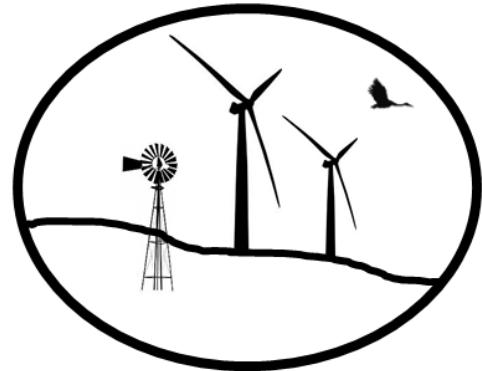


Wind Energy and Wildlife News

July 8, 2015



Around Nebraska...

New zoning regulations for wind farms revealed. The Lincoln-Lancaster County Planning Department has opened a 30-day comment period on the proposed regulations, which started June 8. They can be viewed online at lincoln.ne.gov. The proposed regulations address noise and health issues from wind turbines, as well as setback requirements from homes and property, lighting and decommissioning of towers.

Grand Island signs wind energy agreement. Grand Island Utilities has signed a long-term agreement to purchase about 36 megawatts of power from Invenergy's Prairie Breeze III Wind Energy Center, a 20-turbine facility in Antelope County that will open next year.

NextEra provides more details. The NextEra Energy Resources team said it is still trying to determine whether 33,000 acres in Butler and Saunders counties are suitable for its Jubilee wind energy project. NextEra Development Manager/Director of the Jubilee Project Lisa Sullivan said NextEra has to establish the area as viable for wind turbines. The company is at least a year or more away from selecting a specific style of turbine, not to mention conducting a litany of studies.

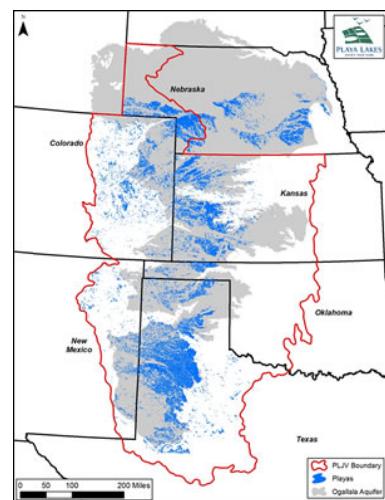
Wind farm developer isn't a good neighbor. What constitutes a good neighbor? Some may say financial contributions to the community infrastructure. "Wind energy provides much-needed tax income to rural communities, to schools, libraries and other public services, benefiting the entire community." Perhaps, but it sometimes sounds and feels more like a buy-off. Do we really feel that the promotion of a wind farm in the Bohemian Alps serves to develop good neighborly relations?

Consultant: Get ahead of wind farm development. The County Board of Supervisors' conversation on Monday was about the need to prepare for the impact of proposed wind farms on the county's roads. But the topic of zoning, inevitably was brought into the discussion.

Wind energy gets into the game at CWS. The College World Series will be a little greener this year. The Metropolitan Entertainment and Convention Authority, which operates TD Ameritrade Park, says it will buy renewable energy certificates from the Omaha Public Power District to offset electricity used during the 11-day event, which begins June 13.

Broken Bow II wind farm dedication ceremony in Custer County, Nebraska. Published on Jul 7, 2015. On October 27, 2014 Nebraska Gov. Dave Heineman, Sempra U.S. Gas & Power officials, and state and community leaders dedicated one of the state's newest clean energy projects, the 75-megawatt (MW) Broken Bow II wind farm.

Rare Blanding's turtle could go on federal endangered list. The federal government is considering adding the Blanding's turtle to the endangered species list, as the yellow-throated reptile that once thrived



throughout the Upper Midwest can now only be found in large numbers in parts of Minnesota and Nebraska.

[Playa Modifications Assessment](#). The Playa Modifications Assessment is a citizen science project that uses publicly available data to collect vital information on the ecological condition of playas throughout the western Great Plains. Playas provide important wildlife habitat and are the main source of recharge to the Ogallala Aquifer. Playas have been modified from their natural condition by a variety of factors, and their conservation depends on a better understanding of these modifications.

[Final Upper Great Plains Wind Energy PEIS](#) is now available. Western Area Power Administration and the U.S. Fish and Wildlife Service have prepared a PEIS to evaluate the impacts of wind energy development in Western's Upper Great Plains Region (all or parts of Iowa, Minnesota, Montana, Nebraska, North Dakota, and South Dakota), and on the Service's grassland and wetland easements in North Dakota, South Dakota, and Montana. The PEIS identifies mitigation strategies, best management practices, and comprehensive environmental review procedures for evaluating future wind energy projects.

