**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 peoples[DK] 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.

ALSO SAID IN THE INTRODUCTION ON NEXT PAGE.

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

# Introduction

The Arctic Council’s Arctic Marine Strategic Plan 2015-2025 provides a framework to guide its actions to protect Arctic marine and coastal ecosystems and to promote sustainable Arctic development. The AMSP articulates how the Arctic Council can increase its understanding of the impacts of human activities, climate change and ocean acidification. The AMSP also identifies how the Arctic Council can promote the conservation of the Arctic marine environment and sustainable use of its natural resources.

The AMSP recognizes the importance of acquiring a better understanding of Arctic change so that actions can be taken that allow [Arctic communities/Arctic Indigenous Peoples and other Arctic inhabitants] to further adapt to the change. The strategic actions identified in the AMSP will guide the work of the Arctic Council subsidiary bodies and the Arctic states in the coming decade.

# 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.***

# 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 of human activities as well as climate change[FRANCE] 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 safe and sustainable use of the marine environment, taking into account cumulative environmental impacts.**

Goal 4 **Enhance the economic, social and cultural well-being of [Arctic communities/ Arctic Indigenous Peoples and other Arctic inhabitants] and strengthen their capacity to adapt to changes in the Arctic marine environment.**

**Goal 5 involve non arctic stakeholders in the conservation, protection and sustainable use of Arctic marine areas.[FRANCE]**

# Scope

The AMSP covers all Arctic marine areas and relates to all key activities affecting Arctic marine ecosystems; including coastal zones, river basins and other areas that are connected to the marine environment. There is no agreed definition of the geographical extent of the Arctic. Arctic Council member states define their relevant Arctic areas.

The AMSP addresses stressors on the Arctic marine environment regardless of whether or not they originate from within or outside the region, recognizing that Arctic marine areas are connected to the rest of the world through chemical, physical, biological and human interactions.

[\*\*NOTE: include a map on the inside cover – the same as the 2004 AMSP on “Arctic Seas and Coastal Areas”]

# Context: Changing Arctic

Arctic marine and coastal ecosystems contain abundant natural resources and are widely pristine. They support an array of ecosystem [FRANCE] services that are necessary to the well-being of people living in the Arctic and benefit all people on a global scale.

**Box 1: Examples of Relevant Arctic Council Work**

* Arctic Human Development Report (AHDR 2004)
* Arctic Climate Impact Assessment (ACIA 2005)
* Arctic Marine Shipping Assessment (AMSA 2009)
* Offshore Oil and Gas Guidelines (2009)
* Assessment 2007: Oil and Gas Activities in the Arctic—Effects and Potential Effects, 2010 (OGA)
* 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)
* Recommended Practices in Oil Pollution Prevention (EPPR 2013)
* Identification of Arctic Marine Areas of Heightened Ecological and Cultural Significance, 2013 (AMSA IIC)
* Arctic Ocean Review (AOR) Final Report (2013)

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

**USA suggested changes to 3rd paragraph:**

Human activities are contributing to rapid change in the Arctic climate and ecosystems, calling for a better understanding of the complex interactions associated among atmospheric, oceanic, and ecological processes, with some influences recognized as occurring outside the Arctic region. Assessments carried out over the last decade under the auspices of the Arctic Council (see Box 1) have improved our current understanding of changing Arctic conditions and their impact on the Arctic environment, including biodiversity, marine areas and human health. They have documented that the effects of climate change, sociocultural change, and economic change in the Arctic are putting an unprecedented and increasing strain on the Arctic marine environment.

**Norway’s suggested changes to 3rd paragraph:**

Arctic ecosystems are changing rapidly as a result of climate change and human activities. Climate change, ocean acidification and long range pollution is mostly a result of activities outside the Arctic region, while increased activity within the Arctic also contribute to increased pressures and risks. Assessments carried out over the last decade under the auspices of the Arctic Council (see Box 1) have improved our current understanding of changing Arctic conditions and their impact on the Arctic environment. The assessments show that the effects of climate change and increased economic activity in the Arctic are putting an unprecedented and increasing strain on parts of the Arctic marine environment. [AMAP: 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 – CAN AMAP CONSIDER PROVIDING SUCH A DIAGRAM?]

