Marine Protected Areas Federal Advisory Committee

June 3, 2016

The Honorable Penny Pritzker
Secretary of Commerce
U.S. Department of Commerce 1401 Constitution Ave., NW Washington, D.C. 20230

The Honorable Sally Jewell
Secretary of the Interior
Department of the Interior 1849 C Street, N.W. Washington DC 20240

Dear Madam Secretary Pritzker and Madam Secretary Jewell:

On behalf of the Marine Protected Areas Federal Advisory Committee (MPA FAC), I am pleased to transmit the attached "Guiding Principles for Marine Protected Areas (MPAs) and MPA Networks in the Arctic." The MPA FAC was asked by the Departments of Commerce and the Interior to undertake this work in light of the U.S. Chairmanship of the Arctic Council and the Council's recognition of MPA networks as an important tool for protecting healthy ecosystems and the social, economic and cultural benefits they provide to local communities. The need for ecosystem conservation is particularly important and urgent in light of the environmental and ecological impacts of climate change already being observed in the Arctic, and their implications for the many ecosystem services derived in the region.

The MPA FAC endorses these principles and intends for them to help inform any efforts to manage and create MPAs in the Arctic. We request that they be shared with appropriate agencies, governments and non-governmental partners through the National Marine Protected Areas Center and other mechanisms. These principles build on previous work by the MPA FAC to advance the inclusion of natural and social science and a cultural landscape approach in MPA planning and management.

The MPA FAC relied on its Arctic MPA Working Group to develop the enclosed Guiding Principles. This group was comprised of diverse stakeholder interests (see membership list, attached) reflecting varied perspectives on MPAs and MPA networks. While all of these principles are important, the Working Group, and the members of the public who participated in the open Working Group meeting, particularly emphasized several points. First, the meaningful participation of local and indigenous communities and other stakeholders in decisions about the management and creation of MPAs is essential. Second, the group recognized the significant climate change

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impacts already being observed in Alaska. Third, the group noted the cultural, economic and biological diversity within the US Arctic (among the Bering, Beaufort, and Chukchi Seas) and the need for management and conservation approaches that reflect that diversity. Finally, participants agreed on the need to apply the best available natural and social science, technology and indigenous knowledge in the design and management of MPAs.

The MPA FAC hopes these Guiding Principles will be the start of a new conversation with those who live in the U.S. Arctic about the potential role of MPAs and MPA networks in helping to ensure the long-term protection and sustainable uses of Arctic marine resources. Given the vast geographic scale and the remote distribution of many Arctic communities, such engagement will require significant, long-term commitment and resources. The Arctic is changing dramatically and rapidly, and the MPA FAC urges the Departments of Commerce and the Interior to support the science and public engagement needed to inform productive planning processes to ensure a resilient and sustainable future for the US Arctic.

Sincerely,

George Geiger
Chair

cc. Dr. Russell Callender, NOAA Assistant Administrator for Ocean Services and Coastal Management
Lauren Wenzel, MPA FAC Designated Federal Official

Attachments:
- Guiding Principles for Marine Protected Areas and MPA Networks in the Arctic
- Arctic Marine Protected Areas Working Group Cover Letter

References: (links)
- Committee Recommendations on Marine Protected Areas and Healthy Coastal Communities (2011)
- Committee Recommendations for Integrated Management Using a Cultural Landscape Approach (2011)

EXECUTIVE SUMMARY

GUIDING PRINCIPLES FOR MARINE PROTECTED AREAS (MPAs) AND MPA NETWORKS IN THE ARCTIC

MAY 2016

Working Group Charge

In May 2015, the Departments of Commerce and the Interior formed an Arctic Marine Protected Areas (MPA) Working Group under the MPA Federal Advisory Committee (MPA FAC) to address the needs and opportunities to strengthen and connect MPAs in the Arctic while recognizing the importance of subsistence and other uses. MPAs are areas in our oceans, estuaries, intertidal areas and Great Lakes that have some level of protection for long-term conservation purposes. Examples include national parks, national wildlife refuges, state-managed fish and wildlife areas, and some federal fishery management areas. Many marine scientists recommend the use of MPA networks as a conservation tool because they connect individual MPAs, allowing for more effective protection of species that move across significant distances, such as migratory species and fish larvae. MPA networks can also focus on institutional linkages to improve management across diverse MPAs, for example by fostering common management objectives, methodologies, or tools.

Background

The U.S. Chairmanship of the Arctic Council during 2015-2017 provides an opportunity for input from U.S. stakeholders on Arctic Council priorities, including the development of a regional MPA network across the broader Arctic, and the U.S. role in such an international network. The Working Group used the definition of the Arctic established by the US Arctic Research and Policy Act that includes the Bering, Chukchi, and Beaufort Seas.

Guiding Principles

The Working Group developed fourteen guiding principles. These principles do not advocate for or against the establishment of new MPAs. They were developed to contribute to ongoing dialogue through the Arctic Council and other venues on the role of MPAs as a conservation tool. We offer these principles for consideration when managing, developing or networking existing or potential new MPAs, particularly in the context of rapid environmental change in the Arctic, while emphasizing the importance of substantive involvement from local communities and other affected stakeholders.

1. **Recognize the geographic and ecological diversity of the Arctic**
   Given the major physical, ecological and economic differences among the Bering, Chukchi and Beaufort Seas, any future MPA networks should be organized to reflect this diversity, and stakeholder processes should recognize the differences and economic importance of commercial and subsistence uses within and across these subregions.

2. **Recognize the context of a changing climate**
   Climate change effects are occurring at a more rapid pace and at a greater magnitude in the Arctic than elsewhere on the planet. These changes, particularly melting sea ice, create the potential for increased shipping and port development, tourism, energy exploration and

extraction, and research. Protecting important ecological areas of the Arctic through MPA networks and other area-based management tools can help sustain healthy ecosystems and the cultural diversity essential to long term economic and social well-being.