Impacts and mitigation were analyzed for each environmental resource, and all aspects of wind energy projects were addressed, including construction and installation of: turbines; transformers; collector lines; access roads; and substations; as well as operation and maintenance of these facilities.

Around the Nation & World...

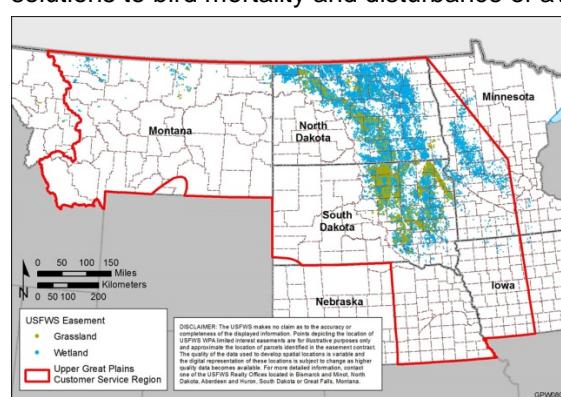
Wind and Wildlife

[Impacts of wind energy on environment: A review](#), Wang and Wang 2015, Renewable and Sustainable Energy Reviews. This paper systematically reviews the available evidence on the impacts of wind energy on environments in terms of noise pollution, bird and bat fatalities, greenhouse gas emissions, and land surface impacts. We conclude that wind energy has an important role to play in future energy generation, but more effort should be devoted to studying the overall environmental impacts of wind power, so that society can make informed decisions when weighing the advantages and disadvantages of particular wind power development.

[Curtailing wind turbine operations to reduce avian mortality](#), Singh et al. 2015, Renewable Energy. A model was developed for curtailing wind turbines during high-risk periods for endangered species including % reduction in mortalities and the cost per bird.

[Mitigating wind-turbine induced avian mortality: Sensory, aerodynamic and cognitive constraints and options](#), May et al. 2015, Renewable and Sustainable Energy Reviews. Implementing effective mitigation measures could reduce the general level of conflicts with birdlife and thus enable both the development at new sites, at sites that have been declared having too high conflict levels, and utilise the wind resources better at specific sites without increasing the conflict levels.

[Moving Towards Best Practice for Bird Mortality Mitigation in Wind Power Planning, Sweden](#), McNally 2015, M.S. Thesis. The primary data collection method or means used for the thesis was a collaborative stakeholder workshop designed and organized by the author, focused upon building trust among relevant real life stakeholders and a co-evolution of stakeholders towards potential mitigation solutions to bird mortality and disturbance of avifauna within onshore wind power development. The analytical findings point towards the importance of engagement, consensus, validation and knowledge in moving towards a best practice for bird mortality mitigation in wind power planning in Sweden.



DISCLAIMER: The USFWS makes no claim as to the accuracy or completeness of the displayed information. Plots depicting the location of USFWS easements are based on the best information available and approximate the location of parcels identified in the easement contract. The digital representation of these locations is subject to change as higher resolution data becomes available. The user assumes full responsibility for the use of the USFWS Rathy Offices located in Bismarck and Moorhead, Dakota Adventures and Future. Sioux City or Great Falls, Montana.

Camera-trapping as a methodology to assess the persistence of wildlife carcasses resulting from collisions with human-made structures, Paula et al. 2015, Wildlife Research. In our study area, carcass-persistence times were influenced by the scavenger guild present and by the exposure to rain. Camera traps allowed to record the exact removal time for the majority of the carcasses, reducing the number of visits to the study site about five times. However, there were also cases wherein loss of data occurred as a result of equipment flaws or camera theft.

Pelagic Waterbird Surveys in the Great Lakes, 2012-2014: Minimizing Conflicts with Future Offshore Wind Energy Development, Williams et al. 2015, Great Lakes Commission. The Biodiversity Research Institute (BRI) is assisting the Great Lakes Commission (GLC) in developing a research plan to understand waterbird populations in the Great Lakes and inform offshore wind energy siting and conservation planning.

An Assessment of Direct Mortality to Avifauna from Wind Energy Facilities in North Dakota and South Dakota, Graff 2015, M.S. Thesis. We used a Generalized Estimating Equation (GEE) to estimate the influence of landscape variables around individual turbines on waterfowl mortality and documented cropland to have a negative influence on mortality rates. We suggest future wind facility siting decisions consider avoiding grassland habitats and locate turbines in fragmented and converted habitat outside of important waterfowl areas.

