

MINISCANS-II

Scientific partners:

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

Funding:

- The Danish Environmental Protection Agency,
- The German Federal Agency for Nature Conservation (BfN)
- The Swedish Agency for Marine and Water Management (SwAM).



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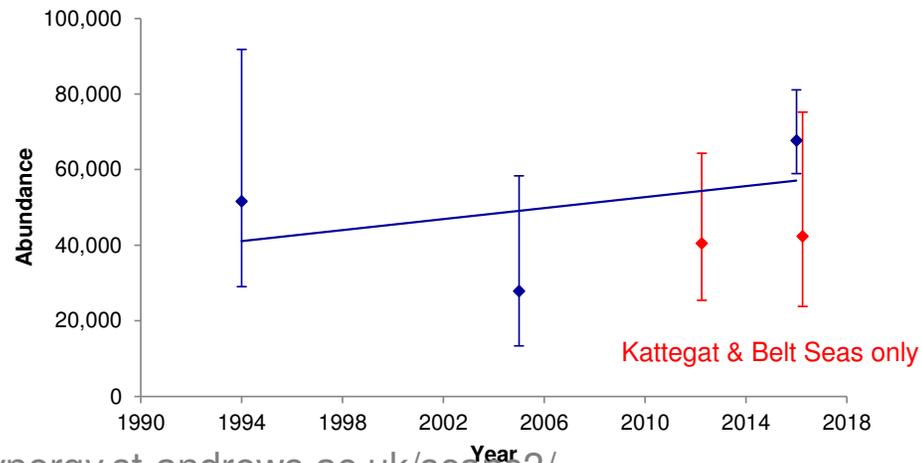
**MiniSCANS-II: Aerial survey for harbour porpoises in
the western Baltic Sea, Belt Sea, the Sound and
Kattegat in 2020**

BACKGROUND

Previous surveys:

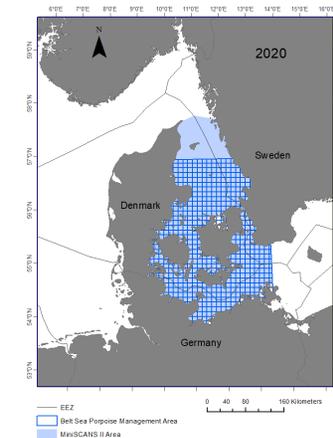
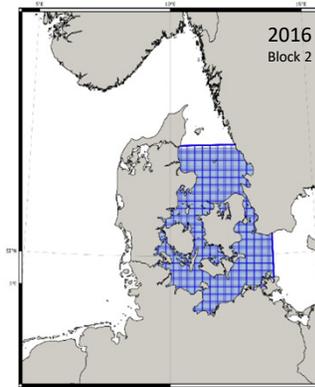
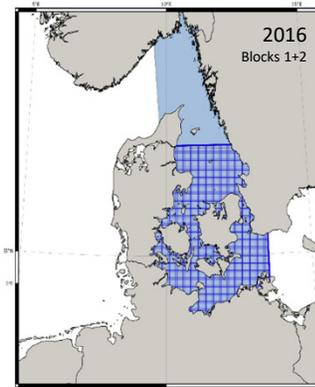
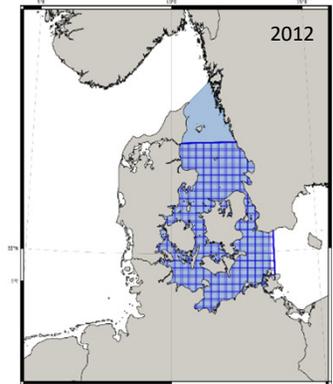
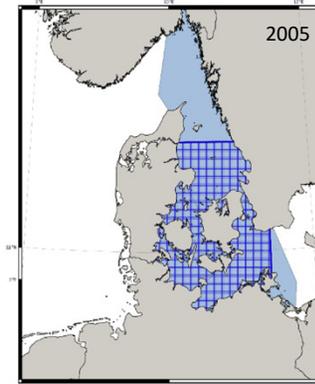
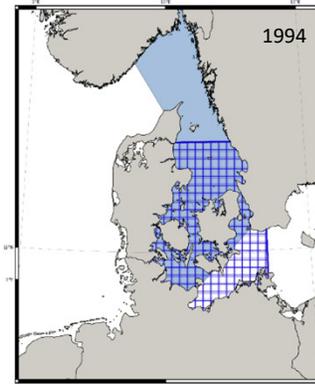
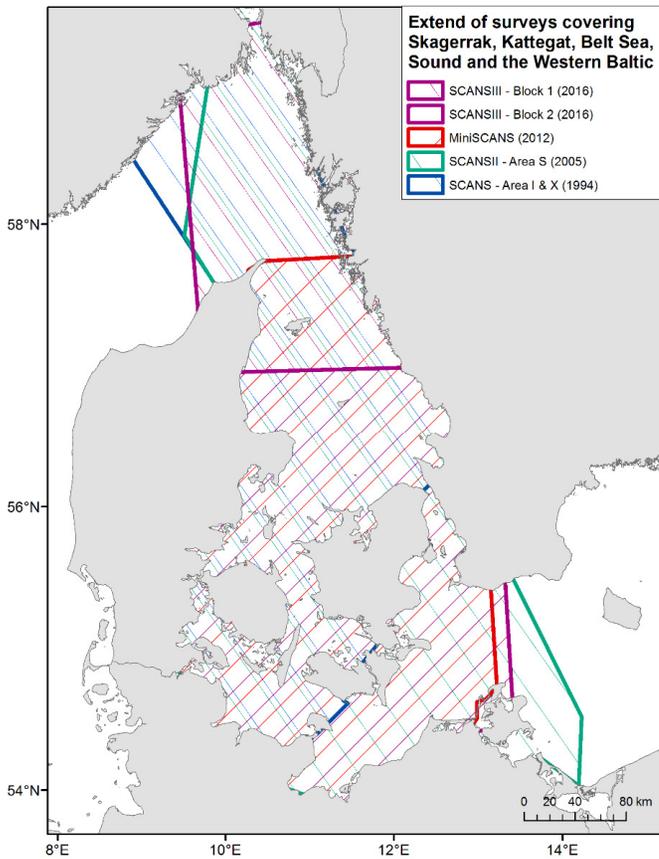
- 1994 - SCANS
- 2005 - SCANS-II
- 2012 - MiniSCANS
- 2016 - SCANS-III

