

SAMBAH

Static Acoustic Monitoring of the Baltic Sea Harbour Porpoise



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An EC LIFE+ Nature project

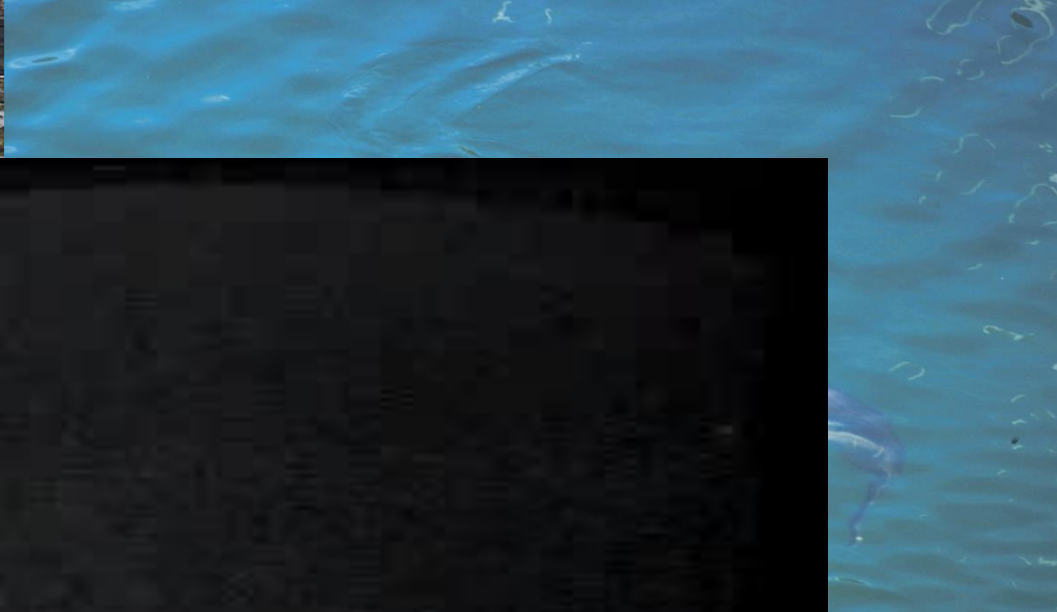


AquaBiota
WATER RESEARCH



Outline of presentation

- The Baltic harbour porpoise
- SAMBAH objectives
- Targeted EU policies
- Organisation
- Project outline
- Methods
- Dissemination
- Conclusions



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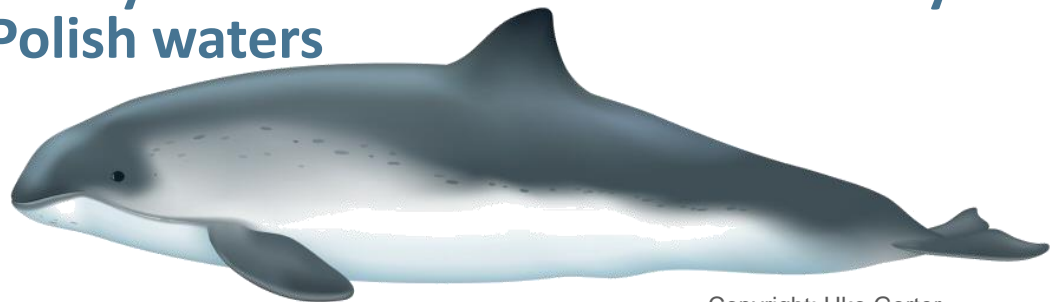
in the Baltic
ulation

herring

- 1 calf/1-2yrs
- Longevity: 12 (25) yrs

The Baltic harbour porpoise (*Phocoena phocoena*)

- IUCN red list: Baltic Sea population critically endangered (CR)
- Baltic Sea population estimates ~100 - 600 (CI 10 – 3300)
- Protected:
 - EU Habitats Directive: Annex II
 - Bern convention, ASCOBANS, CMS, CBD, HELCOM etc
 - National protected lists
- Threats: bycatch in fisheries, environmental contaminants, anthropogenic disturbances, eutrophication and overfishing
- Important areas essentially unknown. Protected areas only in Danish, German and Polish waters



