

Stimfisk- et viktig element i det dynamiske havmiljøet



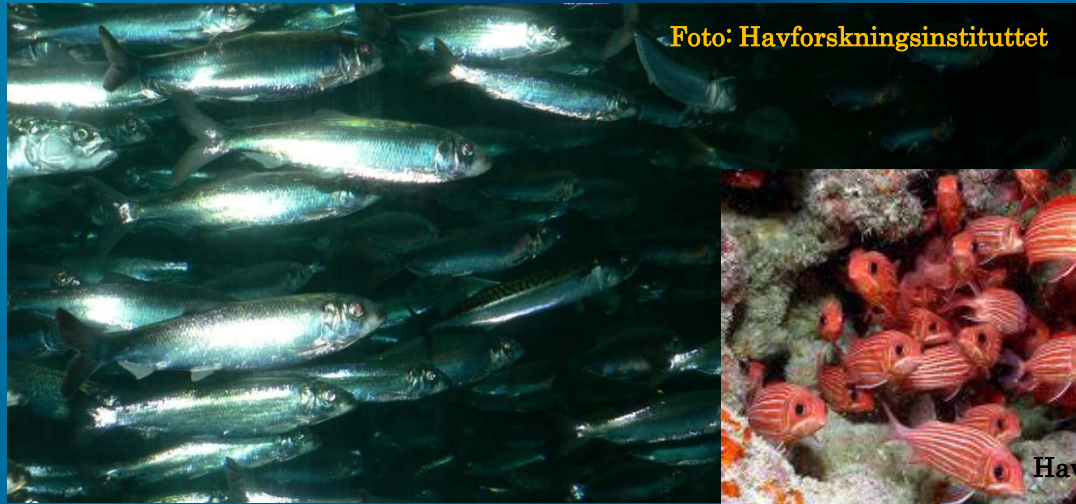
Foto: Havforskningsinstituttet

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HAVFORSKNINGSINSTITUTTET
INSTITUTE OF MARINE RESEARCH

Stimfisk – hva er det?



