

**Report to the Wisconsin Legislature:
DNR Authorities to Protect Wildlife and the Environment from Adverse
Impacts of Wind Energy Systems
November 2010**

INTRODUCTION

This report is submitted to comply with the requirements of 2009 Wisconsin Act 40, regarding wind energy systems and the Department's authorities to protect wildlife and natural resources.

Specifically, Wis. Stat. § 23.39, requires the Department to conduct a study:

“...to determine whether the department’s statutory authority is sufficient to adequately protect wildlife and the environment from any adverse effect from the siting, construction, or operation of wind energy systems. In conducting the study, the department shall consider the systems, including the authority of the public service commission under section 196.491 (3) (d) 3. and 4. of the statutes and of political subdivisions under section 66.0401 (1m) and (4) (g) of the statutes, as affected by this act. On or before the first day of the 13th month beginning after the effective date of this subsection, the department shall submit a report containing the results of the study to the legislature in the manner provided under section 13.172 (2) of the statutes. If the department’s study concludes that the department’s statutory authority is not sufficient to adequately protect wildlife and the environment from any adverse effect from the siting, construction, or operation of wind energy systems, the report shall include recommendations to the legislature for a bill that provides the department with such authority....”

BACKGROUND

The construction and operation of wind energy systems have the potential for impacts to wildlife and natural resources. The construction of wind energy systems requires land disturbance for the access roads, pads and foundations of the turbines, any buried power collection lines, operation and maintenance facilities, and substations. Operation of the turbines may impact wildlife using or moving through the wind project area. These include bird and bat fatality due to collisions with the turning blades, and bat fatality due to barotrauma – damage to the lungs of bats flying through the pressure drops at the blade tips. Other potential impacts include the loss of habitat that is physically changed by installing the wind facilities, and wildlife exclusion/avoidance of the structures and moving blades of the turbines. These may cause secondary impacts if wildlife is displaced into locations that are less favorable for survival and reproductive success, or as in the case of migrating birds, cause them to expend too much energy avoiding the turbines. DNR and other agencies try to work with developers to site projects to minimize the potential wildlife impacts.

Collision fatality is the most studied wildlife impact from wind projects. DNR's concern is especially high for those species that are already suffering from other stresses that reduce their populations. For example, bats are now facing a new disease threat, white nose syndrome, and the cumulative effects of the disease and fatalities at wind projects could contribute to significant population reductions, or even local extinctions.

CURRENT REGULATORY STRUCTURE IN WISCONSIN

Depending on size and ownership of the project, siting of wind energy systems is regulated at both the state and local levels. For electric generation facilities, the Public Service Commission (PSC) is the main siting authority for facilities over 100 megawatts (MW) in output, and local governments permit smaller systems, including those proposed by individuals or non-utility developers.

PSC Authority

Electric generation and transmission facilities may be constructed by public utilities, as defined by Wis. Stat. § 196.01(5), and entities other than public utilities that are defined as wholesale merchant plants under Wis. Stat. § 196.491(1). The PSC's jurisdiction over electricity generation and transmission facilities depends on the size of the project and whether the entity proposing the project is a public utility.

Large generation projects are defined as generation facilities with a capacity of 100 MW or greater, and these projects require a certificate of public convenience and necessity (CPCN) from the PSC. Smaller electricity generation projects generally require a construction authorization (CA) from the PSC if they are proposed by a public utility and the project meets the cost thresholds established under Section PSC 112.05(3) (a), Wis. Adm. Code. Large transmission projects are transmission lines longer than one mile that are operated at 100 kV or higher, and these projects also require a CPCN.

An entity other than a public utility proposing to build a wind project with output less than 100 MW would not require PSC approval before beginning construction.

Projects that require a CPCN must meet a higher statutory standard of review than projects requiring only a construction authorization (CA). The PSC may issue the CPCN only if it determines that the proposed project meets the criteria established in Wis. Stat. § 196.491. The criteria generally include, but are not limited to:

- The project satisfies the reasonable needs of the public for an adequate supply of electrical energy, unless it is being proposed as a wholesale merchant plant;
- the design, location, or route of the project is in the public interest, considering alternative sources of supply, locations, routes, individual hardships, engineering, safety, economic, and environmental factors, except that the PSC cannot consider alternative sources and economic factors for wholesale merchant plants;

- the project will not have undue adverse impacts on the environment, public health and welfare, historic sites, geological formations, land and water aesthetics, or recreational uses;
- the project will not unreasonably interfere with orderly land use and development plans; and
- the project will not have a material adverse impact on the wholesale electric service market.

