The Conservation of Arctic Flora and Fauna (CAFF) is a Working Group of the Arctic Council.

**CAFF Designated Agencies:**
- Directorate for Nature Management, Trondheim, Norway
- Environment Canada, Ottawa, Canada
- Faroese Museum of Natural History, Tórshavn, Faroe Islands (Kingdom of Denmark)
- Finnish Ministry of the Environment, Helsinki, Finland
- Icelandic Institute of Natural History, Reykjavik, Iceland
- The Ministry of Housing, Nature and Environment, Greenland
- Russian Federation Ministry of Natural Resources, Moscow, Russia
- Swedish Environmental Protection Agency, Stockholm, Sweden
- United States Department of the Interior, Fish and Wildlife Service, Anchorage, Alaska

**CAFF Permanent Participant Organizations:**
- Aleut International Association (AIA)
- Arctic Athabaskan Council (AAC)
- Gwich’in Council International (GCI)
- Inuit Circumpolar Council (ICC) – Greenland, Alaska and Canada
- Russian Indigenous Peoples of the North (RAIPON)
- Saami Council


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CAFF Designated Area
CBMP Strategic Plan, 2018-2021

Mid-term Progress report

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1. Introduction

The Circumpolar Biodiversity Monitoring Programme (CBMP) plays a key role in supporting CAFF’s mandate to address the conservation of Arctic biodiversity, communicate findings to the governments and residents of the Arctic, and help to promote practices that ensure the sustainability of the Arctic’s living resources.

The CBMP Strategic Plan aligns with the Actions for Arctic Biodiversity 2013-2021: Implementing the recommendations of the Arctic Biodiversity Assessment. It is designed to feed into other Arctic Council initiatives and strategies such as the Sustaining Arctic Observing Networks (SAON), the Arctic Marine Strategic Plan (PAME), and initiatives focused on developing an ecosystem approach to monitoring and assessments of the Arctic ecosystems and biodiversity.

The CBMP Strategic Plan provides the overarching goals of the CBMP, and outlines actions to deliver on those goals. It guides the management of the program and helps ensure the programmes continued relevance to the needs of the Arctic States, Permanent Participants (PP), scientific and Arctic communities, and other partners.

Progress reports are delivered twice a year to the CAFF Board where the Board provides direction to help CBMP achieve greater impact, meet new challenges, and take advantage of opportunities that arise. Regular reports are also made to the Senior Arctic Officials of the Arctic Council.

The overarching goals of the CBMP Strategic Plan 2018-2021 are that the CBMP is:

- Relevant to Arctic States, PPs, the scientific community, Traditional Knowledge and Local knowledge communities and other partners;
- Supportive of decision-making and coordinated monitoring;
- An adaptive monitoring program; and
- Sustainable (defined by organization, capacity and finances).

A series of 4 goals, 19 objectives and 97 related actions have been identified to serve as metrics for measuring effectiveness towards achievement of the goals. This progress report provides an overview on the status of implementation of the Strategic Plan.
2. Methods:

The following framework and metrics were used to evaluate progress since approval of the Strategic Plan in February 2018:

<table>
<thead>
<tr>
<th>Performance indicators</th>
<th>Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effectiveness:</strong> Are the tasks in the <em>Action Plan</em> being implemented, resulting in concrete steps towards achievement of ABA recommendations.</td>
<td>• Status of tasks identified in the <em>Action Plan</em>: Ongoing, Completed, Planned.</td>
</tr>
<tr>
<td><strong>Engagement:</strong> Has the <em>Strategic Plan</em> resulted in increased engagement of relevant stakeholders in implementation of ABA recommendations.</td>
<td>• Numbers of Observer states; organisations; and expert organisations engaged in tasks identified in the <em>Strategic Plan</em>.</td>
</tr>
<tr>
<td><strong>Dissemination:</strong> Has the <em>Strategic Plan</em> resulted in increased awareness of and access to information on Arctic biodiversity.</td>
<td>• Number of visitors to CBMP Websites • Numbers of data records accessible • Numbers and attendance of outreach events • Social media engagement • Numbers of new partners on initiatives</td>
</tr>
</tbody>
</table>

*Impact:* It lies outside the scope of this report to assess the impact of the CBMP. However, examples will be provided of outcomes achieved through the implementation of the *Strategic Plans*.

3. Results

There has been significant progress towards implementation of the CBMP. Progress achieved reflects how the CBMP has supported implementation of the recommendations from the Arctic Biodiversity Assessment and provided clarity on the Status and Trends of Arctic Biodiversity.

