

# Arctic Council

## Arctic Marine Strategic Plan 2015-2025

*Protecting Marine and Coastal Ecosystems in a Changing Arctic*

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### The Arctic Marine Strategic Plan

The Arctic Council is a high-level intergovernmental forum to provide a means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic Indigenous communities and other Arctic inhabitants on common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic. In 2002, the Arctic Council agreed to develop a strategic plan for protection of the Arctic marine environment. In fulfilment of this agreement, the first Arctic Marine Strategic Plan was published in 2004.

The decade since 2004 has been one of rapid climate change, increasing human activity and new emerging threats such as ocean acidification. The speed, pervasiveness and diversity of Arctic change create new challenges and opportunities for sustainable development and environmental protection. In order to address these issues, a second Arctic Marine Strategic Plan for the next decade has been developed by the Working Group for the Protection of the Arctic Marine Environment (PAME) in cooperation with Arctic Council member states, Permanent Participant Organisations, other working groups and observers.

The Arctic Council's Arctic Marine Strategic Plan 2015-2025 sets forth the rationale, frameworks, and strategic actions that will guide the work of the Arctic Council, its Working Groups, and its other subsidiary bodies.

*[Note: Towards end of developing process add text describing process, motivation, and possibly main thrust of the new plan]*

## 1. Introduction

The Arctic Council's Arctic Marine Strategic Plan (AMSP) for the 2015-2025 period provides a strategic framework for protecting Arctic marine and coastal ecosystems and promotes sustainable development in the region. It articulates the ways in which the Arctic Council can increase its collective understanding of the effects and impacts of human activities in the Arctic, climate change, ocean acidification, and support conservation and sustainable use of the Arctic marine environment. It takes into consideration the need for forward looking cooperation with a view to increase the capacity to adequately act upon and adapt to during this period of rapid change.

The AMSP also addresses the need to understand and shape Arctic change by recognising that sustainability is achieved on the basis of a resilient Arctic environment and resilient Arctic communities. The strategic actions identified in the AMSP will guide the work of the Arctic Council, its Working Groups, and its other subsidiary bodies in the coming decade and will also contribute to operationalizing of the Arctic Council mandate.

## 2. Vision

The Arctic Council's vision for the Arctic marine environment is:

***Healthy, productive, and resilient Arctic marine ecosystems that support human well-being and sustainable development for current and future generations.***

## 3. Strategic Goals

The goals of the 2015-2025 Arctic Marine Strategic Plan are to:

**Goal 1 Improve knowledge of the Arctic marine environment, and continue to monitor and assess current and future impacts on Arctic marine ecosystems.**

**Goal 2 Conserve and protect ecosystem function and marine biodiversity to enhance resilience and the provision of ecosystem services.**

**Goal 3 Promote value creation through safe and sustainable use of the marine environment, taking into account cumulative environmental impacts, and minimizing risks of negative impacts from human activities.**

**Goal 4 Enhance the well-being of Arctic communities and strengthen capacity to adapt to changes in the marine Arctic.**

## 4. Scope

30 This Strategic Plan covers all Arctic marine areas and relates to all key activities affecting Arctic  
 31 marine ecosystems; including coastal zones, river basins and other areas that are connected to the  
 32 marine ecosystem.  
 33  
 34 The AMSP addresses influences on the Arctic marine environment regardless of whether or not they  
 35 originate from within or outside the region, recognising that Arctic marine areas are connected to the  
 36 rest of the world through chemical, physical, biological and human interactions.  
 37  
 38 There is no agreed definition of the geographical extent of the Arctic. Arctic Council member states  
 39 will define their relevant Arctic areas which may vary depending on the context. For example, the  
 40 Arctic can be defined by using the 10 degrees C July isotherm, by latitude (the region north of which  
 one experiences at least one day 24 hour sunlight-66 33'39" N).  
 41  
 42 [**\*\*NOTE:** include a map on the inside cover – the same as the 2004 AMSP on “Arctic Seas and  
 Coastal Areas”]

## 5. Context

### 5.1 A changing Arctic

44 Arctic marine and coastal ecosystems are places of abundant  
 45 natural resources and are widely pristine. They support diverse  
 46 services that benefit people from within and outside the Arctic and  
 47 are integral to the well-being of the people living in the Arctic.  
 48

49 Arctic climate and ecosystems are changing rapidly as a result of  
 50 human activities, regionally and globally. Assessments carried out  
 51 over the last decade under the auspices of the Arctic Council (see  
 52 sidebar) have improved our current understanding of changing  
 53 arctic conditions and their impact on the environment,  
 54 biodiversity, oceans and human health and have documented that  
 55 the effects of climate change, sociocultural change, and economic  
 56 change in the Arctic are putting an unprecedented and increasing  
 57 strain on the Arctic marine environment.