3. **Employ MPAs and MPA networks to address a clear management need**
   MPAs and MPA networks are conservation and management tools, and should begin with a clear statement of management need and objective. Consideration of an MPA to fill management gaps should include an analysis of the purpose, benefit, structure, and function of the MPA.

4. **Include local and indigenous communities in the decision-making process.**
   Engaging local and indigenous communities means connecting with, collaborating with, and relying upon insights from peoples who are born, live, and raise families in the Arctic. Special attention should be given to communities and stakeholders affected by management actions. MPA programs should also learn from others who have developed best practices for, and successfully engaged in, appropriate tribal consultation.

5. **Ensure that any MPA planning and management processes are open and transparent.**
   Open and transparent processes allow stakeholders to; understand how the process works, and have substantive involvement in decisions about MPA planning and management. These processes must address the challenges of engaging remote and diverse communities, building trust with stakeholders and providing opportunities for diverse opinions and perspectives to be shared.

6. **Better understand and analyze existing Arctic MPAs.**
   NOAA's MPA Inventory catalogs and classifies U.S. Marine Protected Areas using a broad classification system designed to evaluate national scale patterns and trends of marine protection. A review and refinement of this system is needed to better understand and represent the current status of marine protection in Arctic waters.

7. **Apply the best available science, technology and indigenous knowledge**
   Science and indigenous knowledge should be the foundation of environmental stewardship and conservation. Existing science is extensive, but there are still gaps in Arctic knowledge. Managers should work with indigenous Arctic communities to incorporate both western and indigenous knowledge into decision-making.

8. **Strengthen connections among MPAs**
   The Working Group recommends looking at potential connections among existing MPAs to see how they could be managed to better support ecosystem and community resilience. MPA research, management, monitoring and enforcement can all be strengthened through enhanced collaboration and networking.

9. **Strengthen connections between MPAs and other area-based management tools**
   The U.S. Arctic has many marine areas utilizing various types of area-based management tools that have a range of objectives and are managed by different agencies and

management bodies. MPA managers can learn from alternate initiatives in managing existing MPAs or determining whether additional MPA designations are appropriate.

10. **Further explore the use of MPAs as a tool for protecting the living and historical cultural heritage of the Arctic**
    An Arctic MPA network should enhance the protection of living and historic cultural heritage of the region. The living cultural heritage of subsistence hunting and fishing is central to the food security, cultural identity, and maintenance of household and community economies in the Arctic region.

11. **Explore dynamic and flexible approaches to MPAs**
    Given the dynamic nature of ecosystems, species, and changing ecological conditions in the Arctic, the Working Group recommends an adaptive management approach to planning any new MPAs, maintaining existing MPAs, and the further development of other area-based management measures.

12. **Consider MPA monitoring and compliance during development**
    When considering future MPAs in the Arctic, management agencies should consider the unique aspects of the Arctic that may challenge implementation, and incorporate lessons from other regions on how to successfully address implementation challenges. Proposed MPA regulations should be developed to facilitate compliance, for example, by building stakeholder ownership in the process and ensuring implementing regulations are enforceable and well communicated.

13. **Enhance agency coordination**
    Federal and state agencies should capitalize upon already existing opportunities to share information regarding efforts and activities related to both the development and implementation of MPAs in the Arctic (e.g. the Alaska Marine Ecosystem Forum).

14. **Enhance international cooperation on MPAs**
    Ecosystems cross national boundaries, and international cooperation among MPA networks may offer efficiencies and increase the effectiveness of domestic management efforts, providing an opportunity to expand upon benefits to the marine resources and stakeholders living in or around MPAs, or depending upon the marine resources therein. The Working Group recommends that Arctic MPA programs develop partnerships, encourage scientific collaboration, and share information on MPA planning and management at an international level.

GUIDING PRINCIPLES
FOR MARINE PROTECTED AREAS (MPAs) AND MPA NETWORKS IN THE ARCTIC
MAY 2016

Working Group Charge

In May 2015, the Departments of Commerce and the Interior formed an Arctic Marine Protected Areas (MPA) Working Group under the MPA Federal Advisory Committee (MPA FAC) to address the following charge to the MPA FAC (in part below):

