a holistic assessment of the status and trends of Arctic endemic mammals; trends for 66 percent of stocks are unknown, and 16 percent of stocks have never been surveyed, mostly seals (CAFF, State of the Arctic Marine Biodiversity report 2021). Only for about 60 percent of whale stocks, 50 percent of polar bear stocks, 30 percent of walrus stocks, and 10 percent of seal stocks trends are known. Seven stocks are identified to be decreasing, including three polar bear stocks, one hooded seal stock, one narwhal stock, and two beluga stocks (that may already be extinct).

Multiple agencies charged with the management and conservation of specific natural resources have been identified as major impediments to effective conservation and management due to their ineffective structure and function (Potts 2019). This article examines the practices of two international organizations – the Arctic Council and the North Atlantic Marine Mammal Commission (NAMMCO) – that contribute to the management of marine mammals in the Arctic region. Both organizations are non-legislative in nature and instead issue recommendations that member countries may or may not follow. These two organizations operate at different levels in terms of membership and primary focus, but both share a concern for marine mammals. The Arctic Council has gained just three points of

effectiveness on a scale of zero to five, whereas NAMMCO is typically regarded as an organization that has achieved successful cooperation among its members and maintains a strong and evolving presence in the marine mammal community (Kankanpää & Young 2012, Hardy 2006).

Thus, the primary objective of this paper is to identify issues concerning the management of marine mammals in the Arctic region that arise during the work of advisory bodies such as the Arctic Council and NAMMCO. The text will examine successful characteristics, existing opportunities for improving marine mammal management, and the nature of the barriers to such improvement.

2. Background

2.1. Thematic background

2.1.1. Marine mammals and the Arctic

The Arctic region is one of the most affected by climate change areas in the world. But before discussing issues concerning fauna and management of the Arctic, it is important to define the territory. This paper refers to the Arctic with boundaries used by the Arctic Monitoring and Assessment Program (AMAP 1998). According to it, the Arctic includes the terrestrial and marine areas north of the Arctic Circle, and north of 62°N in Asia and 60°N in North America, along with the marine areas north of Alaska's Aleutian island chain, all of Canada's Hudson Bay, and the North Atlantic Ocean including the Labrador Sea (see Figure 1).

Figure 1: Geographical representations of the Arctic. (AMAP 1998:9)

There are seven endemic species of marine mammals that occur on the territory of the Arctic for the whole year, depending on the Arctic marine ecosystem for every aspect of life and some species that can seasonally migrate to the Arctic equatorials and live outside of the Arctic for other parts of the year (Laidre et al. 2015). Thus, marine mammals in the Artic are represented by:

1. Eight cetaceans (endemic species: narwhal whale - *Monodon monoceros,* beluga whale - *Delphinapterus leucas,* bowhead whale - *Balaena mysticetus*; migratory species: grey whale - *Eschrichtius robustus,* killer whale - Orcinus orca, minke whale - Balaenoptera acutorostrata, fin whale Balaenoptera physalus, humpback whale - Megaptera novaeanglia);

2. Seven pinnipeds (endemic species: ringed seal - Pusa hispida, bearded seal - Erignathus barbatus, walrus - *Odobenus rosmarus*; migratory species: spotted seal - *Phoca largha,* ribbon seal - *Histriophoca fasciata,* harp seal - *Pagophilus groenlandicus,* and hooded seal - *Cystophora cristata*);

3. The polar bear (*Ursus maritimus,* endemic species).

Marine mammals are top predators in the Artic food webs. On figure 2 schematic marine food web is presented for the Pacific Arctic region, for other Arctic regions subpopulations of species may vary, but marine mammals always remain on its top (Moore & Stabeno 2015).

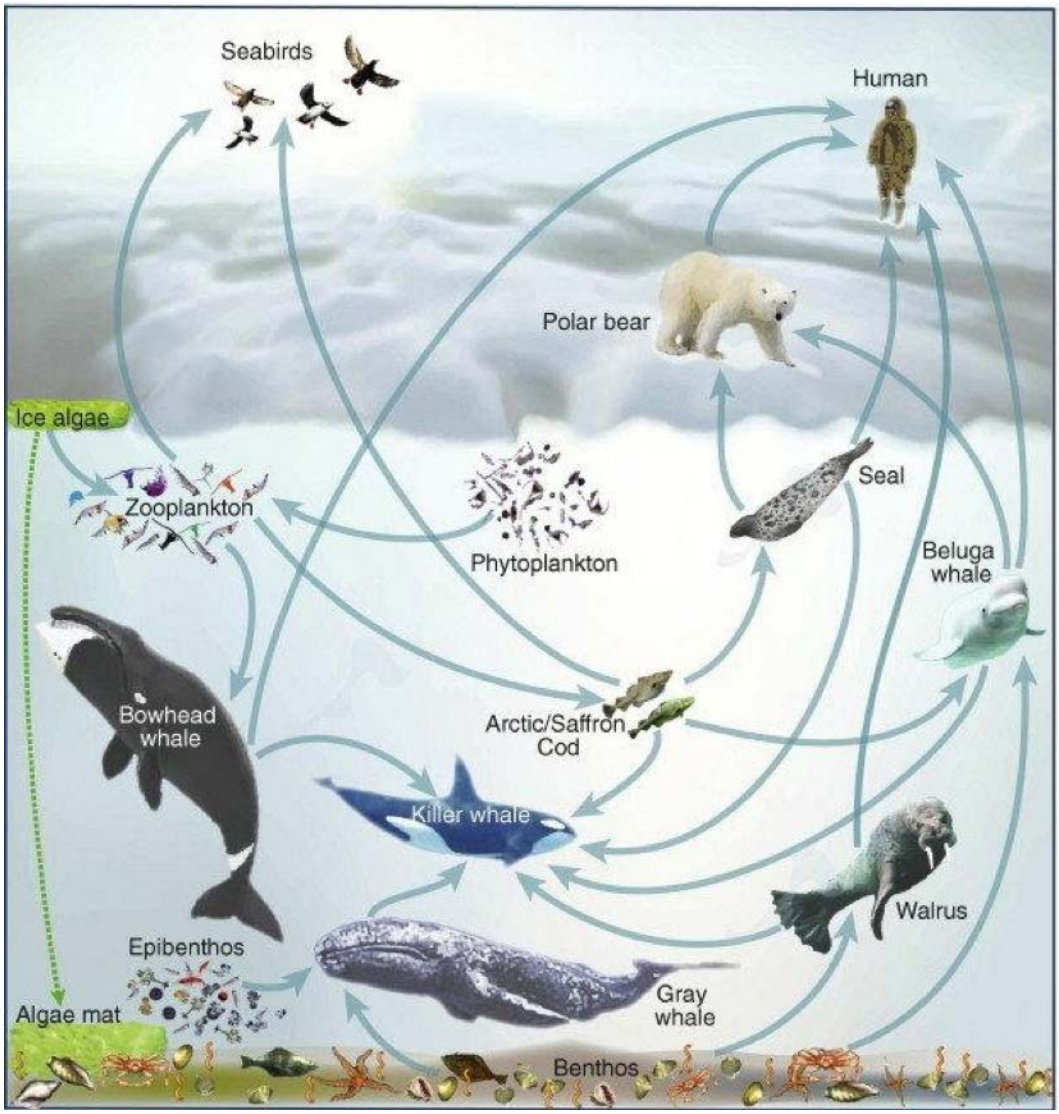

Figure 2: Schematic marine food web for the Pacific Arctic region. (Moore & Stabeno 2015:3)

A common feature of all arctic marine mammals is that they are associated with sea ice, but the ecological relationship between sea ice and a species may vary. Polar bears, walruses, bearded seals, and ringed seals are all considered *ice-dependent* species due to their reliance on sea ice for hunting, breeding, and resting (Moore & Huntington 2008). Harp, hooded, ribbon, and spotted seals are considered as *ice-associated* species because of their reliance on sea ice for whelping (Reeves et al. 1992, Johnston et al. 2005). A comprehensive assessment of the impacts of climate change on all of these species is contingent on sea ice serving as a platform, a foundation for the marine ecosystem, and a barrier to non-ice adapted marine mammals and human commercial activities (Moore & Huntington 2008).

2.1.2. The climate change & anthropogenic influence on marine mammals

Climate change

Arctic sea ice extent is a critical indicator of global climate change, as warmer air and water temperatures reduce the amount of sea ice present.

September Arctic sea ice is now declining at a rate of 13,1 percent per decade, compared to the average from 1981 to 2010. Since 1979, figure 3 depicts the average monthly Arctic sea ice extent, as determined by satellite observations.

