

NWCC WIND WILDLIFE RESEARCH MEETING

Virtual Meeting • December 1–4, 2020

PRESENTED BY AWWI

On-Demand Presentation List

Please find below a list of all meeting on-demand presentations, organized by presentation number. This number will help you navigate the presentations once they are available on the virtual meeting platform. Note that abstract numbers are automatically assigned and are in no particular order; they are provided to allow for easy reference.

- 5 **Landscape and roost use by spring migrating female Indiana bats (*Myotis sodalis*)**
Presenting Author: Piper L. Roby, Copperhead Consulting

- 11 **Use of Camera Technology for Detecting Wildlife Mortality at Wind Turbines**
Presenting Author: Brogan Morton, Wildlife Imaging Systems LLC

- 12 **An evaluation of the cost-effectiveness of detection dogs and humans for incidental take permit monitoring**
Presenting Author: Meredith Rodriguez, Western EcoSystems Technology, Inc. (WEST)

- 13 **Sensitive bat species in Colorado and their relative susceptibilities to wind farm impacts**
Presenting Author: Pamela Wegener, Pinyon Environmental, Inc.

- 14 **Understanding the Effects of Offshore Wind Energy Development in the U.S. on Birds and Bats: Identifying Key Research Needs, Mitigation Measures, and Conservation Guidance**
Presenting Author: Kate Williams, Biodiversity Research Institute

- 15 **Potential ecosystem effects of large-scale implementation of offshore wind in the North Sea**

- Presenting Author:** Luca van Duren, Deltares
- 16 **Evaluating model-based approaches to assess collision risk at wind facilities**
Presenting Author: Greg Forcey, Normandeau Associates, Inc.
- 17 **Autonomous Eagle Smart Detection, Ground Deterrent and Blade-Event Monitoring**
Presenting Author: Roberto Albertani, Oregon State University
- 18 **Automated Enhanced Low-Energy Blade Impact Detection with Night Vision and Acoustics Capabilities**
Presenting Author: Roberto Albertani, Oregon State University
- 19 **Examining the effectiveness of blanket curtailment strategies in reducing bat fatalities at terrestrial wind farms in North America**
Presenting Author: Evan Adams, Biodiversity Research Institute
- 20 **Effects of wind energy development on pronghorn habitat selection**
Presenting Author: Megan Milligan, U. S. Geological Survey, Northern Rocky Mountain Science Center
- 21 **Ecosystem service models for onshore and offshore wind development**
Presenting Author: Liz Kalies, The Nature Conservancy
- 24 **Multirejestrator - polish tool to birds of prey monitoring and protection on windfarms.**
Presenting Author: Aleksandra Szurlej Kielańska, Bioseco; Department of Vertebrate Ecology and Zoology, University of Gdansk, Poland
- 25 **A decade of post-construction bird and bat monitoring at south-eastern Australian wind farms**
Presenting Author: Elizabeth Stark, Symbolix

26 **Reducing collision mortality through wind turbine shutdown: creating a predictive bird migration model with 3D radar data**

Presenting Author: Jonne Kleyheeg-Hartman, Bureau Waardenburg

28 **Optimal bat curtailment: A data-driven strategy to sustain bat populations while minimizing curtailment losses**

Presenting Author: Jonathan Rogers, Persimia, LLC

30 **Estimating cumulative numbers of collision victims, and impact assessment on population level**

Presenting Author: Astrid Potiek, Bureau Waardenburg

31 **Preliminary results on effectiveness of an ultrasonic acoustic deterrent from bat flight cage trials**

Presenting Author: Brittany Stamps, Texas State University and Emma Guest, Texas State University

32 **Assessing Population-Level Consequences of Wind Energy on Birds**

Presenting Author: Todd Katzner, U.S. Geological Survey

33 **Effects of turbine design on bird and bat fatalities at wind energy facilities in Ontario, Canada**

Presenting Author: Alexandra Anderson, Trent University

35 **Temporal, topographic, and meteorological correlates of Golden Eagle flight behavior in California's Tehachapi Wind Resource Area**

Presenting Author: Michael Kuehn, AECOM

36 **Offshore bat activity patterns detected by vessel-based acoustic monitoring**

Presenting Author: Nathan Schwab, Tetra Tech, Inc.