**Effectiveness**

There are currently 97 actions, identified in the Strategic Plan:

- 16.5 have been completed (blue);
- 62 have been initiated and are ongoing (green); and
- 18.5 are planned but not started (red).

If tasks were not initiated this was due to either:

1) no leads; and/or
2) lack of funding.

See Annex 1 for further details on status of task implementation.

**Engagement**

The numbers of organisations and non-Arctic states involved in the CBMP has started to grow. Experts from 6 Observer states (Germany, France, the Netherlands, Japan, UK, Poland) and 2 Observer organisations (IUCN, NAMMCO) are engaged, ranging from attending meetings and as members of CBMP expert networks. The model of developing special journal issues as the foundation for the State
of the Arctic Reports has helped facilitate engagement by providing experts with a product to deliver within academia. Two Arctic Council Working Groups (AMAP and PAME) sit on expert monitoring Steering Groups.

This reflects an understanding that the implementation of the CBMP is a key step in ensuring long-term monitoring efforts and inventories are increased and focused to address key gaps in knowledge to better facilitate the development and implementation of Arctic conservation and management strategies. This is reflected for example in:

- Invitations from the United Nations Convention on Biological Diversity (UN CBD) to the Arctic Council to provide relevant information and assessments of Arctic biodiversity, in particular information generated through the CBMP; and
- CBMPs recognition as the Arctic Biodiversity Observation Network within the Group on Earth Observations – Biodiversity Observing Network (GEOBON) and membership of UNEP’s Biodiversity Indicators Partnership.

All the above reflects an understanding that the implementation of the CBMP is a key step in ensuring long-term monitoring efforts and inventories are increased and focused to address key gaps in knowledge to better facilitate the development and implementation of Arctic conservation and management strategies.

Dissemination

Increased awareness of and access to information on Arctic biodiversity can be seen in the growth in visits to CAFF websites, social media followers and numbers of events.

The overall trend is of increased traffic and dissemination with peaks occurring around the Arctic Biodiversity Congresses (Dec. 2014 and Oct. 2018), demonstrating the utility of such events in overall CAFF and Arctic Council communications efforts. The dramatic increase in numbers of biodiversity
data records available from 2015 reflects the increasing capacity of the Arctic Biodiversity Data Service (ABDS) to facilitate access to and archiving of biodiversity information generated from the CBMP.

**Impact**

It lies outside the scope of this report to assess the impact of the Strategic Plan, however some examples are provided where outcomes achieved through the Action Plan can be seen in:

- Publication of the CBMP’s State of the Arctic Marine Report (SAMBR), leading to national efforts e.g. in the US and Norway to consider how to act upon the advice from the SAMBR.
- Publication of the Arctic Biodiversity Coastal Monitoring Plan which is the Arctic Council platform to facilitate the co-production of knowledge.
- Publication of the CBMP’s State of the Arctic Freshwater Report (SAFBR), leading to development of the first integrated circumpolar database on Freshwater biodiversity.
- CBMP Marine Benthos expert group used to inform development of north Atlantic monitoring benthos programme.
- Increased interest from other Arctic Council groups to collaborate on specific issues (e.g. AMAP and PAME).
### Goal 1: The CBMP is relevant to the Arctic States, Permanent Participants, the scientific and Traditional and local knowledge communities, and other partners.

**Objective 1.1: Align CBMP to support CAFF input on Arctic biodiversity into national, regional, and global reporting needs for information to support decision-making.**

- **#A:** CBMP Co-Leads and CAFF Secretariat to work with the CAFF Board to determine reporting needs for each State and Permanent Participant where CBMP information could be used to support decision-making.
- **#B:** Through a case study explore how CBMP data might fit in to other reporting requirements, e.g. EU directives;
- **#C:** Take national, circumpolar and also global needs into account when planning follow-up to the SABRs;
- **#D:** Deliver key findings and recommendations from the CBMP to CAFF’s partners (e.g., by ensuring that the SABRs, and their indices and indicators are made available, easy and accessible to relevant partners);
- **#E:** Establish new partnerships through the CAFF Working Group as appropriate, to ensure that the CBMP is aligned to support CAFF input to local, national, circumpolar and global needs
- **#F:** Work for enhanced Permanent Participant engagement in the CBMP
- **#G:** Continue to work with existing partners (e.g., GEOBON, GBIF, OBIS) to further ensure information on Arctic biodiversity is available and feeds into relevant fora.

