



Evaluating the Effectiveness of a Detection and Deterrent System in Reducing Golden Eagle Fatalities at Operational Wind Facilities

Presented by Taber Allison, AWWI

NWCC DOE Eagle Impact Minimization Technologies webinar

Project Team



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Mission: To facilitate timely and responsible development of wind energy while protecting wildlife and wildlife habitat.

AWWI's **Technology Verification Program** coordinates testing, evaluation, and verification of available and in-development technologies intended to detect and deter raptor and bat species at wind energy facilities.

The Technology: DTBird

- Self-working system for bird monitoring and/or mortality mitigation at on and offshore wind turbines
- Detection/deterrent technology
- Operation:
 - Video cameras detect eagle-sized birds
 - Activation of alert signal a ~245 meters
 - Activation of dissuasion signal at 175 meters
 - Stop control function (not being evaluated)



Project Objectives



- Evaluate the effectiveness of the current DTBird system in minimizing the risk of golden eagles colliding with wind turbines
- Quantify expected reduction in collision risk for golden eagles from operation of the detection and deterrence modules



- Deploy DTBird units at two commercial wind facilities
- Conduct UAV flight trials and incorporate results of pilot study
- Evaluate trained raptor flight trials at test facility
- Conduct 2-year experiment evaluating detection and behavioral responses of *in situ* eagles to warning signals



- Quantify false positives and false negatives from UAV flight trials
- Evaluate performance of trained raptor flight trials
- Analyze behavioral responses of *in-situ* birds to deterrent signals
- Evaluate how landscape variables influence detection performance
- Estimate reduction of eagle collision risk



- Systems cost analysis of DTBird system
- Final report to Project Team, DOE, and other stakeholders
- Publication in peer-reviewed journal, as appropriate

Thank you!



Department of Energy Office of Energy Efficiency and Renewable Energy
Project Partners and Technology Vendors

- H.T. Harvey & Associates
- DTBird

Host Sites

Questions?