

# Wildlife & Wind Energy: Considerations for Monitoring and Managing Impacts

History of wind energy and wildlife interactions and overview of the webinar series

## Questions and Answers

Regarding offshore wind development in the United State, it may be worth noting that the Coastal Virginia Offshore Wind Project was completed this summer as well.

For additional information:

<https://www.boem.gov/renewable-energy/state-activities/coastal-virginia-offshore-wind-project-cvow#:~:text=The%20offshore%20wind%20project%20will,the%20coast%20of%20Virginia%20Beach.>

<https://www.dominionenergy.com/projects-and-facilities/wind-power-facilities-and-projects/coastal-virginia-offshore-wind>

Could you speak more to the effectiveness of bat deterrents? It was mentioned that there is no one solution, but there have been some promising results for some types, configurations, and species.

In general, ultrasonic deterrents for bats have shown varying success. Effectiveness varies both within and among species. Acoustic deterrents and other minimization strategies for bats and eagles will be discussed in webinar 7.

<https://www.nationalwind.org/new-research-on-deterrents-and-monitoring-for-bats-at-wind-energy-facilities-supported-by-the-u-s-department-of-energy/>

<https://www.nationalwind.org/new-research-on-impact-minimization-technologies-doe-funded-technology-development-innovation-projects/>

What are the Wind Energy Guidelines?

The Wind Energy Guidelines (WEGs) are voluntary guidelines developed by the US Fish & Wildlife Service and published by the Department of Interior in 2012.

<https://www.fws.gov/ecological-services/energy-development/wind.html>

How is the zone of risk defined for birds? Is this something that is defined by developers? And is it site specific?

This will be covered more in webinar 5, which is focused on eagles. In the meantime, we encourage you to explore Eagle Conservation Plan Guidance here

<https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>

What is TRL?

TRL stands for Technology Readiness Level. These levels represent steps required for a technology to advance through the research and development process to a commercialized product.

<http://acqnotes.com/acqnote/tasks/technology-readiness-level>

Are European guidelines aligned with the USA? Is there additional research available in Europe regarding bats that we should consider?

In 1994, an Agreement under the Convention on the Conservation of Migratory Species of Wild Animals established The Conservation of Populations of European Bats, also known as Eurobats (<https://www.eurobats.org/>). Among other guidance for bat conservation, there is guidance for bats at wind farms.

[https://www.eurobats.org/sites/default/files/documents/publications/publication\\_series/pubseries\\_no6\\_english.pdf](https://www.eurobats.org/sites/default/files/documents/publications/publication_series/pubseries_no6_english.pdf)

The *Tethys Knowledge Base* also contains a comprehensive list of products and publications on wind energy and bats <https://tethys.pnnl.gov/knowledge-base-wind-energy?f%5B0%5D=receptor%3A269>

Are all bat species affected the same by wind energy? And do we know the population level effects?

Impacts of wind energy varies by species. Based on available information, high-flying aerial insectivores appear to be the most vulnerable. These include migratory tree-roosting bats (e.g., hoary bats, eastern red bats, and silver-haired bats) and Brazilian free-tailed bats. See webinar 4 for further details.

Could you provide a specific example of an impact viewed as “perceived?”

The word ‘perceive’ means to become aware of or understand. Thus, as we learn more about wind energy and wildlife interactions, we perceive which species are impacted. In some instances, we discover unanticipated impacts (e.g., prior to 2004, bats were not perceived to be an issue) and in other cases we learn that impacts once perceived as potentially important may be minimal or non-existent (e.g., waterfowl mortality at wind turbines near wetland areas were perceived to be a concern, but data do not support this).

When and why did the word “interactions” start being used in the history of the wind-wildlife field?

We are unaware of a specific date or year when the term ‘interactions’ was first used. However, it is an appropriate term to describe how wildlife species approach, avoid, or collide with wind turbines. For example, thermal video data of bats near wind turbines show individuals flying near the tower, nacelle, and blades, often making repeated approaches.

Is this series focused on offshore and onshore species?

This series is focused on land-based wind wildlife interactions. NREL, in partnership with the Pacific Northwest National Laboratory, plans to provide webinars in the coming year focused on the environmental effects of offshore wind energy. For information on offshore wind and wildlife, please visit:

*Tethys Knowledge Base* <https://tethys.pnnl.gov/knowledge-base-wind-energy?f%5B0%5D=technology%3A432>

*Tethys* events calendar [https://tethys.pnnl.gov/events?content=467&event\\_type=All&search=](https://tethys.pnnl.gov/events?content=467&event_type=All&search=)

BOEM West Coast Renewable Energy Science Exchange <https://www.boem.gov/west-coast-renewable-energy-science-exchange>