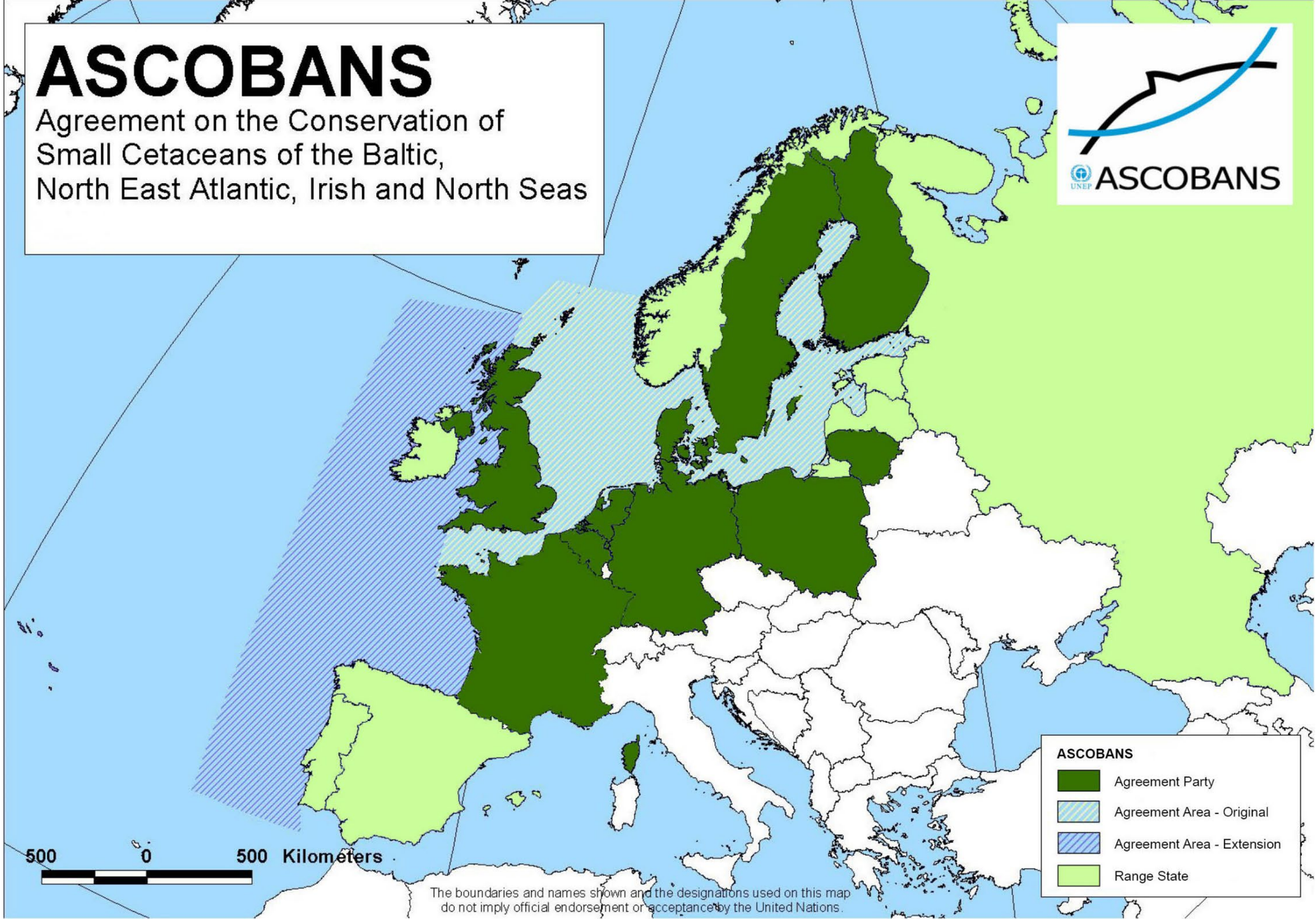
Protecting small cetaceans

Results from the ASCOBANS workshops on MPA management

Introduction

Jenny Renell, Coordinator, ASCOBANS

- Legally binding UN Treaty (1992)
- 10 Parties
- 7 Non-Party Range States
- Administered by UNEP
- Secretariat in Bonn (with CMS)

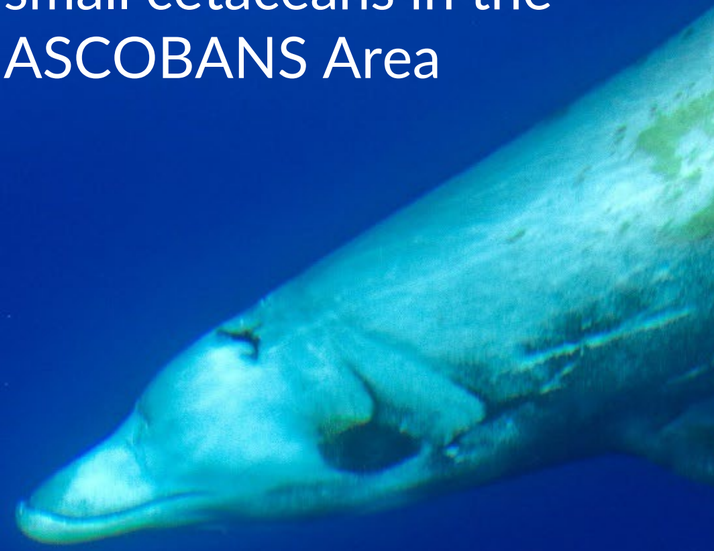


ASCOBANS covers toothed whales (Odontoceti) in the Agreement Area

…except the sperm whale

Since migratory cetaceans regularly cross national borders, their protection can only effectively be achieved by means of international cooperation

The aim of ASCOBANS: to promote **close cooperation** amongst Parties with a view to achieving and maintaining a **favourable conservation status** for small cetaceans in the ASCOBANS Area



Thank you!

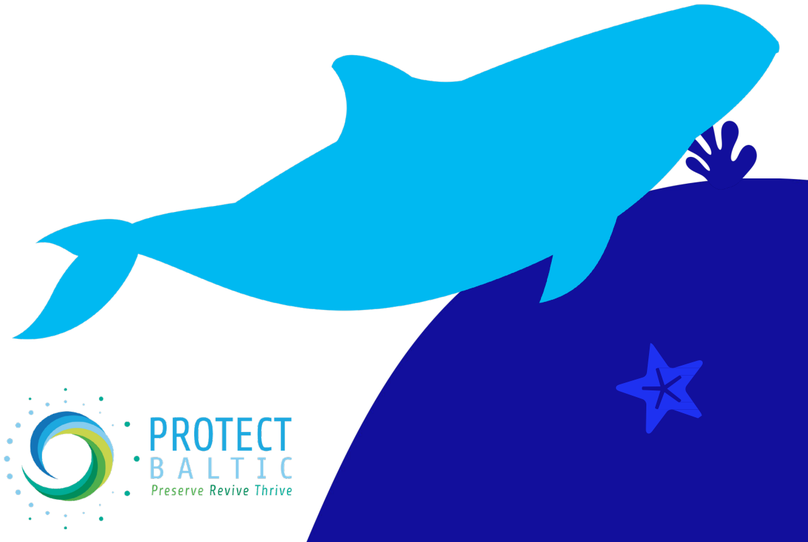
www.ascobans.org

ascobans.secretariat@ascobans.org

Protecting small cetaceans

Results from the ASCOBANS workshops on MPA management

Ida Carlén



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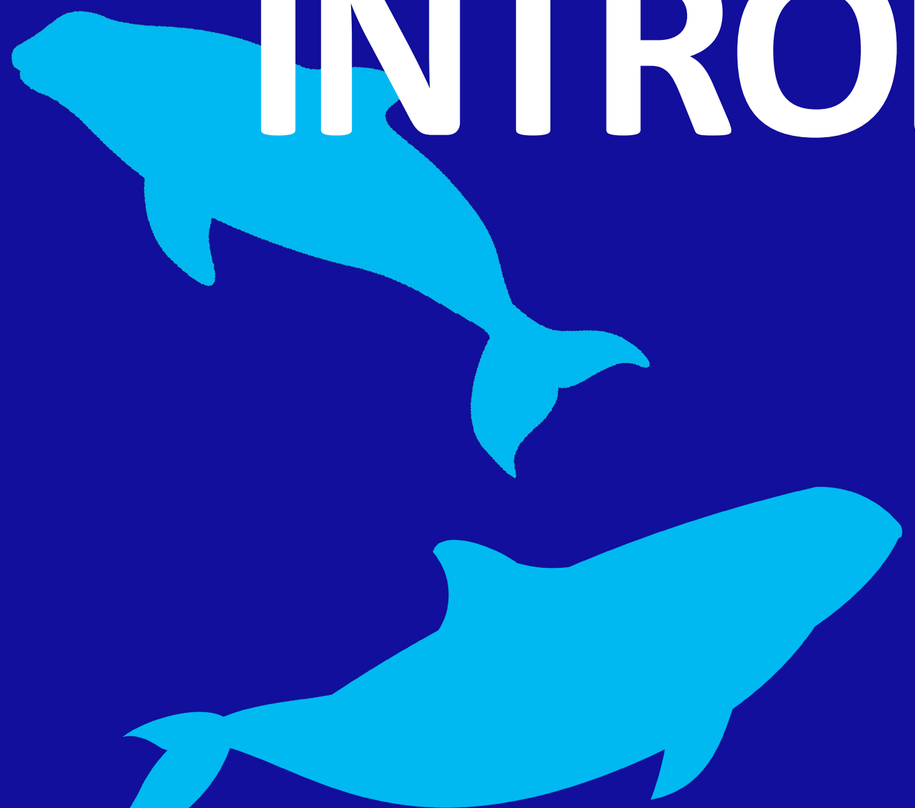
INTRODUCTION



INTRODUCTION

How it started:

1) A toolbox of suitable conservation measures would be useful to ensure effective management of small-cetacean MPAs.