Climate change has also affected the Arctic more rapidly than any other world region, primarily as a result of activities occurring far from the region. The UN Intergovernmental Panel on Climate Change (IPCC) concluded in its Fourth Assessment Report (2007) that average Arctic temperatures have increased at almost twice the global average rate in the past 100 years. In its Fifth Assessment Report (2014), the IPCC confirmed that the Arctic is continuing to experience rapid climate change with reductions in sea ice and permafrost. The IPCC [AMAP] predicts that a nearly ice-free Arctic Ocean at the end of the summer season (September) is likely before the middle of this century.[[1]](#footnote-1) Climate[AMAP] change is by far the most serious threat to Arctic biodiversity and that current trends point to major transformative changes in ecosystems within a human life span. [AMAP] Ocean acidification, primarily caused by the ocean’s absorption of increased levels of CO2 in the atmosphere, is occurring rapidly throughout Arctic marine waters. Ocean acidification can result in reduced formation of marine crustacean’s shells and organism growth, which could in turn affect the food supply for fish, birds and mammals. The economic impact of ocean acidification could be substantial

Increasing economic activity is another driver of change in the Arctic. Oil and gas production, mining, shipping, fishing, aquaculture and tourism is already taking place in the Arctic and can further facilitate a social and economic development of the Arctic communities through increased infrastructure investment, increased tax revenues for local and state budgets and other ripple effects such as increased employment. Although increased shipping, petroleum activity and extraction of minerals represent important opportunities for the Arctic communities, this also entails challenges that must be handled in the best possible way. , and higher risk associated with increasing marine traffic. The Arctic is already a major recipient of chemical pollutants, such as mercury and persistent organic pollutants (POPs) carried to the Arctic by long range atmospheric winds and oceanic currents. Arctic ecosystems and the Arctic peoples are exposed to these pollutants through the food chain at levels that are of concern to environment- and[DK] health authorities. Due to our increased awareness and understanding of the impacts that long range pollutants have on the health of people and wildlife in the Arctic, global action is being taken to reduce their sources. [[2]](#footnote-4)

“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.” (Ref: Survey of Living Conditions in the Arctic (SLiCA) SDWG, 2011)

# Principles and approaches

**Box 2: 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.

The United Nations Convention on the Law of the Sea (UNCLOS) is the overarching legal framework for human activities that take place in the Arctic marine environment and is the basis for national, regional and global action and cooperation in the marine sector in the Arctic. There is a widely accepted and predictable legal framework for international cooperation and collaboration in a region that has long been characterized by peace and stability. UNCLOS and international and Furthermore, the AMSP is based on widely recognized principles and approaches such as sustainable development, the precautionary approach, the polluter pays principle, and Ecosystem Based Management.

***Ecosystem Based Management***

Ecosystem Based Management is the integrated management of human activities aimed at maintaining healthy ecosystems. Ecosystem Based Management is a cornerstone of the work of the Arctic council and an important principle to the Arctic States. EBM is increasingly being implemented worldwide in recognition that traditional single-sector and single-resource approaches to management are inadequate The Arctic Council has identified the principles, needs, and opportunities to implement ecosystem based management in the Arctic (see box 2)

In applying EBM as an overarching approach and putting it into practice through Strategic Actions, Arctic states and observers will have the opportunity to further promote a common understanding and sharing of lessons learned for EBMEcosystem Based Management and to demonstrate this as a best practice internationally.

[to consider including the EBM flowchart from the AOR Final Report pg 79]

# Strategic actions

This Strategic Plan/The AMSP [AMAP SECRETARIAT] sets out a range of actions that may be undertaken by the Arctic states and the Arctic Council subsidiary bodies, in collaboration with Observer States and[FRANCE] relevant regional and global organizations and partners as appropriate to implement this plan.

Strategic actions have been developed for each goal. There is also an opportunity for joint action among the Arctic Council member states to promote these strategic actions in relevant international and regional fora.

This is not an exhaustive list of actions and additional actions may be initiated during the 2015-2025 period as necessary.[subheadings within the strategic actions sections 7.1-7.4 to be determined]

## Improve and expand the knowledge-base

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

**USA suggested changes to the 1st paragraph:**

The Arctic Council provides a forum for regional and international co-operation to improve knowledge of the Arctic marine environment. There is increasing demand for reliable and pertinent information in the Arctic context, and that demand will only increase in the future as the region undergoes more development and change. Informed policy decisions depend on traditional knowledge on the state of marine ecosystems and improved understanding of the Arctic environment and drivers of change, attained through improved sensing, data collection, analysis and modeling, and information sharing. Implementing effective EBM[AMAP SECRETARIAT] also requires knowledge about natural variability and vulnerability of ecosystems to threats and pressures.

