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| Name of indicator | 2.5 Habitat diversity index |
| Type of Indicator | State indicator |
| Author(s) | Kristjan Herkül |
| Description of the indicator | Diversity of benthic habitats is one of the many aspects of marine biodiversity. High diversity of benthic habitats is important in order to maintain species diversity and ecosystem processes. Habitat diversity index indicates the level of diversity of marine benthic habitats by counting the number of different habitats in a predefined grid. |
| Relationship of the indicator to marine biodiversity | Habitat diversity index reflects biodiversity on the level of marine benthic habitats. |
| Relevance of the indicator to different policy instruments | 1.6. Habitat condition 1.6.1. Condition of the typical species and communities |
| Method(s) for obtaining indicator values | <p>The general process of obtaining indicator value is as follows:</p> <ol style="list-style-type: none"> 1. Benthic habitat map is overlaid by a grid with predefined cell size in a geographical information system (GIS) (see an example in Figure 1). Different sources and classifications of benthic habitat maps can be potentially used. To ensure comparability of calculations between different areas and dates, the habitat data must be collected and processed in a uniform way. Coverage layers (rasters or polygons) are preferred as an input but sampling-point-wise input data can be used alternatively. 2. The number of different habitat types is counted in each grid cell (see an example in Figure 2). 3. The average number of different habitats over all grid cells in a given area serves as the value of habitat diversity index. <p>For the purposes of biodiversity monitoring, the method is more suitable for trend analysis based on a time-series of habitat maps than for episodic state assessments.</p> |
| Documentation of relationship between indicator and pressure | The relationships between indicator value and pressures have not been tested. However, it is known that anthropogenic pressures lead to the loss of biodiversity (Worm et al. 2006). The impoverishment of marine benthic habitats due to anthropogenic pressures is expected to be reflected by the habitat diversity index. |
| How Reference Conditions (target values/thresholds) for the indicator were obtained? | Reference conditions have not been set due to the lack of time series of habitat maps |
| Geographical relevance of indicator | 3. Baltic sea wide |
| How Reference Conditions (target values/thresholds) for the indicator were obtained? | Not available. Trend of environmental status can be assessed based on time series of the index. |
| Method for determining GES | Not available. Trend-based determination of GES can be done: stable or increasing values of the index can be considered as GES while decrease indicates non-GES. |
| References | Worm B, Barbier EB, Beaumont N, Duffy JE, Folke C, Halpern BS, Jackson JB, Lotze HK, Micheli F, Palumbi SR, Sala E, Selkoe KA, Stachowicz JJ, Watson R. 2006. Impacts of Biodiversity Loss on Ocean Ecosystem Services. Science, 3: 787-790. |

