Biodiversity and ecosystem services in the Nordic coastal regions
An IPBES-like assessment focusing on coastal areas
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IPBES Conceptual Framework

Gren = "western science"
Blue = "Other knowledge systems"

What is IPBES?

- **Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)**
- Overall objective: To provide policy relevant knowledge to inform decision making
- Established in April 2012, Panama
- 126 Members (193 UN members)
- Secretariat hosted in Bonn, Germany

IPBES-1 (Jan 2013, Bonn)

IPBES-2 (Dec 2013, Antalya)

IPBES-3 (Jan 2015, Bonn)

IPBES-4 (Feb 2016, KualaLumpur)

IPBES-5 (Mars 2017, Bonn)
Background to the Nordic initiative

• A Nordic meeting on IPBES 2014, proposed a Nordic Assessment on Biodiversity and Ecosystem Services - inspired by IPBES

• A Norden report 2016 “Framing a Nordic IPBES like study”

• A study related to indigenous and local knowledge (ILK) performed by NAPTEK at Swedish Biodiversity Centre, financed by SEPA; “Indigenous and local knowledge in a scoping study for the Nordic IPBES assessment“ (CBM nr. 96 2015).

• Funding: from the Nordic Council of Ministers and some national funds
Objectives at a Nordic level focusing on coastal areas

Strengthen
- the science-policy interface for biodiversity and ecosystem service
- the nature conservation and sustainable use of coastal ecosystems
- the long-term human well-being and sustainable development

Address
- policy-relevant questions
- status, trends and potential future dynamics of biodiversity and ecosystem services
- indirect and direct drivers
- integrated and cross-scale analysis of interactions of nature and human society
- governance, institutional arrangements and private and public decision-making
- identify knowledge gaps
Key datasets

• Based on existing data, scientific literature and other information, including citizen science, and indigenous and local knowledge (ILK)

• Use spatially-explicit mapping, GIS and modelling methods

• Existing remote sensing and biodiversity databases

• Communicate data in a user-friendly manner for policy makers and other users
Nordic countries and autonomous regions

Autonomous regions, self-governing regions, unincorporated regions and dependencies of the Nordic countries

- **Denmark**: Faroe Islands, Greenland
- **Finland**: Åland
- **Norway**: Svalbard, Bjørnøya, Jan Mayen
- **Sweden**: Öland
- **Other Nordic country**: Christianøya (DK)

* Islands enlarged for visibility
** Northeast Greenland National Park unincorporated region within Greenland
*** Svalbard & Bjørnøya are part of Norway but fall under the International Spitsbergen Treaty (1920)
**** Queen Maud Land claimed by Norway. No fixed southern boundary

Source: Nordregio. Map ID: 10146e, Designer/Cartographer Linus Rispling, Data source, Statsministeriet (DK), Act on the Autonomy of Åland (FI), Lov om Bouvetøya, Peter I’s øy og Dronning Maud Land m.m. & Spitsbergen Treaty (NO), Published 25 June 2015
Geographic boundaries coastal areas

• The Nordic region includes Denmark, Finland, Iceland, Norway, Sweden and the Faroe Islands, Greenland and Åland of which only Iceland is not member of IPBES.

• The Nordic region with Svalbard, Greenland and the Faroe Islands have Arctic areas within their territories.

• The Nordic Assessment focus on coastal regions of: the Baltic, Barents Sea, Norwegian Sea, Greater North Sea, Arctic Seas, and Greenland Sea.
Delimitations and levels of scale

Bio – geographical regions
Arctic - Coastal
Nordic - Coastal
  coastal area - border to open sea (WFD, MSFD)
Some connecting wetlands and drainage areas

Socio-economical
Land use and socio-economic data - coastal municipalities

ILK (e.g. local fishermen, Sami people and Inuites)
Coastal municipalities in Sweden - terrestrial “border”
Coastal area - border to open sea (WFD, MSFD, MSP and CFP…)

- WFD
- MSFD
- MSP
- CFP
Chapter structure

Chapter 1: Setting the scene

- Presenting assessment of relevant policy questions
  *why and what* ...... *why a Nordic assessment, what are BD and ES, connection to human well-being and livelihoods, target groups...etc.*

- An IPBES like context - the CF, in an Nordic pragmatic way

- Nordic Context - similarities and differences

- Description of the costal region including wetlands
  - the Nordic coastal region
  - Ecosystem structure and function (e.g. biogeographical regions, climate, water quality BD)
  - Socio-economical
  - Cultural

- Key questions for the Nordic coastal regions
Chapter 2: Nature’s benefits to people and quality of life

• Status and trends of ecosystem services in coastal areas
  Provisioning
  Regulating
  Cultural (e.g. role of protected areas, tourism, urban areas/coastal cities)

• Cross border flow of services, Nordic footprint
  Examine the multiple values of biodiversity and ecosystem services, on multiple scales.