Pelagisk fisk

=

gruppebetegnelse



Barentshavet

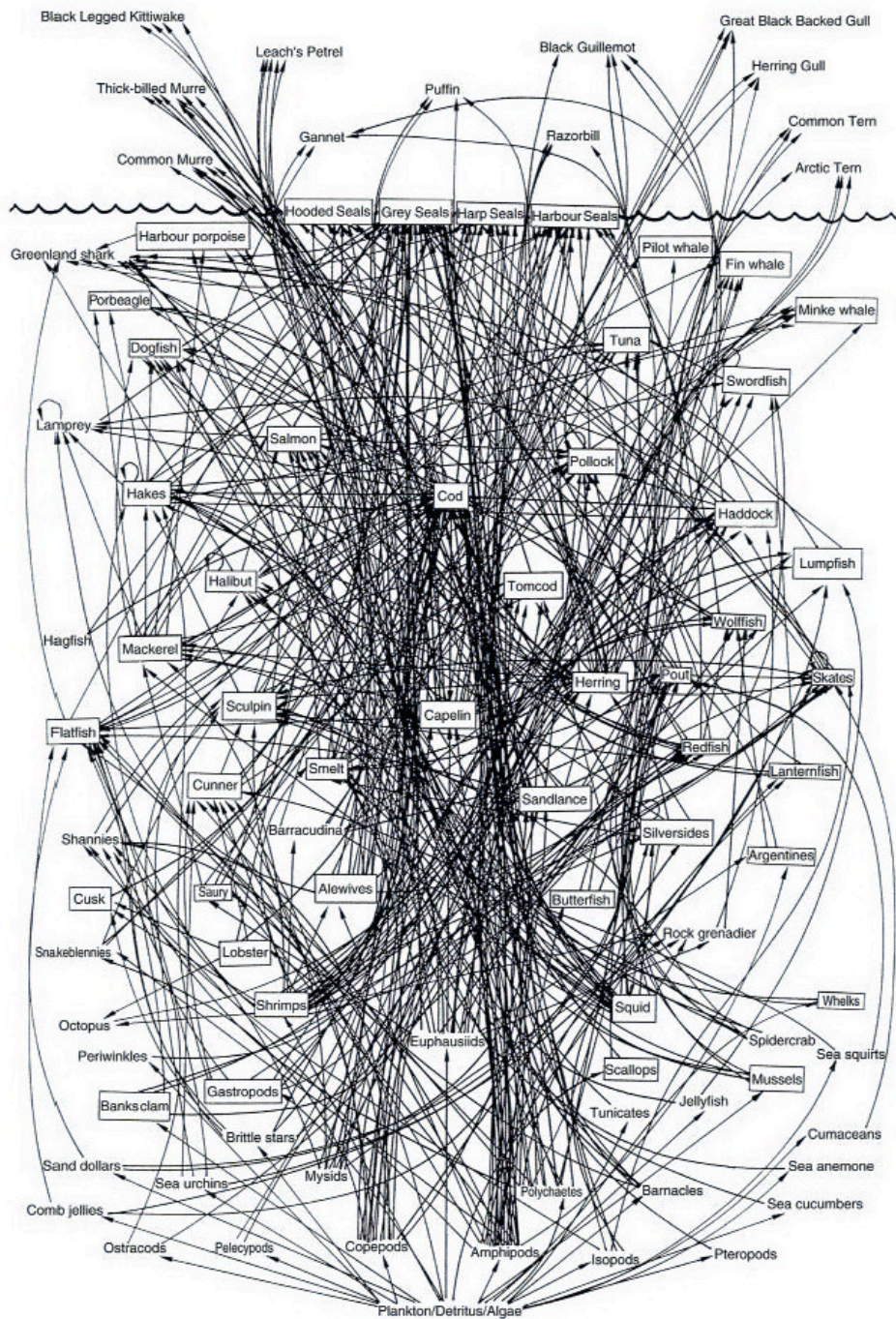


Norskehavet

Nordsjøen

Skagerrak





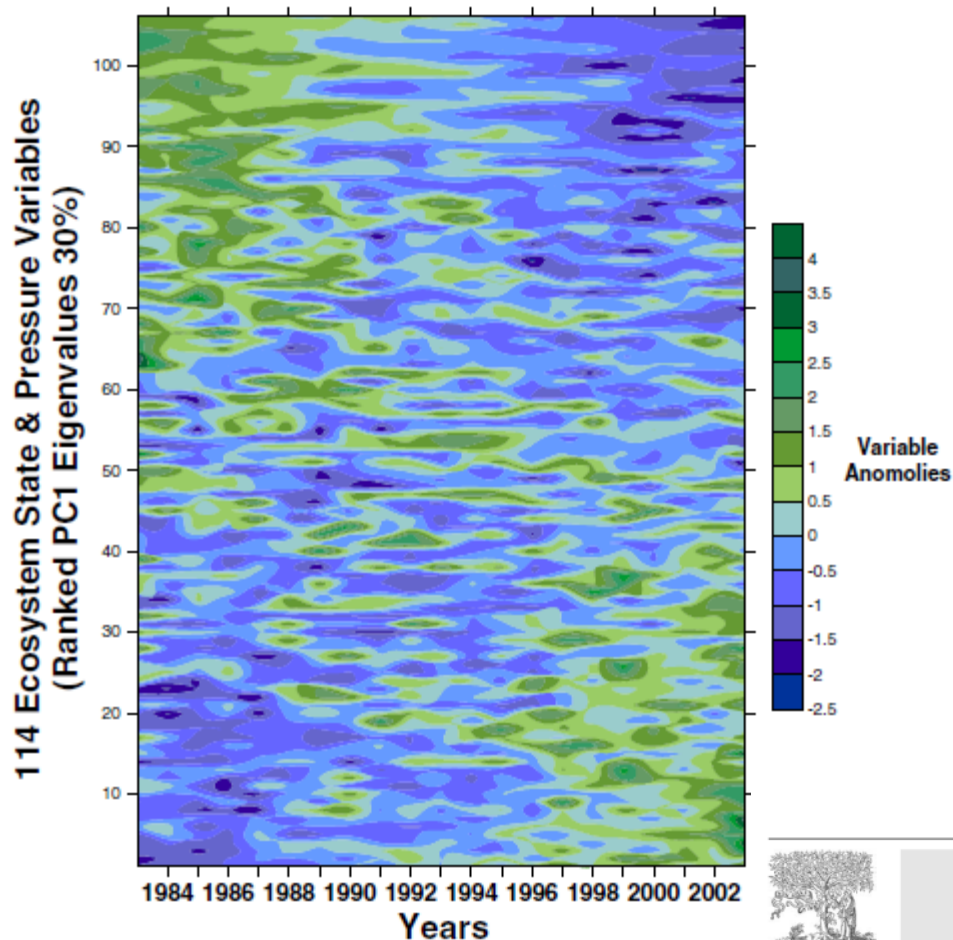
Det marine økosystemet for sokkelen utenfor Nova Scotia, Canada.

En ufullstendig fremstilling av næringsnettet

Lavigne 1996



North Sea Ecosystem 1983 - 2003



19 miljøvariabler
34 planktonarter
14 fiskebestander
31 fiskerelaterte variabler
17 sjøfuglvariabler

Observert avvik fra
langtidsnormalen

Progress in Oceanography 81 (2009) 132–148

Contents lists available at ScienceDirect

Progress in Oceanography

journal homepage: www.elsevier.com/locate/pocean



ELSEVIER



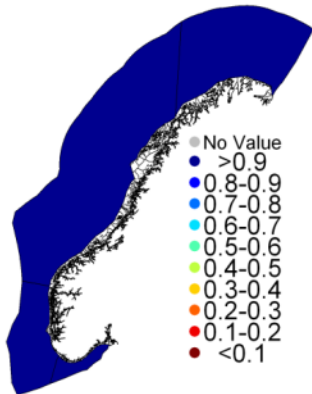
An integrated approach for assessing the relative significance of human pressures and environmental forcing on the status of Large Marine Ecosystems

