



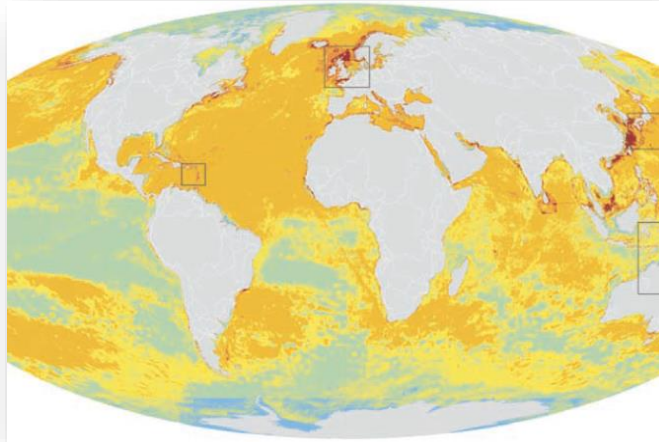
Symphony- a cumulative assessment tool for MSP

Linus Hammar

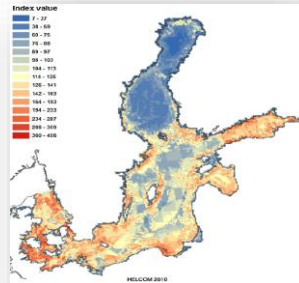
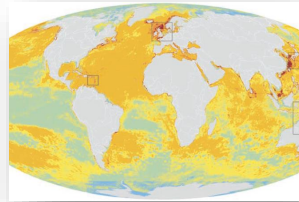
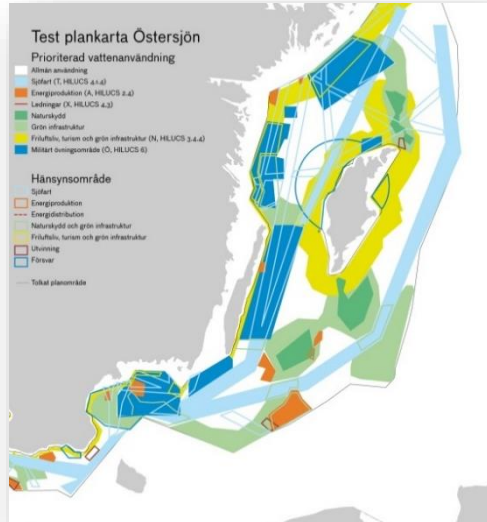
Senior Analyst

Swedish Agency for Marine and Water Management

What is the problem?

