



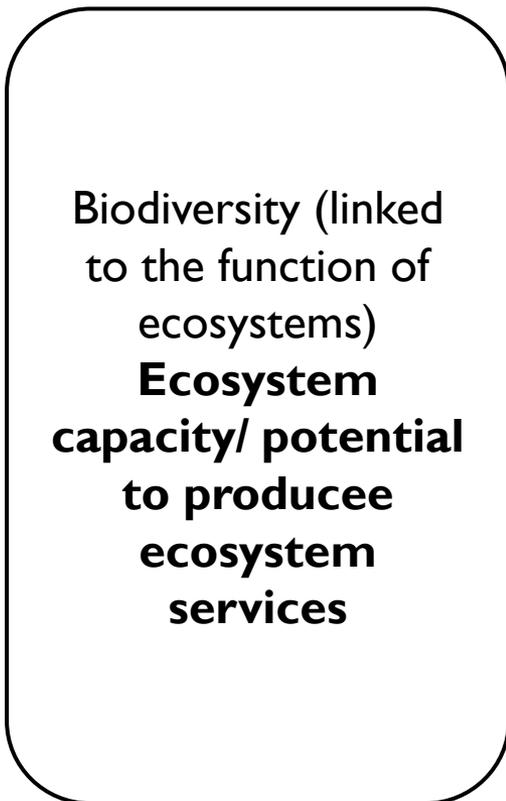
The Nature index. An emerging tool, experiences in Norway

Signe Nybø

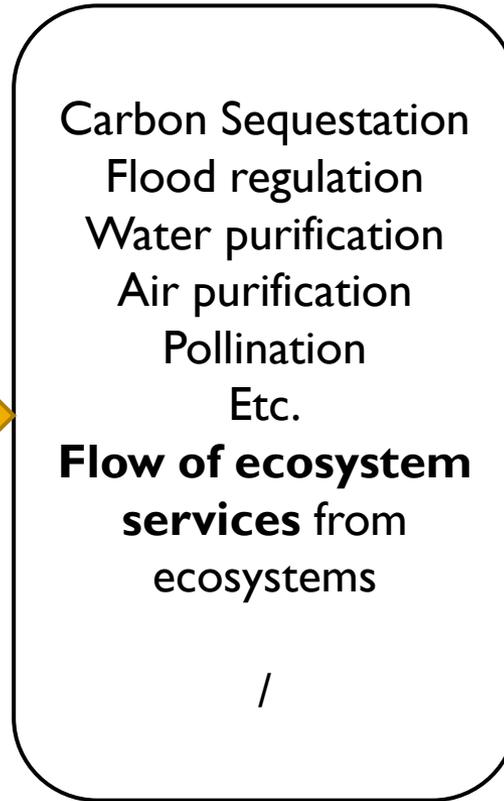
Assistant Research Director, Terrestrial Dept.

ECOSYSTEM ASSESSMENT

► Biodiversity



Services



Human Benefits



When only monitoring data (time-series) were used....

