

BYCATCH MITIGATION FOR THE BALTIC PROPER HARBOUR PORPOISE

What To Do If Pingers Are Not
An Option?

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Written by



Supported by



We, as environmental NGOs, are acutely aware of the difficult situation for small-scale fisheries in the Baltic, with severely reduced fish stocks and significant ecosystem changes affecting catches and profitability. Therefore, we want to underline that we support small-scale low impact fisheries and that our first choice to protect the Baltic Proper harbour porpoise from bycatch outside of MPAs would be to use pingers in static net fisheries according to the ICES advice. This would allow small-scale fisheries to continue to operate while avoiding harbour porpoise bycatch. However, if this is not possible, bycatch of the Baltic harbour porpoise needs to be mitigated in a different way, which is likely to have an impact on small-scale fisheries. Noting the potentially important impact on small scale coastal fisheries of alternative measures like time/area closures and general reduction of fishing efforts, we encourage that such effects should be mitigated by targeted support to affected small scale fisheries, e.g. through the European Maritime and Aquaculture Fund or national subsidies.

Furthermore, those military forces that oppose the use of pingers need to acknowledge their full societal and environmental responsibilities and help to find solutions for saving the Baltic harbour porpoise, including by making the possible problems caused by the potential interference of pingers with military sonars fully transparent, so technical adaptations and alternatives can be developed.



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INTRODUCTION

The Baltic Proper harbour porpoise is listed by IUCN as critically endangered¹, and the main threat to the population is bycatch in static net fisheries. It has been estimated that the population cannot sustain bycatch above 0.7 animals per year, which should be seen in relation to the estimated current bycatch of 3-7 animals per year². In May 2020, at the request of the European Commission, ICES published scientific advice on emergency measures to prevent bycatch for Baltic Proper harbour porpoise in the Northeast Atlantic³, and since then two Joint Recommendations have been submitted by the Baltic Sea regional fisheries body BALTFISH to the European Commission^{4,5}. In February 2022, a Delegated Act⁶ based on those two Joint Recommendations came into force, closing static net fisheries in important harbour porpoise Marine Protected Areas (MPAs), some all year round and some part of the year, depending on their location in relation to the known seasonal distribution of the Baltic Proper population. The Delegated Act also stipulates mandatory pinger use in a couple of MPAs (FIGURE 1).

¹ Philip S. Hammond et al., 'Phocoena Phocoena (Baltic Sea Subpopulation)', The IUCN Red List of Threatened Species 2016; 2016, <http://www.iucnredlist.org/details/17031/0>.

² North Atlantic Marine Mammal Commission and Norwegian Institute of Marine Research, 'Report of Joint IMR/NAMMCO International Workshop on the Status of Harbour Porpoises in the North Atlantic' (Tromsø, Norway, 2019), https://nammco.no/wp-content/uploads/2020/03/final-report_hpws_2018_rev2020.pdf.

³ ICES, 'ICES Special Request Advice on Emergency Measures to Prevent Bycatch of Common Dolphin (*Delphinus Delphis*) and Baltic Proper Harbour Porpoise (*Phocoena Phocoena*) in the Northeast Atlantic', 2020, https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/Special_Requests/eu.2020.04.pdf.

⁴ https://irp.cdn-website.com/53007095/files/uploaded/harbour-porpoises-jr_dec%202020.pdf

⁵ https://irp.cdn-website.com/53007095/files/uploaded/jr-on-harbour-porpoises_sep%202021.pdf