Harbour porpoise - Skagerrak / Kattegat / Belt Seas



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

Extent of covered area



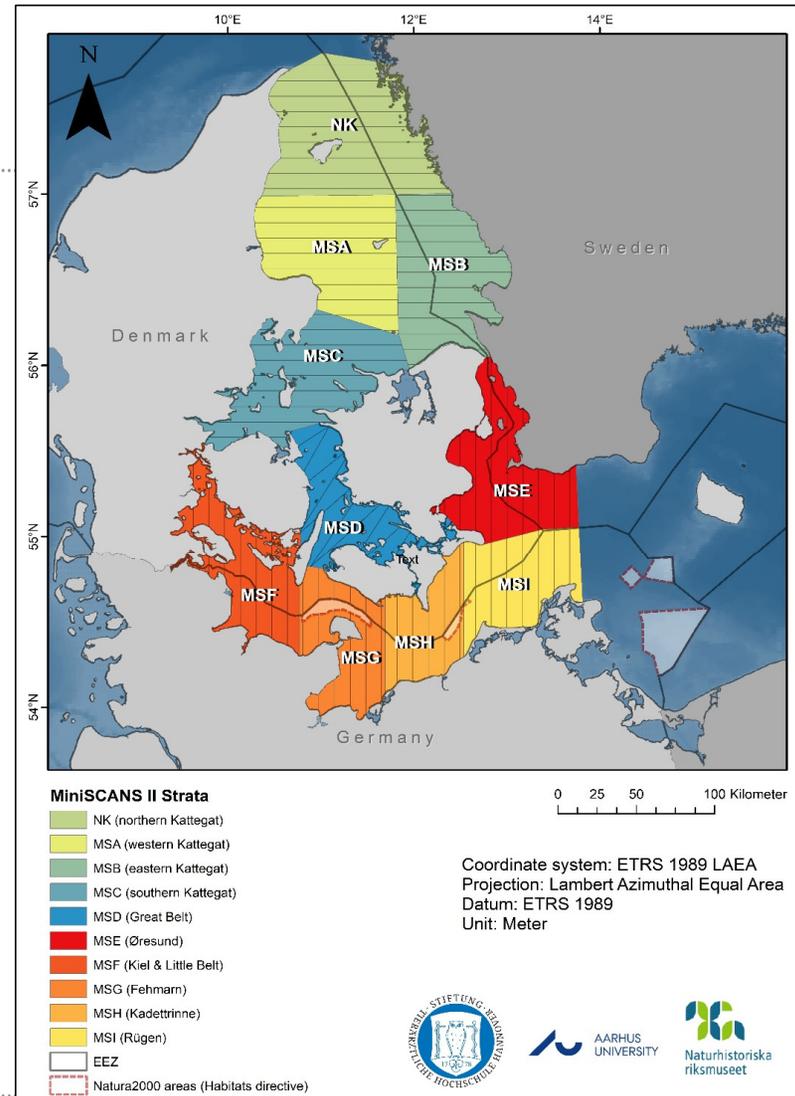
Belt Sea AU - Sveegaard et al. 2015

