MEMORANDUM

Maine Natural Areas Program

17 Elkins Lane
State House Station #93
Augusta, Maine 04333

Date: October 7, 2015

To: Jessica Damon, DEP

From: Don Cameron, Ecologist

Re: Rare and exemplary botanical features, Number Nine Wind Farm, LLC, Aroostook County, Maine.

I have searched the Natural Areas Program's Biological and Conservation Data System files for rare or unique botanical features in the vicinity of the proposed site in response to your request received September 10, 2015 for our agency's comments on the project.

According to the information supplied by the applicant, there are fifteen populations of rare plant species along the project line, and these will be added to MNAP's Biological and Conservation Data System. There is an existing natural community type, a Streamshore Ecosystem along Alder Brook that the applicant is aware of.

The Maine Natural Areas Program has two comments regarding the planned work as described in the Number Nine Wind Farm permit application:

1. The proposed project plans for completing the transmission line construction and the subsequent transmission line management in the vicinity of rare plant occurrences are not sufficient to prevent harm to the rare plants or their immediate habitat.

   The plans call for no buffer area around the rare plants when construction and management occur. Described this way, it could mean the only areas where special measures would take place in regards to protecting the rare plants is the specific footprint of the plants (i.e., where the stem comes out of the ground). MNAP recommends that the special construction and management activates planned for the protection of rare plants be applied within a 100' radial buffer around these features. As some of the rare plants within the project area occur in close proximity to each other, and / or are located near the edge of the limit of disturbance, and / or are in open wetlands that will also have other requirements for special treatment, the total area of buffer necessary for the protection of the rare plant species is approximately five acres, an extremely small area in comparison to the multi-jurisdictional scale of the project. Ideally the vegetation clearing work within the wetlands that support the majority of the rare plant species should be completed in winter to avoid damaging the hydrology.

2. There is no acknowledgement or mechanism within the construction and management plans that addresses potential degradation of rare plant populations that is likely to occur at several locations.

   Most of the populations of rare plant species along the proposed powerline corridor should tolerate the open, semi-wild habitat conditions that will be created to accommodate the transmission line. However, the Goldie's fern population, one or possibly two of the showy lady's-slipper populations, and one of northern bog sedge populations are likely to decline over time and disappear from areas where open habitat is created around them. As there is no alternative to clearing 'capable' vegetation from these areas, we recommend that

a) the vulnerability of each rare plant population to proposed habitat changes be assessed and summarized in the permit application,

b) that all rare plant populations are monitored in the first, third, and fifth year after construction to determine viability and if any management changes may be necessary to promote their persistence, and

c) that the degradation of rare plant populations be included in evaluating mitigation requirements for the project.

Feature	State Status	State Rank	Global Rank	Site	Notes
Streamshore Ecosystem	N/A	S4	GNR	Alder Brook	Existing occurrence, ranked 'B' - Good
Carex gynocrates Northern Bog Sedge	SC	S2	G5	Alder Brook Cedar Swamp	High vulnerability
Carex gynocrates Northern Bog Sedge	SC	S2	G5	Bellfield Road Cedar Swamp	
Cyprpidium reginae Showy Lady's-slipper	SC	S3	G4	Bellfield Road Cedar Swamp	
Cyprpidium reginae Showy Lady's-slipper	SC	S3	G4	Hagan Farm Road Cedar Swamp	
Cyprpidium reginae Showy Lady's-slipper	SC	S3	G4	McSheffrey Road Cedar Swamp	Medium vulnerability
Dryopteris filix-mas Male Wood Fern	E	S1	G5	Gould Brook Tributary Site	
Dryopteris goldiana Goldie's Wood Fern	SC	S2	G4	Gould Brook Tributary Site	High vulnerability
Lonicera oblongifolia Swamp Honeysuckle	SC	S3	G4	Alder Brook Cedar Swamp	
Lonicera oblongifolia Swamp Honeysuckle	SC	S3	G4	Bellfield Road Cedar Swamp	
Lonicera oblongifolia Swamp Honeysuckle	SC	S3	G4	Hagan Farm Road Cedar Swamp	
Ranunculus gmelinii Small Yellow Water Crowfoot	SC	S2	G5T5	Gogan Road Cedar Swamp aka "London Road"	Existing occurrence, ranked 'C'
Ranunculus gmelinii Small Yellow Water Crowfoot	SC	S2	G5T5	Hagan Farm Road Cedar Swamp	
Ranunculus gmelinii Small Yellow Water Crowfoot	SC	S2	G5T5	McSheffrey Road	Existing Occurrence, upstream of stream crossing at ROW, ranked 'B'
Valeriana uliginosa Marsh Valerian	SC	S2	G4Q	Bellfield Road Cedar Swamp	
Valeriana uliginosa Marsh Valerian	SC	S2	G4Q	McSheffrey Road Cedar Swamp	

Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We welcome the contribution of any information collected if a site survey is performed.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact our office if you have further questions about the Natural Areas Program or about rare or unique botanical features at this site.