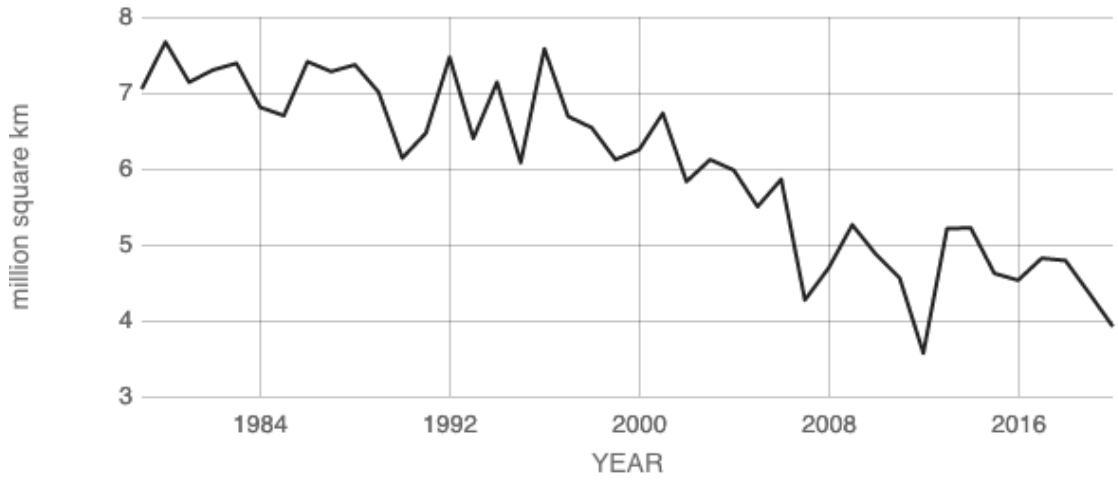

Figure 3: Average September minimum extent (Satellite observations https://climate.nasa.gov/vital-signs/arctic-sea-ice/ [2020-05-01])

The Arctic has warmed about twice as fast as the rest of the world over the last few decades (IPCC 2013). Arctic sea ice loss is occurring at a faster rate than predicted by climate models (Stroeve et al. 2012), and projections indicate that the Arctic will be ice-free in summer by 2040 (Overland & Wang 2013). Even if the primary driver of climate change, greenhouse gases, are immediately reduced, sea ice loss is likely to continue for several decades (ibid.). As a result, it appears as though further unprecedented changes to arctic marine mammals existence are unavoidable.

Indirect anthropogenic influence through climate change

The projected trajectory and rate of current climate change (Walsh 2008) may impose new threats to the health and survival of Arctic marine mammals. These challenges can be classified into four broad categories: habitat modification (Laidre et al. 2008), ecosystem modification (Bluhm & Gradinger 2008), body condition

and health-related stresses (Burek et al. 2008), and increased interactions with human (Hovelsrud et al. 2008, Metcalf & Robards 2008).

Changes in sea ice are a common denominator for all of these potential consequences, as direct loss of this habitat is the most serious threat facing Arctic species. Changes in prey, including a possible reduction in overall marine production, may pose a significant threat, although the trajectories of food webs are much more uncertain than those of sea ice. Reduced body condition or an increase in disease incidence, combined with an increase in human interactions, may be considered secondary challenges, as they are unlikely to result in species extinction on their own.

On the basis of the gain or loss of sea ice, a conceptual model of the potential impacts of climate change on Arctic marine mammals can be constructed (Figure 4, Moore & Huntington 2008).

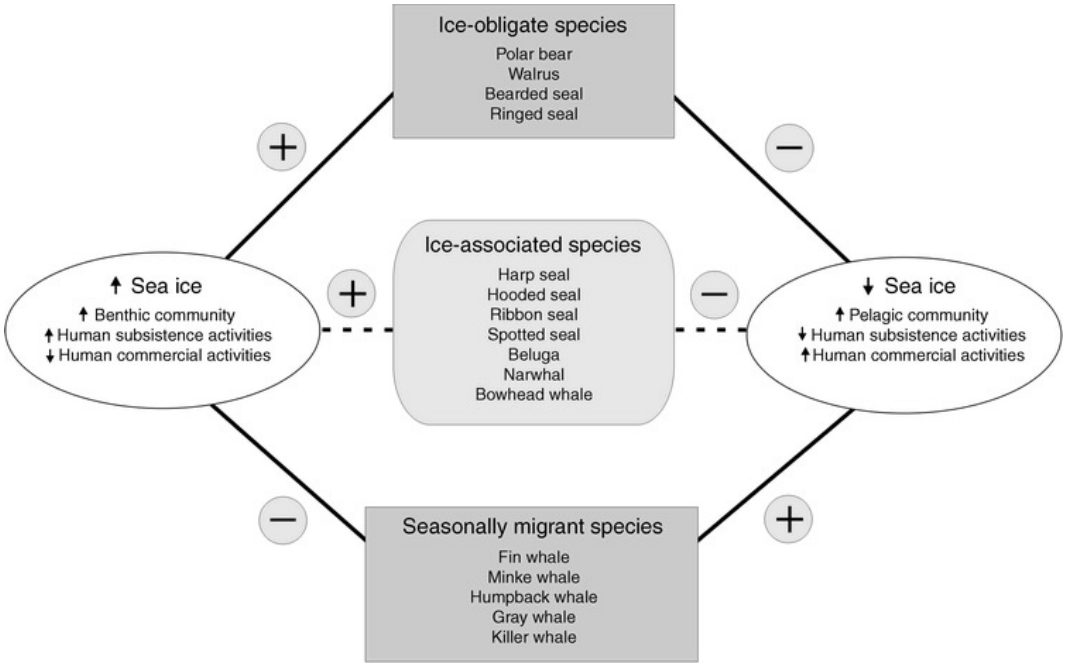

Figure 4: A conceptual model of sea ice impacts on ice-obligate, ice-associated, and seasonally migrant marine mammal species (Moore & Huntington 2008:S159)

A conceptual model of the effects of sea ice on ice-dependent, ice-associated, and seasonally migratory marine mammal species: positive impacts are denoted by circled plus signs, while negative impacts are denoted by circled minus signs. Uncertainty regarding the potential impact of sea ice gain or loss on ice-associated species is indicated by dashed lines. Bluhm and Gradinger (2008) present anticipated changes in benthic and pelagic community productivity; Hovelsrud et

al. present anticipated changes in human subsistence and commercial activities (2008).

Reduced sea ice is likely to have a negative effect on seals that give birth on the ice (i.e., harp, hooded, ribbon, and spotted seals). For polar bears loss of sea ice is also having a negative effect – it obliterates their hunting and resting grounds and their primary prey, ringed seals (Derocher et al. 2004, Laidre et al. 2008). During the warmer summer season, which lasts approximately ninety days, migratory species have gained unrestricted access to the Arctic. Seasonally migratory cetaceans are very likely to range further north for feeding and possibly stay longer if current trends in sea ice reduction continue. For instance, between 2009 and 2018, there were approximately 136 to 190 killer whales in Canada's northern Baffin Island region, according to the study co-authored by Lefort (Lefort, Garroway and Ferguson 2020). The presence of killer whales in the Arctic is having a detrimental effect on other species, including the narwhal (*Monodon monoceros*), which has developed into a primary food source for killer whales during the Arctic's open-water season. Lefort and his colleagues estimated that killer whales preyed on between 1,076 and 1,504 narwhals each season. An increase of killer whales into the Arctic is also a sign of expansive changes in the environment that are already happening and changing the ecosystem.

Direct anthropogenic influence

In addition to the indirect impact on arctic marine mammals through climate change, they are also directly affected:

Environmental contaminants include organochlorine compounds applied in industry, agriculture, and health, which are highly persistent, chemically stable, and bioaccumulating in marine mammals. Resistant to metabolic degradation, it is concentrated through the food web and occurs in tissues of at least twenty-three species of pinnipeds, fifty-five species of cetaceans, and in sea otters, sirenians, and polar bears (O'Shea 1999). The insecticides dichlorodiphenyltrichloroethane (DDT), dieldrin (both primarily neurotoxic), and industrial polychlorinated biphenyls (PCBs) are the best known, highly fat soluble, and in marine mammals, blubber is the major repository (O'Shea 1999). Effectively inert in the blubber layer, the pollutants are mobilized during periods of food scarcity, chronic stress, disease, pregnancy (when it is passed directly to the offspring in the womb), and lactation (passed to the newborn in lipid rich milk) (Parsons et al. 2012). Organochlorine compounds are suspected to disrupt the endocrine system in marine mammals and therefore likely impact on reproduction (O'Shea 1999). Banned from further use as an antifouling paint on ship hulls, the toxic butyltin (especially tributyltin) remains a problem in heavy shipping areas and has been implicated in

the disruption of the immune system and hearing loss in cetaceans (Parsons et al. 2012).

Harmful algal blooms are likely to have been accelerated by nutrient enrichment of coastal waters through human activities. Domestic sewage effluent, runoff from agriculture, and industrial and shipping discharges all may lead to toxin-producing algal blooms. Bioaccumulated and biomagnified through the food chain, and perhaps absorbed directly from the water column, these toxins were implicated in several marine mammal mass mortalities (Parsons et al. 2012).

Marine debris, including entangling fisheries discards and lost gear (see above), and in particular plastics when ingested, causes death through, e.g., impairing abilities, infection, choking, ulceration, and blocking of the digestive tract (Parsons et al. 2012).

Catastrophic oil spills from tankers running aground/sinking and from drilling operations have major biological impacts indirectly (through suffocation of benthic/pelagic organisms, a probable food base for marine mammals) and directly (oil-soaked and matted pelage with loss of insulation and buoyancy in pinnipeds and otters). Longer-term detrimental effects come from ingestion of oil while grooming (sea otters) or feeding (e.g., surface skimming baleen whales) and from inhalation of light oil fractions (Berta et al. 2006). Despite the damaging effect of spills, most oil come from small spills during oil transfer, tanker cleaning, urban sources through storm drainage systems, industrial discharges, and natural seepage through the seabed (Parsons et al. 2012).

Anthropogenic sound introduced into the sea also has detrimental effects on marine mammals. An important component of oceanic background noise, anthropogenic sound sources include explosions (nuclear and chemical, i.e., for oceanic research, construction, military testing, and formerly for marine seismic exploration), large commercial ships, air guns and seismic exploration devices, military, navigation and depth-finding sonars, acoustical oceanography, acoustic deterrent devices and pingers to repel marine mammals from fishing activities, polar icebreakers, offshore drilling and other industrial activity, and small ships, boats, and personal watercraft (Hildebrand 2005). These anthropogenic sounds may interfere with marine mammal communication, breeding, and feeding behaviours resulting in them abandoning or avoiding such areas (Berta et al. 2006).

The increased volume in boat traffic and the speed at which modern shipping takes place increase the rate of ship collisions with cetaceans, a major cause of mortality in North Atlantic right whales (Bester 2014).