**Illustrative
material for
indicator
documentation**

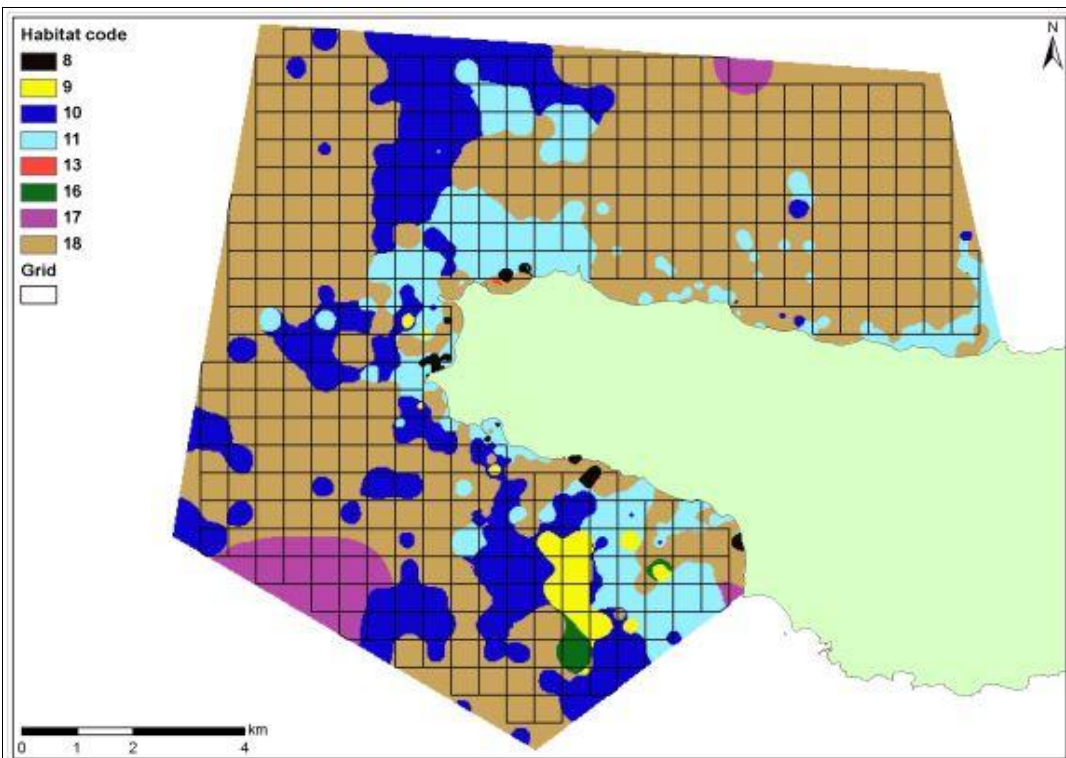


Figure 1. An example of a benthic habitat map overlaid by a grid with a cell size of 500 m.

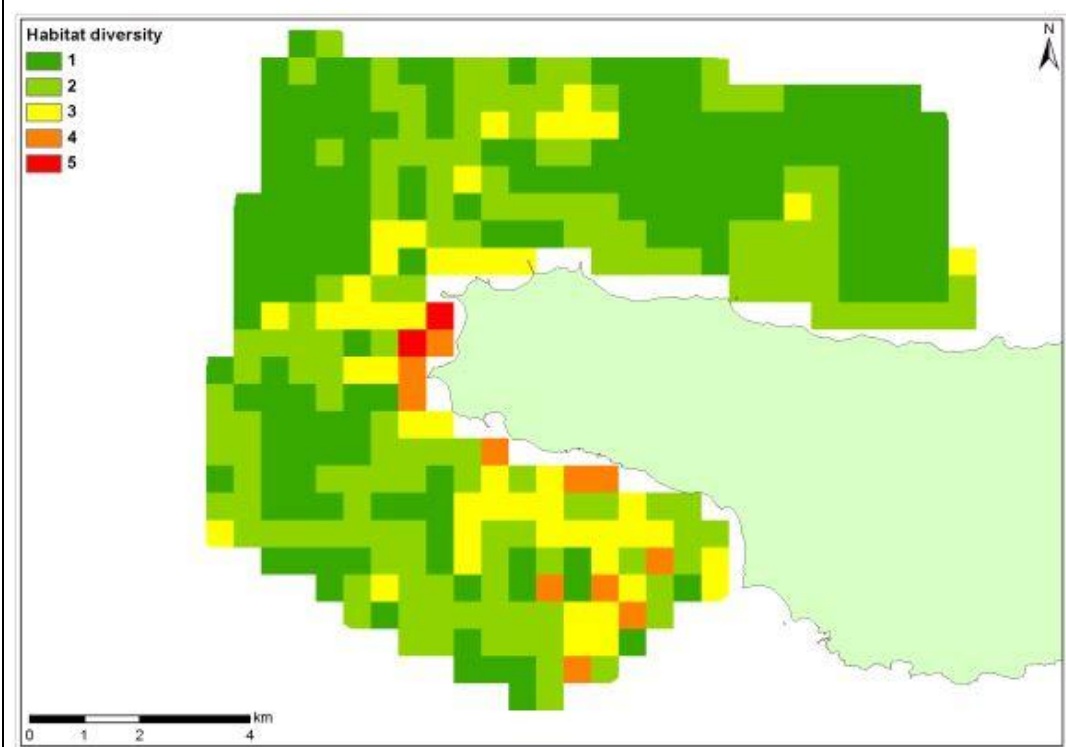


Figure 2. An example of the number of different benthic habitats (i.e. habitat diversity) in the cells of a predefined grid.