**Objective 1.2: Align CBMP with ABA implementation**

- **#A:** Map each CBMP activity to the Actions for Arctic Biodiversity 2013–2021 and consider how they are currently contributing to ABA implementation and how the CBMP might advance CAFF activities in the future (e.g. how the CBMP might contribute to implementation of the Arctic Invasive Alien Species (ARIAS) Strategy and Action Plan (2017));
#B: Map how CBMP activities help support the UN Sustainable Development Goals;  
#C: Report on changes in Arctic species, ecosystems, and the effects of stressors through SABRs  
#D: Evaluate upon completion of the planned SABRs how these reports have responded to ABA conservation and research priorities  
#E: Evaluate how the most efficient and relevant reporting can be structured in future upon completion of the planned SABRs  
#F: Map how CBMP reporting, including on the FECs identified in each CBMP Arctic Biodiversity Monitoring Plan, aligns with each other and with the Actions for Arctic Biodiversity 2013–2021.

**Objective 1.3: Include Traditional and Local Knowledge in CBMP when possible**

#A: When developing CBMP products, gather information from diverse sources of knowledge and analyse them together with appropriate experts where possible.  
#B: Build a platform to allow for a co-production of knowledge process between Indigenous peoples and scientists.  
#C: Include TLK and science in any revisions of Arctic Biodiversity Monitoring Plans (e.g., when considering follow-up on the State of the Arctic Marine Biodiversity Report).  
#D: Seek participation from TK and LK holders, and support their capacity to participate meaningfully;  
#E: Continue to highlight the relevance of TK in communication and outreach efforts.

**Objective 1.4: Promote the usefulness of the CBMP to the scientific community and facilitate their engagement**

#A: Support production of special journal issues, as needed, to serve as the scientific foundations for the SABRs;  
#B: Proactive use of all resources to promote CBMP products including how the CAFF Board can be strategically engaged;  
#C: Encourage the development of journal articles based upon CBMP products;  
#D: Support interdisciplinary networks within the CBMP to engage and conduct research that integrates monitoring and predictive science;  
#E: Continue to produce regular editions of the CBMP newsletter to keep the scientific community informed of CBMP news, events and initiatives.
#F: Find ways to facilitate increased engagement of young scientists and TLK holders, e.g. building upon the agreement between CAFF and the Association of Polar Early Career Scientists (APECS);

#G: Continue annual meetings that serve as tools for improved networking and coordination;

#H: Support Expert Networks to strengthen coordination of monitoring

#I: Focus on increasing observer country participation in the CBMP and investigate what scientific and/ or financial contributions they may make to the program;

**Objective 1.5: Continue development of existing and new headline indicators**

#A: Review the Strategy for developing indices and indicators for monitoring Arctic biodiversity in the Circumpolar Biodiversity Monitoring Program to ensure it reflects the CBD Aichi Targets and the Sustainable Development Goals and any post-2020 global biodiversity strategy that might be adopted in 2020.

#B: Continue to report on existing indices/indicators of Arctic biodiversity, e.g., the Arctic Species Trend Index and protected areas indicator; and develop new ones, e.g. the Land Cover Change Index (LCC) and, in particular, indicators that can be used to understand cumulative effects.

**Goal 2: CBMP results support decision making and facilitate coordinated monitoring.**

**Objective 2.1: Complete development of the Arctic Biodiversity Coastal Monitoring Plan, the Terrestrial and Freshwater SABRs, and the next phase of the Marine Plan implementation.**

#A: Complete the Arctic Coastal Biodiversity Monitoring Plan.

#B: Continue to improve and implement the Arctic Marine Biodiversity Monitoring Plan, including incorporating advice for monitoring from the State of the Arctic Marine Biodiversity Report (CAFF 2017).

#C: Complete the State of the Arctic Freshwater and Terrestrial Biodiversity Reports.