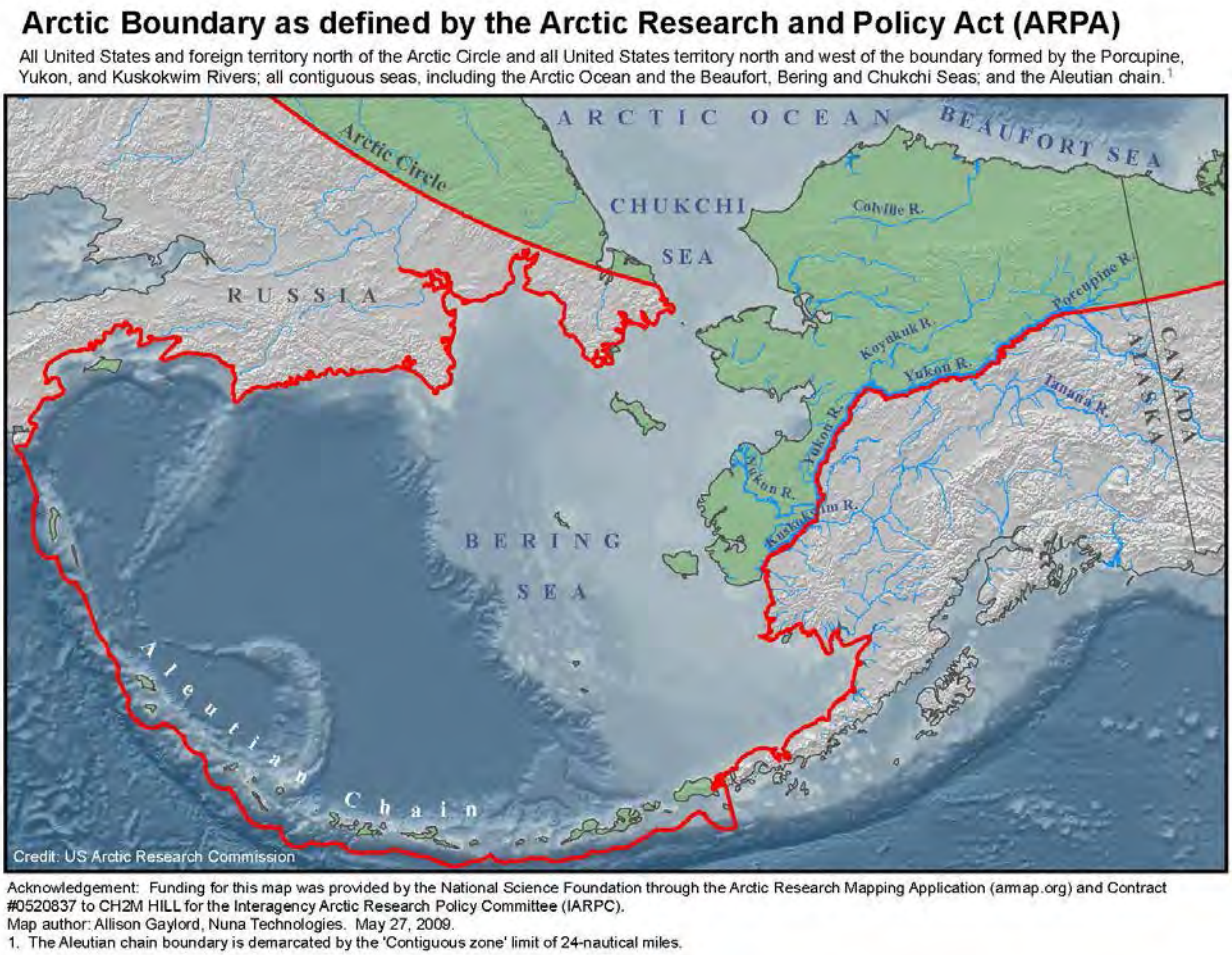
The Arctic is experiencing rapid changes due to climate change impacts. These have direct impacts on Arctic ecosystems marine resources, as well as creating opportunities for major and rapid changes in human uses of the region. The Arctic Council is currently developing a Framework for a Pan Arctic Network of Marine Protected Areas, outlining common goals and principles for international collaboration to link the efforts within individual Arctic states to develop and strengthen MPAs and MPA networks. Working through the MPA FAC, an Arctic Workgroup will develop guidelines and principles for U.S. actions to strengthen and connect MPAs and MPA programs in U.S. waters.

In response to this charge, the Working Group developed fourteen guiding principles. These principles do not advocate for or against the establishment of new MPAs. They were developed to contribute to ongoing dialogue through the Arctic Council and other international and national venues on the role of MPAs as a conservation tool. We offer these principles for consideration when developing, managing, or networking existing or potential new MPAs, particularly in the context of rapid environmental change in the Arctic, while emphasizing the importance of substantive involvement from local communities and other affected stakeholders.

Understanding Key Terms – Marine Protected Area and MPA Network

The Working Group used the U.S. definition of an MPA from Executive Order 13158, which defines an MPA as "any area of the marine environment that has been reserved by Federal, State, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein." In plain language, this refers to areas in our oceans, estuaries, intertidal areas, and Great Lakes that have some level of protection for long-term conservation purposes. Examples of MPAs established through federal or state initiatives include parts of national parks, national wildlife refuges, state-managed fish and wildlife areas, and some federal fishery management areas.

MPA networks are defined by the International Union for the Conservation of Nature as "a collection of individual MPAs operating cooperatively and synergistically, at various spatial scales, and with a range of protection levels that are designed to meet objectives that a single [MPA] cannot achieve." Ecological MPA networks are a conservation tool recommended by many marine scientists because they connect individual MPAs, allowing for more effective protection of species that move across significant distances, such as migratory species and fish larvae. MPA networks can also focus on institutional linkages to improve management across diverse MPAs, for example by fostering common management objectives or tools.



Acknowledgement: Funding for this map was provided by the National Science Foundation through the Arctic Research Mapping Application (armap.org) and Contract #0520837 to CH2M HILL for the Interagency Arctic Research Policy Committee (IARPC).
Map author: Allison Gaylord, Nuna Technologies. May 27, 2009.
1. The Aleutian chain boundary is demarcated by the 'Contiguous zone' limit of 24-nautical miles.

Figure 1. Arctic Boundary. The Arctic Research and Policy Act defines the U.S. Arctic as shown and was used by the Working Group as the geographic scope of the Arctic. It includes the Bering, Chukchi, and Beaufort Seas.

Building on a Foundation of Work on Arctic Policy

In recent years, several major efforts have emerged to articulate international, national, and state policies for the Arctic. These include (but are not limited to):

- The Arctic Council's Framework for a Pan-Arctic Framework of Marine Protected Areas (2015) – which outlines a vision and goals for a regional, ecologically representative and connected MPA network across the Arctic to strengthen ecological resilience, stewardship, public awareness and international collaboration.
- The Arctic Research and Policy Act (1984) –establishes the geographic definition of the U.S. Arctic as including the large marine ecosystems of the Aleutian Islands, East Bering, Northern Bering, Chukchi, and Beaufort Seas.
- National Strategy for the Arctic Region (2013) –describes lines of effort focused on advancing security, pursuing stewardship, and strengthening international cooperation in the context of integrated Arctic management while seeking to balances economic development, environmental protection, and cultural values.