⁶ <https://webgate.ec.europa.eu/regdel/#/delegatedActs/1860?lang=en>

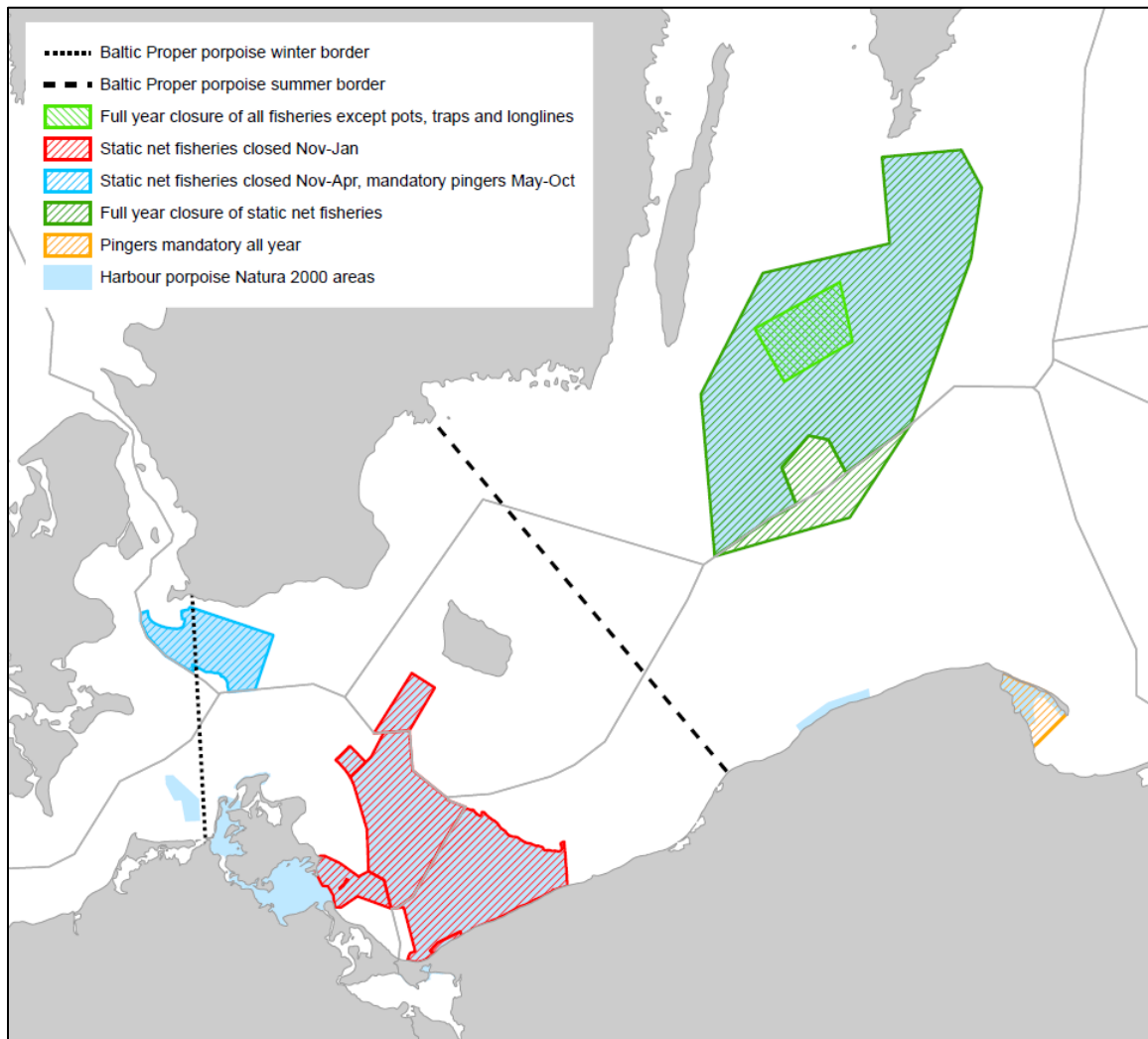


FIGURE 1: Map of the Baltic Sea region showing the measures specified in the Delegated Act amending EU regulation 2019/1241, and Natura 2000 areas where the harbour porpoise is listed in the Standard Data Form of the site.

However, for bycatch to not exceed the threshold of 0.7 animals per year, the measures in the Delegated Act are not sufficient. The ICES advice⁷ proposes that besides measures taken within protected areas, bycatch also must be mitigated throughout the entire population range. This is proposed to be achieved through obligatory use of pingers in all static net fisheries within the population range where no closures are in effect. We as NGOs support this, mainly because use of pingers would allow small-scale fisheries to continue to operate. However, in some Baltic Sea countries the military forces will not accept large-scale use of pingers because they are said to interfere with military underwater acoustic activities such as sonars.

⁷ ICES 2020. ICES Special Request Advice on Emergency Measures to Prevent Bycatch of Common Dolphin (*Delphinus Delphis*) and Baltic Proper Harbour Porpoise (*Phocoena Phocoena*) in the Northeast Atlantic.

As a result, the only option to reach the bycatch threshold of 0.7 animals per year and adhere to the Marine Strategy Framework Directive (MSFD), the Habitats Directive (including its Natura 2000 marine protected areas network goals) and some of the main objectives of the Common Fisheries Policy (CFP) is to drastically reduce or even completely close static net fisheries in the distribution range of the Baltic Proper harbour porpoise.



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POTENTIAL ALTERNATIVE MEASURES

If pingers cannot be used to minimize bycatch in Baltic Sea static net fisheries, the only other viable option is to drastically reduce or even completely remove fishing effort with gear that holds the risk of porpoise bycatch⁸. With this in mind, we here propose alternative measures that can be used as a starting point to minimise bycatch of the Baltic Proper harbour porpoise, to ensure the long-term survival of this genetically distinct population.

⁸ ICES, 'Workshop on Fisheries Emergency Measures to Minimize Bycatch of Short-Beaked Common Dolphins in the Bay of Biscay and Harbour Porpoise in the Baltic Sea (WKEMBYC)', ICES Scientific Reports, ICES Scientific Reports, 2020, <http://doi.org/10.17895/ices.pub.7472>.

General reduction in fishing effort

A decrease in static net fishing effort can be achieved through replacing fishing nets with alternative low-impact fishing gear that do not cause harbour porpoise bycatch. We therefore propose an increase of the pace in research, development, testing and implementation of alternative gear, so that static nets can be fully replaced by alternative gear in both recreational and commercial fisheries. It is important to make sure a decrease in static net effort does not result in an increase in trawling effort, nor in a displacement of static gear fishing effort into other areas. Any displacement of fishing effort should be in alternative gear.

