

ASCOBANS NSG11



AARHUS
UNIVERSITY
DCE - DANISH CENTRE FOR ENVIRONMENT AND ENERGY

14-15 FEBRUARY 2023

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BYCATCH ISSUES

(Monitoring & Mitigation initiatives: REM, Pinger types used, research on alternative AADs, gear modifications):

DTU Aqua have been working on Bycatch data from their video monitoring programs on fishing vessels:

Larsen, F., Kindt-Larsen, L., Sørensen, T. K., & Glemarec, G. (2021). Bycatch of marine mammals and seabirds: Occurrence and mitigation. DTU Aqua. DTU Aqua-rapport No. 389-2021. <https://www.aqua.dtu.dk/-/media/institutter/aqua/publikationer/rapporter-352-400/389-2021-bycatch-of-marine-mammals-and-seabirds.pdf>

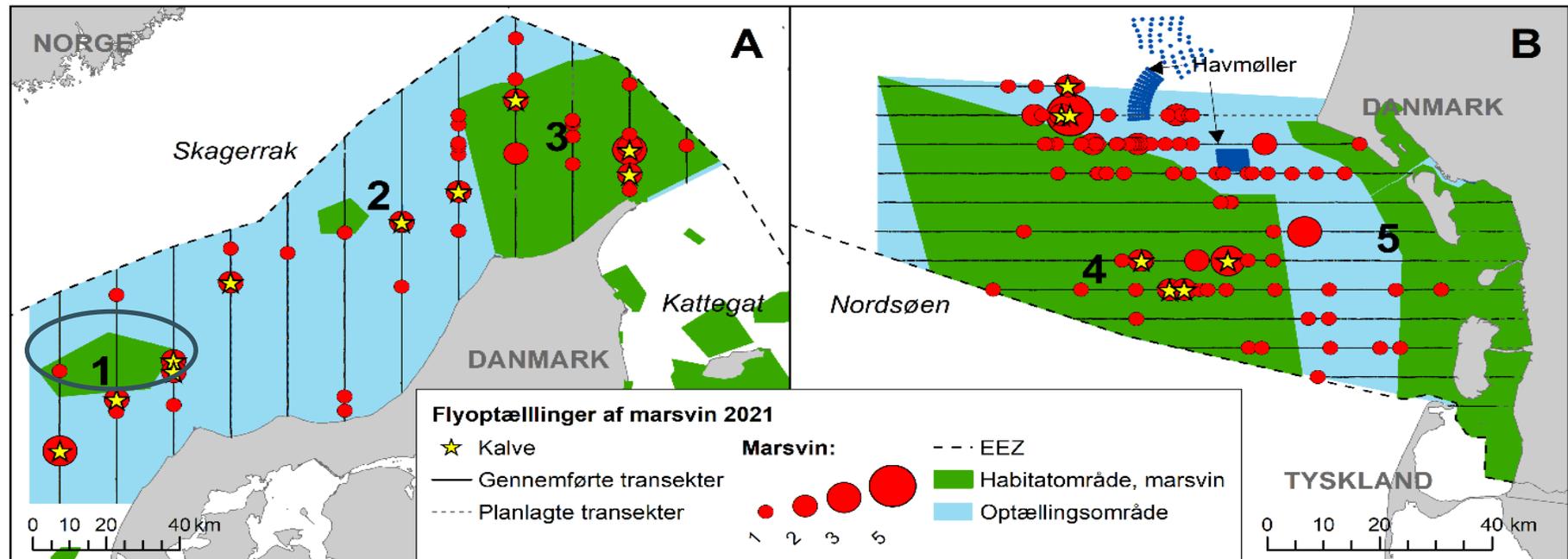
Glemarec, G., Vinther, M., Håkansson, K. B., & Rindorf, A. (2022). Collection of by-catch data for seabirds and marine mammals and by-catch and population densities for non-commercial fish. DTU Aqua. DTU Aqua-rapport No. 408-2022.
https://backend.orbit.dtu.dk/ws/portalfiles/portal/282860680/408_2022_Collection_of_bycatch_data_for_seabirds_and_marine_mammals.pdf

Also DTU Aqua is testing the PAL pinger in the North Sea set net fishery that have shown that a distance of 200m between pingers is more effective than a distance of 500 m.

