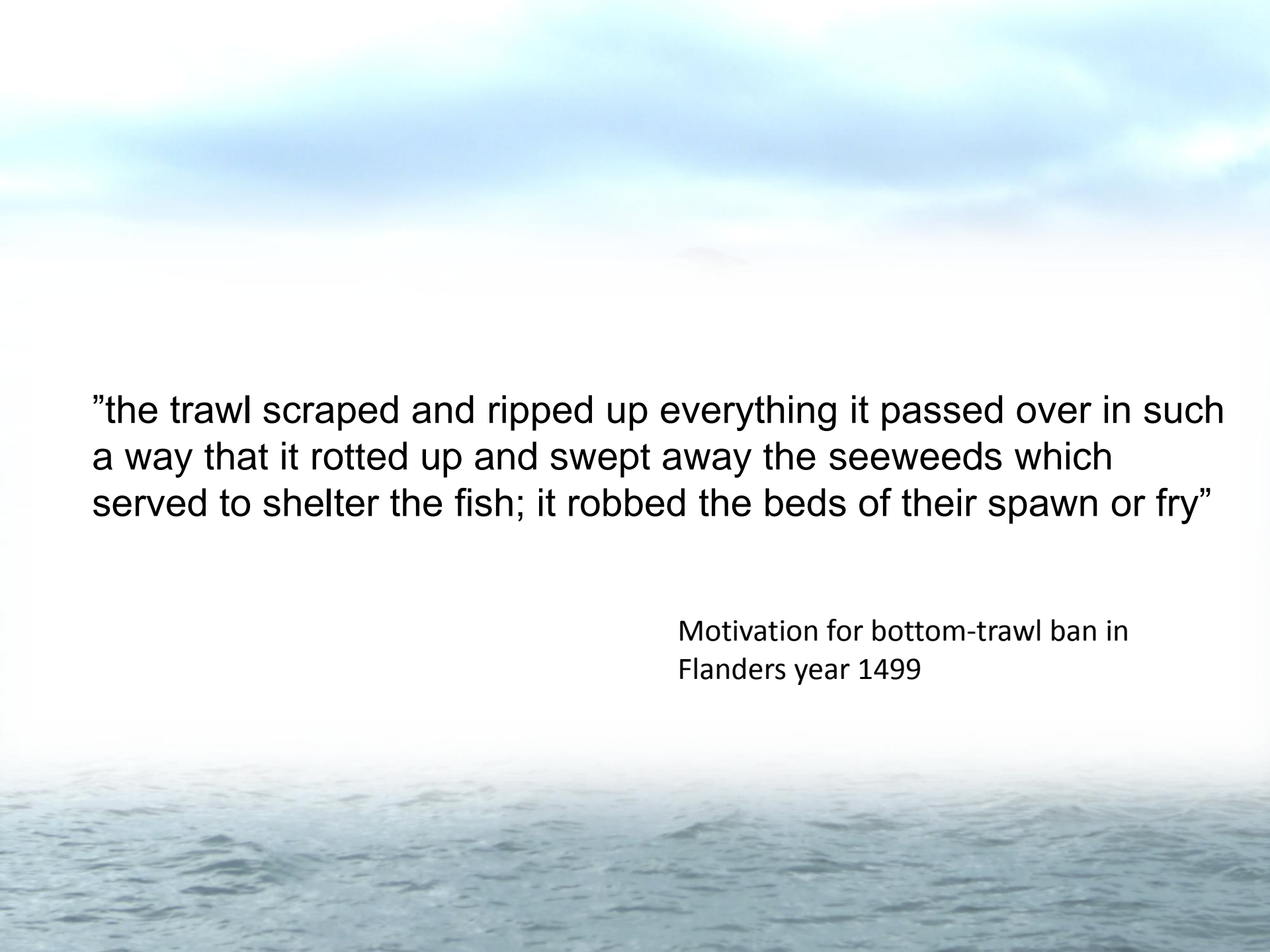


Environmental Impacts of bottom trawling – an overview

A large flock of seabirds, possibly terns, is seen flying over the ocean. The birds are scattered across the sky, with some in the foreground and others further away. The sky is filled with soft, white clouds, and the ocean surface is visible in the lower half of the frame. The overall scene is a natural, serene depiction of marine life.

