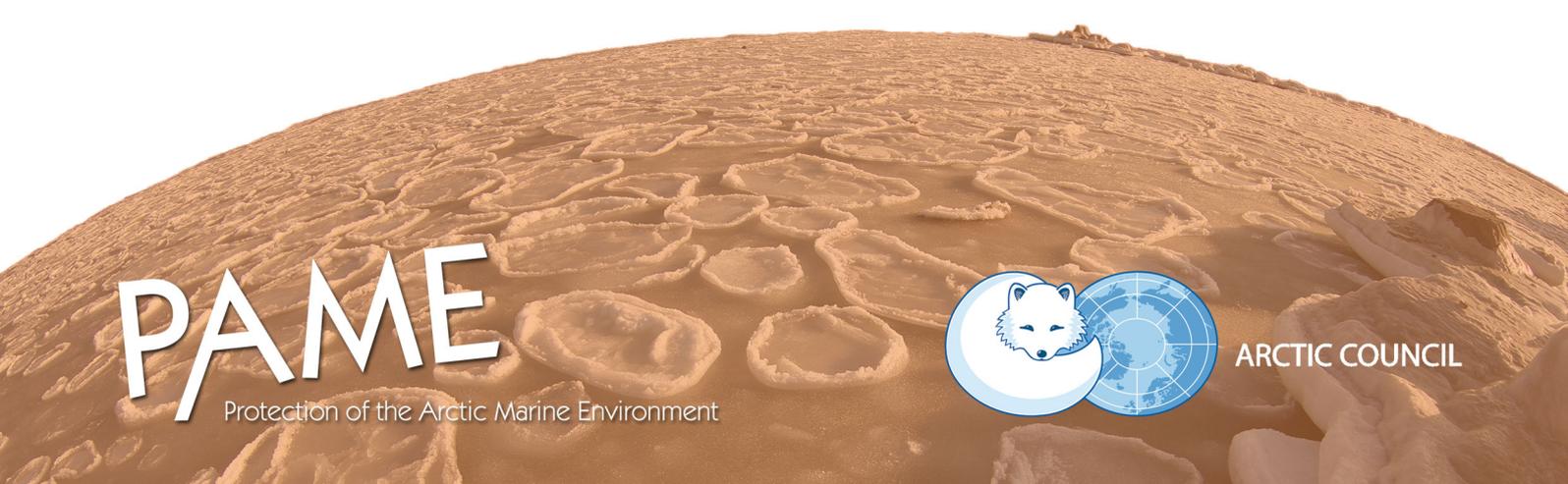




PAME WORK PLAN

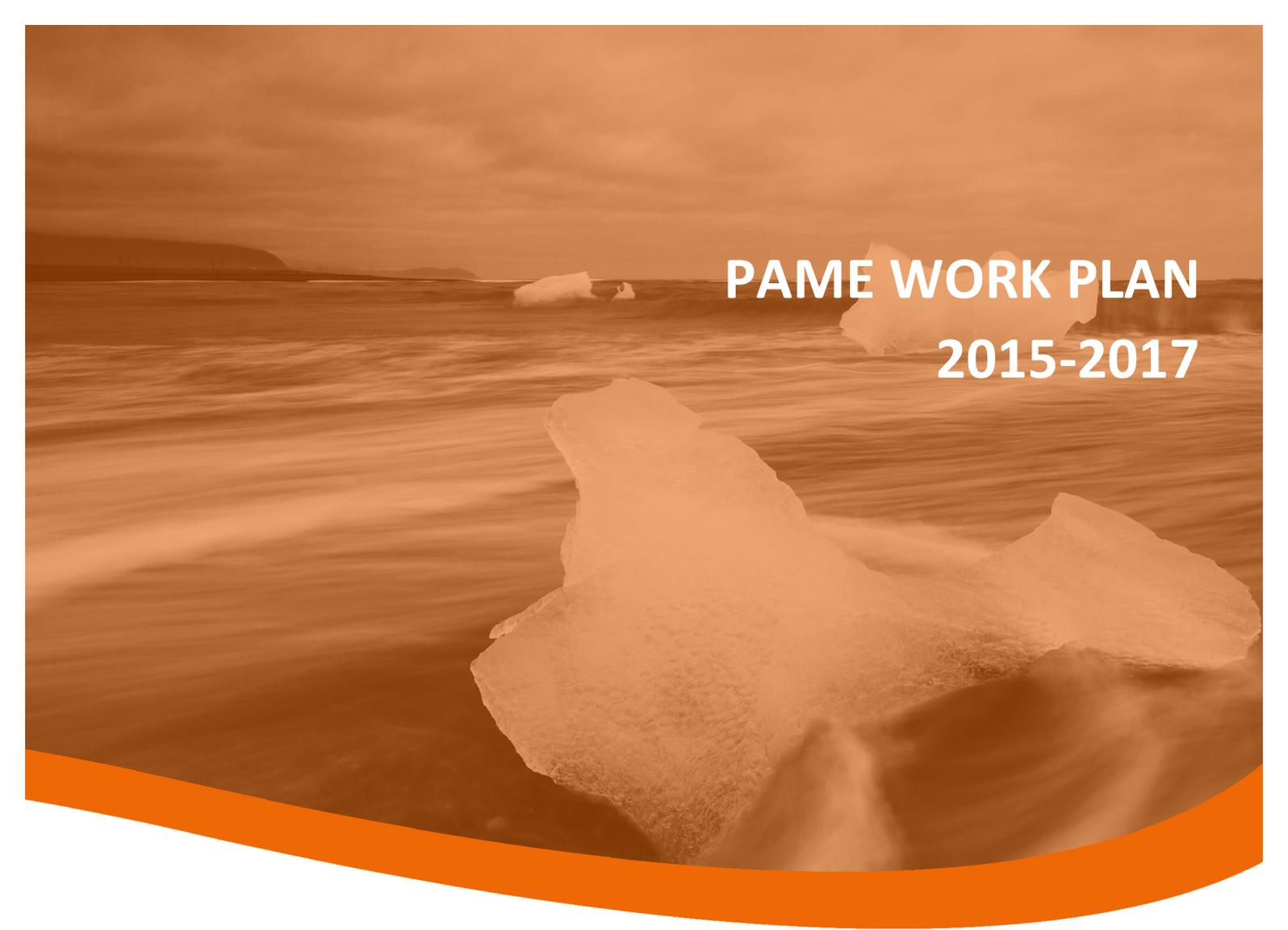
2015-2017



PAME
Protection of the Arctic Marine Environment



ARCTIC COUNCIL

A photograph of an Arctic seascape with several icebergs floating in the water. The image is overlaid with a semi-transparent orange filter. The text 'PAME WORK PLAN 2015-2017' is printed in white, bold, sans-serif font in the upper right quadrant of the image.

PAME WORK PLAN 2015-2017

Table of Contents

PREFACE	2
INTRODUCTION	2
PROJECTS AND ACTIVITIES	3
ANNEX I: ARCTIC MARINE INDIGENOUS USE MAPPING: TOOLS FOR COMMUNITIES (AMIUM)	11
ANNEX II - ARCTIC REGIONAL RECEPTION FACILITIES PLAN (RRFP).....	21
ANNEX III - MEANINGFUL ENGAGEMENT OF INDIGENOUS PEOPLES AND LOCAL COMMUNITIES IN MARINE ACTIVITIES	
ANNEX IV - INVENTORY MAPPING OF EXISTING ARCTIC MPAs – PROJECT DESCRIPTION	31
ANNEX V - DESKTOP STUDY ON AREA-BASED CONSERVATION MEASURES AND ITS LINKAGES TO CATEGORIES OF ARCTIC BIODIVERSITY – TOOLBOX IN SUPPORT OF MARINE PROTECTED AREA NETWORKS.....	34

PREFACE

The purpose of the PAME Work Plan is to provide a framework for PAME's work related to the protection of the Arctic marine environment for the period 2015-2017. PAME's activities are based on its mandate to address policy and non-emergency pollution prevention and control measures related to the protection of the Arctic marine environment from both land and sea-based activities. These measures include coordinated action programs, assessments, best practices and guidelines that complement or supplement existing legal and policy instruments and arrangements.

PAME provides a unique forum for collaboration on a wide range of Arctic marine environment issues and consists of representatives from the Arctic states responsible for its work in their respective countries and representatives of Permanent Participant organizations representing Arctic indigenous peoples. Additionally, the other Arctic subsidiary bodies, accredited observers and other Arctic stakeholders contribute to the ongoing work of PAME.

PAME generally meets twice a year to assess progress and advance its work. PAME is headed by a chair and vice-chair, which rotate among the Arctic States and are supported by a Secretariat based in Iceland. PAME reports to the Senior Arctic Officials, and through them, to the Ministers of the Arctic Council who meet every two years. PAME's work plan is approved by the SAOs and the Ministers.

INTRODUCTION

The PAME Work Plan 2015 – 2017 was developed according to:

- PAME's mandate;
- priorities identified and recommendations made in reports and arrangements developed by or negotiated in Arctic Council subsidiary bodies that are approved by the SAOs and Arctic Ministers;
- direction provided in Ministerial declarations;
- follow-up on recommendations from Arctic Council projects and the Arctic Marine Strategic Plan (2015-2025) which outlines the overall direction of the Arctic Council for the protection of the Arctic marine environment; and
- policy follow up on the scientific and other relevant studies, assessments and recommendations of the Arctic Council.





PROJECTS AND ACTIVITIES

OBJECTIVE I:

Improve knowledge and respond to emerging knowledge of the Arctic marine environment

BACKGROUND:

Diminishing sea ice opens Arctic marine areas for increased shipping and resource extraction, affecting ecosystems, economies and traditional ways of life for indigenous peoples. This increased activity will increase risks to the environment and its ecological processes. In this regard, the Arctic Council encourages the development of suitable national and international regulations and measures to reduce risks and potential negative impacts associated with shipping and other human activities in Arctic waters. PAME's work aims to help Arctic Council members assess these changes and identify options to address them through, *inter alia*, follow-up activities to the Arctic Marine Shipping Assessment (AMSA, 2009), the Arctic Offshore Oil and Gas Guidelines (2009) and the Arctic Ocean Review Final Report (2013), among others.