- The Alaska Arctic Policy Commission (2015) –outlines four vision statements focused on economically vibrant communities and a healthy environment; transparent and inclusive Arctic decision making; enhanced security of the state, individuals and communities; and strengthening the resilience of communities and integrating the cultural and knowledge of Arctic peoples.
- The Arctic Fishery Management Plan (2009) – closed all Federal waters in the Chukchi and Beaufort Seas to commercial fishing until sufficient scientific information is available to inform fisheries management decisions. This proactive policy by the North Pacific Fishery Management Council and NOAA has served as a model for recent international efforts by the United States, Canada, Denmark (on behalf of Greenland), Norway, and Russia, to ban commercial fishing in the high seas of the Central Arctic Ocean until there is sufficient scientific information to determine that fishing there can also be conducted sustainably.

GUIDING PRINCIPLES

The fourteen guiding principles provided here are intended to build on these earlier policy documents. The Working Group recognized the unique and special characteristics of the Arctic – "an amazing place" in the words of the National Strategy– and the work that has been done to build a common vision and approach to build both community and ecological resilience to the rapid change occurring. The Working Group also recognized that there could be tradeoffs between economic development and conservation policy goals. To identify common ground and build consensus, these tradeoffs need to be discussed by all potentially affected stakeholders.

1. Recognize the geographic, economic and ecological diversity of the Arctic

Given the major physical, ecological and economic differences among the areas that make up the U.S. Arctic, particularly between the Bering, Chukchi, and Beaufort Seas, any future MPA networks should reflect this diversity. For example, the Bering Sea is the center of large commercial fisheries, while the Beaufort and Chukchi Seas hold a significant portion of offshore oil and gas important for energy development. Stakeholder processes should recognize the significant differences and economic importance of commercial and subsistence uses within and across these sub-regions.

2. Recognize the context of a changing climate

Climate change effects are occurring at a more rapid pace and at a greater magnitude in the Arctic than elsewhere on the planet. These changes, particularly melting sea ice, create the potential for new shipping routes and ports, increased tourism, increased access to fishing grounds, oil and gas exploration and extraction, and research. Arctic communities are working to ensure that this period of change does not undermine their way of life or food security, while they explore the potential for new economic opportunities. The Arctic is an area important to biological diversity, with relatively intact ecosystems and important populations of migratory and endemic species. Protecting important ecological areas of the

Arctic through MPAs and other area-based management tools can help sustain healthy ecosystems and the cultural diversity essential to long term economic and social well-being.

3. Employ MPAs and MPA networks to address a clear management need

MPAs and MPA networks are conservation management tools. Plans for MPAs or MPA networks should begin with a clear statement of management need and a management objective. If gaps are identified in existing management frameworks that can be resolved with the creation of an MPA or MPA networks, an analysis of the purpose, benefit, structure, and function of an MPA to fill those gaps should be developed through a process that engages local, regional, state and national interests. A clear objective also provides a necessary basis for future evaluation of the effectiveness of an MPA or network of MPAs.

4. Include local and indigenous communities in the decision-making process

Engaging local and indigenous communities means connecting with, collaborating with, and relying upon insights from peoples who are born, live, and raise families in the Arctic. Special attention should be given to communities and stakeholders affected by management decisions. Executive Order 13175 (2000) recognizes the unique trust relationship between the federal and tribal governments and directs that, "when formulating and implementing policies that have tribal implications…agencies shall respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the Federal Government and Indian tribal governments." Additionally, considering the uniquely high productivity of Alaska's oceans and the deep connections between communities and marine resources, engaging user groups such as subsistence users, fishermen, hunters, recreationists, and others will likely enhance a better understanding of the natural environment.

MPA programs should learn from others who have developed best practices for, and successfully engaged in tribal consultations. A positive example includes the Indigenous People's Council for Marine Mammals, which published tribal consultation procedures for Alaska in January 2016. In Arctic Alaska, some Alaska Native Organizations serve as representatives of Tribal interests for purposes of managing and protecting marine mammals and their subsistence uses.

Governance or management of MPAs should include broad local representation, recognizing that diverse stakeholders and multiple opinions exist within, as well as among, Arctic communities. Meaningful engagement with local and indigenous communities also needs to address ways to improve communication and allow sufficient time for their involvement. MPA management plans and budgets should identify specific ways to achieve meaningful community participation.

5. Ensure that MPA planning and management processes are open and transparent

Open and transparent processes allow stakeholders to understand how the process works and have substantive involvement in decisions about MPA planning and management. These processes must address the challenges of actively involving remote and diverse communities while building trust with stakeholders and providing opportunities for diverse opinions and perspectives to be shared. The process should include identifying and including all relevant stakeholders (including indigenous communities, towns and municipalities, Federal and state agencies, industry representatives, and non-governmental organizations). The process should ensure equal access to, and consideration of, scientific and indigenous knowledge, as well as any other relevant information. It should also allow for the additional time needed to communicate with remote communities engaged in subsistence activities.

Because of the sheer scale and rural character of Alaska, the remoteness of many communities and the unique geographic features of the state (most communities are not on a road system), special effort must be invested to ensure adequate communication and information sharing. Involving local communities requires time, funding for travel, and creativity. Ocean and coastal resource management agencies should look at different models of engagement to identify and emulate successful approaches to engage a broad mix of community members (e.g. community-based meetings, virtual listening sessions, and webinars).

In order to address the limited capacity that communities and some other organizations have to be involved in multiple governmental processes, MPA processes should also leverage the networks and processes of existing organizations (e.g. Alaska Native Organizations, Arctic Waterways Safety Committee, North Pacific Fishery Management Council, and other user groups). Special efforts should be made to engage communities and other stakeholders directly affected by management decisions.

6. Better understand and analyze existing Arctic MPAs

NOAA's MPA Inventory catalogs and classifies U.S. Marine Protected Areas using a broad classification system designed to evaluate national scale patterns and trends of marine protection. All sites in the MPA Inventory are assigned a primary conservation focus of natural heritage, cultural heritage, or sustainable production. Currently, under the existing inventory, nearly all Arctic MPAs are classified as having a sustainable production focus. With only a few MPAs focused on natural or cultural heritage, this approach suggests that little marine protection in the Arctic is explicitly directed toward the protection of natural and cultural heritage resources, as distinguished from fishery resources. A review and refinement of the MPA Inventory for Alaska is needed to better understand and represent the current status of marine protection in Arctic waters. A map and inventory of existing MPAs in the U.S. Arctic are shown in Appendix 1.