37 **Bigger not necessarily better when repowering: mortality scales with energy production**

Presenting Author: Manuela Huso, U.S. Geological Survey

- 39 **Predicting annual variation at large spatial scales in at-sea foraging distribution of a mobile seabird of high conservation value**
Presenting Author: Rob van Bemmelen, Bureau Waardenburg
- 41 **Avian and Bat Mortality Patterns at Wind and Solar Energy Facilities**
Presenting Author: Wallace Erickson, Western EcoSystems Technology, Inc. (WEST)
- 42 **Bat Fatality Timing at Wind Farms across the Continental U.S. and Canada**
Presenting Author: Kevin Murray, Western EcoSystems Technology, Inc. (WEST)
- 43 **A Review of the Issues of Uncertainty in Cause of Death and Background Mortality in Avian Fatality Monitoring Studies.**
Presenting Author: Daniel Riser-Espinoza, Western EcoSystems Technology, Inc. (WEST)
- 47 **Improved behavioral classification of flight behavior informs risk modeling of bald eagles at wind facilities in Iowa**
Presenting Author: Silas Bergen, Winona State University
- 48 **Migratory bird twilight ascent and descent rates along the southwestern shoreline of Lake Erie**
Presenting Author: Michael Wellik, U.S. Geological Survey
- 49 **A new physics-based model for guiding bat carcass surveys at wind turbines**
Presenting Author: Shivendra Prakash, University of Iowa
- 51 **Flight behavior of Golden Eagles in Wyoming: Implications for wind power**
Presenting Author: Tricia Miller, Conservation Science Global

- 52 **Elasmobranchs and EMFs: An evaluation of the potential cumulative effects of electric and magnetic fields (EMFs) from offshore wind development on elasmobranchs in the Massachusetts Wind Energy Area**
Presenting Author: Cristen Mathews, DNV GL
- 53 **Keeping the lights on: first attempt at year-round nighttime ultraviolet illumination of wind turbines for deterring bats.**
Presenting Author: Paul Cryan, U.S. Geological Survey
- 54 **Movement patterns of migratory tree-roosting bats during autumn migration**
Presenting Author: Erin Swerdfeger, University of Regina
- 55 **Hawaiian hoary bat (*Lasiurus cinereus semotus*) behavior at wind turbines on Maui**
Presenting Author: P. Marcos Gorresen, Hawai'i Cooperative Studies Unit, University of Hawai'i at Hilo
- 56 **Behavioral patterns of bats at a wind turbine confirm seasonality of fatality risk**
Presenting Author: Shifra Goldenberg, Smithsonian Conservation Biology Institute
- 57 **How low can you go? Optimizing curtailment on a regional scale to reduce bat fatalities and energy loss.**
Presenting Author: Trevor Peterson, Stantec Consulting Services Inc.
- 59 **Modification of Eagle Search Methods with Consideration of Project Topography**
Presenting Author: Marci Trana, Western EcoSystems Technology, Inc. (WEST)
- 60 **The use of radar and observers: from strategic planning to mitigation**
Presenting Author: Ricardo Tomé, STRIX – Environment and Innovation

- 61 **Evaluating appropriate survey effort for vultures at an African savannah wind farm site**
Presenting Author: David Wilson, The Biodiversity Consultancy
- 62 **Ecology of scour protection in offshore wind farms – biodiversity enhancement, ecosystem-services and options for eco-design from Europe**
Presenting Author: Wouter Lengkeek, Bureau Waardenburg
- 63 **A Multi-Sensor Approach for Measuring Bird and Bat Collisions with Offshore Wind Turbines**
Presenting Author: Jennifer Stucker, Western EcoSystems Technology, Inc. (WEST)
- 64 **Relationship between Bat Fatality Rates and Turbine Size at Wind Farms across the Continental U.S. and Southern Canada**
Presenting Author: Fawn Hornsby, Western EcoSystems Technology, Inc. (WEST)
- 65 **Emerging applications and trends related to remotely sensed imagery analysis for habitat and wildlife mapping in support of wind energy project development**
Presenting Author: Ian Evans, DNV GL
- 66 **A test of weather and time-based smart curtailment for bat fatality reduction**
Presenting Author: Paul Rabie, Western EcoSystems Technology, Inc. (WEST)
- 67 **Automated measurements of bird movements in an offshore wind farm**
Presenting Author: Abel Gyimesi, Bureau Waardenburg
- 68 **Landscape factors associated with fatalities of migratory tree-roosting bats at wind energy facilities in the midwestern and northeastern U.S.**
Presenting Author: Kimberly Peters, DNV GL
- 73 **Performance of the GenEst mortality estimator compared to the Huso and Shoenfeld estimators**
Presenting Author: Manuela Huso, U.S. Geological Survey

- 74 **Towards a Comprehensive View of Energy Development Impacts to Fish and Wildlife**
Presenting Author: Mona Khalil, U.S. Geological Survey
- 75 **Estimating bat fatality at a Texas wind energy facility: Implications transcending the United States-Mexico border**
Presenting Author: Sara P. Weaver, Bowman Consulting Group
- 77 **Situational Performance of Mortality Estimators**
Presenting Author: Andrew Ryckman, Natural Resource Solutions Inc.
- 79 **A machine learning based intelligent thermal camera vision system for detecting, identifying, and tracking biological targets in and around wind turbines**
Presenting Author: John Yarbrough, National Renewable Energy Laboratory
- 80 **Midwest Landscape Initiative Wind Working Group – Updates on Key Action Plan Activities and Overall Status / Coordination**
Presenting Author: Scott Larsen, U.S. Fish and Wildlife Service
- 81 **Hawaii Wind HCPs and the Hawaiian Hoary Bat: Lessons Learned Applicable to Other Tree-Roosting Bat Species**
Presenting Author: Alicia Oller, Tetra Tech, Inc.
- 82 **Demographic impact of avian fatalities at wind energy facilities**
Presenting Author: Tara Conkling, U.S. Geological Survey
- 83 **Going DARC for Bats**
Presenting Author: Christine Sutter, Natural Power
- 84 **Monitoring Bat Activities at a Large Wind Farm Using an X-Band Radar and Infrared Cameras**

