An underwater scene with light rays filtering through the water, creating a blue and green color palette. Several fish are visible swimming in the background.

Monitoring of continuous noise: from projects to monitoring programmes including data arrangements

Joint Session EN-Noise and ICG-Noise, Göteborg 5th October



Revised proposal for a regional monitoring sub-program on continuous noise

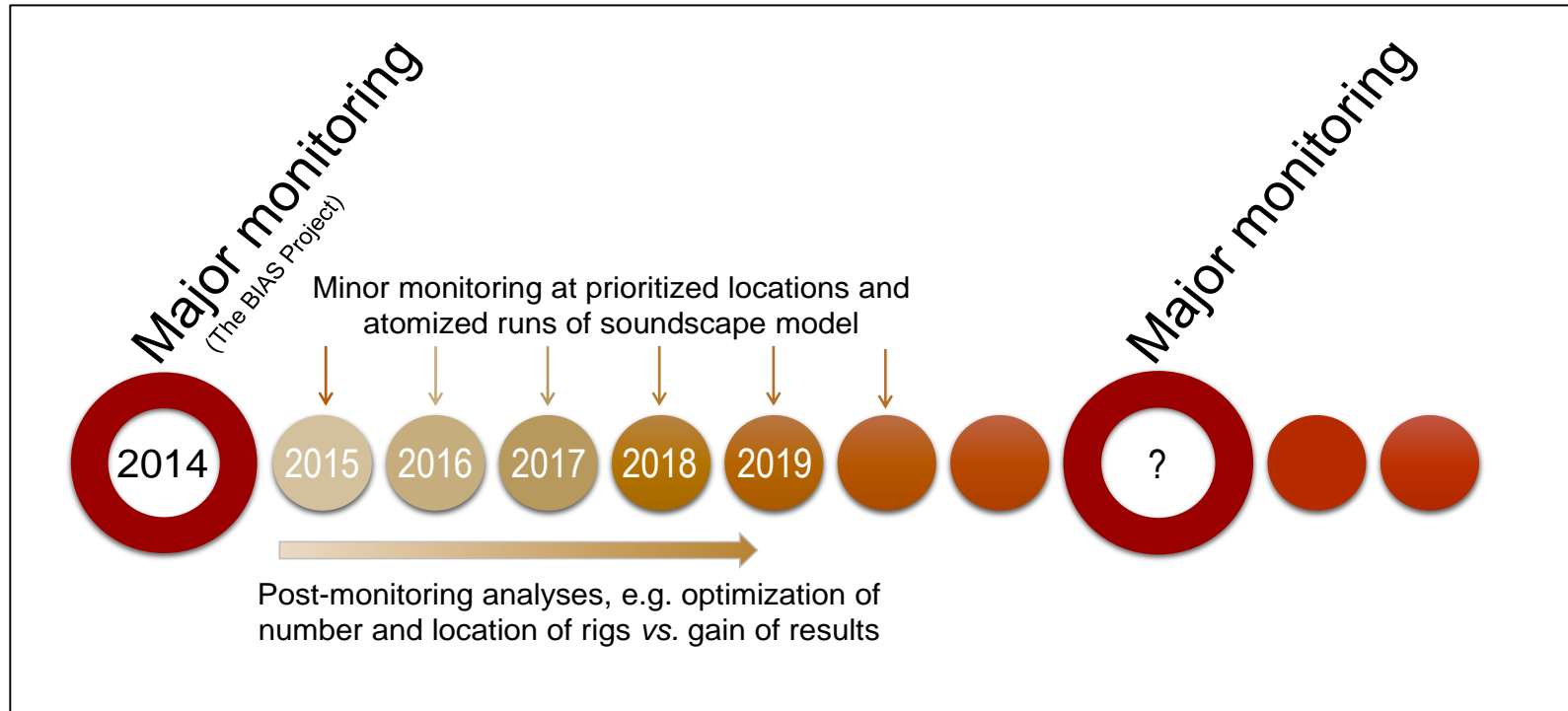
Mathias Andersson, Emilia Lalander, Peter Sigray
Swedish Defence Research Agency - FOI

Background



- A **implementation plan** was developed during the BIAS project addressing a coordinated regional monitoring sub-programme on continuous noise in the Baltic Sea
- STATE & CONSERVATION 4-2016 *took note* of the regional monitoring plan – but then nothing happened!
- An updated version will be **resubmitted** to STATE & CONSERVATION 7-2017 for a *discussion* and hopefully an *agreement* on the outline and decide a responsible CP or organization for the Data sharing platform and Soundscape planning tool

Baltic Sea monitoring continuous noise



Nikolopoulos, A., et al. *BIAS Implementation Plan - Monitoring and assessment guidance for continuous low frequency sound in the Baltic Sea*. s.l. : BIAS LIFE11 ENV/SE/841., 2016.

