Naturvårdsverket
Att. Richard Kristoffersson
richard.kristoffersson@naturvardsverket.se
registrator@naturvardsverket.se

Ärendenummer
NV-07646-22

Datum
2024-01-18

Response to consultation pursuant to Articles 4 and 5 of the Espoo Convention on the planned offshore wind farm Bałtyk I

BirdLife Sweden has been offered to submit comments and proposals on the documentation and provide feedback on the commencement of the Affected Party's public opinion regarding a proposed wind farm establishment in the south-western part of the Baltic Sea in the Polish Exclusive Economic Zone (EEZ), but also in the immediate vicinity of the Swedish EEZ.

We conclude that millions of birds use the Baltic Sea during migration, and as a stop-over and wintering site, regardless of national borders. Hence, the potential effects on birds are indeed transboundary, and Sweden should definitely participate in the environmental impact assessment procedures as a potentially affected country.

The Bałtyk I offshore wind farm (OWF) is placed on, or in direct proximity to, *Södra Midsjöbanken* and will undoubtedly affect the Eurasian long-tailed duck population wintering in the area. Along the Baltic harbour porpoise, the long-tailed duck is the most important species to protect in the area, and constitutes the foundation for the Natura 2000 site *Hoburgs bank och Midsjöbankarna*. Looking at a sea map, it is easy to understand that the Natura 2000 site should cover also the Baltyk I area to be ecologically sound and adequately protect the long-tailed duck.

Possibilities to go ahead with the plans for Baltyk I appears small when considering the cumulative impacts from e.g. other wind farms, sand extraction, fishery, and shipping. The obligation to perform such an assessment is well described in the Natura 2000 legislation. For example, cumulative effects from the various activities in the area must be analyzed thoroughly, and – as harsh at is sounds – if the cumulative impacts reach a significant level, it is the last added exploitation pressure (i.e. Bałtyk I OWF in this case) that must be declined.

Background on potential effects on birds

There is robust evidence for the fact that species like red-throated diver, long-tailed duck, and black scoter avoid the proximity of offshore wind farms[1]. The red-throated diver is regarded as particularly vulnerable in this respect[2]. Avoidance is most evident up to 5 kilometers from offshore wind turbines, but a significant effect may exist up to 10–15 kilometers distance.

Site avoidance results in a functional loss of habitat, as the affected birds reject feeding areas adjacent to wind turbines. This effect can reach significant magnitude, especially in the light of the planned OWF developments presented by many governments. For long-lived species with "slow" reproduction systems, even a minor mortality increase among adult individuals – e.g. as a consequence of forced avoidance of favourable feeding areas – may lead to a significant effect on the populational level. Telemetric studies on red-throated divers show that this

[1] Fox A & Petersen IK. 2019. *Offshore wind farms and their effects on birds*. Dansk Ornitologisk Forenings Tidsskrift 113: 86–101; https://pub.dof.dk/artikler/454/download/doft-113-2019-86-101-havvindmoeller-og-deres-paavirkning-af-fugle.

[2] Heinänen S *et al*. 2020. *Satellite telemetry and digital aerial surveys show strong displacement of red-throated divers (Gavia stellata) from offshore windfarms*. Marine Environmental Research 160: 104989; https://doi.org/10.1016/j.marenvres.2020.104989.

species covers large distances during winter[3]. Therefore, barrier effects should also be considered. Barrier effects may be of importance for local and regional movements during winter.

Large numbers of nocturnally migrating birds may in certain weather conditions (particularly foggy nights) be attracted to and killed by illuminated constructions[4], such as lighthouses, skyscrapers, towers, wind turbines, oil rigs etc. [Extreme cases report e.g. 10 000 longspurs (*Calcarius lapponicus*) in Kansas 1998[5], and >12 000 birds in Wisconsin 1963[6].] To limit such events, lights and illuminations need to be adapted in the best possible way to minimize the risk of birds being attracted to offshore wind farms. For birds passing during daylight, possibilities of inducing a stronger avoidance behaviour (e.g. by painting one or more of the rotor blades[7-8]) should be investigated and implemented as far as possible.

Even if studies of migrating birds have concluded avoidance effects[9-10], especially if the visibility of the turbines is increased[11], they can not see the rotor blades in darkness, and "mass collision events" are likely to occur on a regular basis (known from e.g. the bridge between Sweden and Denmark). The wind turbine height, as well as the length and mortal speed of the rotor blades, increase the danger compared to other illuminated constructions. Significant mortality risk is evident even without illumination. Conclusion of passerine population declines driven by increased mortality connected to offshore wind turbines is unlikely, but the ongoing OWF expansion in the Baltic Sea may still likely result in millions of casualties every spring and autumn.

A mandatory step within the environmental jurisdiction is minimization of the negative consequenses of development projects. This can not be considered fulfilled for the wind industry without efforts to avoid mass collission events. Environmental laws demand the localisation of exploitation projects to sites where risks are moderate to small/negligeable. It should be stated that establishment of wind farms in the immediate passage of millions of birds is clearly a breach of the precautionary principle. BirdLife Sweden will consequently demand studies on potential (and actual) impacts from OWF on the seasonal mass migration of birds.