58 The Arctic is also at the forefront of global climate change,  
 59 primarily as a result of activities occurring far from the region. The  
 60 UN Intergovernmental Panel on Climate Change (IPCC) concluded  
 61 in its Fourth Assessment Report (2007) that average Arctic  
 62 temperatures have increased at almost twice the global average  
 63 rate in the past 100 years. In its Fifth Assessment Report (2014),  
 64 the IPCC confirmed that the Arctic is continuing to experience rapid  
 65 climate change with reductions in sea ice and areas of permafrost,  
 66 and now predicts that a nearly ice-free Arctic Ocean in September

**Relevant Arctic Council Assessments**

- ❖ Arctic Human Development Report (AHDR 2004)
- ❖ Arctic Climate Impact Assessment (ACIA 2005)
- ❖ Snow, Water, Ice and Permafrost in the Arctic assessment (SWIPA 2011)
- ❖ Arctic Biodiversity Assessment (ABA 2013)
- ❖ Arctic Ocean Acidification Assessment, 2013
- ❖ Adaptation Actions for a Changing Arctic (AACA)
- ❖ Arctic Oil and Gas Assessment 2008
- ❖ Arctic Marine Shipping Assessment (AMSA 2009)
- ❖ Others?

**Comment [A1]:** Note AMAP’s comment that they would like to see more detail on the effects/interactions between the changes occurring and marine ecosystems- A diagram would be good way to demonstrate but a source is needed

67 is likely before the middle of this century.<sup>1</sup> The Arctic Biodiversity Assessment (ABA 2013) found that  
 68 climate change is by far the most serious threat to Arctic biodiversity and that current trends point to  
 69 major transformative changes in ecosystems within a human life span, including loss of entire  
 70 habitats, such as multi-year sea ice.<sup>2</sup> Ocean acidification, primarily caused by absorption by the ocean  
 71 of increased levels of CO<sub>2</sub> in the atmosphere, is occurring rapidly throughout Arctic marine waters.  
 72 This can result in reduced formation of shells and organism growth which again affects the food  
 73 supply for fish, birds and mammals. The economic impact of  
 74 ocean acidification could be substantial.<sup>3</sup>

75 Increasing industrial development and marine transportation  
 76 are other significant drivers of change in the Arctic. Growing  
 77 industrial development and shipping can facilitate social and  
 78 economic development in the Arctic through increased  
 79 investment in infrastructure, employment and tax revenue,  
 80 and can furthermore reduce the time and cost of transporting  
 81 good to remote Arctic regions. However, it will bring with it  
 82 challenges such as a potential an increase in local sources of  
 83 contaminants. The Arctic is already a major recipient of  
 84 chemical pollutants, such as Mercury and Persistent Organic  
 85 Pollutants (POPs) carried to the Arctic through  
 86 transboundary, long range atmospheric and oceanic  
 87 transportation. The ecosystems and the people living in the  
 88 Arctic may be exposed to these pollutants through the food  
 89 chain at levels that are of concern to health authorities. Due  
 90 to our increased awareness and understanding of the impacts  
 91 that long range pollutants have on the health of people and  
 92 wildlife in the Arctic, global action is being taken to reduce their sources.<sup>4</sup>

“Three out of four indigenous people perceive climate change to be a problem in their communities and more than 50 per cent mention local contaminated sites, pollution of local lakes and streams and pollution from industrial development as problems in the region. ...despite the rapid changes in the Arctic, most indigenous peoples have maintained their traditional subsistence activities.” Survey of Living Conditions in the Arctic (SLICA) SNWG 2011

**Comment [A2]:** Note suggested text by SDWG moved to text box below

93 Social and cultural changes occurring in many Arctic societies are affecting the ways of life of people  
 94 in the Arctic, including notably, Indigenous peoples'. These changes can be expected to affect human  
 95 health as well as the health of the marine environment. The Indigenous peoples in the Arctic have  
 96 proven to be highly adaptable, securing their livelihood in a dynamic and challenging environment.  
 97 However, the rate, magnitude and diversity of current and projected changes in the region may  
 98 challenge the adaptive capacities and range of adaptive choices available to Arctic Indigenous and  
 99 local communities.