Living Planet Index 2005

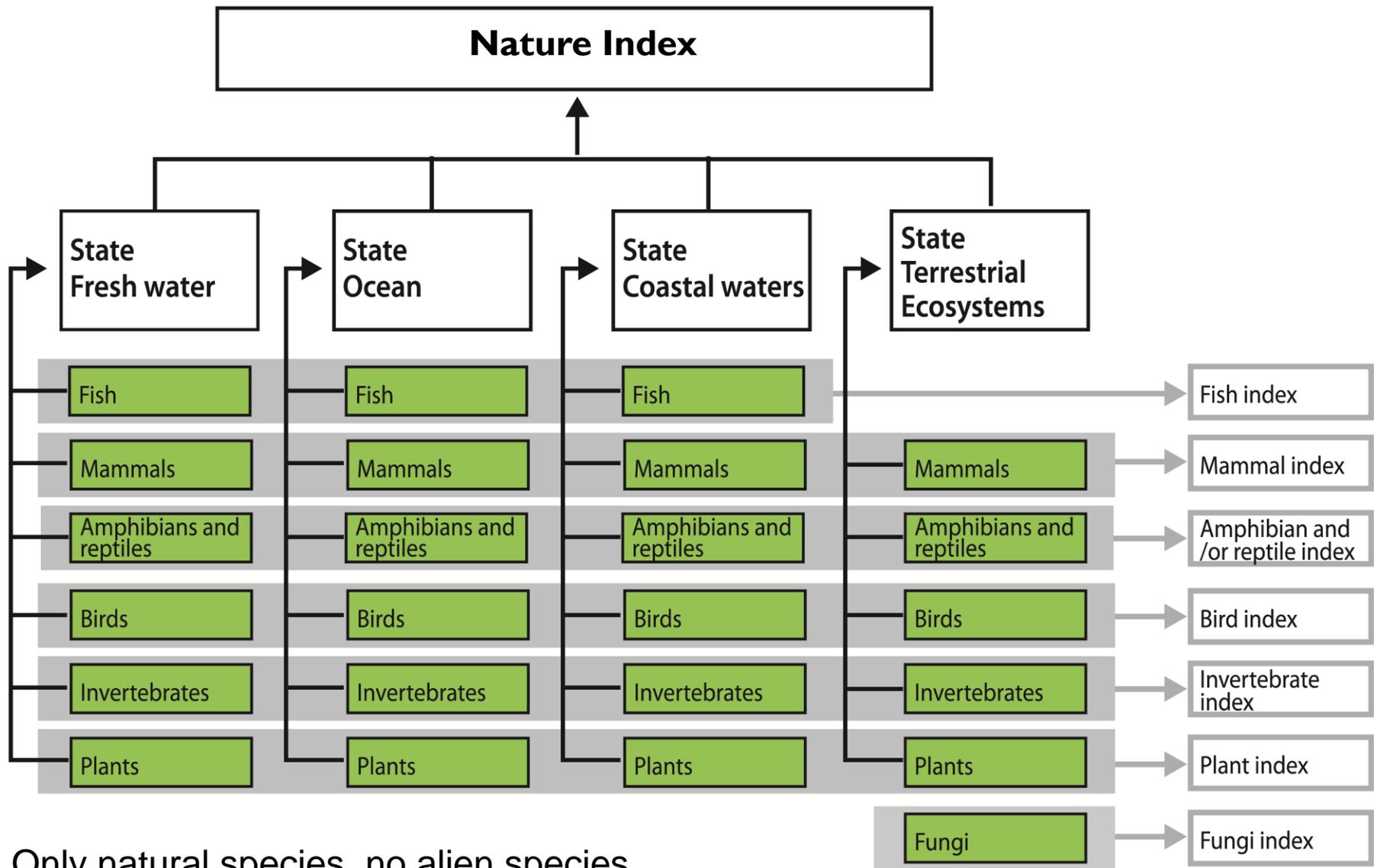


In Norway:

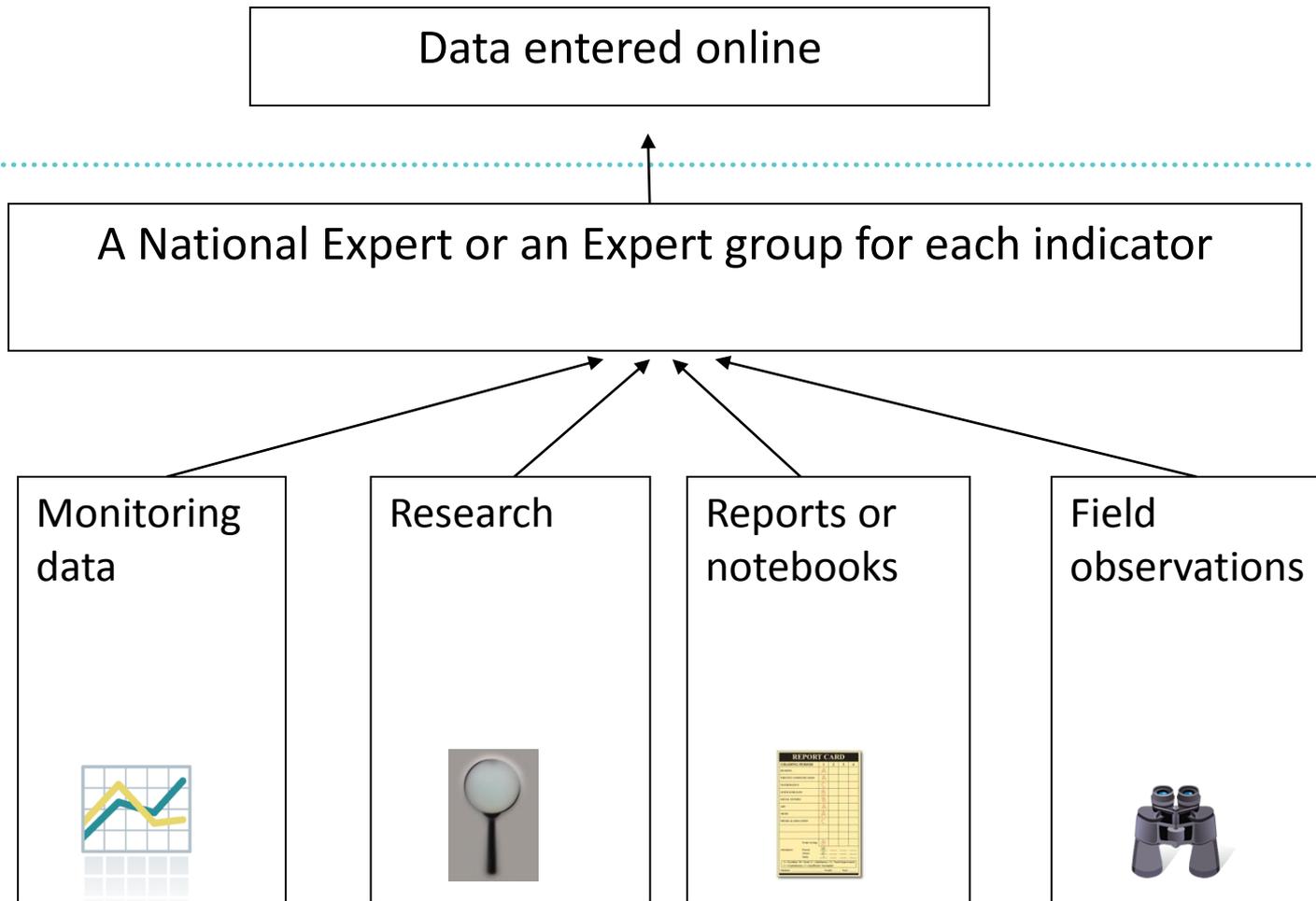
- Most monitoring is located in degraded areas
- Thus
 - The LPI of Norway did not include the best available information on species
 - Was not cost-effective, only a part of the knowledgebase was used (research results, reports, observations omitted)

Objectives of the Nature Index

- ▶ State and trends of biodiversity (assessment)
 - ▶ Did Norway halt the loss of biodiversity by 2010?
- ▶ Easy to communicate
- ▶ Based on current available knowledge on biodiversity in Norway + identify monitoring needs
- ▶ Scientifically sound – accepted in the society

