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## 3.0 SCOPE OF THE ASSESSMENT

The following section provides the scope of the Project and its assessment as well as the methods used for the environmental assessment.

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### 3.1 Scope of the Project and Assessment

The physical activities of the Project consist of:

- surveying;
- developing access roads;
- updating and installing ditching and culverts;
- clearing (minimal clearing required) and sod harvest;
- sod harvesting, soil removal and stockpiling;
- grading;
- ploughing or trenching for underground distribution lines;
- piling and foundation excavation;
- pouring turbine foundations;
- turbine delivery;
- equipment lay-down and turbine assembly;
- tower, generator, and rotor assembly;
- installation of 138 kV distribution line;
- installation of substation equipment;
- clean-up and reclamation;
- operation and maintenance of the Project; and
- decommissioning of the turbines and the overall Project.

The potential effects of accidents and malfunctions are also considered within this EA, as are the potential cumulative effects of this Project in relation to other projects in the regional area. The potential effects of the environment on the Project are also addressed.

This EA evaluates the potential environmental effects of the proposed Project elements and activities, for all Project phases, with regard to each Valued Environmental Component (VEC). By assessing potential impacts on VECs within the study boundaries, a meaningful evaluation of project effects on relevant environmental aspects is achieved. Components evaluated include:

- soil;
- water quality (surface and groundwater);
- aquatic environment (including fish and fish habitat);
- terrestrial vegetation;
- wildlife (including birds, mammals, reptiles and amphibians);
- archaeological and heritage resources;
- planned land use (including agriculture);
- local community;

- visual aesthetics;
- noise;
- recreation and tourism; and
- safety.

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### 3.2 Methods

The EA is structured to include suggested mitigation for environmental impacts, which would reduce or eliminate potential effects and minimize the likelihood of a potential impact. The determination of significance is based on post-mitigation (residual or net) effects, rather than unmitigated potential effects. The significance of residual or net effects of the Project was determined using the following criteria, based on federal and provincial EA guidance:

- value of the resource affected;
- magnitude of the effect;
- geographic extent of the effect;
- duration and frequency of the effect;
- reversibility of the effect; and,
- ecological and/or social context.

A significant adverse effect is defined as a permanent change in the quality or condition of a component of the environment. It must be spatially and temporally extensive and not within acceptable limits in terms of magnitude or nature based on guidelines, standards and professional judgement. Many construction-related impacts are not considered to be significant as they are relatively brief in duration (six months or less), restricted to the existing site and temporary laydown area in extent, and reversible over the short term. The potential level of impact after mitigation measures (*i.e.*, net or residual effects) were identified based on NRCan’s criteria and definitions provided in their “Environmental Impact Statement Guidelines for Screenings of Inland Wind Farms Under the Canadian Environmental Assessment Act” (NRCan 2003), presented below in Table 3-1.

**Table 3-1 Level of Impact After Mitigation Measures**

Level	Definition
High	Potential impact could threaten sustainability of the resource and should be considered a management concern. Research, monitoring and/or recovery initiatives should be considered.
Medium	Potential impact could result in a decline in resource to lower-than baseline but stable levels in the study area after project closure and into the foreseeable future. Regional management actions such as research, monitoring and/or recovery initiatives may be required.
Low	Potential impact may result in a slight decline in resource in study area during the life of the project. Research, monitoring and/or recovery initiatives would not normally be required.
Minimal	Potential impact may result in a slight decline in resource in study area during construction phase, but the resource should return to baseline levels.
N/A	There is no interaction possible between the project activity in question and the associated potential adverse effect.

Issues scoping is a critical first step in the environmental assessment process and is an important part of identifying potential issues and focusing the assessment. The issues scoping process included the following activities:

- review of regulatory guidelines;
- public and agency consultation;
- literature and background information review; and,
- field studies.

The following sections discuss these activities in more detail.

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### 3.2.1 Regulatory Guidelines

Regulatory guidance for this Project was obtained from several federal documents. Specifically, NRCan's document "Environmental Impact Statement Guidelines for Screenings of Inland Wind Farms Under the *Canadian Environmental Assessment Act*" (NRCan 2003), "Cumulative Effects Assessment Practitioners Guide" (Canadian Environmental Assessment Agency 1999) and "The Responsible Authority's Guide" (Canadian Environmental Assessment Agency 2003).

In November 2004 and January 2005, the Proponent, Environment Canada (Canadian Wildlife Service), and Ducks Unlimited met to discuss the Project and develop a bird monitoring protocol for the site. This protocol was also used as a guide for identifying Environment Canada's expectations for pre-construction fieldwork and data collection as it relate to birds, and the scope of post-construction monitoring of potential avian impacts. These guidelines were considered during the scoping of this EA. The current Environment Canada guidelines for wind energy Projects as they relate to birds was not available at this time. However, consultation was recently made with Environment Canada's "Wind Turbines and Birds – A Guidance Document for Environmental Assessment" and "Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds" (Environment Canada 2007a and 2007b), and the guideline applied to this situation. "The Proponent's Guide to Wind Power Projects: Guide to Preparing an Environmental Assessment Registration Document" (NSEL 2007) was used to satisfy the requirements of provincial registration.