7. Apply the best available science, technology and indigenous knowledge

Science and indigenous knowledge should be the foundation of environmental stewardship and conservation. Existing science is extensive, but there are still gaps in Arctic knowledge.

Managers should work with indigenous Arctic communities to incorporate both western and indigenous knowledge into decision-making. Indigenous knowledge is rooted in history, time, and place, but is adaptable and dynamic in ways that keep it relevant and useful in contemporary life. Based on generations of observation, practice, and cultural memory, indigenous knowledge is a dynamic system of research, information gathering, and experimentation.

The use of emerging technologies can provide effective and efficient inputs for the management of existing and new MPAs. Technologies, such as vessel monitoring, underwater autonomous vehicles (UAVs), and other surveillance and monitoring tools, can help address the challenges of a vast expanse and harsh environmental conditions in the Arctic.

8. Strengthen connections among MPAs

Potential connections among existing MPAs should be assessed to see how they could be managed to better support ecosystem and community resilience. MPA research, management, monitoring and enforcement can all be strengthened through enhanced collaboration and networking. Examples of MPA connections that could be further explored include collaborative research on shared species and habitats; harmonizing monitoring approaches; and shared planning for climate change impacts, including understanding potential impacts to key marine species and habitats in the Arctic region.

9. Strengthen connections between MPAs and other area-based management tools

The U.S. Arctic has many marine areas utilizing various types of area-based management tools. These areas are focused on a variety of activities, have a range of objectives, and are managed by different agencies and management or co-management bodies. A few examples include ship traffic separation schemes, open-water season time-area closures for protection of marine mammal migrations and subsistence harvests, and fishery management areas. It is important to learn from alternate, including locally based, initiatives in managing existing MPAs or determining whether additional MPA designations are appropriate. This includes understanding how existing and potential future MPAs and other spatial management in the Arctic contributes to long-term conservation and economic sustainability goals. In addition, discussions and analysis with managers and stakeholders involved in other types of place-based management can help minimize unintended consequences of MPAs on other important objectives, such as maritime safety.

10. Further explore the use of MPAs as a tool for protecting the living and historical cultural heritage of the Arctic

An Arctic MPA network should enhance the protection of the living and historic cultural heritage of the region. The living cultural heritage of subsistence hunting and fishing is central to the food security, cultural identity, and maintenance of household and community economies in the Arctic region, which has adapted and will continue to adapt to changing conditions.

MPA managers and planners should draw on the cultural landscape approach recommended by the MPA Federal Advisory Committee, which recognizes the interconnectedness of natural and cultural resources and takes an integrated approach to resource management.

Many stakeholders are concerned that the establishment of new MPAs could adversely impact subsistence activities. However, it should be noted that many existing Arctic MPAs explicitly cite helping to maintain the sustainability of subsistence activities as one of their objectives. Other Arctic nations can also serve as models regarding how MPAs can help sustain local communities and traditional livelihoods. For example, the largest MPA in the Bering Sea, Russia's Commander Islands Biosphere Reserve, was designed to allow for protected human uses in some designated zones. Collaboration between management agencies, organizations, communities, and individuals is essential to achieve objectives that protect marine habitats while navigating the need to balance cultural, nutritional, and other human activities. The Working Group recommends documenting lessons learned from other regions and countries on this issue.

11. Explore dynamic and flexible approaches to MPAs

Adaptive management is the integration of design, management, and monitoring to systematically test assumptions in order to adapt and learn.[1] Given the especially dynamic nature of ecosystems, species, and changing ecological conditions in the Arctic, adaptive management approaches to planning new MPAs, maintaining existing MPAs, and developing other area-based management measures should be considered. Successful adaptive management requires regular monitoring and evaluation to inform decision making, together with engagement with stakeholders to discuss management outcomes and, where needed, potential new or adapted management approaches.

Ecosystem-based management is an accepted framework that integrates humans as part of the ecosystem, and explicitly acknowledges the need for adaptive management. This

[1] http://www.fosonline.org/wordpress/wp-content/uploads/2010/06/AdaptiveManagementTool.pdf

framework allows for the dynamic and flexible approach that is an important component of area-based management in a changing Arctic.

A cultural landscape approach (CLA) is recommended practice in managing cultural heritage in MPAs. CLA complements ecosystem-based management and emphasizes the connections between humans and the environment in a specific place as well as multiple cultural perspectives. Tribal cultural landscape approaches (TCLA) have been developed with tribal and indigenous communities in the continental U.S. and Hawaii, and may be able to be adapted for use in the Arctic with great benefit.

Flexibility will be required in the Arctic as ecosystem and species distributions are expected to shift as temperatures increase. New science and data, as well as indigenous knowledge, will highlight issues that need attention. To ensure that an MPA is meeting its objectives, boundaries may need to be shifted or new management tools may need to be applied. The movement of species into new areas, or the identification of areas that remain important for biodiversity, may highlight the need for additional place-based protection measures. For example, a component of the Conflict Avoidance Agreement process between the oil and gas industry and indigenous communities on the North Slope aims to minimize industry impacts to whales and hunters through seasonal/time area closures. While not an MPA, this flexible, area-based measure can contribute to conservation as well as cultural preservation and food security outcomes.