SAMBAH objectives

1. Provide better estimates of density, abundance and distribution within the project area **Thereby management actions can be more effective.**
2. Identify habitat preferences, hotspots and areas with higher risk of conflicts with anthropogenic activities **Enables targeted actions of realistic order of magnitude**
3. Increase the knowledge about the Baltic harbour porpoise among policymakers, managers, stakeholders, users of the marine environment and the general public **The harbour porpoise is one of the most anonymous species in the Baltic region fauna**
4. Implement and evaluate best practice methods for cost efficient, large scale surveillance of harbour porpoises in a low density area **It can then be applied in assessment of other low density odontocete populations around the world**

Targeted EU policies etc

SAMBAH will provide results that are fundamental for the implementation of:

- **Habitats Directive (1992/43/EEC)**
- **Marine Strategy Framework Directive (2008/56/EC)**
- **ASCOBANS Recovery Plan for Baltic Harbour Porpoises (Jastarnia Plan)**
- **HELCOM's BSAP and recommendation 17/2**
- **Several national strategies developed under those international rules and agreements**
- **EU Baltic Sea strategy**

SAMBAH organisation

Coordinating beneficiary

- Kolmården Wildlife park, SE

Associated beneficiaries

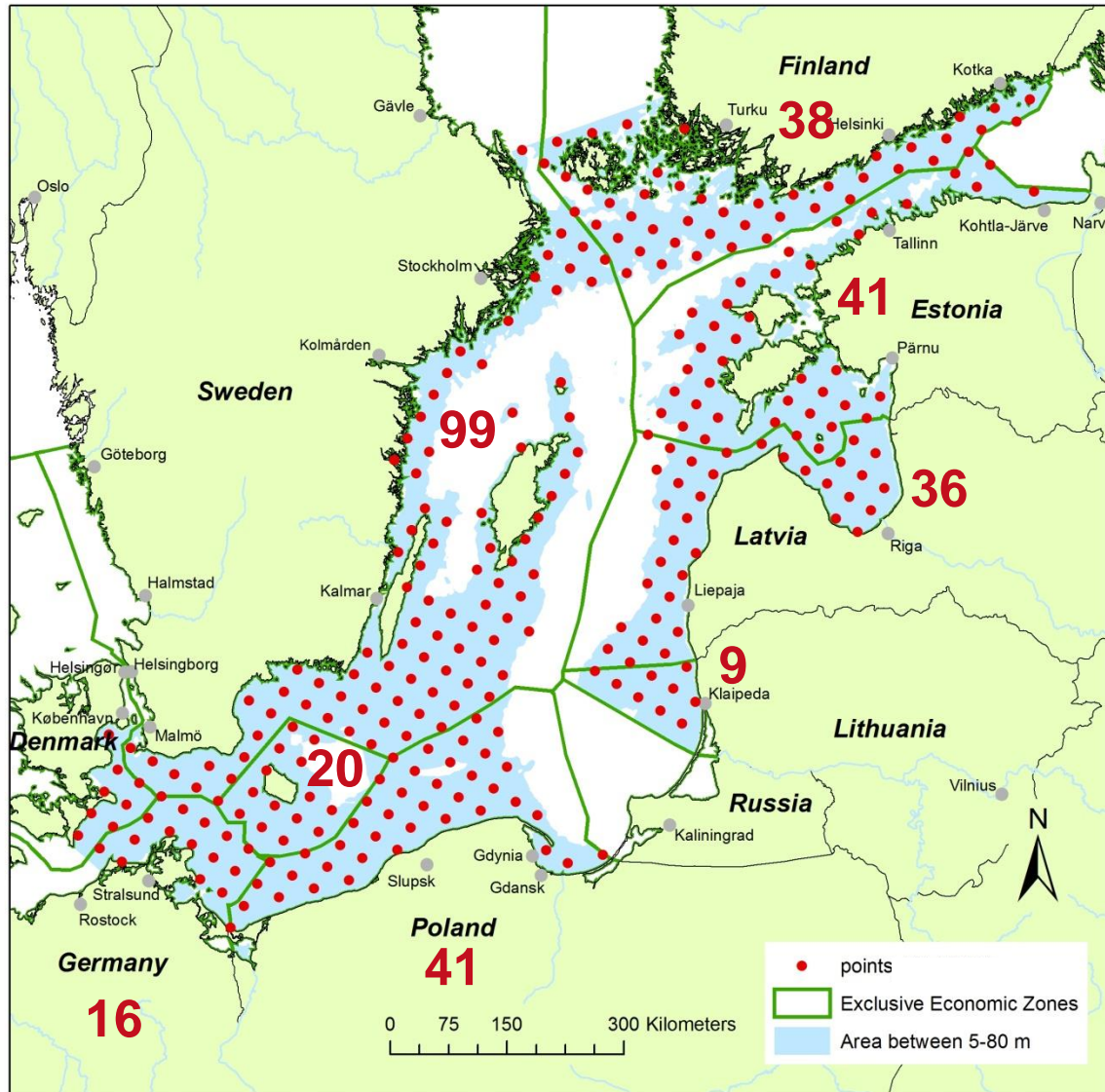
- SE: Swedish Environmental Protection Agency =>Swedish Marine and Water Management Agency
- FI: Turku University of Applied Sciences, Finnish Ministry of the Environment, Särkänniemi Adventure Park
- PL: University of Gdańsk, Institute of Meteorology and Water Management, Chief Inspectorate for Environmental Protection
- DK: Aarhus University, Danish Forest and Nature Agency

