

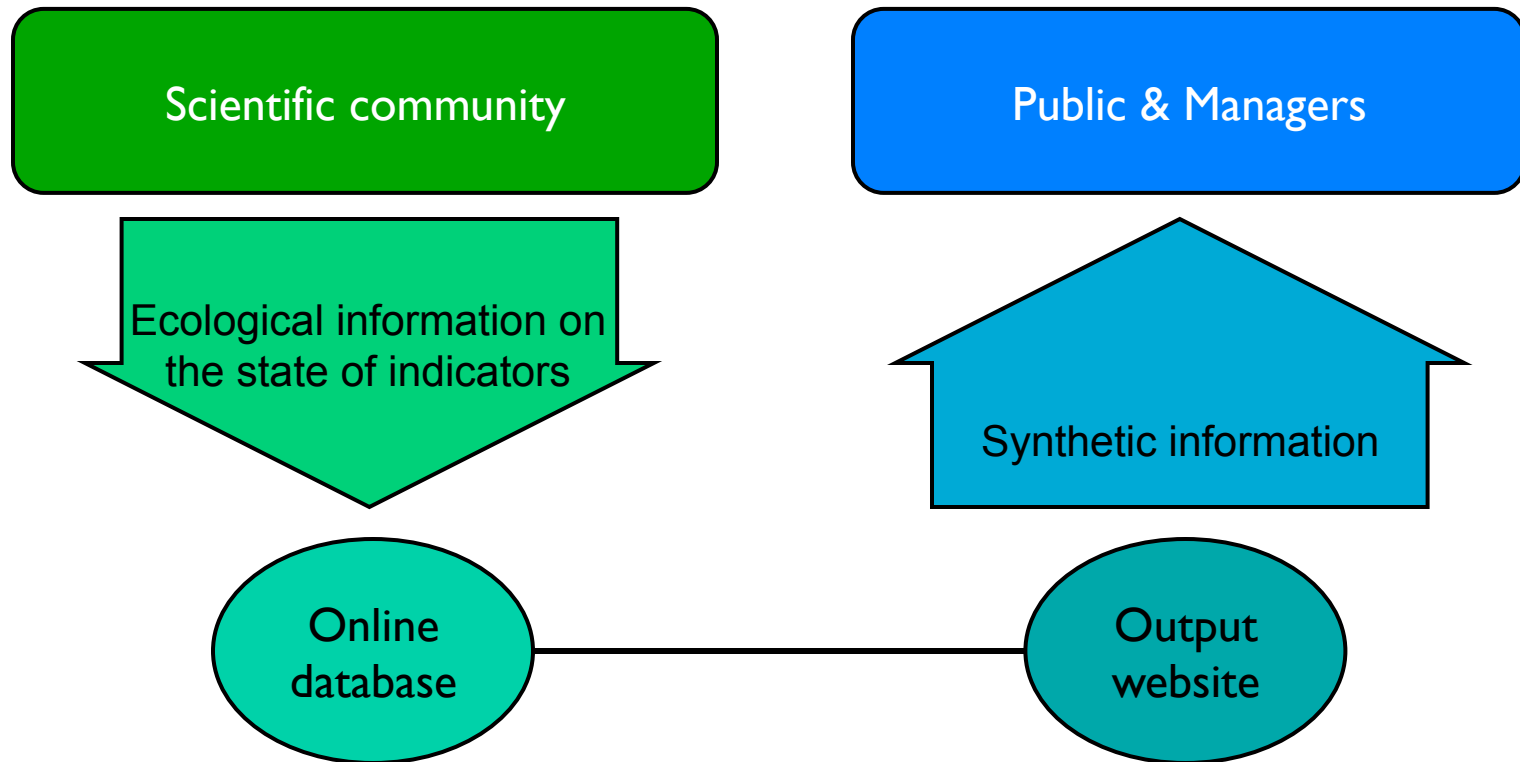


The Nature Index for the Arctic Area – Challenges and Opportunities

Gregoire Certain & CAFF secretariat

What is the Nature Index ?

An **online system** for **storing and displaying** ecological information on the **state of ecosystems**, developed for Norway since 2009



Methods and Concepts: Certain et al. 2011 PloS One 2011 6(4) e18930

OPEN ACCESS Freely available online



The Nature Index: A General Framework for Synthesizing Knowledge on the State of Biodiversity

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What does it look like ?

