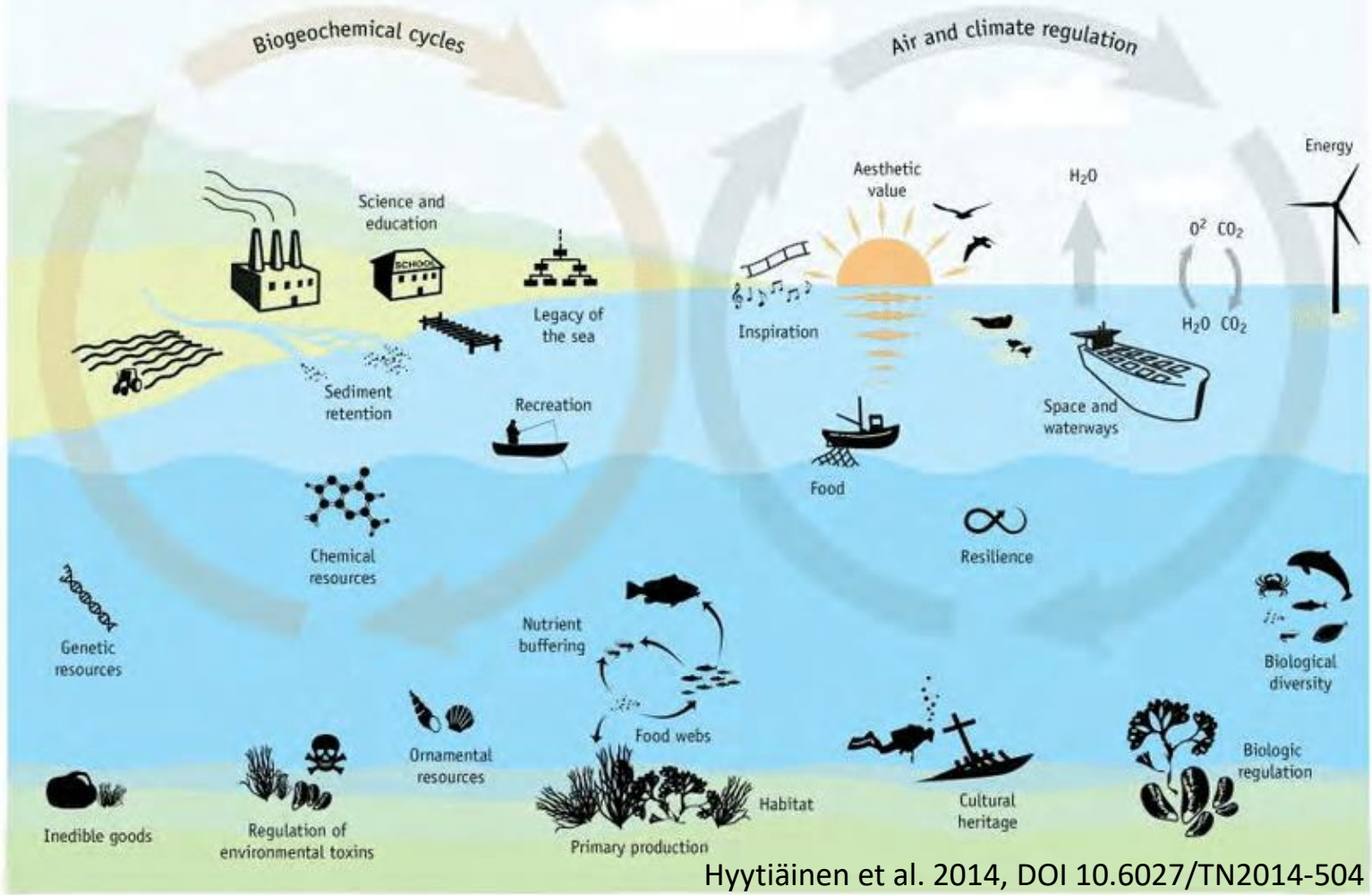
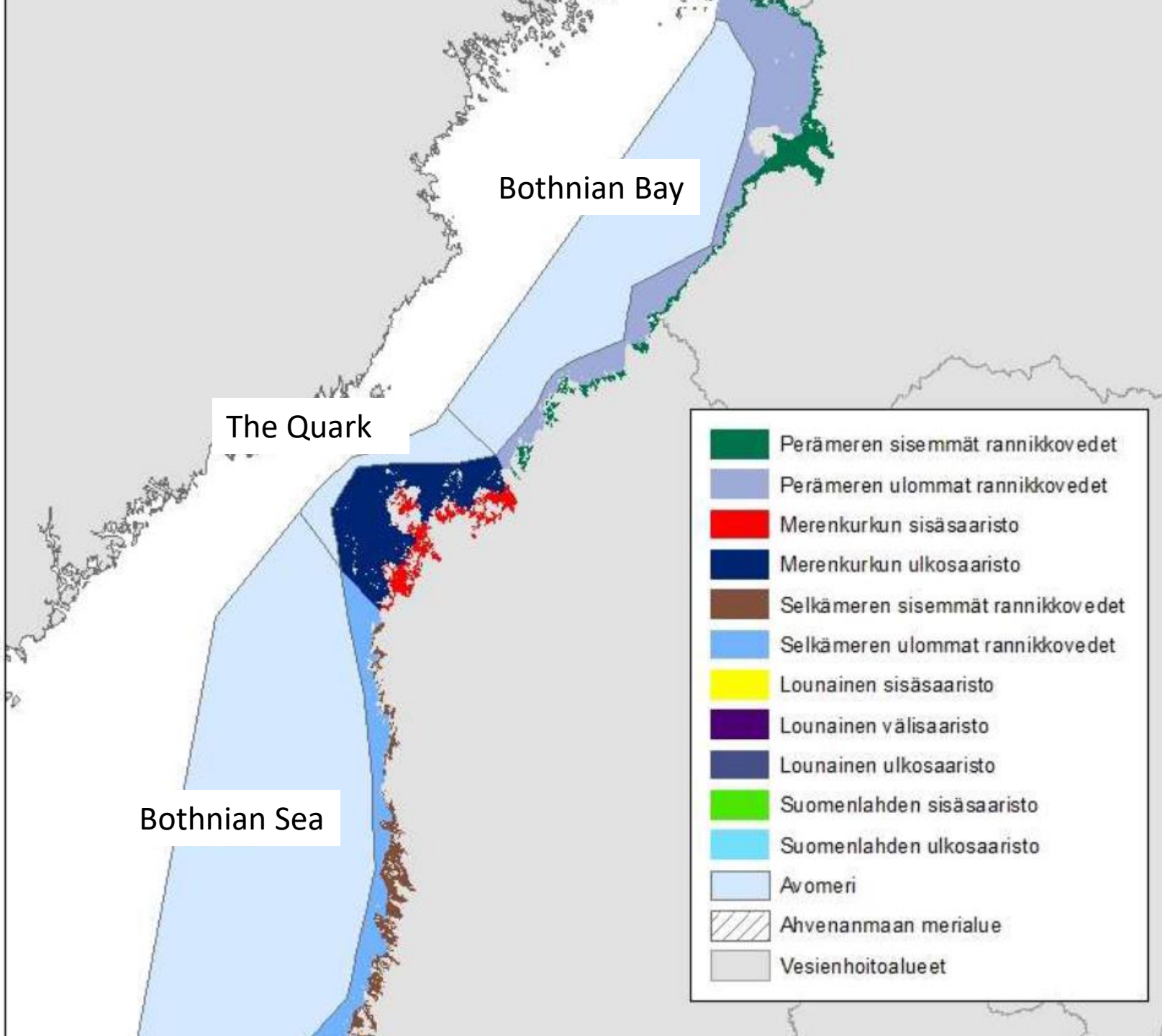
09:55h-10:05h – Ecosystem effects – Harri Kuosa (SYKE)