100 With this Strategic Plan the Arctic Council will aim to guide sustainable development in the Arctic and  
 101 to address the challenges and opportunities posed by a rapidly changing Arctic marine environment,  
 102 and increasing human use.

<sup>1</sup> Climate Change 2013: The Physical Science Basis, Fifth Assessment Report: Summary for Policy Makers, Intergovernmental Panel on Climate Change 2013

<sup>2</sup> Arctic Biodiversity Assessment, CAFF 2013

<sup>3</sup> Arctic Ocean Acidification Assessment, AMAP 2013, (key findings 1 and 6)

<http://www.amap.no/documents/doc/AMAP-Assessment-2013-Arctic-Ocean-Acidification/881>

<sup>4</sup> Global Atmospheric Mercury Assessment; Human Health Assessment 2009; Persistent Organic Pollutants in the Arctic 2009; Arctic Pollution 2009; .....

## 103 6. Principles and approaches

104 This Strategic Plan is consistent with the rights and  
 105 obligations covered under applicable regional and  
 106 international agreements. It is acknowledged that the UN  
 107 convention on the Law of the Sea (UNCLOS) is the  
 108 recognized legal framework for governance in the Arctic  
 109 Ocean. The Arctic Council is the most important  
 110 international forum for addressing Arctic issues. This means  
 111 that we have a predictable and relevant judicial and political  
 112 framework for international cooperation in a region  
 113 characterized by peace and stability. The AMSP is based on  
 114 widely recognized principles and approaches in  
 115 international instruments such as sustainable development,  
 116 the precautionary approach, the polluter pays principle, and  
 117 Ecosystem Based Management. The AMSP also addresses  
 118 the need to understand and shape Arctic change by  
 119 recognising that sustainability is achieved on the basis of a  
 120 resilient Arctic marine environment and resilient  
 121 communities.

### 122 **Ecosystem Based Management**

123 The Arctic Council strongly supports Ecosystem Based  
 124 Management (EBM), a cornerstone of the 2004 AMSP. Since  
 125 then, the Arctic Council and its Working Groups, as well as  
 126 Arctic states and observers, have made significant progress  
 127 on Ecosystem Based Management in the Arctic and  
 128 elsewhere.

129 Ecosystem Based Management is defined by the Arctic  
 130 Council as *“the comprehensive integrated management of*  
 131 *human activities based on best available scientific*  
 132 *knowledge about the ecosystem and its dynamics, in order*  
 133 *to identify and take action on influences which are critical to*  
 134 *the health of ecosystems thereby achieving sustainable use*  
 135 *of ecosystem goods and services and maintenance of*  
 136 *ecosystem integrity.”* It is the integrated management of  
 137 human activities aimed at maintaining the state of  
 138 ecosystems in good condition. EBM is increasingly  
 139 implemented worldwide in recognition that traditional  
 140 single-sector and single-resource approaches to  
 141 management are inadequate. In acknowledging this the  
 142 2012 United Nations Conference on Sustainable  
 143 Development (Rio +20) re-affirmed the significance of EBM.  
 144 The Arctic Council has identified the principles, needs, and  
 145 opportunities to operationalize ecosystem based

### Principles of Arctic Ecosystem Based Management

1. EBM supports ecosystem resilience in order to maintain ecological functions and services.
2. EBM recognizes that humans and their activities are an integral part of the ecosystem as a whole, and that sustainable use and values are central to establishing management objectives.
3. EBM is place-based, with geographic areas defined by ecological criteria, and may require efforts at a range of spatial and temporal scales (short-, medium- and long-term).
4. EBM balances and integrates the conservation and sustainable use ecosystems and their components.
5. EBM aims to understand and address the cumulative impacts of multiple human activities (rather than individual sectors, species or ecosystem components).
6. EBM seeks to incorporate and reflect, to the extent it is relevant, expert knowledge including scientific, traditional and local knowledge.
7. EBM is inclusive and encourage participation at all stages by various levels of government, indigenous peoples, stakeholders (including the private sector) and other Arctic residents.
8. Transboundary perspectives and partnerships can contribute significantly to the success of EBM efforts.
9. Recognizing that ecosystems and human activities are dynamic, that the Arctic is undergoing rapid changes, and that our understanding of these systems is constantly evolving, successful EBM efforts are flexible and adaptive.

146 management in the Arctic (see sidebar).

147 In applying Ecosystem Based Management as an overarching approach and putting it into practice  
148 through Strategic Actions, Arctic States will have the opportunity to further promote a common  
149 understanding and sharing of lessons learned for Ecosystem Based Management and to demonstrate  
150 this as a best practice internationally.