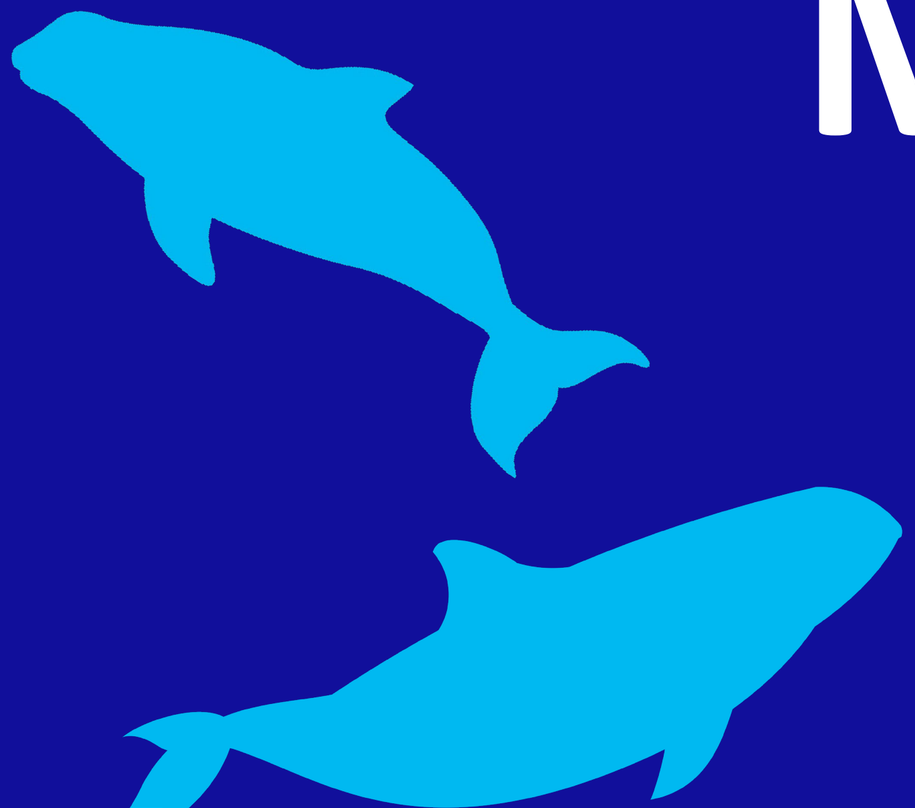
2) Conservation objectives are legally important especially for Natura 2000 areas, and managers may benefit from support in how to word them.

The workshop objectives were to:

- Develop and discuss examples of well-formulated conservation objectives for small cetacean MPAs, and

- Develop and discuss examples of ambitious and innovative practical conservation measures for small cetacean MPAs.

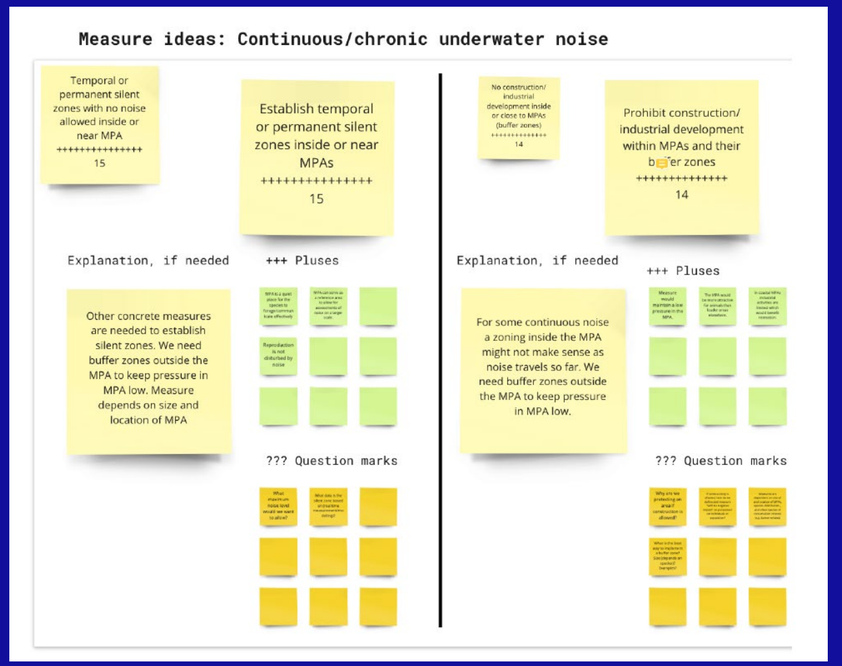
02
METHODS



METHODS

How we worked

- The workshops were planned to be engaging and participatory
- One workshop was held online (covid…) and one was organised in Helsinki, Finland
- We had a facilitator helping us ensure that everyone was heard
- Representation from science, different levels of management and environmental NGOs



METHODS

How we worked

- Much of the worked was based on Open Standards for the Practice of Conservation
- SMART goals
- European Commission note on Setting Conservation Objectives for Natura 2000 sites
- Situation models – what is the problem and where are the intervention points?
- Results chains – how do we expect a measure to have effect, and what are our underlying assumptions?

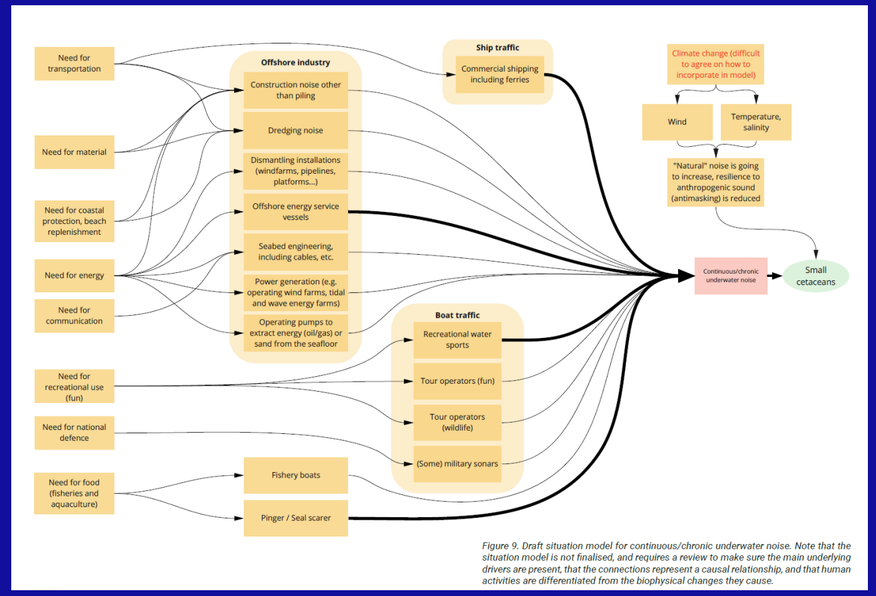
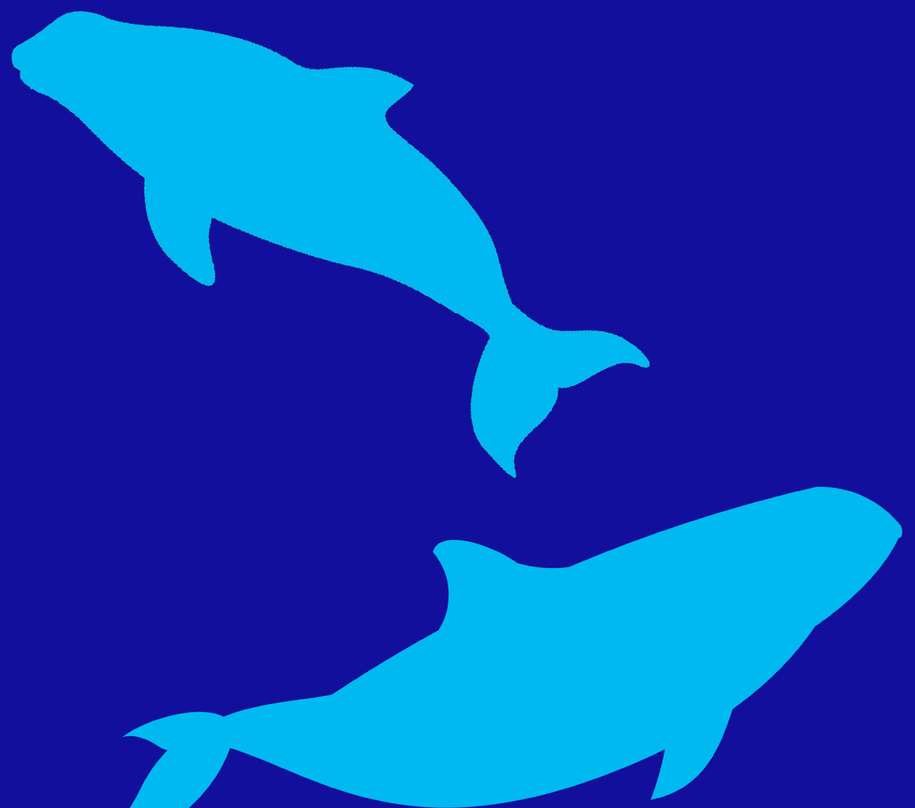


Figure 9. Draft situation model for continuous/chronic underwater noise. Note that the situation model is not finalised, and requires a review to make sure the main underlying drivers are present, that the connections represent a causal relationship, and that human activities are differentiated from the biophysical changes they cause.