Follow-up activities of AMSA Recommendations (Refer to a separate AMSA Matrix)

Actions	Activities	Lead(s)
AMSA I(A) – Linking with International Organizations	<p>PAME to continue to monitor and, as appropriate, identify opportunities to engage and collaborate with international organizations on issues of common interest to advance implementation of the AMSA Recommendations and other Arctic Council-related Shipping Recommendations (e.g. AOR Final Report Recommendations).</p> <p>PAME in cooperation with the IMO and World Maritime University (WMU) will convene an International Conference on <i>Safe and Sustainable Shipping in a Changing Arctic Environment</i> (ShipArc 2015) 25-28 August 2015 in Malmo, Sweden.</p>	<p>USA</p> <p>Canada Sweden USA</p>
AMSA I(B) – IMO Measures for Arctic Shipping	<p>PAME will continue to promote collaboration among Arctic states as they implement the Polar Code.</p>	<p>All</p>
AMSA I(B) - Follow-up to the Heavy Fuel Oil (HFO) Phase II and II(b) Reports	<p>Project proposals for the following activities will be developed subject to funding:</p> <ul style="list-style-type: none"> ✓ Compendium of case study information on maritime incidents in the Arctic that resulted in a spill or release of HFO and the environmental impact thereof. ✓ Project that describes the technical challenges and risks that arise from using HFO as fuel for ships especially in cold climates (subject to the availability of funding). 	<p>Canada USA Norway</p> <p>Norway</p>
Follow-up to the Arctic Marine Tourism project's (AMTP) Best Practice Guidelines	<p>Examples of possible follow up actions include developing proposals for a site-specific guideline template, or compiling and updating a publicly available repository of Arctic marine tourism information.</p>	<p>Canada USA</p>
AMSA II(A) – Survey of Arctic Indigenous Marine Use	<p>Project on: <u>Arctic Marine Indigenous Use Mapping: Tools for Communities</u> <i>Refer to Annex I for details on project plan, including timeline and budget.</i></p>	<p>AIA USA</p>
AMSA II (B) – Engagement with Arctic Communities	<p><u>Meaningful Engagement of Indigenous Peoples and Local Communities in Marine Activities</u> <i>This is a cross-cutting shipping and oil and gas project (refer to follow up on the Arctic Offshore Oil and Gas Guidelines (2009) below and in Annex IV).</i></p>	
AMSA II (D) -Specially Designated Arctic Marine Areas	<p>Taking into account the AMSA II(C) Report and the two Arctic high seas EBSAs identified by the Convention on Biodiversity, invite AMAP and CAFF to denote areas within the high seas area of the Central Arctic Ocean that are particularly vulnerable to shipping. Once that information is received from</p>	<p>Norway USA</p>



	AMAP and CAFF, PAME will further explore possible international protection measures that could be pursued by Arctic States, individually or collectively, at the IMO. Also continue ongoing efforts to obtain ship traffic data from the high seas area of the Central Arctic Ocean.	
AMSA II (D) – Specially Designated Arctic Marine Areas	<p><u>Development of Arctic Regional Reception Facilities Plan (RRFP):</u> An Arctic RRFP will be prepared as a long-term solution to help meet the challenges posed by the expected increases in Arctic shipping activities. The aim is to allow for the environmentally sound management of ship waste and ensure that ships can comply with MARPOL requirements for the proper disposal of ship generated waste. This project does not attempt to circumvent or supplant any work by the IMO or other international body with recognized competence, and is in keeping with established principles and existing IMO/MARPOL guidance. It will complement work being undertaken by IMO. This project will list all types of ships and the needs of each type of ship and identify the route(s) and ports of call for ships in the region. This plan will be specific to one or more regions of the Arctic taking into consideration relevant circumstances to ensure that ships transiting Arctic regions can comply with all applicable provisions of MARPOL. Consideration will be given to applicable international regulatory schemes with special attention to the Polar Code, when it comes into force; other IMO Guidance; ISO Standards; and National, state, and local regulations.</p> <p><i>Refer to Annex II for details on project plan, including timeline and budget.</i></p>	<p>Russia USA</p> <p><i>Correspondence Group/Project Team:</i> (including Canada, Finland, Kingdom of Denmark, Russia and USA).</p>
AMSA II(F) – Oil Spill Prevention	Possible follow-up projects based on the outcome of the TFOPP and the final arrangement approved by Arctic Ministers in Iqaluit.	PAME Members
AMSA II(H) – Reducing Air Emissions	PAME will continue to explore how best it could use information it compiles on emissions (especially black carbon) from ships in the Arctic and their effects on the marine environment, including in cooperation with other working groups, in particular AMAP, to support reductions in ship air emissions.	Norway USA
AMSA III(A) – Addressing the Infrastructure Deficit	Regular updates and status provided on infrastructure aspects such as the IMO’s GISIS Port Reception Facility database.	USA
AMSA III(B) – Arctic Marine Traffic Systems	Continue to pursue opportunities including, as appropriate, through the proposed Arctic Shipping Data Service (ASDS), for updating Arctic ship traffic data contained in the AMSA Report (data collected in 2005) for use in studies, assessments, trend analyses, and the development of recommendations	USA Norway <i>Project Team:</i> PAME shipping expert group



	that enhance Arctic marine safety and support protection of Arctic people and the environment etc.	PAME Secretariat
AMSA implementation progress report 2015-2017	Provide one more AMSA Shipping Progress Implementation Report for submission to the Arctic Council Ministerial meeting in 2017. This report should also address work pursuant to other Arctic Council shipping mandates and recommendations.	Finland Iceland Norway
Follow up on the Arctic Offshore Oil and Gas Guidelines (AOOGG 2009)		
Meaningful Engagement of Indigenous Peoples and Local Communities in Marine Activities <i>This is a cross-cutting oil & gas and shipping (refer to AMSA II(B)-Engagement with Arctic Communities) and contributes to the MPA follow-up..</i>	This project will compile and analyze existing documents and summarize their main aspects, principles, and processes for engagement of indigenous peoples and local communities. The project will cover all Arctic marine and coastal activities, including shipping, offshore oil and gas activities,-coastal infrastructure development, and research and management activities. The information to be compiled will come from Arctic Council documents and reports, national legal regimes and guidance of Arctic states, guidelines and declarations from communities and indigenous organizations, international instruments, and guidance from industry, NGO's and other stakeholders. Main activities include: <i>Finding and Compiling Information; Documenting Best Practices and Lessons Learned; Workshop on Best Practices and Lessons Learned; Narrative Report.</i> <i>Refer to Annex III for details on project plan, including timeline and budget.</i>	<i>Leads:</i> USA, Aleut International Association (AIA), Saami Council, Canada, ICC <i>Project Team:</i> PAME Oil and Gas Contact Group, PAME Shipping Expert Group.
Selected updates of the AOOGG 2009	The Oil and Gas Contact Group will consider the development of project proposals for the following activities: ✓ Possible updates to the sections of the AOOGG 2009 for environmental monitoring of operations, waste management, discharge of chemicals, and emissions for possible inclusion in the PAME Workplan 2017-2019. ✓ Respond as appropriate to AMSP Strategic actions and Themes and Projects of the 2015-2017 United States Arctic Council Chairmanship.	PAME Oil and Gas Contact Group PAME Oil and Gas Contact Group
Arctic Offshore Oil and Gas Regulatory Resource (Website)	Regular updates by the PAME Secretariat with inputs and reviews of web-links and updated information from Arctic Council countries.	PAME Oil and Gas Contact Group and PAME Secretariat



OBJECTIVE II:

Determine the adequacy of applicable international/regional commitments and promote their implementation and compliance

BACKGROUND:

Stewardship of the Arctic marine environment is of particular importance to Arctic States. Increased human activity in the Arctic (including in areas previously inaccessible due to ice cover) pose potential risks that warrant an ecosystem approach in order to maximize environmental protection and sustainable use of the marine environment from activities related to shipping, oil and gas operations, fishing, coastal zone development, and other activities .

The Arctic Council provides overarching guidance and leadership on protecting marine and coastal ecosystems in a changing Arctic through the Framework for a Pan-Arctic Network of Marine Protected Areas as well as the new Arctic Marine Strategic Plan (2015-2025) which outlines a long-term strategic vision for the Arctic marine environment and sustainable development based on healthy, productive, and resilient marine ecosystems that support human well-being for current and future generations.

Actions/Themes	Activities	Leads
Arctic Climate Adaptation and Resilience <i>(U.S. Chairmanship priority)</i>	Activities to be determined based on ministerial decision.	Various leads due to its cross-cutting nature
Task Force on Arctic Marine Cooperation (TFAMC) <i>(U.S. Chairmanship priority)</i>	PAME to feed into the analysis and outcomes of this Task Force.	USA
Enhance PAME’s work on a Pan-Arctic Network of Marine Protected Areas (MPAs) <i>(U.S. Chairmanship priority)</i>	Next steps (as per section 6.1 Near Term Actions 2015-2017 in the Framework of Pan-Arctic MPAs document) and includes the following projects: <ol style="list-style-type: none"> 1. Stakeholder engagement and communication (refer to the project on Meaningful Engagement of Indigenous Peoples and Local Communities in Marine Activities (Annex III). 2. Inventory mapping of existing Arctic MPAs (Annex IV). 3. Desktop study on area-based conservation measures and its linkages to categories of Arctic biodiversity – toolbox in support of marine protected area networks (Annex V). 	USA with PAME and CAFF Secretariats USA
Arctic Marine Strategic Plan (AMSP 2015-2025)		
Follow-up/implementation of the AMSP 2015-2025	Implementation plan to be developed during the period 2015-2017 and the aim is that specific activities will become integral part of future PAME work plans as approved at the biennial Arctic Council ministerial meetings.	Various PAME Secretariat



Ecosystem Approach to Management

Ongoing activities based on the work of the Joint Ecosystem Approach (EA) Expert Group (EA-EG) as per the revised Terms of References (ToR) (as a separate document).

EA activities are structured according to the six identified elements in the framework for implementation of the EA.

- i. Contribute to development of ecological objectives: Convene a workshop (the 5th EA workshop) on the issue of ecological objectives, summer 2015; Prepare a scoping white paper on the issue of developing Ecological Objectives by Arctic States, PPs, and AC working groups – Autumn 2015 (PAME II-2015 and other WGs); and prepare a Report “Status of Setting Ecological Objectives in the Arctic” for the SAO meeting spring 2016 (By LMEs, by Work Group).
- ii. Follow up actions on Integrated Ecosystem Assessments: Consider methodological developments in IEA in collaboration with ICES (ICES WGs on IEA for Barents Sea, Norwegian Sea) and other relevant organizations; Contribute to/review progress in the development of Transboundary Beaufort project; Review and report on progress on work on IEA in other Arctic LMEs (e.g. Barents, Bering, Chukchi, Beaufort, Baffin) including experiences from AMAP AACA-C and CAFF CBMP; and prepare a briefing “Work on Integrated Ecosystem Assessments of Arctic LMEs” for consideration by the working groups in Fall 2016/Spring 2017
- iii. Implementation of EA in the Arctic: Convene a workshop (possible 6th EA workshop) or conference on the status of implementing the EA in the Arctic – spring/summer 2016; Prepare a workshop report or conference proceedings – Autumn 2016; and prepare a 2017 Report to Ministers “Status of Implementation of the Ecosystem Approach to Management in the Arctic” (By LME, by Work Group)
- iv. Consider issues of scale in EA: Prepare a scoping document on the relationships between the specific ecosystem (LME) scale and the wider pan-Arctic (and global) scale(s) – Autumn 2015; and prepare a scoping document on use of information on identified areas of heightened ecological and cultural significance for assessment and management purposes within LMEs – Spring 2016.
- v. Supporting activities: Support development of a network of experts (community of practice) working to implement EA in the Arctic; and support development of a bibliographic resource that identifies key works in EA and IEA.
- vi. Reporting: The EA-EG will provide half-yearly progress reports on the work to PAME and the other AC WGs

Norway
USA

Project Team:
The Ecosystem Approach Expert Group (EA-EG)



OBJECTIVE III:

Facilitate partnerships, programmes and technical cooperation and support communication and outreach both within and outside the Arctic Council.

