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Native Prairie Could Lose More Ground to Wind Farm in Cypress Hills

By Dr. Shirley Bray

If West Windeau's Wild Rose Wind Farm (WRWF) project goes ahead in the Cypress Hills area, Albertans will likely be able to view a fleet of tall white turbines against a sweeping native prairie backdrop from one of the most celebrated lookouts in the province. The company proposes to locate the wind farm in an area north of Cypress Hills Inter-Provincial Park (CHIPP), including a buffer area around the Park known as the Fringe (see *WLA* April and June 2005).

The area is prized for its internationally significant intact native grasslands, its biodiversity, its uniqueness, and the superb and rare far-reaching view of a natural prairie landscape. The County's Fringe Area Structure Plan (ASP) envisioned keeping the area unindustrialized and touted its long-term protection of the unbroken rangeland and "national heritage" views as "the legacy of visionary citizens." That legacy is now under threat from the incursion of industrial wind farms.

The lure of tax dollars and pressure from landowners and the wind developer prompted the Cypress County Council to allow wind farms in the Fringe, subject to guidelines in the ASP, after a public hearing last year. Now the company has moved its plans forward to a federal environmental assessment (EA).

Wind Farm Undergoes Environmental Assessment

Inland wind projects undergo a screening level of federal EA under the Canadian Environmental Assessment Agency if they apply for the Wind Power Production Incentive (WPPI) provided by Natural Resources Canada, which is considered the Responsible Authority. The developer produces an Environmental Impact Statement (EIS) based on various environmental studies and public consultation. Also involved in the federal EA are Alberta Sustainable Resource Development (SRD, wildlife and public lands) and Alberta Community Development (impacts on CHIPP). The proponent will also have to get EUB approval and, in this case, County approval.

Grasslands Naturalists and AWA oppose wind farms on native grasslands. They also believe a screening level of EA is not adequate for the size and proposed location of the project. Because EA studies may necessitate many judgment calls requiring objectivity, the groups are pressing for an impartial assessment by consultants not hired by the company. Further open houses are slated for the fall after the EIS is completed. Some think that even before a shovelful of dirt is moved, West Windeau will sell out to TransCanada Pipelines, which is interested in buying the project.

Open houses were held in southeast Alberta in early May and a scoping document for a federal EA was available for public review. The open houses added little information for attendees who have been following the project. Many environmental studies have yet to be completed and the exact locations of turbines were not given, making it difficult to make precise comments.

The scoping document itself was kept hidden behind the front desk: those who wanted it had to know to ask for it. Besides a few discrepancies between the scoping document and what was presented at the open house, perhaps the most sobering sight was a model turbine that had two of its slowly rotating blades on backwards. Several people told me they hoped the real turbines would be built better than the model!





West Windeau's original project encompassed a rectangular area north of CHIPP to Highway 515 and between Highway 41 on the west side to Graburn Road on the east. Now the project area has been moved 4 km northwards, eliminating most of the East-West Ranch next to the Park, but still including a significant amount of the Fringe. Although the ranch was aiming to have turbines on their property, the Nature Conservancy made it clear to all involved that the conservation easements, which cover most of the deeded land in the Fringe, do not allow turbines; violation of those agreements could lead to court. A company consultant said there were heated discussions over whether or not to challenge the ranch's easement. It is still not clear if the province would approve of turbines on the public lands where the ranch holds grazing leases, although this would likely violate SRD's new guidelines.

Although West Windeau owner David Boileau had earlier claimed that the winds next to the Park were the best and did not rule out proposing turbines in the Park, he is now saying that the winds on the East-West Ranch are not good enough. However, company president Claude Mindorff admits that conservation easements and public lands are problematic.

The company is currently proposing turbines for deeded lands that they claim are all cultivated. Yet we have also heard that two-thirds of the turbines will be in the Fringe, which is largely uncultivated. The scoping document says that "additional adjacent lands may be acquired to provide wind farm optimization opportunities." It is uncertain what the real scope of this project will be and what it means for our grasslands.

The entire proposed 200 MW project consists of 70 turbines over an area of about 3,000 ha. Turbines, including blades, rise 150 m, almost the height of the Calgary Tower. Turbine foundations require clearing a circular 30 m diameter area to a depth of about 4.6 m and pouring nearly 300 m³ of concrete. The disposal of the 21,000 m³ of excavated material is of concern; much of it will not be topsoil that could be placed on cultivated land.

While the footprint of each turbine is considered small, each turbine requires a good quality access road to withstand the heavy traffic required to bring in construction equipment and the turbine parts, and a link to the power grid: in this case, an underground electrical collector system, requiring trenches, which will connect to a central transformer substation. The transformer will require a new transmission line to connect to the main power grid. The transmission line is the responsibility of AltaLink and the route has yet to be established.

Siting is Critical

"Appropriate site selection is a key factor in preventing potential significant negative impacts on wildlife," says SRD's siting guidelines. However, a recent comprehensive literature review and interviews with experts by the U.S. Government Accountability Office (GAO) found that significant gaps exist in our knowledge about the true impacts to wildlife from wind power, particularly potential cumulative impacts on populations with continued expansion of wind facilities.

