

Nationell populationsövervakning av tumlare

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Havs
och Vatten
myndigheten



Tumlarpopulationer runt Sverige

- Nordsjöpop ~340 000 (2022)

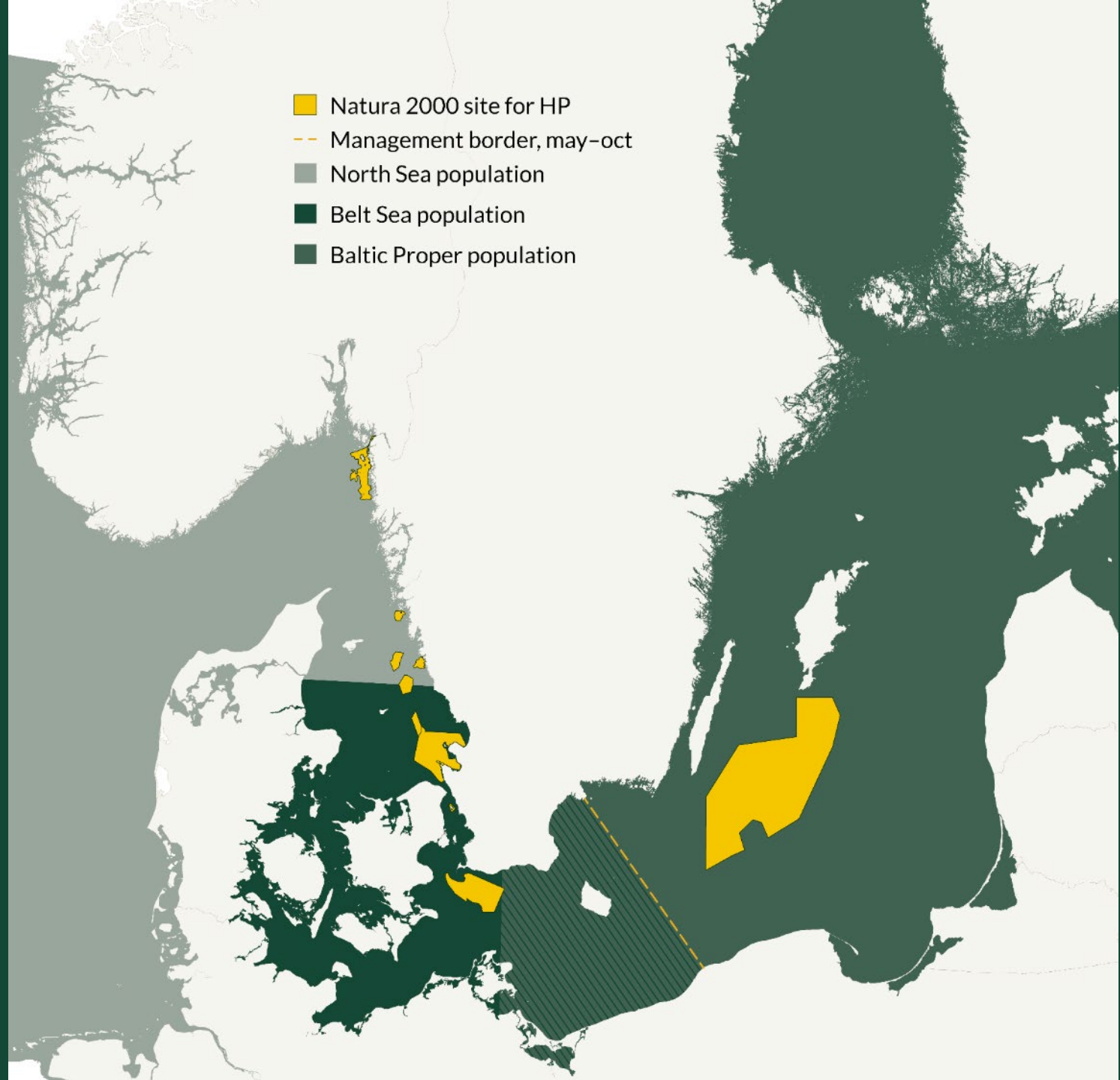
Stabil (OSPAR 2022)

- Bälthavspop ~14 000 (2022)

Sårbar (VU; HELCOM 2013) eller starkt hotad (EN; HELCOM 2025)?

