Comments - Environmental Project Review
Maine Department of Inland Fisheries and Wildlife

Inland Fisheries and Wildlife Division Comments Region D	
Applicant's Name: Canton Mountain Wind LLC	
Project #:L-25557-24-A-N & L-25558-TB-B-N	Regulatory Agency: MDEP
Project Type: 22MW Wind Energy Project	Project Manager: Erle Townsend
Comments Due Date:	Date Comments Sent:
Project Location	
Town: Canton	County: Oxford
Waterbody:	
Wildlife Biologist(s): Cordes, DePue, Hodgman, Seiders, Swartz, Todd, Walker	

After review of the application and consideration of the proposal's probable effect on the environment, and on our agencies programs and responsibilities, we provide the following comments:

I. Project Description/Resource Affected:

Patriot Renewables, LLC is proposing a 22 megawatt wind energy generation project located in Canton, Maine. The project as proposed occupies 2,978 acres of land including upgrades to 7,175 feet of the existing Ludden Lane, 8,600 feet of an unnamed gravel logging road, and new construction of 10,600 feet of access road extending across the ridgeline of Canton Mountain. Eight wind turbines and associated electrical collection infrastructure will be installed on the ridgeline. Turbines will rise approximately 448 feet from ground elevation to fully extended blade. Synchronous red warning lights will be installed following Federal Aviation Administration (FAA) guidelines. The final lighting plan is determined by FAA approval but is expected to consist of lights on the two end turbines and on alternating turbines between them. Power generated by the turbines will be collected in a buried 34.5-kilovolt collector line on the ridgeline to an above ground transmission line that will extend 8,405 feet to an existing transmission line associated with the Saddleback Ridge Wind Project.

The facility design and layout will result in 3,039 square feet of wetland fill, 4,286 square feet of temporary wetland alterations during construction, and 2,258 square feet of conversion of forested wetland to scrub-shrub wetlands. Eleven stream crossings are proposed as a result of road upgrades or new road construction. Several streams impacted by the project are known to support fish. Northern spring salamanders are also present in the project area. The project will impact approximately 24% of a potentially Significant Vernal Pool life zone.

II. Wildlife Related Comments:

Avian Radar Surveys

Use of preconstruction studies is critical to the Maine Department of Inland Fisheries and Wildlife's (MDIFW) evaluation of the potential for impacts to sensitive wildlife resources, and the likely severity of these impacts. Avoiding the placement of turbines in sites with high risk for significant wildlife mortality remains the primary focus for our Department's site-specific guidance regarding wind energy development.

During pre-application consultation, MDIFW expressed concern about the proposed Canton Mountain wind facility based on the proximity of the site to the Androscoggin River corridor. Large river corridors are known to be utilized by migrating passerines often in greater concentrations of individuals than other landscape features. The findings presented in the applicant's single season of Avian Radar Surveys support MDIF&W's apprehension regarding the project siting and indicate a higher passage of targets below the rotor swept zone than any project proposed to date within Maine.

For this reason, MDIFW recommends a second year of radar surveys to better determine whether the initial results represent an isolated event, or are truly representative of nocturnal passerine passage at this site. A second season of radar surveys is consistent with methodologies used by other Maine wind developers to appropriately site commercial wind energy generation facilities. Without this additional information, MDIFW has strong concerns about potential wildlife impacts resulting from this proposed project and question the appropriateness of this site for large-scale wind development.

Bat Mortality

As a result of White Nose Syndrome, populations of several Maine bat species have declined precipitously. Several jurisdictions, including Maine, have the necessary population data to consider species for formal listing under endangered species provisions. Any attempts to minimize additive sources of mortality are now critical for the survival of the species. Recent studies at operating wind facilities have indicated that steps taken to increase the cut-in speed (the wind speed at wind the turbine is allowed to begin rotating) for turbines to 5.0 meters per second has significantly decreased turbine-caused fatalities for bats (Arnett et al. 2009 & 2010, Baerwald et al. 2008). Therefore, in order to minimize risk of mortality to bats MDIFW recommends that operational control measures be established for the Canton Mountain Wind Facility. These measures should set the turbine cut-in speed to 5.0 m/s starting at one-half hour before sunset to one-half hour after sunrise and be employed from April 20th through October 15th. During this time frame when the wind speed is less than the 5.0 m/s threshold, turbine blades are not allowed to rotate thus significantly reducing bat mortality risk. If at any point during this time period the wind speed increases to > 5.0 m/s the turbine blades are free to rotate. These curtailment measures are intended to be in place from day one of operation for the life of the project. They are not intended to be reactionary mitigation triggered by some threshold based on pre or post-construction studies.

