



Cedar Point II Wind Energy Centre 2016 Wildlife Behaviour Monitoring

Natural Resource Solutions Inc. (NRSI) conducted post-construction monitoring at the operational Cedar Point II Wind Energy Centre (Cedar Point II WEC) located within the Town of Plympton-Wyoming, Township of Warwick, and the Municipality of Lambton Shores, in Lambton County, Ontario. This wind energy project has a total nameplate capacity of 100MW and consists of 46 turbines. This document provides an executive summary of the methods and results of the first year of post-construction wildlife monitoring conducted at the Cedar Point II WEC in 2016.

Methods

NRSI biologists conducted post-construction wildlife behaviour monitoring at the Cedar Point II WEC following methods approved by the Ministry of Natural Resources and Forestry (MNRF) as part of the project's Natural Heritage Assessment (NHA), associated pre-construction report, and Environmental Effects Monitoring Plan (EEMP) (Stantec 2013a, 2013b, 2013c). As outlined in these documents, a total of 23 provincially significant wildlife habitats required post-construction surveys, including:

- 8 Amphibian Breeding Habitats (Woodland) (ABW-06, ABW-07, ABW-25, ABW-26, ABW-29, ABW-37, ABW-47, ABW-56); and
- 15 Habitats for Bird Species of Conservation Concern (Wood Thrush) (*Hylocichla mustelina*) (WOTH-03, WOTH-06, WOTH-10, WOTH-18, WOTH-19, WOTH-23, WOTH-26, WOTH-30, WOTH-32, WOTH-45, WOTH-47, WOTH-48, WOTH-52, WOTH-55, WOTH-56).

These habitats were identified to be provincially significant in the NHA and associated pre-construction report, completed prior to the construction of the project. Provincial significance of habitats was identified based on criteria established by the MNRF.

Post-construction monitoring was not required at one Amphibian Breeding Habitat (Woodland) (ABW-57) and two Habitats for Bird Species of Conservation Concern (Wood Thrush) (WOTH-58, WOTH-62) because infrastructure near these habitats was not constructed.

As per the Environmental Impact Study (EIS) report of the NHA and the EEMP (Stantec 2013a, 2013c), the following methods were implemented for the monitoring study:

- Amphibian surveys were conducted during the spring, including:
 - Calling anuran (frog) surveys (once in each of April, May, and June); and
 - Egg mass surveys targeting salamanders and newts (once in each of March and April).
- Point count surveys for breeding Wood Thrush were conducted three times between May and July.

Results

Amphibian Woodland Breeding Habitats

The results of the post-construction amphibian breeding (woodland) surveys completed by NRSI in 2016, in comparison with the baseline data collected in 2012 and 2013, are outlined below:

Feature ID	Pre-Construction Results (2012/2013)	Post-Construction Results (2016)
ABW-06	Significant ≥20 combined individuals of 4 frog species	Significant Breeding population of 1 salamander species, and ≥20 combined individuals of 2 frog species
ABW-07	Significant ≥20 combined individuals of 3 frog species	Significant ≥20 combined individuals of 2 frog species
ABW-25	Significant Breeding population of 1 salamander species, and ≥20 combined individuals of 3 frog species	Significant ≥20 combined individuals of 3 frog species
ABW-26	Significant ≥20 combined individuals of 3 frog species	Significant ≥20 combined individuals of 2 frog species
ABW-29	Significant ≥20 combined individuals of 3 frog species	Significant ≥20 combined individuals of 3 frog species
ABW-37	Significant ≥20 combined individuals of 2 frog species	Significant ≥20 combined individuals of 2 frog species
ABW-47	Significant ≥20 combined individuals of 2 frog species	Significant ≥20 combined individuals of 3 frog species
ABW-56	Significant Breeding population of 1 salamander species, and ≥20 combined individuals of 3 frog species	Significant Breeding population of 1 salamander species, and ≥20 combined individuals of 3 frog species

All significant amphibian woodland breeding habitats continue to meet the provincial standards for significance based on post-construction monitoring surveys conducted in 2016.

Significant Bird Habitat Surveys

The results of the post-construction Habitat for Species of Conservation Concern (Wood Thrush) surveys completed by NRSI in 2016, in comparison with the baseline data collected in 2012 and 2013, are outlined below:

Feature ID	Pre-Construction Results (2012/2013)	Post-Construction Results (2016)
WOTH-03	Significant 1 observation of Wood Thrush	Significant 3 observations of Wood Thrush
WOTH-06	Significant 3 observations of Wood Thrush	Significant 9 observations of Wood Thrush
WOTH-10	Significant 7 observations of Wood Thrush	Significant 7 observations of Wood Thrush
WOTH-18	Significant 5 observations of Wood Thrush	Significant 10 observations of Wood Thrush
WOTH-19	Significant 1 observation of Wood Thrush	Significant 16 observations of Wood Thrush
WOTH-23	Significant 4 observations of Wood Thrush	Significant 18 observations of Wood Thrush
WOTH-26	Significant 4 observations of Wood Thrush	Significant 13 observations of Wood Thrush

Feature ID	Pre-Construction Results (2012/2013)	Post-Construction Results (2016)
WOTH-30	Significant 1 observation of Wood Thrush	Significant 5 observations of Wood Thrush
WOTH-32	Significant 6 observations of Wood Thrush	Significant 14 observations of Wood Thrush
WOTH-45	Significant 3 observations of Wood Thrush	Significant 4 observations of Wood Thrush
WOTH-47	Significant 2 observations of Wood Thrush	Significant 9 observations of Wood Thrush
WOTH-48	Significant 3 observations of Wood Thrush	Significant 5 observations of Wood Thrush
WOTH-52	Significant 1 observation of Wood Thrush	Significant 3 observations of Wood Thrush
WOTH-55	Significant 7 observations of Wood Thrush	Significant 8 observations of Wood Thrush
WOTH-56	Significant 10 observations of Wood Thrush	Significant 27 observations of Wood Thrush

All significant bird breeding habitats continue to meet the provincial standards for significance based on post-construction monitoring surveys conducted in 2016.

Additional Monitoring Commitments

Post-construction wildlife monitoring conducted by NRSI in 2016 represents the first year of post-construction monitoring conducted at the Cedar Point II Wind Energy Centre.

As a result of the abundance of the target amphibian species observed, it has been determined that the surveyed amphibian habitats continue to meet the criteria for provincial significance during the post-construction disturbance monitoring in 2016. As such, no further monitoring is required at ABW-25, ABW-26, ABW-29, ABW-37, ABW-47, and ABW-56, as per the EIS of the NHA and EEMP (Stantec 2013a, 2013c).

Additional post-construction surveys will be conducted for two additional years for two amphibian breeding (woodland) habitats, and for all 15 Wood Thrush habitats. Surveys will be conducted in 2017 and 2018 for the following habitats, in accordance with the EIS of the NHA and EEMP (Stantec 2013a, 2013c):

- Amphibian Woodland Breeding Habitats (ABW-06, ABW-07);
- Habitat for Species of Conservation Concern (Wood Thrush) (WOTH-03, WOTH-06, WOTH-10, WOTH-18, WOTH-19, WOTH-23, WOTH-26, WOTH-30, WOTH-32, WOTH-45, WOTH-47, WOTH-48, WOTH-52, WOTH-55, WOTH-56).