

Arctic Marine Biodiversity Monitoring Plan Implementation, Norway, 2014



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](#) (CAFF)'s [Circumpolar Biodiversity Monitoring Program](#). Approved by the Arctic Council in 2011, the Marine Plan integrates existing circumpolar monitoring datasets and models to improve the detection and understanding of changes in Arctic marine biodiversity, and informs policy and management responses to these changes.

Development of the plan was co-led by Norway and the United States and was the result of extensive discussions and consultations involving experts from Arctic coastal nations, Permanent Participants and other Arctic Council working groups. The plan identifies eight [Arctic Marine Areas](#) (AMAs) and Focal Ecosystem Components (FECs) to monitor at various trophic levels using specific methodologies, parameters, indicators and sampling designs drawn from existing monitoring capacity (programs), best practices and data.

The CBMP-Marine Plan is designed to provide comprehensive and timely circumpolar information on Arctic marine biodiversity to decision makers. Its implementation is currently co-led by Norway and Russia.



The scientists on the annual joint Barents Sea Norwegian - Russian research expedition returns to the G.O Sars research vessel after a field trip to Bear Island. Photo: Lis Lindal Jørgensen/Institute of Marine Research.

Top CBMP Marine Priorities in 2014

- Develop a work plan and time frame to begin the process of writing the State of the Arctic Marine Biodiversity report
- Continue collecting, discovering, rescuing, aggregating and integrating existing Arctic marine biodiversity datasets to establish baselines; and contribute to the [Arctic Biodiversity Data Service](#).
- Begin reporting on the best indicators of change building on existing monitoring and observation programs
- Continue to explore ways to utilize Traditional Ecological Knowledge
- Encourage participating countries to follow up on the [CBMP-Marine Plan](#) by contributing to the monitoring of the plan's focal ecosystem components, indicators, and the analyzing of existing datasets
- Continue to contribute to international and national initiatives, e.g., Convention on Biological Diversity, Global Biodiversity Outlook, Group on Earth Observations Biodiversity Observing Network, and others
- Improve and stabilize funding for full participation by all Arctic Council coastal states and Permanent Participants
- Promote the relevance and importance of the [CBMP-Marine Plan](#)

Links with National Priorities

Norway has developed integrated management plans for all Norwegian Sea areas. The purpose of these plans is to provide a framework for the sustainable use of natural resources and goods and to maintain the structure, functioning and productivity of the ecosystems. The scientific basis for the management plan for the Norwegian Sea was updated in 2014.

[BarentsWatch](#) provides a unique overview of activity and knowledge in Norwegian coastal and sea areas. The Arctic Ocean Ecosystem and the Trophic interactions in the Barents Sea programs (2014-18) are established to improve the understanding of the trophic interactions, food web structure and function, and energy flow in the Barents Sea ecosystem.

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, for example the [BarentsPortal](#) reporting about the environmental status of the Barents Sea ecosystem, and a joint ecosystem based monitoring program for the Barents Sea.

Read more about the Norwegian management plans: www.havforum.no

Marine Expert Network Summary of 2014 Achievements

Benthos (contact: [Lis Lindal Jørgensen](#))

Making a long term monitoring plan for monitoring benthic marine life on the pan-Arctic shelves. Monitoring in the Atlantic Arctic follows a cost and time effective method developed for the Barents Sea as part of the annual fisheries trawl survey. The same approach will be applied by scientists from Greenland on their research expeditions in June 2015, and by Iceland in 2016. The Network is also developing a pan-Arctic field-guide for marine benthic fauna with the goal of consistent taxonomic identifications across the BEN. For this funding has been received from the Norwegian Ministry of Foreign Affairs to make an "international Benthos Atlas". The [EN lead gave a talk at the Arctic Biodiversity Congress in Trondheim \(December 2014\) about benthic marine life in the Barents Sea and the multiple stressors which are changing the benthic biodiversity](#). A [poster about pan-Arctic benthic monitoring](#) was presented at the Congress. A scientific paper about the [distribution of benthic megafauna in the Barents Sea was published in ICES Journal of Marine Science](#).

Plankton (contact: [Cecilie von Quillfeldt](#))

Summarizing the spatial extent of relevant past sampling and ongoing activities. Within Norway, contact has been established with relevant institutions that not regular members of the network in order to validate species lists for Norwegian areas, including identifying, aggregating and analyzing existing literature and data sets to establish indicator baselines. Furthermore, there is ongoing work to identify suitable existing indicators, including how to make indicators comparable with existing plankton indicators from other Arctic countries. In addition, opportunities Norway has to contribute to suggested new indicators are being examined

Sea Ice Biota (contact: [Bodil Bluhm](#))

Compiling taxonomic records of sea ice biota from the Russian central Arctic drifting stations. The Russian representative [reported on this work in a talk at the Arctic Biodiversity Congress in Trondheim](#) (December 2014). Also, a georeferenced sequencing data base with near-pan-Arctic coverage is in progress for sea ice procaryotes. Recent sea ice meio and macrofauna literature was summarized in a book chapter to be published in the 3rd edition of "Sea ice" (ed. D. Thomas), and a georeferenced database on the topic will be continued this year. The EN also [chaired a sea ice biota session at the Arctic Biodiversity Congress](#).

Fish (contact: [Edda Johannesen](#))

Produced a [pan-Arctic species list of marine and diadromous fishes](#). Norway is funding a circumpolar fish Atlas showing the geographical distribution of these species. As part of this work the EN and other experts on marine fish is also developing a pan-Arctic field-guide for fish identification. This work is to be finished by 2017. The EN held a kick-off meeting in 2014 to start working on the project. The project and [a poster](#) was presented at the Arctic Biodiversity Congress in Trondheim (December 2014). The Norwegian representative also gave a [presentation on the declining population of polar cod in the Barents Sea](#).

Seabird (contact: [Hallvard Strøm](#))

CBird is focusing on completing the Circumpolar Seabird Monitoring Plan, review of the status and trends for Black-legged kittiwake in the circumpolar Arctic and a pan-Atlantic Brünnich's guillemot geolocation project. On the national level focus has been on the implementation of a new program for tracking seabirds in the Northeast Atlantic (SEATRACK) by use of light loggers. More than 2000 GLS-loggers were deployed on 11 seabird species distributed among 30 breeding colonies in Russia, Norway, Iceland, Faroes and the UK in 2014. The SEATRACK program is planned for 2014-2018.

Marine Mammals (contact: [Dag Vongraven](#))

Identified 11 marine mammal species to be given priority within the CBMP. A database for historical population estimates of these species have been established, to also be utilized for long term monitoring of population trends. The MMEN is also in the process of identifying how both scientific and traditional knowledge can be incorporated. A circumpolar action plan for polar bears is en route to be agreed upon by Range States in 2015, and a new aerial survey of the Barents Sea subpopulation is planned for August, in collaboration with Russian authorities. A new population estimate of walrus in Svalbard was published in 2014, showing a 48% increase since 2006.

For more information

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