<https://biasproject.files.wordpress.com/2013/11/bias-implementation-plan.pdf>

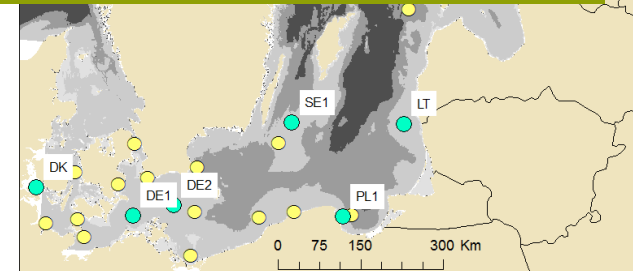
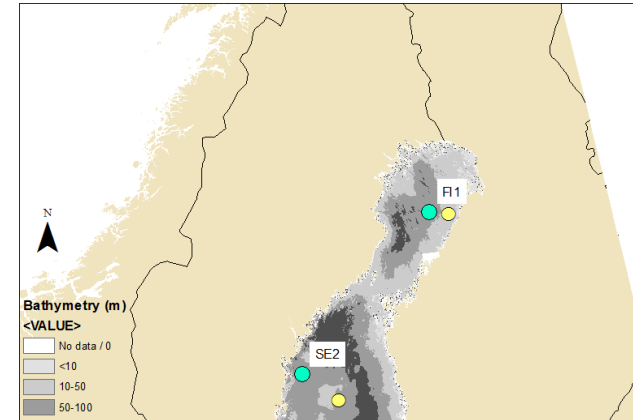
Regional Monitoring program

Minor Monitoring - annual

1. Acoustic measurements at the **prioritized measurement location** covering all Baltic Sea sub-basins applying the regional methodology standard and quality control
2. Data are **processed** (using regional standard on data

DRAFT Guidelines for monitoring continuous noise submitted to STATE & CONSERVATION 7-2017
The aim of these guidelines is to provide a standardized procedure to ensure that the output data from the monitoring is compatible for the HELCOM pre-core indicator 'Continuous low frequency anthropogenic sound'

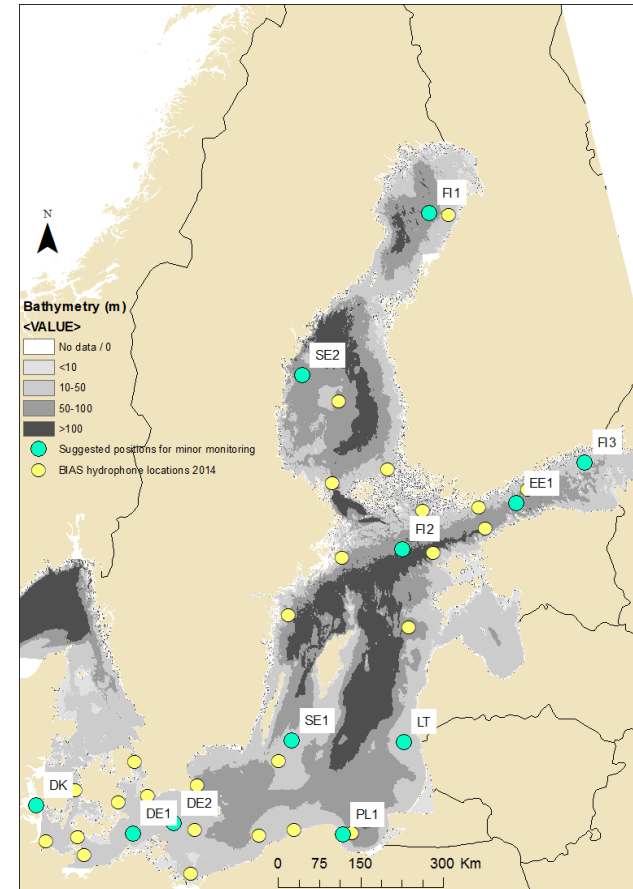
3. A **soundscape model** are used with updated information on ship traffic and environmental conditions to produce new monthly soundscape maps.
4. Post-monitoring - estimate the **compatibility** of the soundscape model results with the current year's measured results



Regional Monitoring program

Major Monitoring

1. A large monitoring effort with extensive field measurement programme are done **with several years interval** replacing the minor monitoring that specific year
2. Determined by the need for extended monitoring efforts based on the **difference between yearly observed and modelled results**, or by the need for specific actions or results dictated by HELCOM processes.
3. To collect the **necessary amount of data in order to carefully calibrate the soundscape model** towards the full range of acoustic characteristics in all the sub-basins of the Baltic Sea.
4. Post-monitoring - **optimization of number and locations** of sensors vs. gain of results



