

Researchers to investigate wind power effects on bats in the Baltic Sea region

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Photo from Lakiakangas wind farm. Credit: University of Turku

Researchers from the Universities of Turku and Helsinki in Finland have been looking into literature about wind farm impacts on bats in several countries around the Baltic Sea (Estonia, Finland, Latvia, Lithuania, Russia and Sweden) and in the rest of Europe. They published a review on the topic.

The results are quite straightforward: impacts of [wind](#) farms on bats in the Baltic Sea [region](#) have barely been investigated.

"Only a handful of reports and studies are available, and they are rarely in English. The main reasons for this lack of data are probably the small numbers of turbines in the region and the shortage of information on bats themselves," says Simon Gaultier from the University of Turku, one of the authors of the review.

The authors also think it is important to not rely entirely on knowledge from the rest of Europe to study bats and wind farms in the Baltic Sea region.

"The climate and [environmental conditions](#) for bats are different, influencing the biology and ecology of

these species, including the way they are affected by wind farms."

There are also concerns about survey methods and quality, especially during the environmental impact assessment of wind [farm](#) projects. It seems that current methods are not adapted to predict the actual presence of bats on the future wind farms, let alone the impacts they are facing, such as collision risks.



Nathusius' pipistrelle (*Pipistrellus nathusii*) bat. Credit: Thomas Lilley

Turbines are more and more numerous in the Baltic Sea region, a region that plays an important role for European bats: it is crossed by numerous migrating bats during spring and autumn, but is also the home of other local resident bat species such as the Northern bat (*Eptesicus nilssonii*).

"At some point, concerns about bat conservation will appear. Bat numbers are not increasing, contrary to wind turbines. We need to anticipate and avoid this problem. However, in order to do

this, we first need more information on bats."

Following this need, Gaultier started collecting new data during this summer. Using ultrasound recorders located around wind farms, Gaultier and his colleagues are looking for the possible effects turbines are having on the presence and activity of bats. Other studies have reported bats being attracted by wind turbines, others being repelled.

"We need to monitor [bats](#) for several years to see what is going on in Finland, but we should get a first glimpse by the end of this year," says Gaultier.

"In the end, we want our work to be useful for both wind power planning and bat preservation by defining high-risk areas where wind turbines should not be built or designing supplementary measures to reduce the impact of current and future [wind farms](#)," he adds.

More information: Simon P. Gaultier et al, Bats and Wind Farms: The Role and Importance of the Baltic Sea Countries in the European Context of Power Transition and Biodiversity Conservation, *Environmental Science & Technology* (2020). [DOI: 10.1021/acs.est.0c00070](#)

Provided by University of Turku

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