03
THREATS



THREATS

The threats we worked with during the workshops

- **Bycatch** – the unintentional catch of small cetaceans in fishing gear
- **Impulsive underwater noise** – from activities such as seismic surveys, echo-sounders, explosions, and piling
- **Continuous underwater noise** – from activities such as commercial shipping, recreational boating, and energy production
- **Prey depletion** – changes in the quantity, quality, or availability of prey
- **Environmental contaminants and pollutants** – Any unnatural substances such as organochlorines, pharmaceuticals, or any substances present in unnatural levels, which may impact the ecosystem or physiological functioning of small cetaceans, including marine debris
- **Disturbance from the presence of humans** – disturbance from the presence of humans and anthropogenic activities, that does not come from the noise produced. Including cetacean watching, recreational sea use and ship-strikes
- **Habitat quality** – changes in the habitat quality that do not fall under any of the other categories, for example effects of bottom-impacting fishing gear, seabed mining, dredging, coastal development, port development, eutrophication, and climate change.

04
CONSERVATION OBJECTIVES

CONSERVATION OBJECTIVES

Species conservation status:

By 20xx the relative abundance of *species* during the *period/season* has increased from x to y within *site*, thereby contributing to favourable conservation status.

Bycatch:

Zero bycatch of *species* in MPA by *20XX*

Adequate monitoring to detect any bycatch (x % confidence level) of *species* per year, by *20XX*

By *20XX*, there is no ghost gear present in the MPA

CONSERVATION OBJECTIVES

Underwater noise:

By *20XX*, ambient noise within the *site* will be maintained below *level*, and impulsive noise will be limited to xx% of the site within *period*

By *20XX*, ambient noise within the *site* will be Reduced to below *level*, and impulsive noise will be limited to xx% of the site within *period*

Environmental contaminants and pollutants:

The introduction into the marine environment / concentration in the marine environment / concentration in species tissue of [pollutant] is reduced by X% by 20XX vs. [reference level i.e. year]

CONSERVATION OBJECTIVES

Prey depletion:

By 20XX, a minimum of XX% of *MPA* is closed for all fisheries and there is monitoring and enforcement in Place to ensure compliance.

Disturbance from the presence of humans:

By 20XX, any cetacean watching activities within the MPA are regulated and monitored and are not causing disturbance, individually or cumulatively with other activities

By 20XX, any human activities within the MPA are regulated and monitored and are not causing disturbance,individually or cumulatively with other activities

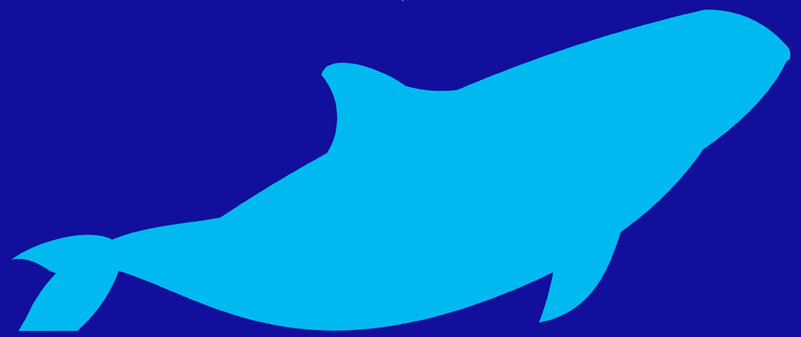
CONSERVATION OBJECTIVES

Habitat quality:

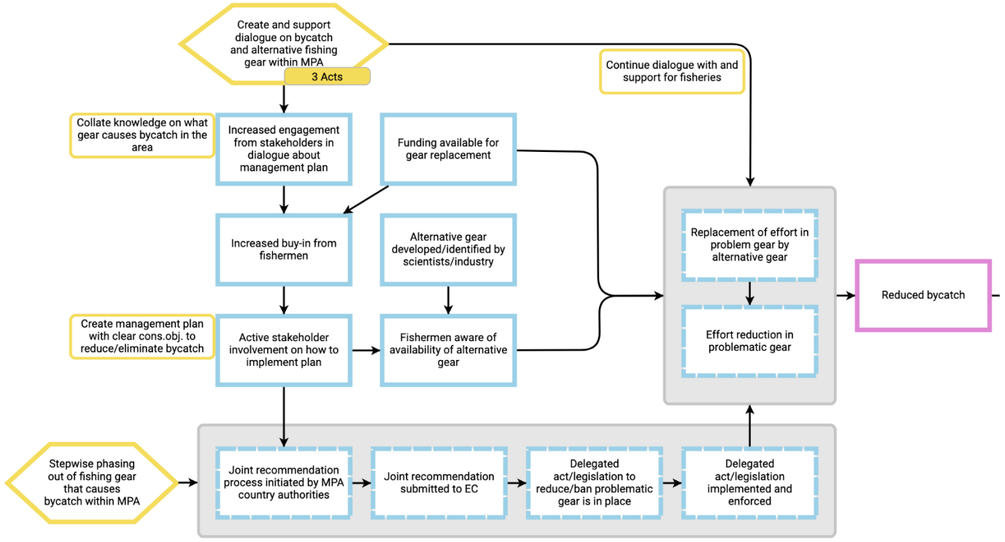
XX% of the MPA is covered by good quality habitat for *species*

XX% of the MPA is covered by good quality habitat for *species*, including YY% undisturbed seabed habitat, ZZ% water column habitat, supporting resilient and Diverse stocks of prey species

05
CONSERVATION MEASURES



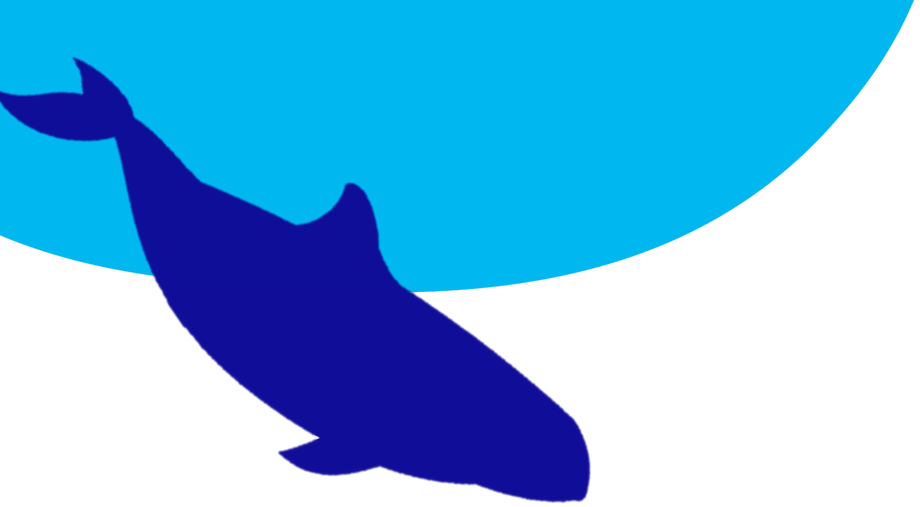
CONSERVATION MEASURES

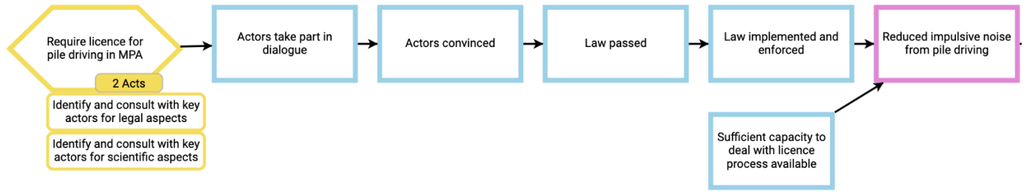


Bycatch:

- Ban fishing in MPAs designated for small cetaceans
- Introduce a register for fishing gear and operations, including an app for reporting lost gear
- Create and implement system for reduction of lost nets
- Stepwise phasing out of fishing gear causing bycatch of *species* within MPA
- Implement 100% bycatch monitoring coverage in the MPA using remote electronic monitoring

CONSERVATION MEASURES





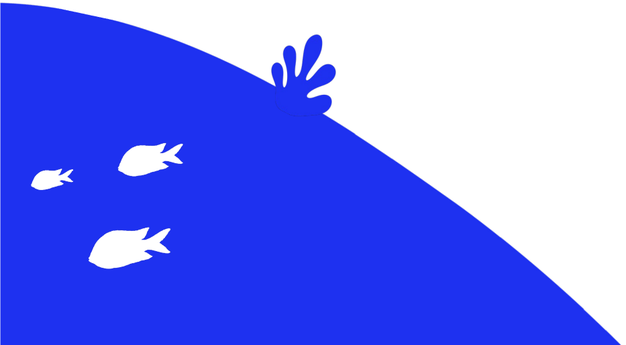
Impulsive underwater noise:

Ban military activities within the MPA and buffer zone

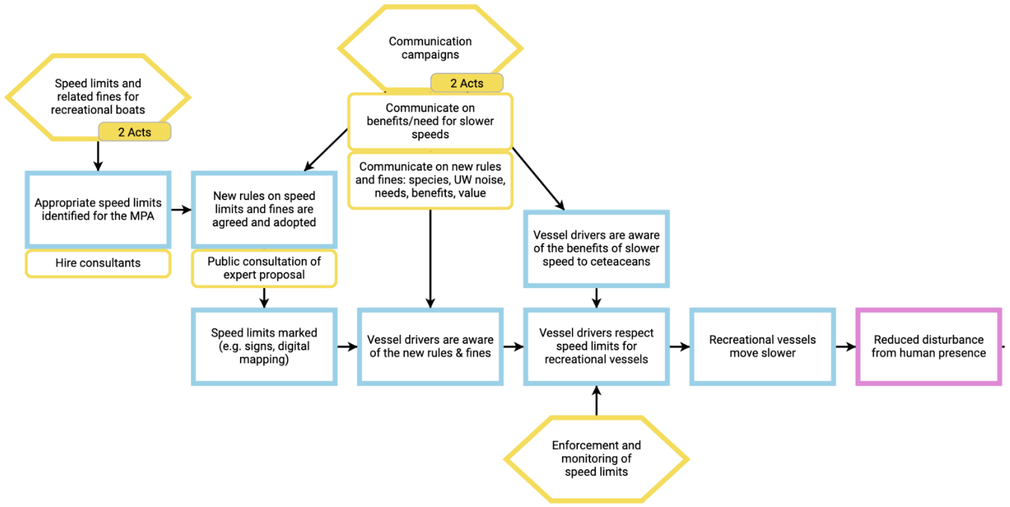
Establish and enforce mandatory use of effective mitigation measures, BAT and BEP, during construction and other noise-emitting activities, within MPA and buffer zone