Jonas Hentati Sundberg



”the trawl scraped and ripped up everything it passed over in such a way that it rotted up and swept away the seaweeds which served to shelter the fish; it robbed the beds of their spawn or fry”

Motivation for bottom-trawl ban in
Flanders year 1499

Outline of today's talk

- Bycatch in Bottom Trawling
- Bottom Trawling and CO₂ – the Carbon Footprint of Fisheries
- Sediment Impacts of Bottom Trawling – does Current Fishing contribute to algal blooms and release of Hazardous Substances???
- Banning Trawling is Efficient – The Sound example

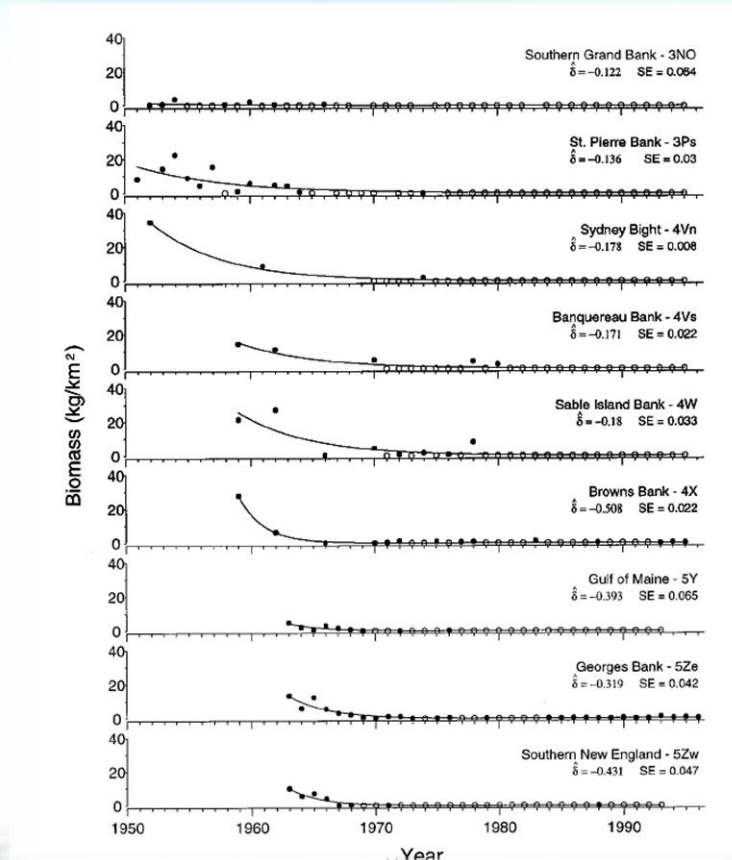


Bycatch



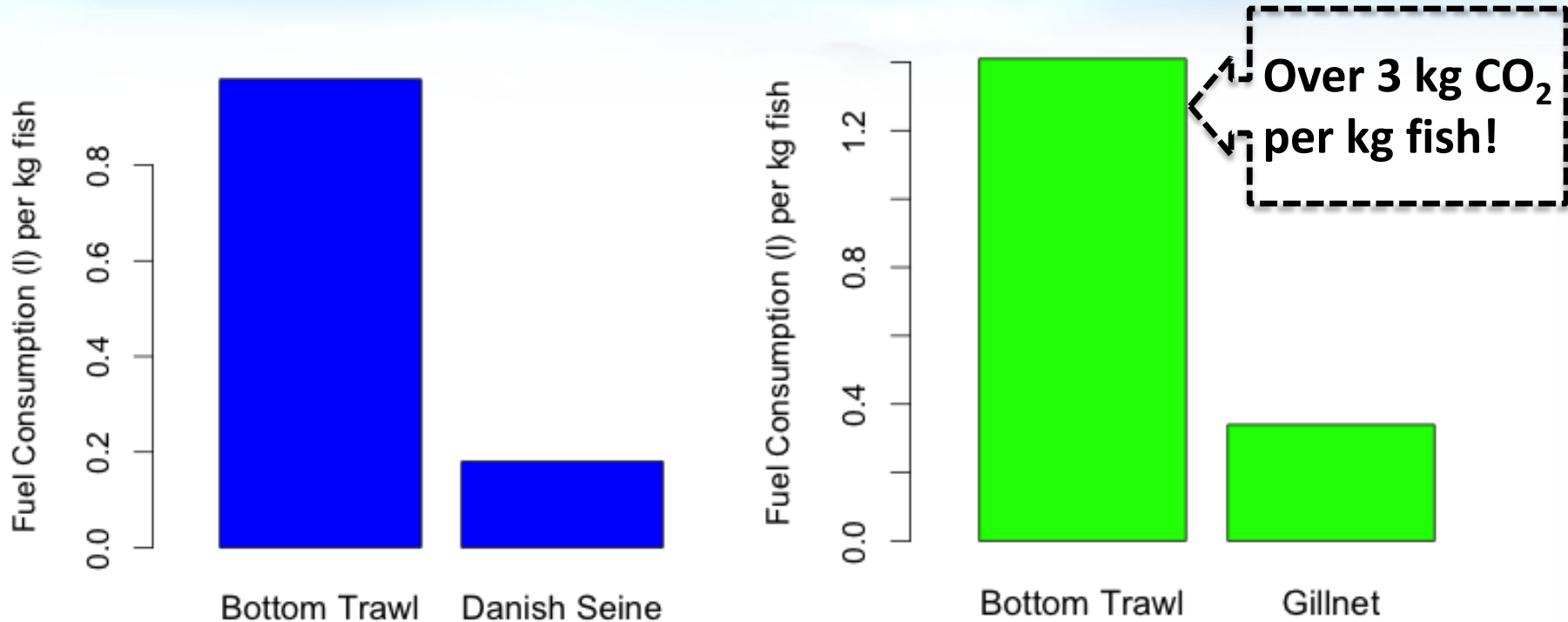
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Extinction of (sensitive) species



- Barndoor skate "near extinct" due to bottom trawl bycatch in North West Atlantic
- Common Skate: "Fisheries data indicate that populations of *D. batis* have undergone an extremely high level of depletion in the central part of its range around the British Isles since the early 20th century [...]"

The Carbon Footprint of Bottom-trawling



- High Fuel Consumption = High CO₂ emissions

Effects on sediments (Baltic Sea)

- Big areas (5.000 – 15.000 km²) are trawled annually
- Trawling during a couple of hours release sediment material (100s – 1000s tons)
- BS Sediments contain high concentrations of hazardous substances and phosphorus.
- What is happening is not clear, but there is a obvious risk of recycling

Are studies from other areas applicable to the Baltic Sea?

- ✓ Discards?
- ? Species Extinctions?
- ✓ CO₂ footprint?
- ✓ Sediment Recycling?