- Östersjöpop ~500 (2012)

Akut hotad (CR; HELCOM 2013, SE 2020, IUCN 2023)



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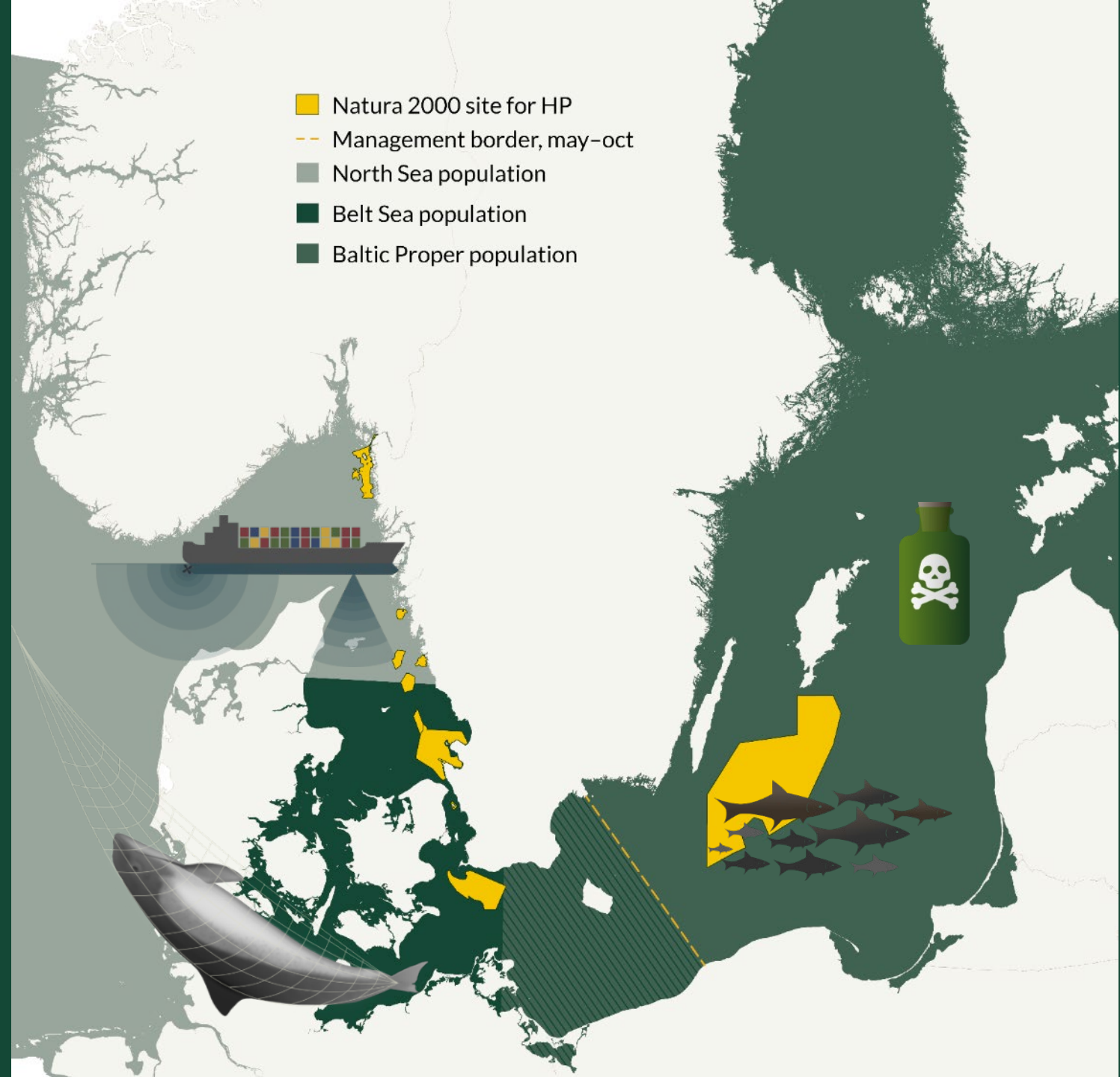
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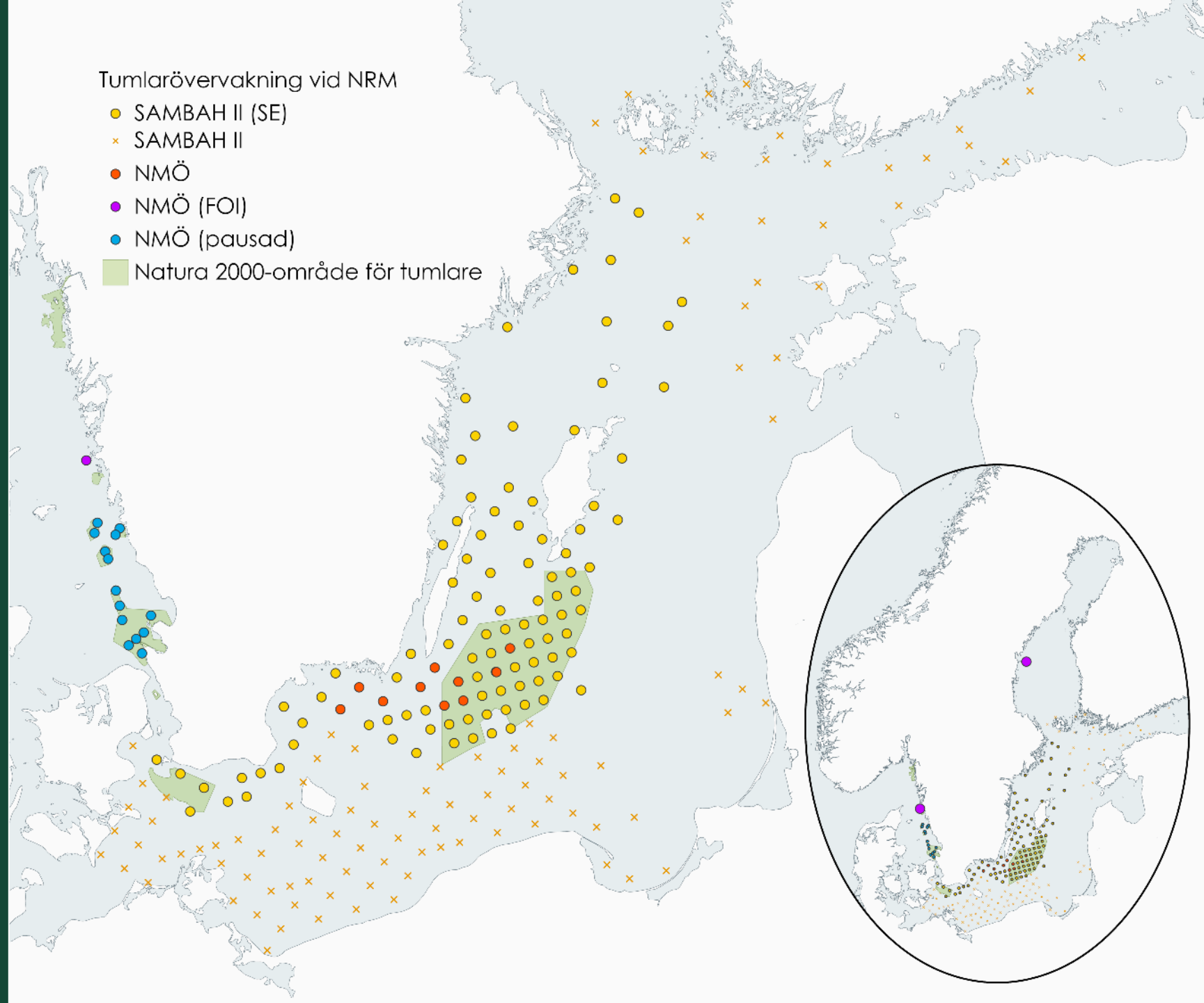
