Wind Power Position

Position of the Kansas Department of Wildlife and Parks Regarding Wind Power and Wildlife Issues in Kansas

Wind power is the fastest growing form of renewable or "green" energy in the United States, and Kansas has been ranked third in the nation for its potential wind resources. Power companies have adopted renewable energy portfolios. Federal and state tax incentives, along with advances in technology, have improved the competitive position of wind power relative to conventional energy production. These factors have created a highly competitive environment in Kansas for the location and development of commercial wind power facilities.

The Kansas Department of Wildlife and Parks (KDWP) supports the concept of renewable energy. Wind energy appears to offer a potential source of electricity that is nearly emission free and requires minimal use of other resources, such as water and fossil fuels, compared to traditional forms of electrical generation. While recognizing the benefits of a renewable energy supply, KDWP also recognizes that energy conservation and efficiency are the most environmentally benign means of freeing up energy availability for the future.

Superficially, wind energy appears less likely to generate some of the more obvious environmental consequences associated with electrical generation from fossil fuel combustion. On this basis alone, many conservation and environmental organizations have supported its expansion. Early concerns for wildlife relative to wind energy centered mainly on bird mortality from collisions with wind turbines and power lines. Research indicates that bird collisions are not as significant of a mortality factor as originally anticipated (Johnson et al., 2002). The risk for collisions has been reduced through changes in turbine design, including elimination of lattice towers, and burying power lines within the wind facility. Recent research indicates that bats might be at greater risk from flying into wind turbines than birds, especially when turbine arrays are sited along bat migration corridors. The trend for larger turbines might pose an increased collision risk to night-migrating birds, particularly where placed on high ridges.

Siting of wind power facilities on native intact prairie appears likely to cause avoidance or complete abandonment of otherwise suitable habitats by some grassland birds. The actual footprint or area of physical disturbance affected by the construction of turbines, roads, transmission line connections, and other infrastructure of wind facilities is small compared to overall project areas. However, behavioral avoidance of these facilities by sensitive grassland birds has the potential to expand negative effects over the entire project (generally thousands of acres). Research at a Minnesota wind facility found nesting densities of grassland birds four times greater in grasslands that were 180 meters from wind turbines compared to grasslands within 80 meters of turbines (Leddy et al., 1999). Studies in Europe have also documented bird avoidance of wind power facilities (Winkelman, 1990; Pedersen et al., 1991). Though not specifically associated with a wind facility, a six-year study in southwest Kansas showed that Lesser Prairie-chicken hens seldom nest or raise their broods within a mean buffer of 1191feet from electrical transmission lines, 581 feet from oil and gas wellheads, 4114 feet from buildings, 1007 feet from center pivot irrigation systems, and 2579 feet from either side of improved roads (Pitman et al., in review). The behavioral response of the Greater Prairie-chicken is similar to that of the Lesser Prairie-chicken, and it is predicted that nesting and brood-rearing hens of both species will avoid large wind turbines (1.5 MW models; 350 feet tall) by at least a one-mile radius (Robel et al., 2004). In its Briefing Paper regarding prairie grouse leks and wind turbines, the U.S. Fish and Wildlife Service recommends a five-mile buffer between occupied prairie grouse leks and wind power facilities (Manville, 2004).

Many native prairie regions in Kansas are known to have high wind power potential. The juxtaposition of this wind potential and Kansas? remaining intact prairie habitat is a source of major concern, particularly considering the declining status of many grassland birds (Knopf, 1994). Numerous resident and migratory wildlife species depend upon native prairie habitats.

These habitats are used by prairie species for many phases of their life cycles including courtship, nesting, brood-rearing, foraging, roosting, loafing, winter cover, and migratory corridors.

In addition to forcing habitat abandonment, commercial wind power facilities could effectively fragment native prairie habitats. Declining populations of Lesser Prairie-chickens have been shown to be strongly affected by broad spatial changes to landscape structure (Woodward et al., 2001; Fuhlendorf et al., 2002). Large numbers of wind turbine arrays might act as dispersal barriers thus affecting some species at a landscape scale. Also, little is known about the potential of cumulative effects to other species of wildlife that inhabit native prairie habitats including small mammals, fish, amphibians, and reptiles. These species are important parts of the prairie and disruptions to their behaviors and habitats could affect overall function and health of this ecosystem.

It is the duty of KDWP to protect the wildlife resources of the state for all Kansans and, consequently, the agency considers it critically important to protect the integrity of remaining intact prairie habitats in Kansas. Thus, it is the position of KDWP:

(1) That wind power facilities should be sited on previously altered landscapes, such as areas of extensive cultivation or urban and industrial development, and away from extensive areas of intact native prairie, important wildlife migration corridors, and migration staging areas.

(2) To recommend adherence to the siting guidelines for wind power projects
Siting Guidelines for Windpower Projects in Kansas produced by the Kansas Renewable Energy Working Group (
www.kansasenergy.org/Kansas_Siting_Guidelines.PDF).

(3) To support the study of and establishment of standards for adequate inventory of plant and animal communities before wind development sites are selected, during construction, and after development is completed (Manes et al., in review). The resultant improvement in available knowledge of wind power and wildlife interactions obtained through research and monitoring should be used to periodically update guidelines regarding the siting of wind power facilities.

(4) That mitigation is appropriate only if significant ecological harm from wind power facilities cannot be adequately addressed through proper siting.

(5) To support the establishment of processes to ensure a comprehensive and consistent method in addressing proposed wind power developments.

(6) To advocate the direct coupling of energy conservation and efficiency programs with any new measures aimed at increasing energy supply whether renewable or conventional.

Currently, wind power projects are statutorily subject to KDWP regulatory purview if they are publicly funded, state or federally assisted, or require a permit from another state or federal government agency to protect species listed as threatened or endangered as designated by the
Kansas Nongame and Endangered Species Conservation Act of 1975. Kansas statutes and regulations require the issuance of special action permits from KDWP for activities that affect listed species before such activities may proceed. Questions regarding potential permitting or formal review requests should be forwarded the Environmental Services Section at the KDWP Operations Office in Pratt.

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