DNR Involvement in the PSC Review Process

The Wisconsin Department of Natural Resources does not regulate the siting of wind projects. DNR regulates certain activities that may occur during construction of a wind system, as described below. As discussed above, the PSC is required to fully consider the environmental impacts of projects, and under an inter-agency cooperative agreement with PSC, the DNR supports the review by providing its knowledge and expertise on issues related to natural resources and environmental quality authorities. PSC and DNR have developed application filing requirements that include information and consultation requirements associated with DNR interests and authorities. The agencies cooperatively review developer applications for completeness, and develop joint environmental analysis documents required under Chapter 1.11, Stats, and Chapters PSC 4 and NR 150, Wis. Adm. Code.

Based on review of the application materials, DNR provides technical testimony in PSC proceedings regarding its direct permitting authorities, potential impacts to rare/endangered/threatened species, impacts to state properties and unique habitats, potential operational impacts to bats and birds, and recommendations for post construction bird and bat studies to increase our knowledge about these impacts and how to reduce them.

Direct DNR Authority

DNR has direct authority over waterway and wetland impacts associated with certain construction activities needed to install a wind system, such as placement of turbines, permanent access roads, collector lines, transmission lines, substations, and temporary access roads. Section 30.025, Stats. outlines a process for coordinating DNR water-related permitting with PSC decisions made under Ch.196.491, Stats. This allows the developer to file a single permit application covering all of the following water management approvals needed to construct a facility.

- **Waterways**

Should any element or segment of the proposed project impact the bed and/or banks of waters of the state, as defined in Ch. 281, Stats., permits may be required under authority of Ch. 30, Stats. Subject activities may include any of the following: placement of

structures below the ordinary high water mark within waters of the state, disturbances of the banks of navigable waters, and placement of temporary bridges.

- Wetlands

For impacts to wetlands, the DNR must issue Water Quality Certification under Section 401 of the Federal Clean Water Act and pursuant to Chs. NR 103 and NR 299, Wis. Adm. Code, for any activities subject to U.S. Army Corps of Engineers (COE) Section 404 permitting. For impacts to isolated wetlands, not under COE jurisdiction, a water quality certification may be required pursuant to s. 281.36, Stats., and Chs. NR 103 and NR 299, Wis. Adm. Code.

- Construction Site Erosion Control

Depending on the acreage of land disturbance for the project, stormwater management for construction sites may require coverage under a WPDES general permit under Ch. 283, Wis. Stats., and Ch. NR 216, Wis. Adm. Code. Discharge of water due to pit or trench dewatering associated with construction may require a determination of the applicability of a WPDES general permit under Ch. 283, Wis. Stats.

DNR AUTHORITIES RELATED TO WILDLIFE AND HABITAT

The DNR is responsible for Threatened and Endangered Species protection under s. 29.604, Stats, and administers general Wildlife Protection Laws under Chapters 23 and 29, Stats. Chapters NR 10 and 19, Wis. Adm. Code, apply to deliberate takings of wildlife, and are generally not applicable to wind project operations.

For bird and bat conservation, DNR is concerned about the fatalities of rare or declining species, the potential for large fatality events during migration, and the displacement of birds and bats from large or important areas of their habitat. These concerns are most evident on a cumulative scale when considering the potential effects of all wind projects, both locally and nationwide. The agency continues to work with wind developers, conservation interests, and other agencies on pre- and post-construction studies to increase relevant knowledge about these impacts, especially at the cumulative impacts and landscape scale.

Protection of Threatened and Endangered Species

Wisconsin's endangered species law, s 29.604 Stats, prohibits the taking of state-listed threatened or endangered animals without prior authorization. "Take" as defined in s. NR 27.01(8), Wis. Adm. Code, means shooting, shooting at, pursuing, hunting, catching or killing any wild animal; or cutting, rooting up, severing, injuring, destroying, removing, or carrying away any wild plant. Utilities are exempt from takings protections for plants. Wind projects, regardless of their size or location, may result in direct or indirect fatality to state threatened or endangered species, either during construction activities addressed by other permitting authorities, or during operation of the facility.