Ban all impulsive noise sources within the MPA and buffer zone

In exceptional circumstances, use permitting or licensing for necessary impulsive noise activities



CONSERVATION MEASURES



Continuous underwater noise:

Establish temporal or permanent silent zones inside or near MPAs

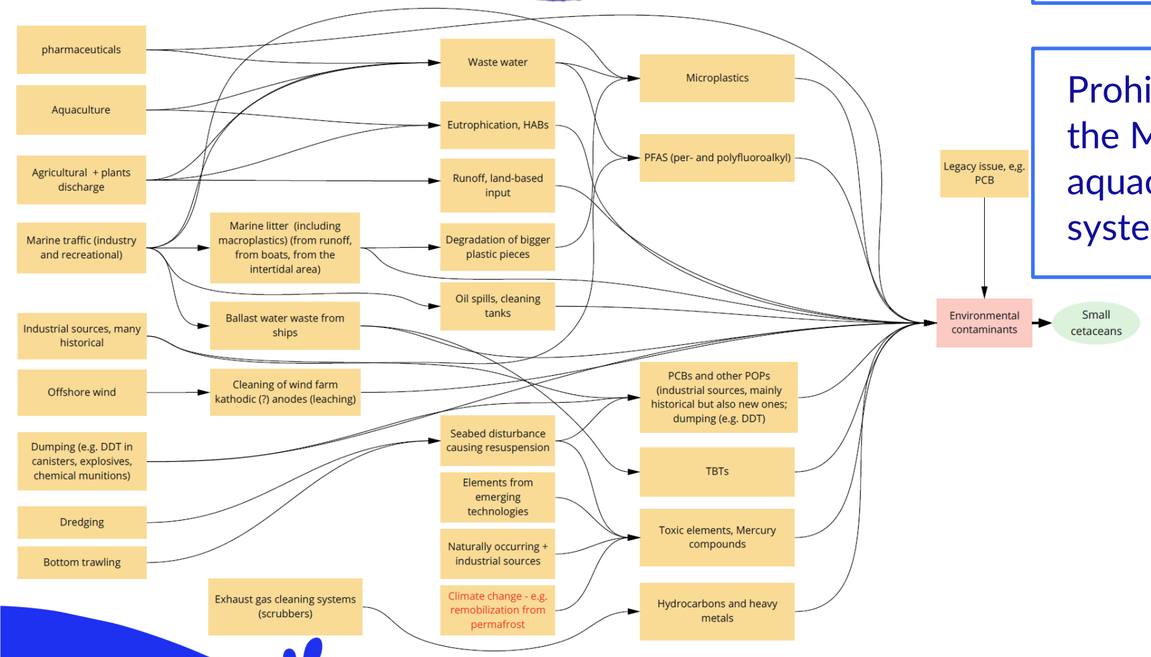
Prohibit construction/industrial development with negative impact on *species* and its prey and habitat, within MPAs and their buffer zones

Based on modelling results of best placement (to minimise noise within the MPA while also reducing increases in CO2 emissions), re-route shipping lanes to bypass MPAs

Implement vessel slow-down rules within the MPA

Restrict the use of acoustic deterrent devices within the MPA

CONSERVATION MEASURES

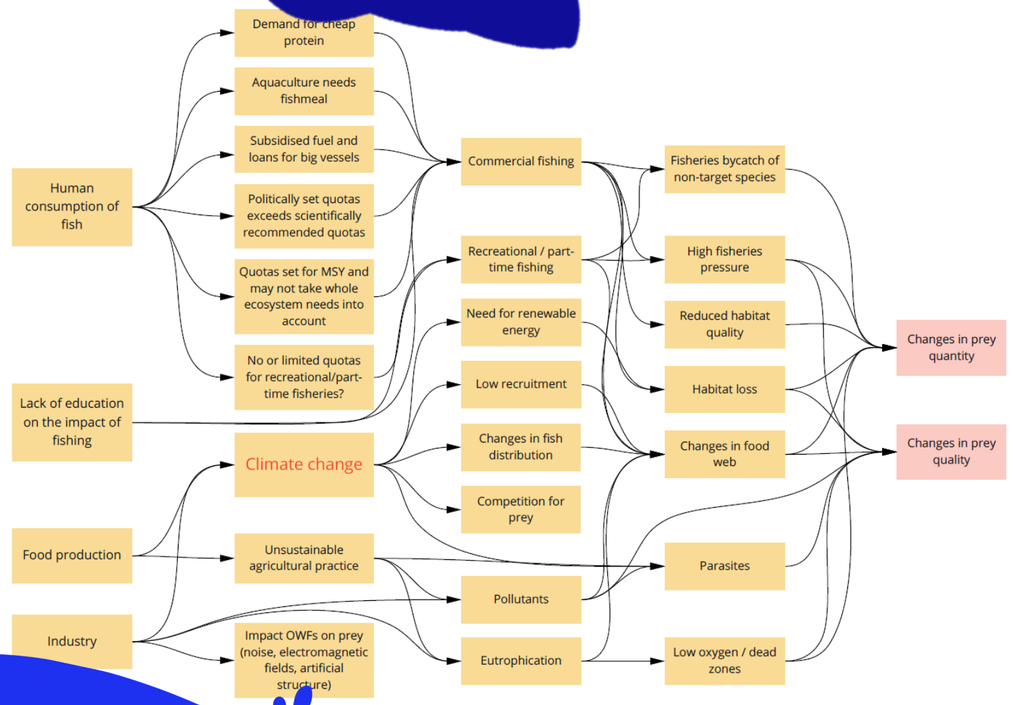


Environmental contaminants and pollutants:

Remove pollutants from MPAs, including dumped pollutants (e.g. barrels, PCBs, munitions etc) and marine debris

Prohibit harmful emissions from industries inside the MPA and avoid outside the MPA - e.g. aquaculture, wind farms, vessel exhaust cleaning systems (scrubbers), cooling water

CONSERVATION MEASURES



Prey depletion:

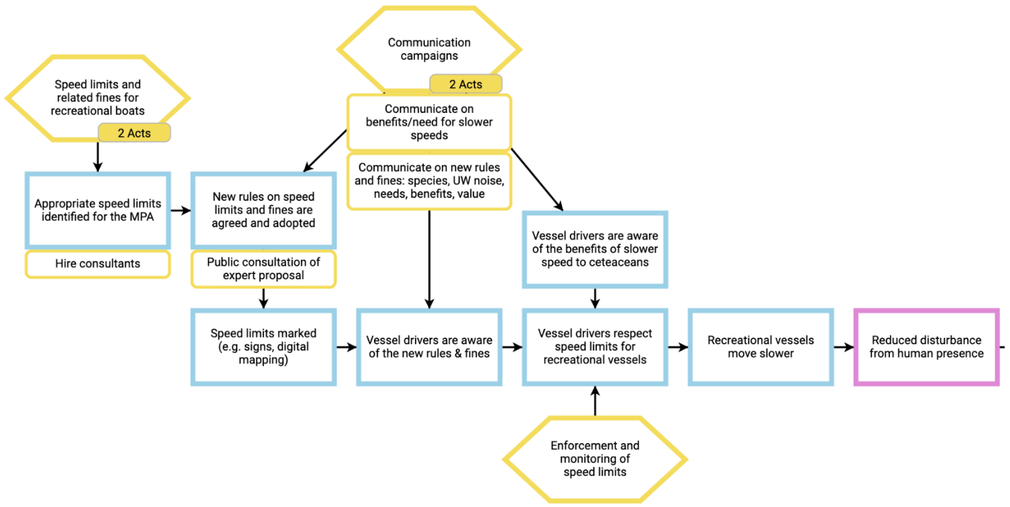
Create no-take zones in and around (e.g. buffer zones) MPAs

Ensure that key habitats for prey species are under protection from harmful activities

Restore degraded key habitats (e.g. reefs, eelgrass meadows, bladderwrack communities) for prey species

Develop and adopt an approach to setting fishing quota through an ecosystem-based approach to management

CONSERVATION MEASURES



Disturbance from the presence of humans:

Update electronic navigation systems to include MPA boundaries, possibly accompanied with details about ecology as well as map alerts that display allowable and prohibited activities within each MPA

Put in place sufficient patrolling and enforcement of MPAs to avoid harmful activities

Establish codes of conduct / appropriate regulations for all vessels engaging with cetaceans within MPAs

Ensure that regular vessel traffic does not go through MPA

Implement guidelines and/or rules for leisure activities inside and/or close to the MPA