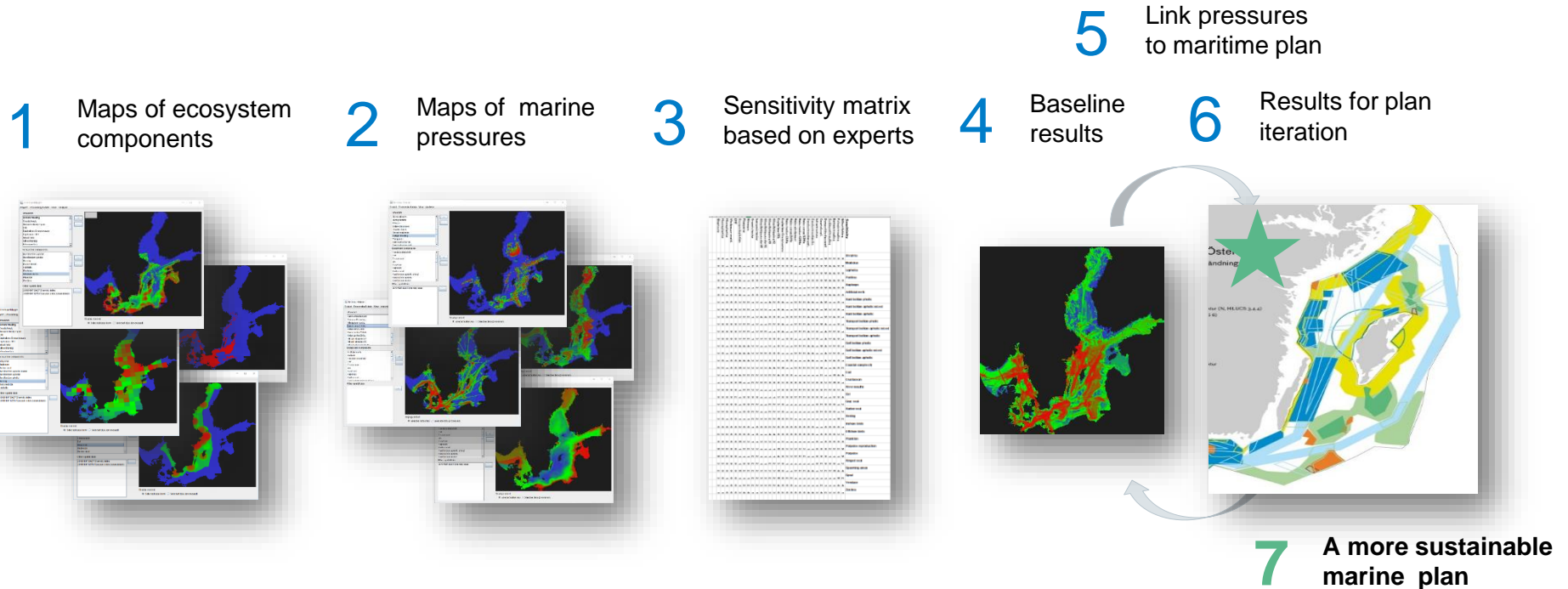


Symphony supports the Ecosystem Approach in Swedish MSP

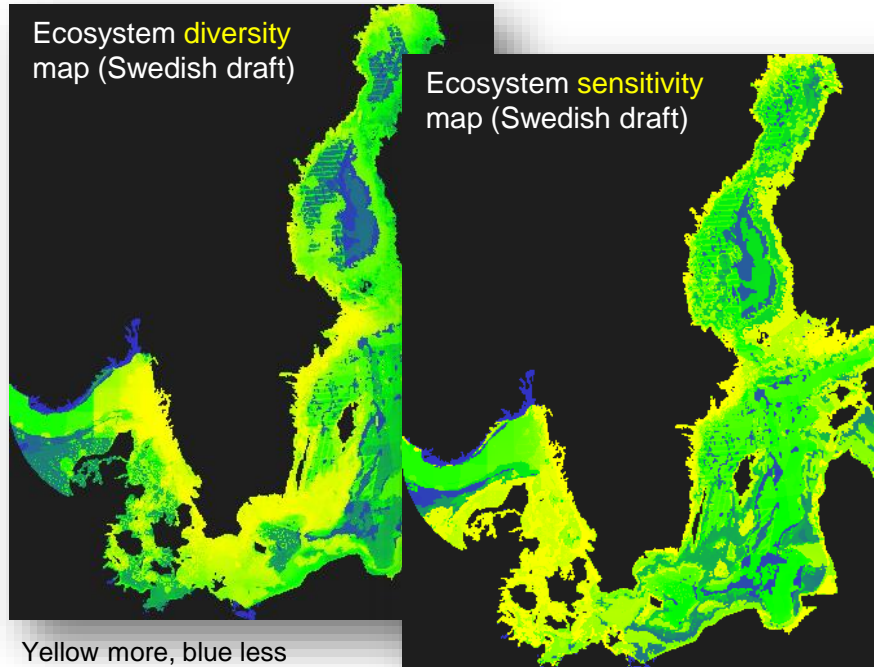


- We want to compare the environmental impact of different plan alternatives
- Cumulative impact is what matters
- We develop a tool called Symphony
- Symphony is based on a scientifically established method (Halpern et al 2008)

How Symphony works



Ecosystem components in Symphony

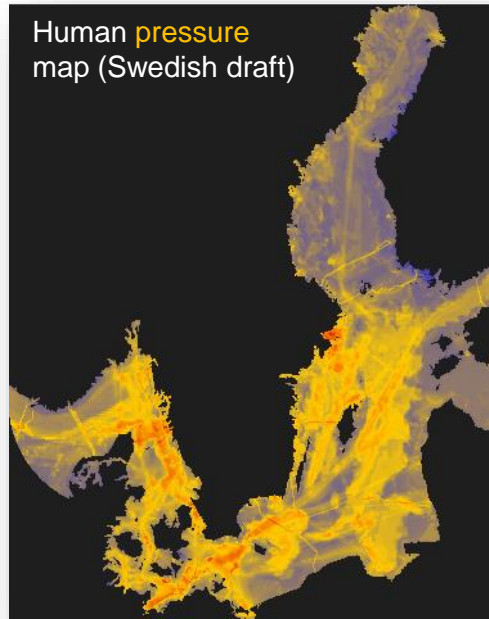


We have produced about **30 maps** of ecosystem components based on **existing** data