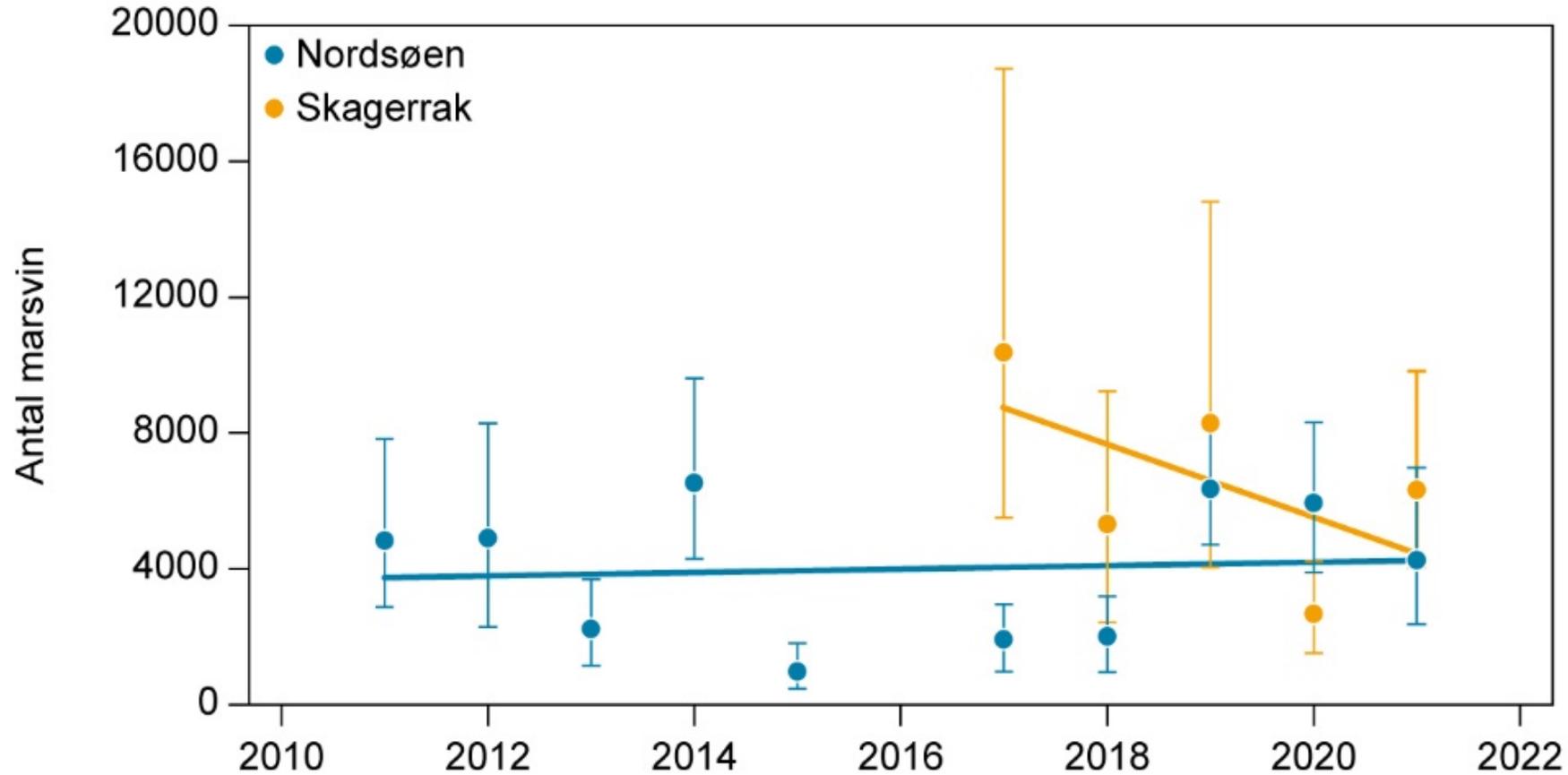
SURVEYS & MONITORING OF PORPOISE DISTRIBUTION & ABUNDANCE IN NORTH SEA OVERALL OR REGIONALLY:

2022: Participation in SCANS-IV

2021: national aerial surveys + PAM

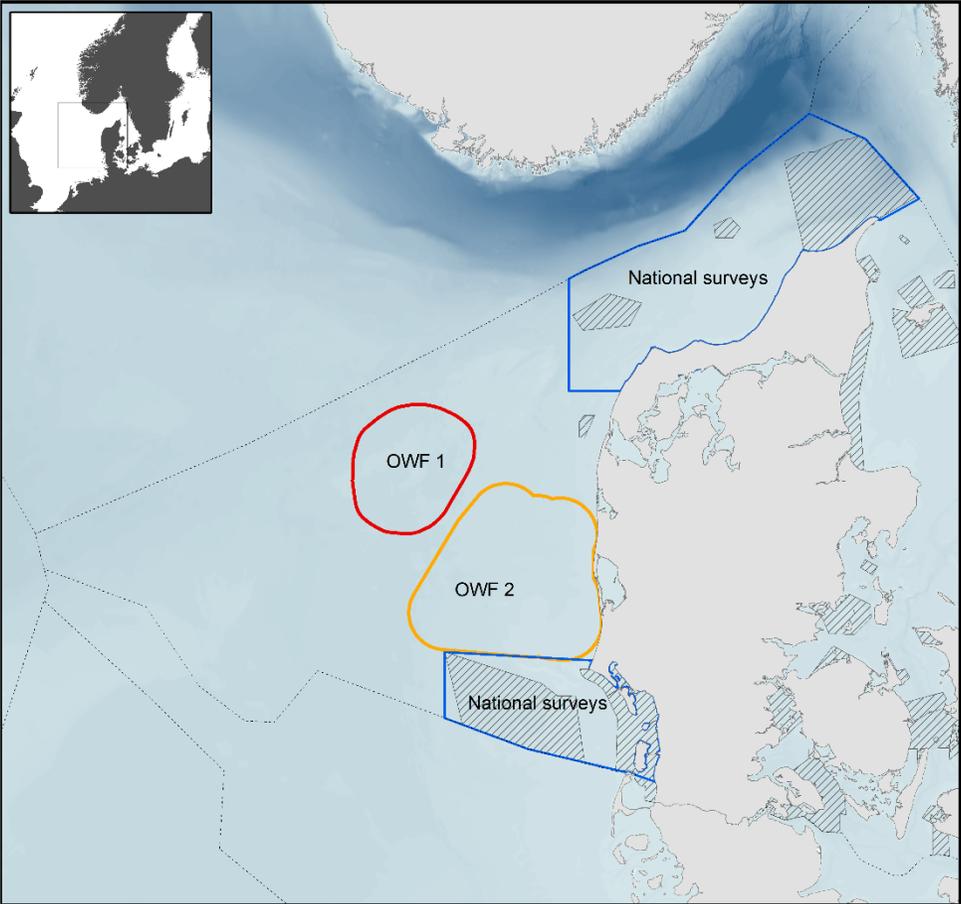


SURVEYS & MONITORING OF PORPOISE DISTRIBUTION & ABUNDANCE IN NORTH SEA OVERALL OR REGIONALLY:



SURVEYS & MONITORING OF PORPOISE DISTRIBUTION & ABUNDANCE IN NORTH SEA OVERALL OR REGIONALLY:

Wind farm studies 2021-2025



HEALTH:

Gallagher, C. A., Grimm, V., Kyhn, L. A., Kinze, C. C., & Nabe-Nielsen, J. (2021). Movement and seasonal energetics mediate vulnerability to disturbance in marine mammal populations. *American Naturalist*, 197(3), 296-311.