#### 151 **Precautionary Approach**

152 The precautionary approach, as described in the 1992 Rio Declaration on Environment and  
153 Development, is “where there are threats of serious or irreversible damage, lack of full scientific  
154 certainty shall not be used as a reason for postponing cost-effective measures to prevent  
155 environmental degradation.” In the 2009 Tromso Declaration the Arctic Council urged Member  
156 States “to apply the precautionary approach and the polluter-pays principle as reflected in Principles  
157 15 and 16 of the Rio Declaration, respectively, and conduct risk and environmental impact  
158 assessments for the exploration, development, transport and storage of oil, and enact and/or  
159 enforce appropriate laws and controls.” The precautionary approach is a key principle underpinning  
160 this strategic plan.

## 161 **7. Strategic actions**

162 This Strategic Plan sets out a range of actions that can be undertaken by the Arctic Council through  
163 its member states and subsidiary bodies, in collaboration with other regional and global  
164 organizations.

165 The following strategic actions have been developed for each strategic goal according to the  
166 principles and approaches outlined above, and taking into consideration the sustainable  
167 development and environmental protection mandate of the Arctic Council. Emphasis is on actions  
168 that are important in a circumpolar Arctic perspective. These strategic actions are also guided by the  
169 key findings and recommendations of recently published Arctic Council reports. They focus on the  
170 promotion of a sustainable Arctic marine environment that supports environmental, socio-cultural,  
171 and economic values. They also acknowledge the importance of resilient ecosystems and human  
172 well-being for current and future generations.

173 An important cross-cutting issue is the opportunity for joint action among the Arctic Council member  
174 states in relevant international and regional fora to promote these strategic actions.

175 It is anticipated that additional actions will be required as new information becomes available  
176 through, for example, ongoing or new studies by the Arctic Council working groups and others.

### 177 **7.1 Improve and expand the knowledge-base**

178 **Goal 1: Improve knowledge of the Arctic marine environment, and continue**  
179 **to monitor and assess the current and future impacts on Arctic marine**  
180 **ecosystems.**

181 The Arctic Council provides a framework for regional and international co-operation to improve  
182 knowledge of the Arctic marine environment. There is increasing demand for reliable and pertinent

183 information in the Arctic context, and that demand will only increase in the future as the region is  
 184 faced with more development and change. Informed policy decisions depend on scientific  
 185 information on the state of marine ecosystems as well as understanding the drivers of change and  
 186 capacity to predict future change. Implementing effective Ecosystem Based Management (EBM) also  
 187 requires knowledge about natural variability and vulnerability of ecosystems to threats and  
 188 pressures.

189 Several existing Arctic Council initiatives support this goal, such as AMAPs Trends and Effects  
 190 Monitoring Programme, CAFFs Circumpolar Biodiversity Monitoring Programmes, and the Sustained  
 191 Arctic Observing Networks (SAON). Increased scientific and research cooperation with the observers  
 192 in the Arctic Council will also foster improved knowledge of the Arctic marine environment. Current  
 193 knowledge of Arctic marine ecosystems differ from region to region in the Arctic. A number of  
 194 international research initiatives and organizations are active in the region, including under the  
 195 Working Groups under the Arctic Council.

196 Current knowledge of Arctic marine biodiversity and ecosystems is fragmentary, and while  
 197 information is improving, Arctic systems are inherently complex and undergoing rapid changes  
 198 associated with multiple stressors and their effects. These changing conditions and their potential  
 199 for impacts on human communities continue to present challenges for policy makers and governance  
 200 systems.

#### 201 **Strategic actions:**

#### 202 ***Continue building up the basic knowledge about the Arctic marine environment through:***

**Comment [A3]:** Sub- headings added based on AMAP comment

- 203 7.1.1 Strengthening scientific cooperation among the Arctic countries and other countries  
 204 involved in Arctic research with focus on prioritizing research issues, filling knowledge  
 205 gaps and developing mechanisms to share and exchange observational data.
- 206 7.1.2 Improving the understanding of cumulative impacts on marine ecosystems from multiple  
 207 stressors such as climate change, ocean acidification, pollution, noise, eutrophying  
 208 agents, marine litter, human activities and other emerging threats.
- 209 7.1.3 Improving the predictive capacity and developing a common understanding of the likely  
 210 future impacts of climate change and other emerging threats, such as ocean acidification  
 211 and invasive/alien species. Continue the development and standardizing data sharing  
 212 and management at a circumpolar Arctic level.
- 213 7.1.4 Developing a consistent, Arctic Council endorsed, method of integrating Traditional and  
 214 Local Knowledge into the work of the Arctic Council. 8.
- 215 7.1.5 Improved and coordinated communication of knowledge generated in Arctic Council  
 216 assessments to the global community.
- 217 7.1.6 Continue the development and standardizing data sharing and management at a  
 218 circumpolar Arctic level.
- 219 7.1.7 Conduct the 2nd circumpolar assessment of Arctic marine shipping at current and  
 220 projected levels

