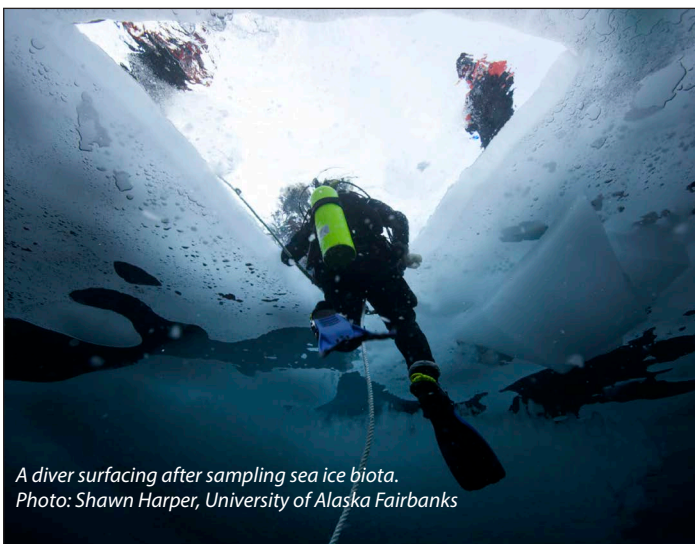


Arctic Marine Biodiversity Monitoring Plan Implementation, Norway, 2017



The [Arctic Marine Biodiversity Monitoring Plan](#) (CBMP-Marine Plan) is the first of four pan-Arctic, long-term, integrated biodiversity monitoring plans produced by the [Conservation of Arctic Flora and Fauna's](#) (CAFF) [Circumpolar Biodiversity Monitoring Program](#).

The CBMP, endorsed by the Arctic Council, is serviced by an international network of scientists, governments, indigenous peoples organizations and conservation groups working to harmonize and integrate efforts to monitor Arctic living resources. The monitoring program consists of four Monitoring Plans (marine, coastal, freshwater, and terrestrial) that integrate existing monitoring efforts and data to better understand changes in Arctic biodiversity. CBMP Marine is organized through a Marine Steering Group, and six Expert Networks (sea ice biota, plankton, benthos, fishes, seabirds and marine mammals). These networks provide the framework to implement the CBMP-Marine Plan and to facilitate more rapid detection, communication, and response to significant biodiversity-related trends and pressures affecting the circumpolar Arctic.



Top CBMP Marine Activities planned for 2018

In 2017, CBMP Marine produced the *State of The Arctic Marine Biodiversity Report (SAMBR)*, the group's first integrated reporting outcome. *SAMBR* describes the status and trends within key elements of the marine ecosystem (Focal Ecosystem Components, FECs), gives an overview of Arctic biodiversity monitoring, and provides advice for future monitoring.

In 2018, CBMP-Marine will continue to implement the CBMP Marine Plan and follow up on *SAMBR* findings and advice, including to:

- Communicate and discuss *SAMBR* findings in relevant international and national fora;
- Hold sessions at the Arctic Biodiversity Congress 2018 (Finland) and the World Conference on Marine Biodiversity (Canada);
- Draft and publish relevant articles in scientific journals and
- Adjust existing biodiversity monitoring according to *SAMBR* advice where possible.

CBMP Marine connections to national activities

Norway has developed ecosystem-based management (EBM) plans for all Norwegian sea areas. The scientific basis for the Barents Sea and Lofoten area are currently being revised. A White Paper will be presented in 2020. The EBM requires an ecosystem-based approach to monitoring of environmental state and effects. A national advisory forum for monitoring has identified indicators to monitor the environmental state of the Barents Sea. The advisory forum published their report "[State of the Barents Sea](#)" in spring 2017. These indicators are reported and updated on a yearly basis through the website "[Environment.no](#)". The CBMP Marine Plan shares common indicators with the advisory forum for monitoring. The Norwegian CBMP marine experts are involved with or well-known within national monitoring efforts, and make use of the knowledge derived from the same monitoring efforts as the EBM plans.

The joint Norwegian- Russian Commission on Environmental Protection (Marine Group) and the mixed Norwegian-Russian Fisheries Commission cooperates on several projects that have relevance for CBMP Marine.

Implementation of the national component of the CBMP - Marine Plan also take place within the programs [MOSJ](#) (Environmental Monitoring in Svalbard and Jan Mayen,) [SEAPOP](#) and [SEATRACK](#).

In addition, whenever relevant, Norway promotes CBMP recommendations into national management processes and reports on the CBMP at national meetings.

Marine Expert Networks Summary of 2017 Achievements

Sea Ice Biota

is led by Norway. A manuscript on ice meiofauna was accepted in 2017. This study demonstrated the dominance of taxa with tolerance to extreme environmental conditions across the Arctic, with large variations in abundance and composition at multiple spatial scales and across seasons. Manuscripts on sea ice amphipod distribution and ice algal communities are in preparation. Abstracts for the World Conference on Marine Biodiversity and Arctic Frontiers Conferences in 2018 were submitted.

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Benthos

is developing a method for benthic monitoring used in several panarctic countries. Norway initiated a workshop on "Detecting changes in the Arctic Ecosystem: The Long-Term Benthos Monitoring" with participation from panarctic countries, Arctic Council, and ICES. A network representative has given several talks to climate related organizations, management and at science conferences about multiple stressors changing the benthic biodiversity in the Barents Sea. A scientific note about distribution of benthic megafauna in the Barents Sea was published.

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Plankton

continued exploring additional plankton data in 2017. Within Norway, collaboration has been established with relevant institutions in order to validate species lists for Norwegian areas, including identify existing literature, data sets and to consider trends. Norway has taken responsibility to identify suitable existing indicators, including identifying necessary adjustments in order to compare data with existing plankton indicators from other countries, especially within the joint Norwegian-Russian monitoring program for the Barents Sea.

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Fish

is developing a pan-Arctic fish atlas, managed by Institute for Marine Research (IMR). The Atlas will be ready in early 2018. A report on changes in Arctic fish abundance and distribution from the Joint IMR PINRO ecosystem survey in the Barents Sea was completed in 2017. A presentation of the Barents Sea fish fauna was given by a network representative at the Fishbase symposium Sweden, the title of the symposium was "the Polar Seas".

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Seabird

monitoring efforts in 2017 focussed on murre species in the Barents and Greenland Seas, including use of GPS-loggers and satellite tags to study habitat use. Survey of the wintering population of king eiders in the central Barents Sea was conducted, and monitoring of the ivory gull population in Svalbard continued, in line with recommendations in the Conservation and Action Plan for this species (CBird 2008).

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Marine Mammals

is monitoring polar bears (according to both the new national plan and a large step toward the international monitoring plan). Research efforts this past year by the Norwegian Polar Institute in cooperation with IMR and international partners included spatial analyses documenting key foraging areas for hooded seal in the NE Atlantic. Effort was also directed to bowhead whales from the Spitsbergen stock in 2017 – with a tagging program and genetics investigations undertaken in 2017. Subpopulation status of the Pechora walrus population was genetically confirmed (and published in the Biological Journal of the Linnean Society). Additionally, tracking studies are ongoing, with walrus, ringed and bearded seals.

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