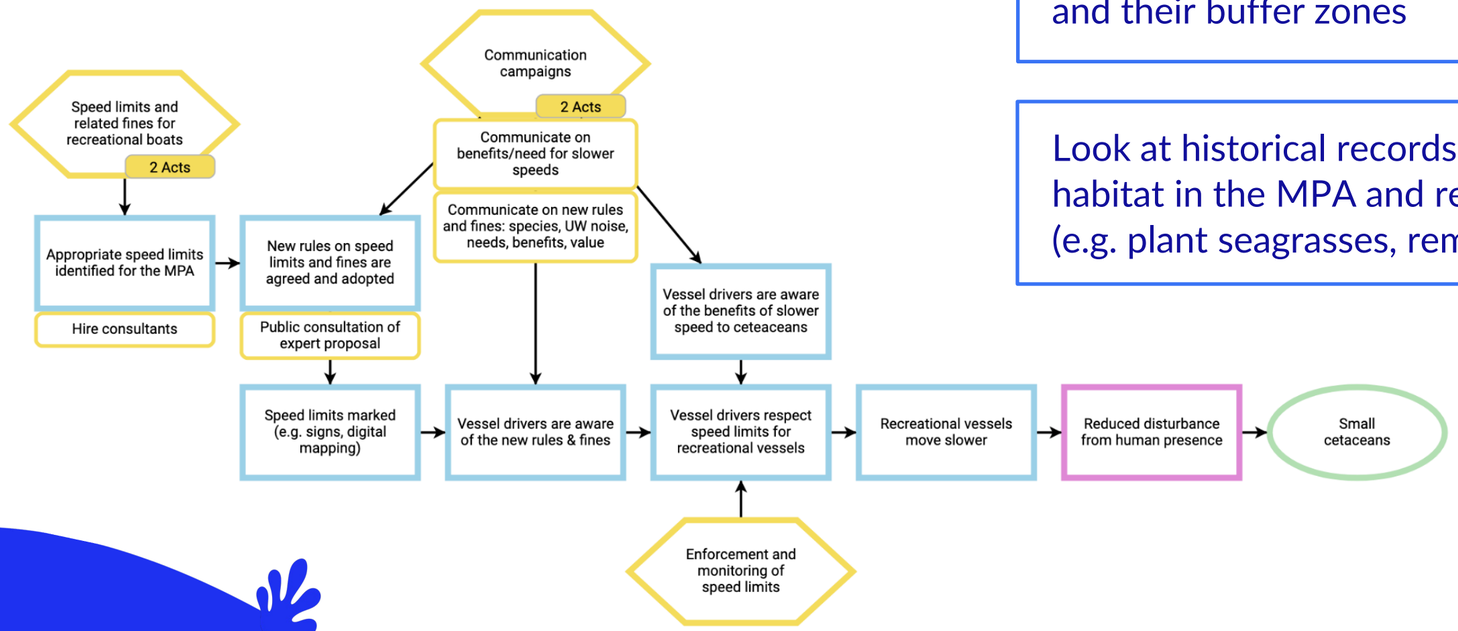
CONSERVATION MEASURES

Habitat quality:

Prohibit all activities with negative impact on the habitats and species within MPAs

Ban dredging, seabed mining etc. within the MPAs and their buffer zones

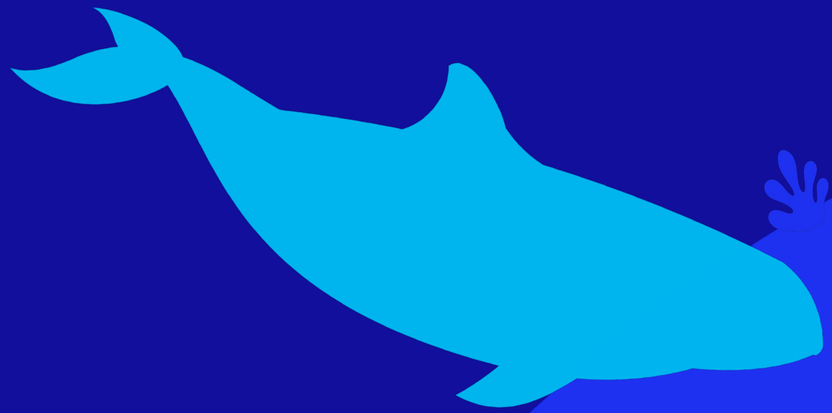
Look at historical records to understand optimal habitat in the MPA and restore them to this baseline (e.g. plant seagrasses, remove invasive species)



CONCLUSIONS

We hope that this will be useful for supporting MPA management for small cetaceans

Please don’t hesitate to get in touch!
ida@porpoises.se

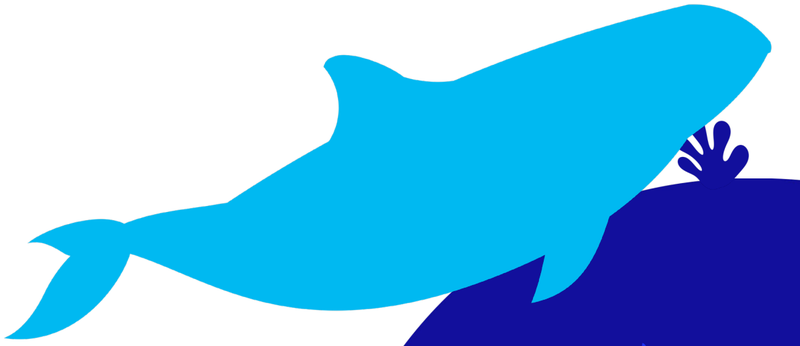



ASCOBANS
HELCOM
PROTECT
BALTIC
Preserve Revive Thrive

Protecting small cetaceans

Monitoring of a marine protected area for the Baltic Proper harbour porpoise

Alexandra Colbing



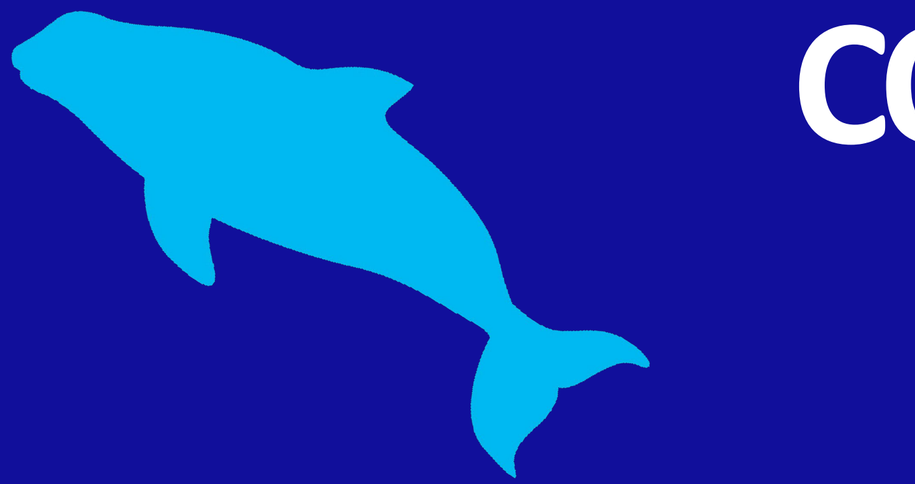
ASCOBANS

HELCOM

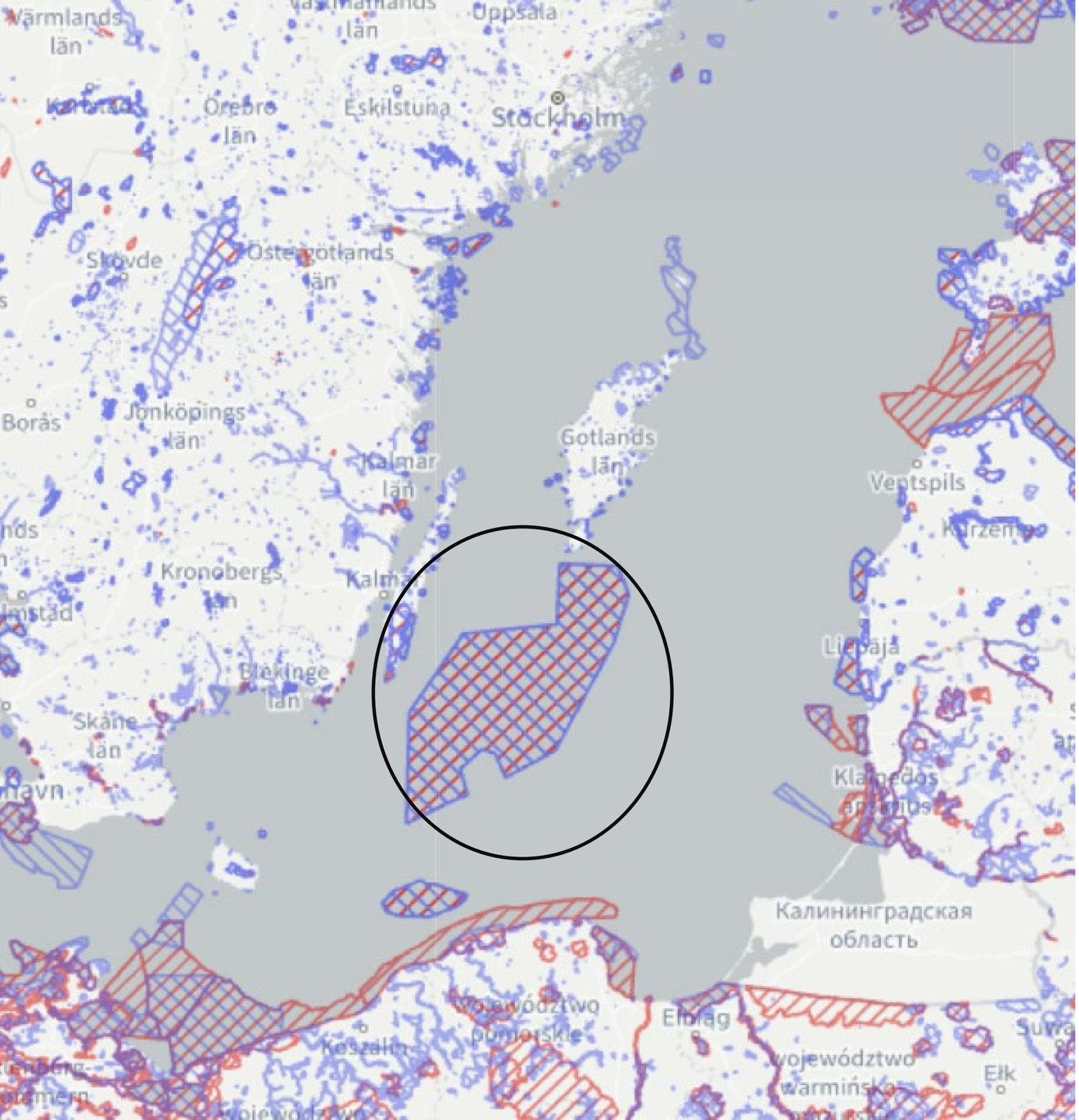
PROTECT BALTIC
Preserve Revive Thrive

CONTENTS

THE MPA AND CONSERVATION OBJECTIVES



INTRODUCTION



Natura 2000 area Hoburgs bank och midsjöbankarna

- 1 million hectares
- Reproductive site of critically endangered Baltic Proper harbour porpoise
- Conservation targets for population number, food availability and limiting negative impact