Examples of flexible approaches that could be explored in the future include:

- MPAs with dynamic boundaries as environmental conditions or species move
- Speed limits for vessels in sensitive areas, at certain times of the year or under certain conditions (e.g. when whales are sighted)

12. Consider MPA monitoring and compliance during development

When considering future MPAs in the Arctic, management agencies should consider the unique aspects of the Arctic that may challenge implementation, and incorporate lessons from other regions on how to successfully address implementation challenges. For example, lack of infrastructure and insufficient hydrographic information pose significant challenges to Arctic operations. Proposed MPA regulations should be developed to facilitate compliance, for example, by building stakeholder ownership in the process and ensuring implementing regulations are enforceable and well communicated. Regulations are more enforceable if they are simple and straightforward, clearly explain the intent of the MPA and its restrictions, encourage the use of monitoring technology (i.e. AIS technologies, VMS advanced features, etc.), and allow for means to measure compliance (see *Enforcement Considerations for NOAA Fisheries and North Pacific Fishery Management Council* developed by NOAA Fisheries and the U.S. Coast Guard). Due to the remoteness of Arctic waters, emerging AIS technologies may be cost effectively applied to disseminate MPA information to vessels as well as to aid their compliance.

13. Enhance agency coordination

Federal and state agencies should capitalize upon existing opportunities to share information regarding efforts and activities related to both the development and implementation of MPAs in the Arctic. This coordination is particularly important to support an ecosystem approach for management across state and federal waters. The Alaska Marine Ecosystem Forum (AMEF), consisting of Federal and State agencies as well as the North Pacific Fishery Management Council, is one example of an existing coordination body. Agencies at the state and federal level should seek to identify opportunities to communicate current activities and coordinate Arctic MPA planning and management. If AMEF is found to be a preferred forum, DOI and NOAA should consider initiating a special session of the AMEF to facilitate agency discussion surrounding MPAs in the Arctic.

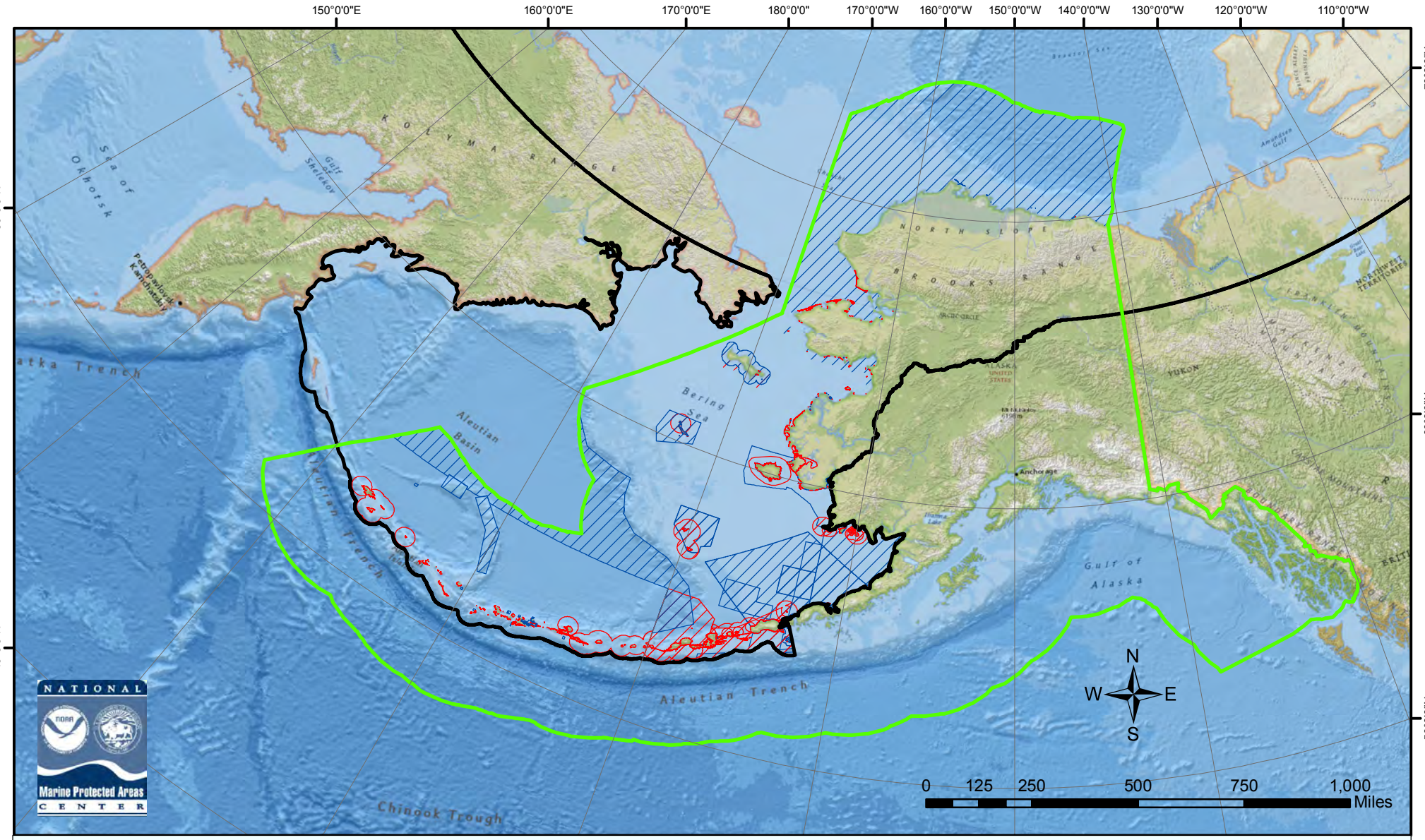
14. Enhance international cooperation on MPAs

Ecosystems cross national boundaries, and international cooperation among MPA networks may offer efficiencies and increase the effectiveness of domestic management efforts, providing an opportunity to expand upon benefits to marine resources and stakeholders living in or around MPAs, or depending upon the marine resources therein. Although the Arctic is increasingly accessible, it will remain a difficult and costly place to inhabit, govern, and do business. Activities in the Arctic may be more cost effective when information, technology, capacity, and infrastructure can be shared across multiple countries. In addition, holistic ecosystem-based management can be achieved in trans-boundary settings only through cooperation. Many Arctic MPAs support habitat for migratory species that breed and live in the Arctic for only a portion of the year and return to wintering grounds in non-Arctic locations, in some cases in the southern hemisphere. Cooperation between Arctic and non-Arctic States is therefore critical to understanding the comprehensive nature of the status of, and threats to, these species.

