MINISCANS-II

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- **NRM:** Julia Carlström, Kylie Owen

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- The German Federal Agency for Nature Conservation (BfN)
- The Swedish Agency for Marine and Water Management (SwAM)

MiniSCANS-II: Aerial survey for harbour porpoises in the western Baltic Sea, Belt Sea, the Sound and Kattegat in 2020
BACKGROUND

Previous surveys:
1994 - SCANS
2005 - SCANS-II
2012 - MiniSCANS
2016 - SCANS-III

Harbour porpoise - Skagerrak / Kattegat / Belt Seas

https://synergy.st-andrews.ac.uk/scans3/
Quick summary

- 24.06. - 10.07.2020
- 50,222 km² survey area
- 5,358 km on effort
- 224 sightings (278 ind, of these 20 calves)
- 1.22 mean group size
RESULTS

Abundance estimate:

17,301 harbour porpoises
95% CI = 11,695-25,688; CV = 0.20

<table>
<thead>
<tr>
<th>Year</th>
<th>1994</th>
<th>2005</th>
<th>2012</th>
<th>2016</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey</td>
<td>SCANS</td>
<td>SCANS-II</td>
<td>MINISCANS</td>
<td>SCANS-III</td>
<td>MiniSCANS-II</td>
</tr>
<tr>
<td>Block</td>
<td>I + X</td>
<td>S</td>
<td></td>
<td>2</td>
<td>MS A-I</td>
</tr>
<tr>
<td>Area</td>
<td>S/BS</td>
<td>S/BS</td>
<td>BS</td>
<td>BS</td>
<td>BS</td>
</tr>
<tr>
<td>Area (km²)</td>
<td>55,295</td>
<td>68,372</td>
<td>51,511</td>
<td>40,707</td>
<td>42,244</td>
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<tr>
<td>Platform</td>
<td>ship + aerial</td>
<td>ship</td>
<td>ship</td>
<td>ship</td>
<td>aerial</td>
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<tr>
<td>Effort (km)*</td>
<td>2.292</td>
<td>1.279</td>
<td>826</td>
<td>1,028</td>
<td>4,533</td>
</tr>
<tr>
<td>Abundance</td>
<td>51,660</td>
<td>27,901</td>
<td>40,475</td>
<td>42,324</td>
<td>17,301</td>
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<tr>
<td>CV</td>
<td>0.30</td>
<td>0.39</td>
<td>0.24</td>
<td>0.30</td>
<td>0.20</td>
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<tr>
<td>CI low_abu</td>
<td>29,058</td>
<td>13,387</td>
<td>25,614</td>
<td>23,368</td>
<td>11,695</td>
</tr>
<tr>
<td>CI high_abu</td>
<td>91,841</td>
<td>58,149</td>
<td>65,041</td>
<td>76,658</td>
<td>25,688</td>
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<tr>
<td>Density</td>
<td>0.93</td>
<td>0.41</td>
<td>0.79</td>
<td>1.04</td>
<td>0.41</td>
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<tr>
<td>CI low_dens</td>
<td>0.53</td>
<td>0.20</td>
<td>0.50</td>
<td>0.57</td>
<td>0.28</td>
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<tr>
<td>CI high_dens</td>
<td>1.66</td>
<td>0.85</td>
<td>1.24</td>
<td>1.88</td>
<td>0.61</td>
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<td>Reference</td>
<td>Hammond et al. (2021), revised from Hammond et al. (2002)</td>
<td>Hammond et al. (2021), revised from Hammond et al. (2013)</td>
<td>Viquerat et al. (2014)</td>
<td>Hammond et al. (2021)</td>
<td>this report</td>
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</table>

From Unger et al 2021
RESULTS

Previous surveys:
- 1994 - SCANS
- 2005 - SCANS-II
- 2012 - MiniSCANS
- 2016 - SCANS-III
- 2020 – MiniSCANS-II

https://synergy.st-andrews.ac.uk/scans3/

Unger et al. 2021
RESULTS

MiniSCANS 2012 Tracking, 111 HP, 1997-2021

Porpoise group size
- 1
- 2
- 3
- 4
- Sea state ≤ 2 Bft.
- Sea state > 2 Bft.
- Exclusive Economic Zone
- gap-area
- Survey Area

Sankt Peter-Ording, Germany

University of Veterinary Medicine Hannover, Foundation
CONCLUSION

- Most precise abundance estimate: Low CV
- Stable trend (HELCOM BLUES analysis)
- The area is included in SCANS-IV – again aerial survey