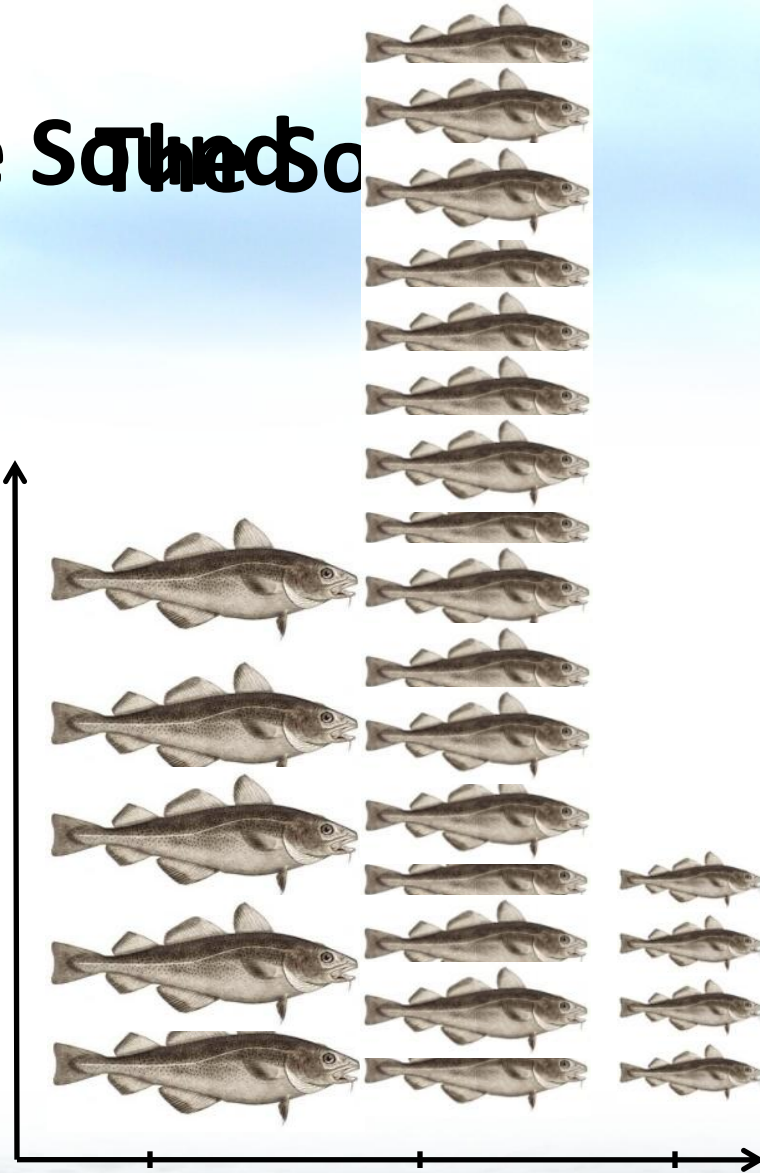
Banning bottom trawling is efficient

– the Sound example

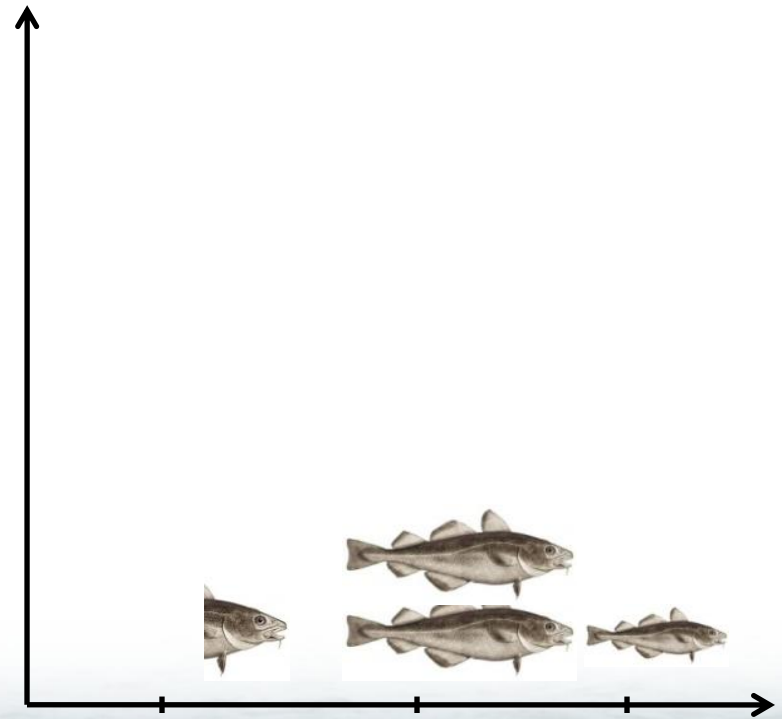
- Trawl ban since 1932, yet intense fisheries
- A Natural Experiment of the Effects of Banning Bottom Trawling!

The Skagerrak

1 "cod" = 100 cod caught during fish surveys 1991 - 2000



Kattegatt



Thank you for listening!



Acknowledgements

- Naturskyddsföreningen (SSNC), www.naturskyddsforeningen.se
- Swedish Board of Fisheries