

## **Title: The Economics of Ecosystems and Biodiversity (TEEB) for the Arctic Scoping Study**

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The concept of ecosystem services (ES) as the benefits that nature provides was given prominence in the policy arena and with the public through the findings of the Millennium Ecosystem Assessment (MEA) in 2005. Building on the groundwork of the MEA, The Economics of Ecosystems and Biodiversity (TEEB) approach was developed.

TEEB is a global initiative coordinated by the United Nations Environment Programme (UNEP). TEEB draws attention to the benefits that people gain from nature (ecosystem services), including food from fishing and hunting, maintenance of culture, water, enjoyment of wilderness, nature and wildlife, and provision of raw materials. Equally important but less obvious benefits include climate regulation and flood control. TEEB also brings attention to the costs to society when ecosystems are damaged and when plant and animal populations are lost. TEEB provides an analytical approach as well as tools and guidance that aim to recognize, demonstrate and capture the value of nature. Hence, the approach can help make the range of nature's benefits more visible when politicians, businesses, communities and others make decisions that affect or are affected by the state of ecosystems.

The Arctic Council has also recognized the significance of assessing and understanding the multiple services and values that ecosystems provide. This is evident in several initiatives such as Arctic Council work on ecosystem-based management, the Adaptation Actions for a Changing Arctic, the Arctic Resilience Report, and in particular the Arctic Biodiversity Assessment (ABA) recommendations that were approved at the Arctic Council Ministerial in Kiruna in 2013. ABA recommendation 12 refers to ecosystems services and recommends that the Arctic states "evaluate the range of services provided by Arctic biodiversity in order to determine the costs associated with biodiversity loss and the value of effective conservation in order to assess change and support improved decision making".

In response to this recommendation, a partnership – comprising the World Wide Fund for Nature (WWF), the Conservation of Arctic Flora and Fauna (CAFF) Working Group of the Arctic Council, UNEP Regional Office for Europe, UNEP TEEB, and GRID-Arendal – initiated an effort to better understand ways that the Arctic Council can address this important topic. The TEEB Arctic scoping study carried out by the partnership is an important first step ([www.arcticteeb.net](http://www.arcticteeb.net)).

The TEEB Scoping Study for the Arctic encompasses a number of different elements (workshop, survey, literature review, political process analysis and case studies) that feed into the main product (the technical report) and together comprise the overall scoping study. The findings as presented in the technical report are predominantly based on the TEEB scoping study approach and methodology as developed by the global TEEB program. The scoping study differs from this model in two ways:

- 1) it includes information and discussion related more generally to improving understanding of the full range of Arctic ecosystem services, as well as information and discussion on aspects of governance and of valuing ecosystem services in the context of the circumpolar Arctic and Arctic Council; and
- 2) it does not conclude with a defined set of specific policies for assessment in a full TEEB study, but rather provides guidance and examples on policy focus areas that could be further refined and assessed using TEEB methodology.

These differences are related to the multi-jurisdictional nature of Arctic governance, the diversity of value systems around the Arctic, and to meeting the needs identified by the Arctic Council, both through the ABA and through recommendations on implementation of ecosystem-based management in the Arctic.

By choosing this approach, reaching out widely and actively working through the Arctic Council working group and associated consensus building process, the project developed a wide understanding of the utility of incorporating ecosystem services into decision-making in the Arctic. The partnership with the Arctic Council provided credibility for the scoping study as well as access to key expertise and stakeholders on this topic.

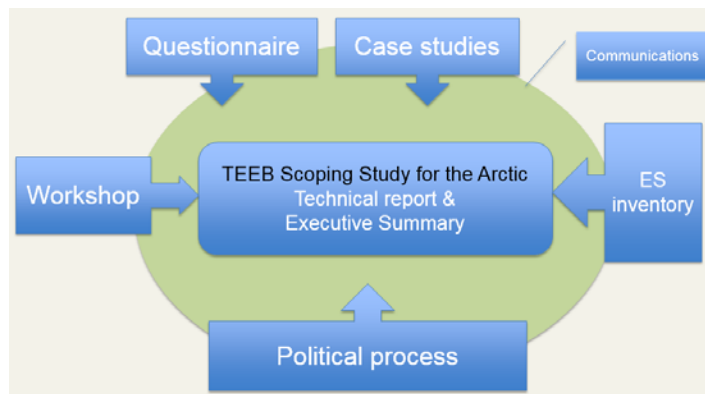


Figure 1. Components of the TEEB for the Arctic Scoping Study

The technical report consolidates all elements of the scoping study on ecosystem services and outlines the potential application of a TEEB approach and methodology in the Arctic (Figure 1). It addresses context and issues, describes the type of Arctic ecosystem services that can be found, looks at how they are governed and valued, explores the most relevant policy areas that would benefit from an ecosystem service focus, identifies stakeholders and suggests a set of options for the way forward.

The technical report is supplemented with two extended case studies (one marine and one terrestrial), which were instrumental in developing the recommended broad policy fields for a full TEEB study. The technical report and an executive summary are available at [www.arcticteeb.net](http://www.arcticteeb.net).

One objective of the project partnership was to reach out widely to Arctic stakeholders, knowledge holders and rights holders in order to collect information and develop a wider consensus on the understanding and utility of the ecosystem services concept and a TEEB approach in an Arctic context. The lively discussion and feedback that the study generated and the thoughtful comments received from a diverse range of experts confirm that this process and consensus building has been beneficial to this project and any future follow up. The scoping study report has been reviewed by CAFF participants and approved by the Senior Arctic Officials of the Arctic Council.

To reach out widely to the Arctic community and interested stakeholders, the project team designed an online questionnaire which was available from April to July 2014 and gathered 60 in-depth responses. A special version of the questionnaire was designed to better capture traditional knowledge, and the main version was also translated into Russian. Questionnaire input is included throughout the scoping study report, both in synthesis form and as direct quotes.

Two workshops were held as part of the project to hear and discuss views on project development and implementation and to agree on the policy areas to be explored in the scoping study.

A literature review on Arctic ecosystem services was conducted and a preliminary inventory of available knowledge compiled. The technical report includes rationale and options for further development of this inventory.

The scoping study concludes by proposing two main follow-up options that are not mutually exclusive. One is a full TEEB study with suggested priority policy areas. The second is a suite of activities that would improve capacity at all scales to better understand Arctic ecosystem services and their values, and to apply this knowledge to policy, by synthesizing and analyzing available information, developing guidance, tools, information and methods. These activities would improve the extent, quality and access by decision makers to knowledge on Arctic ecosystem services.

Such follow-up work would embrace participatory and interdisciplinary approaches to recognize and where appropriate evaluate ecosystem services in the context of specific policies and value perspectives. It would also provide a basis for monitoring the diversity of ecosystem-service-associated values that people hold and the natural capital that is the origin of these services. With the understanding that ecosystem services are co-produced by nature and people, the monitoring of ecosystem services could become an

important way to track social-ecological change. Realizing the social-ecological interconnectedness that ecosystem services represent as clusters rather than single- category benefits, could help prioritize and design observing efforts more effectively.