Marine mammal tourism, in particular whale watching (Berta et al. 2006), has become a huge international industry (Parsons et al. 2012). Although the economic importance and educational potential of marine mammal tourism is considerable in areas where it occurs, it alters behaviour and induces indirect detrimental impacts to marine mammals. Injury and deaths through collisions with whale watching vessels frequently result (Parsons et al. 2012).

2.1.3. The Arctic Council and CAFF working group

The Arctic Council

The Arctic Council is the leading intergovernmental forum for promoting cooperation, coordination, and interaction among Arctic States, Indigenous peoples of the Arctic, and other Arctic residents on common Arctic issues, most notably sustainable development and environmental protection in the Arctic. It was established formally in 1996. The Council is composed of state members and observers, indigenous permanent participants, and observer organizations.

The council is made up of eight state members that have sovereignty over lands within the Arctic Circle: Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the United States. The decision-making in the Arctic Council is in the hands of the eight-member states, on the basis of consensus.

Seven of the eight member states have sizable indigenous populations in their Arctic regions (only Iceland does not have an indigenous community). Organizations of Arctic Indigenous Peoples may apply for Permanent Participant status with the Arctic Council if they represent either one indigenous group residing in multiple Arctic States or two or more indigenous groups residing in a single Arctic State. Permanent Participants should never exceed the number of members. Permanent Participants have been established to facilitate active participation and consultation with indigenous representatives from the Arctic within the Arctic Council. This principle applies to all Arctic Council meetings and activities. As of 2014, six indigenous communities in the Arctic have been granted Permanent Participant status under the CoA (Buixadé Farré et al. 2014). These groups are exemplified by Aleut International Association, Arctic Athabaskan Council, International Gwich'in Council, Inuit Circumpolar Council (ICC), Russian Association of Indigenous Peoples of the North (RAIPON), and Saami Council.

Observer status in the Arctic Council is open to non-Arctic states, along with inter-governmental, inter-parliamentary, global, regional and non-governmental organizations that the Council determines can contribute to its work.

Chairmanship of the Council rotates every two years. Each rotating Chair nation accepts responsibility for the secretariat, which is in charge of the Council's administrative functions, such as organizing semiannual meetings, hosting the Council's website, and disseminating reports and documents.

Research, monitoring and the other work of the Council is primarily carried out by Working Groups. There are six Arctic Council workings groups:
Arctic Monitoring and Assessment Programme (AMAP)
Conservation of Arctic Flora & Fauna (CAFF)
Emergency Prevention, Preparedness & Response (EPPR)
Protection of the Arctic Marine Environment (PAME)
Sustainable Development Working Group (SDWG)
Arctic Contaminants Action Program (ACAP).

CAFF

CAFF (the Conservation of Arctic Flora and Fauna working group) serves as a forum for collaboration on species and habitat management and utilization, for the exchange of information on management techniques and regulatory regimes, and for the facilitation of more knowledgeable decision-making. It enables the development of coordinated responses to critical Arctic ecosystem issues such as development and economic pressures, conservation opportunities, and political commitments.

CAFF’s mission is to address Arctic biodiversity conservation and to communicate its findings to Arctic governments and residents, thereby assisting in the promotion of practices that ensure the sustainability of the Arctic's living resources. It accomplishes this through a variety of monitoring, evaluation, and expert group activities.

CAFF's projects generate data that enables informed decision-making in order to address the challenges inherent in attempting to conserve the natural environment while allowing for regional growth. This work is guided by the CAFF Strategic Plan for the Conservation of Arctic Biological Diversity and biennial Work Plans. It is carried out in collaboration with all Arctic countries, indigenous organizations, international conventions, and organizations.

To successfully conserve the natural environment while allowing for economic development, comprehensive baseline data on Arctic biodiversity, habitats, and ecosystem health are required. CAFF is developing the framework and tools necessary to establish a baseline of current knowledge and to provide ongoing

assessments. This iterative, adaptable, and responsive approach can result in more consistent, timely, and flexible analyses.

2.1.4. North Atlantic Marine Mammal Commission

North Atlantic Marine Mammal Commission (NAMMCO) is an international organization dedicated to regional cooperation in the conservation, management, and research of cetaceans (whales, dolphins, and porpoises) and pinnipeds (seals and walruses) in the North Atlantic. NAMMCO's founding members — the Faroe Islands, Greenland, Iceland, and Norway — are committed to the sustainable and responsible use of all marine life, including marine mammals. The NAMMCO Agreement was signed on 9 April 1992 in Nuuk, Greenland.

NAMMCO member countries seek to strengthen and further develop effective conservation and management measures for marine mammals through regional cooperation. Recognizing coastal communities' rights and needs to make a sustainable living from what the sea has to offer, such measures should be based on the best available scientific evidence and user knowledge and take into account the marine ecosystem's complexity and vulnerability.

NAMMCO has filled a void in the region's conservation and management of smaller whales, seals, and walruses that had previously been unaddressed by international agreements.

2.2. Background to the empirical field

Both organizations claim that they employ an ecosystem-based approach in their work and have established special working groups to develop the approach. This section provides theoretical context for the concept and discusses its primary characteristics.

Ecosystem-based management

Broadly defined, ecosystem-based management (EBM) is an environmental management approach that recognizes the full array of interactions within an ecosystem, including humans, rather than considering single issues, species, or ecosystem services in isolation (Christensen et al. 1996).

Development of the concept

Globally, natural resource management is undergoing a paradigm shift away from single-species management toward ecosystem management (Townsend et al. 2019).

Historically, most marine activities have been managed with a very narrow focus, which is why change is necessary. Marine management is typically sector-specific, with mining, shipping, and fishing all falling under distinct management authorities. Management, even within sectors, can be extremely focused. For instance, fishing management may place a premium on the effects of fishing on the targeted fish species but ignore how catching that species affects their predators and prey, how catching that species results in incidental bycatch of other species, or how catching that species may disrupt or destroy marine habitats. Additionally, marine management is typically a matter of national jurisdiction across all sectors, but where adjacent countries use the same resources, there are frequently marked differences in the practices underpinning and governing that use, which can be problematic.

Single-species management has frequently resulted in unsustainable exploitation due to the inability to balance social, economic, and ecological objectives (FAO 2002a). No party, in particular, was willing to pay the high short-term costs associated with capacity reduction and thus with achieving sustainability. FAO (2002a) identified the key drivers of unsustainable fishing in a review of the more specific factors contributing to unsustainable fishing as insufficient incentives and market distortions, high demand for limited resources, poverty and a lack of alternatives to fishing, complexity and insufficient knowledge, a lack of governance, and interactions of the fishery sector with other sectors and the environment (Jennings 2006).

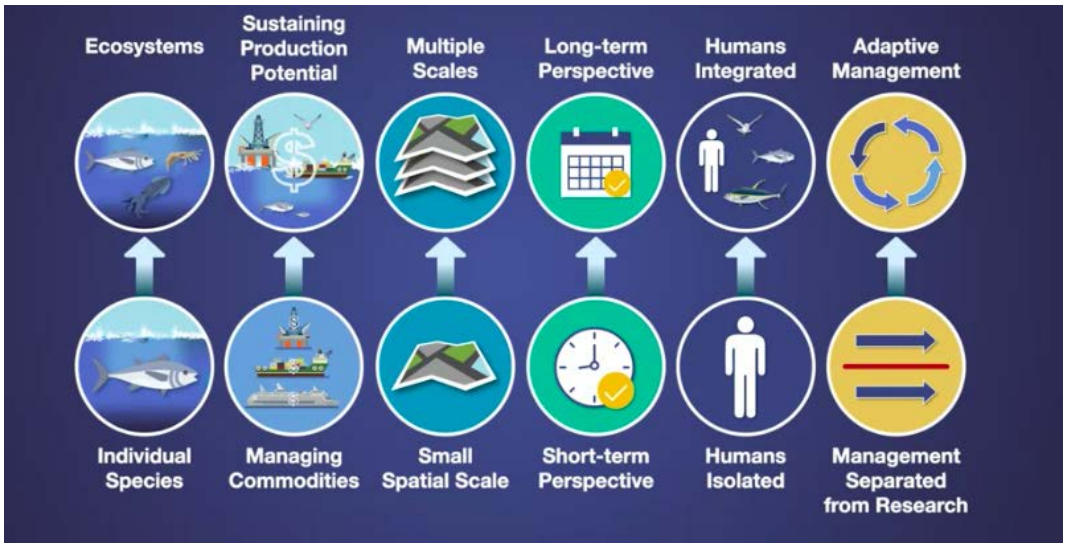

Figure 5: Differences between single species-management and ecosystem-based management (Large Marine Ecosystems: Assessment and Management, University of Cape Town n.d. https://www.coursera.org/learn/large-marine-ecosystems/)

Figure 5 shows what has changed during the shift from single-species management to ecosystem-based approach. Firstly, the sustainability of the ecosystem is central to the EBM approach, rather than focusing exclusively on single species or sectors. The goal is to sustain the capacity of the ecosystem to produce goods and services, rather than managing individual commodities without regard for the effects on other parts of the ecosystem. This requires considering multiple spatial scales and adopting a long-term perspective rather than the more typical short-term views that influence sectoral interests. Humans must be recognized as part of ecosystems, and their needs, aspirations, and impacts must be explicitly incorporated into the management approach, which must be adaptive and self-correcting as circumstances change. Finally, planning and implementing ecosystem-based management requires an inclusive approach that considers all stakeholders and seeks broad support.