If “take” is determined to be “incidental” to an otherwise lawful activity, an incidental take (IT) permit may be necessary to comply with s. 29.604 (6m), Stats. The IT process requires consultation with DNR experts.

On September 22, 2010, four species of cave bats were designated by the Natural Resources Board as state threatened via emergency rule, in anticipation of the arrival of White Nose Syndrome (WNS). In its broad incidental take guidelines, the Department states that no additional actions, above those currently requested by the Department, will be required of the wind industry at this time. Further, the Department will work collaboratively with stakeholders to develop minimization measures and produce a conference report containing recommendations for reducing adverse impacts that will be presented to the Natural Resources Board. These recommendations will be advisory until such time that WNS is discovered in the state. While not presently proposed for listing, tree bat species are currently undergoing a status review by the Department as part of a larger comprehensive status review of all species on the Natural Heritage Inventory Working list.

General Wildlife protection

Section 23.095, (1g) Stats: “Protection of Natural Resources”, outlines an important part of DNR’s mission, which is to protect the State’s natural resources, including non-game and rare animal species, and the ecosystems that sustain them. The statute states: “No person may damage or attempt to damage any natural resource within the state.” “Damage” means to commit a physical act that unreasonably destroys, molests, defaces, removes or wastes.”

Sec. 29.011 (1), Stats, states: “The legal title to, and the custody and protection of, all wild animals within this state is vested in the state for the purposes of regulating the enjoyment, use, disposition and conservation of these wild animals.”

Sec. 29.039, Stats: “nongame species. (1) The department may conduct investigations of nongame species to develop...data to determine necessary conservation measures...and may establish limitations relating to taking, possession...of nongame species.”

Violations of state wildlife protection laws are subject to appropriate enforcement actions, and may result in fines and other penalties, as well as orders to address the causes of the violations. General wildlife laws address intentional taking by unlawful activities, and are generally not applicable to the construction or operation of state or locally approved wind projects.

DNR GUIDANCE TO DEVELOPERS

The DNR Office of Energy web-site (<http://dnr.wi.gov/topic/Sectors/Wind.html>) provides general “Siting Guidelines” to help developers to site wind energy projects to

avoid sensitive habitat resources, such as bird migration routes, Important Bird Areas, and State Natural, Wildlife, and Recreation Areas. Lands managed or owned by the State may have different allowable or prohibited uses. When federal and state funds are used to purchase DNR-managed lands, the funding programs may prohibit any departure from their original purpose. Under terms of the Federal Land and Water Conservation Act (LAWCON), federal funds are provided to the States to purchase important conservation and recreation lands. Those properties are not intended to revert to other uses, including power generation. Also, if wind development would significantly reduce the agency's ability to provide the conservation benefits for which those lands were purchased, it would not be appropriate to allow a wind project to be developed on the property.

To comply with a separate provision of 2009 Wisconsin Act 40, DNR is revising the current "Bird and Bat Study Guidelines" to ensure good information for evaluating proposed sites, and placing individual turbines once the general project location has been selected. Act 40 also instructs DNR to develop maps of key natural resource features to avoid. These should be available for public and stakeholder comments in November 2010.

FEDERAL INVOLVEMENT

US Army Corps of Engineers

Under federal laws, including the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act, the US Army Corps of Engineers (COE) regulates activities, such as fills, structures, navigation dredging, and channel maintenance that can impact federal waters. DNR must issue water quality certifications under s. 401 of the CWA before the COE issues its permits under s. 404 of the CWA. As discussed above, certain construction activities, such as roads and connector lines, may affect waterways or wetlands that fall under federal jurisdiction and require COE permits.

US Fish and Wildlife Service

The US Fish and Wildlife Service (FWS) administers and enforces the federal Endangered Species Act, Migratory Bird Treaty Act, and Bald and Golden Eagle Protection Act.

