



Photo: Niels Sloth



Photo: Christian Schou



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Abundance of key coastal fish species

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CONTENT

- The indicator
- Why coastal fish?
- Coastal fish and pressures
- Data and storage system
- GES-approach and assessment scale
- Aggregation and confidence
- Current status

THE INDICATOR

Relative abundance/biomass of:

- **Perch** (*Perca fluviatilis*). Northern and eastern Baltic, sheltered and mid parts of the coastline



- **Flounder** (*Platichthys flesus*). Southern and western Baltic, exposed parts of the central Baltic coastline



- **Cod** (*Gadus morhua*). Southern and western Baltic

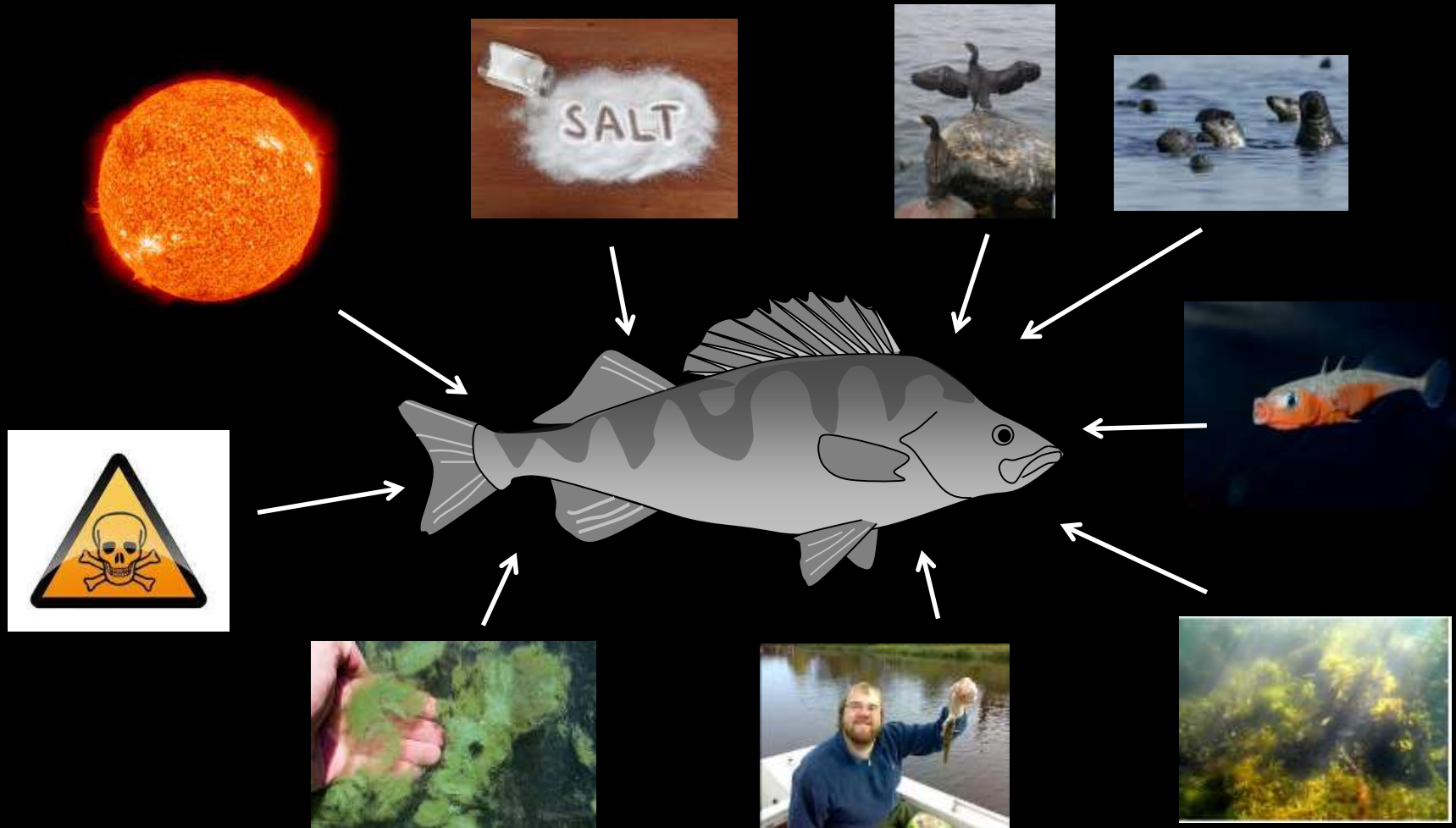


WHY KEY COASTAL FISH SPECIES?

