

Wind Energy and Wildlife News

October 23, 2015

Around Nebraska...



Greater prairie-chicken demographics, behavior, and movements in the context of a wind energy facility in Nebraska – [Dr. Larkin Powell](#)

[Powell](#), Professor of Conservation Biology/Animal Ecology at the

University of Nebraska's School of Natural Resources and the Director of the Great Plains Cooperative Ecosystem Studies Unit, will be presenting the results of his research team's study at the Ainsworth Wind Energy Facility in north central Nebraska at the upcoming [Nebraska Wind and Solar Conference](#) on Wednesday, November 4th at 3:15 p.m. The goal of the research was to allow Nebraskans to optimize wind energy development in areas of concern for prairie grouse, while aiding investors, planners, and policy makers to identify ideal locations for future wind energy projects. Dr. Powell and his team took an ecosystem-based approach to gather data on the potential impact. Dr. Powell has the ability to convey complex ecological message to broad audiences has interests that expand beyond wind-wildlife to the prairies of Nebraska and the world.

For the past several years, the Nebraska Wind and Solar Conference has included a session on wind energy and wildlife. This year, I are happy to announce that Dr. Powell will be presenting in the ballroom to the entire conference audience. The continued inclusion of wildlife in the wind conference illustrates the collaborative spirit of Nebraskans and the dedication of many to make wind energy siting and operation a win for wildlife and biodiversity of today and the future.

Once again, I will have an information booth with Nebraska wind-wildlife updates including our NEW "Nebraska's Biodiversity and Wind Energy Siting and Mitigation Map" and NEW "Guidelines for Avoiding, Minimizing, and Mitigating Impacts of Wind Energy on Biodiversity in Nebraska." I look forward to seeing you at the conference!

[***8th Annual Nebraska Wind and Solar Conference and Exhibition***](#). November 4-5, 2015. Omaha, NE. Since 2008, volunteers from farmer and rancher organizations, state agencies, public power utilities and higher education professionals have shaped this educational networking conference and exhibition to advance the wind and solar industry of Nebraska. The conference has included top quality speakers and timely presentations.

[***Climate Change Implications for Nebraska***](#). A series of sector-based roundtable discussions were completed this week, with the final discussion focused on the "Implications of Climate Change on Energy Availability, Use and Management in Nebraska." Presentations from each sector are available online. Dr. Steven Rose of the Energy & Environmental Analysis Research Group gave a presentation, "Mitigating and Adapting to Climate Change in Nebraska – An Energy Perspective," to a wide-range of energy stakeholders. The roundtable discussions will be compiled and made available online at a later date.

[Letter, 10/8: Lower turbine noise.](#) On Oct.20, the decision of our safety regulations for the proposed industrial wind turbine project in southern Lancaster County will be in the hands of the county commissioners. The Lancaster County Health Department recommended safe sound levels for the protection of the people.

[Letter, 10/18: No to Hallam wind farm.](#) I'm all in favor of alternative energy sources, but there has to be a better way. I don't think a farmer's presumed right to "harvest" the wind should supersede current residents' rights to continue to enjoy the lifestyle they've become accustomed to and not have their property values significantly diminished.

[Supervisors Approve Windtower Setbacks.](#) The setback distance for homes near wind towers in Antelope County will increase for non-participating landowners following the Tuesday, Oct. 6, Board of Supervisors meeting. The board of supervisors was asked to consider four recommendations including elimination of the use of wind tower participant and non-participant; establishing a setback of one-half mile (2,640 feet) for all residences; require a flicker study on all inhabitable dwellings and establish and regulate noise produced from Antelope County wind tower facilities to include an average night-time noise of 35 decibels from sunset to sunrise and 50 dB from sunrise to sunset. Several county landowners spoke during the hearing along with James Williams, Invenergy representative. Invenergy is currently in the planning process for a fourth wind tower project in Antelope County.

[Supervisors Hear Public Hearing Over Wind Tower Regulations.](#) Discussion was heard Tuesday morning on establishing a one-half mile setback for all residences and eliminating the language involving participant and non-participant landowners. This suggestion included the use of waivers if a resident wished to alter or reduce the setback distance from a wind turbine. The one-half mile zoning recommendations were based on Wheeler and Holt county regulations. Supervisor Greg Koinzan pointed out that these counties are sparsely populated areas. The board decided not to take action and leave the wind regulations as they currently stand.

