



Activity 4:

A4 – Support for and harmonisation of regional work on Descriptor 11 (underwater noise)



**BLUES**



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# HELCOM BLUES – Activity 4

## Task A4.2 - impulsive noise

17<sup>th</sup> January 2023

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# Overview of Task A4.2 - impulsive noise

Task	Deliverable
Subtask 4.2.1	Improve register for events
Subtask 4.2.2	Develop and execute assessment method





# Results A4.2.1

## Aim: Improve register for events



- Composed document: **“Recommendations for the Improvement of ICES impulsive noise events registry (INER)”**
- After discussions number of changes were to be implemented
- New reporting format available as of January 2023

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# Results A4.2.1

## Aim: Improve register for events

A	B	C	D
Who	What	Governance decision	When
Carlos and Eva	added the field: DataRightsHolder	EN NOISE proposed and ICG NOISE accepted (2022)	14.12.2022
Joana and Eva	changed the Value_Code Reference amounts for Explosions	EN NOISE proposed and ICG NOISE accepted (2022)	15.12.2022
Joana and Eva	removed source event: "Sonar or acoustic deterrent" from lookup and added separate lookup values for "Sonar" and "Acoustic"	EN NOISE proposed and ICG NOISE accepted (2022)	15.12.2022
Eva	renamed the field Organization [EDMO code] to DataCustodian [EDMO code]	EN NOISE proposed and ICG NOISE accepted (2022)	19.12.2022
Carlos and Eva	renamed the field Organization [EDMO code] to DataCustodian [EDMO code] in the Script to export to XML	EN NOISE proposed and ICG NOISE accepted (2022)	9.01.2023

- Implementation of changes requires some revisions
- Changes relatively recent, some revisions might be required





## Results A4.2.2

### **Aim: Develop and execute assessment method**

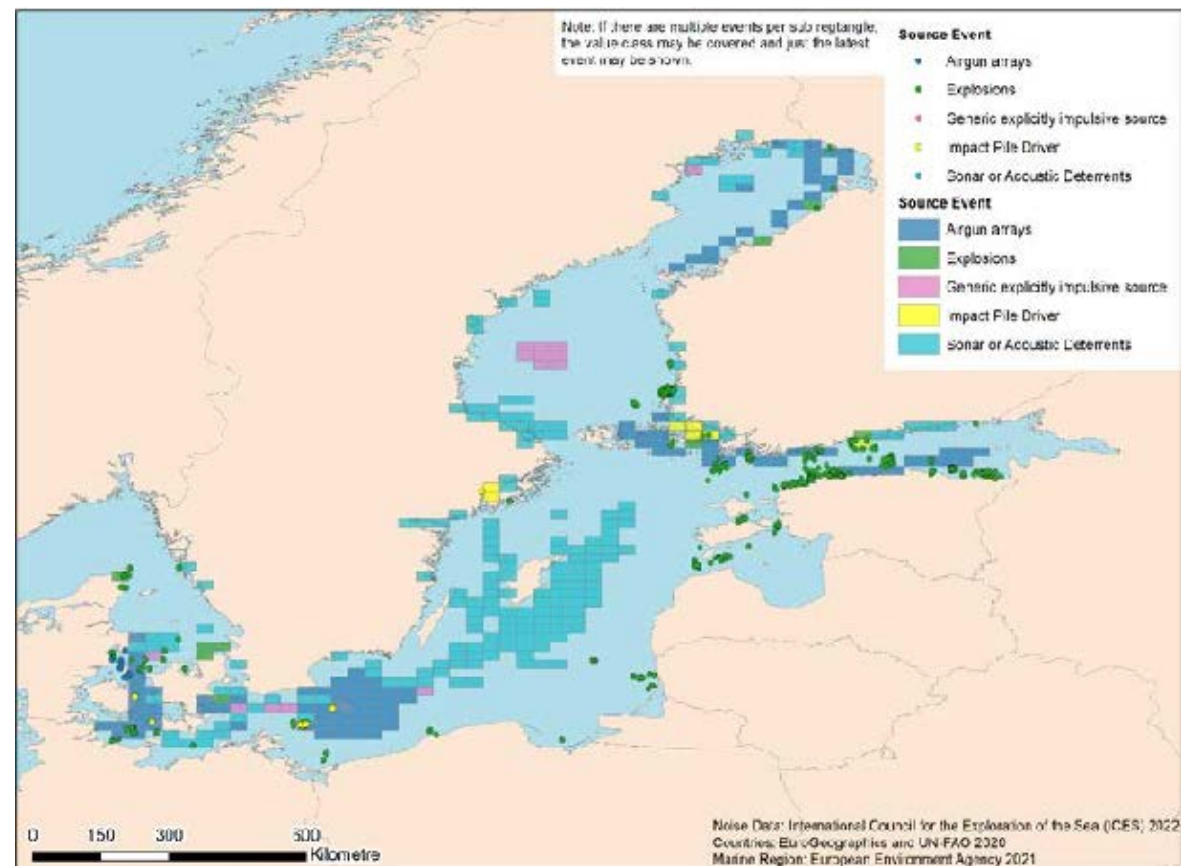
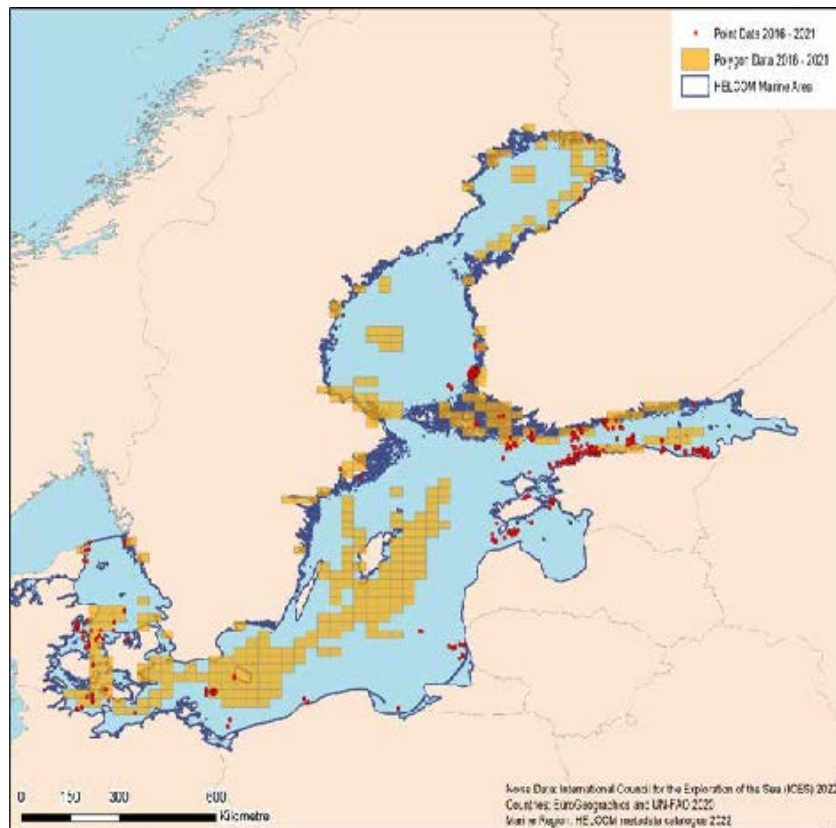
- Indicator: “**distribution in time and space of loud low- and mid-frequency impulsive sounds**” was developed
- The indicator was used for the assessment in the HELCOM area using the data in the HELCOM/OSPAR impulsive noise events registry hosted by ICES