- Fish integrates processes in the coastal food-web => good indicators of ecosystem state (HELCOM 2006, 2012)
- Fish (via top-down processes) influence function and structure of coastal ecosystems (Eriksson et al 2009; Östman et al 2016)
- Fish are of great socio-economical importance to small-scaled coastal fisheries and recreational fisheries (HELCOM 2015)
- Coastal fish hence included in BSAP, MSFD (D1,3 & 4) and CFP

KEY COASTAL FISH SPECIES AND PRESSURES

Plethora of pressures impacting coastal fish communities



DATA TO SUPPORT THE INDICATOR

Coastal fish monitoring in various forms



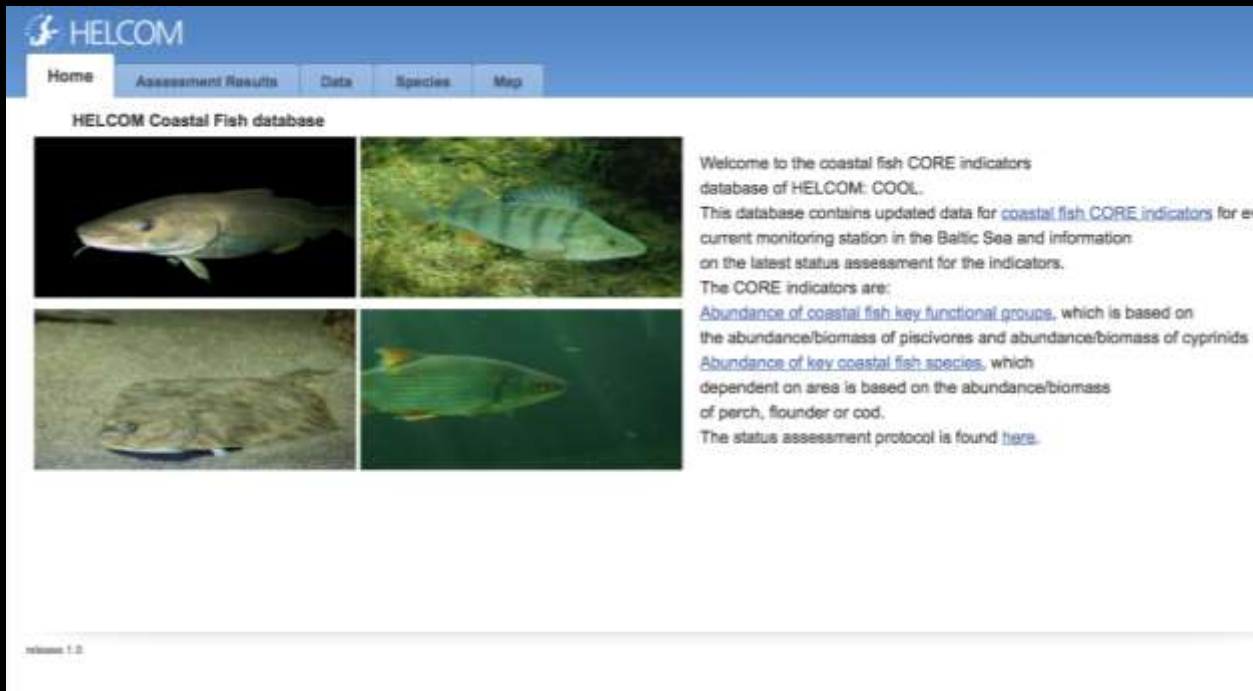
Gill net monitoring, commercial catch statistics, coastal trawl surveys, fyke net monitoring and recreational fishermen surveys

Still spatial gaps



DATA STORAGE SYSTEM

- Set up of COOL-database at the HELCOM web
- Will contain CORE-indicator data and latest status assessment
- Financed within the Baltic Boost project



The screenshot shows the HELCOM Coastal Fish database website. The header features the HELCOM logo and a navigation menu with links for Home, Assessment Results, Data, Species, and Map. The main content area is titled "HELCOM Coastal Fish database" and includes four photographs of fish: a cod, a perch, a flounder, and a cyprinid. To the right of the images, there is a welcome message and a description of the database's purpose and the CORE indicators it tracks.

HELCOM

Home Assessment Results Data Species Map

HELCOM Coastal Fish database

Welcome to the coastal fish CORE indicators database of HELCOM: COOL.

This database contains updated data for [coastal fish CORE indicators](#) for every current monitoring station in the Baltic Sea and information on the latest status assessment for the indicators.