- Examples: Benthic habitats, fish spawning areas, porpoises, seabirds, plankton
- Aggregated maps indicate biodiversity hotspots and sensitive areas

The maps do not fully cover areas outside Swedish waters and EEZ and do not represent the full Baltic Scope area

Human pressures in Symphony



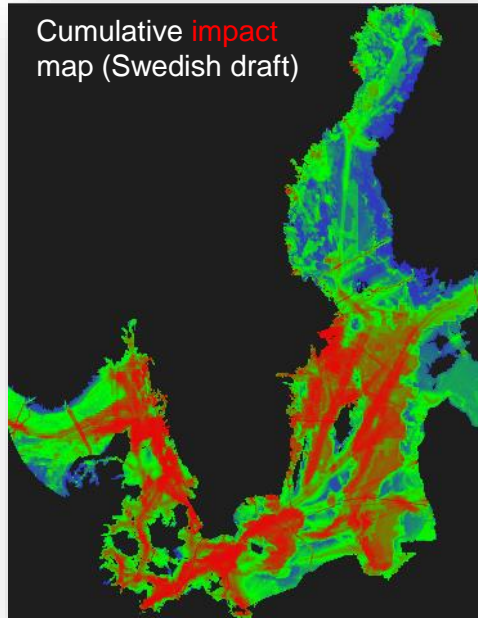
Red more, blue less

We have produced about **25 maps** of human pressures based on **existing** data

- Examples: Shipping noise, fishing, military explosions, wind farm bird avoidance, eutrophication, coastal exploitation
- About a third of the pressures are **related to MSP**
- Aggregated maps indicate areas where pressures are many and intense

The maps do not fully cover areas outside Swedish waters and EEZ and do not represent the full Baltic Scope area

Cumulative impact in Symphony



Red more, blue less

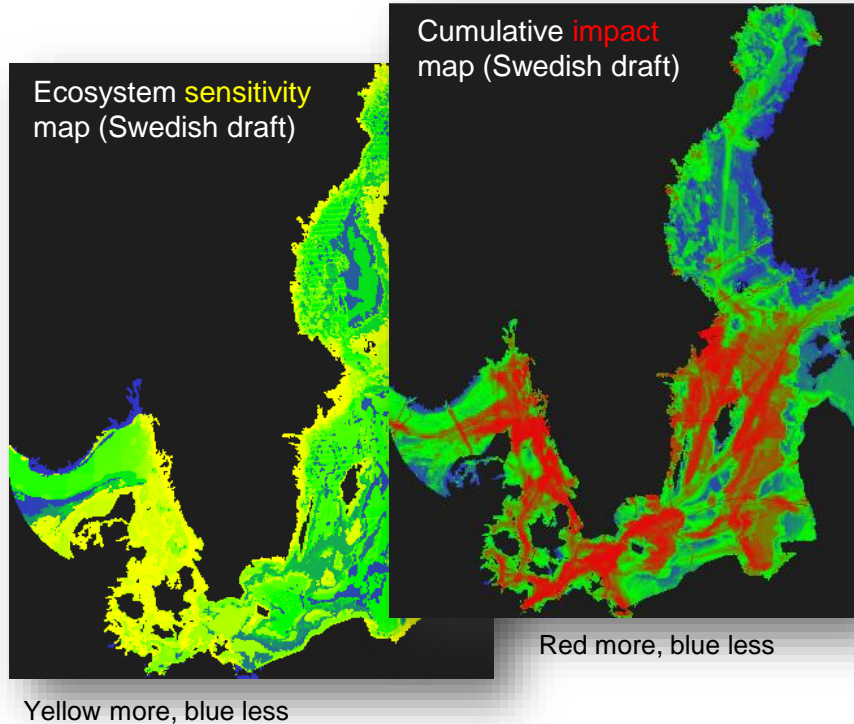
The **cumulative impact** is based on

- Number and intensity of ecosystem components
- Number and intensity of human pressures
- How sensitive each ecosystem component is to each human pressure