Andrew J. Kenny^{a,*}, Hein Rune Skjoldal^b, Georg H. Engelhard^a, Peter J. Kershaw^a, James B. Reid^c

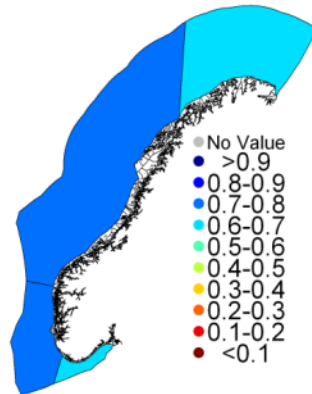


Naturindekser HAV

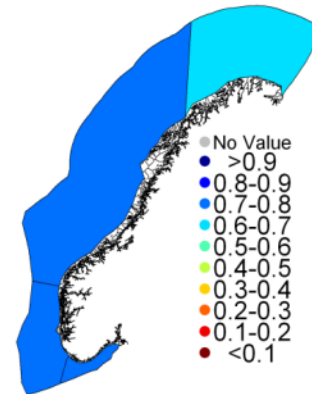
Havbunn 1950



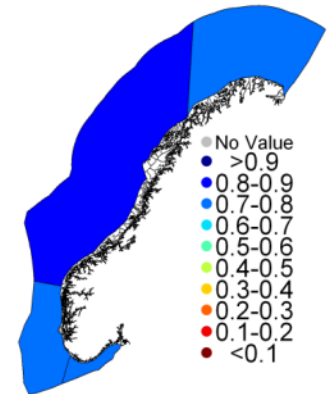
Havbunn 1990



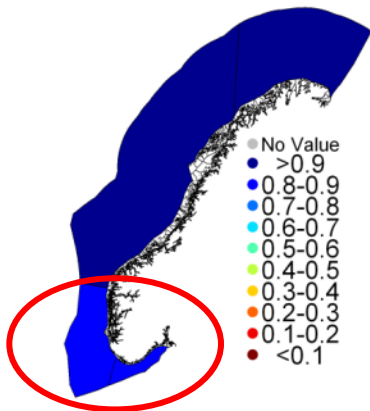
Havbunn 2000



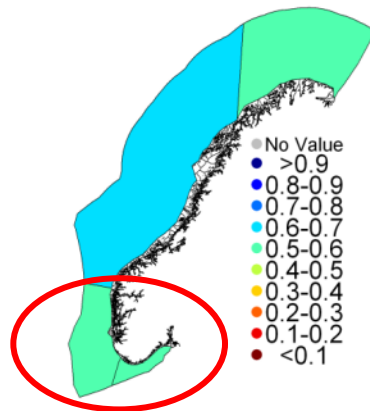
Havbunn 2010



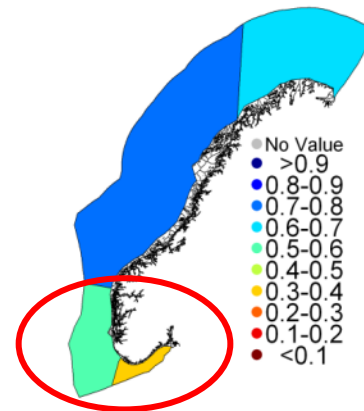
Hav pelagisk 1950



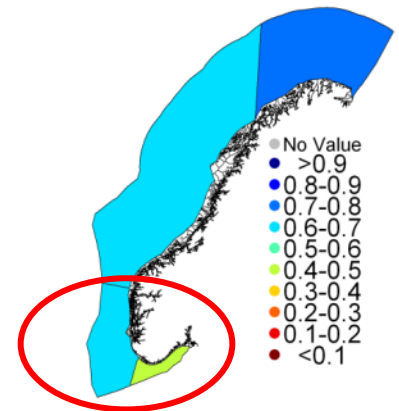
Hav pelagisk 1990

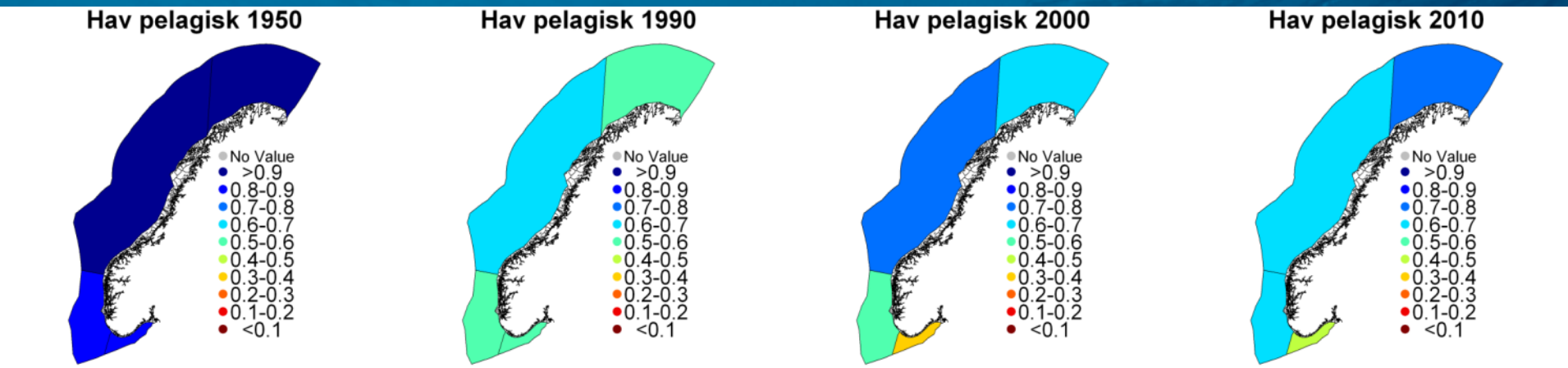
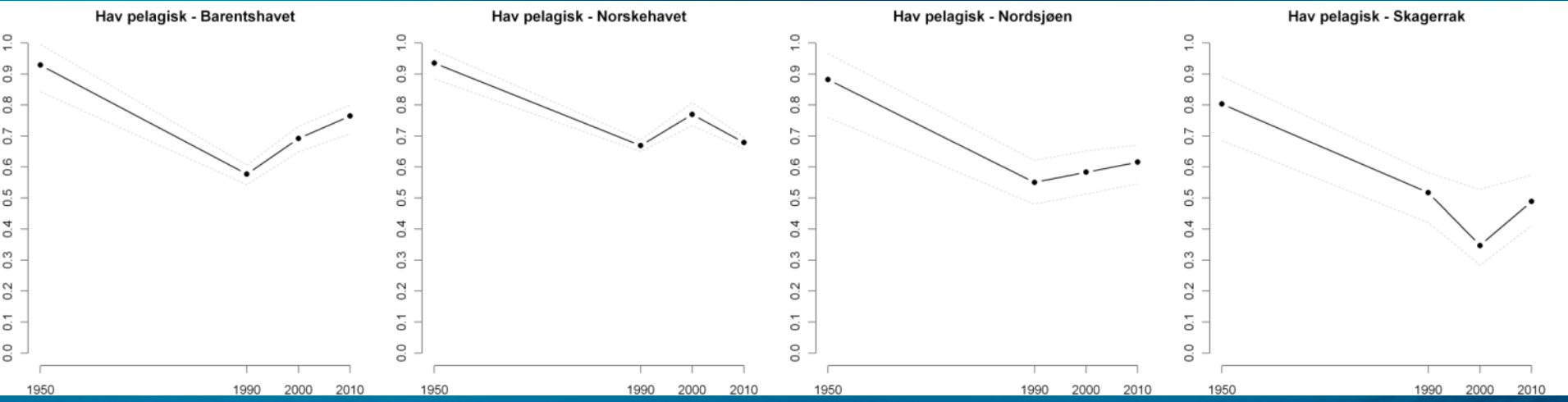