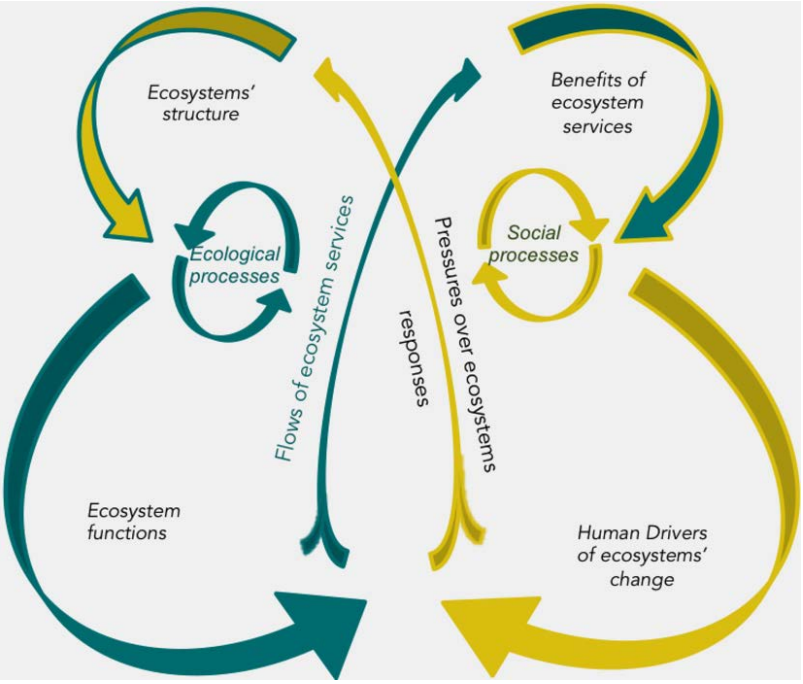

Figure 6: Social-ecological systems as interlinked, complex, adaptive systems (Gómez et al. 2016: 53)

Figure 6 illustrates a central concept of ecosystem-based management: the interconnection of ecological and social components (Gómez et al. 2016). Ecosystem services both contribute to and are impacted by human activity.

Indicators and implementation

Sherman et al. (2005) described the ecosystem-based five-module approach to management and assessment of LMEs, which has proven to be an effective tool for guiding the Ecosystem Based Management (EBM) approach in a number of LME Projects.

Five modules covering a range of subject areas form the backbone of the approach to large marine ecosystems. Three of the five modules are natural science-based: the productivity module, the fish and fisheries module, and the pollution and ecosystem health module. The remaining two are social sciences-based and consider the human dimensions of ecosystems. These are, respectively, the socioeconomics and governance modules. By establishing a framework for quantifying changes in the states of large marine ecosystems, these five modules contribute to ecosystem-based assessment and management. Within this framework, data are collected and analyzed in order to ascertain the ecosystem's overall health and to guide the adoption of policy and management actions. Each of the five modules is linked to indicators used to monitor changes in large marine ecosystems. Indicators summarize data at the ecosystem level and present it in a

comprehensible format. They are intended to reflect critical ecosystem processes and to highlight areas where ecosystem changes may necessitate management interventions. Numerous ecosystem indicators have been developed and evaluated by the scientific community. Through the use of indicators across all five modules, an ecosystem can be continuously assessed, enabling and supporting an adaptive approach to ecosystem-based management (Figure 7).

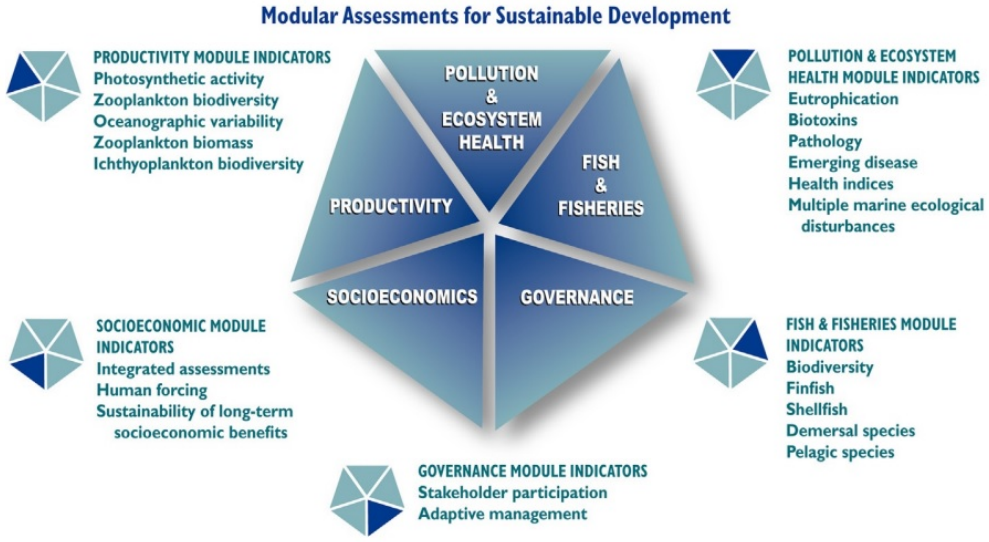

Figure 7: The Five-Module Approach for Sustainable development (Sherman, 2019:3)

3. Theoretical approach

3.1. WPR – What is the Problem Represented to be?

The approach named WPR is a resource or tool designed to facilitate critical examination of public policies. It begins with the premise that how one proposes to solve a problem reveals what one believes is problematic (needs to change). According to this line of thought, policies and policy proposals contain implicit representations of the "problem" ("problem representations"). The task of a WPR analysis is to read policies critically and to determine how the "problem" is represented within them. This task is accomplished through the use of a series of six questions (Bacchi 2009) and an accompanying commitment to apply the questions to one's own change proposals:

1. What is the "problem" that a specific policy or policy proposal is attempting to address?
2. What underlying assumptions or presuppositions support this representation of the "problem"?
3. How has this "problem" representation come about?
4. In this problem representation, what is left unproblematic? Where are the hushed tones? Can the "problem" be reframed?
5. What effects does this representation of the "problem" have?
6. How/where was this "problem" representation created, disseminated, and defended? How has it been questioned, disrupted, and replaced (or could it be)?

Thus, the first question contributes to the clarification of the implicit problem representation contained within a particular policy or policy proposal. Second

question encourages reflection on the underlying premises of this “problem” representation. Third question provides examination of the contingent practices and processes that resulted in the emergence of this understanding of the “problem”. Fourth question gives an in-depth examination of any gaps or limitations in this representation of the “problem”, accompanied by imaginative imagining of possible alternatives. Fifth question provides a considered examination of how identified problem representations constrain what can be discussed as relevant, shape people's perceptions of themselves and the issues, and have a material impact on people's lives. Sixth question rises heightened awareness of the contestation surrounding the “problem's” representation (Bacchi 2012).

This approach examines policy not from a problem-solving but from a problem-questioning perspective: “It presumes that some problem representations benefit the members of some groups at the expense of others. It also takes the side of those who are harmed. The goal is to intervene to challenge problem representations that have these deleterious effects” (Bacchi 2009, p. 44). Thus, the purpose of WPR analysis is not to ascertain the 'real' problem and the 'correct' solution, but to examine how representations are formed and how they shape solutions and subjectivities (Bacchi 2012).

The WPR approach is highly adaptable and the analysis is not limited to social movements or references to “civil society”. In this paper the WPR approach is used as a very practical tool that provides the structure for problem analysis and especially organizing results. Additionally, the approach is advantageous for its flexibility – it is not necessary to answer all questions, and thus in some sections of the results, some questions are omitted due to their insignificance in application for that problem.

Throughout the interviews, participants raised a variety of issues. The semi-structured interview's adaptable format enabled the interviewees to express a variety of concerns (see Research design & Methods section). Primary analysis while color-coding the results has revealed that many of the issues raised are interconnected, and thus can be presented as answers to the questions raised by the WPR approach. Due to the fact that several of the problems were discovered to be the causes or consequences of other issues, two central issues are identified and analyzed via WPR questions. Thus, the findings are divided into two sections – each section discusses a single central problem and presents related findings.

3.2. Biopower and anatomo-politics

There are different types of management that were approached by French historian and philosopher Michel Foucault. According to Foucault, the 18th century in Europe saw the emergence of a new form of power - biopower, in which “the ancient right to take life or let live was replaced by a power to foster life or disallow it to the point of death” (Foucault, 1990: 138). Within biopower, Foucault identifies two main forms of political technologies: the disciplining of individual bodies (anatomo-politics) and the management of the species body (biopolitics) through population-level interventions. Recognizing that conservation as a collection of discourses and techniques reaches well beyond the state and indeed through the social body, new studies has begun to examine how conservation is biopolitical in and of itself, as a project of regulating both nonhuman and human life.

Although Foucault's original debates of biopower and biopolitics focused on the governance of human life, these concepts are now being applied to the discipline, aggregate, and optimization of nonhuman individuals and populations in conservation projects (Biermann & Anderson 2017). Conservation's drive to protect nature is the historical outcome of a shift in nature–society. It is more broadly described as the ostensible substitution of human dominance over the natural world by a scientific culture that specifically promotes the dignity of nonhuman existence (Biermann & Mansfield 2014). Regardless of the distinctions between these meanings, modern conservation can be viewed as a biopolitical mission entailing "the administration of bodies and the measured management of life" (Foucault 1990, p. 140).

Biopower is operationalized as a theory for the findings of this thesis by framing respondents’ (organization staff and representatives) reflections on governance and of marine mammals in terms of decisions to conserve, cull, legislate and manage their populations or individual animals. The benefit to using a biopolitical framework is in making visible the implicit assessments that go into the administration of life. In this way, paired with Bacchi’s What’s-the-problem’ approach, the results will be heavily scrutinized in regard to assumptions.