Appliance of instantaneous shut-down (curtailment) of wind turbines under specific conditions has been shown to be an effective measure to avoid mortality, at least for larger raptors[12]. By analyses of weather data and migration patterns (e.g. with radar), high-risk situations can be identified when large concentrations of birds occur, which should trigger immediate shut-down. This technique has already been tested in The Netherlands[13], where such systems are now obligatory for new projects, and must be developed and implemented further within the offshore wind industry. In relation to the total budget, curtailment will not be of significant economic proportion. High-risk

[3] Dorsch M *et al*. 2019. *DIVER – German tracking study of seabirds in areas of planned Offshore Wind Farms at the example of divers*. Final report on the joint project DIVER, FKZ 0325747A/B, funded by the Federal Ministry of Economics and Energy (BMWi) on the basis of a decision by the German Bundestag; https://www.bioconsult-sh.de/site/assets/files/1820/bmwi-fkz0325747a_b_final_150dpi.pdf.
[4] Longcore T *et al*. 2012. *An Estimate of Avian Mortality at Communication Towers in the United States and Canada*. PLoS One 7(4): e34025.
[5] Manville AM. 2000. *Avian mortality at communication towers: background and overview*. I Evans & Manville, editors. Proceedings of the workshop on avian mortality at communication towers; 1–5.
[6] Kemper C. 1996. *A study of bird mortality at a west central Wisconsin TV tower from 1957-1995*. The Passenger Pigeon 58(3): 219–235.
[7] Stokke BG *et al*. 2020. *Effect of tower base painting on willow ptarmigan collision rates with wind turbines*. Ecology and Evolution 10(12): 5670–5679; https://doi.org/10.1002/ece3.6307
[8] May R *et al*. 2020. *Paint it black: Efficacy of increased wind turbine rotor blade visibility to reduce avian fatalities*. Ecology and Evolution 10(16): 8927–8935; https://doi.org/10.1002/ece3.6592
[9] Rydell J *et al*. 2017. *Vindkraftens påverkan på fåglar och fladdermöss – Uppdaterad syntesrapport*, s. 27. Rapport 6740, Naturvårdsverket.
[10] Tjørnløv RS *et al*. *Resolving Key Uncertainties of Seabird Flight and Avoidance Behaviours at Offshore Wind Farms – Final Report for the study period 2020-2021*. DHI/Vattenfall, 2023.
[11] Martin GR & Banks AN. 2023. *Marine birds: Vision-based wind turbine collision mitigation*. Global Ecology and Conservation 42: e02386.
[12] de Lucas M *et al*. 2012. *Griffon vulture mortality at wind farms in southern Spain: distribution of fatalities and active mitigation measures*. Biological Conservation 147: 184–189.
[13] https://www.youtube.com/watch?v=mkScszf8NC4

situations will mainly, or exclusively, occur when wind speed is low, hence causing small/negligeable economic consequenses. In a German analysis, 36% of all bird mortalities at the studied OWF happened in October. By applying 30 hours of shut-down, when the migration intensity exceeded a specific threshold value, 27% of the mortality could be avoided[14].

Environmental Impact Assessment

The Environmental Impact Assessment (EIA) should include the following:

- The EIA must be based on which birds that use (and can be predicted to use) the area, and assessment of the occurrences/effects should be led by up-to-date knowledge on risks for birds in relation to offshore wind farms. Surveys from vessel and plane may, if performed thoroughly, give enough information on the area's importance for birds. However, when screening for important feeding areas for breeding birds, telemetric studies with GPS transmitters usually provide data of higher value.
- The EIA should evaluate the aggregated avoidance effect, which leads to a functional habitat loss, of the proposed wind farm together with other established and potential wind farms in the region. The importance of barrier effects should be included. Also, the effects of increased vessel traffic connected to the OWF should be assessed.
- It is of great importance to evaluate the cumulative effects from the wind farm(s) together with other activities, such as mining, shipping and fishing, affecting bird populations that are present in the OWF area.
- In-depth and prolonged radar studies must be performed to cover the magnitude, diversity, and variation of the massive bird (and possibly bat) migration. Analyses of radar data for birds/bats must be combined with weather data to understand the migration patterns. The EIA should include an overview prediction of annual mortality statistics for migrating birds.

Having read the EIA report, we are stunned by the fact that the impact of habitat loss and avoidance effects for the wintering population of the long-tailed duck, especially in accordance with the Natura 2000 jurisdiction, is not even mentioned, and hence not accounted for! The Bałtyk I project can definitely not be granted permission before such analyses have been presented. It needs to be mentioned that when proper assessments conclude a risk of negative impacts for the conservation values on which the designation of a Natura 2000 site is based, the possibilities for the project to be accepted in accordance with the Natura 2000 legislation are slim. The opinion of BirdLife Sweden is that Bałtyk I, at this stage, represents an obvious breach against the Birds Directive and the Natura 2000 network legislation. If moved to deeper waters further south, outside the most important feeding/wintering areas for long-tailed ducks, the project can possibly be accepted in relation to the protection of birds and Natura 2000.

Daniel Bengtsson, Head of Conservation
Mobile: +46 70 515 45 33
E-mail: daniel.bengtsson@birdlife.se

[14] Welcker J & Vilela R. 2019. *Weather-dependence of nocturnal bird migration and cumulative collision risk at offshore wind farms in the German North and Baltic Seas*. Technical report. BioConsult SH, Husum. 70 pp.