Hav pelagisk 2000

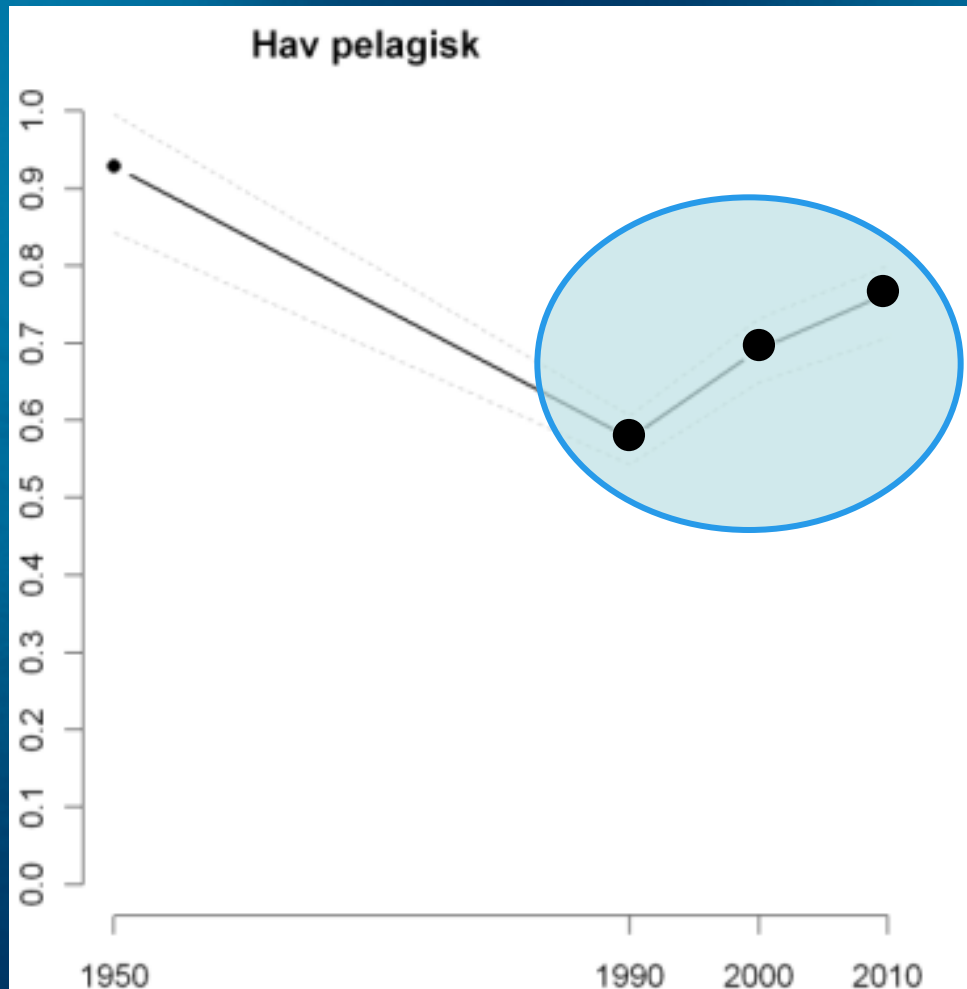


Hav pelagisk 2010





Barentshavet



Hva er drivkreftene i et pelagisk økosystem?