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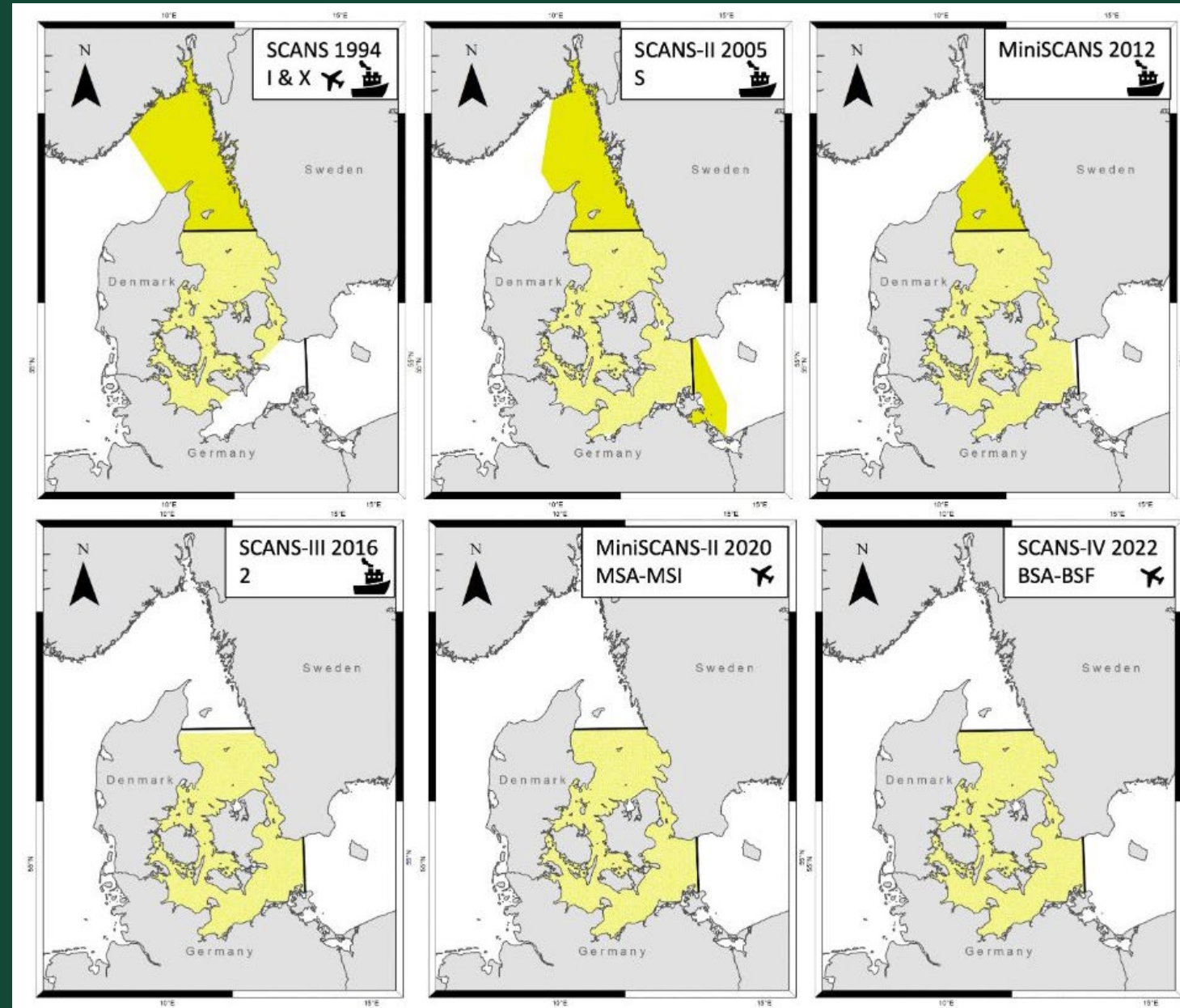
Nationell populations- övervakning

