

Results of the sufficiency of measures (SOM) analysis

MARITIME 20-2020

Document 3-3-Rev.1

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Co-funded by the
European Union

The meeting is invited to

- consider and comment the preliminary results of the analysis of sufficiency of measures for topics of relevance to the Working Group, including non-indigenous species and underwater noise.
- take note of the preliminary results of the analysis of sufficiency of measures for all topics.
- take note of the validation of input data to the SOM analysis.



Outline

- Progress and timeline for SOM analysis
- Results for
 - Non-indigenous species
 - Underwater noise
- Discussion after each topic



Results are preliminary – improvements in autumn 2020

- Internal review
- Input from SOM Topic Teams, BSAP UP workshops, SOM Platform and Working Groups
- Validation of input data by HELCOM Working Groups and Expert Networks
- General, topic-specific and editorial changes => results will still change



Validation of input data

- Maritime responsible for validating the input data for non-indigenous species and underwater noise
- Deadline was 30 September 2020
- Further changes to input data cannot be made after the first week of October
- Changes in presentation of results possible



Timeline for SOM analysis of existing measures

Task	Responsible	Timing (month in 2020)
Validation of input data	Working Groups, Expert Groups	September
Providing preliminary results to Working Group meetings	ACTION/Secretariat	September-October
Updating results	ACTION/Secretariat	October
Preparing overall and topic-specific reports to support BSAP update	ACTION/Secretariat	June-December
SOM Platform 5-2020 meeting	SOM Platform/Secretariat	30 November



Results of SOM analysis for underwater noise



Topic structure

- Projected reductions in pressure inputs for three noise categories
 - i. Input of continuous noise 63/125 Hz
 - ii. Input of continuous noise 2 kHz
 - iii. Input of impulsive noise with peak energy below 10 kHz
- Results for five sub-areas



Topic-specific issues: Noise

- Combines the distinct issues of disturbance and injury into a single pressure
- Combines the distinct issues of frequency and intensity into a single % reduction estimate
- Poor coverage of impulsive noise in the human development scenarios
- Results mainly based on expert data
 - Number of experts per data component: 7-9



Projected reductions in pressure inputs

Input of continuous noise 63/125 Hz	Input of continuous noise 2 kHz	Input of impulsive noise with peak energy below 10 kHz
Low increase (-18 – -6 %)	Low to moderate increase (-21 – -2%)	Low to moderate reduction (12 – 20 %)*

Changes in pressure inputs result from existing measures and changes in human activities (e.g. shipping, tourism and leisure activities)

*Development of human activities scenarios only cover 0 – 10% of activities relevant to impulsive noise input compared to >80% for continuous noise. Options currently under review to increase coverage.

The most effective measure types per activity— input of continuous noise 63/125 Hz

Activity	Fish and shellfish harvesting	Extraction of minerals	Restructuring of seabed morphology (e.g. dredging)	Tourism and leisure activities	Transport – shipping	Marine and coastal construction
Measure type	Spatial/temporal restrictions for sensitive areas and species	Promotion of alternative/low noise technologies	Promotion of alternative/low noise technologies	Spatial/temporal restrictions for sensitive areas and species	Spatial/temporal restrictions for sensitive areas and species	Promotion of alternative/low noise technologies
	Promotion of alternative/low noise technologies			Implementation of restrictions/permitting based on ship noise classifications	Speed limits in sensitive areas or times	



The most effective measure types per activity— input of continuous noise 2 kHz

Activity	Fish and shellfish harvesting	Extraction of minerals	Restructuring of seabed morphology (e.g. dredging)	Tourism and leisure activities	Transport – shipping
Measure type	Spatial/temporal restrictions for sensitive areas and species	Promotion of alternative/low noise technologies	Promotion of alternative/low noise technologies	Speed limits in sensitive areas or times	Spatial/temporal restrictions for sensitive areas and species
	Promotion of alternative/low noise technologies			Spatial/temporal restrictions for sensitive areas and species	Speed limits in sensitive areas or times



The most effective measure types per activity— Input of impulsive noise with peak energy below 10 kHz

Activity	Restructuring of seabed morphology (e.g. dredging)	Military operations	Research, survey and educational activities	Marine and coastal construction
Measure type	Spatial/temporal restrictions for sensitive areas and species	Promotion of alternative/low noise technologies	Spatial/temporal restrictions for sensitive areas and species	Spatial/temporal restrictions for sensitive areas and species
	Mandatory noise monitoring and noise restrictions	Spatial/temporal restrictions of testing, training, and exercises for sensitive areas and species	Regionally harmonized and intensified consideration of alternative/low noise technology in permit applications	Technological noise mitigation measures (e.g. bubble curtains, coffer dams, etc.)



Most important activities to pressure inputs

Input of continuous noise 63/125 Hz	Input of continuous noise 2 kHz	Input of impulsive noise with peak energy below 10 kHz
Transport – shipping	Transport – shipping	Military operations
Tourism and leisure activities	Tourism and leisure activities	Research, survey and educational activities
Fish and shellfish harvesting	Fish and shellfish harvesting	Marine and coastal construction



Results of SOM analysis for non-indigenous species



Topic structure and issues

- Projected reductions in the anthropogenic introduction of NIS to the Baltic Sea
- Only considers primary introductions to the Baltic - secondary spread within the Baltic is not assessed
- Mainly expert-based data
 - Number of experts per data component: 15
 - Activity-pressure contributions from AquaNIS database



HELCOM GES threshold for NIS

No new introductions of
NIS/CS to the Baltic Sea
through human activities
during a six-year
assessment period

Projected reductions in pressure inputs

Anthropogenic
introduction of NIS

Low reduction
(15 – 20 %)

Changes in pressure inputs result from existing measures and changes in human activities (e.g. shipping, aquaculture)



The most effective measure types per activity— anthropogenic introduction of NIS

Activity	Aquaculture	Transport – shipping ballast water	Transport – shipping biofouling	Transport – shipping infrastructure (canals)
Measure type	Require rigorous invasion risk assessment before any potential NIS is allowed for importation	Full implementation of the Ballast Water Management Convention	Regionally harmonized in-water cleaning regulations	Mandatory hull cleaning en route
	Mandatory and rigorous NIS risk assessments prior to introduction of new fish stock (e.g. stock escape, parasites, etc)	More stringent technical requirements and standards for ballast water and sediment management on ships	Enforce installation and maintenance of anti-fouling systems	Mandatory ballast water treatment en route (canals)



Most important activities to introduction of NIS

Anthropogenic introduction of NIS
Transport – shipping ballast water
Activities and sources outside the Baltic Sea Region
Transport – shipping biofouling