**Objective 2.2: Communicate CBMP results to stakeholders with content, form, and style meaningful to the audience**

#A: Provide a “big picture” view that clarifies the relevance of the CBMP in the context of rapid changes and emerging issues in the Arctic;

#B: Be responsive to target audience information needs and communications channels (i.e., language, medium, timeline);
**Objective 2.3: Continue to identify and support Expert Networks relevant to the CBMP**

<table>
<thead>
<tr>
<th>#A: Engage national monitoring networks that feed into CBMP activities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>#B: Identify other relevant networks and invite them to participate in the CBMP.</td>
</tr>
<tr>
<td>#C: Provide support to networks e.g. through facilitating meetings, data support, securing funding, arranging meetings and bringing people together.</td>
</tr>
<tr>
<td>#A: Establish an efficient working interface between CBMP and INTERACT, through a work package in the EU financed INTERACT project.</td>
</tr>
<tr>
<td>#B: Test the Arctic Freshwater and Terrestrial Biodiversity Monitoring Plans at three locations in the field in accordance with relevant CBMP protocols.</td>
</tr>
<tr>
<td>#F: Identify gaps in relation to the CBMP monitoring program at the three stations.</td>
</tr>
<tr>
<td>#G: Conduct field trials on selected FECs in the monitoring programs at these three stations.</td>
</tr>
<tr>
<td>#H: Consider how to replicate this work with the Marine and Coastal (once completed) Monitoring Plans.</td>
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</tbody>
</table>

**Objective 2.5: Develop user manual(s) for implementing the CBMP in the field**
<table>
<thead>
<tr>
<th>Objective 2.6: Increase access to Arctic biodiversity data for the common good of science, decision-making, Arctic residents, and other stakeholders both inside and outside of the Arctic.</th>
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<tbody>
<tr>
<td><strong>#A:</strong> Complete case studies where site specific user manual(s) are developed based on the Arctic Freshwater and Terrestrial Biodiversity Monitoring Plans and common protocols as appropriate.</td>
</tr>
<tr>
<td><strong>#B:</strong> Consider how to replicate this at other stations or field sites across the Arctic.</td>
</tr>
<tr>
<td><strong>#C:</strong> Consider how to replicate and/or incorporate this kind of work with regards to the Marine and Coastal (once completed) Arctic Biodiversity Monitoring Plans.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Objective 3.1: Integrate lessons learned from CBMP implementation to inform and adjust future work processes, including within the Arctic Biodiversity Monitoring Plans.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>#A:</strong> Further develop the interoperability of the ABDS with national and global data centres.</td>
</tr>
<tr>
<td><strong>#B:</strong> Continue to make data retrieved through the CBMP accessible via the ABDS and ensure that it is interoperable with data partnerships where possible, e.g., GBIF and OBIS.</td>
</tr>
<tr>
<td><strong>#C:</strong> Provide support to CBMP to ensure data it generates conforms to recognized standards and has metadata applied.</td>
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<tr>
<td><strong>#D:</strong> Focus on data harmonization.</td>
</tr>
<tr>
<td><strong>#E:</strong> Continue to work with Steering Groups, Expert Networks, and partners such as the Arctic Spatial Data Infrastructure (SDI) to consider issues of data access, visualization, metadata and standardization.</td>
</tr>
<tr>
<td><strong>#F:</strong> Rescue older data from previous CAFF activities and make it accessible on the ABDS.</td>
</tr>
<tr>
<td><strong>#G:</strong> Develop a data management manual describing the flow of data from the field to CAFF assessments, including the harmonization of data across sites and scales.</td>
</tr>
<tr>
<td><strong>#H:</strong> Increase the understanding and profile of the ABDS amongst target audiences and partners.</td>
</tr>
<tr>
<td><strong>#I:</strong> Expand the funding base and increase decision-maker support for the ABDS by engaging private and public funding agencies and identifying partners with complimentary mandates for cost and benefit sharing.</td>
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</table>
### Monitoring Plans.

<table>
<thead>
<tr>
<th>#A: Each Steering Group, at its annual meeting, will review and compile lessons learned from the previous year for dissemination to other monitoring groups.</th>
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</thead>
<tbody>
<tr>
<td>#B: In turn, each Steering Group will review and consider lessons-learned from other Steering Groups each year, when developing annual work plans.</td>
</tr>
<tr>
<td>#C: Evaluation of the CBMP Strategic Plan will be a standing item on the CAFF agenda every second year, where the CAFF Board will review progress, recommend actions to the CBMP Co-Leads, and make revisions as necessary.</td>
</tr>
<tr>
<td>#D: CBMP co-leads will consider lessons learned from previous years when developing subsequent CBMP strategic plans.</td>
</tr>
<tr>
<td>#E: Coordinate activities between CBMP Expert Networks and Steering Groups to ensure alignment of activities and synergies where appropriate (including meetings, teleconferences, etc. as appropriate).</td>
</tr>
<tr>
<td>#F: Coordinate activities between CBMP Steering Groups to ensure alignment of activities and synergies where appropriate (including meetings, teleconferences, etc. as appropriate) for example on integrating FECs across monitoring plans.</td>
</tr>
<tr>
<td>#G: Consider impacts of stressors and drivers within reviews of the Arctic Biodiversity Monitoring Plans.</td>
</tr>
<tr>
<td>#H: Continue development and implementation of the CBMP and its Arctic Biodiversity Monitoring Plans, e.g. through the development of annual work plans and progress reports.</td>
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**Objective 3.2: Utilize advice for monitoring based on the SABRs to provide guidance on future monitoring**