**Comment [A4]:** AMAP addition

**Comment [A5]:** SDWG addition

#### 221 ***Improve observing, monitoring and reporting on the Arctic marine environment by:***



- 222 7.1.8 Strengthen (enhance and expand) observation, monitoring and reporting in the Arctic
- 223 marine environment of: meteorology; pollutants, including chemical contaminants,
- 224 radionuclides and short-lived climate forcers; climate-change related impacts, especially
- 225 ocean acidification; oil pollution biodiversity and other metrics of environmental change;
- 226 and invasive species.
- 227 7.1.9 Where possible, support the development of mechanisms to enhance local involvement
- 228 in the collection and monitoring of marine information.
- 229 7.1.10 Enhance the mechanisms for joint monitoring of marine ecosystems and species.
- 230 7.1.11 Strengthen the development of circumpolar procedures for ice detection, monitoring,
- 231 and forecasting and improve the provision of nearshore ice information (current and
- 232 forecast conditions) for Arctic communities.

**Comment [A6]:** New AMAP wording

**Comment [A7]:** AMAP addition, possible overlap with other Strategic Actions?

**Comment [A8]:** AMAP addition

233 **7.2 Ecosystem Function and Biodiversity**

234 **Goal 2: Conserve and protect ecosystem function and marine biodiversity to**

235 **enhance resilience and the provision of ecosystem services.**

236 Arctic marine ecosystems are under increasing pressure from multiple stressors including climate

237 change, ocean acidification, long range pollution and increased human activities. These stressors,

238 individual and cumulative, pose a challenge to the health and sustained viability of Arctic marine

239 ecosystems. Stressors often exacerbate one another, leading to greater cumulative impacts. Adding

240 to that is the complex and trans-boundary nature of those stressors, which means that solutions

241 often will require international and regional co-operation.

242 Arctic ecosystem services are of local, regional and global importance. Taking an ecosystem approach

243 to management (EBM) can enhance the resilience of marine and coastal biodiversity and help to

244 safeguard marine ecosystems and their functions, allowing people to continue to benefit from the

245 services that flow from healthy ecosystems. However, there are challenges to the implementation of

246 EBM, including how to define and characterize the optimal state of the ecosystem where sustainable

247 use and maintenance of ecosystem integrity and resilience are achieved, and having the ability to

248 assess the state and status of ecosystems which are not stable and static but rather dynamic and

249 ever changing.

250 In implementing this Strategic Plan, the Arctic Council has the opportunity to continue its support

251 for immediate and early actions to help conserve and protect Arctic marine ecosystems. Initial steps

252 taken in this direction include the identification and delineation of eighteen Arctic Large Marine

253 Ecosystems and the description of Areas of Heightened Ecological and Cultural Significance within

254 them. These delineations provide a framework to advance the application of EBM within an Arctic

255 context.

256 **Strategic actions:**

257 ***Carry out assessments to address impacts and effects on the Arctic marine environments***

- 258 7.2.1 Identify and develop tools and methodology for assessing cumulative impacts on Arctic
- 259 marine ecosystems resources and services with the aim of incorporating them in
- 260 integrated assessments of environmental status, trends and projected future impacts.