# Results A4.2.2

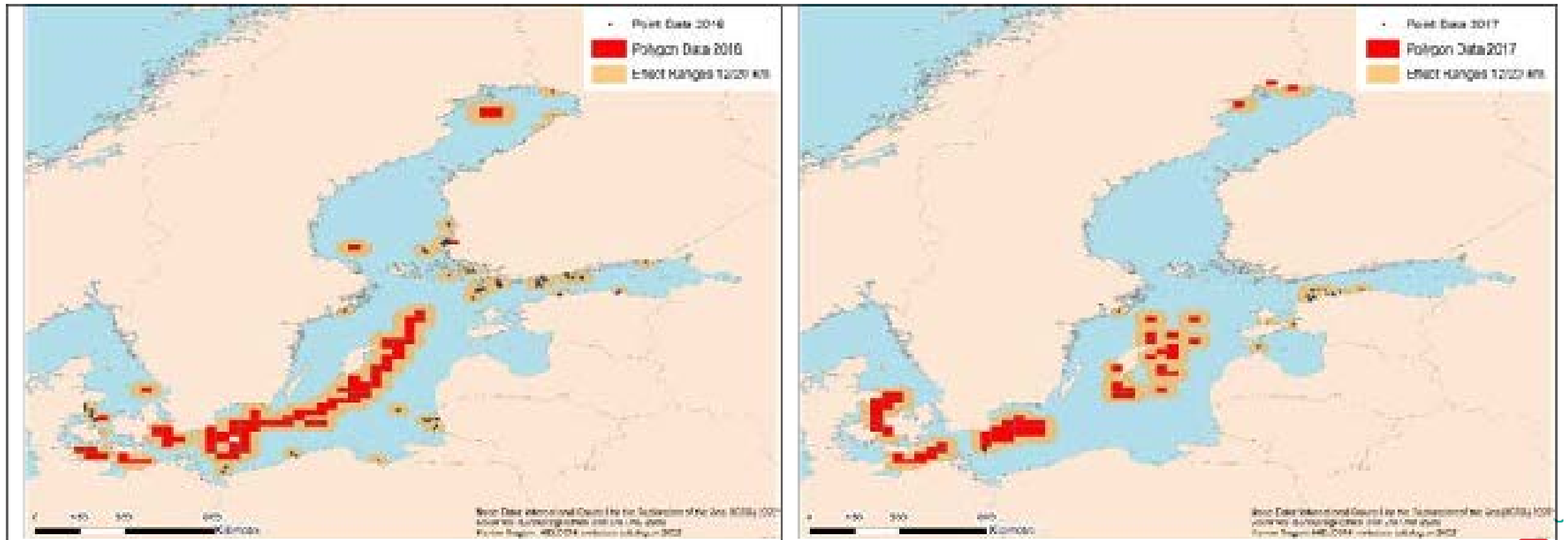
## Execute assessment method: input data ICES registry 2016-2021





