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ABSTRACT: BIODIVERSITY AND ECOSYSTEM SERVICES

Michael Gill

Chair, Circumpolar Biodiversity Monitoring Program
Environment Canada
CANADA

Coordinating for Arctic Conservation: Towards Integrated Arctic Biodiversity Monitoring and Reporting

Arctic ecosystems and the biodiversity they support are experiencing growing pressure from climate change and resource development while established research and monitoring programs remain largely uncoordinated, lacking the ability to effectively monitor, understand and report on biodiversity trends at the circumpolar scale. The maintenance of healthy Arctic ecosystems is a global imperative as the Arctic plays a critical role in the Earth's physical, chemical and biological balance. A coordinated and comprehensive effort for monitoring Arctic ecosystems is needed to facilitate effective and timely conservation and adaptation actions.

The Arctic's size and complexity represents a significant challenge towards detecting and attributing important biodiversity trends. This demands a scaled, pan-Arctic, ecosystem-based approach that not only identifies trends in biodiversity, but also identifies underlying causes. It is critical that this information be made available to generate effective strategies for adapting to changes now taking place in the Arctic - a process that ultimately depends on rigorous, integrated, and efficient monitoring programmes that have the power to detect change within a 'management' time frame.

To meet these challenges and in response to the Arctic Climate Impact Assessment's recommendation to expand and enhance Arctic biodiversity monitoring, the Conservation of Arctic Flora and Fauna (CAFF) Working Group of the Arctic Council launched the Circumpolar Biodiversity Monitoring Program (CBMP). The CBMP is working with over 60 global partners to expand, integrate and enhance existing Arctic biodiversity monitoring efforts to facilitate more rapid detection, communication and response to significant trends and pressures.

Towards this end, the CBMP is establishing five Expert Monitoring Groups representing major Arctic themes (Marine, Coastal, Freshwater, Terrestrial Vegetation & Terrestrial Fauna). Each group, representing a diversity of expertise including both community-based and scientific-based monitoring capabilities, is tasked with developing pan-Arctic, comprehensive and integrated biodiversity monitoring plans for the Arctic's

biomes.

To facilitate effective reporting, the CBMP is developing a suite of indices and indicators and a web-based data portal that will be used to report on the current state of Arctic biodiversity at various scales and levels of detail to suit a wide range of audiences. The current and planned CBMP biodiversity monitoring underpins these indices and indicators.

Recommendations:

I offer the following recommendations, purposely focusing on the Biodiversity and Ecosystem Services theme that I will be specifically participating in and especially focusing on the cross-cutting theme of 'monitoring systems':

- Recognise that the conservation of Arctic ecosystems is a necessary condition for sustainable development of the current and future well-being of the Arctic region, its inhabitants and the entire globe.
- Recognise that Arctic ecosystems and the biodiversity they support now face growing pressure as a result of climate change and resource development; and acknowledge that, in order to successfully conserve the natural environment and allow for economic development, improved baseline data and trend analysis of Arctic biodiversity is needed.
- Endorse and expand support for CAFF's Circumpolar Biodiversity Monitoring Programme and its efforts to establish a comprehensive, cost-effective and integrated Arctic biodiversity monitoring and reporting system.
- Encourage Arctic and non-Arctic countries to contribute to and participate in the CBMP's Expert Monitoring Groups and encourage Arctic countries to expand biodiversity monitoring efforts and contribute the resulting data towards the development of the CBMP's indices and indicators.