Examples from the
**Norwegian Output
Website (prototype)**

Choose an ecosystem (ex: forest)

Choose an indicator (ex: moose)

Økosystem

Skog

Indikator

Elg

Organismegruppe: Pattedyr

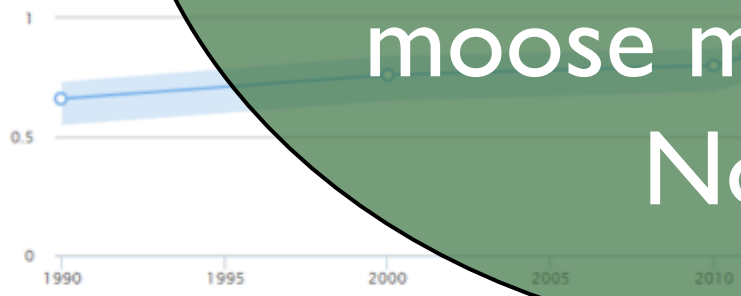
Elg er en av våre viktigste jaktressurser, og det felles årlig 30.000-40.000 dyr. I tillegg blir det hvert år påkjørt flere tusen elg på veg og jernbane. Beiteskader fra elg har enkelte steder store negative konsekvenser for skogbruket.

Foto: Camilla Næss

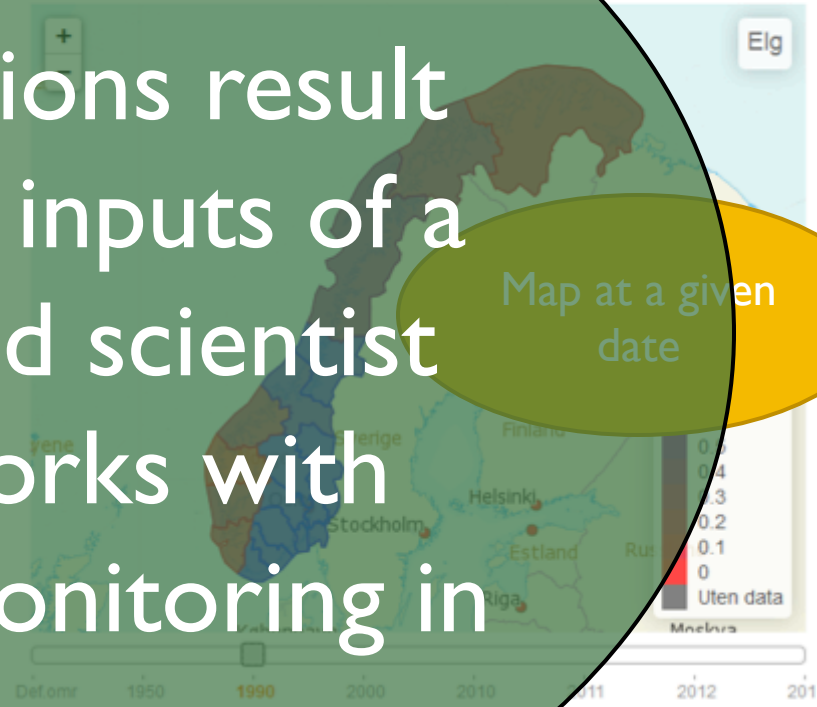
Trend for Moose (scaled in 0 -1)

Kilder og lenker

Indeks - Elg



Map at a given date



All these informations result from the inputs of a dedicated scientist who works with moose monitoring in Norway

Espart...

Erling Solberg, NINA

Fastsetting av referanseverdi for Økosystem(er)