Barentshavet



Planteplankton

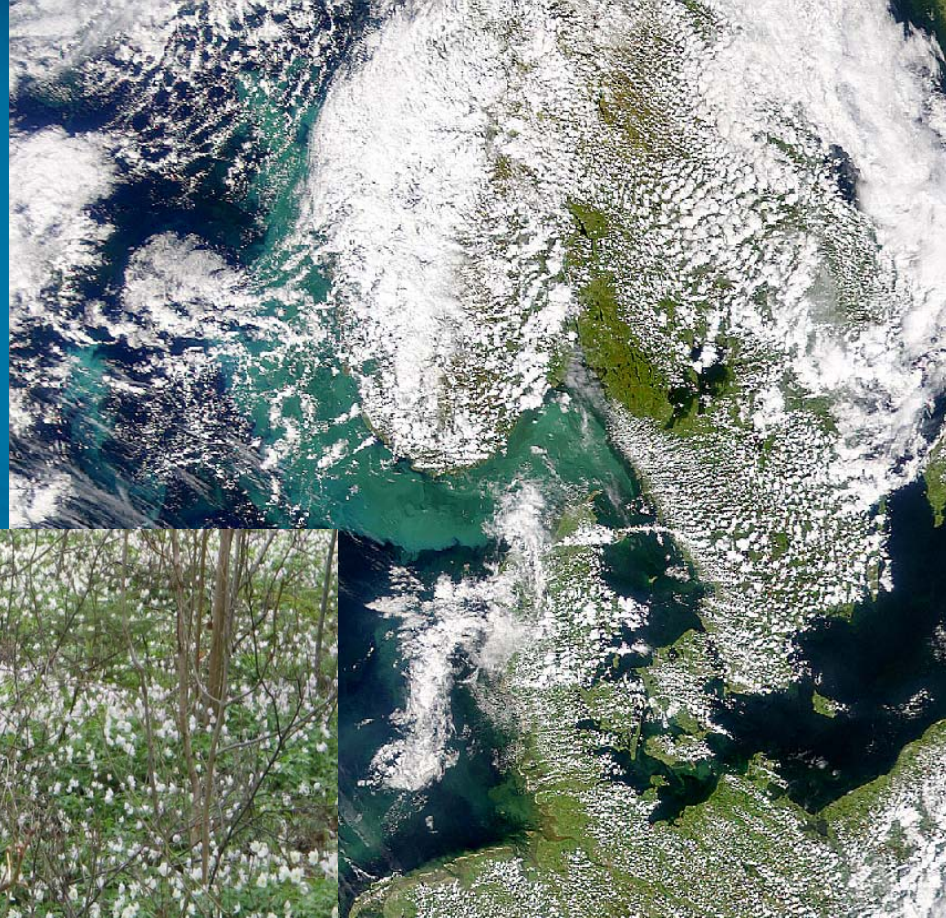
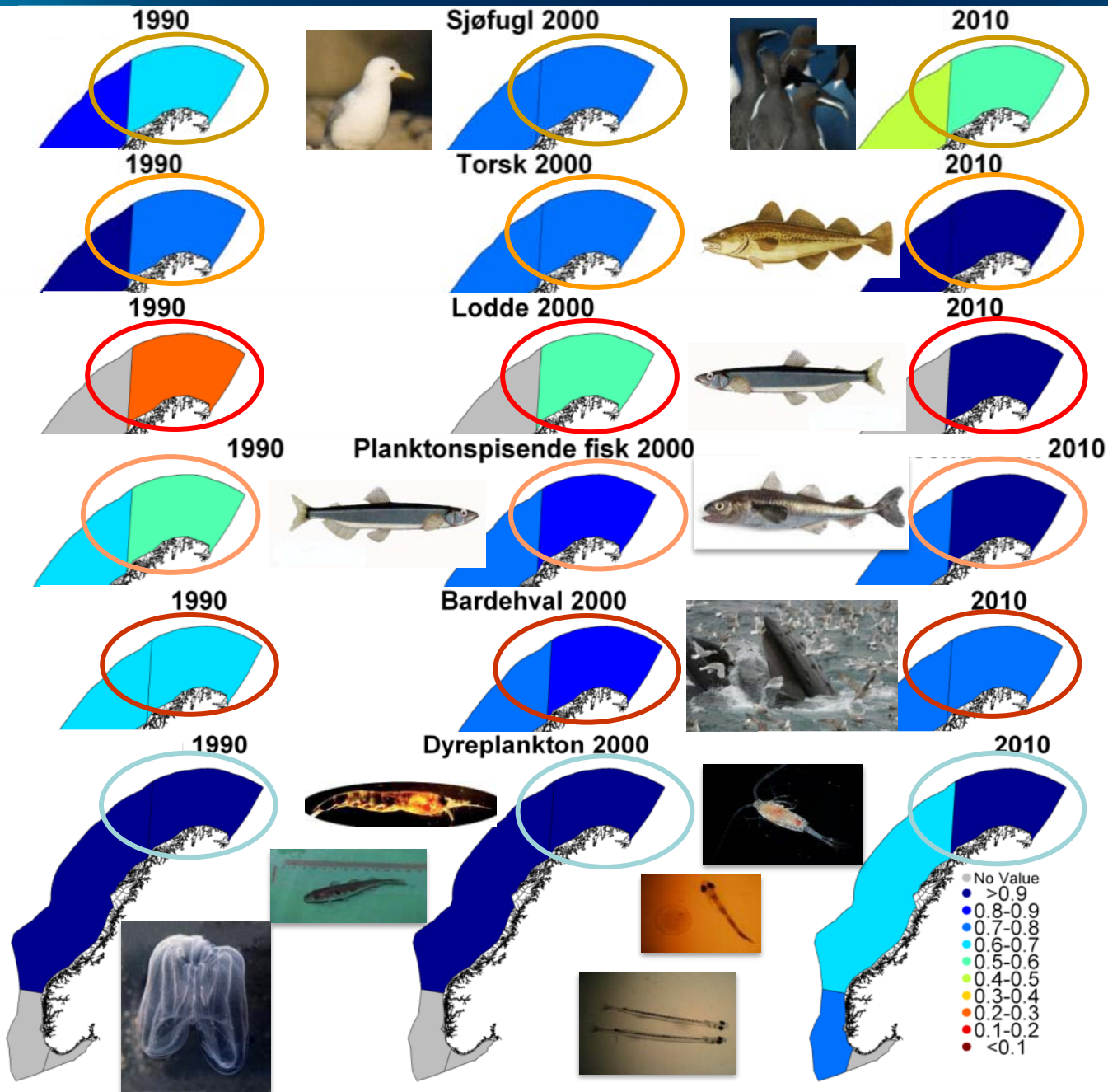


