



Evaluating the Effectiveness of a Camera-Based Detection System to Support Informed Curtailment and Minimize Eagle Fatalities at Wind Energy Facilities

Presented by Isabel Gottlieb, AWWI
NWCC DOE Eagle Impact Minimization Technologies webinar



Taber Allison, Isabel Gottlieb



Karl Kosciuch, Kristen Nasman



IdentiFlight[®] Tom Heister



Carlos Jorquera

The Technology: IdentiFlight



- Detection/informed curtailment technology
- Artificial intelligence + high-precision optical technology to detect eagles
- If speed and flight path indicates risk of collision, would generate signal to shut down turbine



Project Objectives



- Evaluate how IdentiFlight compares to biomonitors in detecting and identifying eagles
- Use observation data to model how IdentiFlight and biomonitors reduce eagle fatality predictions through informed curtailment.



- Deploy IdentiFlight units at two commercial wind facilities with existing biomonitor programs
- Monitor eagle activity (IdentiFlight and biomonitors)
 - Distance to first observation
 - classification
 - time when first classified as eagle/non-eagle
 - flight height
 - flight path mapping
- Track landscape and sky conditions for modeling performance



- Evaluate classification algorithm (false +/-)
- Compare performance of IdentiFlight vs Biomonitors
- Evaluate relationship between environmental variables and performance of IdentiFlight and Biomonitors
- Estimate fatality reduction of IdentiFlight and Biomonitor-supported informed curtailment



- Cost analysis of IdentiFlight vs Biomonitor Program
- Final report to Project Team, DOE, and other stakeholders
- Publication in peer-reviewed journal, if appropriate

Thank you!



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

- WEST Inc.,
- IdentiFlight
- Boulder Imaging

Host Sites

Questions?