Additional time/area closures

We further propose

- › Implementing permanent or seasonal closures for static net fisheries in other areas that are known to be important for the Baltic Proper harbour porpoise population, based on SAMBAH results, national harbour porpoise monitoring programmes and other research projects.
- › In areas closed for static net fisheries, alternative fishing gear proven to avoid harbour porpoise bycatch (e.g., pots, traps and longlines) could be permitted, however potential adverse effects on the harbour porpoise and other species must be monitored. This would stimulate the exploration and application of alternatives to static nets which to date only occur opportunistically and at a small scale within the framework of just a few research projects.
- › In the North Sea⁹ and the Black Sea¹⁰, turbot nets have been shown to be extremely dangerous for harbour porpoises (e.g., 1 porpoise found as bycatch per 42 fishes). Especially with the current cod fishing ban, flatfish fisheries are likely to become one of the most important static net fisheries in the Baltic Sea. Because typically turbot nets are set for one week, and the fact that there is currently no limit laid out in the EU Technical Measures Regulation, the permitted soak time for all flatfish nets should be limited to 24 hours.

⁹ Finn Larsen et al., 'Bycatch of Marine Mammals and Seabirds. Occurrence and Mitigation', DTU Aqua Report (National Institute of Aquatic Resources, Technical University of Denmark, 2021), <https://orbit.dtu.dk/en/publications/bycatch-of-marine-mammals-and-seabirds-occurrence-and-mitigation>.

¹⁰ Birkun AA Jr, Frantzis A (2008) *Phocoena phocoena* ssp. *relicta*. In: IUCN 2011. IUCN Red List of Threatened Species, Version 2011.2. IUCN, Gland. Available at www.iucnredlist.org (accessed 7 April 2012)

Measures by country

GERMANY

- › In the German MPAs listed in the Delegated Act as closed for static net fisheries from November through January, closures should be extended to November through April, at least, but preferably, closures should be valid year-round. This would protect also the Belt Sea harbour porpoise population and would have a significantly beneficial effect for the mitigation of seabird bycatch, which is known to be high in the region.
- › We propose to include also the following areas into the areas closed for static nets, listed in order of priority:
 1. **Westliche Pommersche Bucht:** SPA Westliche Pommersche Bucht (DE1649401).
 2. **Steilküste und Blockgründe:** SACs Erweiterung Libben, Steilküste und Blockgründe Wittow und Arkona (DE1345301), Steilküste und Blockgründe Wittow (DE1346301) and Jasmund (DE1447302).
 3. **Rönnebank-Adlergrund:** The triangle-shaped area between Westliche Rönnebank (DE1249301), Adler Grund og Rønne Banke (DK00VA261) and Adlergrund (DE1251301).
 4. **Arkona:** The area south of a line drawn between the northwest corner of Westliche Rönnebank (DE1249301) and the northernmost point of Erweiterung Libben, Steilküste und Blockgründe Wittow und Arkona (DE1345301) and delimited on the other sides by land and areas mentioned above.
- › Close the area between Westliche Pommersche Bucht (DE1649401) and the coast for static nets, to level the playing field compared to Polish fishermen.
- › It should be examined by the German Navy whether the use of pingers in the remaining areas outside MPAs might be feasible, or if there are potential technical adjustments that can decrease the interference of pingers with military sonars.