OBJECTIVES

- The annual detection frequency of harbour porpoises must increase by at least 4% with at least 80% probability until a favourable conservation status is achieved and the population is considered viable according to national and international red lists.
- In the MPA, harbour porpoise mortality caused by human activities must be zero (includes ghost fishing)
- The conservation objectives for the habitats present (reefs and sandbanks) must be fulfilled to minimise impacts on the harbour porpoise's living environment
- No environmentally hazardous discharges shall occur in the Natura 2000 area
- Availability of prey species should be such that a favourable population of harbour porpoises are supported
- The impact from shipping lanes must be minimal on harbour porpoises in areas where detection frequency is highest
- Impulsive noise from human activities that may cause PTS, TTS or behavioural disturbance does not occur during any time of the year
- The area should as a nursery

OBJECTIVES

Monitoring conservation objectives

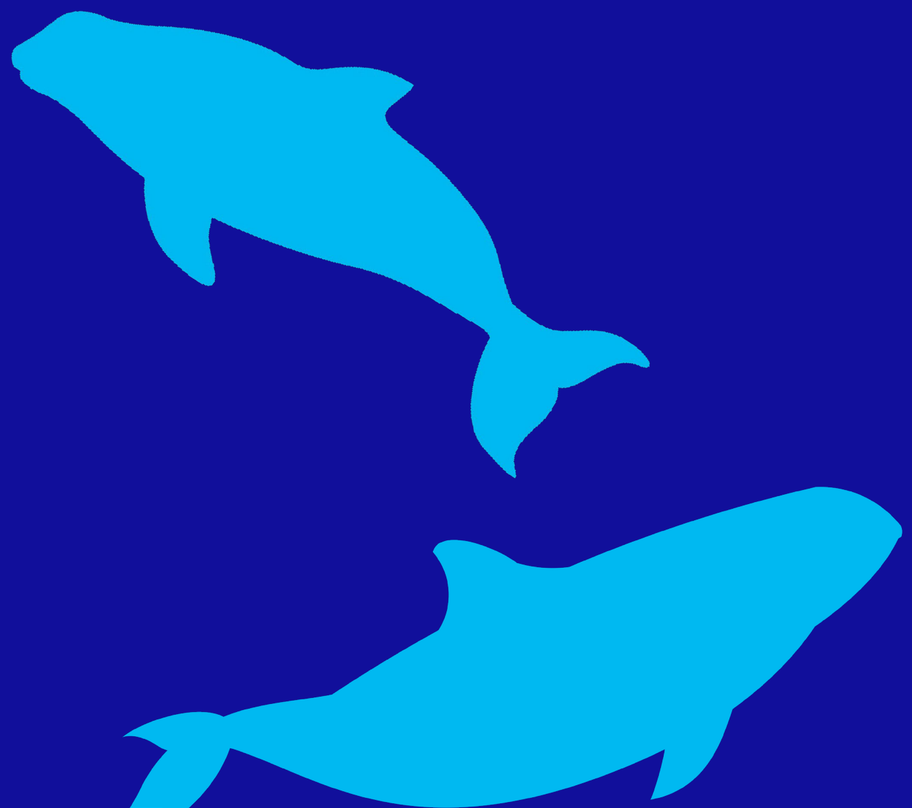
1. The area should contribute to reaching favourable conservation status for Baltic proper harbour porpoise

2. The area should act as a nursery

3. Food availability should be such that it supports a favourable population size

03

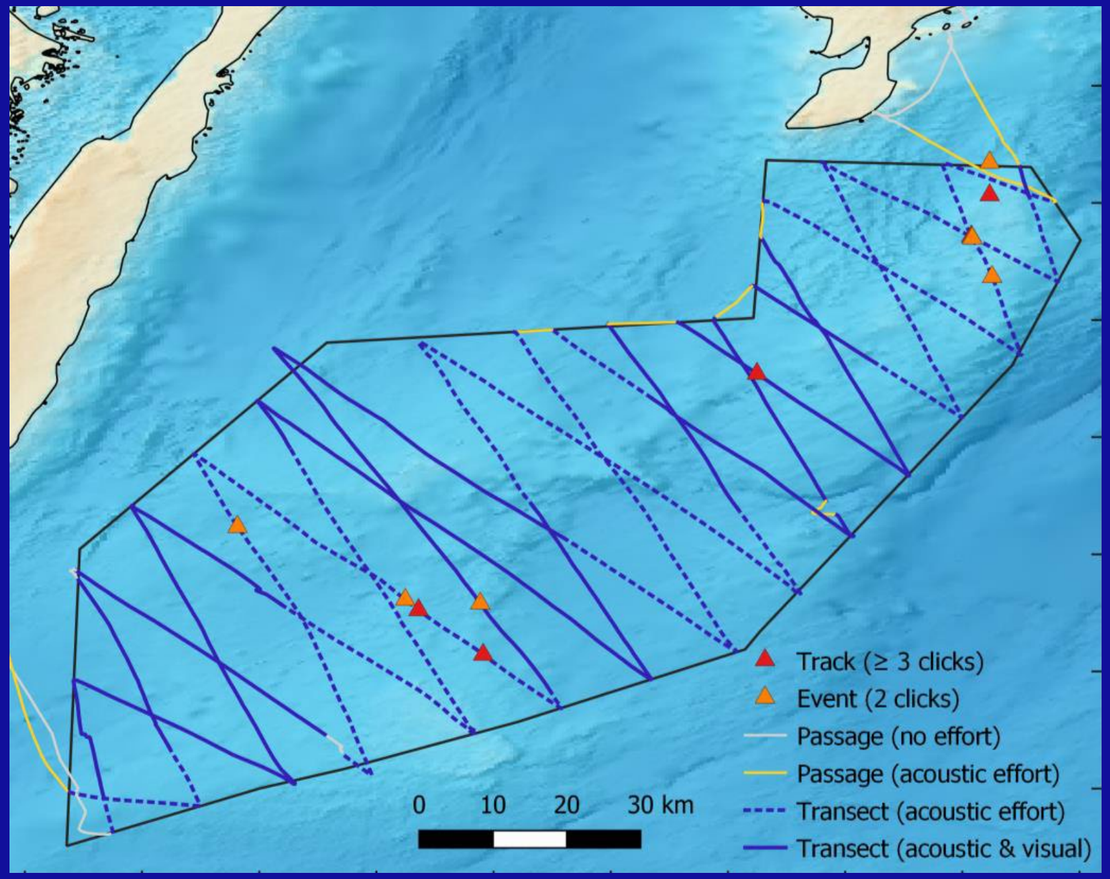
MONITORING



1. Contribute to reaching favourable conservation status

The annual detection frequency of harbour porpoises must increase by at least 4% with at least 80% probability until a favourable conservation status is achieved and the population is considered viable according to national and international red lists.