**Canada suggested changes to the 1st paragraph:**

The Arctic Council provides a forum for regional and international co-operation to improve knowledge of the Arctic marine environment. There is increasing demand for reliable and pertinent information in the Arctic context, and that demand will only increase in the future as the region undergoes with more development and change. Informed policy depends on accurate, accessible and foundational scientific data, such as topographic, hydrographic, oceanographic and meteorological information, and other marine spatial data, as well as traditional knowledge of the status of marine ecosystems and the drivers of change and environmental influence.

**Norway suggested changes to the 1st paragraph:**

There is increasing demand for reliable and pertinent information in the Arctic context, and that demand will only increase in the future as the region undergoes with more development and change. The Arctic Council has proven to be the most important provider of scientific-based assessments, taking into account traditional knowledge. This provides the basis for informed policy decisions to ensure responsible stewardship of the Arctic marine environment.

Several existing Arctic Council initiatives support this goal, such as AMAPs Trends and Effects Monitoring Programme and CAFFs Circumpolar Biodiversity Monitoring Programme (CBMP) which works with partners across the Arctic to harmonize and enhance long-term marine monitoring efforts, including the Sustained Arctic Observing Networks (SAON). Increased scientific and research cooperation with the Permanent Participants and observers in the Arctic Council will also foster improved knowledge of the Arctic marine environment. Current knowledge of Arctic marine ecosystems differs from area to area in the Arctic and a number of international research initiatives and organizations are active in the region.

Current knowledge of Arctic marine [AMAP SECRETARIAT] ecosystems is fragmentary, and while information is improving, Arctic systems are inherently complex and undergoing rapid changes associated with multiple stressors and their effects. These changing conditions and their potential for impacts on [Arctic communities/Arctic Indigenous Peoples and other Arctic inhabitants] continue to present policy challenges.

**Strategic actions:**

* + 1. Strengthen scientific cooperation and joint monitoring among the Arctic countries, including stakeholders and traditional knowledge,[DK] and other countries involved in Arctic research, in particular Observers to the Arctic Council[FRANCE] with focus on prioritizing research issues, fill[AMAP SECRETARIAT] knowledge gaps and developing mechanisms to share and exchange observational data.
    2. Improve, synthesize, and respond to emerging knowledge across all disciplines and sectors to include government, academic [USA] and industry information, and traditional and local [USA] knowledge.
    3. Improve the understanding of cumulative impacts on marine ecosystems from multiple human activity-induced stressors such as climate change, ocean acidification, pollution (land and sea-based), marine litter, noise, eutrophication, biomass overharvesting, invasive alien species and other emerging threats.

**DK suggested changes to 7.1.3:** Assess the extent of cumulative impacts on marine ecosystems from multiple human activity-induced stressors on various scales such as climate change, ocean acidification, local and long range transported pollution (land and sea-based), marine litter, noise, eutrophication, biomass overharvesting, and other threats.

* + 1. Improve the predictive capacity and develop[USA] a common understanding of the likely future impacts of climate change and other emerging threats, such as ocean acidification.
    2. Enhance local involvement in the collection of information and monitoring of the marine environment by developing recommendations for integrating Traditional and Local Knowledge into the work of the Arctic Council.

**DK suggested changes to 7.1.5:** Support, where this is lacking, the development of mechanisms to enhance local involvement in the prioritization, collection and nterpretation of marine information by developing a consistent, Arctic Council endorsed, method of integrating Traditional and Local Knowledge and needs into the work of the Arctic Council.

* + 1. Improve and coordinate communication of knowledge generated in Arctic Council assessments to the circumpolar and global community.
    2. Continue the development and standardizing of data sharing and management at a circumpolar level.
    3. Update relevant parts of the 2009 Arctic Marine Shipping Assessment and conduct a 2nd circumpolar assessment of Arctic marine shipping. [need input from shipping experts].