4. Research design & Methods

The research employs a qualitative research design. Interviews are the primary method of data collection. Interviewing is a fundamental and critical qualitative method for collecting primary data in social science research. In contrast to quantitative data, qualitative data are not quantified in terms of quantity or frequency but rather examined for in-depth perceptions, meanings, and processes (Labuschagne 2003). Interviews are an effective method of eliciting information about interviewees' perspectives, beliefs, and experiences regarding a specific research question (Lambert & Loiselle 2008). To reach the main aim of uncovering difficulties in marine mammal management the following research questions have been posed:

1. What hinders marine mammal management in international non-legislative organizations in the Arctic?
2. What measures should be made to improve the efficiency of management systems for marine animals in the Arctic?

For the interview, experts directly involved in marine mammal management were contacted – representatives from various Arctic states and those employed by the Conservation of Arctic Flora and Fauna working group (the Arctic Council) or NAMMCO (North Atlantic Marine Mammal Commission) secretariats. The interviewee selection process was centered on the respondents' geographical diversity and their role in the process; the goal was to include a greater number of representatives from arctic states and a diverse group of representatives from both sides of the process: those who work in organizations and those who represent their countries there.

In general, this research is based on five in-person online interviews and one written interview. The study entailed the participation of the following individuals: a representative from the CAFF secretariat, two representatives from the NAMMCO secretariat, a representative from the Russian Marine Mammals Council, a Head of delegation in CAFF from Sweden, and a representative from the Norwegian Agency of Fisheries. Each interviewee was given a permission not to have their names published for confidentiality reasons. Confidentiality is a frequently

observed practice in qualitative research (Allen 2017). The confidentiality agreement is followed to safeguard the privacy of all individuals, to build trust and rapport with study participants, and to uphold ethical standards and the integrity of the research process (Baez 2002). One of the complexities was separating the interviewees' personal perspectives from their official perspectives as organization representatives. However, this concern demonstrated to be unnecessary, as the majority of participants distinguished their reactions by themselves. They began their response by identifying their position, for example, "now I am speaking as the organization's representative" or "now it is just me speaking as an individual." Typically, each critique began with a disclaimer that it was merely a personal opinion, and that was the most valuable data – criticizing something opinion of an expert in the field that had not yet been incorporated into the organization's structure.

Online interviews were conducted via Zoom for a variety of reasons, including the global covid-19 pandemic outbreak and geographical constraints - almost all interviewees were located in other countries and time zones. Interviews lasted between forty-five and ninety minutes. Four interviews were conducted in English as the common language, while the interview with the Russian expert was conducted in Russian as the native language of both participants, effectively eliminating the possibility of a language barrier. Permission was sought at the start of each interview for screen recording without further publication for the purpose of transcription and analysis. To allow for greater flexibility, semi-structured interview guidelines were used. On the one hand, an interview schedule with predetermined questions and topics can be used, but on the other hand, unexpected and unanticipated issues and responses can emerge when open-ended questions are used (Tod 2006). Thus, all spontaneous topics and thoughts can be explored, even if they were not part of the discussion's original plan. The interview guidelines varied according to the individual's occupation. However, the major categories of questions remained consistent across all interviews - EBM, biopower, power as an advisory body, international collaboration, communication strategies, and overall assessment of the situation. The preliminary blocks of questions were chosen as a combination of existing dimensions for assessing international organizations and previous articles on the subject. (Lall 2020, Kankaanpää & Young 2012, Exner-Pirot et al. 2019, Hardy 2006). Each interview was transcribed using Trint software and the online transcription service otranscribe.com.

Qualitative data analysis entails segmenting and disassembling data as well as reassembling it (Creswell & Creswell 2018). For the analysis of interviews, the classic steps described in Creswell & Creswell were used: winnowing the data (removing unimportant parts), and utilizing qualitative computer software programs to assist in organizing, sorting, and searching for information in

databases, which can save a great deal of time. Atlas.ti software was used to color-code interviews in this study.

According to Creswell & Creswell (ibid.), qualitative data interpretation entails summarizing the findings, discussing them, making recommendations to improve the management process within the Arctic Council or NAMMCO's activities, identifying project limitations, and suggesting future research directions.

5. Results

As previously mentioned (see Theoretical approach chapter), the results section is divided into two parts, each of which is devoted to the study of a single central issue and all related observations found during the color-coding procedure. The framework is influenced by the What-is-the-Problem-Represented-to-be (WPR) approach's queries.

5.1. The Arctic Council does not have a big influence on domestic policies regarding marine mammals

The first apparent issue is that the Arctic Council lacks significant control over domestic policy of the Arctic states on marine mammal management, which reduces the efficacy of its function, especially in terms of guideline compliance.

What is the problem represented to be?

This first question in Bacchi's approach about the problem representation was formulated according to the respondents' answers to indirect questions about marine mammal management. The Arctic Council is a consensus-based voluntarily organization, which means that if a state decides to participate, that is a sign that it is also interested in implementing the results of international work on the territory of their country.

However, both interviewees that represented one of the Arctic States, have noticed that not all guidelines from CAFF (Conservation of Arctic Flora and Fauna working group) reports are efficiently implemented in reality. They emphasize different aspects but lack of influence of CAFF's recommendations on the domestic policies is a common feature:

> "CAFF recommendations are not that well received by our country."

Or:

> "If I look at our country in particular, I wouldn't perhaps say that it is one of those countries, that are in the forefront when we're talking about how CAFF influences national priorities of national work."

These statements give a start to the following problem representation: The Arctic Council does not have a big influence on domestic policies of the Arctic states regarding marine mammals. This might not be considered as a problem if it would not contradict the main objectives of the Council. CAFF's mandate is "to address the conservation of Arctic biodiversity… *helping to promote practices* which ensure the sustainability of the Arctic's living resources".
The analysis of this representation develops with the following questions in Bacchi's approach.

What presuppositions and assumptions underlie this representation of the 'problem'?

The next step of analysis according to Bacchi leads to thinking about the premises behind this view of the "problem" or in simple terms – why this representation of the problem exists?

Since the Arctic council is a voluntarily organization there is no leverage over internal policies and regulations. There were different factors to contribute and influence this situation.

1. Different national goals and level of interest from internal governmental structures

There is a conditional division of the Arctic states into the "Arctic Five" and "Arctic Eight". The main criterion is access to the Arctic Ocean. A5 consists of the United States, Russia, Canada, Norway and Denmark (including the Faroe Islands and Greenland). Three more countries are added to the Arctic Eight countries, whose territories lie in the immediate vicinity of the Arctic Circle or beyond, - Sweden, Iceland and Finland.

Of course, all countries of the Arctic region have fundamental documents (strategies) that determine the priorities and main directions of the state's activity in the Arctic and those strategies may be very different. But for some countries it is easier to negotiate with each other. One of the clusters among Arctic countries is Nordic Scandinavian countries: Iceland, Sweden, Norway, Finland and Denmark. All of them are members of the Nordic Council and European Economic Area with a lot of shared regulations. Russia geographically shares Eurasia with the Nordic countries and has a large area of the Arctic region, but stays a bit separately from

other European countries. USA and Canada are on another continent, which separates them from other Arctic countries, they have other world views.

Officially, all countries acknowledge the importance of the Arctic's environmental agenda and the preservation of its diversity. Indicators of government interest in the topic of protecting the fauna of the Arctic are determined by material funding of the research and the delegation of experts for international cooperation. Unfortunately, practice demonstrates that not all countries do this properly.

The Arctic Council is an international organization and respectively scientists need the permission to participate in its activities from their home country's ministry of foreign affairs and not necessarily scientific and governmental interests coincide:

> "We've tried from the side of marine mammals to work in CAFF ... but everything bumps into the fact that our state structure, the Ministry of Natural Resources and the Ministry of Foreign Affairs, they de-facto do not delegate us there, we cannot go there by ourselves ... We must somehow be delegated there as specialists, so that we are not there on our own, but represent the country."

Lack of funding was also mentioned:

> "The main problem is his financing of this participation, no matter how ridiculous it may be, but our system is built in such a way that an expert must go there for his own money and participate in these meetings. Sometimes CAFF is meeting somewhere in Greenland, where only the flight ticket is extremely expensive. Accordingly, if there are some conditionally sponsors, then a person can go. Our state experts, who are not regular employees of the ministry, are not supported in their trips."

Thus, given their initial lack of engagement, it would seem strange if those countries implemented the results efficiently. It is well proved on the example of Sweden:

> "At the ministry there are some kind of pretty prominent people and people that actually are able to make things happen and secure money and things like that. And they actually want Sweden to engage. So as long as those people are there, then it's going to be easier for me to do my work."

And from the CAFF report it is seen that among all Arctic states Sweden is the one implementing the most CAFF regulations (Barry et al. 2020).

Accordingly, according to the analysis by WWF that included a biodiversity category, Sweden has reached the highest score among all other countries for implementing CAFF guidelines. And still, it has reached just the mark B - which means encouraging progress towards implementation while other countries received C or D - some or little progress on implementation (ibid.).

Lack of interest is also seen in statement that arctic marine mammals are not studied enough now, what makes all the work harder – it is impossible to negotiate discussions between different states and indigenous people when there is not enough scientific knowledge on the issue. All of the participants from the study agreed that the Arctic and arctic marine mammals are hugely understudied.