• Future trends of ecosystem services
Chapter 3: Status, trends and future dynamics of biodiversity and ecosystems underpinning nature’s benefits to people

• Assess status, past and current trends, and future dynamics of biodiversity and ecosystems
• Identify patterns and processes relevant for long-term persistence of biodiversity, and resilience

Chapter 4: Direct and indirect drivers of change in the context of different perspectives of human well-being

• Assess the status, trends and future dynamics of indirect and direct drivers, focusing on those affecting “Nature,” “Nature’s benefits to people” and how that links to “Good quality of life”
• Assess how institutional and governance arrangements, contribute to changes in biodiversity, ecosystem functions and ecosystem services
• Explore the concept of direct and indirect drivers
Chapter 5  cross sector - cross scale

- reflects all the boxes and fluxes of CF
- an integrated approach to assessing the relationship between nature and humans at and across different scales
- Delphi analysis across Case Studies (establishing the impact of drivers over time and space)
- include analysis of dynamics, including feed-backs, time-lags, tipping points, cross-regional interrelations, synergies and trade-offs

Two sections:

1. what might happen in the future, how combinations of indirect and direct drivers may change and how changes may affect biodiversity, ecosystem services and human wellbeing

2. propose actions to changes, and identify pathways and actions to achieve environmental policy goals and visions of sustainable development  (long-term 2050 vision of the Strategic Plan for Biodiversity)
Chapter 6
Options for governance, institutional arrangements and private and public decision-making across scales and sectors

• Focus on management and governance in Nordic countries, e.g. public participation, right of public access and different policy instruments such as fiscal reforms

• Rules and norms from international and government level to local customary norms

• Assess overlapping policy and legal frameworks and how these contradict or support each other

• Include nature conservation, sustainable use and management practices

• Analys learning, innovations, and capacity for recognizing changes
8 case study areas
In SeaGIS 2.0 maps important ecosystem services and spreads knowledge to authorities and other actors.

Transnational Sweden - Finland
KALIX
Local and traditional fishery

Restauration of an inland water
Cooperation; municipality – local interests and initiatives
25 participants on board

Denmark

Eva Roth, University of Southern Denmark
Anders Højgaard Petersen, University of Copenhagen

Finland

Anna-Stiina Heiskanen, Marine Research Centre, Marine Assessment and Management Unit, Finnish Environment Institute SYKE
Hannele Ilvesalo-Lax, Centre for Economic Development, Transport and the Environment for South Ostrobothnia
Minna Kallio, Finnish Environment Institute SYKE
Tero Mustonen, Snowchange Cooperative
Petteri Vihervaara, Finnish Environment Institute SYKE
Susanna Jernberg, Marine Research Centre, Finnish Environment Institute SYKE, Finland
Leena Nurminen, University of Helsinki, Finland
Eija Sinikka Pouta, Natural Resources Institute Finland

Sweden

Andrea Belgrano, and Henrik Svedäng, Institute of Marine Research, Department of Aquatic Resources, Swedish University of Agricultural Sciences (SLU)
Marie Kvarnström, and Håkan Tunón National programme for local and traditional knowledge related to conservation and sustainable use of biological diversity (Naptek), Swedish Biodiversity Centre
Pia Norling and Lars Gamfeldt Swedish Agency for Marine and Water Management (SwAM)
Britta Skagerfält (project leader), Swedish Environmental Protection Agency (SEPA)
Charlotta Söderberg, Political Science Unit, Luleå University of Technology

Åland

Maija Häggblom and Susanne Vävare, Department of Social Affairs, Health and Environment, Government of Åland

Greenland and Iceland

Not represented
Thank you for your attention!

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A link to the Nordic scoping study  urn:nbn:se:norden:org:diva-4395
The term “biocultural diversity” within the IPBES assessment on Pollinators, Pollination and Food Production is defined as:

“the total variety exhibited by the world’s natural and cultural systems, explicitly considers the idea that culture and nature are mutually constituting, and denotes three concepts:

1. diversity of life includes human cultures and languages;
2. links exist between biodiversity and cultural diversity
3. links have developed over time through mutual adaptation and possibly co-evolution.

Biocultural diversity incorporates ethno biodiversity

http://dx.doi.org/10.1016/j.cosust.2014.11.002
Ecosystem services from Millennium Ecosystem Assessment (MEA 2005).
The scoping process

- The project group consist of a group of representatives from the Nordic countries, selected by each Nordic country’s government authorities

- Consultations were made through two questionnaires, a Nordic meeting and country consultations/dialogues

- The Study was based on IPBES document such as scoping reports for the regional and sub-regional assessments and other guidance under IPBES

- A study related to indigenous and local knowledge in consultation with these knowledge holders, through a process with dialogue and questionnaire, was performed integrated and in conjunction
Citizen science and Indigenous and Local Knowledge systems

• Nordic countries have a diversity of local cultures; local communities with customary uses of specific biological resources
• Indigenous peoples: the Sami and the Inuit
• Follow IPBES work programme deliverable 1 (c), Procedures, approaches and participatory processes for working with ILK systems; and Task force on ILK systems.
• Nordic network and supporting hub for ILK could be established to ensure sub-regional relevance and connection to ILK holders
• ILK representatives need to be part of the assessment process from its design and throughout, including analysis and recommendations,
• Several databases based on citizen science initiatives that could contribute highly relevant data on biodiversity and ecosystem services for a Nordic Assessment.
Utility

• Provide users with holistic and comprehensive analysis of the current state of scientific and other knowledge related to biodiversity and ecosystem services in the Nordic coastal region

• Build on multiple knowledge systems

• Support the Nordic countries and parties in implementing global, regional and sub-regional agreements

• Inform a broad audience, such as a range of stakeholders
Assumptions

• The availability of expertise and the dependence on partly voluntary contributions

• Reflect the need for disciplinary and geographic balance within the region

• Should consist of both scientific and ILK holders

• Should contribute to on-going national and regional assessments, including those undertaken by TEEB the and MAES
Discussion

• *Delimitations and levels of scale* – geographically and socio-economically boarders of the assessment

• *Terminology* – common use, how concept and ideas are understood among different actors, language depends on values

• *Indigenous and Local Knowledge* – how in practice different knowledge systems can contribute together

• *Citizen Science*

• *Data* – what constitutes a relevant “key” dataset

• *Outreach* – finding innovative ways to present the outcome and to increase capacity of decision makers ability to grasp the importance of biodiversity and ecosystem service…..