Ecological impacts of wind farms on birds: Questions, hypotheses, and research needs, Wang et al. 2015, Renewable and Sustainable Energy Reviews. We summarise current evidence of bird fatalities resulting from wind power, outline the reasons why and how birds are killed by wind power developments, and identify research needs to better inform researchers, decision makers, developers and other stakeholders, to help mitigate any adverse impacts of wind power developments on birds.

Turbines and Terrestrial Vertebrates: Variation in Tortoise Survivorship Between a Wind Energy Facility and an Adjacent Undisturbed Wildland Area in the Desert Southwest (USA), Agha et al. 2015, Environmental Management. High annual survival suggests that operation and maintenance of the WEF has not caused considerable declines in the adult population over the past two decades. Low traffic volume, enhanced resource availability, and decreased predator populations may influence annual survivorship at this WEF. Further research on these proximate mechanisms and population recruitment would be useful for mitigating and managing post-development impacts of utility-scale wind energy on long-lived terrestrial vertebrates.

Estimates and correlates of bird and bat mortality at small wind turbine sites, Minderman et al. 2015, Biodiversity and Conservation. We estimated that between 0.079 and 0.278 birds, and between 0.008 and 0.169 bats may be killed turbine⁻¹ year⁻¹, equating to 1,567–5,510 birds and 161–3,363 bats year⁻¹ in the UK based on recent estimates of numbers of units installed. Sites with higher levels of bird activity tended to be more likely to report bird casualties. Systematically derived likely ranges of mortality as provided here are urgently needed to inform future SWT planning policy.

Wildlife and renewable energy: German politics cross migratory bats, Voigt et al. 2015, European Journal of Wildlife Research. We conclude that evidence-based action plans are urgently needed to mitigate the negative effects of the operation of wind energy facilities on wildlife populations in order to reconcile environmental and conservation goals.

First Report on Bat Mortalities on Wind Farms in Chile, Escobar et al. 2015, Gayana. We found that *T. brasiliensis* potential distribution overlaps with the current and future distribution of wind farms in Chile. Rapid developments are currently being made within the wind energy industry in Chile. Future research should quantify the impact patterns of wind farms on wildlife, explore mitigation methods, and determine the areas with high biodiversity vulnerability in Chile.

Towards a cumulative collision risk assessment of local and migrating birds in North Sea offshore wind farms, Brabant et al. 2015, Hydrobiologia. The results indicate that the cumulative impact of a realistic scenario of 10,000 turbines in the North Sea might have a significant negative effect at population

level for lesser and great black-backed gull. We further show that during a single night of intense songbird migration, the number of collision victims among passerine migrants might be in the order of magnitude of several thousands in the entire North Sea. We argue that it is of great importance to further develop methods to quantify the uncertainties and to minimise the assumptions, in order to assure more reliable cumulative impact assessments.

[Effort to save bat species puts pressure on wind industry](#). The Iowa wind energy industry faces a bizarre problem. It's killing bats, and the demise sometimes comes in a gruesome way. Whatever the reason, the Iowa wind industry, an increasingly important segment of the economy, will have to deal with the deaths and a U.S. Fish and Wildlife Service effort to stop the slaughter of one species — the northern long-eared bat.

[Project Coordinator, American Wind Wildlife Information Center](#). The American Wind Wildlife Institute (AWWI) seeks a coordinator for AWWI's American Wind Wildlife Information Center (AWWIC) project. The AWWIC is a database that collects and securely houses wind-wildlife data from wind projects across the U.S. and makes the data available for scientific analysis. The analysis of data contained in AWWIC represents the most substantive, near-term opportunity to deliver game-changing information on wind-wildlife interactions.

Policy

[Draft Environmental Impact Statement for the Proposed Midwest Wind Energy Multi-Species Habitat Conservation Plan](#), 33537-33540 [2015-14408].

[U.S. Fish and Wildlife Service Hosts Public Information Meetings in Eight Midwest States for Regional Wind Energy Habitat Conservation Plan](#). The U.S. Fish and Wildlife Service is inviting public input as it develops an environmental impact statement on the potential impacts of issuing incidental take permits for covered species under the draft Midwest Wind Energy Multi-species Habitat Conservation Plan.