Subcontractors/Collaborators

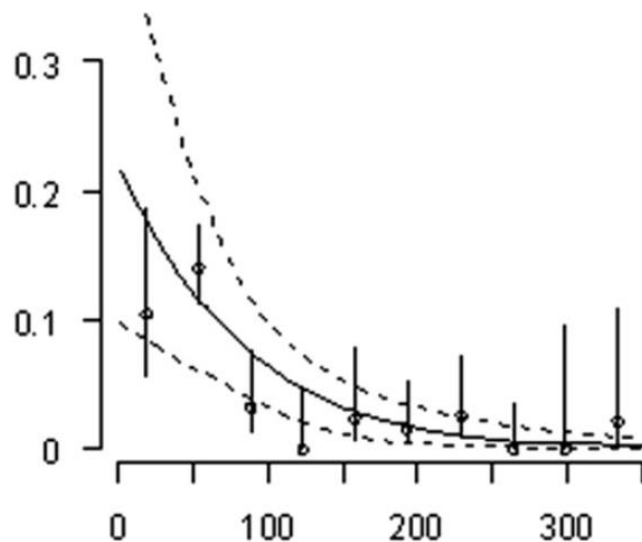
- AquaBiota Water Research (SE);
- CREEM, St Andrews University (UK);
- Chelonia Ltd (UK)
- Pro Mare (EE); Latvian Institute of Aquatic Ecology (LV); Klaipeda University Coastal Research and Planning Institute (LT)
- German Oceanographic Museum in Stralsund (DE)
- St Petersburg University (RU; with ASCOBANS support)

SAMBAH project outline

- Data collection based on 300 static passive acoustic click loggers, CPODs
- Data collection: May 2011- May 2013
- Deployment depth 5-80 m
- Average min distance between positions 23 km
- Servicing every 3-4 months: battery and memory card changed



Auxiliary data: Acoustic tracking, playbacks and tags



**Detection probability
function**



**Click rate
Dive depth
Orientation
Swim speed**

Data processing

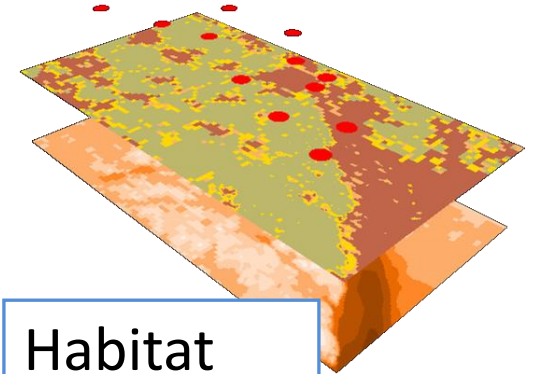


CPOD data



$$\hat{D} = \frac{n(1 - \hat{c})}{K\pi w^2 \hat{P}T\hat{r}}$$

Density and
abundance
analyses



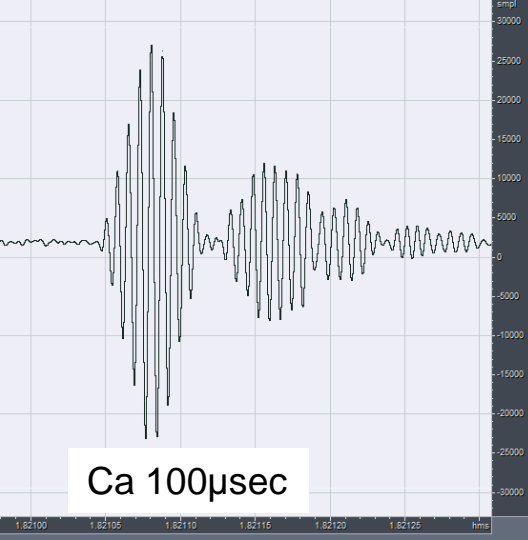
Habitat
modelling

Auxiliary data



1:st data check

There **ARE** porpoises in the Baltic and
they **ARE** recorded by our C-PODs ☺ ☺