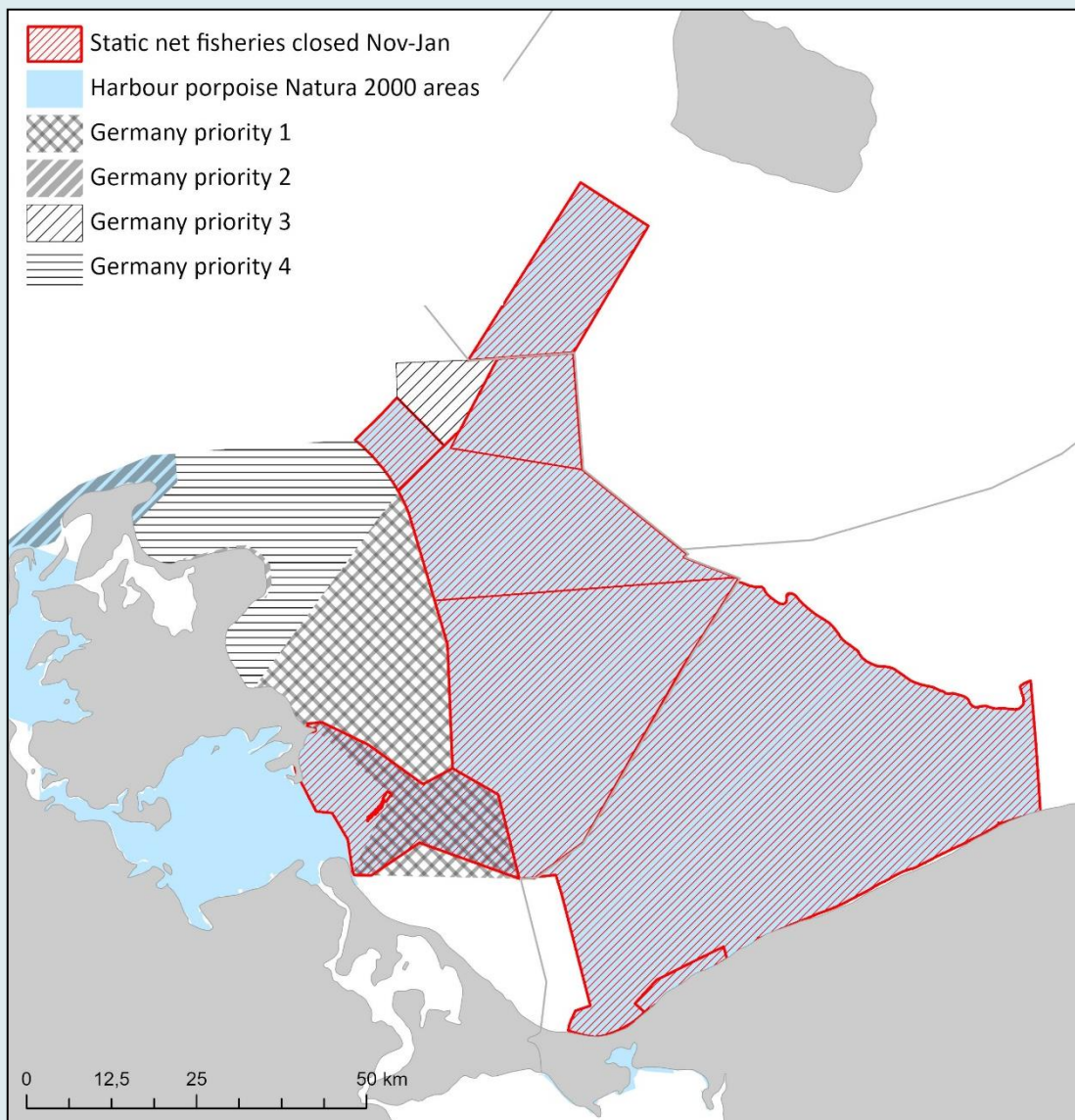


FIGURE 2: Additional areas proposed for closures of static nets in German waters, in black pattern. Red striated areas show existing fisheries regulations in German and Polish waters.



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SWEDEN

- › Based on the report Skyddsvärda områden för tumlare i svenska vatten¹¹ and bycatch risk maps from the HELCOM ACTION project¹², static net fisheries should be closed in the following areas (as defined in Carlström and Carlén 2016):
 - **Hanö Bay**
 - **South of Öland**
 - **Northern Öland**
- › Stepwise decrease of effort and finally phasing out of recreational static net fisheries.
- › In order to enable other protection measures than fisheries regulations, the Southern Midsea Bank (although it is already closed for static net fisheries through the Delegated Act), should be formally incorporated in the Natura 2000 area Hoburgs bank och Midsjöbankarna.

¹¹ Julia Carlström and Ida Carlén, 'Skyddsvärda områden för tumlare i svenska vatten', AquaBiota Report (Stockholm, Sweden: AquaBiota Water Research, 2016), http://www.aquabiota.se/wp-content/uploads/abwr_report2016-04_skyddsvarda_omraden_for_tumlare_i_svenska_vatten.pdf.

¹² HELCOM ACTION, 'Bycatch in Baltic Sea Commercial Fisheries: High-Risk Areas and Evaluation of Measures to Reduce Bycatch.' (Helsinki, Finland: HELCOM, 2021).