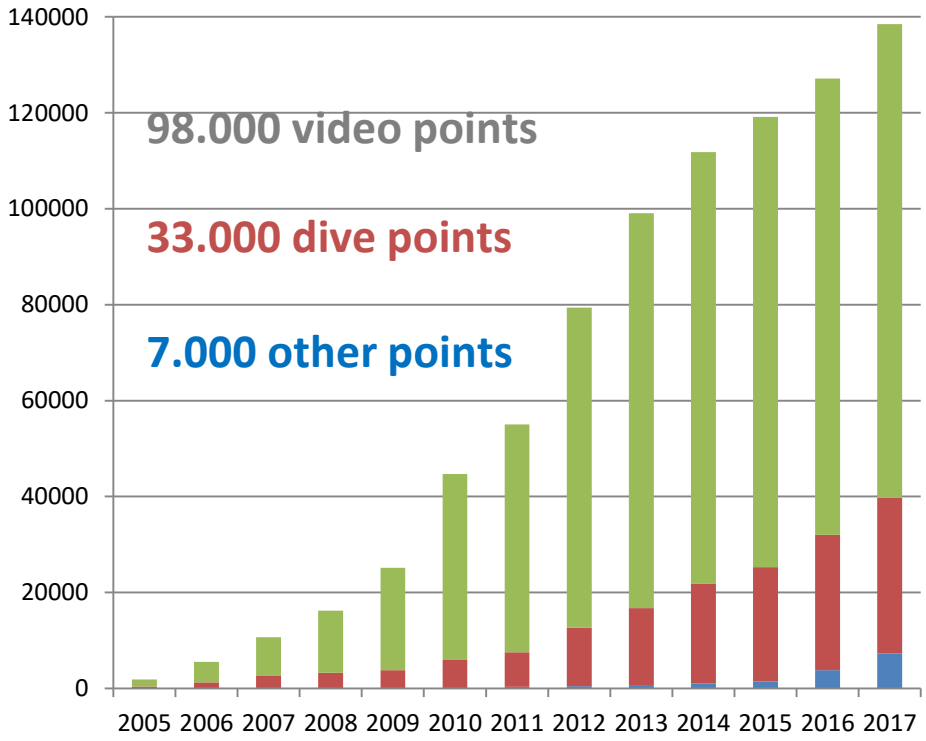


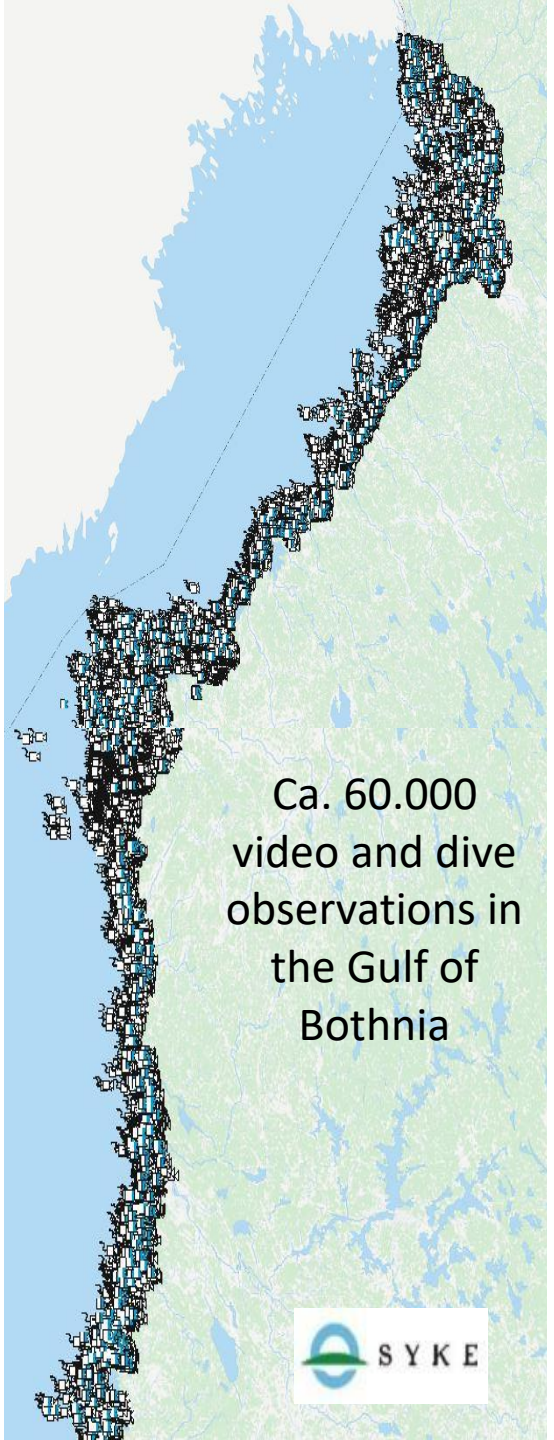
Hyytiäinen et al. 2014, DOI 10.6027/TN2014-504


