Section II: Habitat Conservation and Management
C. Habitat Change and Degradation

10. Pollution and Hazardous Substances (incl. microplastics)
National Reports 2022

Xin Kin LIM, ASCOBANS Secretariat

28th Meeting of the ASCOBANS Advisory Committee
26-28 September 2023, Bonn, Germany
10.1. Does your country conduct monitoring of pollutants in small cetaceans?

**Monitoring of pollutants in small cetaceans?**

- **No**
  - Denmark
  - Finland
  - Lithuania
  - Poland

- **Yes**
  - Belgium
    - OSPAR (indicator on persistent chemicals in marine mammals)
  - Germany
    - Sample collection during necropsies
    - Organ samples: Tissue banks & toxicological analyses
    - Pilot monitoring in Lower Saxony: 10 HPs
  - The Netherlands
    - Tissue samples of 50 annually necropsied HP
      - PCB’s & PFAS
    - In 2022, fish species (known prey of HP)
      - PFAS, PCB, PBDE & HCB
  - United Kingdom
    - Collaboration between CSIP, SMASS & CEFAS
      - ‘ChemPop’:
        - Additional funding for small cetacean contaminant analyses
10.2. Who is carrying out the pollutant monitoring program? Please provide information on institution(s)/agencies that collect the samples and carry out analyses.

<table>
<thead>
<tr>
<th>Belgium</th>
<th>Germany</th>
<th>The Netherlands</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. University of Liège</td>
<td>1. Institute for Terrestrial and Aquatic Wildlife Research (ITAW);</td>
<td>1. University Utrecht</td>
<td>1. Cetacean Stranding Investigation Programme (CSIP)</td>
</tr>
<tr>
<td>2. RBINS</td>
<td>University of Veterinary Medicine Hannover, Foundation</td>
<td>2. Wageningen Marine Research</td>
<td>2. Scottish Marine Animal Strandings Scheme (SMASS)</td>
</tr>
<tr>
<td></td>
<td>2. Deutsches Meeresmuseum</td>
<td></td>
<td>3. Centre for Environment, Fisheries and Agriculture Science (CEFAS)</td>
</tr>
</tbody>
</table>
10.3. Identify the small cetacean species that were covered by your monitoring program during the reporting period.
10.4. Select the source of your samples.

- Necropsy from stranding & from bycatch
- Necropsy from stranding

- NL
- BE
- DE
- UK
10.5. Select the geographical coverage of your monitoring program

<table>
<thead>
<tr>
<th>BE</th>
<th>OSPAR Region II (Southern North Sea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>OSPAR Region II (Dogger Bank &amp; Southern North Sea), HELCOM (Arcona Basin, Kattegat, Belt Sea, The Sound)</td>
</tr>
<tr>
<td>NL</td>
<td>OSPAR Region II (Southern North Sea)</td>
</tr>
<tr>
<td>UK</td>
<td>OSPAR Region II (Southern &amp; Northern North Sea, Channel), OSPAR Region III (Celtic Sea, Irish Sea, Irish &amp; Scottish W. Coast)</td>
</tr>
</tbody>
</table>
10.6. Select the contaminant / pathogen analyses you have conducted for small cetaceans.

<table>
<thead>
<tr>
<th>Contaminant / pathogen analyses</th>
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</thead>
<tbody>
<tr>
<td>POP (e.g. PCBs)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Toxic elements</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Morbillivirus</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Brucella</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Microplastics</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>✔</td>
<td>✔</td>
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</table>
| Others                         | • Herpesvirus  
• Influenzavirus  
• Fungus        | • Salmonella sp.  
• Virbrio sp.  
• Hafnia alvei  
• Hathewaya limosa  
• Nematods: Torynurus convolutes  
• Halocercus sp.  
• Pseudalius inflexus  
• Influenzavirus  
• Leptospiрен        | • PCR- or IHC- test  
• Regularly screened for herpes, pox and influenza viruses.  
• Avian influenza has not been found.        | • POPs:  
HCB, HCHs, DDTs, PCBs, BDEs, HBCDs, and PFASs.  
• Additional analyses for metals concentrations in HP:  
Cr, Ni, Cu, Zn, As, Cd, Pb, Se, Mn, Fe, Hg, Ag |
10.7. Does your country determine microplastics in small cetaceans?

- **NO**
  - BE
  - FI
  - LT
  - PL

- **YES**
  - DK
  - DE
  - NL
  - UK
10.7. (cont.) Do you have a specific protocol to monitor microplastics in small cetaceans?

Not a particular protocol, but implemented method in Mikkelsen et al., 2022

Sample collection during regular necropsies (HP → microplastic monitoring)

Microplastics are ad-hoc determined; Stomach remains are stored and assessed, using proposed protocol in van Franeker et al., 2018

Methodology according to Nelms et al., 2019
10.8. Relevant new research/work/collaboration on impact of pollution and hazardous substances (incl. microplastics) on small cetaceans in your country.

2
Publications
(Denmark)

6
Publications
(Germany)

3
Publications
(United Kingdom)

No response:
Belgium, Finland, Lithuania, The Netherlands & Poland.
10.9. If applicable, list any additional evidence/data of reduced impacts of pollutants on small cetaceans following implementation of national mitigation measures (e.g. decline of contaminant levels in blubber over time)
10.10. Have there been any instances/issues related to pollution and hazardous substances in your country during the reporting period?

- **No** issues related to pollution and hazardous substances during the reporting period
10.11. Is the perceived level of pressure from pollution and hazardous substances in your country increasing, decreasing, staying the same or unknown?

DE: Increasing & Unknown.
- Regional variations;
- Increasing: building, ship traffic and coastal constructions (LNG terminals).

UK: Decreasing & Staying the same.
- Modelling of PCB blubber concentrations in:
  - HP → decreasing
  - CD → decreasing in females & juveniles; staying the same in males