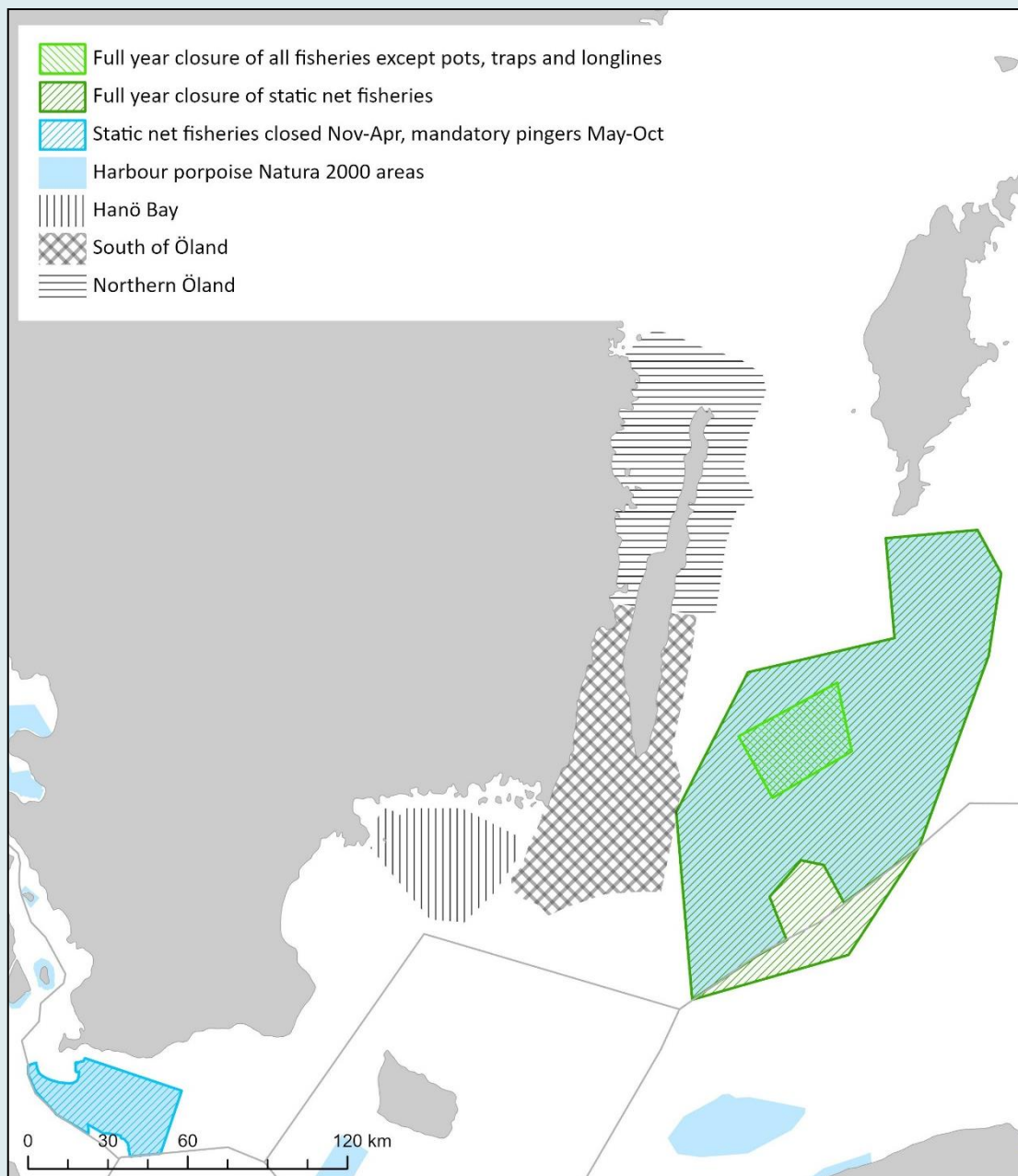


FIGURE 3: Additional areas proposed for closures of static nets in Swedish waters, in black pattern. Blue and green areas show existing fisheries regulations.

FINLAND

- › Designating a Natura 2000 area in the area south of the Archipelago Sea where harbour porpoises are present in the cold-water season, and closing static net fisheries in this area at least from November – April, and ideally year round.
- › Stepwise decrease of effort and finally phasing out of recreational static net fisheries.