The GAO found the following:

- Impacts on birds and other wildlife vary by region and species.
- Studies conducted at one location can rarely be used to extrapolate potential impacts or mitigation effectiveness at other locations because of differences in site-specific conditions, such as topography, the types and densities of species present, and the type of wind turbines installed.
- There are relatively few comprehensive studies testing the effectiveness of mitigation strategies, and some strategies that once looked promising are now proving ineffective.
- Data are available regarding the migration routes and habitat needs of only about one-third of the more than 800 bird species that live in or pass through the United States each year. Many bird





populations are in decline in general, and additional losses due to wind power may exacerbate this trend.

- Very little is known about the pathways and behaviour of migratory bats.

The Canadian Wildlife Service (CWS) recommends a precautionary approach to assess impacts of wind energy facilities on bird populations. However, this “precautionary” approach seems to involve using current knowledge to build more wind farms that can then be studied to determine further impacts. We don’t need more research to know that turbines and their access roads will fragment and damage native grasslands, seriously impacting wildlife habitat and opening these lands to the inevitable plague of invasive species.

Cumulative impact specialist Brad Stelfox says established roadless areas are critical to saving what natural habitat remains for wildlife. In the buffer around the Cypress Hills, disturbing native grasslands and then attempting to mitigate impacts is not an acceptable alternative.

There is general agreement among siting guidelines that sensitive habitats should be avoided. However, the words “if possible” usually follow, suggesting that we have no choice in placing wind farms in particular areas. But we always have a choice, even if that choice is to not build the project. Wind developers are expected to comply with SRD Fish and Wildlife Division’s *Wildlife Guidelines for Alberta Wind Energy Projects* and the CWS’s *Wind Turbines and Birds*. Both documents are updated as new information comes out.

According to SRD’s guidelines, “native grasslands and other important natural habitats (both private and public land), including Environmentally Sensitive Areas, should be avoided wherever possible.” CWS recommends avoiding wind developments in or near areas designated for wildlife protection, regionally significant contiguous habitat types, and areas of critical habitat for species at risk. Priority for siting should be given to suitable human-altered landscapes such as industrial or agricultural areas. Such guidelines clearly eliminate native grasslands north of CHIPP.

The Kansas Renewable Energy Working Group promotes avoiding damage to unfragmented landscapes and high quality prairie remnants and recommends having an undeveloped buffer adjacent to intact prairies. The Kansas Department of Wildlife and Parks also recommends siting wind facilities on previously altered landscapes and away from extensive areas of intact native prairie, important wildlife migration corridors, and migration staging areas. In Washington State, a wind developer is expected to acquire land and protect it through a conservation easement to mitigate any habitat loss, encouraging projects in more fragmented landscapes.

Most research suggests that direct bird mortality from turbines, conservatively estimated at less than 40,000 per year in the U.S. at present, is not nearly as significant as that from other causes, numbering in the millions. There appears to be more risk to bats and to night-migrating birds from tall turbines sited high on ridges.

Of more concern is a growing body of research showing that wind facilities (including human disturbance, turbine noise, and physical movements of turbines) can cause avoidance of habitat or disturbance to breeding and wintering grassland birds. The U.S. Fish and Wildlife Service recommends a 8-km setback for prairie grouse leks (greater sage grouse, sharp-tailed grouse). SRD recommends not developing in habitats of high importance to these species, but also suggests setbacks of at least 500 m for sharp-tailed grouse leks and various raptor nests.

Certain grassland bird species are known to avoid other human activities and structures such as well sites, buildings, transmission lines, pivot irrigation systems, and roads. Avoidance distances vary from less than 100 m to over 1,300 m. It is possible that an entire wind farm area may be negatively affected





by avoidance, effectively fragmenting native prairie habitats. Grasslands Naturalists note that WRWF proponents are confining discussion of siting criteria to individual turbines, not the project as a whole, thus repeating the old regulatory practice of approving gas field developments on a well-by-well basis.

The Kansas Dept. of Wildlife and Parks also notes that "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."

Other Plans

Boileau is planning another 300 MW of wind power in other areas of southern Alberta, but he may be held up by the Alberta Electric System Operator (AESO), which controls most of the transmission of electrical power. AESO says it can accommodate up to 900 MW of the more variable and unpredictable wind energy before the performance of the electric system is significantly affected and mitigation measures, not yet in place, are required. Almost 1,500 MW are expected to come onstream in the next two years. The WRWF is currently last on the list of 23 projects, and the transmission line for it has yet to be built.

Boileau has already looked at placing a wind farm in the Twin River Heritage Rangeland on Milk River Ridge in southern Alberta, but Parks quickly kiboshed that idea. The Milk River Ridge, another area of important native grasslands, forms a continental watershed divide, and runs beyond the protected area in Alberta and into Montana. Montana Alberta Tie Ltd. (MATL) was planning to put a 326-km private transmission line across the ridge from Lethbridge to Great Falls but has moved the line off the ridge in response to the public's and government's concerns about the area. However, so far half of the proposed line's capacity has been sold to companies intending to develop wind power, and that means proposals for wind farms along the ridge may be forthcoming.

VisionQuest's managing director and CEO, Fred Gallagher, says that care must be taken when planning windpower projects so that landowners and the public are happy (*Business Edge*, June2/05). While he believes there are enough safeguards in the system to weed out poor projects, citizens concerned about the WRWF do not have that confidence.

Albertans have made, and continue to make, enormous environmental sacrifices for petroleum development; there is no reason to make further sacrifices of our last remaining native grasslands and their biodiversity for what is being billed as green energy. Perhaps new leadership in Alberta can restore a measure of confidence so that Albertans do not have to worry constantly about the ruination of our parks and our grasslands, and the de-greening of alternative energy sources.