Ca 100µsec

Frequency

ICI Inter Click Interval

Narrow band sonar

Amplitude

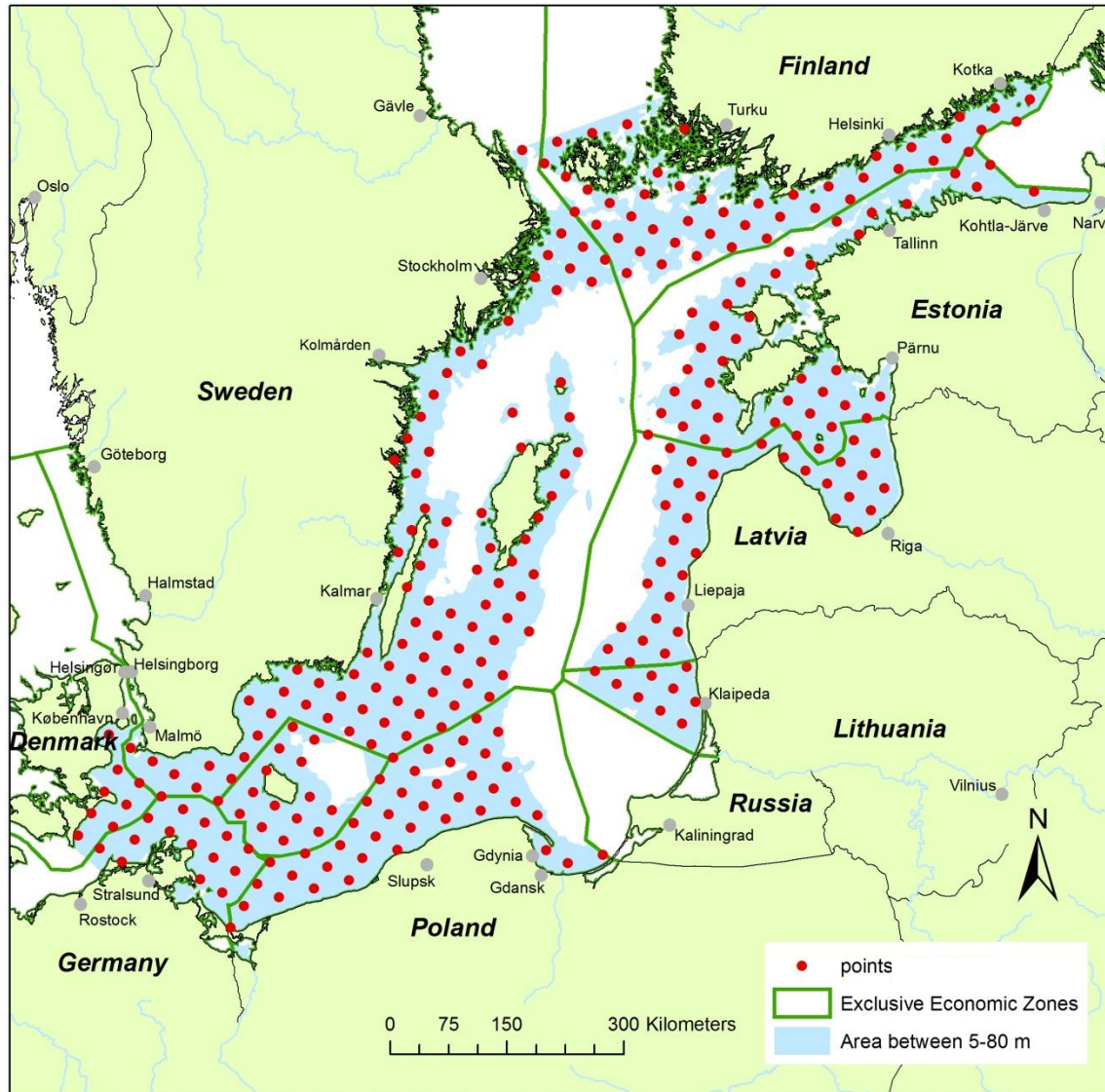
-160 kHz
-140 kHz
-120 kHz
-100 kHz
-80 kHz
-60 kHz
-40 kHz
0
60ms
50ms
40ms
30ms
20ms
10ms