Fastsetting av indikatorverdier Følsomhet for påvirkninger



Økosystem

Kystvann-pelagisk

Indikator

Krykkje

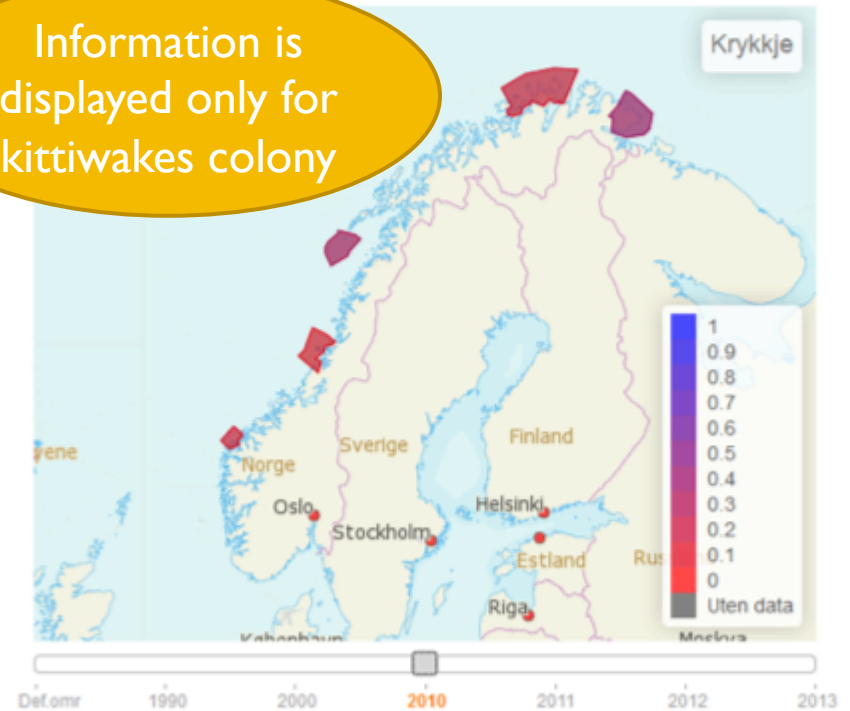
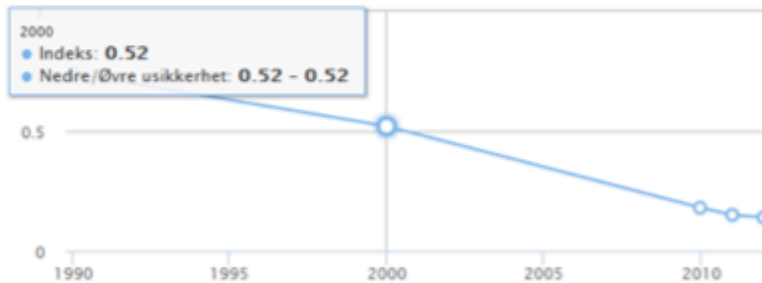
Organismegruppe: Fugl



Information is displayed only for kittiwakes colony

Les mer ...

Indeks - Krykkje



Ekspert(er):

Svein Håkon Lorentsen, NINA

Fastsetting av referanseverdi
Økosystem(er)

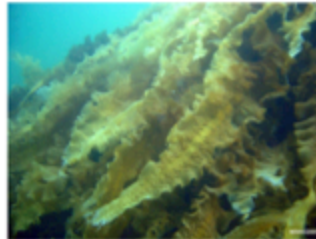
Fastsetting av indikatorverdier
Følsomhet for påvirkninger

Økosystem

Kystvann-bunn

Organismegruppe:

Indeksen er utviklet for den habitatdannende makroalgen sukkertare som danner et produktivt og artsrikt økosystem på fjell og steinbunn i midlere og lavt eksponerte kystområder. Sukkertareskog har sto



Les mer ...

Indeks - Sukkertare



Indikator

Sukkertare



Ekspert(er):

Hege Gundersen, NIVA

Fastsetting av referanseverdi
Økosystem(er)

Fastsetting av indikatorverdier
Følsomhet for påvirkninger

A Nature Index for CAFF ?

The NI method is in line with the **CBMP mandate**:

”A key objective of the Circumpolar Biodiversity Monitoring Program is to **create a publicly accessible, efficient, and transparent platform for collecting and disseminating information on the status of and trends in Arctic biodiversity**”.