- 261 7.2.2 Identify and assess threats and impacts to areas of ecological and cultural significance,  
262 and how such areas will be influenced in the future by climate change and other human  
263 induced changes and activities.
- 264 7.2.3 Conduct a feasibility study to consider the development of circumpolar indicators of  
265 changes and stressors in the Arctic marine environment.
- 266 7.2.4 Cooperate in the development of frameworks to serve as a basis for the assessment  
267 work of the Arctic Council WGs. If possible, base these frameworks on the principles of  
268 the AMSP (including, but not limited to, the principles of sustainable development,  
269 precaution, polluter pays, and EBM). If possible, develop and use them across the Arctic  
270 Council WGs. As part of the development of these assessment frameworks, identify or  
271 develop tools and methodologies for assessing cumulative pressures, impacts, and risks  
272 on Arctic ecosystem resources and services with the aim of including them in integrated  
273 ecosystem assessments and in the work of other international organizations.
- 274 7.2.5 Encourage the Arctic states to implement appropriate measures to protect Arctic marine  
275 areas of heightened ecological and cultural significance, focusing on species particularly  
276 at risk from climate change and cumulative impacts, as well as areas of refuge for ice-  
277 associated species areas expected to become particularly important to Arctic marine  
278 biodiversity under future climate conditions.
- 279 7.2.6 Develop and encourage the Arctic states to implement common measures for early  
280 detection and reporting of marine invasive species in the Arctic marine environment.
- 281 7.2.7 Support research into technology and techniques for invasive species detection and  
282 control.
- 283 7.2.8 Promote cooperation among Arctic and non-Arctic States to address threats to the  
284 staging and wintering grounds and migrating corridors of migratory marine species.
- 285 7.2.9 Actively support international efforts to:
- 286 *o reduce long range pollution accumulating in the Arctic marine food-chains, and;*  
287 *o address climate change and ocean acidification in order to reduce emissions and*  
288 *implement adaptation measures, as a matter of urgency.*
- 289 7.2.10 Limit the impacts of climate change in the short term through concerted efforts to  
290 reduce emissions of short lived climate forcers, in particular Black carbon and Methane.

**Comment [A9]:** AMAP addition

**Comment [A10]:** AMAP addition-  
possible its too detailed, AMAP to clarify

**Comment [A11]:** AMAP addition,  
maybe combine with 7.2.9?

### 291 7.3 Value Creation and Sustainable Marine Resource Use

292 **Goal 3: Promote value creation through safe and sustainable use of the**  
293 **marine environment, taking into account cumulative environmental**  
294 **impacts, minimizing risks of negative impacts from human activities.**

295 The Arctic has substantial potential for future value creation that will benefit both local communities  
296 and Arctic states. Improved access to the Arctic, national and regional priorities, and growing global  
297 demand for natural resources are driving an increase in resource extraction, shipping activities, and  
298 interest in living marine resources. Value creation should be promoted through the sustainable use  
299 of natural and living marine resources in a manner that maintains the structure of eco-systems, their  
300 functions and productivity and by applying Ecosystem Based Management.

301 While pollution in the Arctic marine environment primarily comes from sources outside the region,  
302 impacts from pollution and industrial activities inside the region can, combined with those from

303 climate change, ocean acidification and long range pollution, produce cumulative impacts that put  
304 strain on these ecosystems. Mining, oil- and gas activities, shipping, Arctic settlements, legacy sites  
305 such as military bases and litter, are current and potential sources of marine pollution within the  
306 Arctic.

307 Unique characteristics of the Arctic marine environment, which vary throughout the region, can  
308 include the presence of sea ice for many months of the year, long periods of darkness, perilous  
309 weather conditions, vast distances between remote communities, and a lack of infrastructure such as  
310 accurate nautical charts and deep water ports. These factors mean that generally the Arctic will  
311 continue to be a place of high risk for activities like marine shipping and other vessel-based activities  
312 such as offshore oil and gas development and mining.

313 Overharvest was historically the primary human impact on many Arctic marine species, but sound  
314 management has successfully addressed this problem in most, but not all cases. At the same time,  
315 increasing demand for seafood and new harvest ventures could potentially bring new risks of  
316 overharvest. This risk can be reduced through effective regulation and enforcement.

317 There is a need for cooperation on sharing of information, best practices and technologies as well as  
318 response resources in the case of an emergency. With climate change, the possibility of extreme  
319 weather events, resulting in flooding, landslides and other natural disasters is increased. Arctic states  
320 agreements on Cooperation on Marine Oil Pollution, Preparedness and Response (2013), and Search  
321 and Rescue (2011), have strengthened cooperation among its signatories. But challenges remain in  
322 mounting an effective response effort in the instance of a major spill of oil or other toxic substances,  
323 including radionuclides. Given the challenges of managing spills in ice infested and remote Arctic  
324 waters, and the potential serious impacts on the Arctic marine environment, prevention of spills and  
325 measures to minimize risks to areas of heightened ecological and cultural significance should remain  
326 the top priority.

#### 327 **Strategic actions:**

328 7.3.1 Advance EBM as an overarching framework for sustainable use of living and non-living  
329 resources in the Arctic marine environment, taking into account cumulative effects and the  
330 need for adaptation to climate change.