BACKGROUND:

There is a need to continue coordinating work with other working groups of the Arctic Council, regional and international organizations and programmes, local authorities and indigenous organizations in an effort to promote capacity building, sharing of information on the state of the Arctic marine environment.

Actions	Activities	Lead
<i>Information outreach and efforts to increase cooperation and collaboration with international/regional organizations.</i>	Liaise and exchange information with relevant organizations and programs (e.g. UNEP Regional Seas Programme) regions, and other regional programs.	PAME Chair/Secretariat
<i>Build the capacity and engagement of indigenous communities and other Arctic inhabitants.</i>	Encourage activities and proposals from Permanent Participants. Strive for the development of outreach and communication efforts and plans for PAMEs activities (e.g. through updates on the PAME homepage, brochures, roll-up stands and other communication material).	PAME Chair/Secretariat Permanent Participants
<i>Collaborations with AC Working Groups</i>	Review work plans of other AC WGs to identify areas for cooperation and respond accordingly.	All



A photograph of an Arctic marine landscape with several icebergs floating in the water. The scene is bathed in a warm, orange light, suggesting a sunset or sunrise. The water is dark, and the icebergs are white and jagged. The sky is a hazy, orange-brown color.

ANNEX I ARCTIC MARINE INDIGENOUS USE MAPPING: TOOLS FOR COMMUNITIES (AMIUM)

ANNEX I: ARCTIC MARINE INDIGENOUS USE MAPPING: TOOLS FOR COMMUNITIES (AMIUM)

Research Plan

A guidebook will be created that will enable communities to independently map their interactions with the marine environment. To test and better refine the guidebook, a mapping project will be conducted using the draft guidebook in three communities: King Cove and Sand Point in Alaska, and Nikolskoye in Kamchatka, Russian Federation. An explanation of how maps can be used to influence policy decisions will also be provided to participants.

The participating communities will each identify a Local Research Lead (LRL) to use the guidebook to carry out mapping projects. In cooperation with the LRL, each community (through the local tribal council) will define the parameters of the research (who will be interviewed, what type of values or interactions will be mapped, how this information will be displayed, and how it will be made available). The LRL will consult with the community throughout the process to ensure the process is conducted in accordance with community expectations and that the resulting map(s) accurately represent the information the community would like documented.

Throughout the mapping process, the PIs will serve as advisors and observers and will identify any challenges with effective use of the guidebook and mapping tools. Monthly teleconferences will serve to communicate project progress, in addition to any other needed communication. After the maps have been completed, the guidebook will be revised to reflect any necessary changes identified during the process. The guidebook will then be widely disseminated throughout Arctic coastal communities.

The proposed study falls primarily under the 'Human Dimensions: Social sciences applied to understanding management, policy, and communities' research priority. It will also contribute to 'Human-ecosystem relationships,' 'Local and Traditional Knowledge,' and 'Community Involvement.'

The project will create, test, and revise a guidebook that can be used by communities to map their use of marine areas, supporting the NPRB's identified need to document ways in which humans interact with marine ecosystems through culture and ways of life, as well as economically. This project will utilize and build on social science methodologies to generate spatial data displaying human values of marine areas, furthering the 2005 NPRB Science Plan goal of improving understanding of human use of marine resources.

The development and use of community mapping tools will elucidate human-ecosystem relationships by resulting in the creation of maps displaying where important interactions take place. Interview questions will inquire about the values attached to these places, which will increase understanding of complex traditional interrelationships between humans and the environment.

To date, most community-use mapping projects have been directed by outside researchers, in varying degrees of partnership with local community members. The proposed research will enable communities to assume primary responsibility for the interviewing and mapping process, utilizing the established framework for collecting, documenting, and presenting spatial information. Thus, communities will be highly involved throughout the project as an important goal is building research capacity within rural Arctic communities.

Thus, use of these mapping tools can inform institutional structures that improve participation and encourage wider representation, a priority emphasized by the NPRB Research Plan. In addition, by enabling community members to be the primary creators of these maps, the project is helping to seed the next generation of scientists, resource managers, and leaders, another priority identified by the Research Plan.

A temporal component will be emphasized if local experts believe there has been a significant shift in the past, believe a significant shift is currently taking place or likely to take place in the future. Because spatial patterns of human resource use correspond with patterns in the natural environment (Ellanna *et al.* 1985) documenting marine use can provide insights into environmental, and wildlife population change. Significant changes in resource use may be due to climate induced impacts (such as increased storm activity), management and/or industrial development (including increased vessel traffic) (Fidel *et al.* 2014). Thus, the project will inform our understanding of how changes in the LMEs are having economic and social impacts in coastal communities, an important priority identified by the Research Plan.



Even if communities decide not to include a temporal component in their first set of maps, the creation of initial maps by each community will establish baseline assessments for detecting future changes in local use of marine resources, an important research need. Although the State of Alaska’s Community Subsistence Information System (CSIS) provides some baseline data about harvest quantities, most of the information is not spatially explicit nor does it usually provide time-series data sets from which to understand changes in human use over time. The development and use of a tool that can be used by communities over time can support long-term monitoring, one of the primary goals of the NPRB Research Plan. Thus the project will inform our understanding of how natural variability and human-induced variability (including climate change) in marine ecosystems shape the goods and services provided by the ecosystem to humans over time, an area of research that has received little attention to date.

This project will also support the primary Research Plan goals of improving management of fish and wildlife populations and providing long term sustained benefits to local communities. As the Research Plan notes, successful management requires knowledge of impacts of management decisions on human users of the resources. The creation of maps identifying local use can be used to develop management scenarios identifying potential affects on subsistence use and can help policy-makers to outline a set of alternatives that can help inform choices and decisions.

The project will also help develop community capacity to conduct research and participate in decisions affecting their marine use, by providing the means through which compelling information about their marine use can be communicated and by including outreach to local leaders about the effective use of maps in management and policy.

This project will support one of the most important needs identified by the Research Plan as well as the “Global review of social science integration with natural resource management” (the NPRB Review): to help integrate social science with natural sciences and to support the incorporation of competing ethical and social values in natural resource management. As noted by the NPRB Review, the documentation of local use can explain the emergence of inequalities or social change when confronted with a management decision or a resource scarcity issue. Additionally, the project will contribute to much-needed research regarding the assessment of market and non-market values.

The project helps to fill an important research need by supporting social considerations in management decisions, and providing social science data in a manner that is easily formatted for policy-makers and managers. For example, the maps can be used to inform social impact assessments and ecosystem services valuations, two methodologies identified by the NPRB’s social science integration review. Maps provide a degree of quantified information while conveying social and cultural dynamics that are not easily enumerated or monetized.

Additionally, the use of these maps can help managers identify and develop clear, transparent social objectives at an early stage of the policy process, one of the benefits of social science integration into decision-making that was highlighted by the NPRB review. Similarly, by empowering local residents in the creation of maps that may be incorporated into decision-making, resulting regulations are likely to be more relevant and better accomplish management goals.

A peer-reviewed paper will be submitted at the end of the project that will explore how successful the guidebook was as a tool, how the maps were used, and whether they influenced any policy decisions. This assessment may help improve management decisions and institutions and provide insight into the benefits of using stakeholder participation in management.

The interviews will gather some local and traditional knowledge (LTK) about important places which may be integrated within the project framework and translated through maps to decision makers. While LTK is not a main focus of the research, this project is one avenue for translating place-based LTK into a more nuanced understanding of marine social-ecological systems, especially when considering the long term understanding that LTK can bring to use areas that have changed over time. As the NPRB Review notes, LTK is useful in a management context because of the breadth and depth of what locals know will supplement scientific knowledge.



Statement of societal relevance:

As shipping, fishing, and natural resource extraction activities expand northward due to climate change, competing interests and uses are becoming more commonplace in the marine environment. Identifying marine areas of significance for Arctic communities is crucial for preventing future conflicts between coastal communities and marine-based industries. Although various local uses of the Alaska marine environment have been documented, very little of this use has been mapped. A spatially explicit identification of these uses is necessary to design appropriate measures to reduce potential conflicts.

There is also a lack of information about the habitat, distribution, and life cycles of many species as well as a lack of understanding about how climate change is affecting these species. The mapping projects undertaken with the tools this project will develop enable communities to document their observations and knowledge about the species they use.

Climate change effects are happening at a quick pace, faster than experts can document. The remote locations and extensive marine and coastal areas experiencing changes are also hard to reach for people living outside the region, and research funding is limited. A tool that can be used by local communities addresses these challenges and multiplies the amount of information that can be documented about climate change effects on the ecosystem and human use.

As people who have depended on the sea since time immemorial, indigenous communities seek to maintain their subsistence practices. Traditional lifestyles are intricately connected to emotional, spiritual, and physical well-being, and are vulnerable to climate change and industrial development (Gadamus 2013, Raymond-Yakoubian 2013). To protect and maintain their relationship with the marine ecosystem, these communities must have the tools to communicate their values and influence policy. Maps of marine use areas can be an effective tool for use in decision-making (Fidel *et al.* 2012, Huntington *et al.* 2013). Communities must also develop the capacity to use these tools effectively in the policy-making arena. The guidebook will provide the tools for a community to independently create marine use maps, which will include on-line tutorials. The published hardcopy of the guidebook will include tutorials as a companion CD. The guidebook will be published in both Russian and English and widely distributed, thereby having broad impact in providing a voice to communities throughout the Arctic.

Resource managers need to better integrate sociological information into their decision-making. They also need better information about the marine ecosystem and human uses of it to inform their decisions. The maps created from the tools developed in this project will serve as an avenue to communicate local values of marine uses to outsiders and increase the information available to decision-makers strengthening the decision-making process. In addition, decisions resulting from the maps are more likely to be relevant to, and accepted by rural communities since they will have control of the mapping project.

Project Objectives:

1. Workshop in Anchorage to:
 - a. bring together the Local Research Lead (LRL), Advisory Committee Member (ACM) from partner villages, project staff, representative from the Exchange for Local Observations and Knowledge of the Arctic (ELOKA) and experts
 - b. set research priorities and goals (what to map and for what purpose)
2. Equipping LRL
 - a. Initial introduction of marine use mapping including purpose and use, introduction of guidebook and tools to LRL
 - b. AIA staff will document any support given to guide development of the guidebook
3. Conduct Research
 - a. If needed support will be provided by AIA staff



4. Debrief
 - a. AIA staff will travel to each partner community to debrief with local tribal councils and LRL, these discussions will be essential in developing a guidebook relevant to Arctic communities
5. Community meetings
 - a. Community meetings will occur in each partner community to inform the broader community about research activities and findings
6. Guidebook publication
 - a. A final guidebook will be drafted with lessons learned from the research process and sent out to experts and the local tribal councils involved in the project for review
 - b. The final guidebook will be published in Russian and English and widely distributed
7. Publication submission
 - a. A paper will be submitted to a peer-reviewed journal that discusses the process, lessons learned and application of the maps to the decision making process
8. Presentation at the January 2017 Marine Science Symposium to share findings and lessons learned
9. Examination of the potential for expansion of the project to communities in other Arctic States beyond Alaska and the Russian Federation, including consultation with other Arctic Council Permanent Participants.