2. Gap in delivery channel between the AC and governmental structures

On figure 8 organizational structure is depicted:

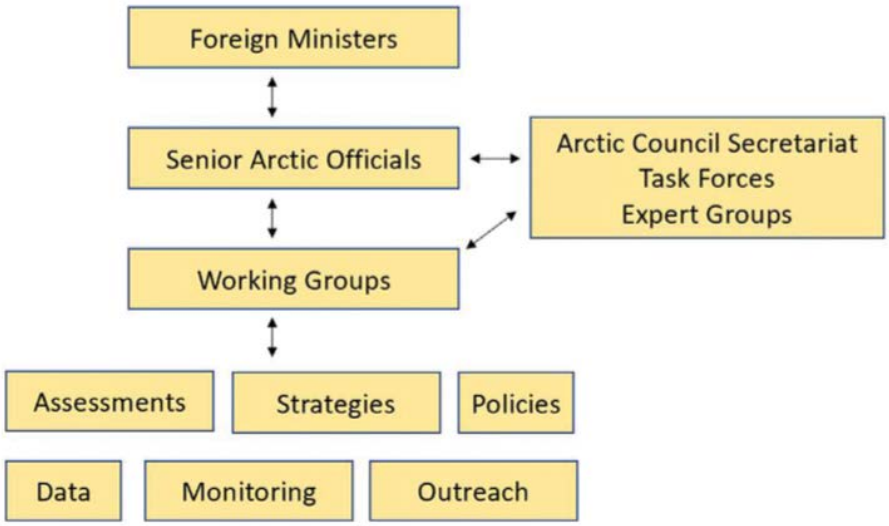

Figure 8: Organization of the Arctic Council (Barry et al. 2020:3)

There is a chairing country for every working group for two years, as well as for the Arctic Council in general. Accordingly, every member state has an official representative in each working group, the so-called Head of Delegation. All key results are delivered from the working group to a higher level of Senior Arctic Officials (SAO). Thereby, there are several ways of the information to be provided into the internal governmental structures: either through head of delegation in CAFF or through representatives in SAO meetings.

In some cases, these informational channels can turn out to be working not that efficiently. The interviewees have identified the following issues concerning this problem:

> "So far, we have the only one person there [CAFF], who puffs for everyone, he is a polar bear specialist and for all marine mammals and so on, but he already has no strength, he is over 80 and he is the only one there so far."

And:

> “But it's not really that I have to go back to my ministry or my agency. Maybe I should. Well, not maybe, I should do that more, but it's a matter of time and energy again. I don't go back to the ministry telling them, OK, now we within CAFF have produced a new action plan for this or that species or whatever.”

From these quotations it is seen that the role or any formal qualifications are not assembled within the position of HoD. So, the country's official representative (HoD) in CAFF is not required to inform his ministry of the outcomes and conclusions of the conducted work. This role, like many others in the Arctic Council, remains entirely voluntary when it comes to questions of sharing the information. In this case, the personal human factor can take on a greater significance, which can have a detrimental effect on the process. For instance, if a person is lacking time or energy, this information channel between the AC and the internal ministries of Arctic states will not work out.

Another possibility for issued recommendations to reach the internal governmental systems is SAO meetings. These meetings have a bigger weight on international arena, but there are also some limitations:

> “In the Arctic Council, after the meeting of foreign affairs ministers, there are such recommendations for decision-makers, something like brochures, they pay pretty good attention to them, because they confirmed it at the highest level, and accordingly this is not just the level of expert recommendations, but ... an Arctic interstate agreement or something. It does matter. But not many statements of any kind get there, so perhaps ... it might make sense to make some efforts so that this initiative is reflected there.”

So, as it seems from this excerpt from the interview, this informational channel is valued more, but not so many initiatives reach that level and thus recommendations regarding marine mammal management, since they are not the main focus even within CAFF, can possibly never ever even reach those people who work in internal ministries. This fact was also mentioned during the interview:

> “No one here knows anything about their recommendations. In the agency they try to reinvent the bicycle.”

3. Different goals and cultures among many countries

One of the reasons why the work in the AC is less efficient than in other advisory organizations is the difference in historical and cultural development of membering countries. For instance, NAMMCO is a smaller organization, but there are still four member states that are affected by this issue less than the AC:

> “And those four member countries are actually very, very much aligned in how they view, what the key values are for managing marine mammals. They believe in the sustainable use of marine

> mammals as a living resource… It is historically that their cultures are quite close. There are not dramatic cultural differences between the countries."

And:

> "They respect each other with what we're focused on, which is on the management of marine mammals. And there is a common foundation of shared values. And there is a common history and a willingness to kind of respect each other's domains and positions."

Thus, there is a bigger cultural and historical difference within those countries that are member states of the AC, also because of regional differences it may be easier for Norway and Denmark to negotiate than for USA and Russia, for instance.

4. Status of organization

Another thing that was mentioned to influence the feasibility of CAFF recommendations regarding marine mammals is the status of organization within the global scientific community. It was noted to influence its "visibility" for internal governmental structures:

> "Some time ago, I don't remember, five-ten years ago, the Arctic Council was generally treated as if it didn't exist."

And:

> "IUCN is a solid organization ... It is an international organization with a good status and strong publications, and therefore there is attention to it, we have a representative in IUCN."

Or:

> "We have WWF, a public organization, which, in principle, also pays attention to all these things and tries to convey it to the ministry … They have quite a lot of strength, they have great influence."

5. Size of organization and focus on the target

There are six working groups that work with the Arctic ocean, pollutants, emergencies, arctic peoples, climate and biodiversity. There are more than thirty ongoing projects among them, and ten in CAFF (https://arctic-council.org/en/projects/). Being such a big organization and covering so broad Arctic issues carries certain limitations - in some ways, quality begins to yield to quantity. This factor was mentioned with the interviewees from NAMMCO, which work was acknowledged to be very efficient:

> "Being a small organization with a very focused target, it helps for efficiency, obviously, in terms of focused on marine mammals only in the North Atlantic. We have an area that's defined and relatively contained and small in a way. We have the focus on marine mammals"

And:

> "Also, because our area is smaller, so, I think in that sense, I think we are more efficient than the CAFF or the Arctic Council"

Additionally, it is contingent upon whether the species under discussion are included on a red list or not. It is easier for member states to negotiate and actually take action in the case of red-listed marine mammals because the threat is obvious and time pressure becomes more influential. However, when it comes to harvested species that are widely distributed nowadays, the threat becomes masked, and management of such species does not rank high on ministries' priority lists. Additionally, widespread animals are harvested and viewed as a "resource" for the country in the majority of cases. Then the government may not want any external influence or intervention:

> "I just saw how the IUCN recommendations are perceived for example, yes, but if it concerns harvested species, then nothing. You cannot approach this agency at all. If this concerns the Red list species, then yes, attention is drawn there."

How has this representation of the 'problem' come about?

This question within Bacchi's WPR approach implies a consideration of conditional practices and processes through which an understanding of the "problem" emerged. Such representation of the problem appeared among experts that participated in the interviews. All of them represent the Arctic countries and collaborate or work with the Arctic Council in the process of international cooperation within CAFF.

What is left unproblematic in this problem representation? Where are the silences? Can the 'problem' be thought about differently?

This question is accompanied by an inventive imagination of potential alternatives or how this problem could be worked out or mitigated, which will be the focus in presenting further findings.

Since the Arctic Council as a matter of fact is those eight countries and six permanent, it is impossible to just expand its mandate and make all countries follow the regulations obligatory. It is impossible also for the secretariat to influence internal governments to participate more actively. As it was stated by the interviewee from CAFF's secretariat:

> "It's up to a country to decide the extent to which they want to participate, because the way the council is set up, there's no obligation. It's all done on a voluntary basis."

As well as participation, reporting on the work done by the country is a fully volunteer activity:

> “Since the Arctic Council is the consensus organization where we work together and there are never any legal... there are no obligations and all the members can do whatever they want.”

And:

> “The members want to report back and we are expected to at least report something, although it's not perhaps as formalized as it is within the EU or other international CBD [The Convention on Biological Diversity] or other international agreements or conventions. So it's more like voluntary reporting option or something like that.”

So, one step to try to elaborate the working process and make it more efficient is to make a reporting function more obligatory. That would make the process of finding funding for scientists easier and more approachable. Now it seems like the most interested party in reporting back the results is respectively the country that was implementing the project:

> “If it's something that we are really engaged in, then we would be also engaged in reporting back to CAFF. But if we're not really engaged, then again, it's also a matter of my personal or my work time. How much time and effort can I put into something so it depends wildly between member states and then projects and engagements how much you actually report back and how much you actually do.”

A positive example in a resembling situation can be the structure of work in NAMMCO, where representatives from government discuss to what extent they have implemented scientific advises from the commission:

> “You want to understand why the member country has made a different decision? You certainly can't just say, OK, do whatever you want. You want to understand the basis for their justification. So that's often what we have in our annual meetings where we're hearing from our member countries. If they don't follow the advice they're explaining to us, why not? And what additional factors and features came into their evaluation and account.”

For the Arctic Council it is not that easy to implement, since it is the organization of another level and different specialization. While this may make work and finding funding easier in some countries, for others it may, on the contrary, become an aggravating circumstance that inhibits work:

> “There's a risk in making things more mandatory or binding, because then it could be that the members are sort of "well, OK, but no, no, no. This is not something that we want to do”.

But at the same time this question is discussed and some participants see the need for a change in a system:

> “I think something needs to happen now because... maybe especially now that we see the process within marine mammals report, that's something that needs to be taken care of. And I think that feeds into a lot of other areas of how CAFF should work”.

Among all there were such risks mentioned that it would take longer time with this reform:

> “That would probably make some processes take even longer to get anywhere, because you have to sort of claim what your country wants in everyone's faces. So it's kind of something that we would probably lose momentum or could lose momentum if we try to make things more binding.”

Additionally, doubts were expressed about the organization's ability to manage such a large number of countries politically:

> “I am pretty sure that would never happen because... I think that the members would say just, you know, "no" to reform the Arctic Council if it's even politically possible.”

What effects are produced by this representation of the ‘problem’?

Effects of this problem may vary depending on the Arctic State. Those countries that already have well developed policy for marine mammals are less affected. However, representatives from some other states mentioned that one of the biggest problems for marine mammal management is insufficiently developed legislation:

> “There was the conference on marine mammals of the Holarctic, there was a whole discussion organized by WWF about this [marine mammals’ problems], and the basic one is legislation that has not been worked out for marine mammals at all.”

