November 2014

**Data Publishing Assessment of**

**Conservation of Arctic Flora and Fauna data**

As per board discussion item #12 in Reston, Virginia, USA, in February 2014, Canada was tasked with assessing engineering requirements to publish selected Conservation of Arctic Flora and Fauna data.

In conjunction with the Technical Working Group, Landmælingar Íslands / National Land Survey of Iceland, and Conservation of Arctic Flora and Fauna Secretariat in Iceland, we are pleased to report significant and detailed progress in this assessment. The Conservation of Arctic Flora and Fauna (CAFF) is in the process of developing a Pan-Arctic Satellite Remote Sensing Products and Distribution System (Source: Michigan Tech, 2014) and wishes these products to be interoperable amongst Arctic Council Working Groups and global stakeholders based on Spatial Data Infrastructure best practices (Barry and Wilson, 2014).

One of the data sets that were to be assessed was a migratory bird vector database. The data within the migratory bird dataset is being finalized and is not quite ready to publish. Initial tests with other selected vector CAFF data have been successful and lessons learned will be applied to the migratory bird data publication process once available.

The satellite imagery data publication assessment resulted in much of it being published. Given the international nature of the project and subsequent need for interoperability, the objective was to assess the level of effort by working with, or, "learning from the data", based on the principles of open data, open software and open standards; wherever practical.

The temporal circumpolar raster indices products that were produced by Michigan Tech include: vegetation, vegetation phenology, land cover type, land surface temperature, albedo, snow covered area, land – water mask, sea surface temperature, marine net primary productivity, coloured dissolved organic matter and marine chlorophyll. Depending on the specific product, a range of temporal periods are covered with the most extensive time series being over fourteen years (2000-2014). The total number of raster data files published, via Arctic SDI standards, is 1,188 and a further 620 are pending disk space configuration.

While the publishing of the vector data was relatively straightforward, the temporal raster data posed standards and technology challenges. The data are loaded and can be viewed, but without full temporal support. Improved handling of temporal data needs further assessment.

CAFF will be hosting a 1 day workshop on Dec 1 in Trondheim where Arctic SDI data management information is coordinated with the Communications Working Group. This work will be highlighted.

The National Land Survey of Iceland, CAFF Secretariat and the TWG collective efforts are commendable.

We recommend to the Board

1. to endorse current level of technical engagement with CAFF to provide visible services to Arctic Council based on Arctic SDI best practices,

2. to support continued dialogue on temporal data standards and technology with inclusion of nations' standards representatives as required,

3. to assess feasibility to link CAFF, Arctic SDI and national remote sensing catalogues.

On behalf of the organizations’ staff who contributed to this project, we respectfully this report.

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Reference: CAFF Dedicated Pan-Arctic Satellite Remote Sensing Products and Distribution System: Summary of Products, Michigan Tech Research Institute, February 2014.