-6
-4
-2


16/2011 04:03:09.088000

SAMBAH preliminary results

- Detections in most areas of the Baltic; only preliminary view, not corrected for errors yet
- Generally very few, but more in the SW, and rel. more on the shallow banks SW of Gotland
- Northernmost detection in Finnish waters



Outreach & Education: SAMBHAH web page www.sambah.org



SAMBHAH

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- Organization

News


SAMBHAH is now up and running! The project is funded by LIFE+, and will receive 50% of the 4.24 million € budget from LIFE+. The remaining 50% will be co-financed by project partners and other national organizations.


The project kick-off meeting will be held in conjunction with the Jastarnia group meeting in February 2010. There will also be an open SAMBAH workshop during the ECS conference in Stralsund on March 21.

To read our news, please click here [Newsletters](#)

Contact

If you have any questions or would like more information about SAMBAH, please don't hesitate to contact us at info@sambah.org






SAMBHAH – Static Acoustic Monitoring of the Baltic Sea Harbour Porpoise

– is an international project involving all EU countries around the Baltic Sea, with the ultimate goal to secure the conservation of the Baltic Sea harbour porpoise.

To achieve this, SAMBAH aims to increase the knowledge about the Baltic Sea harbour porpoise, estimating densities and total abundance. The project will also produce distribution maps of harbour porpoises and identify possible hotspots, habitat preferences and areas of higher risk of conflict with anthropogenic activities.

The new knowledge will be spread to policymakers, managers, stakeholders, the public, to make possible a management of the population based on knowledge about its size and distribution.

The study area stretches from the southern border of the Åland archipelago to the north. Here, approximately 3 porpoise click detectors will be deployed between January 2011 and December 2012, and the collected data will be used in analyses mainly carried out during 2013 and 2014.



SAMBHAH

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News

For information about C-POD locations click [here](#)

"A sailing summer for the harbour porpoise"

Learn more about a project aiming to increase awareness about the harbour porpoise [here](#).

SAMBHAH Video

Click [here](#) to watch a video from the Swedish part of SAMBAH

Contact

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You can also find local contact information for each country [here](#)

Activities

"A sailing summer for the harbour porpoise"

Silja Schröder and Jan Singer is taking their sailboat "Fritsjen" around the Baltic sea in an effort to increase public awareness on the plight of the Baltic sea harbour porpoise. The journey will begin in Kiel on 1st of April 2012 and end in the beginning of October 2012. In this time they will visit many coastal cities in all the countries around the Baltic sea. Follow them on <http://www.ein-tierischer-segelsommer.de> (german only) or visit them on one of their many stops. English presentation (pdf) available [here](#).

SAMBHAH spring progress meeting

SAMBHAH will be meeting during the annual ECS (European Cetacean Society) conference in Galway, Ireland. The conference is between 26-28 of March 2012, and the progress meeting will be held in conjunction.

SAMBHAH fall progress meeting

28-30 October 2011 a progress meeting was held in Kerteminde, Denmark. In conjunction with this meeting several working groups also met to discuss different topics.


SAMBHAH spring progress meeting

20 March 2011 - A spring progress meeting was held in Cadiz, Spain, in connection with the 25th ECS conference.

SAMBHAH fall progress meeting

23-24 November 2010 - A SAMBAH fall progress meeting was held at Kolmården Wildlife Park with participants from Sweden, Denmark, Germany, Poland, Lithuania, Latvia, Estonia, Finland and France.

Prominent in the agenda were the national updates, where national representatives presented the progress of SAMBAH in their respective country. In general, we are making great progress. Most permits for deployment are ready or will be very soon, and most equipment is ready. Due to ice in the northernmost countries however, the date for deployment of the C-PODS was moved back from January to May 2011. There were discussions on statistical methods and the anchoring set ups in all countries, and we will be continuing both of these discussions until the deployment of C-PODS. Also, a project dissemination working group was formed. This group will be producing the SAMBAH exhibition which will be showed at several locations in the project area.



Conclusions

- **SAMBAH is the first large-scale PAM project, which is designed to estimate density and abundance of a low density odontocete population**
- **The low population density required long duration data collection (2 years)**
- **Concept and methods will be evaluated for best practice**
- **High profile project highlights the Baltic harbour porpoise**



**Thank you for
your attention!**