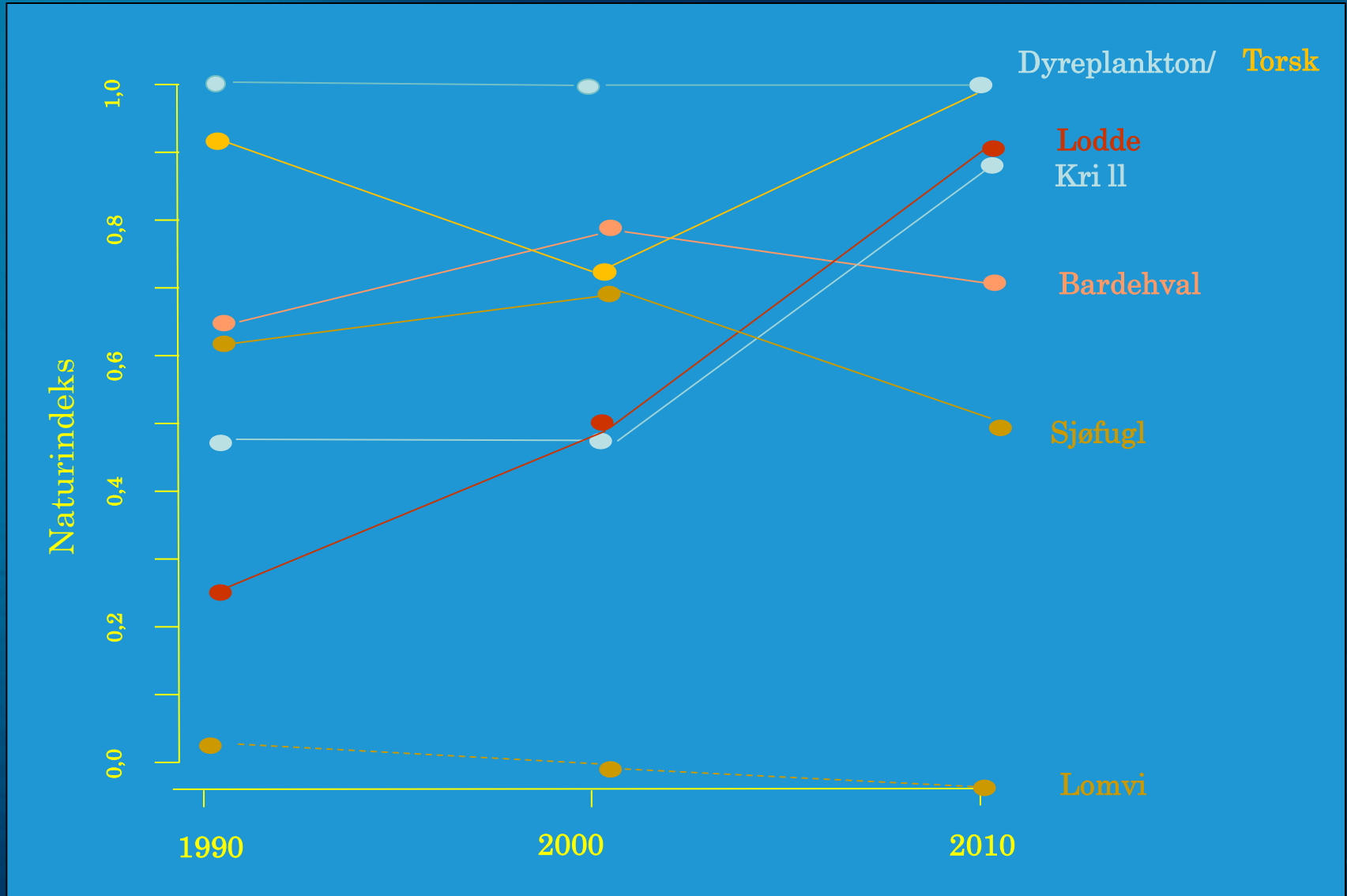
Foto: School of Ocean & Earth
Science, National Oceanography
Centre, Southampton, England

