



Bird-Smart Wind Energy: Solutions for Sustainable Wind Energy Development

ABC supports wind energy development when it is bird-smart. Our approach entails pursuing proactive strategies in priority regions, engaging in project planning-level processes to improve outcomes, and promoting bird-smart policy. We work with a variety of stakeholders to promote sustainable wind energy development, and welcome opportunities to collaborate on effective strategies.



**For more information,
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Climate change is predicted to have negative effects on many species of birds, making reduction of carbon emissions a crucial element of bird conservation. Renewable energy – including wind energy development – is an important component of a broader strategy that includes energy efficiency, carbon sequestration through reforestation, and effective public policy.

Unfortunately, wind energy is not free of costs to birds and other wildlife. American Bird Conservancy (ABC) estimates that more than 500,000 birds are killed each year by collisions with wind turbines. Based on predicted industry buildout, this is likely to grow to more than 1.4 million by 2030. These figures are likely under-estimates, as they do not take into account the number of birds killed in collisions with powerlines built for new facilities. Neither does this account for the fact that construction of wind energy facilities is known to displace habitat for some species, resulting in yet greater losses.

Whooping Crane



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Swainson's Hawk



Rob McKay, Shutterstock

Bald Eagle



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Select species at risk of collisions with wind turbines and associated infrastructure

Since 2010, ABC's Bird-Smart Wind Energy Program has promoted solutions to ensure that the benefits of wind energy development outweigh the costs. This requires siting facilities in low-risk areas for birds, and taking steps to otherwise minimize and mitigate impacts. Specifically, this means adhering to the following seven principles:

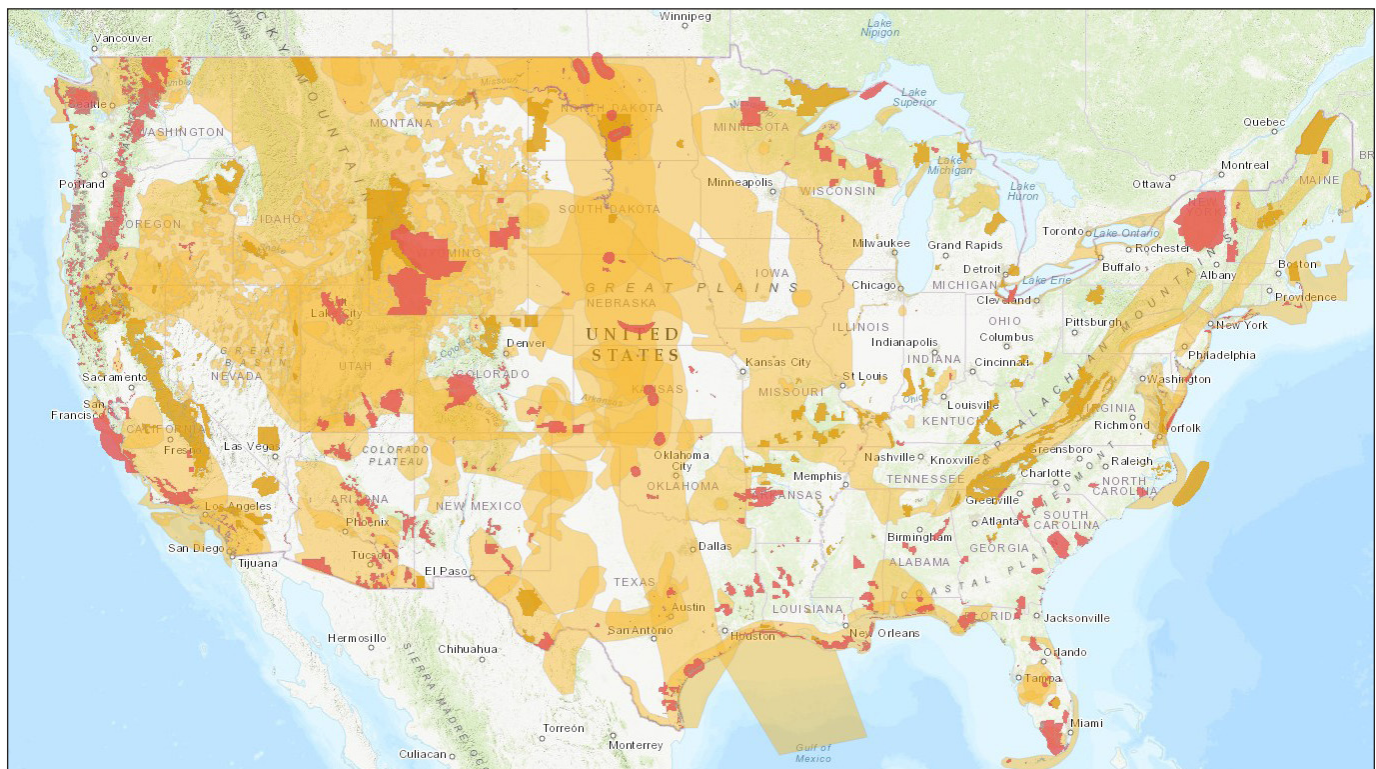
- (1) A comprehensive, transparent assessment of impacts to birds is conducted prior to committing to a project site;
- (2) Turbines are sited in areas with low bird collision risk;
- (3) Transparent post-construction monitoring of bird impacts is conducted;
- (4) Effective bird mortality minimization measures are implemented in construction and operations phases;
- (5) Mitigation is implemented to effectively compensate for any unavoidable bird mortality and habitat loss;
- (6) A plan for infrastructure removal and habitat restoration at facility decommissioning is developed; and
- (7) Wind energy is evaluated as part of a comprehensive analysis of all renewable energy alternatives, such as maximizing distributed solar energy capacity.

Proper facility siting is particularly important. It is best to identify bird risk “red flags” as early in the site prospecting and evaluation process as possible. Each step in the site assessment process provides an opportunity to re-evaluate the feasibility of a property from a bird risk perspective, reducing the total investment lost if there proves to be a fatal flaw.

Further details and best practices are available in ABC's upcoming report, *Solutions for Conserving Birds and Halting Climate Change*.



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ABC developed the Wind Risk Assessment Map to facilitate wind energy facility planning. It shows areas that are important to birds, and thus more likely to prove unsuitable for development, or require more extensive minimization and mitigation efforts.