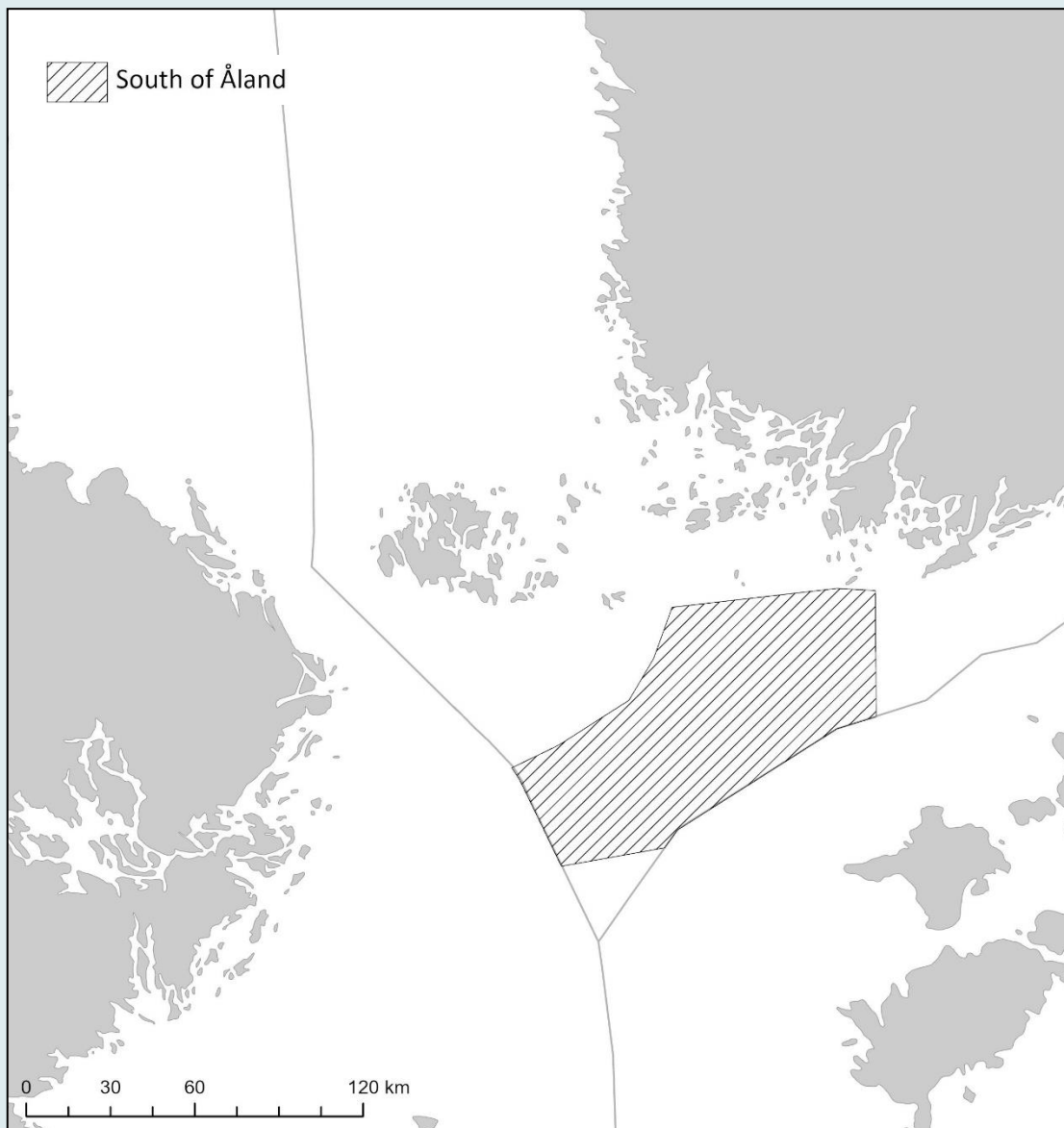


FIGURE 4: The area proposed for closures of static nets in Finnish waters.

POLAND

- › In the area in Puck Bay listed in the Delegated Act, replace the mandatory pinger use with permanent (year-round) closure of static net fisheries
- › Closing static net fisheries in the area in the southern part of the Gulf of Gdansk between Puck Bay (as delimited in the Delegated Act, see the previous point) and a line drawn from the easternmost tip of the Hel peninsula to the Russian border, alternatively introduce mandatory pinger use all year in this area.
- › Closing static net fisheries on Stilo bank, alternatively introduce mandatory pinger use here.
- › In order to enable other protection measures than fisheries regulations, the Polish part of the Southern Midsea bank (although it is already closed for static net fisheries through the Delegated Act), should be formally designated as a Natura 2000 marine protected area.

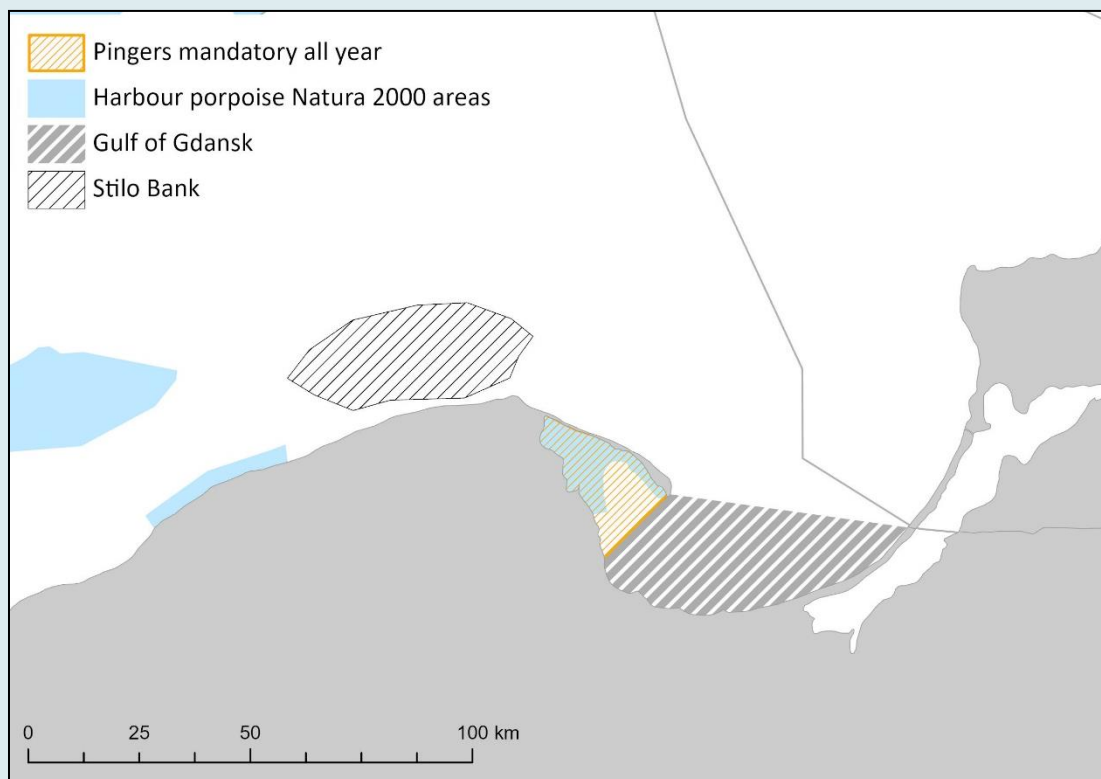


FIGURE 5: Additional areas proposed for closures of static nets or mandatory use of pingers in Polish waters.

