
Document title	Future work on HELCOM indicators - Non-indigenous species
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Background

The following document contains a brief topic summary that addresses the overall aim of indicator work and assessments on the given topic. It outlines, the current status and gives an indication of the work needed to adjust/develop the identified indicators. Potential avenues of cooperation avenues are also described. Where possible the information has been compiled based on responses received from the HELCOM indicator questionnaire process and revised based on comments received at the 1st HELCOM Indicator Workshop. This is, particularly the case for the section on the aims of the work, which was that were a focus of attention at that 1st indicator workshop.

Action requested

The Workshop is invited:

- to take note of the information and use it as needed to support the discussion
- provide comments or corrections as needed

Non-indigenous species

Future work on HELCOM indicators – towards the 3rd Holistic Assessment of the Baltic Sea 2023.

Indicators under discussion

1. *Trends in arrival of new non-indigenous species.

This indicator appears in the additional document that considers the HELCOM indicator-policy match and scoring (Document 17 - HELCOM indicator-policy matching and draft scoring, and annex).

Aim

In the short term the aim is a Baltic Sea regional assessment of the number of human introduced non-indigenous species (NIS), including the identification of relevant vectors. To support this work, effective housing of the indicator would be a relevant discussion so that expert support for the indicator is not reliant on temporary project solutions.

Longer-term developments should explore the distribution, abundance and spread of NIS in the region, and their impact on the Baltic Sea ecosystem (e.g. spatial area or percentage of a species affected) should be assessed where possible. To support such future developments categorization of NIS based on their risk status (i.e. potential to cause harm) may be a relevant starting point. All assessments should be carried out against appropriate threshold values.

General introduction and current status

The [trends in arrival of new non-indigenous species indicator](#) was evaluated in 2018 and included in the [State of the Baltic Sea report](#). Twelve new species were reported in the assessed six-year period, with the threshold value applied being 'zero new introductions' at the whole Baltic Sea assessment scale. Other aspects related to spread, abundance and impact are not currently addressed in the indicator assessment. The indicator currently needs clarity of the appropriate database solution and similarly no specific expert group exists within HELCOM for this topic or for the review and development of indicators for this topic.

Relevant species (regional lists of species for the assessment)

It is understood that work taking place at the JRC is compiling a list of non-indigenous species across European Seas. Such a document may represent a valid reference point for future work.

Development/adjustment work

Although the indicator is operational adjustments are required, for example: improved NIS monitoring with georeferenced data points for all new observations would enable a higher assessment scale and harmonised monitoring programmes would ensure common approaches and improved spatial and temporal data coverage. Data gaps and conceptual shortcomings need to be addressed to clearly separate primary and secondary invasions. The current indicator deals with primary invasions and due to the exclusion of secondary spread gives an incomplete view of the NIS situation in the Baltic Sea. Harmonised monitoring and methodologies (e.g. for fish, benthos, plankton etc) across the region are required to carry out accurate assessments, or indicator redesign will be needed to fit to data that can be collated (e.g. via extraction from other monitoring efforts etc). Currently information is collected from AquaNIS and various national monitoring programmes or projects, thus methodologies are not standardised and monitoring effort differs greatly between regions. Assessment and monitoring

approaches, especially at early stages of development should be flexible and support the use of compatible approaches, guided by best practices, so that standard (e.g. visual identification approaches) and novel (e.g. molecular biology, eDNA) applications can be utilised appropriately.

Regional agreement to use AquaNIS as the database of choice would seem an appropriate step as it is being upgraded in the COMPLETE project and ICES and OSPAR may also rely on this for NIS in the future. The COMPLETE project will further develop NIS monitoring programme as well as the AquaNIS database and resources to maintain this database, potentially linked to updating the NIS indicator should be considered. Such an approach would provide an initial step towards harmonisation of data and data needs for further work on this topic, and compatibility to existing national databases should be considered.

Note: many of the above issues or potential obstacles also have resource implications.

Potential obstacles

Reliable monitoring program for NIS harmonised for all Contracting Parties and a common understanding needed on several complicated issues such as: *what exactly is "human-induced", how to evaluate monitoring effort, appropriate threshold values*. These issues require discussion and agreement to further develop the indicators for this topic.

Frequency

An annual update could be feasible once data hosting and reporting issues are clearly resolved. Broader assessments should be aligned with other general timelines and assessment events.

Potential for cooperation

Cooperation with OSPAR would be timely as they are currently addressing similar issues. A joint working group may be considered as a viable option to further develop this work in a common way. Other areas for cooperation include (including for data management): TG BALLAST, ICES, and Invasive Alien Species work at the EU (EU IAS).

Other issues

The workshop is invited to document other aspects they consider to be relevant to the development of this specific indicator category.

A number of issues raised previously (though not an exclusive list) that may be relevant for discussion include: integration rules, appropriate coordination with MSFD CIS processes, and appropriate coordination with OSPAR.