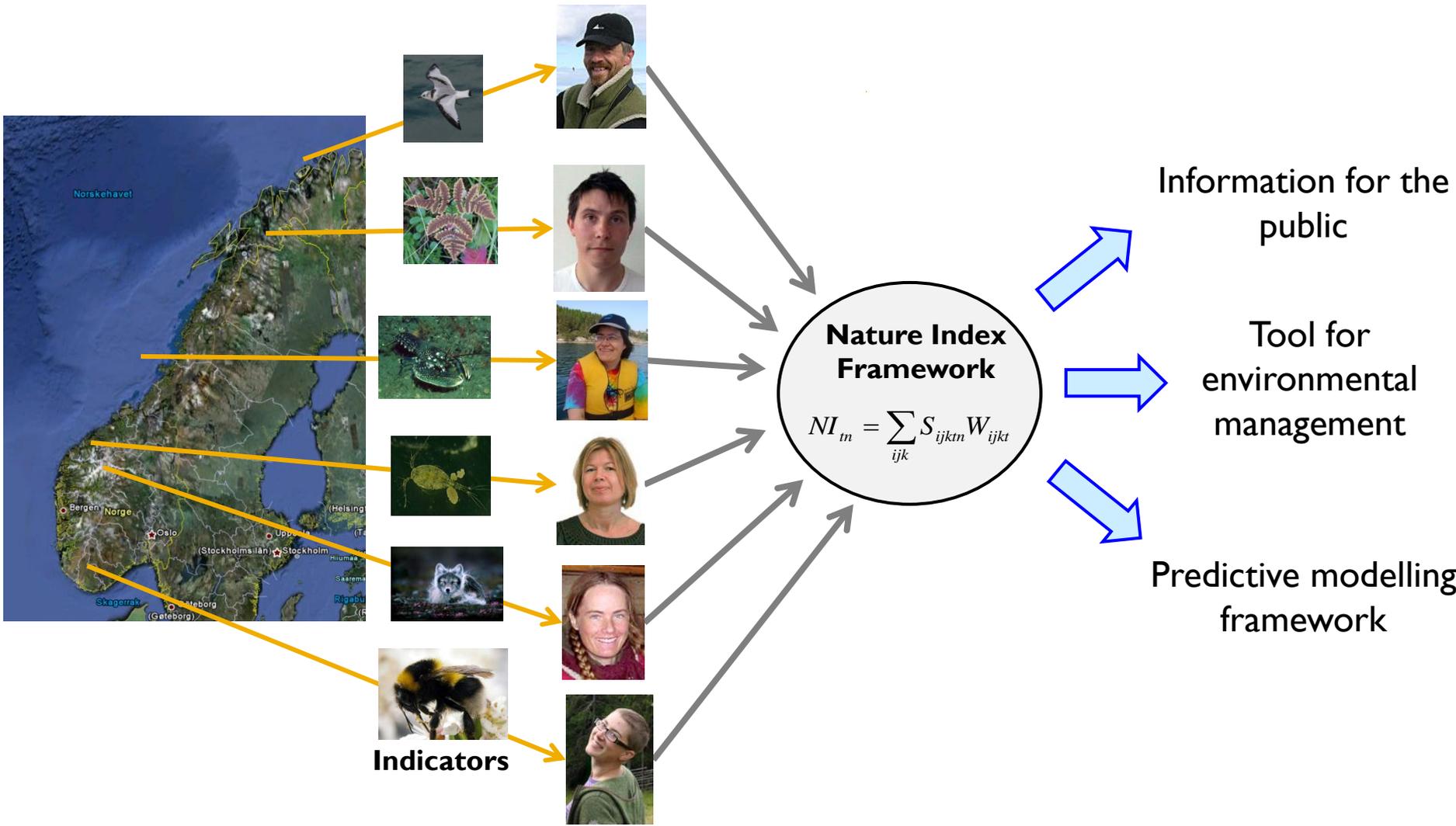


Only natural species, no alien species
 Values scaled 0 -1, where 1 is intact ecosystems



Mean values and uncertainties were entered for each indicator and integrated in the final index

Who are the experts?



Indicators

Experts

Researchers from various research institutes
(Environment, Agriculture, Forests, Marine)