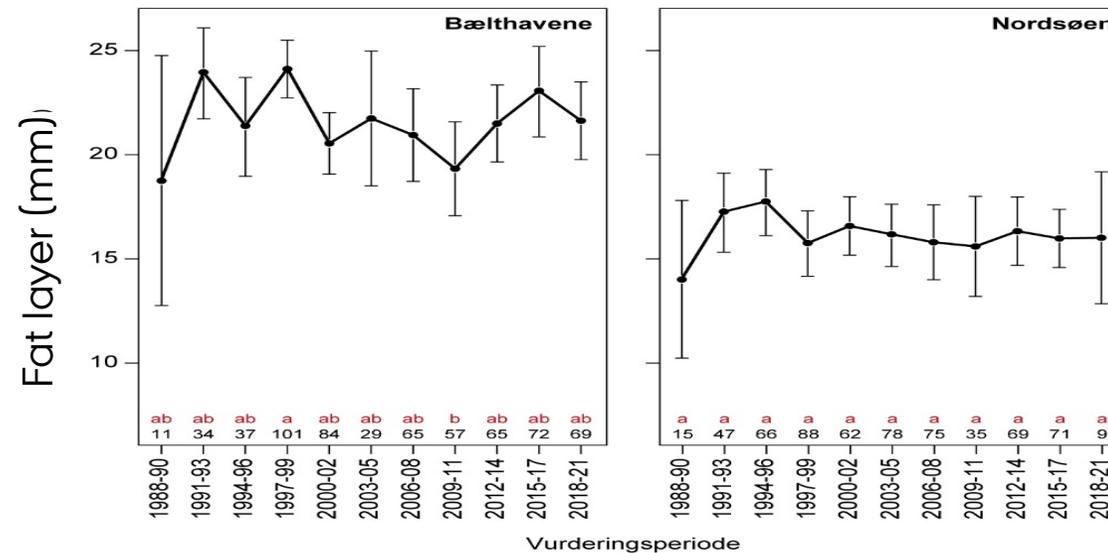
<https://doi.org/10.1086/712798>

Kyhn, L.A., Beest, F.V. & Galatius, A. 2022. Spæktykkelse hos tre danske havpattedyr 2019-2021. Overvågning udført for Miljøstyrelsen. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi, 42 s. - Teknisk rapport nr. 253