- Utför stationär akustisk övervakning med C-PODdar
 - Kontinuerligt inom SE
 - SAMBAH II (1 år)
- Medverkar i visuella linjetransekter genom nationellt samarbete
 - ~juli vart 6:e år



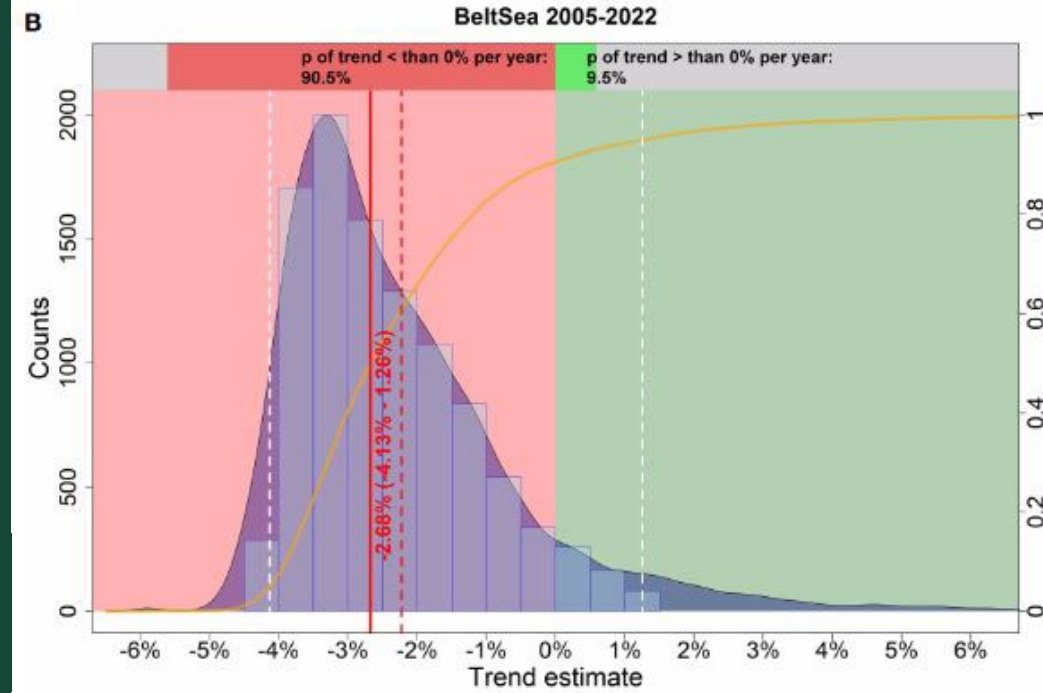
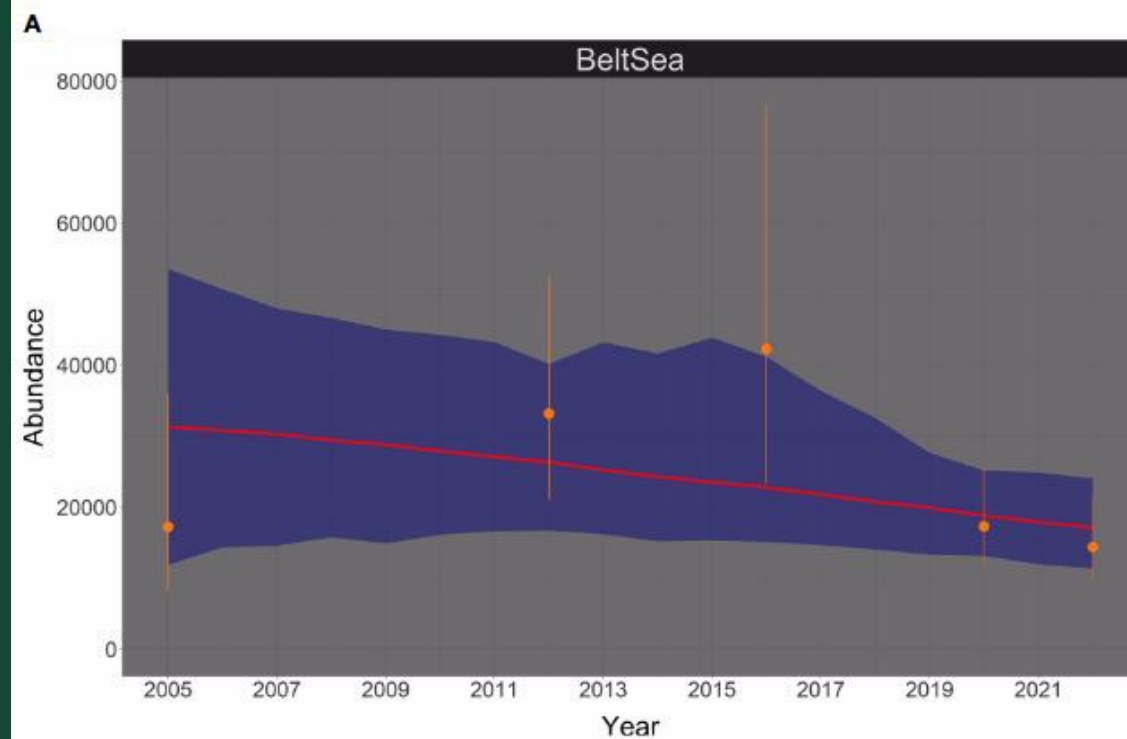
Visuella linjetranssekt- inventeringar Bälthavspopulationen