Bothnian Bay
The Quark
Bothnian Sea
Perämeren sisemmät rannikkovedet
Perämeren ulommat rannikkovedet
Merenkurkun sisäsaaristo
Merenkurkun ulkosaaristo
Selkämeren sisemmät rannikkovedet
Selkämeren ulommat rannikkovedet
Lounainen sisäsaaristo
Lounainen välisaaristo
Lounainen ulkosaaristo
Suomenlahden sisäsaaristo
Suomenlahden ulkosaaristo
Avomeri
Ahvenanmaan merialue
Vesienhoitoalueet

VELMU has in 2004-2017 collected a vast database of information on underwater flora and fauna of the Finnish sea area

138.000 observations of habitats and species (for Finland)





Observations on biodiversity hotspots & rare species

Shallow coastal bays - biodiversity hotspots and nursery areas for fish

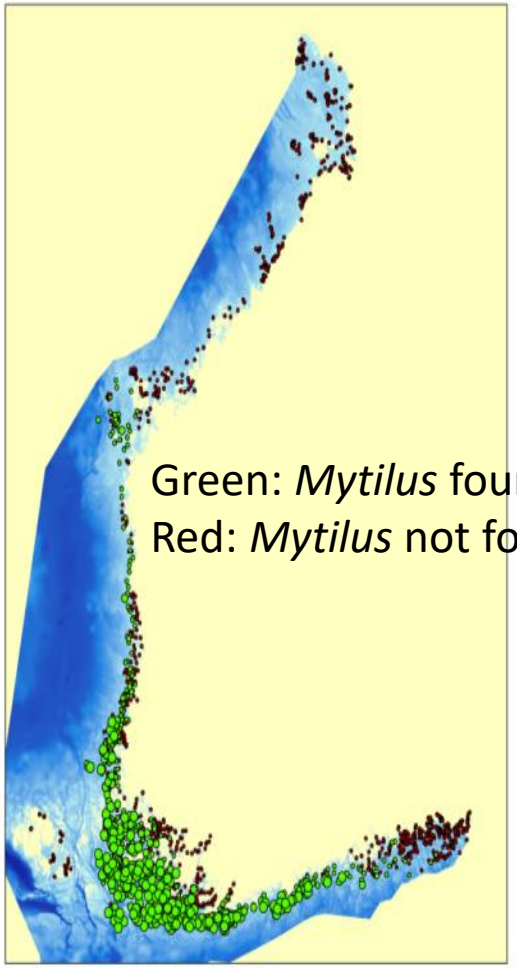
Macroplea pubipennis
a leaf beetle
– in EU only in Finland

Hippuris tetraphylla
fourleaf mare's tail
– in EU only in Finland

SYKE

Geographical distribution maps

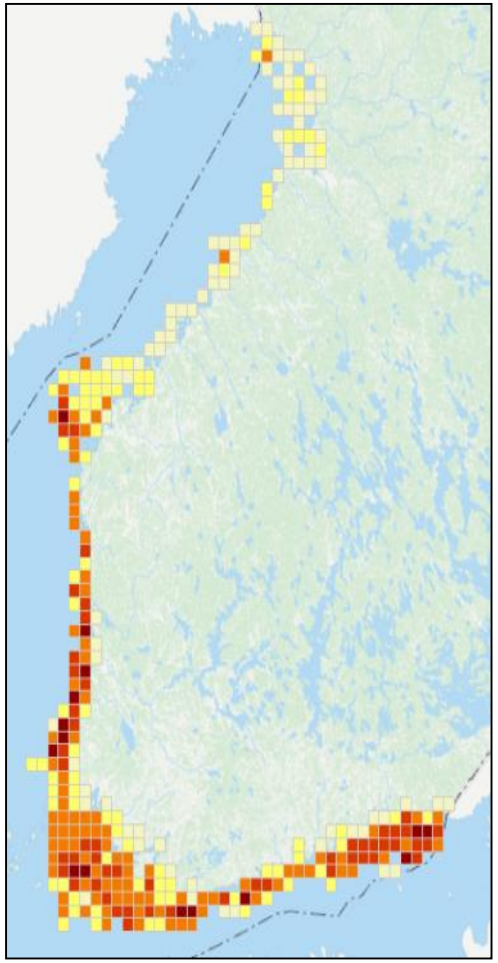
Blue mussel *Mytilus trossulus*



Markku Viitasalo, SYKE

Biodiversity maps

Number of algal genera



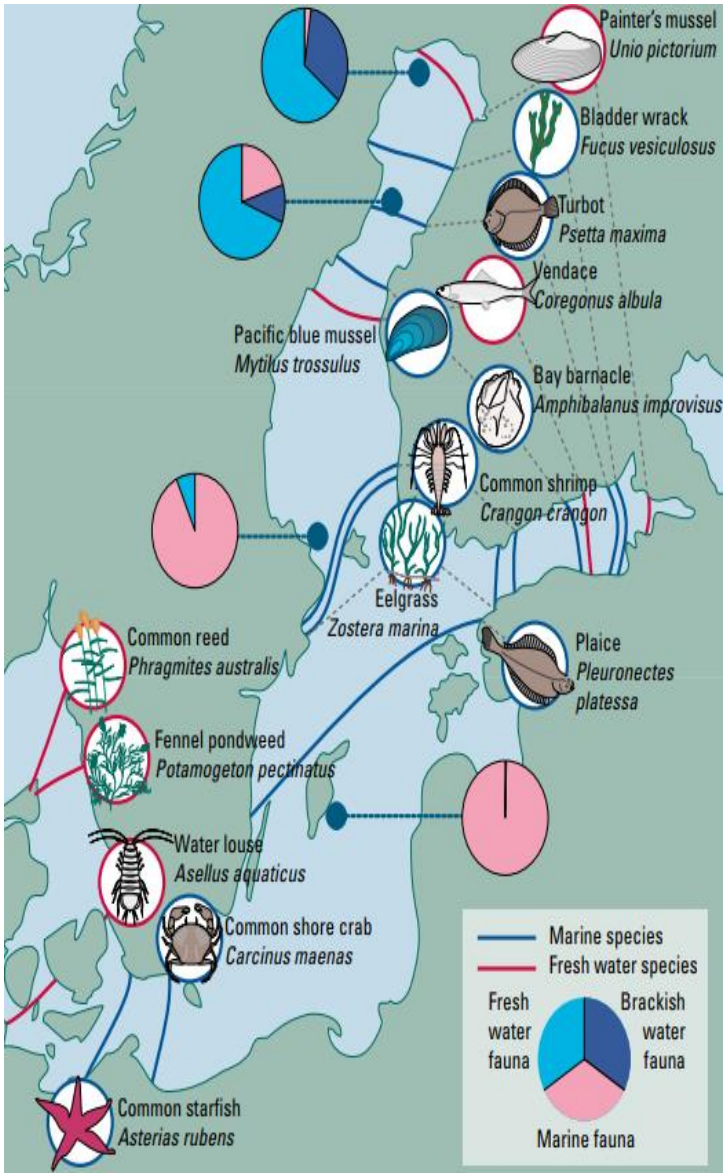
Lasse Kurvinen, Parks & Wildlife Finland