TOWED ARRAY


Track (≥ 3 clicks)
Event (2 clicks)
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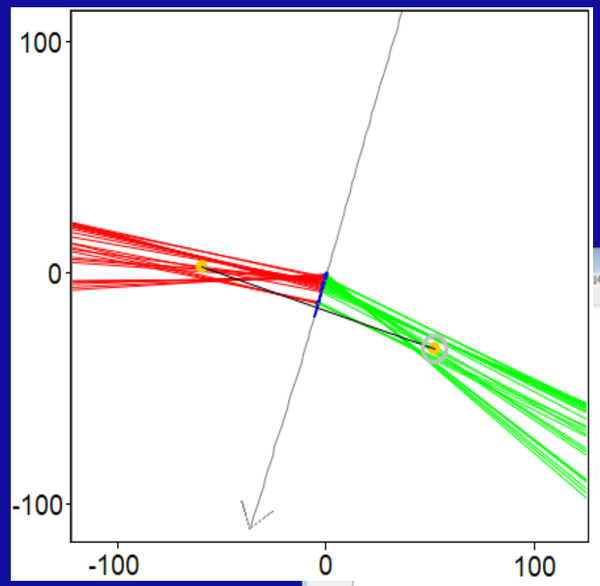
TOWED ARRAY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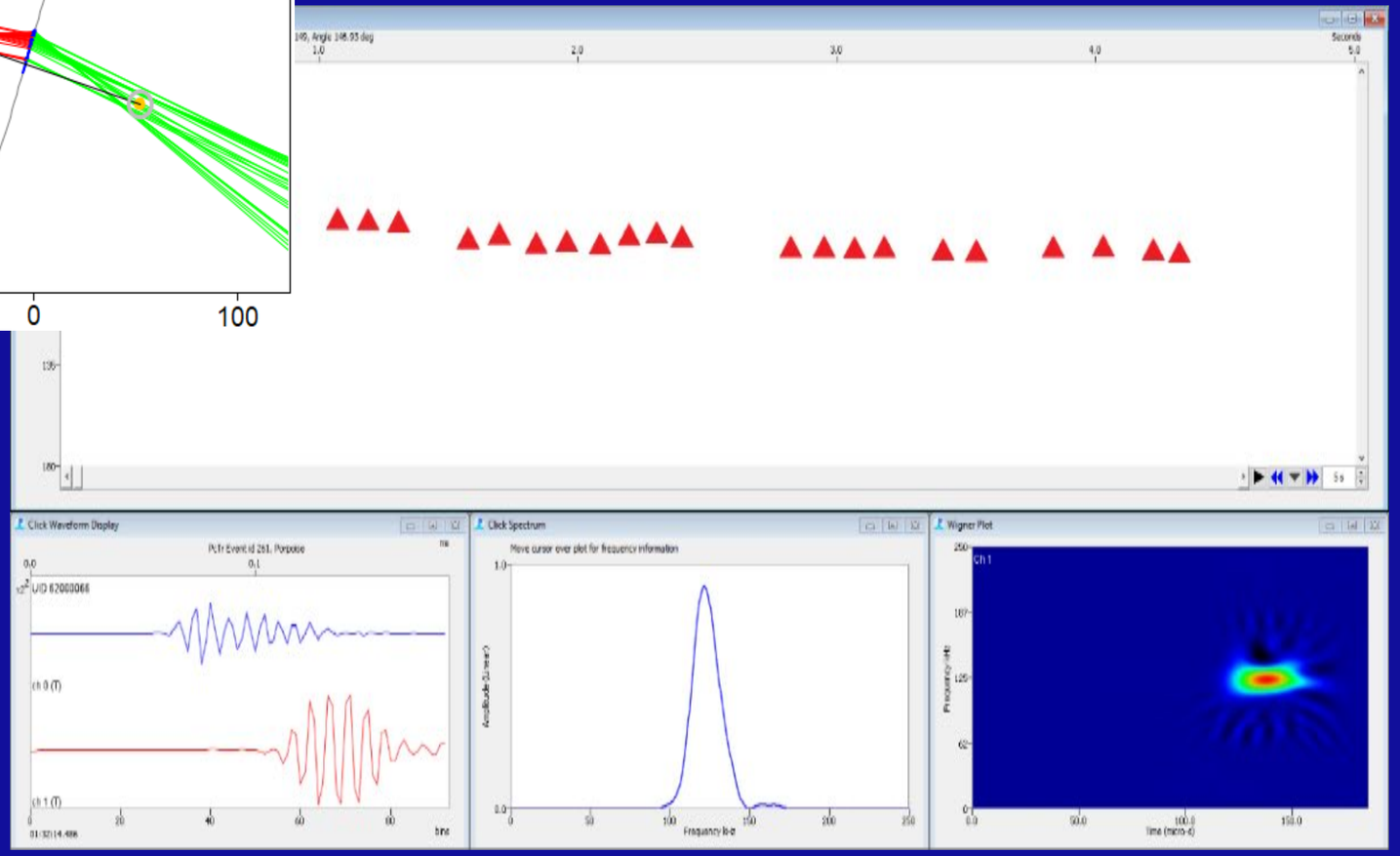
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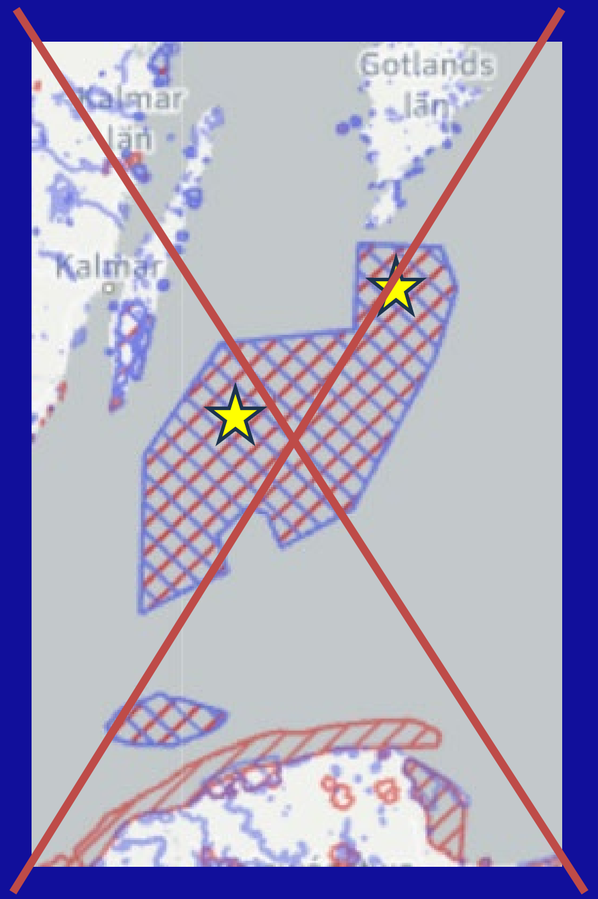
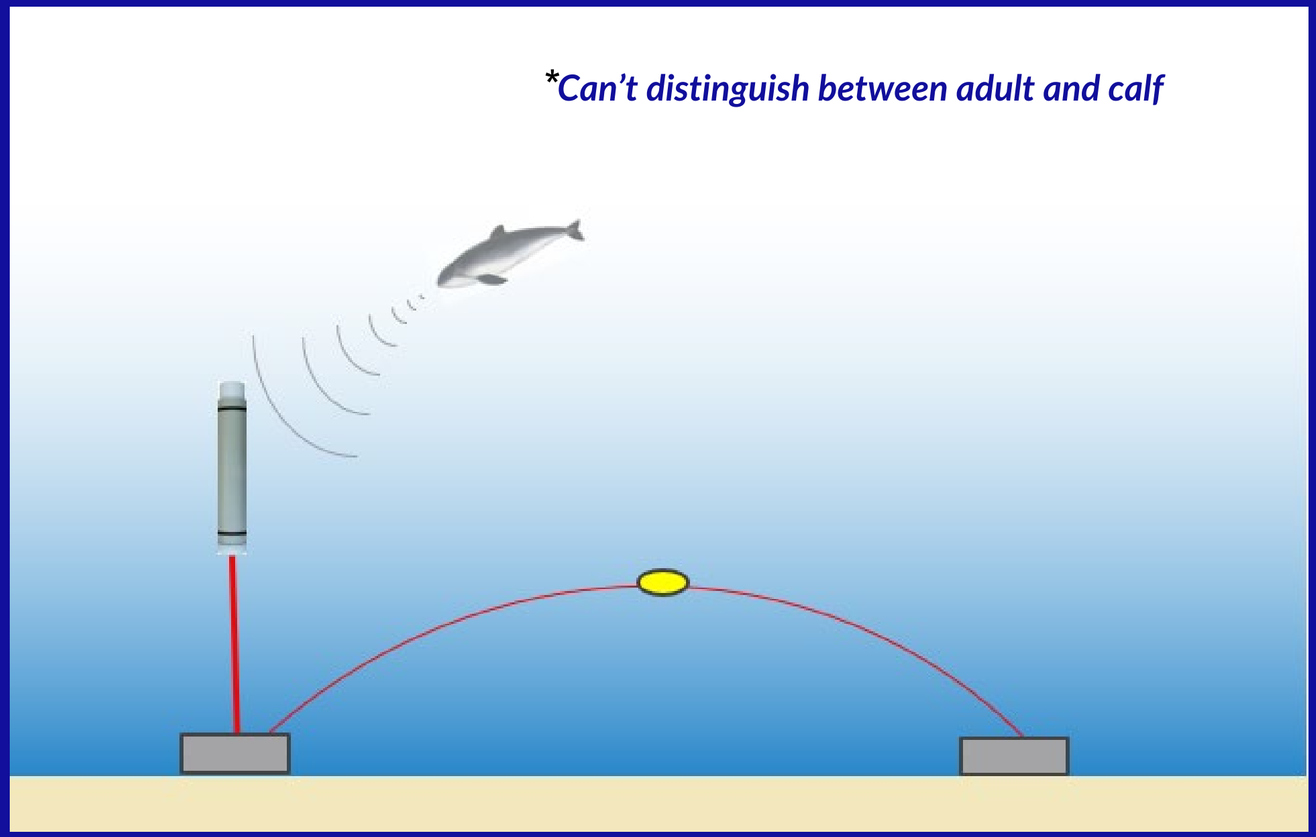
Move cursor over plot for frequency information
Frequency (Hz)
Time (micro-s)
Ch 1

