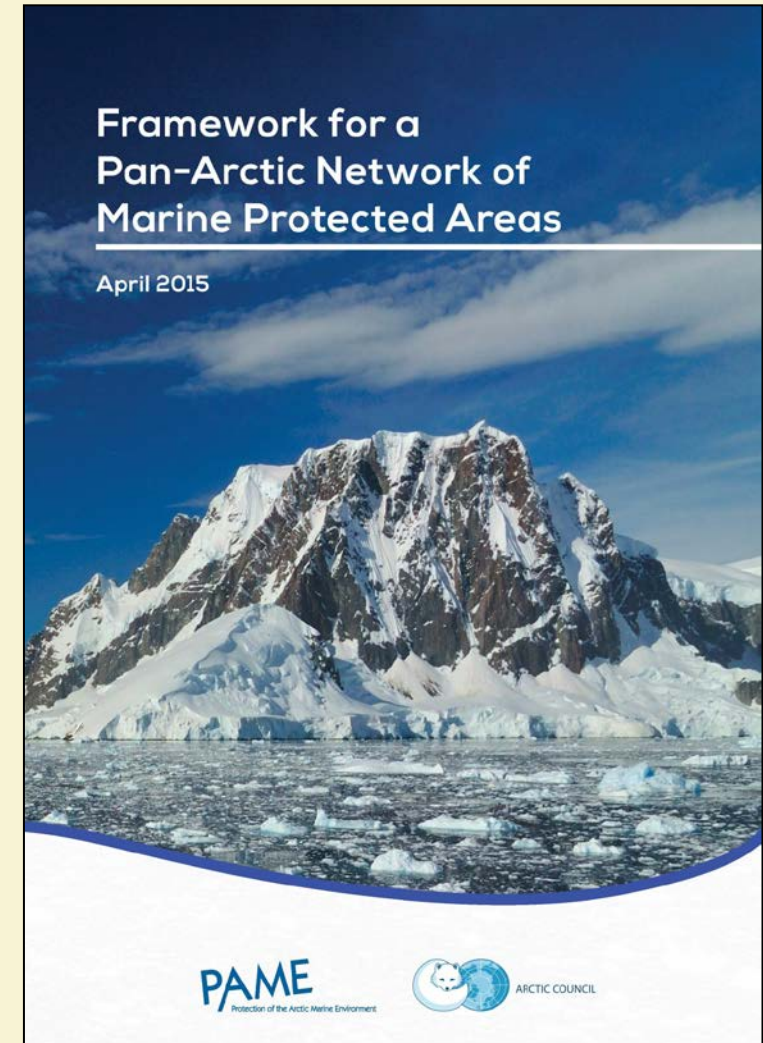


# Understanding categories of Arctic biodiversity to be addressed by PAME's MPA Toolkit

- PAME's 'Framework for a Pan-Arctic MPA Network' document sets out the vision for an “ecologically connected, representative and effectively-managed network of protected and specially managed areas.”



# MPA Expert Group Workplan

- To advance this, the 2015-2017 PAME work plan includes a “MPA Toolkit” project to develop guidance to assist countries in advancing MPA networks in the Arctic and to start exploring ecological connectivity in the marine environment.



# What are the MPA Toolkit products?

- Catalogue of important categories of Arctic biodiversity
- Catalogue of MPAs and other area-based measures used to protect Arctic biodiversity
- Report on tools and lessons
  - from biodiversity table and analysis of MPAs / other area-based measures
  - From “Science and Tools for Developing Arctic MPA Networks” workshop



# Catalogue of important categories of Arctic marine biodiversity

## *what it is...*

- A tool
- MPA framework vision: *“An ecologically connected, representative and effectively-managed network of protected and specially managed areas that **protects and promotes the resilience of the biological diversity, ecological processes and cultural heritage** of the Arctic marine environment, and the social and economic benefits they provide to present and future generations.”*
- Identifies **species, habitats, features and ecosystem processes** that are *important* to such a network.



# Catalogue of important categories of Arctic marine biodiversity

## What it is...

### 1. An overview of key species found in Arctic marine ecosystems:

- Geophysical and ecosystem characteristics of habitats
- Ecological roles and functions
- Ecosystem service & cultural value
- Vulnerabilities, with emphasis on human-induced pressures / threats

### 2. An approach to identify important biogeophysical features



Catalogue of important categories of Arctic marine biodiversity

Category	Species / species groups	Key geophysical features / habitats / ecosystem elements where found or on which is dependent	Ecosystem importance (biological, geophysical)	Ecosystem Service importance	Main vulnerabilities	Habitat/ space or behaviour that makes them vulnerable	LME in which it is found
Fish	Small cod species spawning in winter under ice (Arctic cod, polar cod, navaga, saffron cod)	Sea ice (multi-year, pack ice); Sea ice (marginal ice zone, ice-influenced waters).	Key (mid-level) food web element linked to sea ice ecosystem; Important food for seals and sea birds; Major contributor to sea ice ecosystem and Arctic Sea biomass; Unique to Arctic; Under-studied / Knowledge gaps.	Some subsistence fishing, but also major importance as feedstock for more commercially important & valuable fish, seals, whales.	Sea ice melting / Climate change (high); Oil spills (high); Disturbance (low)	Spawning under ice; Migrations;	Barents Sea; Kara Sea; Laptev Sea (possible polar cod spawning); East Siberian Sea; Bering Sea; Chukchi Sea (Arctic cod); Beaufort Sea; Central Arctic Ocean; Canadian Arctic Archipelago; Hudson Bay;