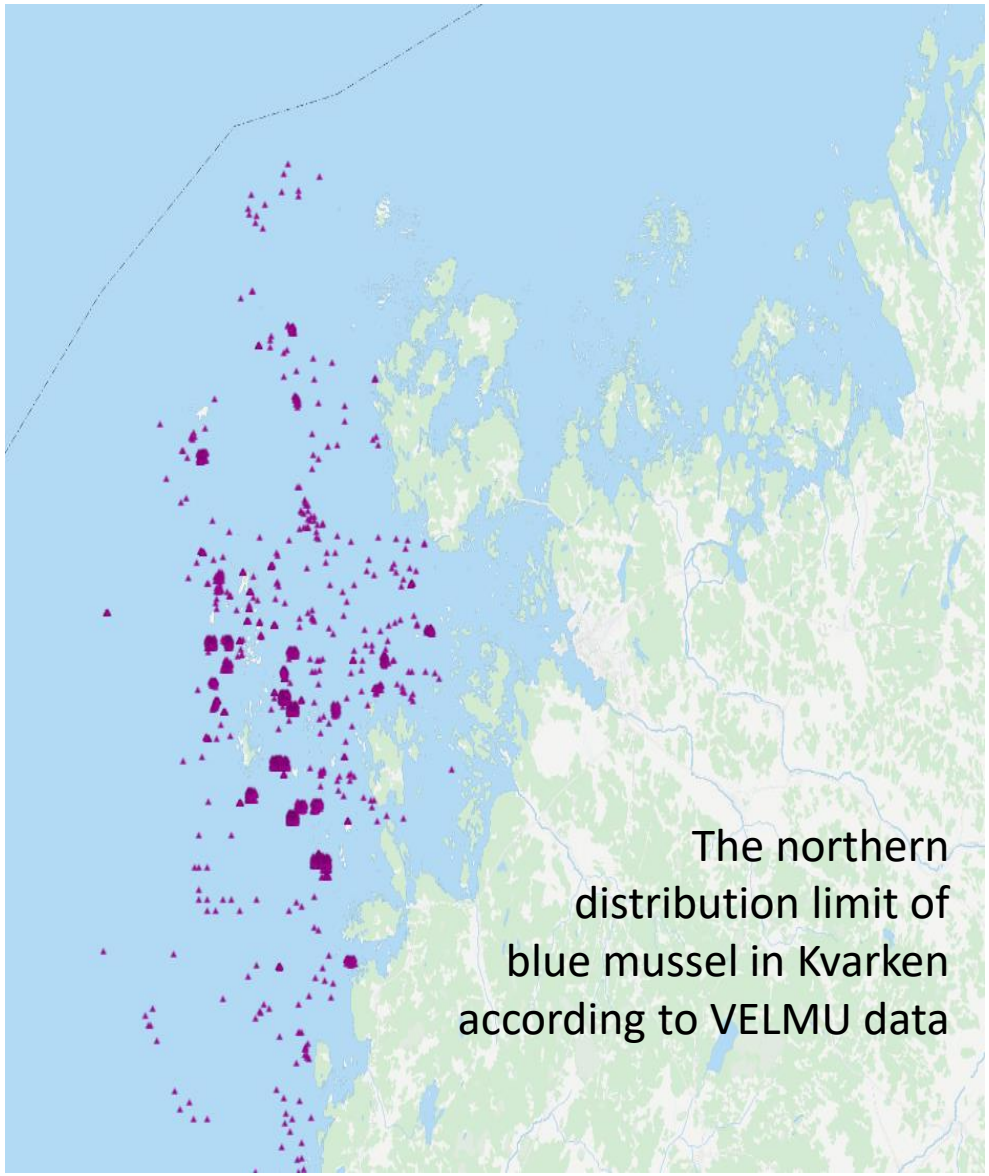
SYKE

Effects of climate change on the distribution of key species in the Gulf of Bothnia