- Endangered Species Act-16 U.S.C. §§ 1531 to 1544 9

The Endangered Species Act (ESA) was passed to protect and recover species listed as threatened or endangered by the FWS. The Act protects these species and their habitats by prohibiting the taking of listed animals without a permit. The term "taking" is defined to include harassing, harming, pursuing, hunting, shooting, killing, capturing, collecting, or the attempt at such activities. The FWS has further defined harm to mean any act that

kills or injures wildlife, including significant habitat modification or degradation that significantly impairs feeding, breeding, and sheltering. The Act also requires the FWS to designate geographic areas that are essential to the conservation of endangered or threatened species as critical habitat. Section 7 of the Act requires federal agencies to consult with the FWS to ensure that any action they authorize, implement, or fund will not jeopardize the continued existence of a federally endangered or threatened species or adversely affect critical habitat. Section 9 of the Act requires federal agencies to avoid activities such as issuing permits or otherwise undertaking projects that would result in the destruction or adverse modification of critical habitat.

Individuals, corporations, Indian tribes, states, and local governments who propose to develop property that is used by a listed species can apply to the FWS for a permit under Section 10 of the Act. If it determines that such a taking would not jeopardize the species, the FWS may issue a permit for an “incidental taking” of an endangered or threatened species that would occur as a result of an otherwise legal activity, such as the construction or operation of wind turbines. In addition, the project applicant must submit a habitat conservation plan that specifies:

- the impacts to the species that will likely result from such taking;
- the steps the applicant will take to minimize and mitigate such impacts;
- the funding that will be available to implement such steps;
- alternative actions considered by the applicant and the reasons why such alternatives were not selected; and
- other measures that the FWS may require.

The FWS must issue biological opinions related to proposed federal permits and other actions that may affect ESA-listed species. A biological opinion states the opinion of the FWS as to whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. It is prepared for potential federal actions as part of the consultation process under Section 7 of the Endangered Species Act.

- Migratory Bird Treaty Act – 16 U.S.C §§ 703 to 712

The Migratory Bird Treaty Act (MBTA) prohibits the taking of migratory birds listed at 50 C.F.R Part 10.13 without federal authorization. Authorization may include compliance with specific regulations, such as hunting seasons, or the issuance of permits by the FWS. Under 50 C.F.R. Parts 20 and 21, the FWS may issue permit for the intentional taking of migratory species to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collection, special purposes (such as rehabilitation, educational, migratory game bird propagation, and salvage), control of depredating birds, taxidermy, and waterfowl sale and disposal. Unlike the Endangered Species Act, the FWS does not have regulations that authorize permits for the incidental take of migratory

bird species. Instead, the FWS relies on informal cooperation and its enforcement discretion to address projects that result in incidental takings.

Developer consultation with FWS under the MBTA is an important mechanism for coordinating State and Federal interests in wildlife and habitat. The FWS does not routinely require permits for impacts under the MBTA for wind projects. One possible outcome of the guidelines process described below is a wind-specific approach to determining whether mitigation is warranted for the impacts of a specific wind project. While the FWS has not yet prosecuted MBTA violations on any wind projects, they have taken enforcement action on other energy facilities, such as transmission lines. This has required mitigation and development of best management practices for the development of new power lines applying the “Avian Power Line Interactions Committee” guidelines, which is now standard practice for the industry.

- Bald and Golden Eagle Protection Act - 16 U.S.C. § 668 *et seq*

The Bald and Golden Eagle Protection Act prohibits the taking, possession, transport, and commerce of bald and golden eagles, with limited exceptions. The FWS issues permits to take possess, and transport bald and golden eagles only for scientific, educational, and Indian religious purposes, depredation, and falconry under 50 C.F.R. Parts 13 and 22. The risk of wind turbines in the state to bald eagles is unknown, but some coordination with the FWS may be required for such projects.

- Federal Siting Guidelines

The FWS is currently finalizing federal wind siting guidelines. That process is expected to conclude by 2011 after a review at the Regional and Field Office levels, and consultation with the States and other interested parties. One possible outcome of this process is a wind-specific approach to determining whether mitigation, such as curtailment of operating hours, or purchase and conservation of equivalent lands, is warranted for the impacts of a specific wind project. The guidelines can be accessed at: <http://www.fws.gov/habitatconservation/windpower/>.