# Results A4.2.2

## Execute assessment method: modelling



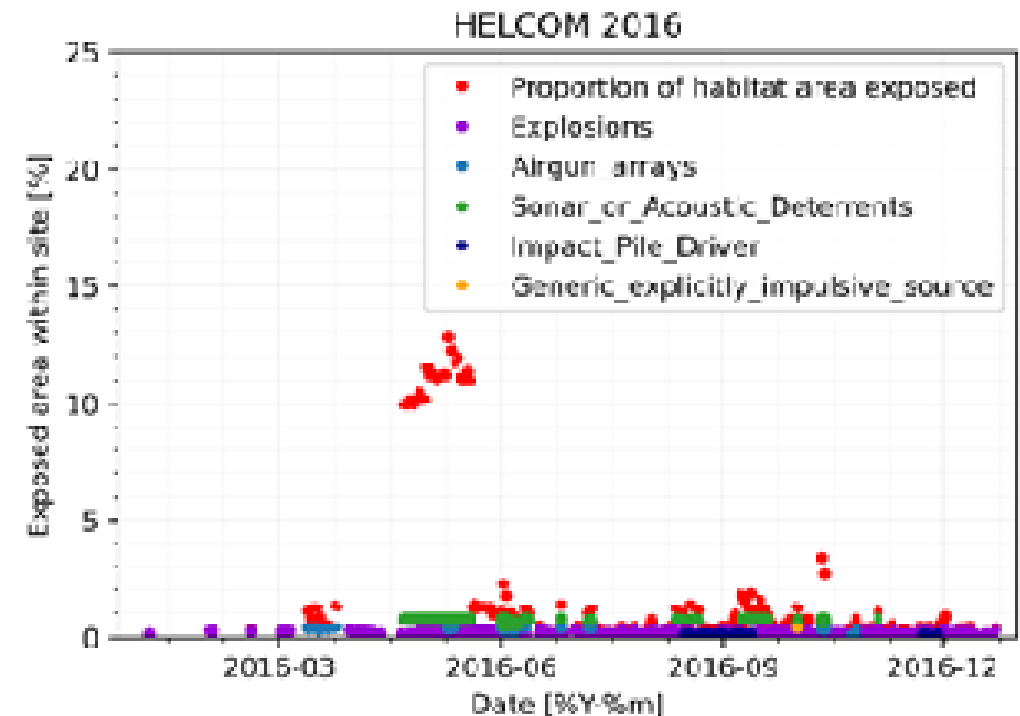


## Results A4.2.2

Throughout the entire assessment period daily exposed area **below the daily threshold value level of a habitat fraction of 20%.**

