

Improving the Accuracy and Cost-Effectiveness of Monitoring Efforts for Bats and Birds at Wind Energy Facilities

January 2011

Fact Sheet

The Issue

In 2007, the California Energy Commission released guidelines recommending a set of risk assessment tools and mitigation measures that could be used to minimize conflicts between wind energy and wildlife. The current project addresses 1) the uncertainty regarding pre-construction survey methods as accurate predictors of fatality risks to birds and bats and 2) the need for accurate and cost-effective measures of fatality rates and pre-construction activity rates.

Project Description

Field work is being conducted at the site of the proposed Manzanita Wind Project in southern Kern County. Acoustic monitors and echolocation detectors have been installed at the field site, and data collection is ongoing.

Project objectives include the following:

- Model the environmental conditions that predict activity and fatality levels of bats and nocturnally active birds.
- Recommend cost-effective allocation of survey effort to obtain precise estimates of bat activity at wind energy facilities.
- Compare two echolocation detection systems for bats.
- Evaluate the effectiveness of acoustic monitors as an index of activity by birds that migrate at night
- Refine fatality estimation equations for bats and birds at wind energy facilities.



Wind turbine (left) and acoustic monitoring equipment
Photo credit: U.S. Forest Service

- Recommend cost-effective sampling strategies to estimate bird and bat fatalities at wind energy facilities in California.

Research Benefits

The project will collect data that can improve methods used to survey bats and avian species at potential renewable energy resource sites in California. Improving current methods will help make better predictions of site-specific impacts at proposed wind energy facilities and will help determine appropriate mitigation measures.

As California's energy demand continues to increase, seeking alternative sources of renewable energy is vital. This project will help ensure that stable, secure, and reliable sources of energy can continue to be provided to California residents in an environmentally responsible manner.

Project Specifics

Grant Agreement Number: PIR-08-024

Recipient: U.S. Forest Service

Amount: \$550,948.00

Co-funding: \$150,000 from Iberdrola Renewable;

\$18,000 from Bat Conservation International;

\$6,000 from EcoStats LLC; \$12,900 (in-kind services) from USDA Forest Service, Pacific Southwest Research Station

Term: 8/27/2009 – 6/28/2013

For more information, please contact:

John Mathias

California Energy Commission

PIER Environmental Program Area

Phone: 916-651-9525

E-mail: jmathias@energy.state.ca.us

Ted Weller

U.S. Forest Service

Phone: 707-825-2900

E-mail: tweller@fs.fed.us

Disclaimer

The Commission, its employees, and the State of California make no warranty, expressed or implied, and assume no legal liability for this information or the research results.



Edmund G. Brown Jr., Governor
California Energy Commission
Chairman Karen Douglas | Vice Chair James D. Boyd
Executive Director: Melissa Jones

California Energy Commission
Public Interest Energy Research
1516 Ninth Street,
Sacramento, CA 95814-5512

CEC-500-2010-FS-024