Project Design and Conceptual Approach:

A primary methodology for documenting traditional use areas is the map biography process (Tobias 2009), which is rooted in social science interviewing techniques and geography. Many variations of this process exist depending upon the cultural context in which the research takes place and the purposes for which the maps are created. Of the resources that have been published dealing with Indigenous use mapping methodology none deal specifically with the marine environment. This is a relatively new area of study. In addition, the tools and guidance needed for communities to create scientifically sound mapped products in the marine environment do not exist (Hughes *et al.* 2013).

Identifying marine areas of significance for Indigenous Peoples is crucial for preventing future conflicts between coastal communities and marine-based industries. The Arctic Marine Shipping Assessment (AMSA 2009) identifies a need for 'Regional analyses of traditional marine use patterns (spatial and seasonal) for application in the development of strategies and measures to reduce potential conflicts and impacts of multiple users of Arctic waterways.' This need provided the impetus for AMSA recommendation IIA, which encourages Arctic states to conduct surveys on Arctic Indigenous marine use to fill gaps and provide baseline data to address impacts from Arctic shipping. In addition, the final report of the Arctic Ocean Review (AOR 2013), section 3.4.3(5) states that 'Arctic states in cooperation with the Arctic Council should assist, as appropriate, the Permanent Participants with documentation of current and historical (a) timing and geographical extent of local uses of the marine environment, and b) levels of traditional marine resources harvests.' As the Aleut International Association is a Permanent Participant of the Arctic Council it is uniquely situated to take action on these recommendations. This project will address these recommendations by empowering communities to take charge of mapping areas important to their community. The guidebook will be transferable to all rural, indigenous Arctic communities and has the potential to significantly address these international recommendations.

Large vessel traffic is expected to significantly increase in Great Circle Route that passes through the Aleutian Islands (AIRA 2014). This will likely affect traditional lifestyles through direct overlap of traffic and traditional marine use areas, effects to the biological resources that people are dependent upon and increased risk of oil spills and contaminants. These conflicts are not isolated to the Aleutian Islands; similar



issues with increased vessel traffic have been identified in the Bering Strait region, along the Northwest Passage. In addition, increased vessel traffic is also just one of many expected industrial developments in the Arctic. As such, identification of areas important to a community's well-being is a step toward local empowerment in the protection of those areas and is extremely important to the survival of rural Arctic communities.

Nikolskoye, in the Russian Federation is situated in the Commander Islands Nature Preserve (Komandorsky Zapovednik) a UNESCO World Heritage Site. Currently, the administration is developing new management regulations (Marina Sheetova, personal communication, April 2014). Maps of areas important to the community's well-being may contribute to regulations that respect local traditional uses, which would contribute to conflict reduction and community sustainability.

In most cases the consequences of climate change to community well-being are not well understood, but the rate and magnitude of these changes are likely to challenge the adaptive capacity of Arctic residents (Hovelsrud *et al.* 2011). Climate change effects on the marine ecosystem are affecting subsistence use. The timing of animal migratory patterns are changing, seasonal weather patterns are less predictable, and changes in the timing and nature of freeze up and break up are all challenging long-held subsistence traditions and practices, making survival more difficult for many communities. Baseline assessments of subsistence use areas and the ability to measure changes in area use over time will help communities determine how to adapt to climate change effects on subsistence.

Community-based research and monitoring has been identified as an important step toward empowerment for adaptation, producing relevant adaptation strategies and effectively integrating information into decision-making in a timely and cost effective manner (Ford & Pearce 2012). Because maps of indigenous use often contain sensitive information and frequently result in policy affecting local communities Arctic residents should have knowledge and power in this realm. This work can position residents to be actors in natural resource decision making. Resulting maps could be used to inform risk and vulnerability assessments in order to reduce spatial and temporal conflict of encroaching development. This may enhance quality of life by providing better protection of areas important to community well-being and allowing Arctic residents to better manage current and future challenges and opportunities.

The project will directly build local capacity to conduct research, create maps and use them in decision-making in King Cove, Sand Point and Nikolskoye using community-based research.

Important use areas will be mapped in the three communities and used to document information that can serve as baseline assessments and that can be used to influence resource management and decision-making related to marine commercial activities.

The project will result in the development of a community guidebook and mapping tools designed and distributed for use by a wide range of communities throughout the Arctic. The guidebook will include easy-to-use on-line tutorials available either through ELOKA's website or as a companion CD, which will provide the means for Arctic indigenous communities to independently conduct mapping project of their marine use.

This proposal builds on the work that the principal and co-investigators have developed independently into an integrated, multidisciplinary approach. As background research for this project, Layla, Maryann and Jim published an article on subsistence use mapping in the Arctic. This included a literature review of subsistence use mapping across the circum-arctic, as well as of information about subsistence use and impacts to subsistence. The project involved extensive interviews and discussions with subsistence resource managers, subsistence users, and subsistence researchers, and identified the essential components and methodologies involved in community use mapping in the marine context.

Jim has extensive experience in the need for improved marine Indigenous use mapping through the development of the Arctic Marine Shipping Assessment (AMSA) report and the follow-up on the implementation of the report's recommendations, particularly with regard to recommendation IIa on the need for surveys of Indigenous marine use. As the lead for Aleut International Association he has reported on the development of this project to the Arctic Council working groups PAME (Protection of the Arctic Marine Environment) and SDWG (Sustainable Development Working Group). Jim has also worked in the area



of indigenous marine resources on community-based projects related to testing for the presence of shellfish toxin, and survey marine subsistence use in the Bering Sea region.

The project builds directly on Layla's previous research regarding marine subsistence use in Alaska, marine commercial activities and their impacts on subsistence use and the ecosystem, and law and policy-making in the marine context in Alaska.

Maryann's background in spatial database management, community-based research, and participatory mapping will provide valuable contributions to this project. She also has extensive experience in working with, and traveling to rural Arctic indigenous communities.

Project Management:

PI Jim Gamble will be responsible for overall project progress and budgeting. Co-PI Maryann Fidel will serve as the Research Lead and will be the main point of contact for partner communities. Co-PI Layla Hughes will advise throughout the project and will lead the development of the guidebook in collaboration with ELOKA.

Jim Gamble has a degree in Biology from the University of Alaska, Anchorage and served as Assistant Director of Aleut International Association from 2007 to 2012 when he was appointed as Executive Director by AIA's Board of Directors.

AIA is one of six Permanent Participant Organizations in the eight member Arctic Council and Jim serves as AIA's lead representative on the ACAP, PAME and SDWG working groups. In addition, he has served as lead for AIA, and helped to negotiate the legally binding instrument on Oil Pollution Preparedness and Response which was signed by the Ministers of the eight Arctic States in May of 2013 in Kiruna, Sweden. Jim has also served as AIA's representative to the Ecosystem Based Management Expert Group and help to develop that groups recommendations on how to more fully utilize EBM in the work of the Arctic Council. Jim also currently serves as lead for AIA to the Arctic Councils Task Force on Scientific Cooperation, and the Task Force on Oil Pollution Prevention. During the past 18 months, AIA has served as Chair of the Indigenous Peoples Secretariat and during this time Jim has Chaired two workshops which have helped to develop, with the other five Permanent Participants, a set of principles for the better inclusion of Traditional Knowledge into the work of the Arctic Council.

Jim has also helped to develop, manage and produce deliverables for numerous community-based monitoring projects undertaken by AIA including a project to develop and test a community based testing regime for paralytic shellfish toxin, the Bering Sea Sub-Network (BSSN), a project to survey marine subsistence use in the Bering Sea, and the Community Observation Network for Adaptation and Security (CONAS), a project that expands on BSSN to look at adaptive capacity and develop a set of adaptive capacity indices in eight communities in the Bering Sea region of Alaska and the Russian Federation.

Maryann Fidel holds an interdisciplinary Master's of Science in Environmental Science from Alaska Pacific University and has five years of experience working on a community-based monitoring project that includes a participatory mapping portion. Her education includes social science as a means to explore how people interact with the natural environment. She has worked on the BSSN Project, an international community-based monitoring network, from 2009 to its completion in 2013. She started as the Survey Manager at the Aleut International Association where she oversaw the surveying process in eight Bering Sea villages and developed datasets for quantitative, qualitative and spatial (GIS) data. While working on the BSSN project she developed an innovative mapping technique to incorporate abundant data, protect the confidentiality of respondents and be useful in decision-making (Fidel *et al.* 2012). She has traveled frequently to remote indigenous communities to provide training in interview technique and scientific protocol, meet with tribal councils, and conduct community meetings. In 2012 her employment moved to collaborating partner University of Alaska Anchorage, Resilience and Adaptive Management Group where she focused on analysis and writing-up results. Currently, she is Project Manager at the Aleut International Association and has worked to develop CONAS. She has expertise in human use GIS mapping, human dimension of natural resource management, quantitative analysis, qualitative analysis, and social science methodologies.

Maryann is AIA's representative to the Arctic Council's biodiversity working group, the Conservation of Arctic Flora and Fauna (CAFF). Currently, she is working on a CAFF project entitled 'Valuing the Arctic'. A



case study selected for this project is examining the effects of increased vessel traffic in the Bering Sea and how society values ecosystem services surrounding this issue.

Layla Hughes has 15 years of experience in environmental science, law, and policy. Since 2004, she has focused on Arctic issues, including conflicts between competing marine uses. Layla has in-depth experience in assessing the impacts of marine commercial activities including oil and gas and shipping, as well as intimate knowledge of the issues and concerns of indigenous communities.

Layla has extensive experience with researching, analyzing and writing about sociological and environmental issues in Alaska. Her most recent subsistence research project, for the Bering Straits Coastal Association, involves a comprehensive literature review of subsistence studies in the Bering Strait area and extensive community meetings and interviews with subsistence users and resource managers to identify research gaps and highlight priorities for future subsistence research.

In addition to research and documenting use of and impacts to subsistence in the marine environment, Layla has significant experience in participating in the decision-making process and helping local community and conservation interests to inform and influence this process. For example, as an Assistant Borough Attorney at the North Slope Borough (NSB), Layla led the NSB's participation as cooperating agency in the Environmental Impact Statement for the Northeast National Petroleum Reserve-Alaska (NPR-A), assisted with drafting Health Impact Assessments and mitigation measures for impact assessments for the NPR-A and the Outer Continental Shelf, assisted the NSB Planning Department with local permitting, and participated in the NSB's work to address concerns related to offshore exploration drilling. As part of the work on offshore drilling, Layla drafted and conducted interviews with subsistence users, collecting information about subsistence use and impacts to subsistence, and presented and summarized the information for the NSB Law Department's use. She has worked on behalf of subsistence users, including the Alaska Eskimo Whaling Commission and the Arctic Marine Mammal Coalition, to represent subsistence concerns in governmental decision-making processes.

Layla has far-reaching experience managing multi-year, multi-stakeholder projects as well as organizing numerous individual workshops, including a two day workshop in Anchorage that explored ocean policy and spatial planning from the Alaska Native perspective, focusing intensively on subsistence use and impacts to subsistence, and attended by 40 people from various remote villages in Alaska and Canada. Layla also organized a two-day workshop in Barrow that addressed impact analysis in natural resource decision-making and included people from across the North Slope. As part of this project, Layla lead a discussion among subsistence users about impacts to subsistence, guided subsistence users through a review of government-created impact assessment studies, and assisted participants in drafting comments about subsistence use for submission to decision-makers.