- Sex inventeringar 1994-2022
- Båt och/eller flyg
- Alla korrigerade för bias
 - observatörer och tumlares synlighet
- Skillnader i inventeringsområden
 - 1994 ej inkluderat i trendanalysen
 - 2005, 2012 post-stratifierade



Resultat trendanalys Bälthavspopulationen

- 5 inventeringar från 2005 till 2022 (18 år)
- Trend: -2.68 % (95 % CI -4.13 till +1.26 %)/år
- 90.5 % sannolikhet att trenden är negativ



Populationsestimat för beräkning av mortalitetsgräns

- Mortalitetegräns = $N_{\min} \times \frac{1}{2} r_{\max} \times F_r$
- Hitta F_r som tillåter populationen att bibehållas vid eller uppnå:
 - 80 % av max populationsstorlek vid carrying capacity
 - med 80 % sannolikhet
 - inom 100 år
- Trots antagna osäkerheter i parametrar för livshistoria och miljö (20 scenarier)



Resultat mortalitetsgräns Bälthavspopulationen

För 10 scenarier med låg osäkerhet i
abundansestimater behövs F_r :

- 0,4 för 3 scenarier
- 0,1 eller 0,2 för 7 scenarier, inkl. om
bifångsten är underestimerad

F_r	Mortality limit
0.1	24
0.2	48
0.3	72
0.4	96
0.5	120
0.6	144
0.7	168
0.8	192
0.9	216
1	240

Resultat mortalitetsgräns Bälthavspopulationen

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abundansestimater behövs F_r :

- 0,4 för 3 scenarier
- 0,1 eller 0,2 för 7 scenarier, inkl. om
bifångsten är underestimerad
- Nuvarande bifångstnivå i SE och DK
(ej DE): **~900 tumlare/år**

F_r	Mortality limit
0.1	24
0.2	48
0.3	72
0.4	96
0.5	120
0.6	144
0.7	168
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A negative trend in abundance and an exceeded mortality limit call for conservation action for the Vulnerable Belt Sea harbour porpoise population

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The management and conservation of biodiversity relies on information on both the abundance of species and the potential impact of threats. Globally, one of the largest threats towards marine biodiversity is bycatch in fisheries. Under the Marine Strategy Framework Directive (MSFD), EU Member States are required to assess the status of species, such as the harbour porpoise (*Phocoena phocoena*), in relation to their abundance and mortality due to bycatch every six years. The Vulnerable (HELCOM) Belt Sea population of harbour porpoise has been surveyed to determine its abundance six times using dedicated aerial or ship-based line-transect distance sampling surveys. Here, we estimated the first trend in population abundance over an 18 year period (2005–2022). Using the most recent abundance estimate, we computed a mortality limit applying the modified Potential Biological Removal (mPBR) method based on the regionally agreed conservation objective to restore or maintain 80% of carrying capacity over 100 years with an 80% probability. Over the past 18 years there has been a strong negative trend (-2.7% p.a.; 95% CI: -4.1%, +1.3%) in abundance, with a 90.5% probability. The mortality limit was estimated to be 24 animals, which the current bycatch estimates (~900 porpoises/year from the commercial Danish and Swedish set net fishery fleets, with no data from Germany and other fishery types) exceed by far. The frequency and quality of data available on abundance for this population are higher than those available for the majority of marine species. Given the observed population decline and likely unsustainable levels of

Optimisation of static passive acoustic monitoring of harbour porpoises in the Kattegat Sea



Julia Carlström, Pia Eriksson, Kylie Owen och Martin Sköld

A photograph of two whales breaching the surface of a greenish sea. The whale on the left is larger and is shown in profile, with its head and back above water. The whale on the right is smaller and is shown from a more top-down perspective, with its head and back above water. The water is a deep green color, and there are ripples around the whales. The word "Tack!" is written in white text in the center of the image.

Tack!



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