**The Nature Index
does that.**

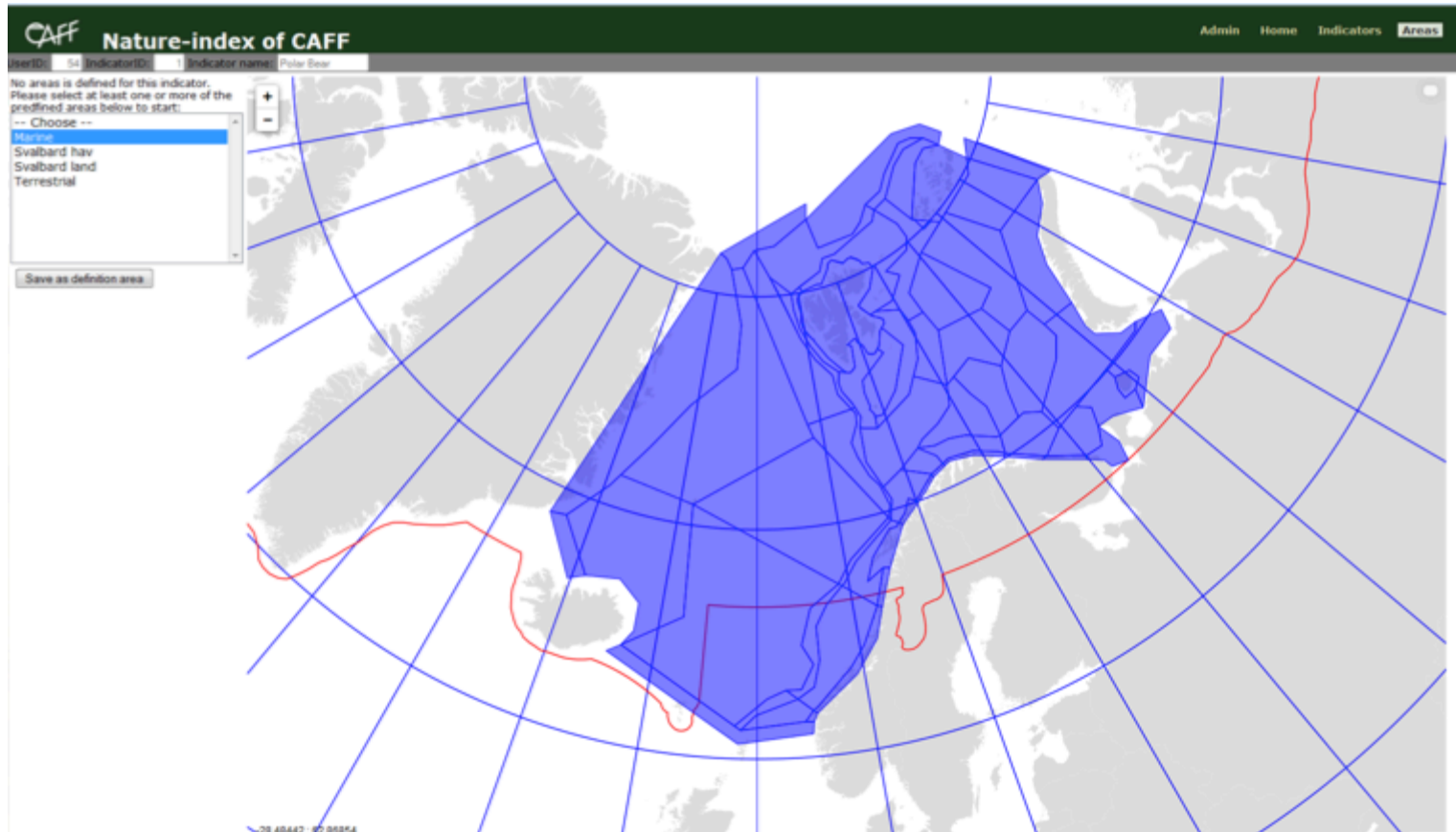
A Pilot project

Last spring, a **pilot project** was initiated by the Arctic Council and the Norwegian Environment agency to **investigate the possibility of developing the Nature Index for Svalbard and the Arctic area.**

So, we tried to establish a **pilot data entry website** to serve this purpose.

We searched for **area definitions** that would allow a spatially explicit and ecologically sound documenting of ecological information:

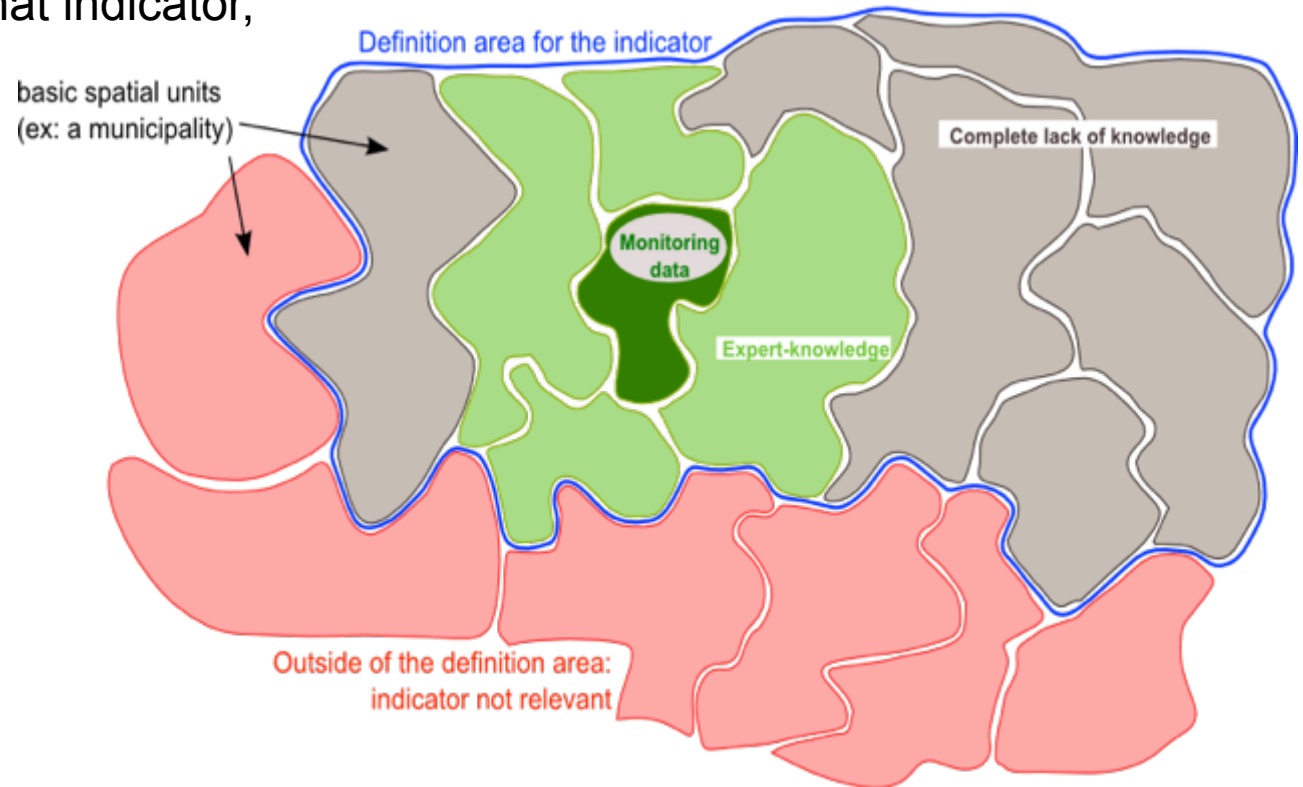
Ex. for the Norwegian and Barents Sea region (polygons of Atlantis model, IMR)



The pilot website is hosted by CAFF secretariat and needs to be **tested by experts**. That is,

(1) **Defining an indicator** (element of a Focal Ecosystem Component for example),

(2) **Select areas** for that indicator,



The choice of what to enter is to the discretion of the expert.

For a selected area,

Observed values at different dates OR lack of knowledge

Information source (data, model, opinion)

Baseline value

Time	Value	Lower	Upper	Datatype
Reference				-- Not chosen --
1970				-- Not chosen --
1980				-- Not chosen --
1990				-- Not chosen --
2000				-- Not chosen --
2010				-- Not chosen --
2013				-- Not chosen --

The only constraint is that experts explain their choices.

CAFF Nature-index of CAFF

UserID: 54 IndicatorID: 1 Indicator name: Polar Bear

Polar Bear

Name: Polar Bear

English name: Polar Bear

Scientific name: Polar Bear

Limits (for values): Upper: Lower:

Short description of the indicator: Indirect indicator:

Indicator type: Species or group of species

Type of organism (informal grouping): Vertebrate

Type of organism (informal subgrouping): Mammal

Red list status 2006: CR Critically endangered

Red list status 2010: CR Critically endangered

Functional group: Top predator specialist

Key element:

Reference value definition:

Reference value refers to a:

Indicator value explanation:

Expert notes:

Pressures explanation (Norwegian)

Abbr.	Pressure factors	Value
HD	Habitat degradation	
HA	Harvesting	
DD	Disturbance/Displacement	
PW	Pollution from within	
CC	Climate change	
PO	Pollution from outside	

Save/update pressures

ID	Ecosystem name	% value
1	Barren or sparse	
2	Cropland	
3	Shrubland	
4	Snow and Ice	
5	Freshwater	
6	Grassland/Savanna	
7	Wetland	
8	Forest	
9	Coastal pelagic	
10	Coastal bottom	
11	Coastal ice	100
12	Ocean pelagic	
13	Ocean bottom	
14	Ocean ice	

Save/update ecosystems

What is the indicator

Which pressure is it sensitive to

To what corresponds the baseline

What ecosystem does it belong

And that's it.

The pilot website is available to the Arctic experts for testing (**Ask CAFF secretariat**). It is a **pilot**: All choices made can be discussed/refined, etc....

The framework requires that expert willingly document their information online. **The success of its implementation and use depends on the expert willingness to contribute.**

Thanks for your attention !