COMPARISON TO OTHER STATES

In 2007, the Association of Fish and Wildlife Agencies (AFWA) surveyed the authorities and activities of natural resource agencies in the siting of wind systems (see the report at: http://www.fishwildlife.org/Science_research/AFWA%20Wind%20Power%20Final%20Report.pdf). Wisconsin’s structure for the review of wind systems is similar to most states, with the fish and wildlife agency advising the public utilities commission and having direct authority over aspects of the project through wetland and waterway permits, storm water management permits, and threatened and endangered resource reviews. Twelve states, including Wisconsin, have voluntary guidelines for wind developers regarding natural resource impact avoidance. In Iowa, Kentucky, Massachusetts, New Hampshire, Ohio and

Oregon, the fish and wildlife agency is a member of an energy facilities siting approval board that covers any power plant generating more than a specified output, including wind facilities.

RECOMMENDATIONS--DO CURRENT AUTHORITIES PROVIDE ADEQUATE PROTECTION FOR WILDLIFE AND NATURAL RESOURCES?

The statute requires the Department to consider if current authorities regarding wind projects provide adequate protection for wildlife and natural resources and to make recommendations for legal changes. The following discussion addresses several recommendations:

- PSC Process

For those projects that fall within its jurisdiction, the PSC process requires consideration of the full range of environmental concerns, as well as socio-economic factors. DNR staff present information and professional judgments about siting and operation impacts of wind turbines to the PSC for consideration in its decisions on wind project applications. Even if DNR does not have regulatory authority over any part of the project, DNR does identify potential adverse impacts through formal testimony on the case docket. The PSC normally gives serious weight to information and advice from DNR, even if there is no legal requirement for the Commission to follow DNR recommendations, as would be the case when a project cannot require a DNR regulatory approval, such as a waterway or wetland crossing permit.

To strengthen the coordination and consultation between the DNR and PSC on these natural resource issues for wind projects, the Legislature could require that the DNR produce a formal “biological opinion” document and the PSC must make a specific finding regarding the document. The legislation could specify that the DNR biological opinion: 1) describes the potential impacts; 2) indicates any potential conflicts with wildlife protection laws; 3) concludes whether the project has potential to cause a significant adverse impact on habitat and fish and wildlife resources; and 4) concludes if mitigation measures can be implemented to substantially reduce the impacts below the level of “significance.”

- Changes to s. 29.604, Stats.

DNR authority over the siting decisions and operations of wind projects is not limited to the legal requirements relative to its role with the PSC. While the DNR has the authority under the state endangered species law to protect state-listed threatened or endangered species, there is no requirement that a wind developer work with DNR in site selection evaluations. Currently, through consultation with a wind developer, DNR may warn of potential for incidental take, but developers are not required to seek an *Incidental Take Permit* or an *Incidental Take Authorization* in advance of a project starting operation. Wind developers that do consult with DNR may opt to ignore agency advice. Legislative

language should clarify requirements for this consultation on all wind projects and make *Incidental Take Permits* or *Incidental Take Authorizations* a requirement before a developer can construct a wind project. This could be done in a way that would not affect the project construction and operation timelines.

Another area that needs attention relative to the impacts of wind turbines on endangered and threatened species lies in extending the current Wisconsin Endangered Species Law (s. 29.604). DNR authority to protect state-listed threatened or endangered species under the state endangered species law during permitted activities is well established, but a serious threat to the majority of endangered and threatened species in Wisconsin is habitat degradation and loss. The Wisconsin Endangered Species Law, however, does not include the protection of habitat unless direct take of a species will occur and an *Incidental Take Permit* or *Incidental Take Authorization* is issued. The federal Endangered Species Act recognizes the importance of habitat to a species and allows for the designation of critical habitat. The protection of endangered and threatened species habitats has been identified as a priority in Wisconsin's Wildlife Action Plan, and legislative action is needed to include the designation of critical habitats in Wisconsin's Endangered Species Law.

- Access for biological studies

Currently, developers and landowners negotiate land agreements to allow for construction and operation of turbines and other facilities, but these easements are not always clear on whether access for biological studies is allowed. Legislation is needed to establish minimum standards for easements for wind facilities to include access by the developers, Department personnel and/or authorized agents for the study and assessment of natural resource impacts related to the operation of wind turbines.