7.1.8 [USA]: Improve awareness of shipping activity and trends through information sharing expanded information sharing among Arctic States and, as appropriate, other stakeholders and evaluate the 2009 Arctic Marine Shipping Assessment to identify areas for updating or new assessment, such as discharges, emissions and transfer of invasive species via ballast water and hull fouling.. [need input from shipping experts].

7.1.8 [Canada]: Update relevant parts of the 2009 Arctic Marine Shipping Assessment and conduct a 2nd circumpolar assessment of Arctic marine shipping, to include discharges and emissions of contaminants, a status of hydrographic surveying and nautical charting, and ship traffic information at current and projected levels. [need input from shipping experts].

* + 1. Enhance and expand observation, monitoring and reporting of the Arctic marine environment.

7.1.9 [USA]: Strengthen (enhance and expand) observation, monitoring and reporting in the Arctic marine environment of: meteorology; pollutants, including chemical contaminants, radionuclides, oil pollution and short-lived climate forcers; climate-change related impacts, especially ocean acidification; ecosystem and biodiversity status and trends, including invasive species, and other metrics of environmental change.

**USA suggested rewrite for 7.1.9:** Strengthen (enhance and expand), where feasible, and better coordinate observation framework to sense, collect, and disseminate relevant environmental data to support a better understanding of regional processes and modeling efforts. This environmental understanding should include, but not be limited to: hydrographic and bathymetric data; oceanographic data (including tides and currents), meteorological information for numerical modeling, and forecasting; pollutants (including chemical contaminants, radionuclides, oil pollution, and short-lived climate forcers); climate change-related impacts (especially ocean acidification); and ecosystem and biodiversity status and trends (including invasive species and other metrics of environmental change).

**Canada suggested rewrite for 7.1.9:** Strengthen (enhance and expand) the collection, observation, monitoring and reporting of the Arctic marine environment. This environmental understanding should include hydrographic and bathymetric data; oceanographic data (including tides and currents) and meteorological information for numerical modeling and forecasting; pollutants (including chemical contaminants, radionuclides, oil pollution short-lived climate forcers, and oil); climate change-related impacts (especially ocean acidification); and ecosystem and biodiversity status and trends (including invasive species and other metrics of environmental change).

* + 1. Strengthen the development of circumpolar procedures for, and improve remote sensing capabilities to support,[USA] ice detection, monitoring, and forecasting and improve the provision of near-shore and off-shore[USA] ice information (current and forecast conditions) for [USA]

## Conserve and Protect Ecosystem Function and Biodiversity

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

Arctic marine ecosystems are under increasing pressure from multiple stressors including climate change, ocean acidification, long-range pollution and increased human activities. These stressors, individual and cumulative, pose a challenge to the health and sustained viability of Arctic marine ecosystems. Stressors often exacerbate one another, leading to amplified cumulative impacts. Adding to that is the complex and trans-boundary nature of those stressors, which means that solutions often will require international and regional co-operation.

Arctic ecosystem services are of local, regional and global importance. Taking an ecosystem approach to management (EBM) can enhance the resilience of marine and coastal biodiversity and help to safeguard marine ecosystems and their functions, allowing people to continue to benefit from the services that flow from healthy ecosystems.

In implementing this Strategic Plan, the Arctic Council has the opportunity to continue its support for immediate and early actions to help conserve and protect Arctic marine ecosystems. Initial steps already taken include the identification and delineation of eighteen Arctic Large Marine Ecosystems (LMEs) and the description of Areas of Heightened Ecological and Cultural Significance within them. In addition CAFFs CBMP has identified areas within the Arctic marine system where monitoring should be focused and delineated physically and bio-geochemically distinct Arctic Marine Areas (AMAs) that encompass these important areas. These delineations provide a framework to advance the application of EBM within an Arctic context.

**Strategic actions:**

* + 1. Identify and develop tools and methodology for assessing cumulative impacts on Arctic marine ecosystems resources and services with the aim of incorporating them in integrated assessments of environmental status, trends and projected future impacts.