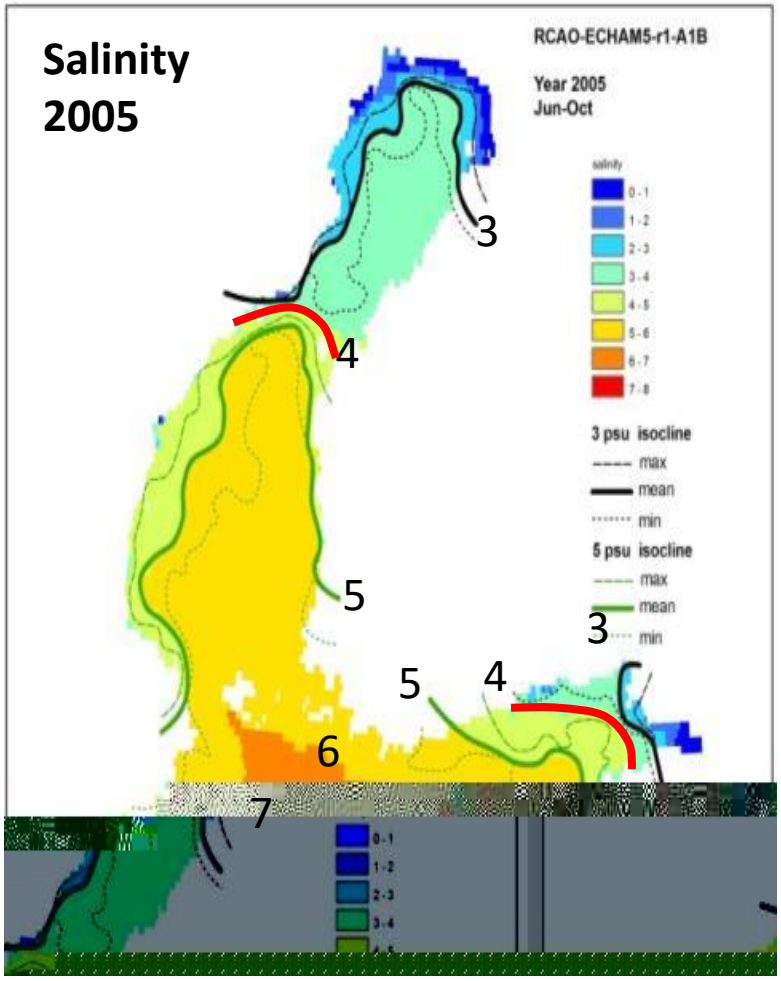
SYKE

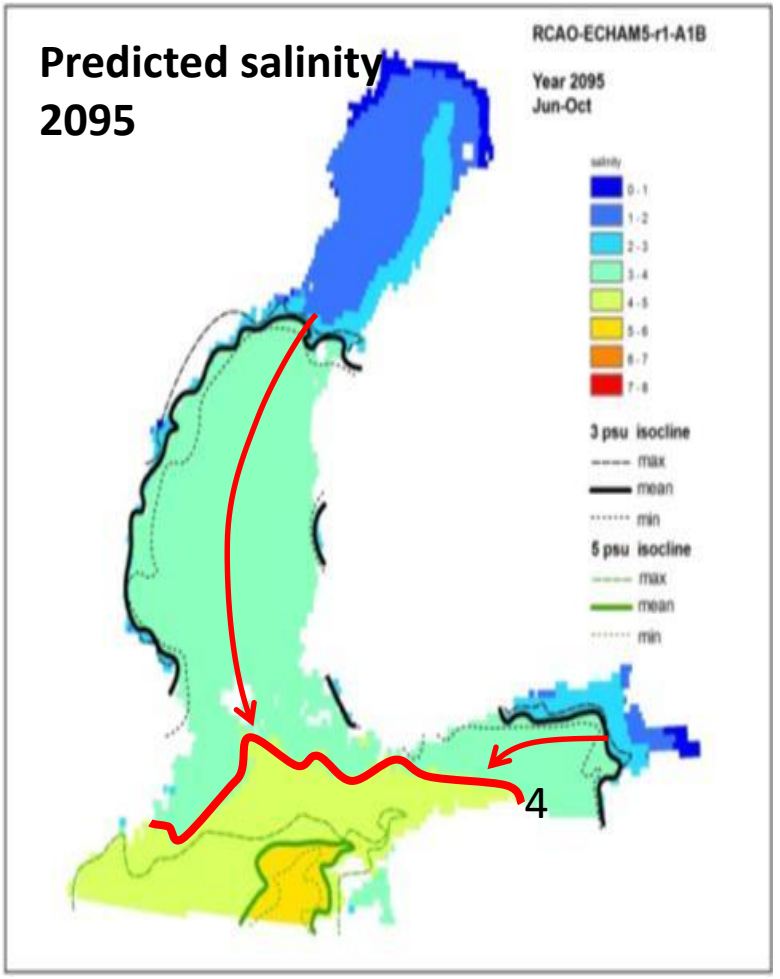
Present northern and southern distribution limits of some species in the Baltic Sea





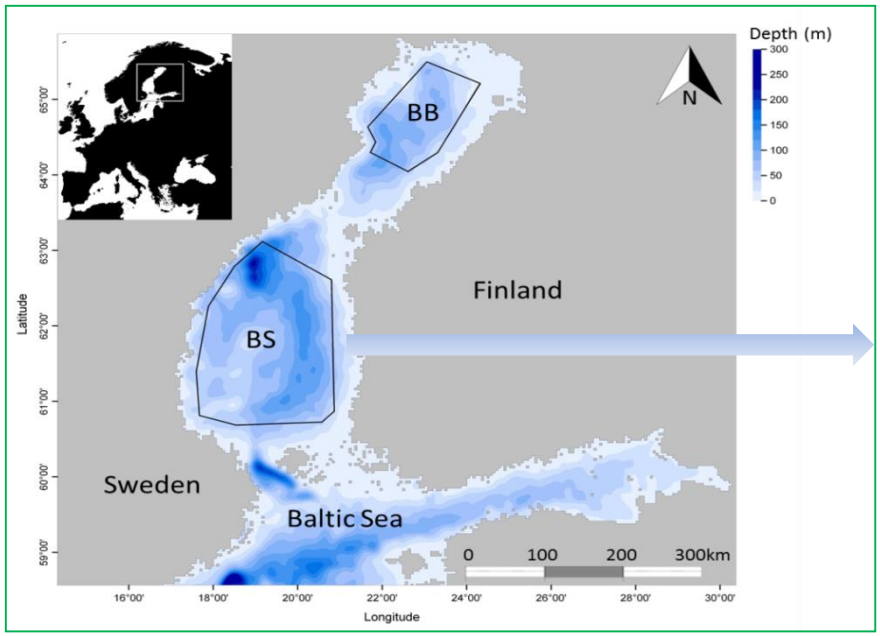
In the most drastic predictions, salinity will decline significantly