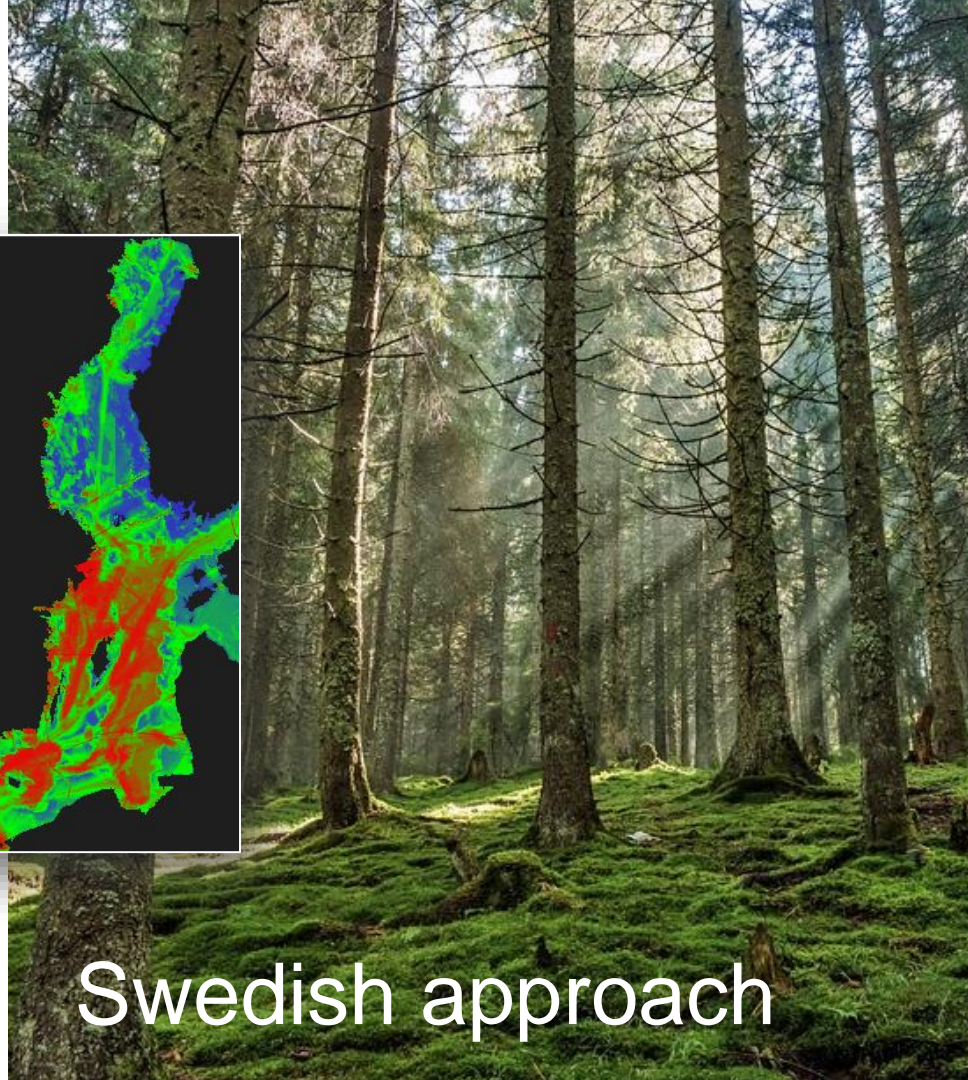
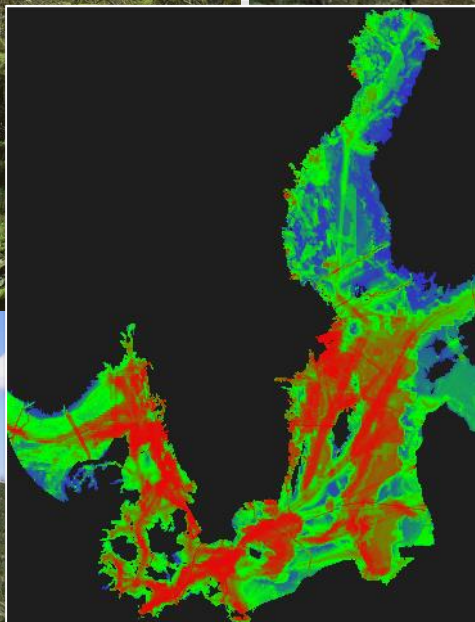
This map helps to identify areas of concern, and allows us to **compare** the environmental impact of different plan alternative

The maps do not fully cover areas outside Swedish waters and EEZ and do not represent the full Baltic Scope area

Symphony for Ecosystem Approach



- We identify areas of particular sensitivity
- We examine the cumulative impact of the MSP draft
- We identify areas where impact is too high
- We analyze which pressures that contribute to the bad situation
- We use this information to discuss with stakeholders
- We develop alternative plan
- We examine the cumulative impact of the new alternative plan
- We iterate until good plan is found
- The method is transparent
- The method can be used in any country and as a basis for transboundary consultations
- HELCOM is using similar method, for assessment



American approach

Swedish approach

What do we want?