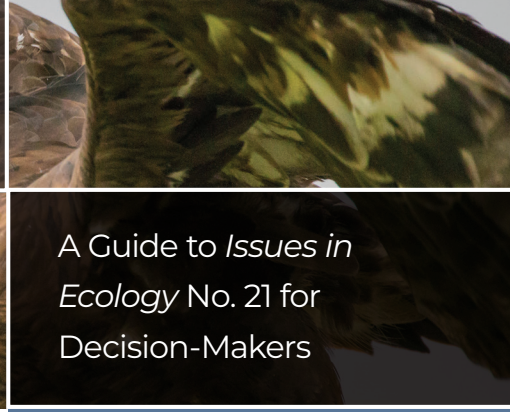


IMPACTS TO WILDLIFE OF WIND ENERGY SITING AND OPERATION IN THE U.S.



A Guide to *Issues in Ecology* No. 21 for Decision-Makers

How this report can help

Wind power comes with much-needed environmental benefits and is increasingly helping to meet the nation's electricity needs. Yet wind energy, like all power sources, can have some adverse impacts on certain species of wildlife. This peer-reviewed report, and the literature it cites, is a helpful resource to anyone involved in guiding wind energy siting and permitting decisions. It compiles information on wind-wildlife impacts while summarizing information gaps, research in progress, and opportunities for collaboration. The report combines the expertise of 13 scientists from industry, state and federal government, academia, and conservation organizations.

Some key takeaways

On risk...

For most songbird species in the U.S. for which there is data, collisions at wind turbines are unlikely to impact species' populations as a whole at the current levels of installed wind capacity. These collisions are estimated to represent less than 0.01 percent of the estimated population size. Particular groups of long-lived species (such as raptors and certain species of migratory tree bat) may be more at-risk of population-level effects. Additional research on why these species may be more sensitive is needed to inform technological designs and strategies to minimize impacts. Studies on habitat impacts consistently show species-specific results, and such studies need to be replicated at multiple wind farms to provide sufficient data for decision-making.

On reduction...

Technologies and strategies that may reduce collision risk for target species are being developed, evaluated, and implemented at wind farms. Current tactics include siting, curtailment, and deterrence. 1) Siting - building wind farms or turbines in areas away from potential at-risk species; 2) Curtailment - selectively or uniformly shutting down turbines under certain conditions to reduce collision risk; and 3) Deterrence - guiding certain species away from wind turbines (for example, with sound or lights).

On next steps...

The report recommends additional research to help minimize adverse ecological impacts of wind energy facilities. It specifically recommends coordinated studies across sites and study replication; continued research on risk assessment, facility siting, and high-risk species population dynamics; and continued work on collision reduction technologies and strategies.



Read the *Issue*:
[esa.org/
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Opportunities to Collaborate

American Wind and Wildlife Institute

Cross-sector collaboration and independent research on wind energy and wildlife.



awwi.org

Bats and Wind Energy Cooperation

Collaborative research effort focused on reducing risk to bats from wind energy.



batsandwind.org

National Wind Coordinating Collaborative

Stakeholder forum on wind energy and wildlife, including a monthly newsletter and regular webinars.



nationalwind.org

Wind Wildlife Research Fund

Wind industry-led initiative for expedited, applied wind-wildlife research.



awwi.org/wind-wildlife-research-fund/