She has taught courses on impact assessment, permitting, and decision-making at the University of Alaska and Vermont Law School. Layla is a Commissioner on the Alaska Arctic Policy Commission, where she is a member of the Governance and Indigenous Peoples working groups, and she is a member of the Aleutian Island Risk Assessment Advisory Panel, which is crafting risk reduction measures for shipping activity in the Aleutians.

This project will be a close partnership with communities. Each tribal council will be asked to select a person from the local tribal council to serve on the Advisory Committee, and recommend a Local Research Lead (LRL). Both the Advisory Committee Member (ACM) and the LRL will participate in the Anchorage workshop. The ACM will guide the research within their community by determining priorities and goals for the research. They will serve as the main contact in community coordination and data release. The LRL will be responsible for conducting the research within their community. This includes participating in training, conducting interviews with local residents, entering data and creating maps.

Major research activities will be communicated to the local tribal councils through regularly scheduled council meetings.



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Project Timeline:

Date	Objective
September 2015	Anchorage Workshop
September 2015	Update to PAME II 2015
September/October 2015	Equip Local Research Leads (LRL)
October 2015	Research Phase Begins
November 2015 to May 2016	LRL/Tribal Council Debriefs
November 2015 to May 2016	Community Meetings
February 2016	Update to PAME I 2016
May 2016	Research Phase Ends
June to August 2016	Handbook Review by Communities & Experts
September 2016	Project Report and Handbook to PAME II 2016 for review
October 2016	Final Version of Handbook Published in English & Russian
November 2016	Journal submission to report findings
January 2017	Presentation to Alaska Marine Science Symposium
February 2017	Report on findings and best practices to PAME I 2017

The Project Budget (USD):

Personnel	85,424
Travel	36,454
Equipment	2,250
Supplies	1,760
Contractual	14,000
Russia Subaward	25,220
Indirect	33,022
Total	198,130



A photograph of an arctic seascape with several icebergs floating in the water. The scene is overlaid with a semi-transparent orange filter. The text is centered in the upper half of the image.

ANNEX II
ARCTIC REGIONAL RECEPTION
FACILITIES PLAN (RRFP)

ANNEX II - ARCTIC REGIONAL RECEPTION FACILITIES PLAN (RRFP)

Project Summary

The provision of adequate reception facilities in the Arctic present unique challenges for both ships and ports. One submission (PAME (II) 13/4.5/c/USA and Russian Federation) proposed utilizing the concept of regional arrangements for port reception facilities at ports in the Arctic and near Arctic areas to meet the challenges unique to Arctic shipping and ensure compliance with MARPOL.

The concept of regional arrangements for port reception facilities was recognized by IMO as early as 2006 (MEPC.83(44)). Amendments to each of the MARPOL Annexes were adopted in 2012 by IMO Resolution (MEPC.216(63) and MEPC.217(63). Regional Arrangements were originally adopted as the only practical means that would allow for Small Island Developing States (SIDS) meeting criteria outlined in the guidelines, and because of their unique circumstances, to meet their MARPOL reception facility obligations. MARPOL Parties participating in a regional arrangement for port reception facilities are required to develop a Regional Reception Facilities Plan, taking into account the guidelines developed by IMO and adopted by Resolution MEPC.221(62) *Guidelines for the Development of a Regional Reception Facilities Plan* (the "Guidelines"). The document PAME (I) 14/4.7/b/USA and Russian Federation, outlines a regional reception facilities plan relevant to the Arctic and based on IMO guidelines and adopted for the unique circumstances in the Arctic.

The PAME I-2014 meeting adopted a ROD inviting Russia and the United States to co-lead a correspondence group (CG) to prepare a work plan/project plan to be submitted to PAME II-2014, for developing a draft regional reception facilities plan specific to one or more regions of the Arctic taking into consideration relevant circumstances.

The PAME II-2014 meeting adopted a ROD to continue the work of the correspondence group to develop a draft regional reception facilities plan specific to one or more regions of the Arctic, taking into consideration relevant circumstances based on the Correspondence Group's submission to PAME's fall 2014 meeting (PAME (II) 14/4.6/b/by USA, RU, CA, FI, GL(DK), and NO), outlining a project plan to undertake the work and a time line to be included in the PAME 2015-2017 Work Plan.

Key Objectives

The objective of this project is to provide a Regional Reception Facilities plan (RRFP) and complete the specific project tasks for the development of appropriate and effective regional port reception facilities arrangements (RA) to ensure that ships transiting Arctic regions can comply with all applicable provisions of MARPOL. Port operators servicing ships calling at Arctic ports, or departing for or returning from Arctic regions, will be able to provide adequate MARPOL reception facilities without undue delay to ships.

The concept of regional arrangements will allow Arctic ports servicing ships calling at those ports, or departing for or returning from Arctic regions, to provide adequate reception of MARPOL wastes without undue delay to ships. The Correspondence Group will give every consideration to applicable international regulatory schemes with special attention to the Polar Code; other IMO guidance; and ISO standards.

Specific Project Tasks

Specific project tasks for the development of an Arctic RRFP will include the following:

1. **Identify the region.** The Arctic region should be defined as in the Polar Code, when it is adopted. However, both Arctic ports and near Arctic ports and adjacent seas and land areas should be included/identified if such ports or areas of ocean are determined to be necessary and appropriate for an effective RA. Ports beyond the Arctic and near Arctic may also need to be included/identified if such ports are regularly the last port of call prior to ship entering the Arctic region or the first port of call for a ship leaving the Arctic region. A map should be provided, showing clearly the region and any adjacent areas to be included.



2. **Identify the nature of the unique practical circumstances and challenges that affect the ability of port states in the defined area to provide adequate port reception facilities.** While the conditions may differ somewhat from one Arctic country to another, examples of common circumstances that may affect Arctic port states include:
- poor access due to insufficient or uncharted depths in channels from sea to ports or inadequate piers/terminals within a port or no port infrastructure to receive ships or wastes from ships at anchor;
 - high costs of and difficulty in constructing new infrastructure due to remoteness or geological characteristics of the port;
 - some countries have many small settlements spread out over a large geographical area.
 - changing ice conditions which would prevent practical use or siting of reception facilities;
 - landside environmental concerns regarding waste processing and disposal facilities for ship's waste, due to permafrost, space limitations, community support, the ability of the domestic waste stream to accommodate the additional burden from ships, the availability and capacity of local populations to staff the facilities, and the proximity to environmentally sensitive areas, protected habitats, designated refuges, or culturally sensitive areas; and
 - PRFs in logistically challenging remote areas (seasonally or year round) or complete inability to operate at some PRFs during winter months due to seasonal ice conditions.
- 3 **Undertake and document a comprehensive cost/benefit analysis as part of the need to demonstrate a compelling need for RA.** While present needs of ships making voyages in the Arctic are being met, an analysis and assessment of the environmental risks should be included in any cost/benefit analysis of the alternatives described in the RA for managing ship's waste as Arctic shipping increases in the coming decades. It may be prohibitively expensive for ports to receive ship's waste in an environmentally sound manner at every Arctic port. Such excessive costs thus increase the cost to ship owners/operators and ultimately, to consumers. Alternatives should be explored and assessed in terms of the environmental impacts and risks associated with collecting, storing, transporting and disposing of ship generated wastes and cargo residues discharged to a port reception facility. While equipment and technologies may generally exist for ultimate disposal of ships' wastes, it may be cost prohibitive to install such equipment and technologies in remote areas. Doing so may also create unacceptable risks in ecologically or culturally sensitive areas.
- 4 **Identify and list all types of ships and the needs of each type of ship.** For example, cruise ships will have very different waste management needs than container or dry bulk cargo ships and will differ from tankers. Fishing vessels will have unique reception facility needs differing from mineral extraction activities support vessels. The RRFP will clearly identify how a regional waste management strategy will ensure that all ships will be able to comply with MARPOL and the anticipated mandatory Polar Code. IMO guidance provides more detail on the types of ships to be identified along with the likely types of waste generated. ISO Standards should be consulted to calculate the amounts of waste generated aboard ship.
- 5 **Identify the route(s) and ports of call for ships in the region.** Several PAME reports, such as the PAME HFO report and the AMSA II(D) reports, have studied ship traffic patterns in the Arctic to date, and some projections for increasing traffic, by ship type, have been made. An Arctic RRFP will need to list the actual type and volume of ship traffic, route(s), and ports of call including port of origin (within or outside of the Arctic) and the destination and if such voyages will be transiting a Special Area or PSSA prior to entering or upon departing the Arctic Ocean. The Arctic RRFP should also include anchorages and time to be spent in port for ships on routes in the Arctic to ensure that ships can retain wastes on board safely until they have the opportunity to discharge wastes at a regional ships waste reception center (RSWRC) identified as part of the RRFP. Specific data on what types of waste and capacity for receiving such wastes should be provided for all ports included in a RRFP.



- 6 **Identify stakeholders and include consultations with them.** Each country participating in a RRFPP will collect such information to be incorporated into the RRFPP. Stakeholders will include Government officials and maritime authorities in each country party to the RRFPP; the port users including ship masters and ships agents and waste service providers.
- 7 Provide additional information/documentation as required regarding consultations with IMO, submission for approval to MEPC, required reports to be submitted to IMO.

Project Timeline and Milestones

As approved at PAME-II 2014, the project will start in the beginning of 2015 (already started) and it should be finalized by the end of 2016.

February 2015: Progress report (initial) to PAME I – 2015

September 2015: Progress report to PAME II – 2015

February 2016: Progress report to PAME I – 2016

September 2016: Submit Draft Deliverable RRFPP project document(s) for review.

December 31, 2016: Submit Final Deliverable RRFPP project document(s) to PAME Secretariate with report and recommendations for action.

Deliverables

The proposed deliverable is a draft Arctic RRFPP which could be used as a planning aid for developing appropriate and effective regional port reception facilities arrangements (RA) through IMO to facilitate Arctic State compliance with MARPOL provisions.

Project Management

The United States and the Russian Federation will Co-lead the project and Correspondence Group intercessional work and provide regular updates to PAME on the project.

As of February 2015 the project team consists of the following representatives:

US: David Condino, Darwin Jensen (david.a.condino@uscg.mil; Darwin.a.Jensen@uscg.mil) Co-Chair

RU: Natalia Kutaeva (Kutaevang@smppsa.ru) Co-Chair

NO: Geir Hövik Hansen (geir.hovikhansen@sjofartsdir.no)

FI: Anita Mäkinen (Anita.Makinen@trafi.fi)

GL(DK): Tina Mønster (tinm@nanoq.gl)

CA: Jeannie Stewart-Smith, Paul Mudroch, Drummond Fraser (jeannie.stewart-smith@tc.gc.ca; paul.mudroch@tc.gc.ca; Drummond.fraser@tc.gc.ca)

Additionally two observer organizations (Earthjustice.org, and Friends of the Earth.org) have expressed interest in the project and two Observer Countries (China and Republic of Korea) have expressed interest in the project.

Budget

The project will be funded entirely through in-kind donations from AC member state delegations to PAME and other AC work groups as required to complete the project.