7.2.1bis Synthesize and use the results of past, current and future Arctic Council and other pertinent assessments and reports in conjunction with Arctic Council efforts to promote an ecosystem approach to management [ [Phil Mundy and Hein Rune: to modify and merge 7.2.1 and 7.2.1 bis]

* + 1. Identify and assess threats and impacts to areas of heightened ecological and cultural significance and how such areas may be influenced in the future by climate change and other human induced changes and activities.
    2. Support continued development of circumpolar indicators of changes and stressors across the Arctic’s marine environment, as well as metrics for monitoring biodiversity [USA] [AMAP and CAFF to review and revise accordingly]
    3. Cooperate in the development of frameworks to serve as a basis for the assessment work of the Arctic Council WGs. As part of the development of these assessment frameworks, identify or develop tools and methodologies for assessing cumulative pressures, impacts, and risks on Arctic ecosystem resources and services with the aim of including them in integrated ecosystem assessments and in the work of other international organizations.
    4. Encourage the Arctic states to implement appropriate measures, – or to pursue such measures at relevant international organizations to protect Arctic marine Areas of Heightened Ecological and Cultural Significance. Focus should be on species and ecosystems particularly at risk from climate change and cumulative impacts, including areas of refuge for ice-associated species that are, or are expected to become particularly important to Arctic marine biodiversity under future climate conditions.
    5. Develop and encourage the Arctic states to implement common measures and support research into technology and techniques for early detection and reporting of marine invasive species in the Arctic marine environment.
    6. (USA suggestion: Identify and map….) Map areas of the marine environment that are particularly vulnerable to the effects of ocean acidification to inform appropriate monitoring and adaptation measures.
    7. Promote cooperation among Arctic and non-Arctic states to address threats to the staging and wintering grounds and migrating corridors of migratory species using the marine environment.
    8. Actively support efforts, in cooperation with indigenous peoples, to:
* *reduce long range pollution accumulating in the Arctic marine food-chains, and;*
* *address climate change and ocean acidification by reducing emissions and implementing adaptation measures, as a matter of urgency.* 
  + 1. Limit the impacts of climate change in the short term through concerted efforts to create inventories of and [AMAP SECRETARIAT] reduce emissions of short lived climate forcers, in particular black carbon and methane.
    2. Establish a pan-Arctic network of marine protected areas to strengthen marine ecosystem resilience and contribute to human wellbeing, including traditional lifestyles, within the broader context of sustainable oceans management practices and climate change.

## Promote Safe and Sustainable Marine Resource Use

**Goal 3: Promote safe and sustainable use of the marine environment, taking into account cumulative environmental impacts,.**

There is substantial potential for economic development in the Arctic that will benefit both local communities as well as the Arctic states. Improved access to the Arctic, national and regional priorities, and growing global demand for natural resources are driving an increase in resource extraction, shipping activities, and interest in living marine resources. Safe and sustainable use of living and non-living marine resources should be promoted in a manner that maintains the structure of eco-systems, their functions and productivity, applies EBM and provides economic opportunity for local communities and Arctic states.

Pollution in the Arctic marine environment comes primarily from sources outside the region. Impacts from increased economic activities inside the region can, combined with impacts from climate change, ocean acidification and long range pollution, produce cumulative impacts that put strain on these ecosystems.

**USA suggested changes to the 2nd paragraph:**

Unique challenges of the Arctic marine environment, which vary throughout the region, can include the presence of sea ice for many months of the year, long periods of darkness, perilous weather conditions, vast distances between remote communities, lack of hydrographic data, and a lack of infrastructure such as deep water ports and telecommunication. These challenges generally result in higher risks for activities like marine shipping, offshore oil and gas development, and mining. Likewise, these activities also pose higher risk to the Arctic environment. Addressing these challenges through efforts such as accurate nautical charts, improved weather forecasting, and sea ice prediction can reduce the risks associated with human activity in the Arctic Region. Robust “Safety of Navigation” services and products (nautical charts and publications) are needed.

**Norway suggests to delete the 2nd paragraph:**

**USA suggested changes to the 3rd paragraph:**

Overharvest was historically the primary human impact on many Arctic marine species, but sound management has successfully addressed this problem in most, but not all cases (ABA 2013-Key Finding 7). At the same time, new harvest ventures bring new risks of overharvest. These risks can be reduced through integrated management informed by better understanding of ecosystems through scientific studies and traditional and local knowledge, along with effective regulation and enforcement.

**Norway suggested changes to the 3rd paragraph:**

Overharvest was historically the primary human impact on many Arctic marine species, but sound management has successfully addressed this problem in most, but not all cases (ABA 2013-Key Finding 7). At the same time, new harvest ventures may cause new challenges. Such challenges can be met through better scientific understanding of ecosystems, along with effective regulation and enforcement.

