

## Eagle Initiative

AWWI is improving understanding of the risks of wind energy to eagles and building tools to provide options to avoid, minimize, and offset impacts.

### The Challenge

Like all forms of energy production, wind energy can pose some risks to wildlife, including bald and golden eagles. Multiple federal laws prohibit take (killing, wounding, or disturbing) of eagles without a permit, and wind companies seek options to avoid, minimize, or offset any impacts.

While eagle take is generally rare at most wind facilities, many existing and future projects are at risk of violating federal law due to the widespread range of eagles and gaps in understanding of risks to eagles from wind energy. Solutions are needed to understand and minimize risks and compensate for impacts to facilitate wind energy expansion and improve conservation for eagles.

#### Laws and Regulations Surrounding Eagles:

##### Federal Laws

[Migratory Bird Treaty Act](#) (1918)

[Bald and Golden Eagle Protection Act](#) (1940)

##### Federal Rules and Guidance

[2009 Eagle Rule](#)

[2016— Amended Rule](#)

[2012 Land Based Wind Energy Guidelines](#)

[2013 Eagle Conservation Plan Guidance](#)

### Permits and Guidance

Under the Bald and Golden Eagle Protection Act, the U.S. Fish and Wildlife Service (USFWS) provides permits for eagle take that occur from otherwise lawful activities, including wind energy construction and operation:

- The USFWS Eagle Rule (updated 2016) and Eagle Conservation Plan Guidance (2013) outline measures that must be taken by permit applicants
- Permit conditions include measures to avoid and minimize eagle take, including careful siting of wind energy projects to avoid areas of highest risk
- If the potential for eagle take remains after all practicable measures have been taken, wind energy developers and operators must offset predicted eagle take through compensatory mitigation

### Goals of AWWI's Eagle Program

AWWI's Eagle Program seeks to develop tools and solutions to:

- Accurately **predict take** of eagles from the siting and operation of a proposed wind energy facility
- Evaluate and implement tools and best management practices to **avoid and minimize the estimated take**
- **Compensate for remaining predicted take** through management that increases eagle survival or eagle productivity



## Solutions

### Improving Take Prediction

AWWI [published an update](#) in 2016 of the Service's model to predict golden eagle fatalities at wind energy facilities.

### Minimizing Risk through Best Practices and Technology Innovation

AWWI's Technology Verification Program is conducting intensive assessments of technologies and techniques intended to reduce eagle collision risk through detection and deterrence and/or curtailment.

### Expanding Options for Compensating for Take

AWWI's work on eagles has focused on developing quantifiable, verifiable strategies that can be used by wind developers to compensate for eagle take. AWWI has developed three predictive models:

- Reducing lead poisoning in eagles ([published 2015](#))
- Reducing eagle-vehicle collisions (publication pending)
- Improving eagle habitat (in development)

AWWI is working closely with the Service, states, wind companies, and stakeholders in research and conservation to apply the first two models where appropriate and encourage their use in eagle take permits.

### Eagles and Wind Energy White Paper

AWWI's [White Paper on Eagles and Wind Energy](#) synthesizes current knowledge of eagle population trends, threats to eagles, and mitigation of eagle take, and identifies research priorities. AWWI developed the white paper with extensive input from eagle experts.



Photo: Tom Ryon, NREL, PIX 24481

AWWI brings together conservation organizations and members of the wind energy industry to develop tools and strategies that facilitate the timely and responsible development of wind energy while protecting wildlife and wildlife habitat. To accomplish this mission AWWI combines the power of science with the voice of collaboration and a unique governing structure. For more information about AWWI, Partners, and initiatives, visit [www.awwi.org](http://www.awwi.org).