[400 MW Grande Prairie Wind Project To Be Nebraska's Largest.](#) Owned by Berkshire Hathaway Energy subsidiary BHE Renewables, the 400 MW Grande Prairie Wind Project is located in Holt County and will generate renewable energy for the equivalent of approximately 120,000 average Nebraska homes.

[No more sustainable energy program funds for this year, LES says.](#) Lincoln Electric System's sustainable energy program has ended for the year, after the last of its \$4 million in financial incentives was reserved last week.

Around the Nation & World...

Wind and Wildlife

[Proximity to wind-power plants reduces the breeding success of the white-tailed eagle,](#) Balotari-Chiebao et al. 2015, Animal Conservation. Our findings on breeding success underline the importance of building appropriately sited wind farms as a way to reduce or avoid undesirable effects on avian populations. Results include: probability of a pair breeding successfully is lower when the territory is located closer to turbines, no evidence for the effect of distance on post-fledging survival, the levels of disturbance experienced by birds in the study areas were not great enough to prevent breeding at closer distances to the turbines.

[Virtual Fences Around Wind Farms Could Reduce Bird Deaths.](#) According to a recent study published in Animal Biotelemetry, the answer to this problem could be the development of geofences, which are virtual perimeters programmed to identify GPS and RFID tags. The study's authors, led by ecologist James Sheppard, propose

enclosing wind farms with alert systems that give wind farm operators advance warning when tagged birds enter high risk areas. Depending on the situation, the turbines could be slowed or even stopped until the tagged animals safely exited the perimeter.

[**An autonomous GPS geofence alert system to curtail avian fatalities at wind farms**](#), Sheppard et al. 2015, Animal Biotelemetry. Combining GPS level accuracy, a high fix sampling rate, location data received in near real-time, and automated SMS alerts into an integrated, flexible and cost-effective geofence biotelemetry system will provide conservation managers and wind farm operators with sufficient warning and time to implement mitigative actions to curtail avian collision fatalities.

[**Bald eagles delaying Rolette wind farm permit**](#). Bald eagles have put the brakes on a proposed wind farm in North Dakota as state regulators seek input on how the towers with their spinning blades could impact the national bird.

[**Wildlife, 'decommissioning' of towers also part of windfarm concerns**](#). Many of the comments heard during Thursday's Public Service Commission hearing for the Lindahl Wind Farm were, in fact, matters outside its purview. However, that didn't stop the commissioners from listening patiently to each point and adding them to the official record. A big one for Commissioner Brian P. Kalk, which he announced at the beginning of the hearing, is that the wind farm sits right in the middle of a whooping crane flyway. Jenni Dean, director of environmental studies for Tradewind, testified that the company is a member of the Great Plains Wind Energy Habitat Conservation Plan. This program requires its members to adhere to standards to reduce the effects of any hazards to four species, those being whooping cranes, the interior least tern, piping plovers and the lesser prairie chicken.

Policy

[**Clean Power Plan in Federal Register Oct. 23, Clock Starts Ticking**](#). In a media briefing this morning on the Clean Power Plan, Janet McCabe, acting assistant administrator for the Environmental Protection Agency's (EPA's) Office of Air and Radiation made no announcement of major changes but did note that the final rule will be published in the Federal Register tomorrow, Friday, October 23. That publication starts the clock on expected lawsuits as well as the 90-day comment period on the proposed federal implementation plan and on model rules.

[**Federal Register: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units**](#), Environmental Protection Agency, Final rule, Effective on December 22, 2015. In this action, the Environmental Protection Agency (EPA) is establishing final emission guidelines for states to follow in developing plans to reduce greenhouse gas (GHG) emissions from existing fossil fuel-fired electric generating units (EGUs). Specifically, the EPA is establishing: Carbon dioxide (CO₂) emission performance rates representing the best system of emission reduction (BSER) for two subcategories of existing fossil fuel-fired EGUs.