# Catalogue of important categories of Arctic marine biodiversity

## What it is...

### “Important”

- Lists species / features/ habitats /ecosystem elements that have been described as “important” for ecological functions, ecosystem services, ecosystem resilience, or for significant areas in Arctic LMEs.
- Compiled from Arctic Council publications (e.g., AMSA IIc, ABA)



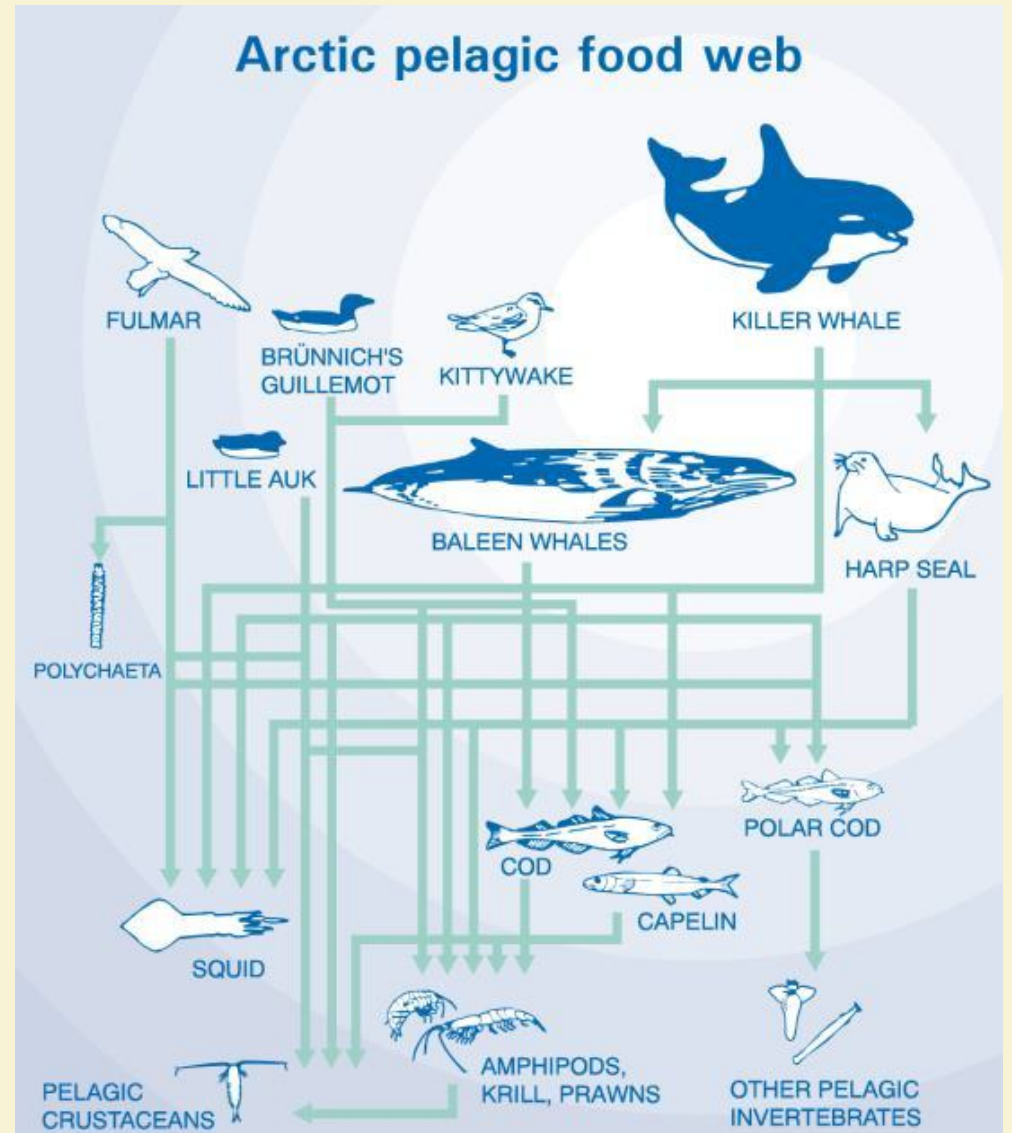
Catalogue of important categories of Arctic marine biodiversity

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# Catalogue of important categories of Arctic marine biodiversity

## What it is *not*...

- A definition of important Arctic species
- An exhaustive list
- Comprehensive for invertebrates taxa or algae
- Set in stone (a final or prescriptive product)



# Seeking discussion and advice...

- How to complete the catalogue
- Approach to “importance”
- Information of species, habitats, features, ecosystems
  - Links made between them clear to support linking to area-based management?
  - Vulnerabilities clear to support linking to threats/pressures?
  - More focus on lower trophic levels, geophysical features, ecosystem services?
- Approach to identifying biogeophysical features