ANNEX III
MEANINGFUL ENGAGEMENT OF
INDIGENOUS PEOPLES AND LOCAL
COMMUNITIES IN MARINE ACTIVITIES

ANNEX III - MEANINGFUL ENGAGEMENT OF INDIGENOUS PEOPLES AND LOCAL COMMUNITIES IN MARINE ACTIVITIES

Project Summary

This project will prepare a narrative report of information on existing mechanisms, including legal mandates, declarations, guidelines, recommendations and best practices developed by the Arctic Council, its member governments, States, international and regional bodies, industry and other stakeholders, for engagement by indigenous peoples and local communities in Arctic marine activities. The report will compile this disparate information into a single document with background and support documents hosted on the PAME website. A public workshop will be held to gain insight into basic principles of meaningful engagement and examples of best practices and lessons learned from a wide group of stakeholders. Results of this workshop will be included in the final project report.

The final report and supporting documents can be used by the Arctic Council in a possible follow-up project for updating any of its existing guidance and identifying areas where additional guidance is needed and should be developed or as a value added resource for other projects undertaken by the Arctic Council and other Arctic stakeholders.

Key Objectives

Indigenous peoples and local communities located in Arctic coastal areas depend on the sea for food, transportation, and for cultural and spiritual identity and social well-being. Industrial activities in Arctic marine and coastal areas have impacts on these people, and it is vital that they are involved and engaged in a meaningful way to benefit and mitigate negative consequences of such activities. The Arctic Council has long provided recommendations and guidance on how government and industry can engage Indigenous Peoples and local communities. In addition, local communities, indigenous organizations, industry and governments have also provided guidance and rules. But these are spread across many sectors, Arctic Council working groups, reports, and government and other documents.

Compiling existing information on some requirements, guidance or recommendations for engagement of indigenous peoples and local communities in marine activities can help identify principles, processes, and mechanisms for achieving meaningful engagement and aid governments and industry in finding ways to improve their relationships and interactions with indigenous peoples and local communities who are most affected by their maritime decisions, actions and activities. The final Project Report and supporting documents will serve as a useful source of information and a resource for other Arctic Council projects.

The project will also provide the background, context, and assessment tool(s) for addressing:

- ✓ Recommendation IIB --*Engagement with Arctic Communities*-- in the AMSA, 2009, to determine if effective communication mechanisms exist to ensure engagement of Arctic coastal communities to increase benefits and help reduce the impacts from shipping.
- ✓ Updating of the Arctic Offshore Oil and Gas Guidelines, 2009 by assessing the existing guidance for completeness and relevance. The primary guidance for engaging indigenous people and local communities in the AOGG, 2009 is substantially unchanged since the original guidelines were developed in 1996.
- ✓ The Arctic Marine Strategic Plan (2004) Strategic Action 7.6 -- *Build the Capacity and Engagement of Arctic Inhabitants*, and SA 7.1.2 on use of TK, community monitoring and the involvement and consultation of indigenous and local communities. Though most of the Strategic Actions from the AMSP 2004 have been implemented, these SAs are still pertinent and needed actions.
- ✓ Arctic Ocean Review recommendations 1 and 2 in Chapter 2 -- *Indigenous Peoples and Culture* on issues of marine resource use and inclusion of Traditional Knowledge in sustainable marine development.



- ✓ The Arctic Biodiversity Assessment Recommendation Implementation Actions, *Recommendation 14*: Indigenous perspectives of changes in biodiversity; Lessons learned from ABA; AC guidelines on traditional knowledge; Knowledge co-production project; and Building partnerships; as well as *Recommendation 15*: Community guide to participatory monitoring.
- ✓ The Arctic Marine Strategic Plan 2015-2025 Strategic Action 7.4.1
- ✓ The Arctic Council Scientific Cooperation Task Force Article 10 – *Traditional and local knowledge*.
- ✓ Recognition of the preamble to the Arctic Council Task Force on Oil Pollution Prevention – “*Considering that indigenous peoples, local communities, local and regional authorities, as well as residents of the Arctic may provide important resources and knowledge about the Arctic marine environment necessary for the development and adoption of measures to prevent marine oil pollution...*”
- ✓ The Arctic Marine Tourism Project voluntary best practice guidelines.
- ✓ Pan-Arctic Marine Protected Area Network
- ✓ Ecosystem Approach Expert Group Effort for an Arctic Council Definition of Ecological Objectives

Note that this is an illustrative list. There are other Arctic Council Reports, Recommendations, and Assessments that will be/could be addressed. The Project will help assess the need for updating or expanding existing guidance, or developing additional guidance and form the basis for a Phase II project on engagement of indigenous peoples and local Arctic communities.

Scope

This project will compile and analyze existing documents and summarize their main aspects, principles, and processes for engagement of indigenous peoples and local communities. The project will cover all Arctic marine and coastal activities, including shipping (vessel activity), offshore oil and gas activities (i.e. surveys, drilling rigs, support vessels, etc.), coastal infrastructure development (i.e. ports, support facilities, supply and response depots, waste reception facilities, etc.), research, and management actions (i.e. MPAs, EBM, moratoria, vessel traffic schemes, etc.). The information to be compiled will come from Arctic Council documents and reports, national legal regimes and guidance of Arctic states, guidelines and declarations from communities and indigenous organizations, international instruments, and guidance from industry, NGO’s and other stakeholders.

Main Components and Implementation

Finding and Compiling Information:

Phase I of the project will compile and analyze existing laws, rules, declarations, recommendations, guidelines and best practices related to engagement and participation of indigenous peoples and local communities in marine activities. This compilation will be done through a call for information to other Working Groups, member government’s national authorities, Permanent Participants, Observers, and others, to be conducted by a contracted researcher/writer under the guidance of the Oil and Gas Contact Group, the Shipping Expert Group, and the project leads in PAME.

A folder will be created on Google Drive for these documents and spreadsheets. Located at drive.google.com and enter the email and password below to access. “indigenous.marine.use@gmail.com,” password “Indigenous123.”

The information on engagement and participation of indigenous peoples and local communities derived from Arctic Council documents and reports, Arctic national legal regimes and guidance, guidelines and declarations from communities and indigenous organizations, international instruments, and guidance from industry, NGO’s and other stakeholders, will be organized by topic or issue and by general source (Arctic Council, industry, indigenous organizations, etc.) and will be maintained in a spreadsheet and document library. This information base will be used in planning and conducting a Workshop and for writing the report.



It will also be an important resource for a possible follow-on Phase II Report and guidelines. This spreadsheet and associated document library can also serve as an information resource for interested stakeholders and other projects and initiatives.

Documenting Best Practices and Lessons Learned:

The project will use information from various Arctic Council documents including but not limited to: Arctic Offshore Oil and Gas Guidelines of 2009, AMSA IIC Report on areas of heightened cultural significance, the AMAP Assessment Oil and Gas Activities in the Arctic—Effects and potential Effects, 2010 (OGA) Chapter 3 on Socioeconomic Effects, the Arctic Human Development Report, and contributions from Working Groups, countries and Permanent Participants, to preliminarily identify possible examples of best practices, processes, and lessons learned for consideration.

Workshop on Best Practices and Lessons Learned:

The preliminary examples along with information from the spreadsheet and document library, will form the basis for a Workshop on Best Practices and Lessons Learned for Engagement and Participation of Indigenous Peoples and Local Arctic Communities in Marine Activities. This workshop will be open to all interested and affected stakeholders and will result in identifying examples of best practices and lessons learned from various areas and marine industrial sectors in the Arctic to include in the final project report.

Narrative Report:

Supporting narrative summary text will be written by a professional researcher/writer who will find and compile additional existing information and draft the report. Information from the information base on existing legal mandates, declarations, guidelines, and recommendations will be referenced and summarized and examples of best practices and lessons learned from the database and from the results of the workshop will be described in the final report.

List of Tasks/Activities:

- ✓ Research, select and compile existing information. This will be done by the project team and through a call for information to other Working Groups, member countries national authorities, Permanent Participants, Observers, and others. The information sources will be posted to the dedicated folder on the PAME webpage.
- ✓ Organize a spreadsheet of laws, rules, recommendations, guidelines, and declarations, as well as examples of best practices and lessons learned. The spreadsheet will be organized by topics and by general sources of information. This will be done by the contract researcher/writer under the direction of the project team with Arctic Council member government legal review and input.
- ✓ Compare similar laws, guidelines, recommendations and other information to identify and categorize basic fundamental issues and guidance topics. This will be done by the contract researcher/writer under the direction of the project team with Arctic Council member government legal review and input.
- ✓ Draft summary narrative text of referencing existing laws, guidelines, recommendations and other information based on the analysis of the database. This will be done by the contract researcher/writer under the direction of the project team with Arctic Council member government legal review and input.
- ✓ Hold a workshop for all stakeholders for soliciting examples of best practices and lessons learned from various sources and areas in the Arctic.
- ✓ Draft summary narrative text of best practices and lessons learned from the database and the results of the workshop. This will be done by the contract researcher/writer under the direction of the project team.
- ✓ Prepare first draft report. This will be done by the contract researcher/writer under the direction of the project team.



- ✓ Incorporate comments and finalize report. This will be done by the contract researcher/writer under the direction of the project team.
- ✓ Organize a project outreach process including press releases, posters, and other media as appropriate to be done by the PAME Secretariat and countries. The target for distribution will include Arctic governments, industries, and researchers conducting Arctic marine or coastal activities such as oil and gas, shipping, coastal development, and scientific surveys.

Timeline and Major Milestones:

- ✓ February 2015: Apply for funding to contract with a researcher/writer and develop a Statement of Work for to the contract.
- ✓ Spring 2015: Select a contract researcher/writer
- ✓ Spring 2015-Fall 2015: Develop project report draft. This period would include project group meetings by phone.
- ✓ August 2015: Draft Report – Summary Narrative Text and Database sent out for national review.
- ✓ PAME II 2015 (Sep): Deliver progress report. Address comments to the “first half draft.” Conduct an open Workshop on Best Practices and Lessons Learned for Meaningful Engagement of Indigenous Peoples and Local Arctic Communities in Marine Activities.
- ✓ Fall 2015 to Spring 2016: The full draft including Case Studies of Best Practices and Lessons Learned.
- ✓ February 2016: Final Draft sent for national review and comments included before PAME I 2016.
- ✓ PAME I 2016: Final Draft delivered and discussed.
- ✓ Spring 2016: Conduct Outreach efforts.

Estimated Budget:

Consistent with the over-all Arctic Council approach, this project will be financed through both in-kind and financial contributions from member states. Arctic country participation will be through in-kind support. The cost for Permanent Participants to participate will need to be determined in consultation with them. The PAME Secretariat will provide the necessary administrative support.