<table>
<thead>
<tr>
<th>#A: Long-term monitoring efforts that have successfully allowed for priority pan-Arctic status and trend reporting in the SABRs will be summarized and presented to the CAFF Board for discussion regarding possible continuation of these efforts in four-year cycles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>#B: Biodiversity status and trends identified in the SABR will be summarized and presented to the CAFF Board for discussion on how to address these concerns.</td>
</tr>
<tr>
<td>#C: Priority monitoring gaps identified by the SAMBR will be summarized and presented to the CAFF Board for discussion on how to address these gaps.</td>
</tr>
<tr>
<td>#D: The Freshwater and Terrestrial Steering Groups, upon completion of their SABRs, will follow a similar pattern to provide guidance on monitoring as needed.</td>
</tr>
</tbody>
</table>
determined from their SABR.

**Objective 3.3: Develop integrated and targeted State of the Arctic Biodiversity Reporting**

| #A: Complete SABRs for freshwater and terrestrial (marine is complete). |  
| #B: Decide how and in which format the first coastal SABR should be completed based on lessons learned and new information. |  
| #C: Each Steering Group will develop a process to evaluate and prioritize FECs reported in each SABR and work together to develop an integrated CBMP SABR, and select the highest priority FECs that best serve as indicators of the State of their system. |  
| #D: Each Steering Group and Expert Network to consider how relevant journal articles, and/or special journal issues could support the CBMP. |  
| #C: CBMP co-leads to work closely with the Marine Steering Group as they emerge from completing their SABR and work toward selecting priority FECs for future reporting. This will be reported to the other groups. |  
| #D: Evaluate and consider lessons learned from previous processes in support of developing future or integrated SABRs. |  

**Objective 3.4: Evaluate the effectiveness of remote sensing as a tool to support biodiversity monitoring and assessment**

| #A: Expand the current CAFF remote sensing database to include additional temporal/spatial scales. |  
| #B: Use the expanded remote sensing database to conduct time-series analysis. |  
| #C: Conduct a multi-scale analysis at case-study locations to provide information on parameter scaling to further inform the Land Cover Change Index and CAFF stakeholder participants. |  
| #D: Use the remote sensing database and its analysis to support the development of SABRs and headline indicators. |  

**Objective 3.5: Each CBMP Steering Group will implement the Strategic Plan within their work plans.**

| #A: Each Steering Group will, in their future work plans, include implementation actions related to this strategy, starting at their respective 2018 annual meeting. |  

**Goal 4: The CBMP is sustainable (defined by organization, capacity and finances)**

**Objective 4.1: Refine program coordination and organization**

- **A:** Work to strengthen the CAFF Secretariat’s capacity related to CBMP implementation, e.g. by integrating the CBMP Co-Leads closer to the Secretariat, to secure a more sustainable performance of key operations.
- **B:** Continue to support and develop the organizational framework of Co-Lead States supported by the CAFF Secretariat.
- **C:** Work to ensure that each Steering Group has a designated scientific assistant to help with key deliverables.
- **D:** Continue to coordinate and improve outreach with other Arctic Council Working Groups and subsidiary bodies as relevant.
- **E:** Maintain strategic links with current organizations and initiatives and grow linkages with organizations as relevant (see objective 1.1).

**Objective 4.2: Refine progress reporting for the CBMP**

- **A:** Continue to produce regular progress reports, work plans and national progress reports for each Steering Group, implementing a refined template for annual CBMP Steering Group reports.
- **B:** Annual national implementation reports to be provided for each Arctic Biodiversity Monitoring Plan.
- **C:** Conduct a program review in 2020 to evaluate and adjust as needed the CBMP and its four Monitoring Plans with subsequent reviews occurring every five years. Review results may adjust FECs, attributes, sampling methods, data management and analysis, and reporting.

**Objective 4.3: Secure sustainable funding**
#A: CBMP Co-Leads and CAFF Secretariat develop a sustainable funding strategy.
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