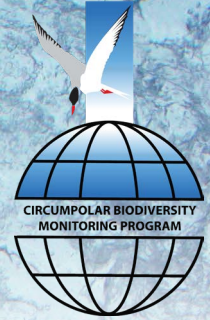


Arctic Marine Biodiversity Monitoring Plan Implementation: Canada, 2017



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.



Dr. Kevin Hedges, Fisheries and Oceans Canada, floy tagging a Greenland Halibut on the Nuliajuk. Photo: DFO.

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

- Progress towards several Canadian Arctic [marine conservation targets](#), including the [Anguniaqvia niqiqyuam Marine Protected Area](#), the boundaries of the [Tallurutiup Imanga \(Lancaster Sound\) National Marine Conservation Area](#), and [three marine refuges off the coast of Nunavut](#): the Davis Strait marine refuge; the Disko Fan marine refuge; and the Hatton Basin marine refuge.
- Participation in the successful negotiations towards an [international agreement](#) to prevent unregulated commercial fishing in the high seas of the Central Arctic Ocean, and hosting the [5th Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean](#).
- Commitments to explore protecting the "Last Ice Area", where summer ice is expected to persist the longest.
- Identification of Iqaluit, Nunavut as one of six sites across Canada where Fisheries and Oceans Canada (DFO) will be working with Indigenous and coastal communities to develop a [Coastal Environmental Baseline Program](#), part of Canada's Oceans Protection Plan. DFO scientists and community partners will collect important baseline information.
- Launch of the [Arctic Policy Framework co-development process](#) with Indigenous, territorial and provincial partners, to reorganize and reprioritize federal activities in the Arctic.

Marine Expert Networks Summary of 2017 Achievements

Sea Ice Biota (contact: [Michel Poulin](#))

- Poulin took part in field work led by DFO-Winnipeg Christine Michel involving sea ice sampling off Resolute Bay, Nunavut.
- Poulin was involved in the kick-off meeting held in Oslo of the Norwegian-led project TaxMarc (Diversity, taxonomy and distribution of marine protists in a changing Arctic).

Plankton (contact: [Connie Lovejoy](#))

- Canada led the SAMBR plankton chapter.
- Lovejoy was an editor of a special issue on Polar plankton published in *Frontiers in Marine Sciences*, with 2 papers focusing on microbial plankton in the Canadian Arctic. Canadians published in other peer reviewed journals.
- Canadians continue to participate in Arctic Ocean research cruises and collected plankton and DNA samples (e.g., ArcticNet on the CCGS Amundsen and DFO in the Canada Basin on the CCGS Louis S. St Laurent).
- A summary of 8 years of DNA protist data from the North Water Polynya was a winning poster at the 2017 Arctic Change meeting.

Benthos (contact: [Virginie Roy](#))

- Arctic-Atlantic benthos experts met in Nov 2017 in Copenhagen to discuss ways of standardizing their respective national monitoring programs of trawl bycatch in regular fishery surveys (Greenland, Iceland, Faroe Islands, Norway, Russia, Canada, Alaska).
- Two Canadian benthos taxonomists (DFO and U Laval) went on the 2017 DFO Multi-Species Stock Assessment Survey in Baffin Bay to improve identification of benthos bycatch and to develop a photocatalogue (DFO Tech Report in prep.).

Fish (contact: [Kevin Hedges](#))

- Canada led the SAMBR fish chapter.
- Work on a Pan-Arctic Marine Fish Atlas and Guide continued with completion and printing anticipated in spring 2018.
- Hedges attended the 2017 annual CBMP meeting, is

a member of the ICES/PICES/PAME Working Group on Integrated Ecosystem Assessment of the Central Arctic Ocean, contributed to the Final Report of the Fourth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean and co-chaired the Fifth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean.

Seabirds (contact: [Amie Black](#))

- Conducted at-sea seabird surveys
- Related marine habitat use of pelagic seabirds to Arctic shipping activity
- Collected Thick-billed Murre and Northern Fulmar eggs for ongoing contaminants analysis
- Contributed to Circumpolar Flyway of CAFF's Arctic Migratory Birds Initiative
- Studied foraging behaviour of Thick-billed Murres while breeding

Marine Mammals (contact: [Steve Ferguson](#))

- As part of community-based monitoring, ringed and bearded seal and narwhal, beluga, and bowhead whale datasets of demographic, distribution, and condition information for all populations of Canadian Arctic marine mammals have been integrated. Abundance and harvest estimates were summarized to establish historic baselines and trends.
- Several Nunavut communities participate in monitoring to collect tissue from subsistence hunts (walrus, ringed seals, bearded seals, harbour seals, harp seals, and beluga whales, narwhal whales, and bowhead whales).
- The community-based monitoring network, built on northern expertise, ensures a blending of scientific and traditional methods and knowledge. These partnerships are an important element in detecting ecosystem changes and guiding research specific to local needs. The network includes Arviat, Sanikiluaq, Pangnirtung, Pond Inlet, Nauyaat, Arctic Bay, Qikiqtarjuaq, and Kugaaruk.
- Conducted polar bear population surveys; assessed body condition
- Collected and disseminated samples for polar bear diet, contaminants, genetics and health studies.

For more information

Bronwyn Keatley or Alain Dupuis

CBMP Marine Steering Group
Fisheries and Oceans Canada
200 Kent Street, Ottawa, Ontario, Canada, K1A 0E6
Tel.: +1 613-286-6067
Email: Bronwyn.Keatley@dfo-mpo.gc.ca
Alain.Dupuis@dfo-mpo.gc.ca
Website: [Fisheries and Oceans Canada](#)

Conservation of Arctic Flora and Fauna (CAFF)

Borgir, Nordurlod
600 Akureyri, Iceland
caff@caff.is
www.caff.is/marine
[Sign up for the CBMP newsletter](#)
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