Climatic conditions, population density and access to infrastructure vary substantially throughout the Arctic region. In some parts, climatic conditions such as icing, floating sea ice, high waves and darkness, in addition to lack of infrastructure, pose increased operational challenge for activities. It is therefore a need for cooperation on sharing of information, propagating best practices and technologies, and leveraging response resources in the case of an emergency. Arctic states agreements on Cooperation on Marine Oil Pollution, Preparedness and Response (2013), and Search and Rescue (2011), have strengthened cooperation among their signatories. Given the challenges of managing major spills of oil or other toxic substances in ice -rich and remote Arctic waters, and the potential serious impacts on the Arctic marine environment, prevention of spills and measures to minimize risks, in particular to Areas of Heightened Ecological and Cultural Significance, should remain a top priority.

like[DK]also

**Strategic actions:**

* + 1. Advance EBM as an overarching framework for conservation and sustainable use of living and non-living resources in the Arctic marine environment, taking into account cumulative impacts on the Arctic and the need for adaptation to climate change.
    2. Improve the understanding of risks and risk reducing measures related to Arctic shipping and oil and gas exploration and development activities, including gap analysis [USA] and sharing of best practices related to oil spill prevention, preparedness and response to emergencies in the Arctic.
    3. Consider expanding the scope of the Agreement on Cooperation on Marine Oil Pollution, Preparedness and Response in the Arctic to include pollution incidents of hazardous and noxious substances other than oil.
    4. Support the research, development, and implementation of oil spill detection, mitigation measures, and response technologies in ice-covered and ice-rich waters.
    5. Support work at the IMO and other relevant international organization to promote and advance safe, secure, reliable and environmentally sound shipping
    6. Develop recommendations, as appropriate, to ensure safety at sea and to prevent environmental harm and reduce risk related to maritime shipping in the Arctic. This includes approaches to encourage timely and effective implementation of the Polar Code.

**USA suggested changes to original strategic action 7.3.4 (now 7.3.6 as per above)**

* + 1. Develop measures, as appropriate, to prevent environmental harm and reduce risk related to maritime shipping in the Arctic. Advance continuous improvement and the use of best and most appropriate practices and technology for all economic activities in the Arctic

**7.3.5[USA]:** Advance continuous improvement in offshore oil and gas activities by encouraging the use of best and most appropriate practices and technology in a company’s safety systems management, operations, and emergency response plans for their offshore oil and gas activities in conjunction with the TFOPP and the Arctic Offshore Regulators Forum.

* + 1. Support and enhance international efforts and cooperation to continue to identify, assess and reduce existing and emerging harmful contaminants.
    2. Promote the management of Arctic living marine resources in accordance with EcosystemBased Management and international law to ensure long term sustainability of stocks and ecosystems.
    3. Strengthen the development of a common Arctic protocol for ecotoxicological assessment and screening of chemicals used in resource extraction activities in the Arctic.
    4. Support ongoing work to examine and recommend actions to reduce black carbon emissions from activities in Arctic waters. Encourage research that advances technical definitions, measurement standards, and mitigation options with respect to the impact on the Arctic from black carbon.
    5. Establish experience exchanges related to [USA] management of activities with the potential to affect marine ecosystems, with a view to developing best practices
    6. Promote cooperation to improve and expand a) hydrographic and bathymetric data collection and b) Safety of Navigation services and products (including nautical chart and publication production) to support safe and efficient marine shipping in the Arctic.

**USA suggested rewrite**: Promote cooperation to improve and expand a) hydrographic and bathymetric data collection and b) Safety of Navigation services and products (including nautical chart and publication production) to support safe and efficient marine shipping in the Arctic.

* + 1. [Dennis: need some mentioning of the work of relevance to TFOPP/Arctic Regulators Forum (ARF)]
    2. Strengthen the dialogue with relevant business and industry in the Arctic in order to foster sustainable use of the Arctic marine environment.
    3. Develop the Arctic Economic forum as a vehicle to faster sustainable development.

## Strengthen Capacity to adapt to changes

**Goal 4: Enhance the economic, social and cultural well-being of Arctic inhabitants, including Arctic Indigenous Peoples[NOR] and strengthen their capacity to adapt to changes in the Arctic marine environment.**

The changes taking place in the Arctic marine environment are resulting in both challenges and opportunities in the Arctic region and it is important to meet these challenges and make use of the opportunities to secure the well-being of present and future Arctic inhabitants.