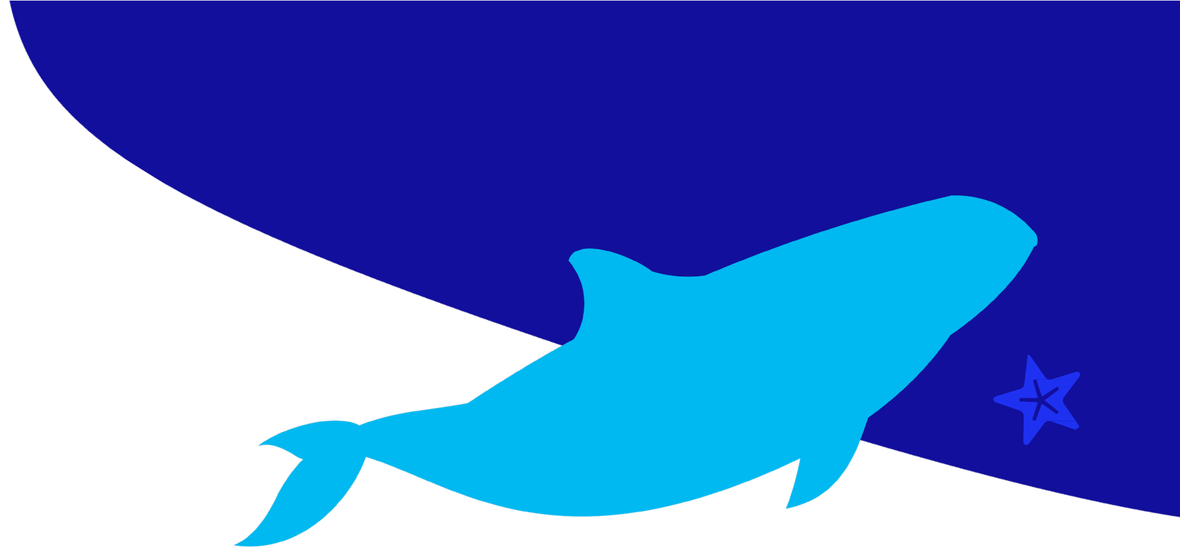
2. The area should act as a nursery

HYDROPHONE

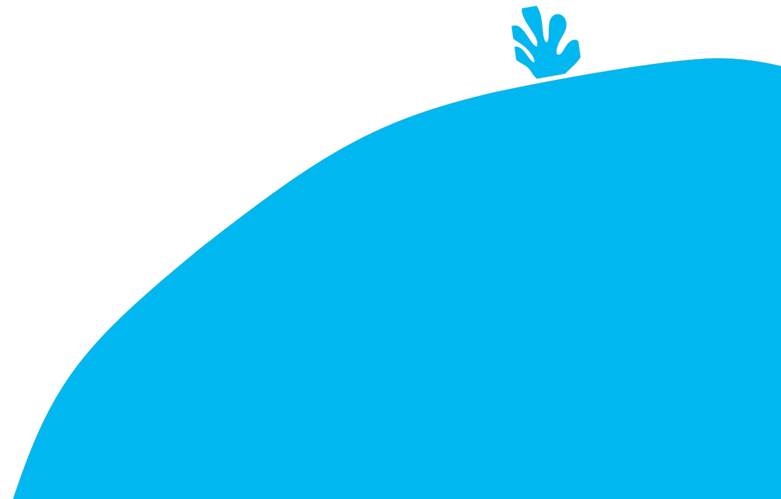


*Can’t distinguish between adult and calf

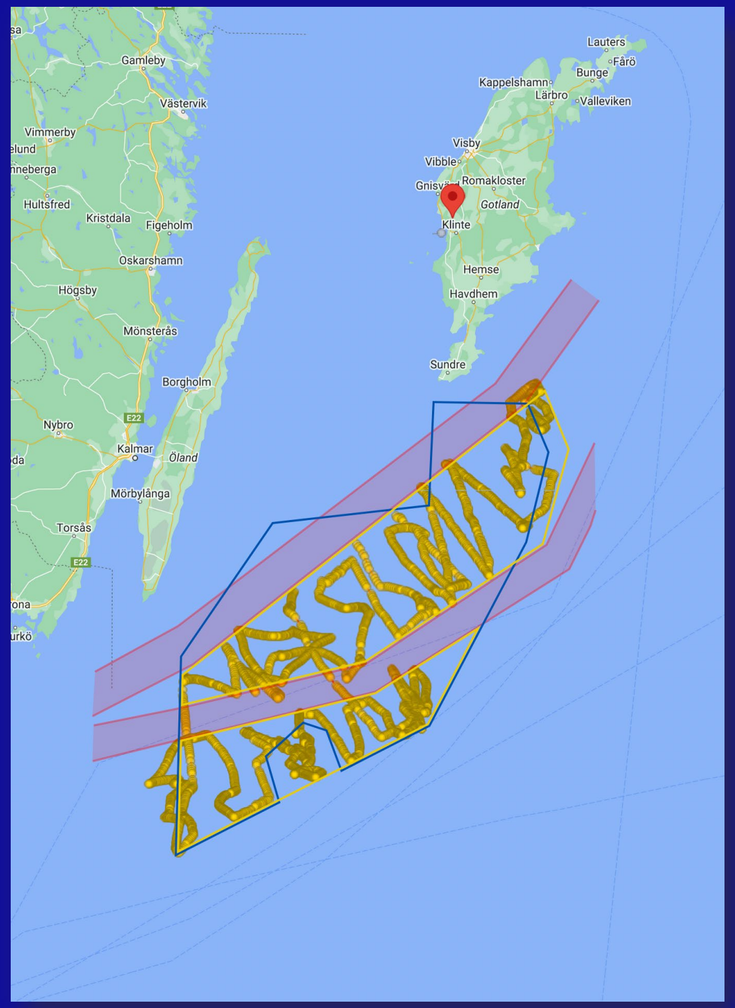




3. Food availability should be such that it supports a favourable population size



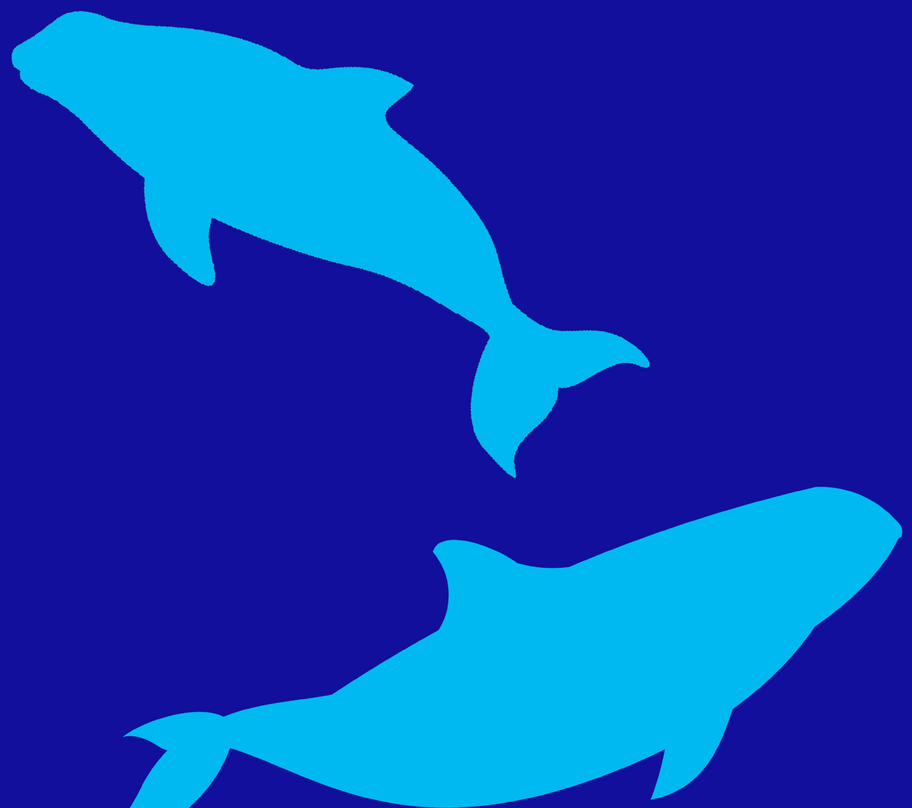
INNOVATION



- Substitutes traditional methods
- 1/125th of the cost
- Autonomous data collection
- Multifaceted data collection

04

RESULTS



THE RESULTS

What do we know?

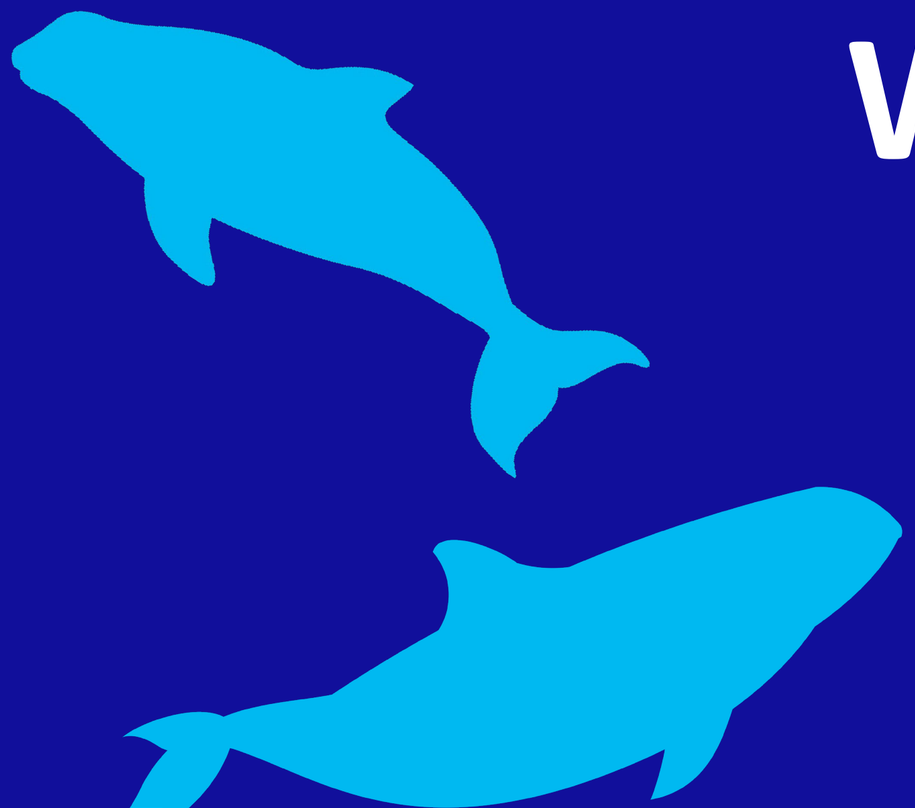
- Population estimate in the area same as SAMBAH I
- Surveying methods work
- Harbour porpoises are in the area all year
- Collaboration with scientists essential

What don't we know?

- If there is enough fish to sustain the population
- If there is habitat preference
- If the area acts as a nursery
- How our other conservation objectives are doing…

05

WHAT IS NEXT?



NEXT STEPS

- 1 more year of surveys
- Multifaceted analysis
- Survey harbour porpoise and fish simultaneously - method development
- AI model for analysis
- Plan for reaching other conservation objectives