## Draft indicator factsheet D2C3: Biopollution Index for *Mnemiopsis leidyi*

**SUMMARY INFORMATION**

* **Indicator name**: Biopollution Index for *Mnemiopsis leidyi*
* **Indicator summary:** A summary of the status/trend for this indicator can only be delivered after progress on status assessment (probably until 2018).
* **Background/relevance:** The number of non-indigenous species (NIS) introduced in the Black Sea due to human activities is increasing. Some of them may spread in large quantities and occupy large areas. Such invasive NIS may cause local elimination of sensitive and/or rare species, alteration of native communities, modification of habitats, changes in food web functioning. Adverse effects of invasive NIS at such a level that lower the environmental quality are termed "biological pollution" or "biopollution". Invasive species may also hamper the economic use of the sea or even represent a risk for human health. Economic impacts range from financial losses in fisheries to expenses for cleaning intake or outflow pipes of industries and structures from fouling. Public health impacts may arise from the introduction of microbes or toxic algae.

The Biopollution level index was developed in the HELCOM area, by Olenin et al. (2007) and a Baltic wide use of the index was published by Zaiko et al. (2011).

The assessment is performed on 4 levels;

1. abundance and distribution (ADR)

2. impacts on communities

3. impacts on habitats

4. impacts on ecosystem functioning

and should be delivered on a defined aquatic area - assessment unit (e.g. a coastal lagoon, offshore sand bank, or even entire sub-basins) and for a defined period of time. After ADR is estimated, it is related to the magnitude of bioinvasion impacts, in order to reach the biopollution level index ranging from 0 to 4:

(0) no impact

(1) weak impact

(2) moderate impact

(3) strong impact

(4) massive impact.

The overall biopollution level is the highest species-specific biopollution level in an assessment unit, i.e. applying the 'one-out-all-out' principle and the pre-cautionary principle to the assessment[[1]](#footnote-1).

* **Relevant criterion/a**: D2C3

**MAIN ASSESSMENT**

**Status and trends:** Status assessment for this indicator is not possible at the moment, due to a lack of monitoring/assessment data. Status/trends will probably be assessed until 2018.

The status assessment will be against the following thresholds:

a)

b)

* **Map**:
* **Figures**:
* **Tables:**
* **Confidence assessment:**

Bulgaria: Low/Medium/High (explanation)

Romania: Low/Medium/High (explanation)

* **Knowledge gaps:**

Bulgaria:

Romania:

Text description of uncertainties and data/knowledge gaps in the assessment (i.e. reasons why confidence is "medium" or "low")

**SUPPORTING INFORMATION/FURTHER DETAIL/METADATA**

* **Geographical coverage**: BG, RO
* **Date of data used for assessment**

Bulgaria:

Romania:

* **Data products**: (insert link)
* **Contact and ownership**

Bulgaria: Black Sea Basin Directorate/Varna/BG

Romania: National Institute for marine research and development "Grigore Antipa"/Constanta/Romania

* **Method for assessment (optional)**: short description of method – or link/reference to relevant website/papers.

**Date of publication/preparation:** xxx/(preparation xxx)

1. http://helcom.fi/baltic-sea-trends/environment-fact-sheets/biodiversity/biopollution-level-index/ [↑](#footnote-ref-1)