The CORE indicators are:

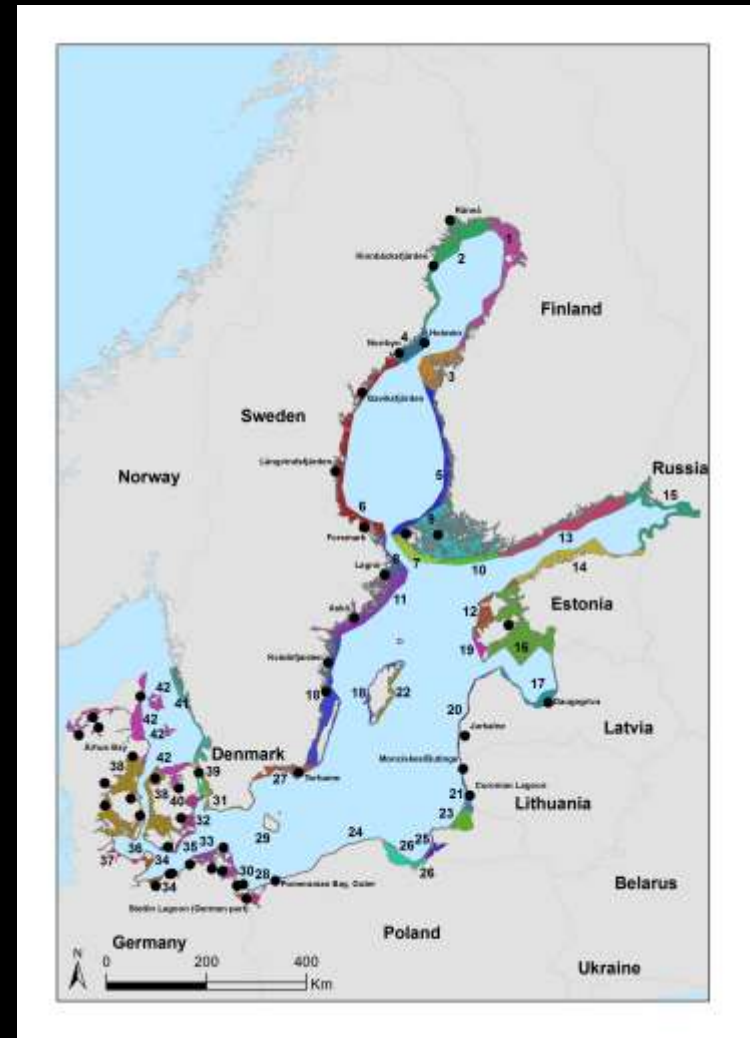
- [Abundance of coastal fish key functional groups](#), which is based on the abundance/biomass of piscivores and abundance/biomass of cyprinids
- [Abundance of key coastal fish species](#), which dependent on area is based on the abundance/biomass of perch, flounder or cod.

The status assessment protocol is found [here](#).

release 1.0

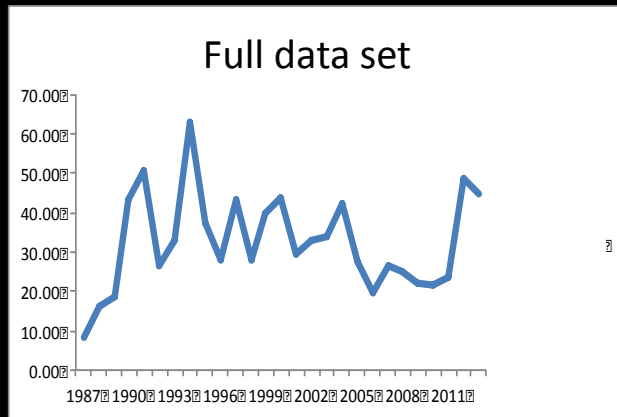
GES-CONCEPT

- Coastal fish are local -> Assessment unit level 3
- One assessment per monitoring area (area specific GES-boundaries)
 - Base-line approach (data > 15 years)
 - Trend-based approach (data < 15 years)
- Reference state could either reflect GES or subGES