[Wide Reach of Migratory Bird Treaty Act for Energy Projects](#), Rosen 2015, Natural Gas & Electricity. Given the broad liability under the Act, as described below, it is important that energy project developers and operators understand how the Act may apply to their facility and how to minimize potential liability risks through use of avoidance and mitigation measures.

[Migratory Bird Permits; Programmatic Environmental Impact Statement](#). We, the U.S. Fish and Wildlife Service (Service, us, or we), intend to prepare a programmatic environmental impact statement (PEIS) pursuant to the National Environmental Policy Act to evaluate the potential environmental impacts of a proposal to authorize incidental take of migratory birds under the Migratory Bird Treaty Act. **To ensure consideration of written comments, they must be submitted on or before July 27, 2015.**

[BirdRegs.org](#). An open, public conversation about the incidental take of migratory birds.

[The GOP attacks a venerable bird protection law in the name of wind energy](#). Representative Jeff Duncan of South Carolina inserted [a rider](#), a type of amendment, into the budget for Commerce, Justice and Science that would prevent federal prosecutors from enforcing the migratory bird law. While it may not pass—riders get inserted and then dropped in a lot of legislation—it could also make it through and render the Migratory Bird Treaty Act a dead letter.

[Duke Energy: Looking for Payback](#). Two years after getting prosecuted under the Migratory Bird Treaty Act, the energy giant takes aim at the law itself.

[Public Land Renewable Energy Development Act of 2015](#). To promote the development of renewable energy on public land, and for other purposes. Sponsor, Senator Dean Heller, R-NV.

LETTER: WGA promotes sharing of renewable energy lease revenues. The purpose of this letter is to communicate Western Governors' longstanding support for the sharing of revenues derived from renewable energy leasing on federal lands with impacted states and counties. Language contained in the Public Lands Renewable Energy Development Act of 2015 ([S. 1407](#)), sponsored by Senator Heller, Senator Heinrich, Senator Risch and Senator Tester, would enact such revenue sharing. Western Governors appreciate the Committee's consideration of this important legislation.

Supreme Court overturns landmark EPA air pollution rule. The Supreme Court dealt a blow to the Obama administration's landmark air quality rule, ruling the Environmental Protection Agency did not properly consider the costs of the regulation. In a 5-4 [ruling](#), the justices ruled that the EPA should have taken into account the costs to utilities and others in the power sector before even deciding whether to set limits for the toxic air pollutants it regulated in 2011.

How the EPA Puts a Price Tag on Pollution. What's a healthy baby worth? A pristine lake? How about the market value of an IQ point? Some people might say it's impossible to put a price tag on such things. But the Environmental Protection Agency has been doing it for decades, proving that it is possible—though also very difficult to do in a way that pleases everyone.

Renewable energy on tribal lands stalls out. Is the Bureau of Indian Affairs delaying wind and solar projects?

Wildlife & Habitats

Collaborative Bat Monitoring Study Launched. The United States Forest Service recently published plans for a new program to monitor bat populations across North America and determine the effects of ongoing threats such as habitat loss, [white-nose syndrome](#) (WNS), climate change and [wind energy development](#). This program, the first of its kind, is referred to as the [North American Bat Monitoring Program](#), or NABat and is a collaboration of the USFS, U.S. Fish and Wildlife Service, U.S. Department of Agriculture, Bureau of Land Management, U.S. Geological Survey and Bat Conservation International.

Minding the gap: City bats won't fly through bright spaces. Researchers at the University of Birmingham have discovered that bats living in a city are less likely to move from tree to tree in brightly lit areas, according to research published online.

The ecological impact of city lighting scenarios: exploring gap crossing thresholds for urban bats, by James D. Hale et al. 2015, Global Change Biology. We believe that this is the first study to demonstrate how lighting may create resistance to species movement throughout an entire city. That connectivity in urban areas is being disrupted for a relatively common species raises questions about the impacts on less tolerant groups and the resilience of bat communities in urban centres. However, this mechanistic approach raises the possibility that some ecological function could be restored in these areas through the strategic dimming of lighting and narrowing of gaps.

Cold-blooded Animals Will Have Global Warming Struggle. Biologists from the University of California, Berkeley and San Francisco State University completed a meta-analysis in which they analyzed 112 published studies on plasticity — the ability of individual animals to change their thermal tolerance when they experience new environmental temperatures. They found that cold-blooded animals have an especially difficult time adjusting to temperatures, and that on average most ectotherms aren't flexible to global warming changes.