The health, well-being, and adaptability of Arctic Indigenous peoples[DK] and local communities are closely linked to the health of the marine ecosystems upon which they rely for food, commerce and cultural needs. Changes to marine ecosystems resulting from global climate change, the introduction of contaminants from outside the region, and other stressors can affect both the access to traditional foods and the quality of that food for Indigenous peoples[DK] and local communities. Arctic Indigenous peoples and local communities [AMAP SECRETARIAT] living close to the land in remote communities are likely the most vulnerable to human health impacts from climate change related issues.

Promoting human development and sustaining traditional culture are high priorities of the Arctic Council. The well-being of Arctic Indigenous peoples[DK] and local communities’ benefits from the capacity to monitor, assess and understand the possible trajectories and consequences of marine ecosystem change, and to develop and implement adaptation strategies.[[3]](#footnote-5) Addressing the changes and adapting to them requires consideration of cumulative impacts and interactions between socio-economic systems and ecosystems.

**Strategic actions:**

* + 1. Utilize[USA] meaningful engagement of Arctic Indigenous Peoples and other Arctic inhabitants in relevant decisions, including through the consideration and use of Traditional and Local Knowledge (TLK) in avoiding or mitigating negative environmental, subsistence, and cultural impacts, as well as in maintaining or increasing well-being and socioeconomic opportunities.
    2. Facilitate coastal community exchanges between Arctic states to improve sharing of knowledge and experiences and to strengthen the dialog with relevant business and industry in the Arctic in order to foster the protection and [USA] sustainable use of the Arctic marine environment.
    3. Assess vulnerabilities and adaptation options of Arctic coastal communities to changes in climate and the marine environment, as well as challenges and opportunities related to these changes and new patterns of activity.
    4. In cooperation with the Permanent Participants, encourage engagement, as appropriate, with indigenous peoples organizations and bodies that have specialized and traditional knowledge and can inform the work of the Arctic Council in the protection of the marine environment and in enhancing the well-being and strengthening the capacity of Arctic Indigenous Peoples and other Arctic residents for dealing with a changing Arctic and increased activity.
    5. Strengthen efforts on information, education and outreach with Arctic Indigenous Peoples and other residents regarding the effects of climate change to strengthen resilience and approaches to adaptation.
    6. Strengthen the Arctic Council’s communication to the public in Arctic and non-Arctic countries pointing out the importance of ongoing changes in the Arctic and their likely impact on non-Arctic areas, and emphasizing the effects on the wellbeing of Arctic residents.

# Implementation

This Strategic Plan addresses both short-term and long-term challenges and opportunities. Achieving the goals of this Strategic Plan is dependent on cooperation. The Arctic Council working Groups will have to coordinate and cooperate closely, and the Arctic Council will need to look to governments and agencies for support and participation. Working regionally offers an economy of scale, particularly for such joint efforts as research, monitoring, assessment and technical cooperation. It can also improve policy and program coordination, and help to promote compliance. The implementation of this Strategic Plan may also require that the governments of the Arctic countries cooperate to promote the goals of the plan in relevant/other[USA] international fora..

The Arctic Council provides strong institutional support for the stewardship of the Arctic marine environment.eEach working group, under the overall direction of the SAOs, will implement those actions that relate to their mandates and incorporate them into their work plans.

Reports on progress of the implementation of the AMSP will be submitted regularly to the Senior Arctic Officials. Subject to direction from SAOs and Arctic Council Ministers, PAME, in collaboration with all Arctic Council subsidiary bodies, will also lead a review of the next Arctic Marine Strategic Plan. .

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

1. Climate Change 2013: The Physical Science Basis, Fifth Assessment Report: Summary for Policy Makers*,* Intergovernmental Panel on Climate Change 2013 [↑](#footnote-ref-1)
2. Global Atmospheric Mercury Assessment; Human Health Assessment 2009; Persistent Organic Pollutants in the Arctic 2009; Arctic Pollution 2009; ….. [↑](#footnote-ref-4)
3. Arctic Council (2013). Arctic Resilience Interim Report 2013. Stockholm Environment Institute and Stockholm Resilience Centre, Stockholm. [↑](#footnote-ref-5)