331 [Initiate an assessment of the cumulative impacts of marine activities at current and  
332 projected levels based on the 18 Arctic LME boundaries]

333 7.3.2 Improve the understanding of risks and risk reducing measures related to Arctic shipping and  
334 petroleum activities, including identify gaps and sharing of best practices related to oil spill  
335 prevention, preparedness and response to emergencies in the Arctic.

336 7.3.3 Support the research and development of oil spill mitigation measures and response  
337 technologies in ice-covered waters.

338 7.3.4 Develop measures, as appropriate, to prevent environmental harm and reduce risk related to  
339 maritime shipping and offshore oil- and gas activities in the Arctic, including addressing  
340 safety and environmental concerns with respect to types of vessels that may not be subject  
341 to the Polar Code.

342 7.3.5 Continuously improve safety and environmental protection performance of offshore oil and  
343 gas operations. This could be done through a combination of regulatory controls , guidance  
344 and incentives/disincentives, and operator/regulator dialog.

Comment [A12]: AMAP addition

345 7.3.6 Support and enhance international efforts and cooperation to continue to identify, assess  
346 and reduce existing and emerging harmful contaminants.

Comment [A13]: AMAP addition

347 7.3.7 Ensure effective regulation and enforcement of harvesting of marine living resources that  
348 respect principles and practices for sustainable development.

349 7.3.8 Manage Arctic living marine resources in accordance with Ecosystem Based Management  
350 and international law to ensure long term sustainability of stocks and ecosystems.[combine  
351 with 7.3.7 above]

352 7.3.9 Strengthen the development of a common Arctic protocol for ecotoxicological assessment  
353 and screening of chemicals used in resource extraction activities in the Arctic.

Comment [A14]: AMAP addition

354 7.3.10 Support ongoing work to examine and recommend actions to reduce black carbon emissions  
355 from activities in Arctic waters. Encourage research that advances technical definitions,  
356 measurement standards, and mitigation options with respect to the impact on the Arctic  
357 from black carbon.

Comment [A15]: AMAP addition

358 7.3.11 Develop plans for the sustainable use of Arctic marine resources and services to cover  
359 resources and services which are of significance to local, regional, and global economies and  
360 may make use of methods such as safeguarding designated marine areas based on their  
361 value as hotspots for biodiversity.

362 7.3.12 Exchange of experiences with national management of activities with a potential to affect  
363 marine ecosystems, with a view to developing best practices.

#### 364 7.4 Well-being of Arctic Communities

365 **Goal 4: Enhance the well-being of Arctic communities and strengthen**  
366 **capacity to adapt to changes in the marine Arctic.**

367 The changes taking place in the Arctic are resulting in both challenges and opportunities in the Arctic  
368 region and it is important to meet these challenges and make use of the opportunities to secure the  
369 well-being of present and future generations there.

370 The health, well-being, and adaptability of Arctic Indigenous and local communities are closely linked  
371 to the health of the marine ecosystems upon which they rely for food, commerce and cultural needs.  
372 Changes to marine ecosystems resulting from global climate change, the introduction of  
373 contaminants from outside the region, and other stressors can affect both the access to traditional  
374 foods and the quality of that food for Indigenous and local communities. The SDWG Arctic Human  
375 Health Initiative (AHHI) stated that it is likely that the most vulnerable to experiencing impacts on  
376 human health from climate change related issues will be those living close to the land in remote  
377 communities.

Comment [D16]: SDWG addition

378 Promoting human development and sustaining traditional lifestyles are high priorities of the Arctic  
379 Council. The well-being of Arctic Indigenous and local communities rests on the capacity to monitor,  
380 assess and understand the possible trajectories and consequences of marine ecosystem change, and  
381 to develop and implement adaptation strategies.<sup>5</sup> Addressing the changes and adapting to them  
382 requires consideration of cumulative impacts and interactions between socio-economic systems and  
383 ecosystems.

<sup>5</sup> Arctic Council (2013). Arctic Resilience Interim Report 2013. Stockholm Environment Institute and Stockholm Resilience Centre, Stockholm.