Plasticity in thermal tolerance has limited potential to buffer ectotherms from global warming, by Alex R. Gunderson and Jonathon H. Stillman, 2015, The Royal Society Proceedings B. Behavioural and evolutionary mechanisms will be critical in allowing ectotherms to buffer themselves from extreme temperatures.

Wind

Potential Wind Capacity. Potential wind capacity maps are provided for a 2014 industry standard wind turbine installed on a 110-m tower, which represents plausible current technology options, and a wind turbine on a 140-m tower, which represents near-future technology options.

The Aesthetics of Environmental Equity. The legal definition of [environmental equity](#) is "equitable sharing of environmental impacts by a community." According to the [US EPA](#), "no group of people should bear a disproportionate share of the negative environmental consequences." When Pickens and others support wind energy but believe it has negative consequences -- even just aesthetic ones -- they are saying precisely that a disproportionate share of those consequences should be borne by others.

Avian Predator's Stealth Mode Could Be a Boon to Wind Power. Owl feathers and wings are the inspiration for a prototype coating that could quiet wind turbines. With a quieter turbine, operators could keep running their wind farms through higher wind speeds, when the turbines are at their noisiest. That could result in the average wind farm pumping out additional megawatts of [clean, renewable energy](#).

Those Magnificent Wind Machines (1980) / NASA Wind Program. The evolution of the NASA wind program is traced from 1973 to 1980. Wind turbines for producing energy are discussed extensively. This is part of the NASA at Work video series produced by Lewis Research Center.

Revolt against high gas prices, volatile foreign oil markets! Power your car with wind. If you're one of about 1.7 million people being served by a certain Minnesota cooperative, you can now wind-power your car for free. And no, you don't need any cartoon-like fan whirring atop your car roof to make it happen. This is real.

Solar

Interior Department Approves First Solar Energy Zone Projects. As part of President Obama's [Climate Action Plan](#) to cut carbon pollution and create clean energy jobs, U.S. Secretary of the Interior Sally Jewell today announced the approval of the first three solar energy projects to benefit from the streamlined permitting process of the Bureau of Land Management's (BLM) [Western Solar Plan](#).

BLM Mojave Desert solar decision rankles environmentalists. To the consternation of some environmentalists, the U.S. Bureau of Land Management announced Friday it had eliminated a quarter of the proposed Soda Mountain Solar project but will allow most of its construction on nearly 2,000 acres near Death Valley National Park and the Mojave National Preserve.).

Other

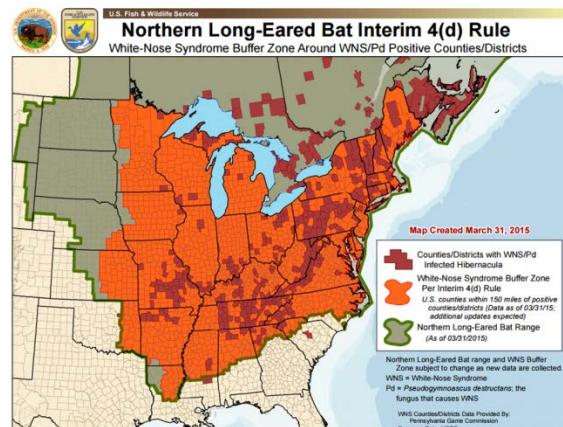
Are Residential Demand Charges The Next Big Thing in Electricity Rate Design? Residential customers are rarely subject to a bill with a demand charge. This is because, until recently, residential electricity loads were pretty much the same from one customer to the next. But today, this assumption is no longer true. All residential customers are not the same.

Announcements

Service Protects Northern Long-eared Bat as Threatened Species under Endangered Species Act with Interim 4(d) Rule. The listing becomes

effective on May 4, 2015, 30 days after publication of the final listing determination in the Federal Register.

USFWS Approved Automated Acoustic Bat ID Software Programs. Specified versions of the



programs identified below are approved by the Service for use in 2015 and beyond for presence/probable absence surveys for Indiana bats (*Myotis sodalis*). These programs have been independently tested by USGS researchers and passed the Service's standardized test/validation process.

1. BCID Program (version 2.7b or newer)
2. EchoClass (version 3.0 or newer)
3. Kaleidoscope® Pro (version 2.2.2 or newer)

Upcoming Conferences & Trainings

Siting and Permitting for Transmission and Renewable Energy Projects will be held in San Diego, CA on July 16-17, 2015.

The Effects of Noise on Aquatic Life. The fourth International Conference on "The Effects of Noise on Aquatic Life" will take place in Dublin, Ireland, July 10-16, 2016.

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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