308 indicators 125 experts

Ocean bottom



Ocean pelagic



Coast bottom



Coast pelagic



Freshwater



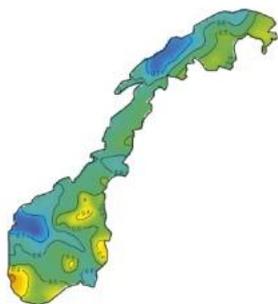
Open lowland



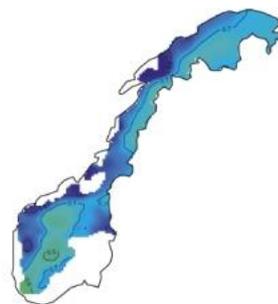
Forest



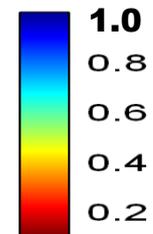
Mires and wetland



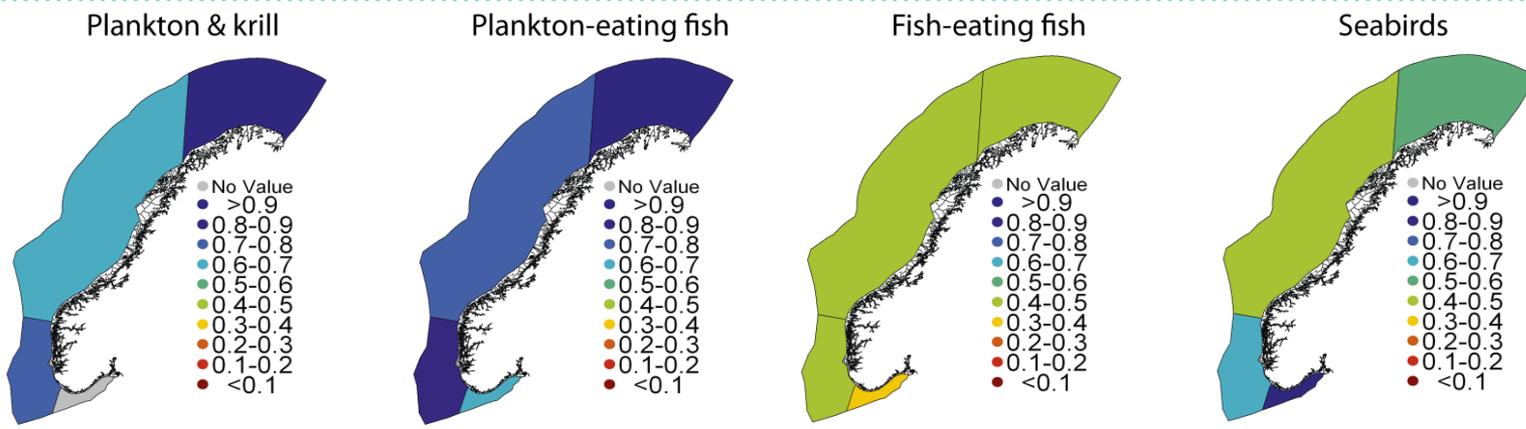
Mountain



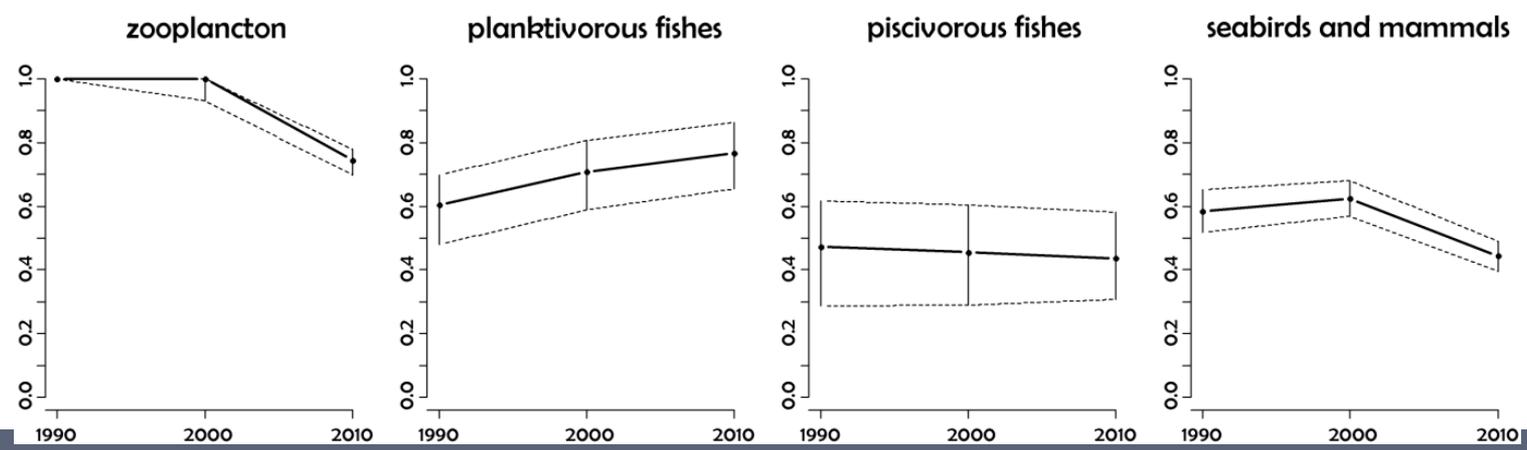
The state of major ecosystems in 2010 as calculated by NI (308 indicators and 9 major ecosystems)



2010



d) thematic index on trophic groups of pelagic systems



The Nature Index (NI) on the political agenda in Norway

- ▶ Nature Index was published in 2010 after a 3 year period of development. Initiated and financed by the Government
- ▶ Adopted as an **indicator of sustainable development** by the Ministry of Finance 2011
- ▶ Adopted as **indicator of major ecosystems** by the Ministry of Environment 2011. Rearranged their management issues
- ▶ How is the relationship Nature Index – Ecosystem Services? Discussed within **Norwegian expert commission on values of ecosystem services**

Aichi Strategic goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Indicators where the NI methodology could be useful
(thematic indices or the index itself)

Population trends of utilized species, including species in trade

Degradation of natural habitats; population trends of habitat dependent species in each major habitat type

Population trends of target species and bycatch aquatic species

Population trends of forest and agriculture dependent species in production systems

(Impacts of invasive alien species on extinction risk trends)

Trends in abundance of selected species

Status and trends in species that provide ecosystem services

If anyone is interested in collaboration.....