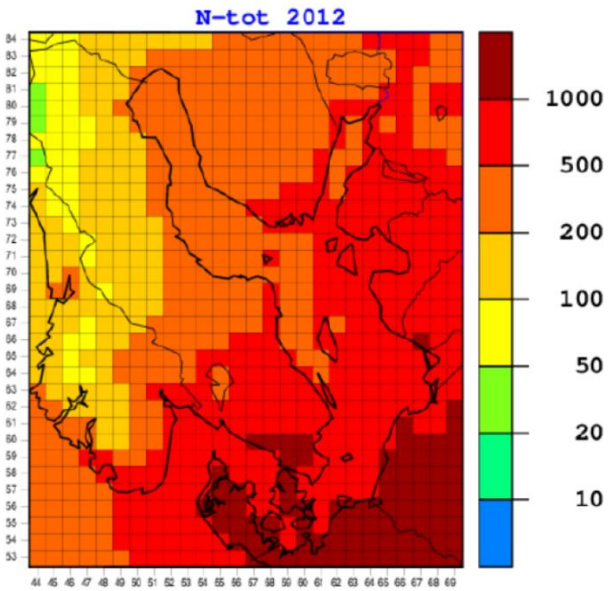


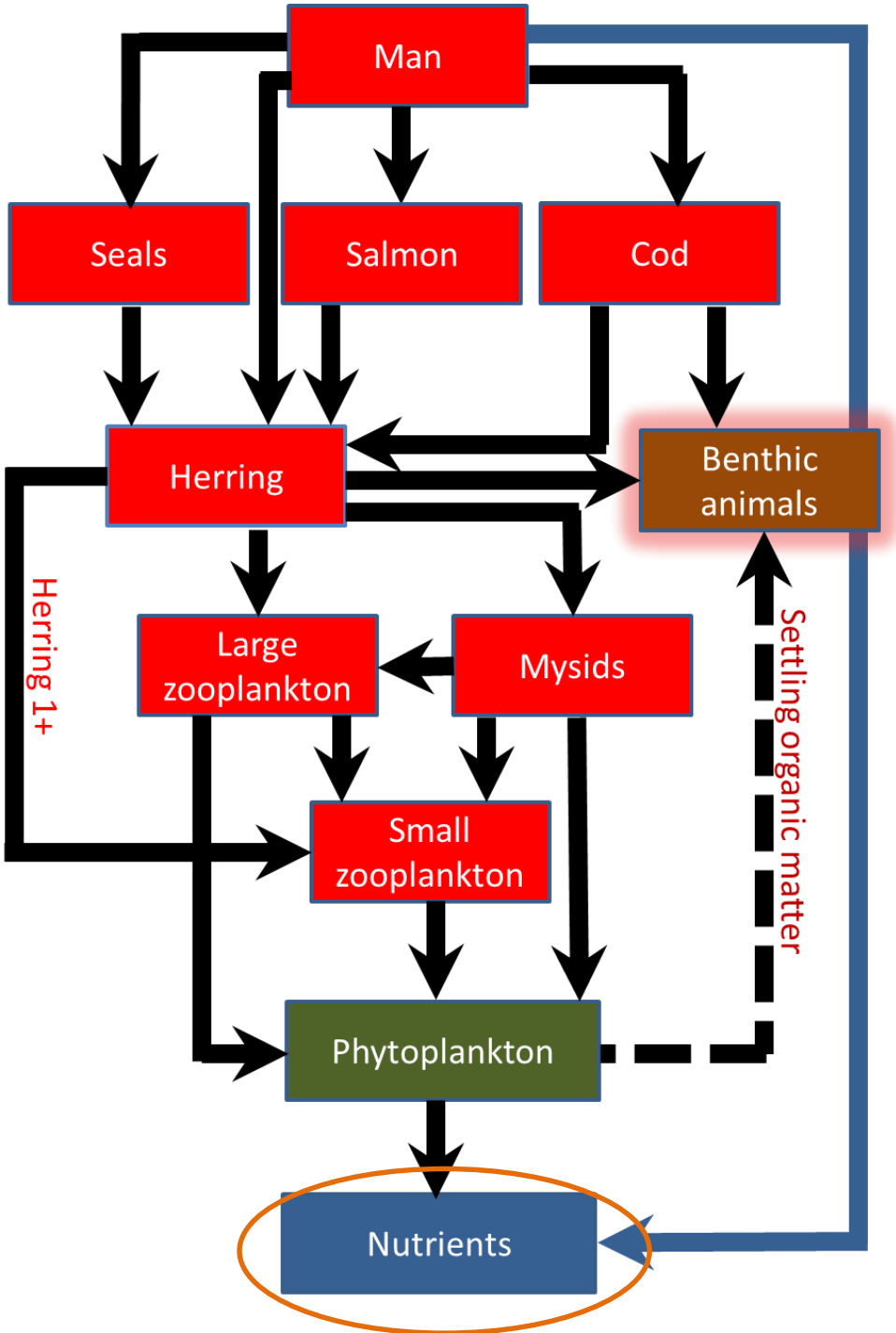


Original data source: **ECOSUPPORT-project**, Markus Meier, SMHI, Ruotsi

Open sea areas

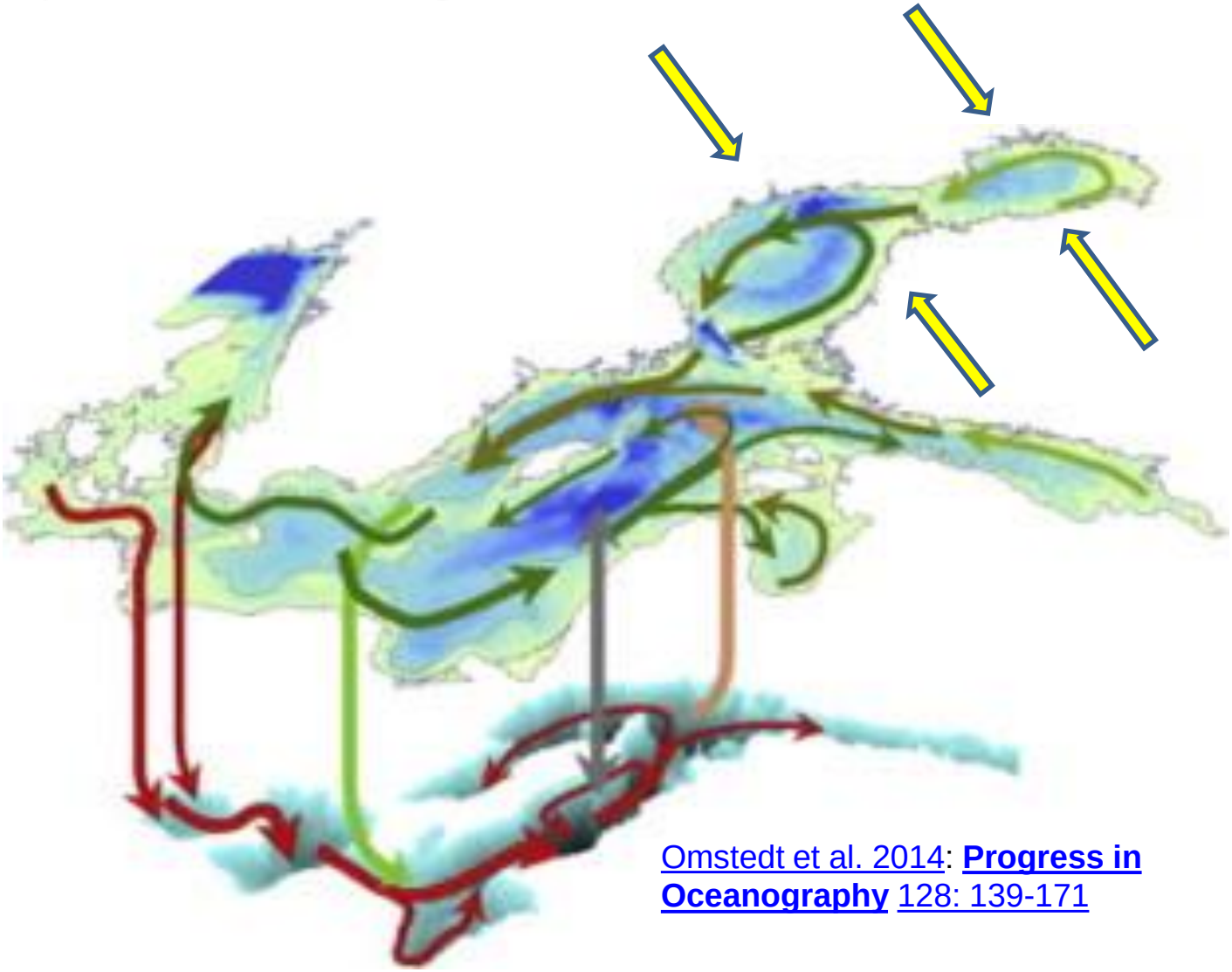