Full citations for the above references:

Arnett, E. B., M. P. Huso, M. R. Schirmacher, and J. P. Hayes. 2010. Altering turbine speed reduces bat mortality at wind-energy facilities. *Frontiers in Ecology and the Environment.* : 101101071900096 DOI: 10.1890/100103

Arnett, E. B., M. R. Schirmacher, M. P. Huso, and J. P. Hayes. 2009. Effectiveness of changing wind turbine cut-in speed to reduce bat fatalities at wind facilities. An annual report submitted to the Bats and Wind Energy Cooperative. Bat Conservation International. Austin, Texas, USA.

Baerwald, E. F., J. Edworthy, M. Holder, and R. M. R. Barclay. 2009. A Large-scale mitigation experiment to reduce bat fatalities at wind energy facilities. Journal of Wildlife Management 73:1077-1081.

Post Construction Monitoring

Patriot Renewables, LLC has proposed to develop a post construction bird and bat mortality monitoring plan that will consist of two years of monitoring within the 1st 5 years of facility operation. Post-construction monitoring protocols for wind projects are rapidly evolving and we encourage the applicant to coordinate the development of survey methods with MDIFW well in advance of anticipated project operation dates. This post-construction monitoring protocol should be adaptive as continued wind power projects shed new information on possible ways to minimize impacts on birds and bats. Findings from active post construction survey efforts at other facilities may result in suggested modifications of studies currently proposed in the Canton Mountain Wind, LLC application. We request that the post-construction monitoring plan be reviewed and approved by MDIFW and DEP prior to operation of any wind turbines.

Spring Salamanders

Spring Salamander, a Species of Special Concern, was documented by the applicant in both Ludden and Fletcher Brooks, as well as an unnamed ridgeline stream (CRSBW35). The applicant should follow MDIFW management guidelines developed to protect instream and riparian habitat for this species (see attached). Our guidelines recommend that any stream crossing along the main stem of either Ludden or Fletcher Brook that is proposed for upgrades as a result of existing road widening, or crossings required as a result of new road construction be replaced with crossings that span at minimum 1.5 times the bankfull width of the stream channel and provide an openness ratio of at least 0.60 meters. Furthermore, all collector line crossings of associated perennial streams should follow guidelines/standards similar to DEP's draft Minimum Performance Standards for Electric Utility Corridors, found in Appendix A of Chapter 375 Rules.
(http://www.maine.gov/dep/blwq/topic/site_storm_revisions/site_rules/fourth_informal_draft/APPENDIX_A_2_cl.pdf)

Fisheries

The applicant states that "CMW will maintain a minimum 75-foot riparian buffer from Maine DEP-regulated streams unless being crossed". We urge that applicant to expand this buffer to 100-feet along streams known to support fish wherever practicable. The presence of intact, wooded riparian corridors conserve forest soils, provide shade to reduce stream

warming, protect stream water quality, provide cover for fish, and provide a source of woody debris and leaf litter from mature trees that maintain in-stream habitat for fish and the aquatic insects they feed upon. Our experience has shown that while a 75-foot buffer may address some water quality concerns, this buffer width is often inadequate to address other habitat components necessary for a healthy and resilient cold water fish habitat.

Vernal Pools

One Potentially Significant Vernal Pool (9PSVP) was identified along the ridgeline and one Significant Vernal Pool (1SVP) was previously identified and permitted along the transmission line corridor as part of the Saddleback Ridge Wind Project. The applicant has designed project activities to avoid and minimize impacts to both these pools, and is in compliance with DEP's Permit-By-Rule standards for Significant Vernal Pools.