Presenting Author: Jian Teng, University of Iowa

- 86 **A framework for predicting migratory behavior and wind-development impacts: Uniting morphological and life-history characteristics with distribution-based migration models**

Presenting Author: Caitlin Campbell, University of Florida

- 87 **Nightly, Seasonal, And Annual Patterns Of Hawaiian Hoary Bat Activity From Bat Acoustic Monitoring At Wind Farms In Hawai'i**

Presenting Author: Matt Stelmach, Tetra Tech, Inc.

- 89 **3-D offshore seabird observations in the Humboldt, California call area**

Presenting Author: Shari Matzner, Pacific Northwest National Laboratory

- 90 **Fatality minimization targets for hoary bats assuming capacity for compensatory growth**

Presenting Author: Nicholas Friedenber, Western EcoSystems Technology, Inc. (WEST)

- 91 **Assessment of trends in bat fatality estimates at wind energy facilities**

Presenting Author: Kristen Nasman, Western EcoSystems Technology, Inc. (WEST)

- 92 **Factors that influence the efficacy of operational minimization revealed by quantitative meta-analysis**

Presenting Author: Michael Whitby, Bat Conservation International

- 93 **Eastern red bat (*Lasiurus borealis*) and hoary bat (*Lasiurus cinereus*) foraging habits in an agricultural landscape**

Presenting Author: Timothy Sichmeller, Western EcoSystems Technology, Inc. (WEST)

- 94 **High-Fidelity Modeling of Eagle Soaring Habitats Near Wind Plants in Complex Terrain**

Presenting Author: Regis Thedin, National Renewable Energy Laboratory

- 97 **Assessment of Marbled Murrelet (*Brachyramphus marmoratus*) Movements and Potential Collision Risk in Northern California.**
Presenting Author: Robert Roy, Stantec Consulting Services Inc.
- 98 **Leveraging machine learning to identify marine birds and mammals in digital photographic aerial surveys of the Pacific Outer Continental Shelf off central and southern California, USA**
Presenting Author: Cheryl Horton, U.S. Geological Survey, Western Ecological Research Center
- 99 **A Cross-Taxa Test of Hypotheses for Why Bats are Killed by Wind Turbines**
Presenting Author: Erin Baerwald, University of Northern British Columbia
- 101 **Unmanned aerial systems equipped with thermal cameras as a potential method for detection of hibernacula used by bats.**
Presenting Author: Michael Gerringer, Western EcoSystems Technology, Inc. (WEST)
- 102 **Development of a meteorological data set to support research of volant species**
Presenting Author: Caroline Draxl, National Renewable Energy Laboratory
- 104 **National-Scale Impacts on Wind Energy Production under Curtailment Scenarios to Mitigate Bat Fatalities**
Presenting Author: Galen Maclaurin, National Renewable Energy Laboratory
- 106 **Genetics 101: Applications for the Wind Industry**
Presenting Author: Elizabeth Baumgartner, Western EcoSystems Technology, Inc. (WEST)
- 108 **Reducing Bat Fatalities Using Ultrasonic Acoustic Deterrent Technology: A Potential Mechanism for Conservation at Offshore Wind Energy Sites**
Presenting Author: Danielle O'Neil, Harvard Extension School
- 109 **Estimating the Likelihood that Wind Turbines cause Barotrauma in Bats**

Presenting Author: Michael Lawson, National Renewable Energy Laboratory

- 111 **Quantifying Turbine-Level Risk to Golden Eagles Using a High-Fidelity Updraft Model and a Stochastic Behavioral Model**

Presenting Author: Rimple Sandhu, National Renewable Energy Laboratory

- 112 **Habitat use acoustics for preconstruction turbine micro siting**

Presenting Author: Adam Rusk, Stantec Consulting Services Inc.

- 116 **Simple curtailment in Australia, a compromise between bat mortality and energy production.**

Presenting Author: Emma Bennett, PhD student at Monash University and the Principle Ecologist of the Elmoby Ecology Lab

- 118 **Autumnal Movement by "Tree" Bats of the Mid-Atlantic Coast: Evidence from the Motus Wildlife Tracking Systems and Stationary Acoustics**

Presenting Author: Michael True, Virginia Polytechnic Institute and State University