<http://dce2.au.dk/pub/TR253.pdf>

Working on a project analysing harbour porpoises for PCBs

Harbour porpoises



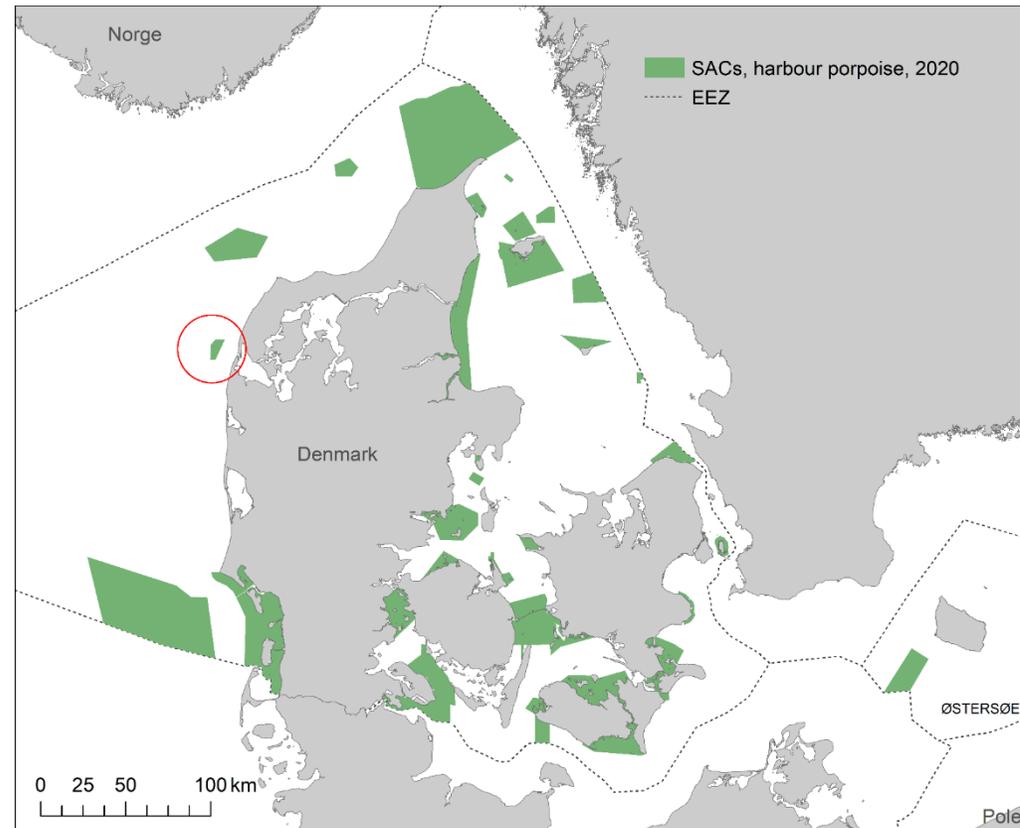
STUDIES ON NOISE IMPACTS (INCLUDING MONITORING & MITIGATION):

- Tango project – change of shipping line in Kattegat - finished
- "Guidelines for underwater noise, Installation of impact or vibratory driven piles" - Energistyrelsen may 2022: News: 1) auditory weighting and 2) threshold for behaviour.
- Tougaard, J., Beedholm, K., & Madsen, P. T. (2022). Thresholds for noise induced hearing loss in harbor porpoises and phocid seals. *Journal of the Acoustical Society of America*, 151(6), 4252-4263. <https://doi.org/10.1121/10.0011560>
- Kastelein, R. A., de Jong, C. A. F., Tougaard, J., Helder-Hoek, L., & Defiliet, L. N. (2022). Behavioral Responses of a Harbor Porpoise (*Phocoena phocoena*) Depend on the Frequency Content of Pile-Driving Sounds. *Aquatic Mammals*, 48(2), 97-109. <https://doi.org/10.1578/AM.48.2.2022.97>
- Tougaard, J., Sveegaard, S., & Galatius, A., (2021). Marine mammal species of relevance for assessment of impulsive noise sources in Danish waters: Background note to revision of guidelines from the Danish Energy Agency , 13 s., Scientific note from DCE – Danish Centre for Environment and Energy Nr. 19 https://dce.au.dk/fileadmin/dce.au.dk/Udgivelser/Notater_2021/N2021_19.pdf
- Elmegaard, S. L., McDonald, B. I., Teilmann, J., & Madsen, P. T. (2021). Heart rate and startle responses in diving, captive harbour porpoises (*Phocoena phocoena*) exposed to transient noise and sonar. *Biology Open*, 10(6), [bio058679]. <https://doi.org/10.1242/bio.058679>



RELEVANT INFORMATION ON PORPOISE MPAS (NEW ONES, MANAGEMENT PLANS, MONITORING PORPOISES & IMPACTS)

Harbour porpoises were added to 20 existing SACs in 2020. One of these (marked in red on the map below) is located in the Danish North Sea/Skagerrak. The rest are in Belt Sea region (18) and the Baltic Sea near Bornholm (1):





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