Stiftung Tierärztliche Hochschule Hannover
University of Veterinary Medicine Hannover, Foundation

MiniSCANS-II 2020

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

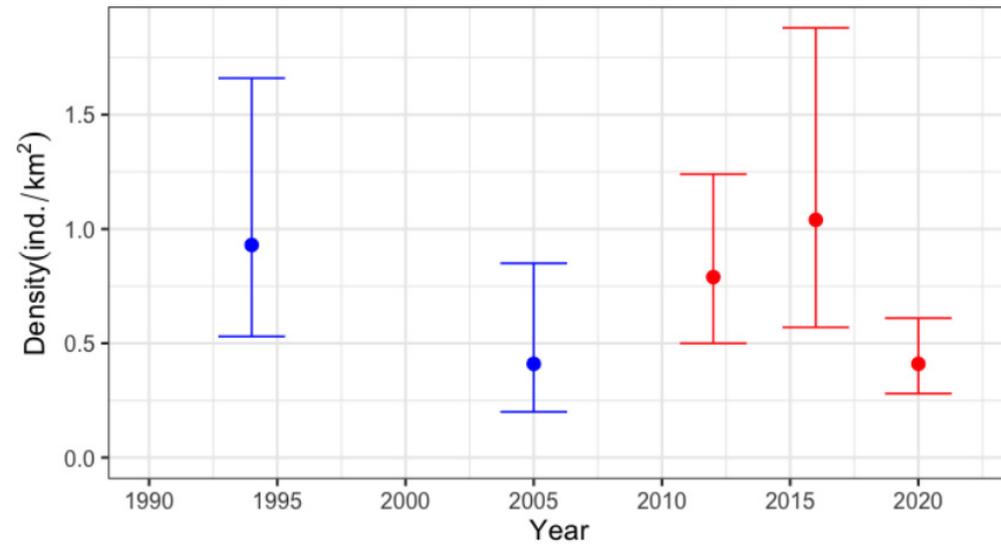
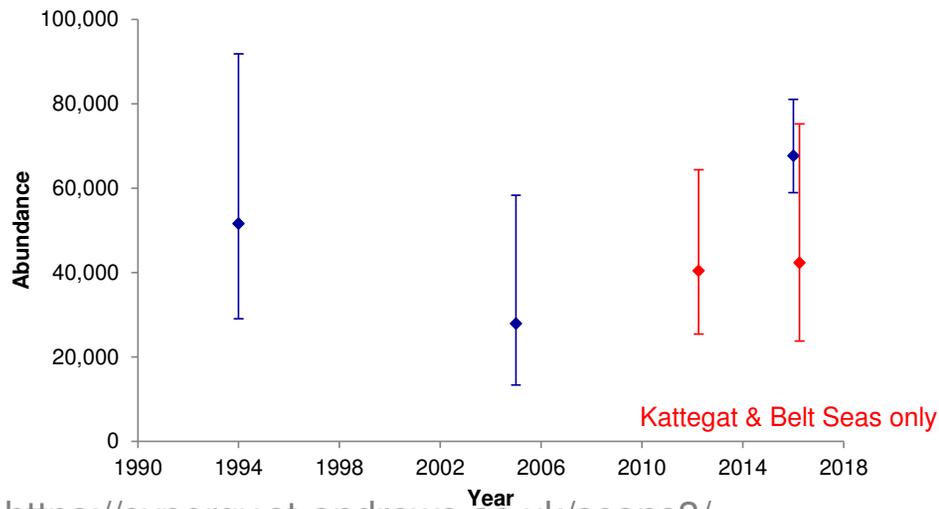