5.2. Ecosystem-based management approach that both NAMMCO and the Arctic Council claim to use does not provide an efficient structure of the process

Another central problem revealed to be lack of exposition of ecosystem-based management approach. Initially, the discussion of the application of this approach was on the agenda of the interview guides after doing research on this topic in secondary information sources and discovering several critical papers. The problem has resurfaced through interviews as well as some other problems related to it. A more in-depth review follows.

What's the 'problem' represented to be in a specific policy or policies?

As it was stated before, according to the theoretical WPR approach the first question for analysis is identifying the problem. This problem formulation does not belong to the interviewees but was raised during the preparation for the interviews.

This research explores the role of 2 international advisory bodies in the arctic marine mammal management – the Arctic Council and NAMMCO and both organizations claim to use ecosystem-based management approach in their work. The Arctic Council's Ecosystem-Based Management Expert Group in its report (2011-13) proposed that the Arctic Council adopt a policy commitment to EBM and defined EBM as:

> "EBM is the comprehensive, integrated management of human activities based on best available scientific and traditional knowledge about the ecosystem and its dynamics, in order to identify and take action on influences that are critical to the health of ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity."

In order to achieve main goals of EBM, it was also encouraged to use of the revised map of seventeen Large Marine Ecosystems to inform EBM implementation; and explore the development of terrestrial assessment units (landscape equivalents to LMEs) based upon ecological criteria or existing ecoregions (ibid. p.5).

NAMMCO looks at the marine ecosystem as a whole, and provides advice based on science, local knowledge and technological developments. The Management Committees appointed Ad Hoc Working Group on Enhancing Ecosystem-Based Management (EBM) up to 2016.

The grounds and consistency for the assumption that the lack of elaboration of the ecosystem-based management approach can limit its application for marine mammal management was tested and broadly discussed during the interviews.

What presuppositions and assumptions underlie this representation of the 'problem'?

Foundation for this problem representation was given by the scientific articles that criticize ecosystem-based management approach in general and its current implementation in real-life cases. EBM has gained international popularity in recent years, but the lack of consensus on its definition has precluded the use of a universal implementation framework (Long et al. 2015).

Some scholars state that evidently EBM lacks a definition and a standardized 'grammar,' which may impede implementation (Long et al. 2015, 2017; Willaert et al. 2019); EBM needs substantial data and sophisticated modeling (Addison et al.

2019); EBM is associated with naive attempts to describe complex and adaptive systems by squeezing the universe between our fingers; and, and, on a more practical level, neither sufficient resources nor a clear mandate and institutional framework for EBM exist in current legislation (Curtice et al 2012, Nilsson and Bohman 2015; Link et al. 2019).

Long et al. also state that EBM is implemented in a variety of ways, utilizing a variety of different principles. The relative importance placed on ecological, social, and governance factors (Bianchi 2014) will vary according to the EBM principles used, their degree of application, and the overarching objectives of the organization implementing EBM (Morishita 2008). For example, the Food and Agriculture Organization of the United Nations (FAO) Ecosystem Approach to Fisheries, which emphasizes the balance of ecological, governance, and socioeconomic factors (Bianchi 2014), is distinct from the Ecosystem Approaches adopted by various government and nongovernmental organizations, such as Greenpeace's Ecosystem Approach (Greanpeace).

How has this representation of the 'problem' come about?

The problem representation of insufficient guidance provided by EBM and some of the critique towards it has resonated within the respondents, both within representatives from different Arctic states and secretariat of the Arctic Council and NAMMCO.

The interviewee from the CAFF Secretariat has mentioned only the importance of the EBM in their work:

> "And a key message that you can see increasingly coming from our assessments for 25 years is that there's a need for a more holistic approach or integrated approach to understanding change to facilitate management in the Arctic and EBM is the approach that's becoming much more prevalent in the Arctic Council …. There's a big push now that you need to combine biotic and abiotic parameters to have a better understanding. So ecosystem approaches is an important thing."

But at the same time the person that works with CAFF but outside of the secretariat has noted the following issue:

> "I'm not sure if I would use the word too generic, but I'm also not sure if EBM is settled yet … it's not that I think that we are disagreeing on things, but I'm not sure if it's formalized or if it's settled enough within CAFF, that we're actually working with it as much as we could or should, or that it influences the CAFF work to that extent to the extent that it should be…"

Another interviewee started the discussion about EBM from the question:

> "To answer your question, I need to hear what exactly you mean by ecosystem-based management, because everyone has a slightly different idea of it. In the European part, this is one story, the Americans perceive it a little bit differently."

He has also mentioned that in his country some governmental bodies that are engaged with marine mammal management the EBM approach is not formulated at all, so it is not clear how recommendations that are issued basing on the concept of EBM can be implemented in a completely different system that operates other terms:

> "Unfortunately, it is difficult to explain you now what the ecosystem-based approach in the agency looks like, because they do not have such a concept at all, they have the concept of a water-biological resource and they base on the resource, and not the ecosystem in which this resource is located"

Though he also mentioned that it also may depend on specific species of marine mammals and for endangered species this approach is more applicable since they are managed by another ministry:

> "With regard to another agency that is engaged not with harvested species but with endangered, there is such a concept as EBM, and when applying for the catch of any red list species, the applicant must accordingly indicate in the application how the removal or impact on the red list animals will affect the ecosystem in which it is located".

What is left unproblematic in this problem representation and how could that be solved? Where are the silences? Can the "problem" be thought about differently?

The next question according to the WPR approach is exploring silences and those aspects that were left unproblematic in the problem representation that ecosystem-based management does not provide the sufficient structure for managing marine mammals. To facilitate comprehension, this section also explores how these silences might have developed and how they may be solved.

As it was already described before, EBM approach is a general principle with a holistic worldview. While it was created for ecosystem management, it fully ignores issues regarding individual approach, in this case for marine mammals.

EBM can be considered as a form of biopolitics in marine mammal management in advisory bodies. But there is also another branch of biopower - anatomo-politics, which in case with marine mammals means handling individuals. Individual problems of marine mammals can vary – it includes treatment of injured animals that are ill or were injured by human activities in rehabilitation centers and policy on extraction and release of wild marine mammals from and back to nature. Marine mammals face an array of threats from human activities, including bycatch in fishing gear, collision with vessels, hunting, disease and habitat degradation and

loss. Globally, 100.000 marine mammals die every year as a result of plastic pollution. This includes whales, dolphins, porpoises, seals and sea lions (WWF 2018). The report from the Natural Resources Defense Council (NRDC) conservation group, suggests that more than 650,000 marine mammals are killed or seriously injured every year - trapped or entangled by illegal nets or longline hooks (2014). Interpretation of this number can vary, it can be perceived as a big number, but there are 119 species of marine mammals in the world, and there are several million individuals only in the Arctic region, so it may be considered as less important problem. But the main problem remains – big or small, there is an issue and it is not approached within any of the EBM guides.

There were different points of view on this issue represented:

> "No, that's [individual rehabilitation] never been something that's popped up in the in the Council" – interviewee from the AC

And:

> "No, NAMMCO never done it and I don't think it will come to it. It works with the species at the stock level" – interviewee from NAMMCO

But at the same time interviewee from one of the member States expressed more interest towards this issue:

> "Rehabilitation and individual health, nursing those animals that are in trouble due to humans, in our country this is being done by public organizations… They have this problem, if you get an animal sick, it is legally regulated withdrawing of an animal, you must have conditional permission to take it out, no matter if it is sick or healthy. This system is not systematic and has not been worked out… And there is no legislation that would allow the return of old animals from oceanarium for example to nature without some conditional presidential decree or government decree. All this is done individually, almost in manual mode".

Thus, the Arctic Council is too big and solid organization to engage with the problem on individual level, NAMMCO as organization managing mostly harvested species that are not endangered is not interested in it either unless it does not influence the stock. But the interest from some countries exist and when such cases appear it is not clear how to solve them, especially when they become international:

> "Now the question is, for example, a beluga whale that fled from Russia to Norway. It has already tortured the Norwegian fishermen there and they threaten to shoot it, because everyone there is already tired of it. But the question is actually what to do with it. It must either be caught and transported somewhere and kept there or... solve this issue somehow. How the Norwegians will solve this is not very clear, but the question is urgent"

Or

> “There was also a story with a whale prison, it ended with something, maybe not as optimistic as we would like, but still they were not sold to China, they were released”

So, the issue is very complex and there are several reasons why organizations prefer not to engage with it:

> “If a stock is not in danger and our species are not in danger, then it's not worth rehabilitating one animal. Also, because in a lot of the rehabilitation work, the animals are rehabilitated. Either you keep them in captivity, which is not automatically the best for them, either you release them and often you don't follow to see what is happening. So, in a lot of cases, we don't know. In a lot of rehabilitation programs, you have actually very little knowledge of what is happening and what is the actual effect of the rehabilitation at the population level”

The reasons for international organizations ignoring anatomo-politics are understandable. There are several reasons for them to remain independent of this issue. One is that single individuals do not have a significant impact on stock indicators, and this issue is expected to be managed regionally in the majority of cases. Another funding consideration is funding – dealing with individuals is not a high-priority task that would require international collaboration between various countries. Additionally, there is a dearth of knowledge regarding the effectiveness of rehabilitation efforts – in the majority of cases, animals are simply released back into the wild without a tracking device attached. As a result, the rate of truly successful cases is difficult to predict.

But at the same time another interviewee has noted another feature:

> “How much this affects the ecosystem and so on is a difficult question, because from biological point of view it is a mass species, then all rehabilitation, releases and so on, they certainly draw in the total number of animals, but this is more of a social aspect.”