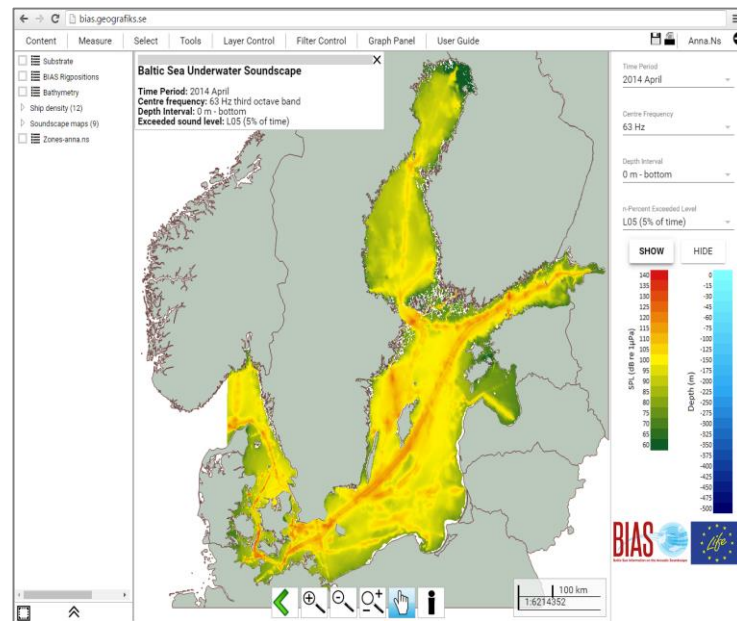
Soundscape planning tool

The processed data and soundscape maps are explored visually in the **soundscape planning tool**, allowing the user to study any specific location in the Baltic Sea and compare results of:

- I. Various frequencies (63, 125 and 2000 Hz)
- II. Three different depth intervals
- III. Different time periods (month, years)
- IV. Seven exceedance levels

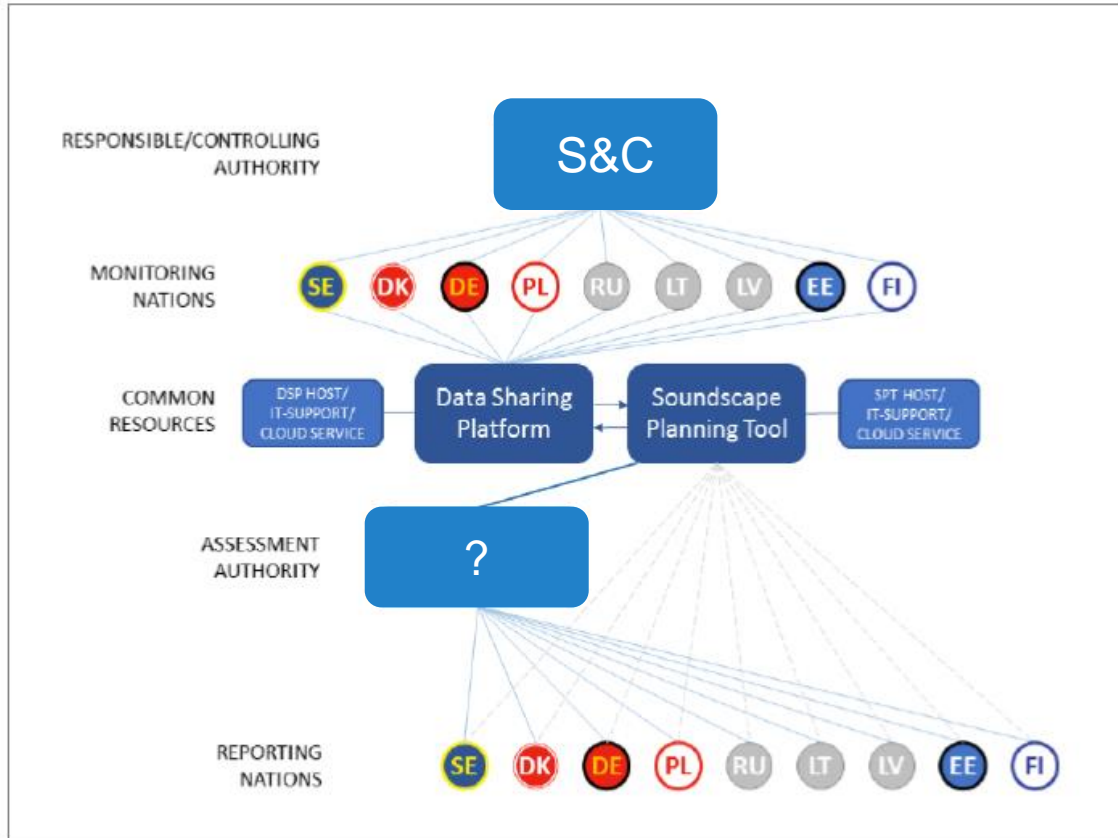
New measured data and maps can be uploaded!

Polygons over areas of special interest can be imported and the soundscape in that particular area can be explored.



<https://biasproject.wordpress.com/tasks/tools/>

Overview of data arrangements



Agreements on responsible caretaker of the data sharing platform and the soundscape planning tool including admin and quality control is needs