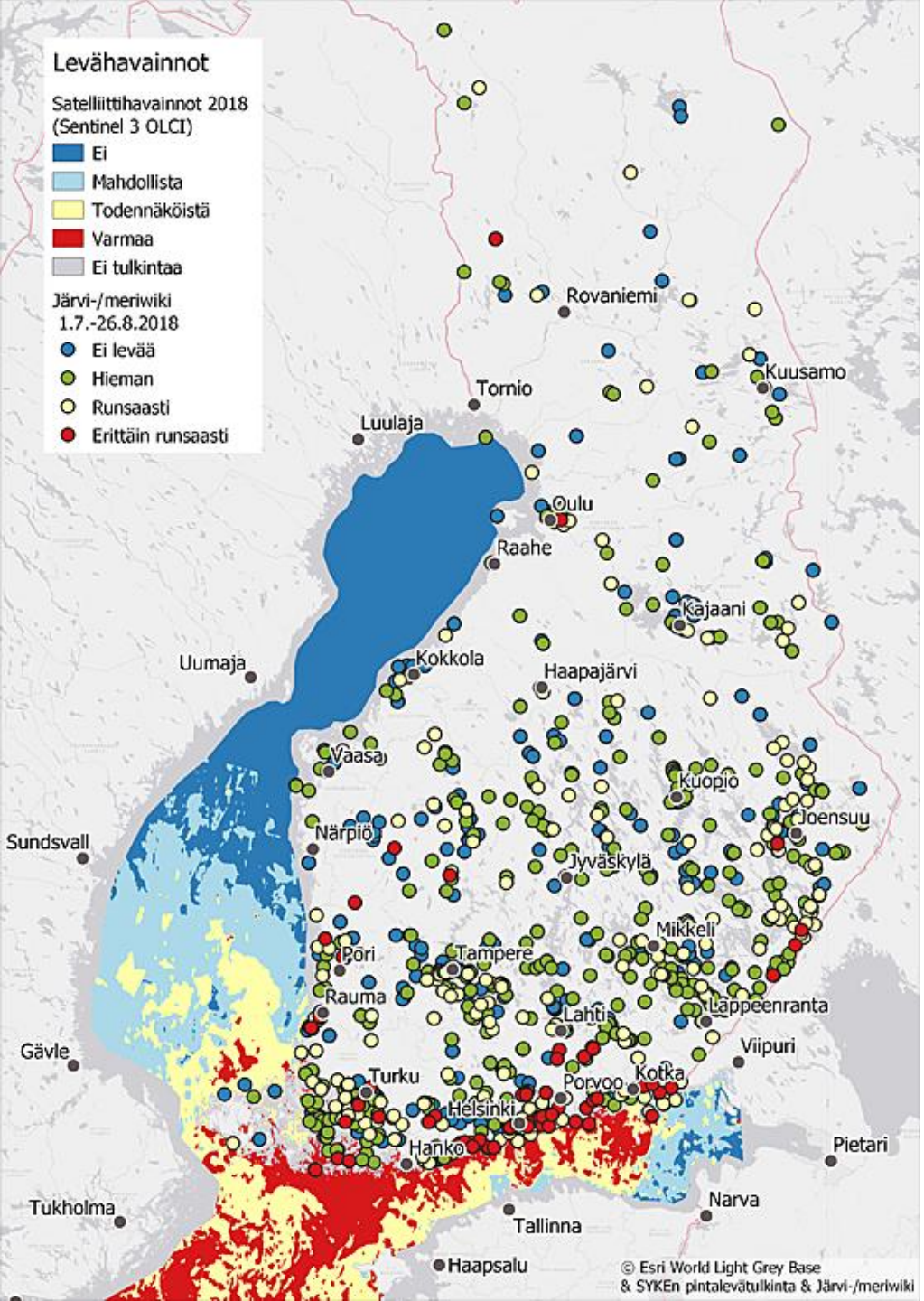


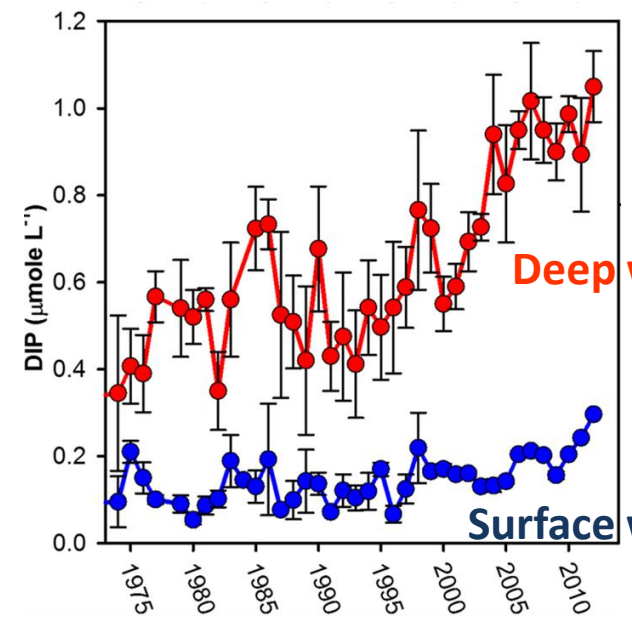
Nutrient load from catchment:

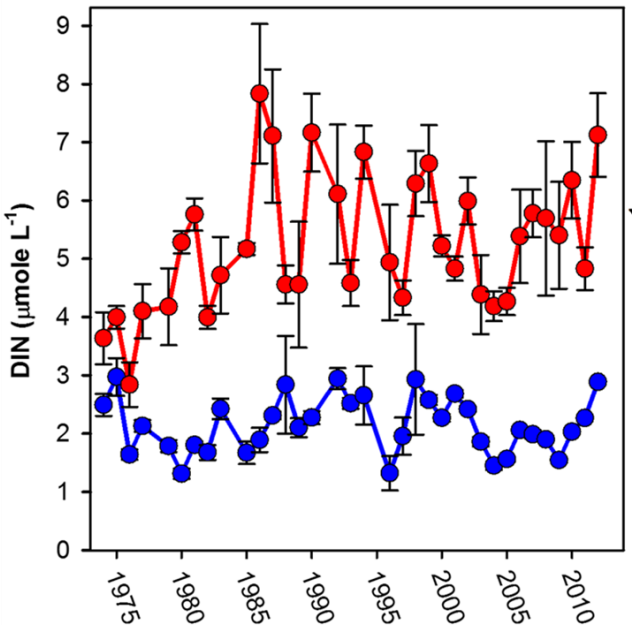
- phosphorus > nitrogen



Omstedt et al. 2014: **Progress in Oceanography** 128: 139-171



