Distribution and conservation status of habitat type ‘Estuaries’

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Federal Agency for Nature Conservation
Il 2.2 Habitats Directive / Natura 2000

- this workshop „Embracing Estuaries“ is the result of the project,
- it was initiated as follow-up event of the first Atlantic Seminar by the State of Hamburg and the German Environment Ministry (BMUB),
- it is supported by the Federal Agency for Nature Conservation (BfN) and funded by the Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety (BMUB),
- the project is implemented by the Elbe Habitat Foundation in cooperation with SUPERURBAN.
Distribution of estuaries in Germany

North Sea / Wadden Sea:
- High salinity gradient
- High tidal differences
- Mostly fine sediments

Baltic Sea:
- Low to medium salinity gradient
- Almost no tidal differences
- Fine sediments and pebbles (moraine coasts)
### Distribution of estuaries in Germany

Percentage of distribution area per Federal State in the atlantic region

<table>
<thead>
<tr>
<th>Federal State</th>
<th>Percentage of distribution area [%]</th>
<th>Area [ha]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Saxony</td>
<td>56</td>
<td>66,9000</td>
</tr>
<tr>
<td>Schleswig-Holstein</td>
<td>41</td>
<td>37,000</td>
</tr>
<tr>
<td>Bremen</td>
<td>2</td>
<td>1,682</td>
</tr>
<tr>
<td>Hamburg</td>
<td>1</td>
<td>612,0</td>
</tr>
</tbody>
</table>
Estuaries are **habitat complexes** and comprise several habitat types:

- mud flats and sand flats not covered by seawater at low tide (1140)
- Reefs (1170)
- Salicornia and other annuals colonizing mud and sands (1310)
- Spartina swards (1320)
- salt meadows (1330)
- Eutrophic tall herbs (6430)
- Lowland hay meadows (6510)
- alluvial forests (91E0, 91F0)
Selected species of estuaries

Especially relevant species (from a nature conservation perspective)

Fishes
- Migratory fishes (passage)
- Twaite shad *Alosa fallax* (esp. reproduction habitats)

Birds
- Wading, water and shore birds (migratory birds, resting areas)
- geese (on salt meadows)

Plants (characteristic / specialised)
- Elbe water dropwort *Oenanthe conioides*
- Elbe Hair Grass *Deschampsia wibeliana*
- bulbous foxtail *Alopecurus bulbosus*

Neozoa (esp. introduction through ballast water)
Conservation status of Estuaries

Conservation status in Germany for habitat type 1130, based on the National Report 2013 (EU in brackets)

<table>
<thead>
<tr>
<th>Biogeographical region</th>
<th>Range</th>
<th>Area</th>
<th>Structures &amp; functions</th>
<th>Future prospects</th>
<th>Overall assessment</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic (U1)</td>
<td>FV (U1)</td>
<td>FV (XX)</td>
<td>U2 (U2)</td>
<td>U2 (U2)</td>
<td>U2 (U2)</td>
<td>=</td>
</tr>
<tr>
<td>Continental (baltic)</td>
<td>FV (FV)</td>
<td>U1 (FV)</td>
<td>U2 (U2)</td>
<td>U1 (U1)</td>
<td>U2 (U2)</td>
<td>↓</td>
</tr>
</tbody>
</table>

= stable
↓ deteriorating
**High threats and pressures** (habitat type 1130):

- human induced changes in hydraulic conditions
  (e.g. bank reinforcement, dykes, barrages, deepening of navigation channels)
- shipping lanes / ports / marine constructions
- estuarine and coastal dredging
- removal of sediments (e.g. mud)
- pollution of surface waters (limnic, terrestrial, marine, brackish)
- agricultural intensification
- changes in abiotic conditions (e.g. oxygen depletion in summer)
Requirements to improve the conservation status

Measures to improve the criterion Structure & Functions:

- Shore renaturation/ removal of bank reinforcements
- Restriction of continuous deepening of navigation channels
- Creation/ renaturation of shallow water areas
- Dyke relocation

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Requirements to improve the conservation status

- Renaturation of tributaries (esp. estuary areas)
- Restoring dynamic (tidal range, passage for aquatic organisms)
- Expansion of flood plains (retention area)
- Extensification of agriculture on outlands (no cultivation or intensive grassland management)
- Reduction of water turbidity (oxygen depletion in summer)
The reference: favourable conservation status
Thank you for your attention!