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### 3.2.2 Public and Stakeholder Consultation

During the early stages of Project planning, three public Open Houses were held in the town of Amherst at the Wandlyn Inn. The Open Houses took place in March 2002, December 2005 and October 2007 and provided the opportunity for community members to learn more about the Project, answer their questions, and offer the opportunity to express issues or concerns about the Project. Additional details and issues that were raised at the Open Houses are discussed in Section 7. Copies of handouts and sample comment forms are provided in Appendix A. During the EA review process, additional issues may be raised by the public. The public will be invited to submit written comments on the proposed Project and information contained in the EA document to regulators for consideration. The public will continue to be consulted in future phases of development.

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### 3.2.3 Regulatory Consultation

Various regulatory and other agencies were consulted early in the planning process to provide input into the Project and the process, and advice in terms of likely approvals and considerations for environmental assessment. This is further discussed in Section 7.

To date, the following agencies have been contacted:

- Natural Resources Canada;
- Canadian Environmental Assessment Agency;
- Environment Canada;
- Canadian Wildlife Service;
- Transport Canada;
- Fisheries and Oceans Canada;
- Health Canada;
- Department of National Defence;
- NAV Canada;
- Royal Canadian Mounted Police;
- Canadian Broadcasting Corporation;
- Nova Scotia Department of Agriculture and Fisheries;
- Nova Scotia Department of Energy;
- Nova Scotia Department of Environment and Labour;
- Nova Scotia Department of Natural Resources;
- Nova Scotia Department of Transportation and Infrastructure Renewal;
- Nova Scotia Farm Loan Board;
- Municipality of the County of Cumberland;
- Cumberland Regional Development Corporation;
- Ducks Unlimited;
- Town of Amherst; and
- Fire Department of Amherst.

During the EA review process, additional consultation may be required with these and other agencies.

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### 3.2.4 First Nation and Aboriginal Consultation

The Project site is presently used primarily for agricultural purposes and there is no known traditional use by First Nation people. Letters were sent to the Confederacy of Mainland Mi'kmaq (CMM) in February 2006 and an updated version in January 2008. CMM was invited to provide input to the environmental assessment (letters provided in Appendix A). A letter of response dated February 6, 2008 was received from the CMM indicating that a Mi'kmaw Ecological Knowledge Study (MEKS) should be undertaken in support of the EA. Due to a variety of factors, including the lack of governmental guidance on when to conduct an MEKS, as for other development projects in the past, JW has developed a risk-based approach to determining when an MEKS is required. This includes the evaluation of several "risk" factors including: the presence of Crown land; proximity to First Nations communities; and the potential for First Nations archaeological resources. For the Amherst Wind

Development Project the absence of Crown land to be used in the Project, the Project not being in close proximity to any First Nations communities, and the low potential for First Nations archaeological and heritage resources to be discovered in the Project area (Section 4.5.7.3), led to the determination that a MEKS is not required for this Project and no follow up work is recommended.

To provide further opportunity for comment and review, First Nation and Aboriginal communities will be informed how to access the EA and provide comments.

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### 3.2.5 Literature Review

For this Project, existing information was collected from a number of sources including:

- municipal documentation from the Town of Amherst and the Municipality of Cumberland County;
- 1:20,000 aerial photos;
- 1:10,000 Nova Scotia Base Mapping;
- reports, books and other materials on the area's natural history and geology (see Section 10); and
- information available at credible websites (e.g., Statistics Canada website; see Section 10).

Additional information was acquired from consultation with regulatory agencies (Section 7).

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### 3.2.6 Field Studies

Field studies are aimed at characterizing the natural and social-economic environment of the Project area. This work included:

- spring, summer, winter and fall avian monitoring;
- vegetation surveys;
- site visits for characterization of socioeconomic environment;
- ambient sound monitoring; and,
- site visits to support the visual impact assessment.

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### 3.2.7 Professional Judgment

Project personnel involved in the completion of this EA are trained, professional biologists, scientists, planners and/or EA practitioners. Professional judgement was exercised through the selection of environmental components and in the evaluation of environmental effects in this report. The use of professional judgement in environmental assessment practice is widely accepted and complements the aforementioned scoping techniques and data gathering.

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## 3.3 Spatial and Temporal Boundaries of the Assessment

For this Project, the assessment of effects was undertaken for the area identified as the Project area (see Figure 1-2), unless otherwise identified. For the purpose of data collection of the socioeconomic environment, the Town of Amherst and surrounding Cumberland County were also considered. The temporal scope of this assessment covers the construction, operation and decommissioning phases of the Project, which is expected to extend over the next 20 years.