Agenda item 4.8(c)

Proposal to PAME for Cooperation with WWF's ArkGIS

Submitted by WWF

At the PAME I-2013 meeting in Rovaniemi, initial discussions were held to consider possible cooperation between WWF and PAME on WWF's ArkGIS data and platform (http://www.arkgis.org/). WWF's overall objective for engaging in this cooperative partnership is to assist Arctic Council Working Groups to further certain aspects of ecosystem based management in the Arctic. This paper describes the ArkGIS project, and explores topics that could aid in the development of WWF's offer to PAME for cooperative assistance. Some of these topics include carrying out analyses, and providing data and maps from ArkGIS on specific questions.

1. Background

WWF has established ArkGIS to stimulate spatial data availability and analysis in the context of advancing ecosystem-based management (EBM) in the Arctic. WWF uses ArkGIS to engage with stakeholders in order to raise awareness, to build and share knowledge, and to contribute to capacity building on EBM. WWF has received funding from the Norwegian Ministry of Environment to further develop the ArkGIS project in the year ahead. A key focus for WWF in the current project period is to seek collaboration with the Arctic Council on initiatives which advance the availability of spatial circum-arctic data and which advance the functional understanding of the interaction between natural values and human use and activity. WWF also intends to perform specific analyses that can provide pertinent information for advancing sector policies and spatial planning. WWF's overall approach in using the ArkGIS, is intended to assist in the collaboration of on-going activities and processes, rather than to contribute to competing or isolated initiatives.

2. Long-term perspective

WWF has started the work on this with a long term perspective, in order to make the platform itself available for others to use and develop post a WWF funded period. WWF has communicated a desire to transfer ArkGIS under the auspices of the Arctic Council and this was endorsed at the PAME I/2013 meeting and recorded in the RoDs. In light of this decision, and in light of the duration and committed deliverables for the current funding period, WWF proposes that a suitable transfer of this tool could take place in 2014 at the earliest. WWF has resourced data through engagement with national and international platforms to ensure the inclusion of credible, relevant and up to date spatial information.

3. Current funding period

During the current funding period, WWF will invite PAME and other Arctic Council working groups to collaborate with WWF, and possibly with other organizations, to further develop ArkGIS. WWF seeks to advance ArkGIS by working along three broad avenues:

A. *Engaging in partnerships with the aim to include more data, enhancing both the environmental and the human use and cultural layers;*

B. *Carrying out specific spatial analyses relevant to WWF's work;*

C. *Engaging with stakeholders, particularly the AC WGs, the IMO, and national governmental entities, to advance EBM-related issues in the Arctic, and to identify spatial data analyses that are of a shared interest.*

4. Synergies with PAME work plan 2013-2015

WWF invites PAME to use the ArkGIS tool and data as PAME sees fit within their current work plan. In addition, WWF can offer some targeted, and some limited technical capacity, to assist with more specific data and analysis needs. With respect to the three aforementioned work streams, and based on the current PAME work plan, WWF has identified potential areas for collaboration between WWF and PAME for a joint development of the ArkGIS platform; these are listed below as a basis for discussion.

A. *Engaging in partnerships with the aim to include more data, enhancing both the environmental and the human use and cultural layers.* There is a need to continue data compilation, in particular that which is related to biodiversity and natural values. While ArkGIS has already been granted access to the AMSA IIC data mapping areas of ecological significance, it would also be useful to compile data on selected species distribution and population size, where possible, as well as to map further details of ecologically significant areas identified in the AMSA IIC process, where relevant and appropriate. PAME intends to update the Arctic ship traffic data contained in the AMSA report for use in studies, assessments, and trend analyses, as well as for the development of recommendations which enhance Arctic marine safety and support protection of Arctic people and the environment. The related data from 2011 is currently available on ArkGIS, and WWF will include data from 2012 throughout the coming months. A current key focus for ArkGIS is to further the development of analysis, making use of spatially explicit data layers on both human use and biodiversity, to advance the understanding and implementation of ecosystem-based management.

B. *Carrying out specific spatial analyses relevant to WWF's work.* While there is a host of analysis' to be performed, a key focus for WWF is to develop oil spill sensitivity and vulnerability analysis'; foremost that which relates to the work published in the AMSA IIC report, while also considering oil leases which are currently being explored. PAME will finalize the HFO Phase II report, including its recommendations for consideration at PAME I-2014. Related to this is WWF's interest in spatial analysis, which combines potential oil spill risk assessments and related oil spill modelling, with consideration of EBSA location, by way of information gathered from EBSA-specific biodiversity sensitivity elements. ArkGIS can facilitate, in collaboration with relevant partner institutions, the identification of environmental risks, and options for avoiding or minimizing those risks. This can be done by observing the use and carriage of heavy fuel oil, and by aiming to inform the development of international regulations. WWF's ArkGIS could potentially contribute to the identification of these risks in a spatial context, e.g. through its proximity to EBSAs and oil spill trajectory modelling, therefore contributing to the minimization of risk through the development of green routes.

C. *Engaging with stakeholders, particularly the AC WGs and the IMO, to advance EBM-related issues in the Arctic, and to identify spatial data analyses that are of a shared interest:* WWF invites PAME to suggest possible areas of collaboration, keeping in mind WWF's desire to prioritise work that benefits collaboration between Arctic Council working groups, while also advancing EBM. As an integrated spatial tool, ArkGIS has the potential to further PAME's work with regards to EA and its implementation. In the opinion of WWF, using ArkGIS to identify and map the sensitivity of EBSAs elements to oil spills through the use of spatial analyses, would be a significant contribution to the following AC initiatives: PAME's proposed Pan-Arctic Framework for a Network of Marine Protected Areas project; the EPPR Circum-Arctic Marine Environmental Risk Assessment project; and the work to be carried out by the newly created Oil Pollution Prevention Task Force.

By using ArkGIS to identify hot spots of potential cumulative risk from human activities, particularly with data from shipping and oil and gas activities, results can contribute to integrated assessments. PAME plans to continue work on integrated assessment by comparing cases and reviewing existing methodologies. Planning tools include mapping human usage and mapping of habitats in LMEs, in the context of ecosystem based management. ArkGIS includes shipping and oil and gas activity data and WWF is therefore interested in cooperative partnerships in order to advance habitat mapping in the Arctic.