International cooperation among MPA managers will be increasingly important as the Arctic becomes more accessible to humans and development and as ecosystems and species respond to warming temperatures. Domestic Arctic MPA programs should work across international boundaries to:

- Develop partnerships for dialogue and exchanges of experts, managers and stakeholders. For example, exchanges of Chukchi and Inupiaq hunters from Alaska and Russia have facilitated the sharing information on rapidly changing Arctic environmental conditions between indigenous communities and fostered ways in which local communities have taken a leadership role in protecting wildlife, including through monitoring and establishing community-managed protected areas.
- Encourage international scientific collaboration. Examples could include development and implementation of joint monitoring programs to allow for cross-border comparison and analysis of data on status and changes in Arctic biodiversity, and to detect the presence of invasive species.
- Share information on planning and management of MPAs for shared species or habitats, including impacts to marine resources from existing or emerging uses and appropriate management tools.

U.S. MPAs in the Arctic (as defined by ARPA)



NATIONAL Marine Protected Areas CENTER

U.S. EEZ Boundary

Arctic Boundary as defined by ARPA

Natural Heritage/Cultural Heritage MPAs

Sustainable Production Sites

SUMMARY STATISTICS

- The U.S. EEZ covers 2 million sq km within the ARPA boundary.
- 83% of this area is covered in a marine protected or managed area.
- Sustainable Production sites cover 1.6 million sq km or 80% of the U.S. EEZ area.
- Natural Heritage and Cultural Heritage MPAs cover 226,000 sq km or 11% of the U.S. EEZ area.

Drafted April 2016 - Data from 2014 MPA Inventory

Natural Heritage and Cultural Heritage Marine Protected Areas within ARPA
(data from NOAA MPA Inventory 2014)

Site Name	Level of	Management Agency	Level of Protection	Primary Conservation	Marine Area
Cape Krusenstern National Monument	Federal	National Park Service	Uniform Multiple Use	Cultural Heritage	36
Alaska Maritime National Wildlife Refuge	Federal	U.S. Fish and Wildlife Service	Uniform Multiple Use	Natural Heritage	595
Arctic National Wildlife Refuge	Federal	U.S. Fish and Wildlife Service	Uniform Multiple Use	Natural Heritage	407
Bering Land Bridge National Park and Preserve	Federal	National Park Service	Uniform Multiple Use	Natural Heritage	358
Steller Sea Lion Protection Areas, Aleutian Islands Subarea - Groundfish, Pollock, Pacific Cod, and Atka Mackerel Closures	Federal	National Marine Fisheries Service	Zoned Multiple Use	Natural Heritage	96,403
Steller Sea Lion Protection Areas, Aleutian Islands Subarea - Seguam Foraging Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Natural Heritage	7,282
Steller Sea Lion Protection Areas, Bering Sea Subarea - Bogoslof Area	Federal	National Marine Fisheries Service	Zoned Multiple Use	Natural Heritage	36,862
Steller Sea Lion Protection Areas, Bering Sea Subarea - Groundfish, Pollock, Pacific Cod, and Atka Mackerel Closures	Federal	National Marine Fisheries Service	Zoned Multiple Use	Natural Heritage	41,001
Steller Sea Lion Protection Areas, Bering Sea Subarea - Pollock Restriction Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Natural Heritage	5,350
Steller Sea Lion Protection Areas, Gulf of Alaska - Atka Mackerel Closure	Federal	National Marine Fisheries Service	Uniform Multiple Use	Natural Heritage	32,686
Steller Sea Lion Protection Areas, Gulf of Alaska - Groundfish, Pollock, and Pacific Cod Closures	Federal	National Marine Fisheries Service	Zoned Multiple Use	Natural Heritage	17,727
Walrus Islands State Game Sanctuary	State	Alaska Department of Fish and Game	Zoned with No Take Areas	Natural Heritage	743
Walrus Protection Areas	Federal	National Marine Fisheries Service	Uniform Multiple Use	Natural Heritage	2,748
Yukon Delta National Wildlife Refuge	Federal	U.S. Fish and Wildlife Service	Uniform Multiple Use	Natural Heritage	11,882

Natural Heritage sites are established to protect biodiversity, populations, communities, habitats, and ecosystems; Cultural Heritage sites are established to protect and understand the legacy of physical evidence and intangible attributes of a group or society which is inherited and maintained in the present and bestowed for the benefit of future generations.

Sustainable Production Sites within ARPA
(data from NOAA MPA Inventory 2014)