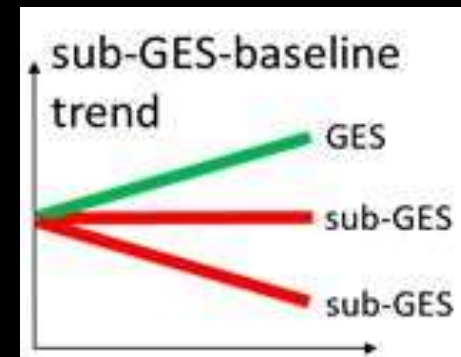
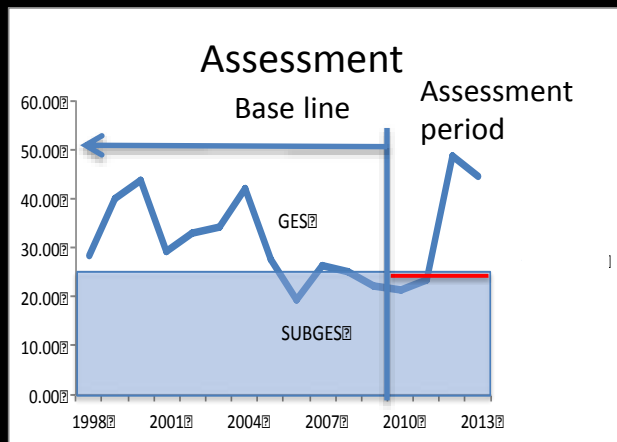
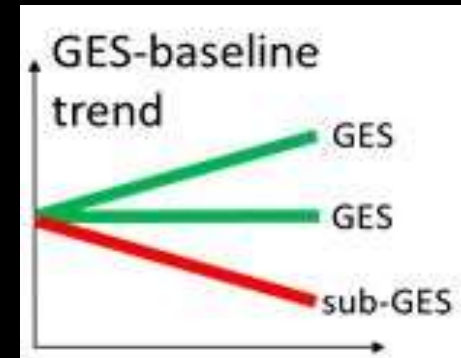


GES-CONCEPT (cont)

Base-line approach



Trend-based approach



AGGREGATION PRINCIPLES

”Majority rule” within assessment units and across monitoring areas

GES is observed if > 50% of the monitoring areas within an assessment unit is GES

⇒ if > 50% of the areas within an assessment unit are GES (or subGES), then the status of the assessment unit = GES (or subGES)

⇒ if 50% of the areas within an assessment unit are subGES, then the status of the assessment unit = subGES

Or the HOLAS II aggregation principle (NEAT-tool) will be applied

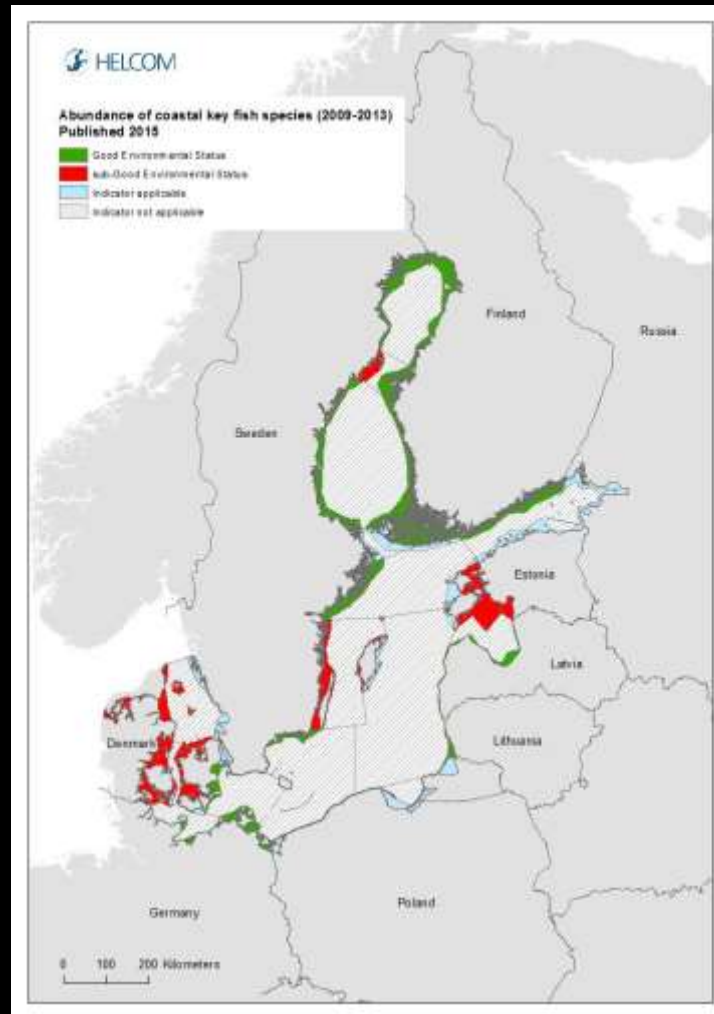
CONFIDENCE

Three levels of confidence across four criteria

Confidence level	Time series length	Congruence in status	Spatial representation	Precision of data
Low	Below 10 years	Departing status across areas (50/50)	Poor (few areas given the size of the assessment unit)	Poor (low quality data)
Medium	10-15 years	Departing status across areas (75/25)	Medium (a few areas given the size of the assessment unit)	Medium (ok quality of data)
High	15 years or more	Similar status across areas (85/15)	Good	Good

All four criteria of confidence must be fulfilled to attain a certain level of confidence

STATUS IN 2013



Thank you for your attention
Questions?

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Photo: Martin Karlsson

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