Activity	Estimated Costs (USD) (includes in-kind)
<i>Overall project coordination and administration</i>	
<ul style="list-style-type: none"> ✓ Select and compile existing information ✓ Consult with other Arctic Council working groups, member states, Permanent Participants, Observers and other stakeholders, as relevant. ✓ Prepare work plan meetings and the workshop ✓ Prepare drafts of the narrative report 	55.000
<i>Project Planning Meetings and convening of Workshop</i>	
<ul style="list-style-type: none"> ✓ Coordinate and arrange project-related meetings, including preparatory materials and status reports (e.g. back-to-back with PAME working group meetings and other relevant 	15.000



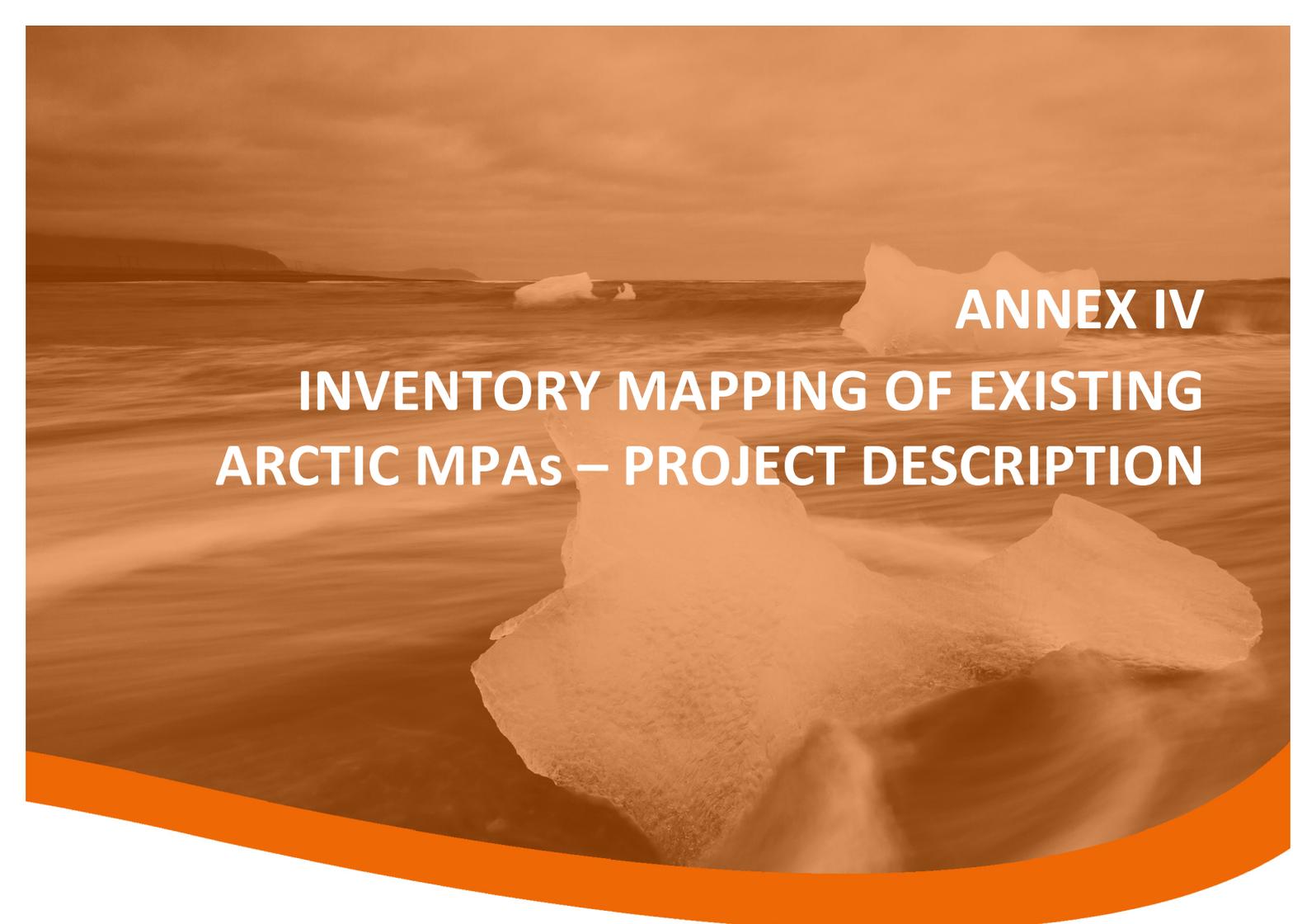
meetings).	
✓ Prepare and convene the workshop to include background documentation, agenda, registration and administration.	25.000
Reports	
Printing and publishing the final workshop report and the final narrative/project report (editing, layout, printing and publishing).	20.000
Communication and Outreach Material	
Communication and outreach material (reports, brochures, web-portal material)	15.000
TOTAL	130.000

Project Management:

Co-leads: The United States, Canada, Aleut International Association, Saami Council, Inuit Circumpolar Council.

Project team: This project is led by the United States and Aleut International Association with support from the PAME Oil and Gas Contact Group, the PAME Shipping Expert Group and the PAME Secretariat. Furthermore, the project will commission a professional researcher/writer to compile and prepare drafts of the summary narrative text and assist in the preparation of the workshop and its facilitation.



A photograph of an Arctic seascape with several icebergs floating in the water. The scene is overlaid with a semi-transparent orange filter. The text is centered in white, bold, uppercase letters.

ANNEX IV
INVENTORY MAPPING OF EXISTING
ARCTIC MPAs – PROJECT DESCRIPTION

ANNEX IV - INVENTORY MAPPING OF EXISTING ARCTIC MPAs – PROJECT DESCRIPTION

Phase 1: harmonisation and integration of information (2015-2017)

The Arctic Council has recognised that the Arctic environment needs to be protected as a basis for sustainable development, prosperity, lifestyles and human well-being (Kiruna Declaration 2013). An important step towards achieving this is to advance the protection of large areas of ecologically important Arctic marine habitats, building upon existing and on-going domestic and international processes and implementing appropriate measures for their conservation (ABA 2013). This approach was endorsed by the Arctic Council Ministers who requested that a plan be developed to support and implement these recommendations (Kiruna Declaration 2013).

This current proposal responds by presenting a means to increase knowledge, understanding and facilitate protection of important areas in the Arctic's marine ecosystem. It will provide harmonised and up-to-date information on the Arctic's marine protected and important areas; identify gaps and priorities in the Arctic's protected areas network; present science-based suggestions for next steps; and inform and guide policy and decision making

The Arctic Council has a long history of addressing such issues and recently released the first *Arctic Biodiversity Assessment* (ABA), completed a process to *identify ecologically and culturally sensitive marine areas* with regards to shipping (2013) and in 2015 will release a *Framework for a pan-Arctic network of Marine Protected Areas (MPA)* setting out a common vision for international cooperation in Arctic MPA network development and management, based on international best practices and previous Arctic Council initiatives. Recently attention has also been focused via Multilateral Environmental Agreements (CBD, OSPAR, IMO) and their activities relating to the identification of sensitive marine areas e.g. the identification of EBSAs and the consideration being given to Particularly Sensitive Sea Areas by the IMO.

Building upon the framework and information generated by such activities this project consists of three distinct phases each building upon the other, spread over a three-year period (2015-2017) with phases 2 & 3 being dependent upon the outcomes of phase 1 and approval by CAFF and PAME:

Key information sources will include:

- The Arctic Biodiversity Assessment (ABA)
- The Framework for a Pan-Arctic Network of Marine Protected Areas
- The circumpolar Biodiversity Monitoring Programme (CBMP)
- Relevant initiatives conducted by e.g. CBD, IMO, IUCN, OSPAR and HELCOM
- National inputs and review

Phase 1 will address the following tasks:

1. Integrate and harmonize marine protected areas data e.g. from:
 - Arctic Biodiversity Assessment (CAFF)
 - Circumpolar Biodiversity Monitoring Programme (CAFF)
 - The framework for a pan-Arctic network of marine protected areas (PAME)
2. Revise data based upon updated information and reviews from Arctic Council countries
3. Incorporate information from relevant processes e.g. AMSA IIC and EBSA
4. Develop a background paper describing the data and process behind it
5. Facilitate access and use of data by:
 - Publishing the data via CAFFs Arctic Biodiversity Data Service (ABDS) and PAME website; and
 - Allow access to the data via international *Open Geospatial Consortium* and ISO standards, to any standards compliant application e.g. to partners such as the *Global Earth Observation System of Systems* (GEOSS)
6. Develop a Marine protected areas indicator



- Short and concise visual document directed towards policy and decision makers
- Indicating status and trends regarding marine protected areas in the circumpolar Arctic.
- Building upon CAFFs protected area indicator for the Arctic

7. Release harmonised dataset and indicator report at Arctic Council meetings/events

Background:

Protected areas have long been viewed as a key element for maintaining and conserving Arctic biodiversity and the functioning landscapes/seascapes upon which species depend. Arctic protected areas have been established in strategically important and representative areas, helping to maintain crucial ecological features, e.g., shorebird and waterfowl staging and nesting sites, seabird colonies. Between 1991 and 2010, the extent of the Arctic that has some form of protected status doubled from 5.6% to 11%. There are currently 1.127 protected areas covering 3.5 million km² of the Arctic (as defined by CAFF boundary). While 40% of these areas have a coastal component it is not possible at present to determine the extent to which they incorporate the adjacent marine environment (ABA 2013).

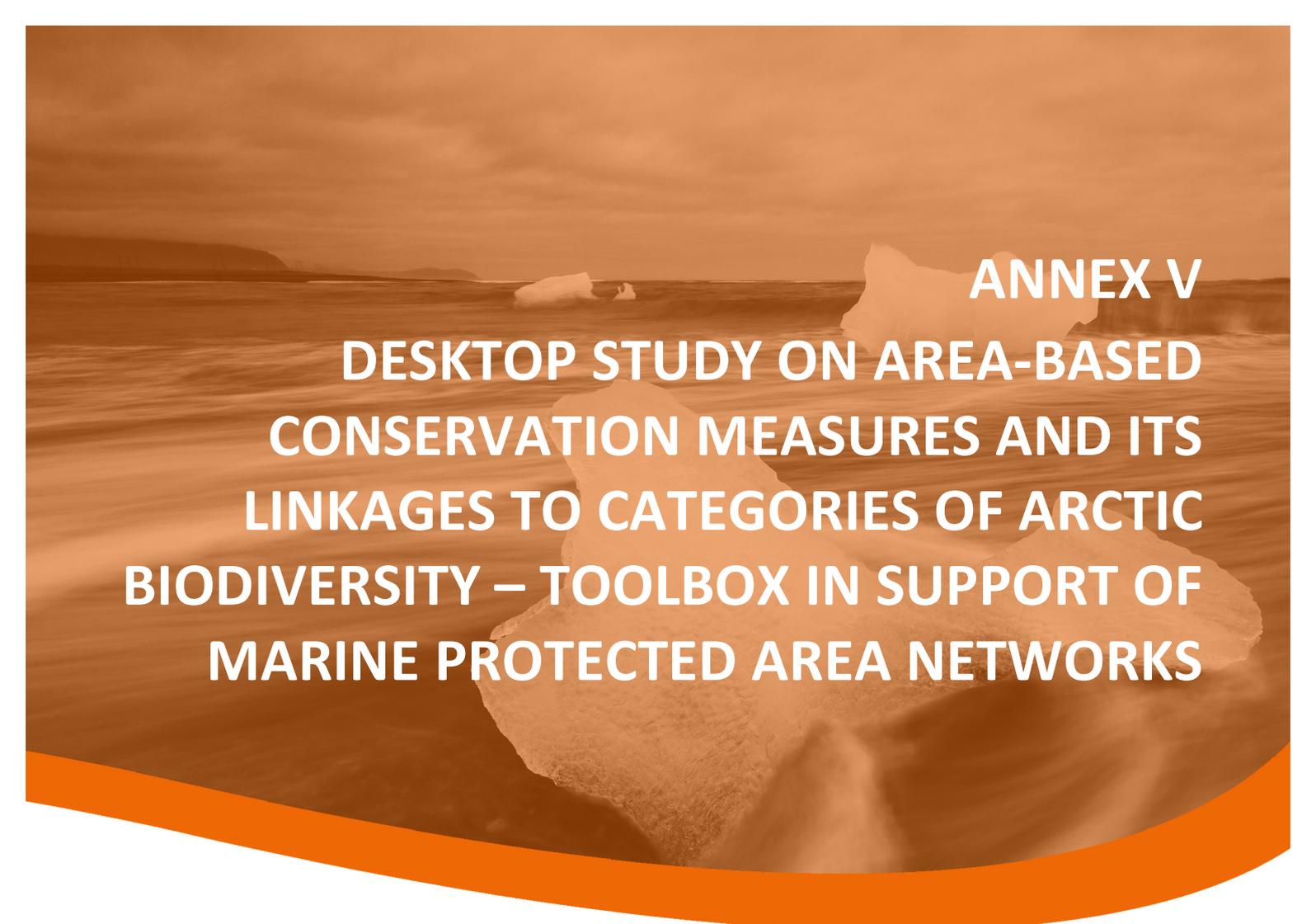
The marine environment has few protected areas and there is an urgent need for identification and protection of biologically important marine areas (ABA recommendation #5, AMSA?). A message from the recent Arctic Biodiversity Congress (December 2013) was that the nature, size and scope of the Arctic's marine protected areas network remains unresolved i.e. with regards to how much area needs to be protected; and to what extent boundaries of protected areas should be elastic enough to incorporate change, but stable enough to provide certainty for industry (Arctic Biodiversity Congress 2014).