384 **Strategic actions:**

- 385 7.4.1 Strengthening efforts on information and outreach to Indigenous and local communities in  
386 the Arctic regarding the effects of climate change and approaches to adaptation.
- 387 7.4.2 Enhance education, outreach and communication to Indigenous and local communities in the  
388 Arctic to strengthen their resilience and adaptation.
- 389 7.4.3 Improve meaningful engagement of local communities in offshore oil and gas project  
390 planning, environmental assessment, operations, monitoring, regulatory decision-making,  
391 and economic opportunities, including the consideration and use of Traditional and Local  
392 Knowledge (TLK) to avoid or mitigate negative environmental, subsistence and cultural  
393 impacts, and maintain or increase well-being and socioeconomic opportunities.
- 394 7.4.4 Assess vulnerabilities and adaptation options of Arctic coastal communities to changes in  
395 climate and the marine environment, as well as challenges and opportunities related to these  
396 changes and new patterns of activity.
- 397 7.4.5 Facilitate coastal community exchanges between Arctic States to improve sharing of  
398 knowledge and experiences and to strengthen the dialog with relevant business and industry  
399 in the Arctic in order to foster sustainable use of the Arctic marine environment.
- 400 7.4.6 Strengthen the Arctic Council's communication to the public in Arctic as well as non-Arctic  
401 countries putting emphasis on the importance of the ongoing changes in the Arctic and their  
402 likely impact also on non-Arctic areas.

**Comment [A17]:** Combined  
AMAP/O&G contact group addition

**Comment [A18]:** AMAP addition

403 **8. Implementation**

404 This Strategic Plan addresses both the short-term and long-term challenges and opportunities. The  
405 implementation of specific strategic actions should be determined to a large degree by the  
406 assessment of the risks and benefits, the collective political ability to act, the financial implications  
407 and the capacity (knowledge, facilities and effort) available to address the required objectives at any  
408 given time.

409 Achieving the goals of this Strategic Plan cannot be accomplished in isolation. Therefore, depending  
410 on the nature of the strategic actions, their implementation may be undertaken through the  
411 coordination and cooperation between the Arctic Council working groups or the governments of the  
412 Arctic countries. Implementation can also be enhanced through the involvement of observer  
413 countries, civil society, indigenous peoples, and the private sector.

414 Regional cooperation offers an economy of scale, particularly for research, monitoring, assessment  
415 and technical cooperation. It can also enhance policy and program coordination. The implementation  
416 of this Strategic Plan may require that the governments of the Arctic countries cooperate to promote  
417 the goals of the plan in international fora relating to climate change, pollution, economic activities  
418 and others.

419 **Arctic Council Working Group Mandates**

420 **Arctic Monitoring and Assessment Program (AMAP):** to measure the levels and assess the effects of  
421 anthropogenic pollutants in all compartments of the Arctic environment, including humans; to  
422 document trends in pollution; to document sources and pathways of pollutants; to examine the  
423 impact of pollution on Arctic flora and fauna, especially those used as food by indigenous people and

**Comment [A19]:** WGs to review and/or  
revise accordingly.

424 the general population; to report on the state of the Arctic environment to Ministers and relevant  
425 fora; and, to give advice to Ministers on priority actions needed to improve the environmental  
426 conditions in the Arctic.

427 **Conservation of Arctic Fauna and Flora (CAFF):** to address conservation of Arctic biodiversity and  
428 communicate scientific findings to the indigenous peoples and other local residents, and to the  
429 governments of the Arctic, helping to promote practices which ensure sustainability of the Arctic's  
430 living resources

431 **Emergency, Prevention, Preparedness and Response (EPPR):** to address the prevention of,  
432 preparedness for and response to environmental emergencies in the Arctic that result from human  
433 activities.

434 **Protection of the Arctic Marine Environment (PAME):** to address policy and non-emergency  
435 pollution prevention and control measures related to the protection of the Arctic marine  
436 environment from both land- and sea-based activities.

437 **Sustainable Development Working Group (SDWG):** to address the protection and enhancement of  
438 the economies, cultures and health of the inhabitants of the Arctic, in an environmentally sustainable  
439 manner.

440 **Arctic Council Action Plan to Eliminate Pollution of the Arctic (ACAP):** to prevent adverse effects  
441 from, reduce and ultimately eliminate pollution of the Arctic environment.

442 Arctic Council working groups may incorporate the Strategic Actions into their biannual workplans, as  
443 appropriate. To gauge and guide the implementation of the AMSP reports on progress of the  
444 implementation of the AMSP will be reported regularly to the Senior Arctic Officials as part of the  
445 regular reporting processes of all the AC working groups. Subject to direction from SAOs and Arctic  
446 Council Ministers, PAME, in collaboration with all Arctic Council subsidiary bodies, will also lead a  
447 review of the Strategic Plan by 2025, or another date specified by the Council, to determine its  
448 adequacy in light of the results of ongoing assessments and new and emerging findings.

449 Under the direction of SAOs, PAME will, in consultation with other Arctic Council working groups and  
450 permanent participants, develop a communication plan to support understanding and involvement in  
451 the implementation of this Strategic Plan.