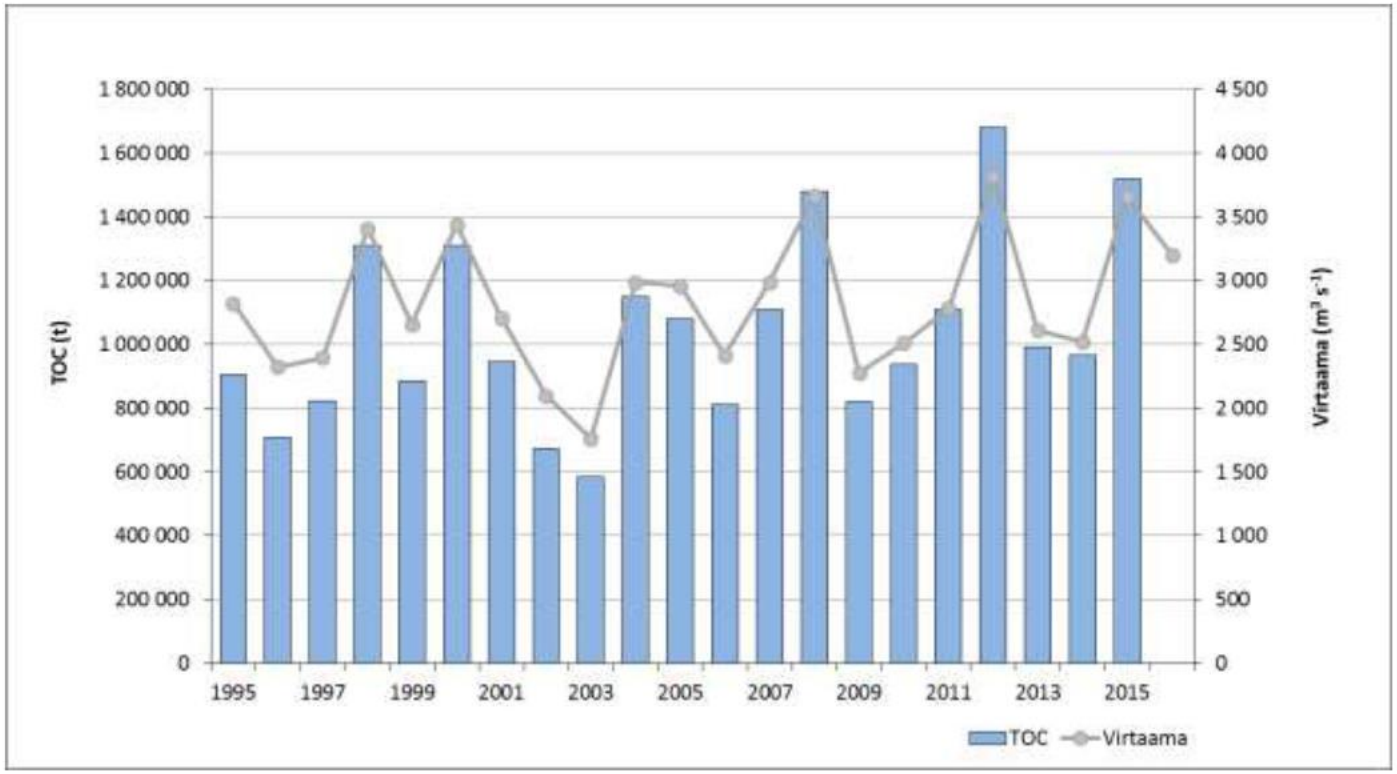




(Rolff ja Elfwing 2015, Ambio 44: 601–611)

Dissolved organic matter based food web

- depends heavily on precipication
- microbial loop based



□ total organic carbon, -o- river flow