Year	1994	2005	2012	2016	2020
Survey dates	27 June-09 July 1994	27 June-16 July 2005	02-21 July 2012	5-24 July 2016	24 June-10 July 2020
Survey	SCANS	SCANS-II	MINISCANS	SCANS-III	MiniSCANS -II
Block	I + X	S		2	MS A-I
Area	S/BS	S/BS	BS	BS	BS
Area (km²)	55,295	68,372	51,511	40,707	42,244
Platform	ship + aerial	ship	ship	ship	aerial
Effort (km)*	2,292	1,279	826	1,028	4,533
Abundance	51,660	27,901	40,475	42,324	17,301
CV	0.30	0.39	0.24	0.30	0.20
CI low_abu	29,058	13,387	25,614	23,368	11,695
CI high_abu	91,841	58,149	65,041	76,658	25,688
Density	0.93	0.41	0.79	1.04	0.41
CI low_dens	0.53	0.20	0.50	0.57	0.28
CI high_dens	1.66	0.85	1.24	1.88	0.61
Reference	Hammond et al. (2021), revised from Hammond et al. (2002)	Hammond et al. (2021), revised from Hammond et al. (2013)	Viquerat et al. (2014)	Hammond et al. (2021)	this report

RESULTS

Previous surveys:

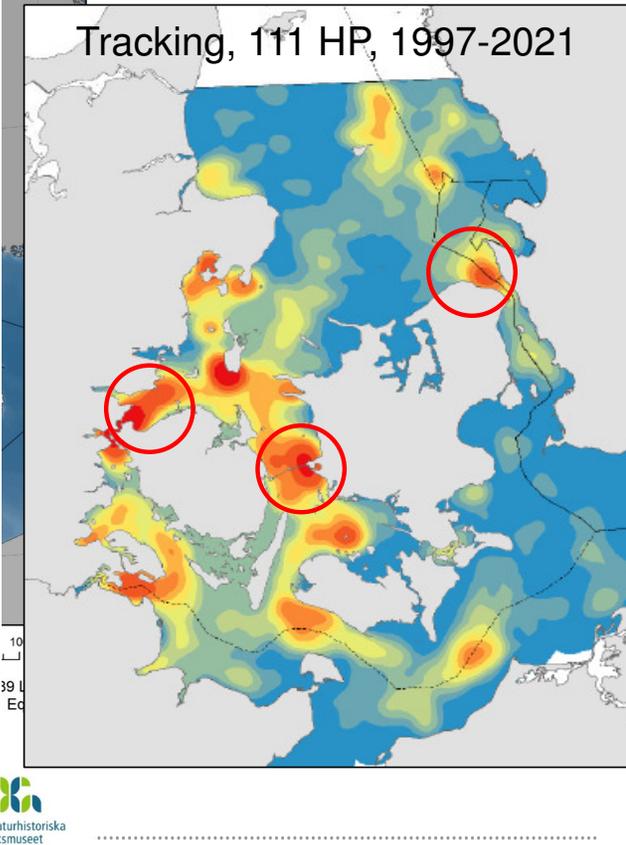
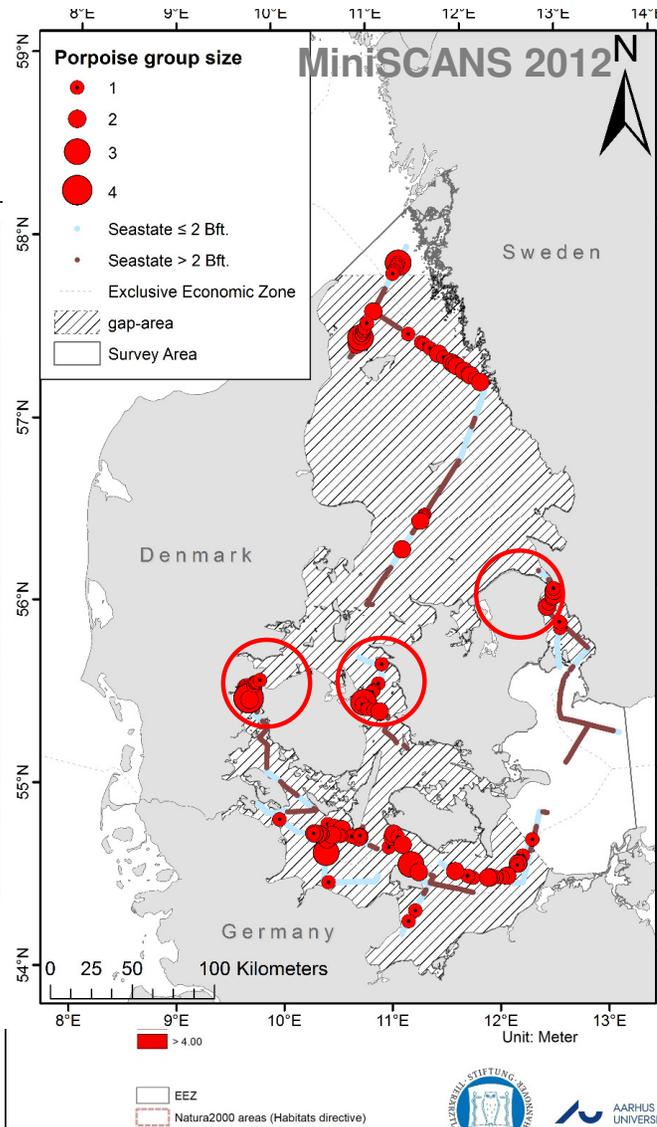
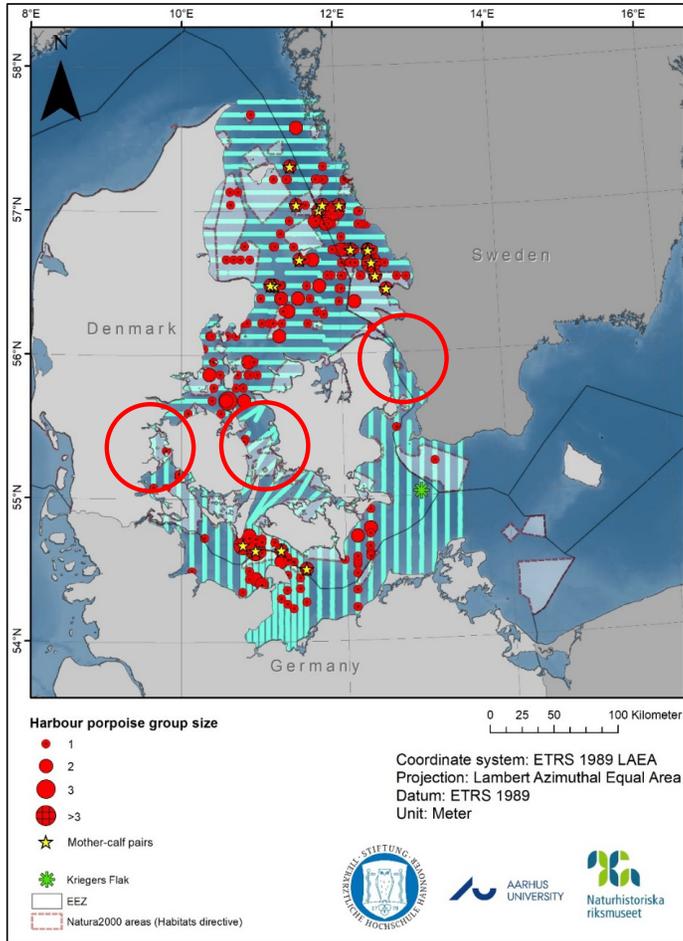
- 1994 - SCANS
- 2005 - SCANS-II
- 2012 - MiniSCANS
- 2016 - SCANS-III
- 2020 – MiniSCANS-II



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

Unger et al. 2021

RESULTS



CONCLUSSION

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