Foto: Reidun
Sekkelsten

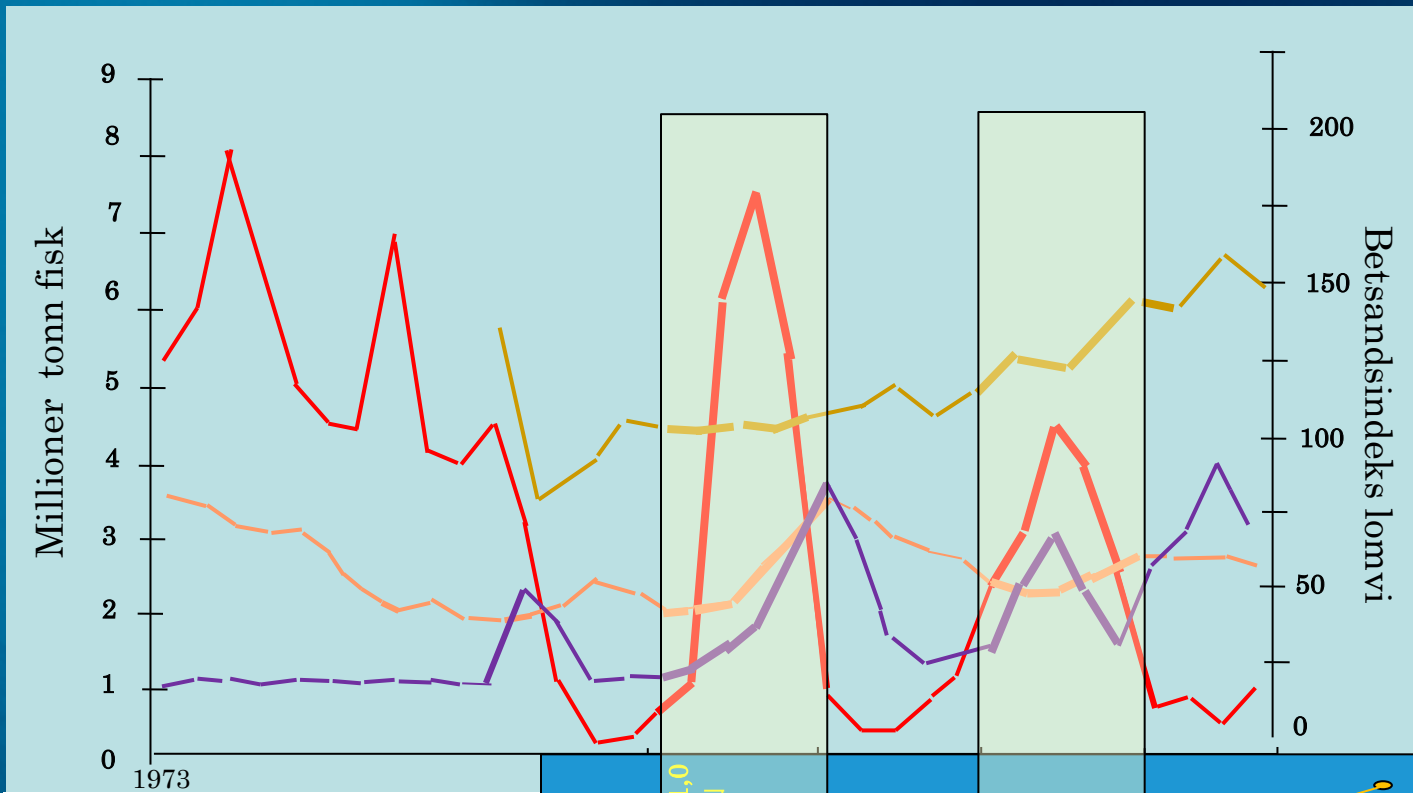




Pelagiske naturindekser, Barentshavet



Pelagiske forhold, Barentshavet



Marine Biology Research, 2009; 5: 40-53

ORIGINAL ARTICLE

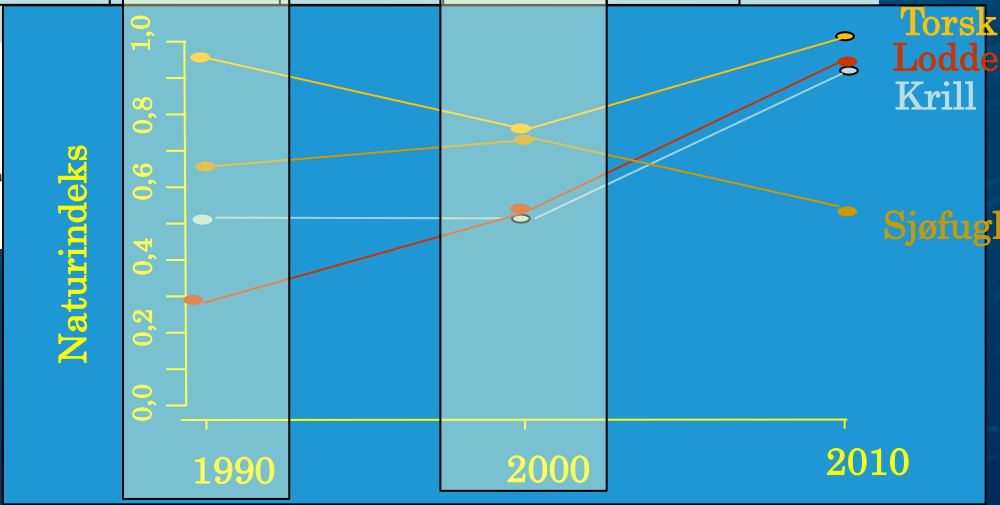
Ecosystem effects of the three capelin stock collapses in the Barents Sea

HARALD GJØSETER*, BJARTE BOGSTAD & SIGURD TJELMELAND

Naturen, vol. 5, 2009: p. 252-258

Dominoeffekter i Barentshavet; prosessene rundt svingningene i loddebestanden

Per Arneberg, Gro I. van der Meeren, Svein-Håkon Lorentsen og Maria Fosshelm

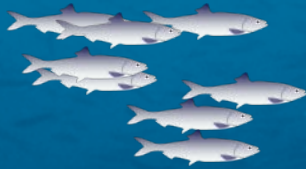


Økologiske interaksjoner mellom trofiske nivå

Enkel trofisk struktur:



Rovdyr



Pelagisk fisk



Dyreplankton

Nedenfra-og-opp

Rovdyr



Pelagisk fisk

Pelagisk fisk



Dyreplankton

Økologiske interaksjoner mellom trofiske nivå

Enkel trofisk struktur:



Rovdyr



Pelagisk fisk



Dyreplankton

Ovenfra-og-ned

Rovdyr



Pelagisk fisk

Pelagisk fisk



Dyreplankton

Økologiske interaksjoner mellom trofiske nivå

Enkel trofisk struktur:



Rovdyr



Pelagisk fisk



Dyreplankton

Vepsetalje

Rovdyr



Pelagisk fisk

Pelagisk fisk



Dyreplankton



Takk for oppmerksomheten