The Arctic Council has a long history of working on such issues e.g. recently completing a process to identify ecologically and culturally sensitive marine areas with regards to shipping (2013). A total of 97 such areas were identified in the Arctic Area comprising a total area of about 12 million km², or more than half the total area of the ice-covered part of the marine Arctic. The upcoming *Framework for a pan-Arctic network of Marine Protected Areas (MPA)* sets out a common vision for international cooperation in Arctic MPA network development and management, based on international best practices and previous Arctic Council initiatives. Recently attention has also been focused via Multilateral Environmental Agreements (CBD, OSPAR, IMO) and their activities relating to the identification of sensitive marine areas e.g. the identification of EBSAs and the consideration being given to Particularly Sensitive Sea Areas by the IMO.

This project will also build upon the framework of relevant information/strategies developed by CAFF/PAME e.g:

- Specially Designated Marine Areas in the Arctic (2014)
- The Framework for a Pan-Arctic Network of Marine Protected Areas (2015)
- The Arctic Marine Strategic Plan 2015-2025
- The identification of Areas of Heightened Ecological and Cultural Significance (AMSA II(C), 2013)
- Arctic Ocean Review (AoR) final report (2013)
- The 18 Arctic Large Marine Ecosystems (LMEs) Report 2013
- The Arctic protected areas indicator via Circumpolar Biodiversity Monitoring Programme (CBMP) (2010, 2012)
- Arctic Protected Areas Monitoring Scheme (2011)
- The Circumpolar Protected Areas Network (CPAN 1991-2004) and outputs:
- Protected Areas of the Arctic Conserving a Full Range of Values (2002)
- Values of Arctic Protected Areas: a summary (2002)
- CPAN GAP Analysis (1996, 2000)
- The State of the Protected Areas in the Circumpolar Arctic (1994, 1996, 2004)
- Circumpolar Protected Areas Network (CPAN) Strategy and Action Plan (1996)



A photograph of an Arctic seascape with several icebergs floating in the water under a cloudy sky. The image is overlaid with a semi-transparent orange filter. The text is centered in white, bold, uppercase letters.

ANNEX V
DESKTOP STUDY ON AREA-BASED
CONSERVATION MEASURES AND ITS
LINKAGES TO CATEGORIES OF ARCTIC
BIODIVERSITY – TOOLBOX IN SUPPORT OF
MARINE PROTECTED AREA NETWORKS

ANNEX V - DESKTOP STUDY ON AREA-BASED CONSERVATION MEASURES AND ITS LINKAGES TO CATEGORIES OF ARCTIC BIODIVERSITY – TOOLBOX IN SUPPORT OF MARINE PROTECTED AREA NETWORKS

Project title

A Best Practices Study: Linking area-based conservation measures to categories of Arctic marine biodiversity to support marine protected area networks and the long-term conservation of the Arctic marine environment and associated services and cultural values.

Note: Each Arctic State pursues MPA development based on its own authorities, priorities and timelines. This project aims to provide States with a scientific information tool they can use, as desired, during their development processes.

Project objective

The project objective is to develop guidance to assist advancing MPA networks in the Arctic. The project will produce this guidance in the form of a catalogue of existing types of area-based conservation measures that contribute to the long-term conservation of important categories of Arctic marine biodiversity in a pan-Arctic MPA network that is integrated in ecosystem based management. The aim is to generate a toolbox that demonstrates how different types of MPAs and other area-based conservation measures can be used to conserve categories of Arctic marine biodiversity and habitat, thereby providing a menu of possible conservation tools for consideration by Arctic states in developing MPA networks.

Rationale

PAME's 'Framework for a Pan-Arctic MPA Network' document recognizes that individual Arctic countries pursue MPA development based on their own authorities and priorities. Advancing the design and ultimately the biodiversity conservation success of the pan-Arctic network will clearly benefit from further technical work and coordination at the pan-Arctic level. To further such aspects the United States is proposing to include in the PAME work plan 2015-2017 a new project under the theme to 'Enhance PAME's work on a Pan-Arctic Network of Marine Protected Areas' and contributing to the proposed next steps:

4 (Develop a consistent approach for achieving MPA network design),

6 (Identify types of important marine areas for protection at the pan-Arctic scale based on common criteria, goals, or objectives developed by the MPA-EG, as well as identify areas/species in need of joint conservation measures); and

7 (Identify practical measures to addressing change in the Arctic through adaptive management of MPA networks, including developing options for management measures designed to address changing conditions).

The implementation of a pan-Arctic network of marine protected areas in ways that further the goals and objectives outlined in PAME's framework document should proceed in the context of ecosystem-based management and considers an "ecologically representative and well-connected collection of individual marine protected areas and other effective area-based conservation measures", "to achieve the long-term conservation of nature with associated ecosystem services and cultural values". What are available and appropriate area-based conservation measures that achieve long term conservation of priority Arctic marine areas? What are current and anticipated pressures and threats for important elements of Arctic marine biodiversity, what is their sensitivity to these pressures and threats, and what area-based measures are suitable for achieving long-term conservation? What types of habitats would be important to include in a "representative" and "ecologically connected" network? Which measures are available to conserve Arctic marine biodiversity and is there a need for further investigation, for example to consider conservation of Arctic marine biodiversity elements that are dynamic in space and time? How can these measures be considered in ecosystem based management? The project will answer these questions by considering information on categories of Arctic marine biodiversity, such as important species, habitats, features, ecosystem processes, ecosystem services and cultural values.



Final product

The project's final product will be: best practice guidance on area-based conservation measures that contribute to the long-term conservation of Arctic marine biodiversity and associated ecosystem services including cultural values; a menu of possible conservation tools for consideration by Arctic states in developing MPA networks; and a tool for furthering MPA network goals and objectives as outlined in PAME's MPA framework document. It will:

- ✓ comprehensively consider types of area-based measures available across all relevant governance scales and sectors,
- ✓ provide an analysis of area-based measures that are suitable for achieving long term conservation of important categories of Arctic marine biodiversity, ,
- ✓ link specific area-based measures to categories of Arctic marine biodiversity –including key features and habitats vital for life history stages of important species, ecosystem processes and linked ecosystem services, in order to facilitate development of representative and ecologically connected networks of MPAs– including by means of knowledge of their sensitivity to known pressures and threats,
- ✓ describe how these area-based conservation measures are suitable for achieving long-term protection of respective biodiversity elements,
- ✓ provide guidance for network design and a toolbox for network development, and
- ✓ inform the development of ecosystem based management practices and schemes in the Arctic.

Milestones/Details

<i>Milestone</i>	<i>Format</i>	<i>Completion by</i>
Catalogue of available area-based conservation measures	Desktop research	
Catalogue of important categories of Arctic biodiversity	Desktop research	
List of known pressures and threats (drawing on e.g. AMAP and CAFF work)	Desktop research	
Characterisation of sensitivity of biodiversity categories to known pressures and threats	Desktop research, expert consultation, and workshop	
Toolbox linking biodiversity categories with effective area-based conservation measures	Desktop research, expert consultation, and workshop	
Gap analysis of area-based conservation measures for effective long-term conservation	Desktop exercise	
Final product	Report	<i>TBD</i>



Partners:

Project to be carried out in cooperation with CAFF and other Working Groups, building upon important products and processes such as the Arctic Biodiversity Assessment, the Arctic Ocean Acidification report, the Circumpolar Biodiversity Monitoring Programme, etc.

External Partners

External experts with experience in MPA network design (e.g. from IUCN) should be invited to contribute to the project. Contributions from experts on EBM are essential and could be facilitated by PAME's EA-EG.

Lead Country /organisation

USA

Funding

TBD

Links to PAME work plan 2015-2017 and to Arctic Council policy frameworks

The implementation of this project proposal would contribute significantly to:

- 1) Implementing PAME work plan thematic area 2 '*Enhance PAME's work to develop a Pan-Arctic Network of Marine Protected Areas*' and contributing to the proposed next steps 4 (Develop a consistent approach for achieving MPA network design)and 6 (Identify types of important marine areas for protection at the pan-Arctic scale based on common criteria, goals, or objectives developed by the MPA-EG, as well as identify areas/species in need of joint conservation measures)
- 2) Achieving *Near Term Action 7* as listed in the latest draft of the PAME Framework: *Identify practical measures to addressing change in the Arctic through adaptive management of MPA networks, including developing options for management measures designed to address changing conditions (e.g. special management for marginal ice zone, seasonal MPAs, etc);*
- 3) Supporting Arctic Council recommendations to further develop the EA in the management context. The final report of the 2013 EBM Expert Group includes a recommendation for periodic reviews of EBM in the Arctic to exchange information on assessment and "management experiences, including highlighting examples from Arctic States.";
- 4) Achieving Goal 2 (and 3) of the draft Arctic Council Arctic Marine Strategic Plan 2015-2025 as one of the Strategic Actions (7.2.5) is to *Encourage the Arctic states to implement appropriate measures, – or to pursue such measures at international organizations with the relevant competence to protect Arctic marine areas of heightened ecological and cultural significance, focusing 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) Supporting the implementation of the 2013 Arctic Biodiversity Assessment policy recommendation 3: Advance and advocate ecosystem-based management efforts in the Arctic as a framework for cooperation, planning and development.



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