

Verifying Detection and Deterrence Technologies

The Challenge

Many wind energy companies are turning to technology to minimize bird and bat collisions with wind turbines. Recent developments have focused on technologies intended to detect target species (such as eagles, whooping cranes, and condors) that are protected under state and federal laws. At some projects these detection devices are linked to automatic or manual shut down of turbines to avoid collisions. Other systems link the detection systems with devices intended to alert birds or bats to the presence of turbines or dissuade them from the rotor-swept area, reducing collision risk. Depending on their potential effectiveness, these technological strategies represent significant opportunities for minimization of bird and bat deaths at wind energy facilities.

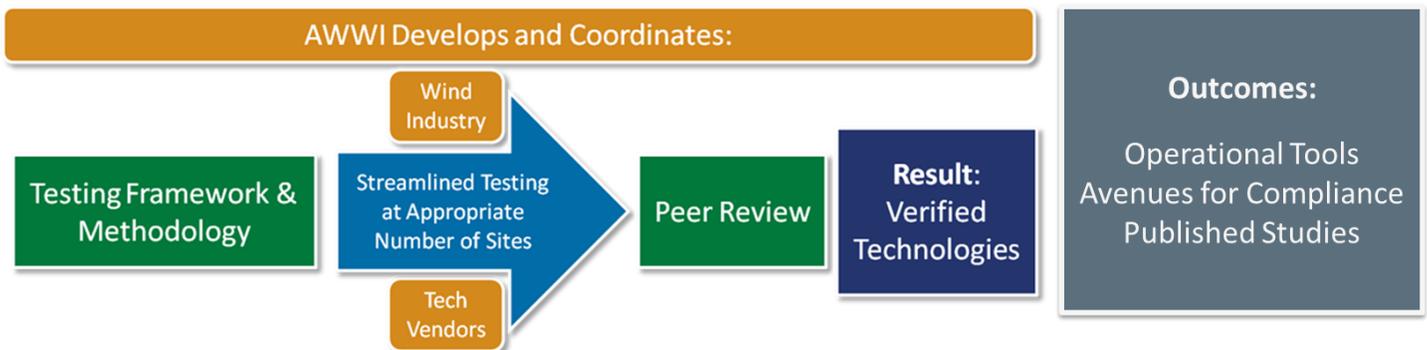


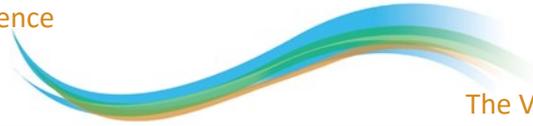
While these technologies are potentially useful for wind companies, few have undergone independent testing to establish their effectiveness. Given the expense, time, and uncertainty associated with use of these technologies, regulators and wind-facility operators are hesitant to make use of them without certainty of their effectiveness. Simultaneous and coordinated testing of technologies at multiple facilities will cut future costs by minimizing unnecessary repetition, provide the opportunity to verify efficacy in multiple locations and diverse environmental conditions, and establish statistically robust data from which to draw conclusions.

AWWI's Approach

Technology Verification

AWWI has established a cooperative group of wind facility operators to host rigorous, credible verification of promising detection and deterrence technologies at their facilities. By pooling resources and expertise from the wind industry, AWWI will be able to transparently coordinate and replicate verification of available technologies, leading to more rapid and widespread adoption of successful technologies.





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.

- **Testing:** AWWI contracts with researchers to conduct scientific tests at wind energy facilities that assess the efficacy of a technology to meet its goals of detection and/or deterrence of species based on predetermined metrics. Replicate tests of the same technology will be carried out at multiple facilities.
- **Evaluation:** AWWI coordinates the collection and analysis of results of testing from multiple facilities to determine the ability of the technology to meet its goals in different conditions.
- **Verification:** AWWI gathers the results of testing and evaluation to verify the overall efficacy of the technology.

To promote transparency, increase credibility, and ensure buy-in, the results of the testing and evaluation will be submitted to peer-reviewed scientific journals as appropriate.

Technology Catalog



AWWI has conducted a Request for Information (RFI) to gather information from vendors that have technology products available for immediate testing and/or deployment. The results of this RFI are compiled in a Technology Catalog made available to AWWI Partners and Friends.

The Catalog includes some technologies that have already been thoroughly tested, allowing AWWI Partners and Friends to identify the solutions best suited for the needs of their facilities. AWWI will also gauge interest from Partners and Friends in the technologies that AWWI should utilize in its Verification program.

AWWI will continue to update the Catalog and track promising technologies.

Other AWWI Initiatives for Technological Innovation

- **Landscape Assessment Tool:** AWWI and The Nature Conservancy (TNC) built and maintain the Landscape Assessment Tool (LAT), a GIS-based, publicly-available mapping tool that collates and displays biological information that is relevant to wind-energy development.
- **American Wind Wildlife Information Center (AWWIC):** AWWI has built a first-of-its kind database to securely house wind-wildlife data and make it available for scientific analysis.
- **Driving the Development of Technological Solutions:** AWWI's collaborative network offers a unique opportunity to bring biologists together with engineers to explore challenges and opportunities related to technological solutions to wind-wildlife impacts.



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, AWWI Partners, and AWWI Initiatives, see www.awwi.org.