[**Another blown in the wind: bats and the licensing of wind farms in Brazil**](#), Valença and Bernard 2015, Natureza & Conservação. Here we compared normatives from Brazil with similar ones from Portugal, the United States and Canada. By using 21 driving questions, we detected that there is no an international standard in the licensing of wind farms, ranging from simplified to rigorous approaches, from mandatory to voluntary normatives. The Brazilian federal and state normatives must be revised and until that, the current EIA procedures should be seen as insufficient to accurately determine the real impact of wind farms on the Brazilian bat fauna.

Wildlife & Habitats

[Mitigating avian collision with power lines: a proof of concept for installation of line markers via unmanned aerial vehicle](#), Lobermeier et al. 2015, Journal of Unmanned Vehicle Systems. Unmanned Aerial Vehicles (UAVs) may offer a less dangerous, less costly alternative that is also less disturbing to wildlife. The UAV installed line markers within a 30 cm target window on a model power line. The proof of concept described here demonstrates the potential utility of UAVs in mitigating avian collision with overhead power lines.

[Factors affecting female space use in ten populations of prairie chickens](#), Winder et al. 2015, Ecosphere. Our data on female space use suggest that lek surveys of male prairie chickens can indirectly assess habitat suitability for females during the breeding season. Lek monitoring and surveys for new leks provide information on population trends, but can also guide management actions aimed at improving nesting and brood-rearing habitats.

Wind

[UNL doctoral student could have solution to wind turbine electricity issue](#). The wind can be too much for the windmills seen across the Nebraska landscape; the blades can spin too fast, wearing out the gears and running up repair costs. However, a University of Nebraska-Lincoln researcher may have found a solution. The researcher believes he knows how to keep the electricity flowing out of wind turbines even on windy days. Jje Cheng, an electrical engineering doctoral student, developed a model to show his concept. When the wind is blowing, it cranks out electricity and powers a compressor that fills an air tank.

[Wind Power Curtailment Analysis under generation flexibility requirements: The Spanish case study](#), Martinez et al. 2015, Power & Energy Society General Meeting, 2015 IEEE. Combined Cycle Plants and hydro generation units are considered as dispatchable resources, whereas Pumped Hydro Plants are assumed as storage resources. These flexible resources are thus accounted to find the ranges of flexibility, where Wind Power Curtailment cannot be avoided, being pointed out the most important wind power curtailment properties: the beginning, the duration and the end of each wind power curtailment.

Other

Bat Week 2015 Bat House Building Challenge (see attached). On October 31, 2015 join us in our goal to build a record of 5,000 bat houses in the USA and Canada all in one day! Sign up as a host site. Contact Danielle Todd, Organization for Bat Conservation, at dtodd@batconservation.org.

[Solar Power Expansion Could Pose Ecological Risks](#). Solar power development is big business in sunny California, fueled by low solar panel prices and the drive to reduce greenhouse gas emissions to tackle climate change. Some biologists, however, are growing concerned that the placement of new large-scale solar power plants in the Mojave Desert may harm the biological diversity found there.

Tools

[New Mapping Tool Shows Woody Encroachment in LEPC Habitat](#). A new woody encroachment data layer — available through the Southern Great Plains Crucial Habitat Assessment Tool (CHAT) web map — provides a broad-scale planning tool for resource managers to more effectively target Lesser Prairie-Chicken (LEPC) habitat improvement strategies.

[Free Learning Sources for GIS and Geospatial Analysis](#). Here is a list of FREE learning sources, including GIS software training courses and tutorials, applied learning materials, workshops and webinars related to GIS and/or Geospatial analysis, etc. All of them are Free of Cost .

[Upcoming Conferences & Trainings & Webinars](#)

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The Wildlife Society Renewable Energy Working Group – LinkedIn. Connect with other resource professionals involved in renewable energy – wildlife work. To join, go to:

http://www.linkedin.com/groups?gid=4433729&trk=my_groups-b-grp-v, click Join.

Check out the Nebraska Wind Energy and Wildlife Project website at: <http://snr.unl.edu/renewableenergy/wind/> and Wind Energy and Wildlife news at: <http://www.scoop.it/t/wind-energy-and-wildlife>.

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