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Ministry of the Environment and Energy  
Natural Environment Division

## Input from Sweden to the Arctic Environment Ministers Meeting in October 2018 on the theme “Strengthening the marine protected area network in the Arctic to meet the challenges of the changing conditions”

This document provides input from Sweden to preparations for the Ministerial meeting of Arctic Environment Ministers the 11<sup>th</sup>- 12<sup>th</sup> October in Rovaniemi, Finland as part of Finland’s Arctic Council (AC) Chairmanship. Sweden has taken note of the suggestions by NO and CAN and wish to complement with a suggestion to also raise the issue of the strengthening the marine protected area network in the Arctic to meet the challenges of the changing conditions. This issue address both the focus area 1. Biodiversity conservation and 3. Climate change.

### **Rapid environmental changes in the Arctic**

Climate change and ocean acidification are serious threats to the Arctic environment and to Arctic livelihoods. The rapid environmental changes in the Arctic create new opportunities for different actors that may impact negatively on marine and coastal ecological and social values. Global climate change and ocean acidification change the habitats of the cold-adapted organisms living in the Arctic, with the risk of exterminating unique biodiversity. Approximately 27 % of the carbon dioxide released to the atmosphere is absorbed by the oceans. This keeps the atmosphere from warming as much as it otherwise would, but creates ocean acidification. In the Arctic region climate change and ocean acidification take place 10-100 times faster than at any time in the last 65 million years.

In the highly dynamic Arctic environment, management tools need to address climate change and ocean acidification effects and be adaptive to

change. Marine Protected Area (MPA) networks is an important tool for ecosystem-based management, with the potential to provide ecosystem services and to strengthen marine ecosystem resilience that underpins human wellbeing – including traditional and modern livelihoods and lifestyles.

PAME's *Framework for a Pan-Arctic Network of Marine Protected Areas* sets out the vision for an 'ecologically connected, representative and effectively-managed network of protected and specially managed areas'. The Framework recognizes that individual Arctic countries pursue MPA development based on their own authorities and priorities, and that MPA networks can be complemented with other area-based measures that contribute to network objectives.

A series of MPA science workshops has been organized by PAME to develop the MPA-network toolbox and other area based marine management in the Arctic. The last one was hosted by Finland and Sweden in September 2017 with key aim to collectively, within the Arctic Council, include ways to build and strengthen networks of MPAs in the context of climate change and ocean acidification, as well as incorporating traditional and local knowledge.

### **A paradigm shift for establishing MPAs is necessary**

One outcome of the process above is that a paradigm shift for establishing MPAs is necessary. Given the rapid environmental changes and unprecedented rate of loss of Arctic sea ice there is an urgency to protect habitats that are essential for ecosystem functioning and to link MPAs in an international network. Humanity has now the opportunity of a pro-active and precautionary approach vis-a-vis the largely intact, highly sensitive and unique cold-adapted Arctic marine ecosystems. The current paradigm for the creation of MPAs seems to be that a direct regional or local threat needs to be proven before an MPA can be designated. However, climate change and ocean acidification are global processes that operate across the whole Arctic, and therefore this paradigm should be shifted towards one that establishes MPA networks to protect what is valued and cherished before it is harmed. This calls for applying the precautionary principle and creating Arctic MPA networks, together with other effective area based measures, that will support resilience of biodiversity and ecosystem services to climate change and ocean acidification. Scientists are aware that not all desired knowledge for planning such networks is available at this time. Nonetheless, general

ecological principles and additional experience from other regions (e.g. Antarctica, Baltic Sea, North Atlantic) provide sufficient basic understanding to start designing a robust pan-Arctic MPA network already now and to develop and implement the necessary connected management measures.

Work that need to be developed within the Artic Council and in cooperation with other regional and international organization could be:

- Criteria's for MPAs need to be adapted
- Integration of other effective area-based measures next to MPAs
- Systematic integration of traditional and local knowledge (TLK), will be essential in the process of designating MPA networks.
- Arctic MPAs should be located in areas that are expected to become refugia
- Additional stresses should be targeted
- The scientific knowledge basis must be improved

In so doing, the vulnerability and status of Arctic ecosystems to cumulative drivers and pressures from not only regional and local scales (fishing, tourism, pollution, etc.) but also global scales (climate change and ocean acidification) should be monitored and reviewed on a regular basis.

**Ministers could discuss the urgency to further develop the cooperation, means and tools for the adaption and development of the protection of the marine arctic environment in changing conditions. SE suggest that his discussion point is developed and made more explicit if this theme will be on the agenda at the Ministerial meeting.**