Site Name	Level of Government	Management Agency	Level of Protection	Primary Conservation Focus	Marine Area (km2)*
Alaska Seamount Habitat Protection Areas	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	99
Aleutian Islands Coral Habitat Protection Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	371
Aleutian Islands Habitat Conservation Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	421,512
Arctic Management Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	497,614
Bering Sea Habitat Conservation Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	157,558
Bowers Ridge Habitat Conservation Zone	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	18,109
Catcher Vessel Operational Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	50,730
Chum Salmon Savings Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	17,555
Dungeness Crab Commercial Fishery Closures	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	1
Groundfish Closed Waters - St. Matthew, Hall, & Pinnacle Islands	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	1,132
Gulf of Alaska Slope Habitat Conservation Areas	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	2,666
Halibut Longline Closed Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	122,215
King Crab Closed Areas	State	Alaska Department of Fish and Game	Zoned Multiple Use	Sustainable Production	23,552
King Crab Closed Areas - St. Matthews, Hall and Pinnacles Islands	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	1,132
Nearshore Bristol Bay Trawl Closure	Federal	National Marine Fisheries Service	Zoned Multiple Use	Sustainable Production	64,822
Non-Pelagic Trawl Gear Restriction Area - Alaska Peninsula	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	1,813
Non-Pelagic Trawl Gear Restriction Area - Eastern Aleutian Islands	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	2,483
Northern Bering Sea Research Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production*	206,114
Nunivak/Etolin/Kuskokwim Habitat Conservation Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	32,987
Pribilof Island Area Habitat Conservation Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	19,276
Red King Crab Savings Area	Federal	National Marine Fisheries Service	Zoned Multiple Use	Sustainable Production	13,680
Scallop Closed Areas - Eastern Aleutian Islands	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	2,483
Scallop Closed Areas - Eastern Bering Sea	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	98,514
Scallop Closed Areas - Petrel Bank	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	44,542
Scallop Closed Areas - Western Bering Sea / Aleutian Islands	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	44,541
Scallop Closed Areas - Westward Gulf, South Alaska Peninsula	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	8,371
St. Lawrence Island Habitat Conservation Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	24,136
St. Matthews Island Habitat Conservation Area	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	14,953
Trawl Gear Restricted Area - Bristol Bay	State	Alaska Department of Fish and Game	Uniform Multiple Use	Sustainable Production	20,620
Zone 1 (512) Closure to Trawl Gear	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	26,915
Zone 1 (516) Closure to Trawl Gear	Federal	National Marine Fisheries Service	Uniform Multiple Use	Sustainable Production	16,911

*Northern Bering Sea Research Area is classified with a primary conservation focus of Sustainable Production until further clarification.

Sustainable Production sites are established for fishery management purposes to support the continued extraction of renewable living resources, including the recovery of over-fished stocks, reduction of by-catch, and protection of essential fish habitats. As these sites are often temporary and not established with the primary intention of biodiversity protection, they are not *traditionally* considered MPAs by the global MPA community.

May 19, 2016

Mr. George Geiger Chair
Marine Protected Areas Federal Advisory Committee
c/o National Marine Protected Areas Center
National Oceanic and Atmospheric Administration
1305 East West Highway
Silver Spring, MD 20910

Dear Mr. Geiger:

On behalf of the Arctic Marine Protected Areas Working Group, we are pleased to provide the following work product for consideration by the Marine Protected Areas (MPA) Federal Advisory Committee (FAC). The Arctic MPA Working Group was made up of diverse interests, convened under the auspices of the MPA FAC, and was asked to provide recommendations on the role of MPAs in conserving Arctic marine resources and U.S. actions to strengthen and connect MPAs and MPA programs in U.S. Arctic waters.

The Working Group membership encompassed a wide range of perspectives about MPAs in the Arctic, and attempted as best as possible to allow for representation of the geographic and stakeholder diversity of the region (see membership list attached). As such, members expressed diverse views on MPAs and their role as a management tool in the region. The attached guiding principles represent our collective advice on the approach that should be taken when considering MPAs and MPA networks as a management tool in the Arctic, including the importance of substantive involvement from local communities and other affected stakeholders.

Much of our work was conducted at an in-person meeting held in Anchorage on November 9-10, 2015. The meeting included detailed discussions about the need for processes to engage local and indigenous communities and other ocean users, and the need for a clearly defined objective when creating an MPA. Some participants expressed the view that MPAs could have negative impacts or that an MPA network may result in limiting economic opportunities and/or cultural practices by local communities. Other participants described examples where MPAs confer biological, economic, and cultural benefits to local stakeholders in many parts of the world, including the Arctic. Nearly all participants acknowledged the rapid changes the Arctic is now undergoing due to climate impacts, and expressed the desire for healthy ecosystems that, even in the face of rapid change, will continue to sustain lives and livelihoods. The Working Group meeting was open to the public, but some Arctic communities who attended expressed concern that they had not been engaged earlier in the process. The Working Group was subsequently expanded to include the Alaska Eskimo Whaling Commission following this meeting.

Following the November 2015 meeting, the Working Group conducted its work via a series of conference calls to finalize these guiding principles. We feel they represent a common sense approach to protecting our valuable marine resources and cultural heritage, as well as recognizing the important social, cultural and economic value of our oceans and the diversity of the Arctic region (which includes the Bering, Beaufort and Chukchi Seas).

Sincerely,

Lauren Wenzel
Arctic MPA Working Group Co-Chair

Stephanie Madsen
Arctic MPA Working Group Co-Chair

Alaska Marine Protected Areas Working Group Members

Co-Chairs:
Stephanie Madsen, At-Sea Processors Association (MPA FAC member)
Lauren Wenzel, NOAA National Marine Protected Areas Center

Members:
Larry Cotter, Western Alaska Community Development Association
Mike Davis, commercial fisherman
Willie Goodwin, Alaska Marine Mammal Coalition
Jessica Lefevre, Alaska Eskimo Whaling Commission
Chris Hladick, Alaska Department of Commerce, Community and Economic Development
John Jensen, University of West Florida (MPA FAC member)
Nicole Kanayurak, Graduate Student, University of Washington Marine Affairs
Kathy Metcalf, American Chamber of Shipping
Vera Metcalf, Eskimo Walrus Commission
Ed Page, Alaska Maritime Exchange
Caryn Rea, Conoco-Phillips
Chris Siddon, Alaska Department of Fish and Game
Jon Warrenchuk, Oceana
Margaret Williams, WWF (MPA FAC member)
David Witherell, North Pacific Fishery Management Council

Federal Agency Members:
CMDR Chris Barrows, US Coast Guard – 17th District, AK (Alternate: LCDR Courtney Sergent)
Catherine Coon, Bureau of Ocean Energy Management
Amy Holman, NOAA – Alaska Region
Tahzay Jones, Alaska Region, National Park Service
Ryan Mollnow, Alaska Region, US Fish and Wildlife Service
Candace Nachman, NOAA Fisheries
David Payer, Arctic Landscape Conservation Cooperative
Cheryl Rosa, US Arctic Research Commission