None of the interviews said that rehabilitation work should be carried out because humans should be responsible for the side effects of their activities, and it turns out that people now have complete power over individuals. The social aspects mentioned are an important reminder. The story of the Whale Prison caused a huge resonance among ordinary people from different countries and even Hollywood stars. People who are not directly engaged with marine mammal management see the injustice and incorrectness of the situation when single individual animals suffer and die because of humans. For people who are directly involved in the management of marine mammals, at the moment, the priority goal is to keep populations at a stable level and to meet the other needs for which marine mammals are needed, therefore activists, rather than governments, stand up to protect individual animals. A possible direction for improving this situation is precisely to

attract the attention of international organizations. Within the framework of the AC, a group could be created to study the effectiveness of the rehabilitation of marine mammals, as well as the creation of common international rules and regulations for the treatment of marine mammals.

What effects are produced by this representation of the 'problem'?

Uncertainty in approach and a dearth of indicators for evaluating the results of completed work cloud the AC's true role. As a result, different experts view its role in marine mammal management differently - some do not consider it to be a part of the management system or advisory body at all. Within EBM monitoring is a key component for assessing populations. And even though the Arctic Council is mostly engaged with merging monitoring data and advices, some participants even do not consider this work as part of marine mammal management.

Even within one organization people can see its role differently. For instance, these are the statements from 2 different people working in NAMMCO:

> "I think CAFF and NAMMCO they are both bodies involved in the management of marine mammals in the Arctic, but they may not be advisory bodies."

And:

> "CAFF is never giving management advice. They don't produce management advice. They are giving a lot of monitoring advice."

Interviewee from CAFF itself has also stated that he does not consider work of CAFF with marine mammals as part of their management system:

> "CAFF isn't like NAMMCO… NAMMCO operate independently and provide clear advice. We are consensus-based body. So, when it comes to marine mammal issues, we try to see if there's a great overall trend in the ecosystem in question... We conduct assessments and then we deliver the advice for monitoring of key findings and recommendations...let's say NAMMCO or something where they have a very clear, specific role, a task, independent science. It is all slightly different. I wouldn't say that the Arctic Council is part of the marine management system".

Whereas a representative in CAFF from one of the Arctic states has noted the opposite:

> "I would say [that CAFF is part of the marine management system]. For me it's obvious that different products or guidelines or data is used in different member states when they're formalizing or producing their own guidelines or management plans or whatever products."

This fact may be one of the factors affecting the overall effectiveness of CAFF regarding work with marine mammals. We can see from NAMMCO's example that they have a well-defined role and are also recognized for their efficiency and productivity, and these two factors may be related.

6. Discussion

The results demonstrated several problems in marine mammal management in the Arctic region within two international organizations: the Arctic Council and NAMMCO. At the center of the research there are two problems mentioned, the lack of implementation of the AC recommendations and confusion of the ecosystem-based management approach in both of the organizations. In the process of analyzing these problems, other interrelated problematic issues were also mentioned: different goals and lack of interest from internal governing structures in some of the Arctic states, lack of funding, gap in delivery channel between the AC and governmental structures, low status of the AC from the point of view of some member states agencies, lack of scientific knowledge on marine mammals, lack of indicators for working process, lack of international coordination on management of individual animals.

Numerous issues identified in this work confirm other more extensive studies on the structure of the AC work and also demonstrate that those problems have an impact on the area of marine mammal management in particular.

Thus, Kankaanpää & Young's (2010) work from more than a decade ago demonstrates very similar findings. Their survey of those involved in the AC's work also identified the following issues: the main constraints on the AC's work were identified as a lack of a reliable source of funding, not following up on implementation of its recommendations, a lack of interest from member states in Arctic issues, and a lack of authority to make binding decisions. All of these constraints were reflected in this work, which attests to their current viability in the field of marine mammal management. The need for a change in some organizational features of the Arctic Council was also noted in the article by Exner-Pirot et al. (2019). They recognize the vulnerability in discretionary funding. They point to the fact that all activities are funded *ad hoc* by the states that advocate for them and by individual experts who ensure their own financial support through national channels as a reason for the lack of strategic planning and the inability to organize new activities beyond a one- or two-year gap (time of chairmanship).

The question was raised that a more formal legal structure would reinforce the Arctic Council and enable it to be more forceful in implementing and monitoring

policies such as environmental regulations (ibid.). But, as the authors of the article rightly noted, in that case the permanent participants (indigenous people organizations) would by definition excluded from decision-making, as they have no obligations under international law. As they harvest marine mammals in case of marine mammal management it would be injurious since they are critical for this process in the Arctic.

NAMMCO, another international organization tasked with the management of marine mammals in the Arctic region, is less influenced by the issues impeding the Arctic council's work. Numerous factors contribute to NAMMCO's increased effectiveness. To begin, there are more transparent mechanisms for assessing the recommendations' implementation. It is typically discussed at the annual meetings of officials from member countries, and if a recommendation is not implemented for some reason, an explanation is provided. Another factor is member states' proximity - as close neighbors, they have historically developed shared worldviews, cultures, and goals. Within NAMMCO, they understand the value of the process and have mutual respect. Another factor is the narrow focus on a small area and only marine mammal species. Additionally, at the organization's twenty-fifth Annual Meeting (2017), the organization agreed to conduct the organization's first-ever performance review. It established a process outlining the Review's objectives, terms of reference, panel selection, assessment criteria, procedure, and administration.

According to all study participants, the EBM approach appears to be beneficial for marine mammal management and is consistent with numerous studies on the subject (Ha 2020, O'Higgins, Lago & DeWitt 2020, Robinson & Culhane 2020). However, interviews have revealed that the critique is also true when it comes to marine mammal management, which has a long way to go. Both organizations (the AC and NAMMCO) do not view EBM as a modular system (consisting of governance, socio-economic, pollution & ecosystem health module, etc.). In each case, indicators for the state or development of each module are ignored, making it difficult to monitor and comprehend the current holistic situation, including which areas require additional efforts.

Thus, it would be beneficial for both organizations to elaborate on official indicators that could be used to track successes in marine mammal management (including monitoring and states of populations assessment).

For the Arctic Council there is also an opportunity to influence treatment with individual animals. Nowadays, the world operates in such a way that humans exercise complete power over all other animals on the planet, including marine mammals. As EBM is viewed as a primary biopolitical practice in wildlife

conservation, it is hoped that international and regional organizations will implement it in a holistic monitoring and data collection effort for marine mammals. All at the same, another aspect of biopower is frequently overlooked. This fact demonstrates that modern society places a higher premium on species health than on the health of individual organisms in some of the Arctic states. This may seem logical in terms of species conservation, but it is incorrect in terms of responsibility and so-called humaneness.

Unfair standards are evident in this case, and by default, a human's vision of himself takes precedence over the animals around him. When it comes to individual health, there is a sizable area of health care that guards the preservation of human life, not because it will preserve human as a species, but because people help one another as social beings. Many marine mammals are also social creatures, living in families, having their own communication channels, and caring for the elderly. However, individual protection is frequently overlooked in modern legislation, despite the fact that there are incidences on both a regional and international level, as demonstrated in the results. In anatomo-politics, social organizations and selfless volunteers who organize rehabilitation centers wield significant power. While the reasons why large international organizations are not related to anatomo-political practices are understandable, particularly now when the sea ice in the Arctic is melting and species are becoming more and more transboundary, there should be a comprehensive legislation on marine mammal management in terms of treatment, withdrawal and release to wildlife. And, rather than avoiding the issue, international organizations like the Arctic Council could contribute by acting as an agent, bringing attention to it and initiating discussion, because as long as volunteer organizations fulfil this role, the government will not feel accountable for it.

Based on the results of this study, the problems that people in and working within CAFF have mentioned, these recommendations are provided that could possibly improve the Arctic Council’s form and function as it undergoes a strategic planning process:

1. Establish a stronger informational channel between CAFF and internal governmental structures. That could be reached by elaborate and more strictly defining the role of the HoD within CAFF;

2. Try to include more initiatives regarding marine mammals monitoring in reports for SAO since they have a better recognition for internal governmental structures of the member states;

3. Elaborate feedback receiving mechanism for a better understanding why some recommendations have not been implemented or vice versa, what

has become the key to success in implementing guidelines. Given the controversial nature of this issue and the uncertainty surrounding its implementation at the moment, it may be prudent to place it on the agenda of CAFF meetings more frequently and monitor the results as a starting point.

The collected during this research data contributes to a better understanding of international cooperation in marine mammal management in the Arctic region. It demonstrates how the structure of the AC and NAMMCO's work influences marine mammals issues, including which problems are encountered and why. Additionally, it makes recommendations for elaborating on concerns.

The generalizability of the results may be constrained by the sample size. The research is based on the opinions of researchers and government officials from the Nordic Council member states and the Russian Federation, but not from the United States of America or Canada. Further research is required to ascertain the perspectives of scientists and officials from North American countries, as well as observers and indigenous participants. However, the results of six interviews with experts intimately familiar with the AC's and CAFF's or NAMMCO's work constitute a valuable data set that correlates with comparable studies.

Future studies should bear in mind that March is one of the busiest months for both organizations, and that it is preferable to conduct interviews or surveys after or before that month. Further research is needed to examine other problem representations within these two organizations as well as structure of other international organizations involved in marine mammal management and analysis of successful examples that could be implemented for raising effectiveness of the AC and NAMMCO.

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Acknowledgements

I am deeply grateful to Swedish Institute that provided me a scholarship and this opportunity – without it, these two years and the experience that I gained (equivalent to much more years) would never happen.

I also thank my dear friends from Environmental Communication and Management program in Uppsala – you became my second family here.

Last but not least, my appreciation goes out to my family and friends back home for all the encouragement and belief in my abilities – I was never alone.