1. A new database for entering data on indicators on the internet is finalized
 2. A module for “automatic calculation” of indexes will be finalized by June 2013.
 3. A module for presenting indicators and maps on the internet will be finalized after that. Results will be available on the internet.
- ▶ Can be transferred to other countries/ regions at low costs. Bullet point 1+2 available from June 2013, maybe before. Bullet point 3 later
 - ▶ NB: Must be adapted to local needs (e.g. species/ indicators, ecosystems, area in focus, language etc.)

Conclusions

- ▶ The NI presents an **overview** of state and trends of biodiversity based on best available knowledge.
- ▶ Easy to communicate.
- ▶ Scientifically sound
 - ▶ Methodology agreed among involved institutions, incl. sector research institutes
 - ▶ More of the knowledgebase is used as expert judgements are included. Cost-effective...
 - ▶ Published in scientific journal -PLoS one
- ▶ Accepted by the society
 - ▶ But some scepticisms, especially forest sector
- ▶ Connection to ecosystem services are elaborated



Thanks for the attention!



For more information: <http://english.dirnat.no> and <http://www.plosone.org>

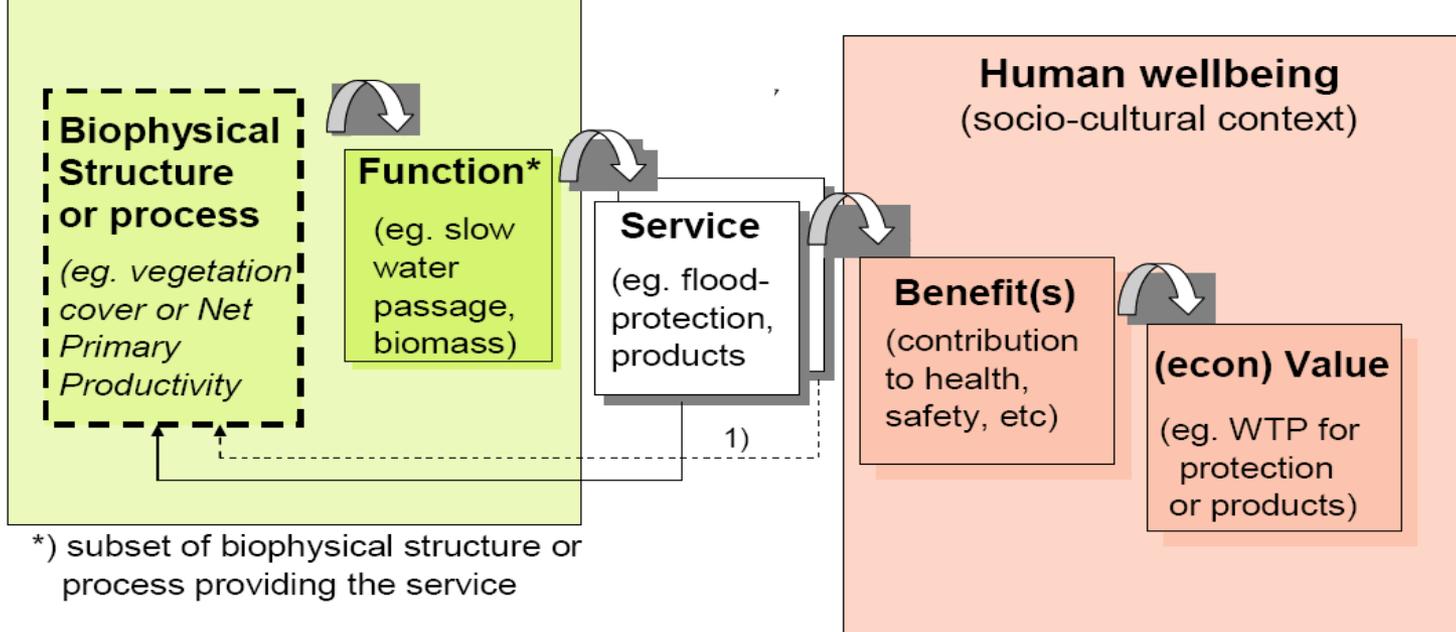
Involved research institutes:

Norwegian Institute of Water Research,
Norwegian Forests and Landscape Institute,
Norwegian Institute for Agricultural and Environmental Research,
Norwegian Institute of Nature Research.
Marine Institute

▶ **Financed by** the Directorate of Nature Management/ Ministry of Environment



Ecosystems & Biodiversity



*) subset of biophysical structure or process providing the service

Adapted from Haines-Young & Potschin, 2009 and Maltby (ed.), 2009

Extent/ area of major ecosystems (x- axis) and their state of biodiversity (y-axis nature index)