Annual averages of exposed habitat fraction **well below threshold value 10%.**

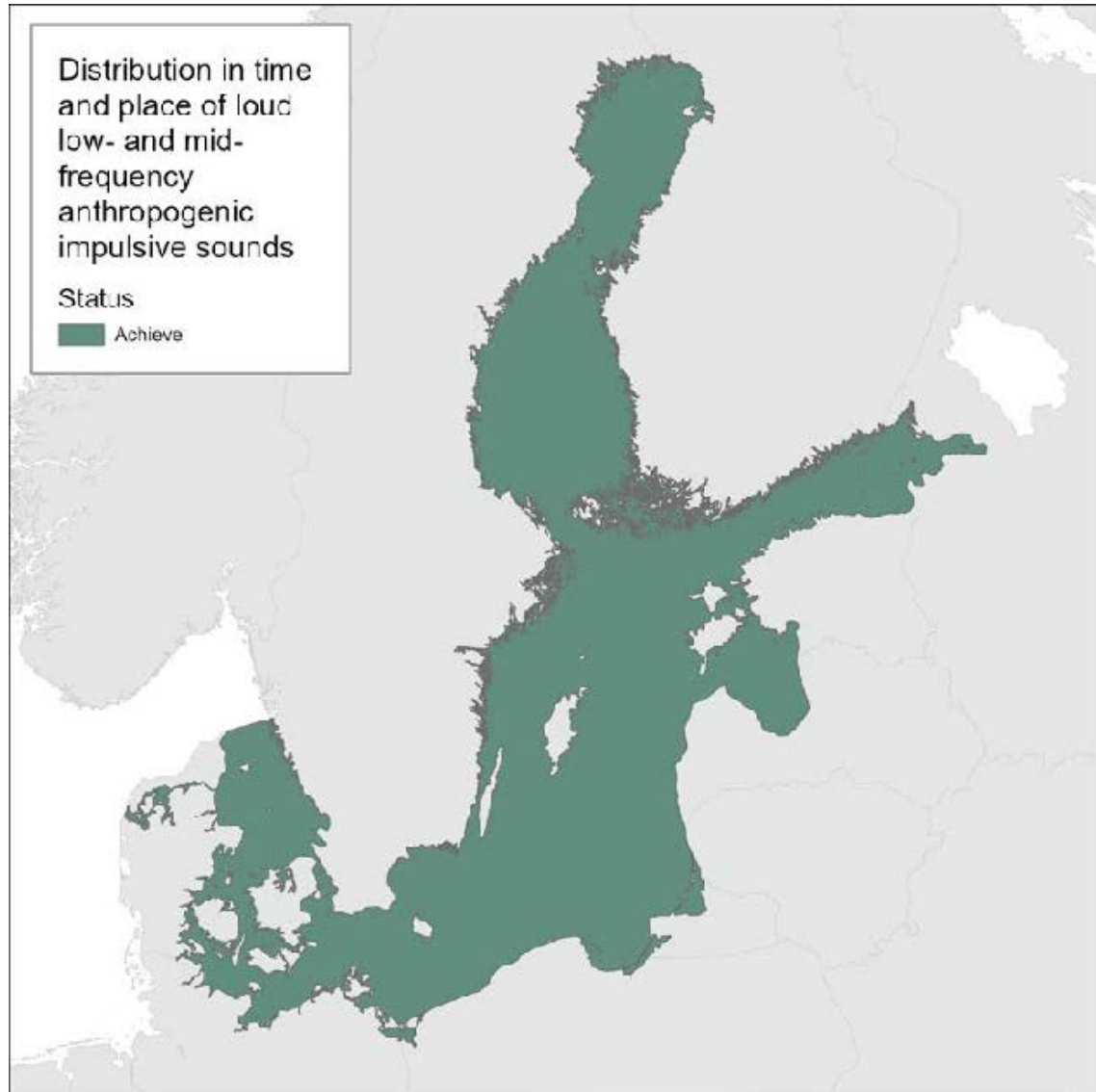
Year	Annual average of daily fraction of exposed habitat (i.e. of entire HELCOM area)
2016	1.18
2017	0.26
2018	1.70
2019	2.77
2020	1.59
2021	2.18







## Results A4.2.2



### Assessment results:

- Daily exposed area remained **below daily threshold value of habitat fraction of 20%, annual averages below 10%**
- Reporting **completeness cannot be quantified.** Reported events might represent **a fraction of the actual occurrence**
- Pile driving and airguns likely properly reported





# Results summary - impulsive noise

Task	Deliverable	Results
Subtask 4.2.1	Improve register for events	Improved version of reporting format
Subtask 4.2.2	Develop and execute assessment method	Indicator for assessment developed and used for HELCOM sea area





# Key messages

- Key messages for **science**

- 1) Effects of impulsive noise on other species than porpoise need further study
- 2) Further improvement of the assessment method required

- Key message for **policy makers**

- 1) **Reporting** to the ICES impulsive noise registry **has to be improved**
- 2) **Legislation** regarding impulsive noise producing activities **should be developed and harmonized** for HELCOM countries
- 3) **Moving forward urgent:** new offshore wind developments on the way





# Use of results so far and in future

- HELCOM ➡ updated pre-core indicator reports and dedicated section on underwater noise as part of the pollution thematic assessment in HOLAS3
- BSAP ➡ contribution to action S59; S62; S63; as well as RAP NOISE
- MSFD ➡ reporting on D11C1; art. 8; support for monitoring
- EU processes ➡ cooperation TG Noise





# Data for impulsive noise A4.2

## **This work was possible due to support from**

- Carina Juretzek, Katharina Grunert, Ramona Eigenmann, Benedikt Niesterok, Isabella Kratzer, Maria Boethling, Jakob Tougaard, Okko Outinen, Mathias Andersson, Emilia Lalander.
- HELCOM Expert Group on Underwater Noise (HELCOM EG Noise)
- ICES - Neil Holdsworth, Carlos Pinto, Joana Ribeiro, .....

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Thank you!!

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