ESTONIA, LATVIA & LITHUANIA

- › In Lithuanian Baltic Sea waters, recreational fishers are not allowed to use any passive gear. In Estonia and Latvia, stepwise decrease of effort and finally phasing out of recreational static net fisheries, see above.
- › Further research and internationally coordinated national monitoring is needed to identify important areas for harbour porpoise conservation in these countries.

Pingers

There are some concerns regarding acoustic deterrent devices, or “pingers”, including the fact that they contribute to underwater noise levels. However, pingers currently are the only technological approach to significantly reduce harbour porpoise bycatch while allowing static net fisheries to continue to operate the same gears without a reduction in effort.

We believe that it is possible to find technical adaptations to pingers that would minimize their impact on military underwater activities. We ask the military forces of Sweden, Finland and Germany to closely investigate such possibilities.

WHY DYNAMIC CLOSURES WON'T BE EFFECTIVE?

One of the measures discussed in BALTFISH is the so called moving-on procedure or dynamic closures: when harbour porpoises are sighted, static net fisheries would be closed in a certain area for a certain period of time. We emphasize the following reasons why this approach cannot be expected to provide effective bycatch mitigation in the Baltic:

- › There is no current demonstration that dynamic closures have been effective in mitigating bycatch, and particularly for a critically endangered, small and elusive species. For example, there have been a number of challenges in implementing similar dynamic measures for right whales in

the North-western Atlantic, despite these whales being much larger and more conspicuous and with a considerable amount of searching effort in place, including dedicated aerial surveys.¹³

- › Porpoises are difficult to detect visually and the chances of a sighting being reported when animals are present is very low. Even during dedicated visual surveys for harbour porpoises in good weather conditions the probability of detection is low, and drops rapidly with increasing sea state^{14,15}. In fact, visual surveys are not used in the Baltic Proper because of the very low density resulting in very low sighting rates.
- › Incidental sightings of harbour porpoises in the Baltic Proper generally do not correlate well with the published research of the porpoise distribution, because sightings occur so rarely and only where human activities and porpoises overlap in time and space^{16,7}.
- › Current porpoise acoustic monitoring systems are not suitable for real-time detections, which would be needed for a dynamic closure procedure. Market-available real-time detection systems can be expensive, difficult to setup, to use and to maintain, and have a limited detection range of a few hundred meters².
- › Dynamic closures would require a significant logistic effort of putting in place functional systems for reporting harbour porpoise sightings, including public education efforts to ensure that the public as well as fishers are aware of the need to report sightings.
- › There is an issue with how to mandate and enforce reporting of sightings as well as bycatch. For example, there is a conceivable risk that fishermen would refrain from reporting porpoise sightings if they knew this would result in their fisheries being closed or a need for displacement to suboptimal fishing grounds (which means there would be conflict of interest).
- › The temporal delay between a sighting report and the actual closure of fisheries would very likely be too long for the closure to be relevant. Small-scale movement patterns and temporal persistence of concentrations of porpoises in the Baltic Sea are not well understood, but as marine top

¹³ Published information showing that this approach is effective in mitigating bycatch is missing.

¹⁴ Laake, Calambokidis, Osmek & Rugh, 1997. Probability of Detecting Harbor Porpoise from Aerial Surveys: Estimating $g(0)$. *The Journal of Wildlife Management*, 61:1, pp 63-75. <https://www.jstor.org/stable/3802415>

¹⁵ Nachtsheim, D.A., Viquerat, S., Ramírez-Martínez, N.C., Unger, B., Siebert, U., Gilles, A., 2021. Small Cetacean in a Human High-Use Area: Trends in Harbor Porpoise Abundance in the North Sea Over Two Decades. *Front. Mar. Sci.* 7.

¹⁶ HELCOM Biodiversity database <https://maps.helcom.fi/website/biodiversity/>

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predators they are highly mobile, potentially travelling large distances within short periods of time. Without a good understanding of their movement patterns it is not possible to determine the necessary spatial and temporal extent of dynamic closures for them to be effective, even if porpoises were reliably detected and reported.

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WHAT TO DO IF PINGERS ARE NOT AN OPTION?

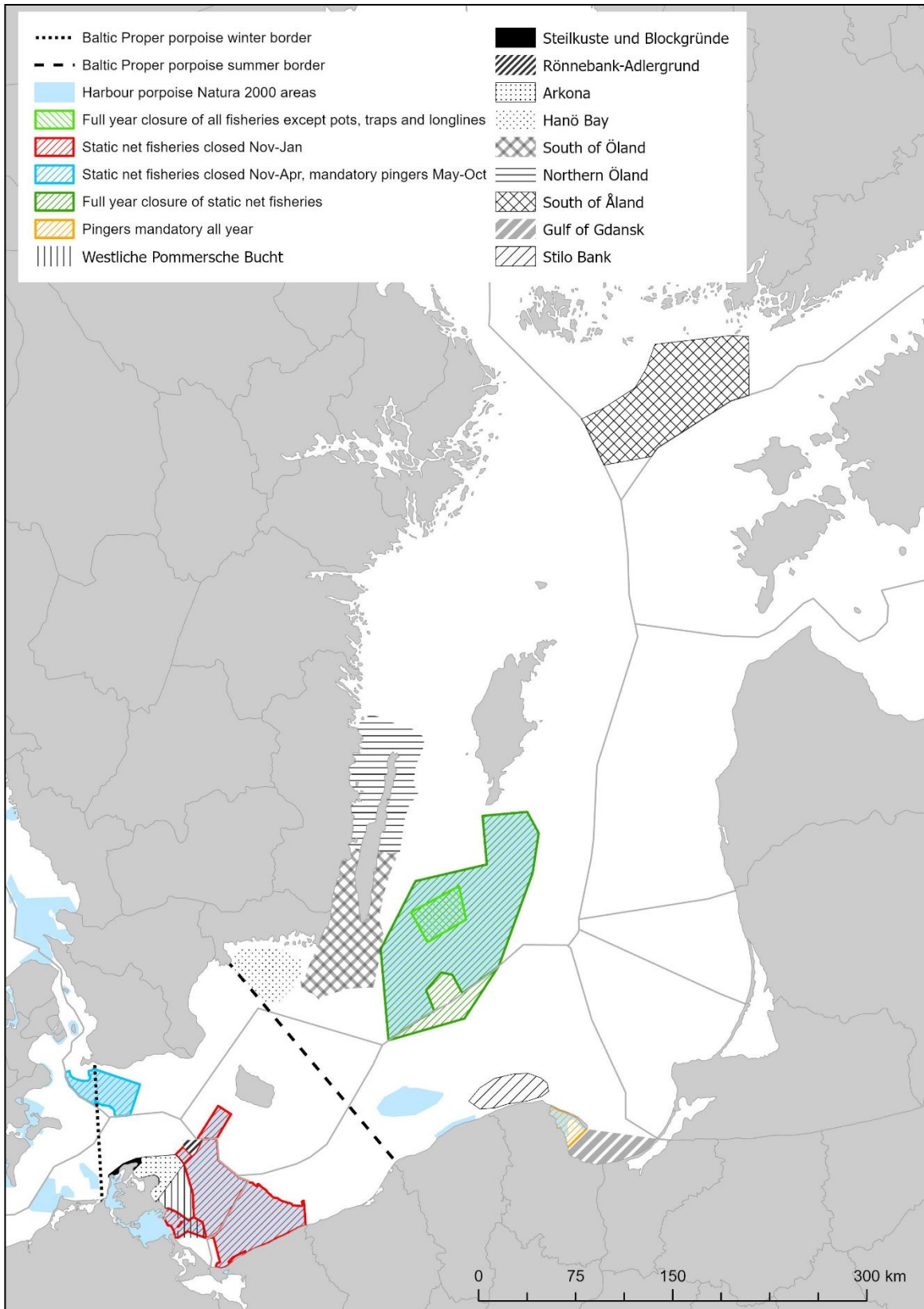


FIGURE 6: Overview of all proposed additional areas for closures or, for Polish waters, mandatory use of pingers.

CONCLUDING STATEMENT

While the Delegated Act published on 25 February 2022 is an important first step forward towards the protection of the Critically Endangered Baltic Proper harbour porpoise, the closures of static net fisheries and the pinger obligations listed in the Delegated Act will not sufficiently decrease the bycatch for this population to survive in the long run. Baltic Sea countries need to take immediate further measures to minimise harbour porpoise bycatch, and we hope that the proposals laid out here will be taken into account during future discussions on how to mitigate bycatch of the Baltic Proper harbour porpoise. If all of these measures were implemented, a situation which is considerably better than today would be achieved.

We would like to point out that although very important; bycatch mitigation is only one tool in the toolbox needed to save the Critically Endangered Baltic Proper harbour porpoise. A number of different threats and pressures such as underwater noise, overfishing, habitat deterioration, eutrophication, marine litter, the accumulation of environmental pollutants, climate change, as well as the cumulative effects of these threats also need to be taken into account and mitigated.

Finally, we want to emphasise that there is a general need for a deeper transformation of fisheries in Europe, and especially in the Baltic, which is exemplified e.g., by the recent collapse of the Baltic cod and herring stocks. Thus, the proposed measures must be part of an overarching international strategy following an ecosystem-based approach.

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