



## Cedar Point II Wind Energy Centre 2018 Wildlife Behaviour Monitoring

Natural Resource Solutions Inc. (NRSI) was retained to conduct post-construction wildlife 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 third year of post-construction wildlife monitoring conducted at the Cedar Point II WEC in 2018.

### 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, 17 provincially significant wildlife habitats required post-construction surveys in 2018:

- Two (2) Amphibian Breeding Habitats (Woodland) (ABW-06, ABW-07); 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, which were completed prior to the construction of the project. Provincial significance of habitats was identified based on criteria established by the MNRF, or otherwise approved by the MNRF if no specific provincial criteria already exists.

Post-construction monitoring was not required at one (1) Amphibian Breeding Habitat (Woodland) (ABW-57) and two (2) Habitats for Bird Species of Conservation Concern (Wood Thrush) (WOTH-58, WOTH-62) because infrastructure that was proposed to be built 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:
  - Egg mass surveys targeting salamanders, newts and frogs (once in each of March and April); and
  - Calling anuran (frog) surveys (once in each of April, May, and June).
- Point count surveys for breeding Wood Thrush were conducted three (3) times between May and July.

## Results

### Amphibian Woodland Breeding Habitats

The results of the post-construction amphibian breeding (woodland) surveys completed by NRSI in 2018, in comparison with the baseline data collected in 2012 and 2013, are outlined below:

Feature ID	Pre-Construction Results (2012/2013)	Post-Construction Results (2018)
ABW-06	<b>Significant</b> ≥20 combined individuals of 4 frog species	<b>Not Significant</b> ≥20 individuals of 1 frog species
ABW-07	<b>Significant</b> ≥20 combined individuals of 3 frog species	<b>Significant</b> ≥20 combined individuals of 2 frog species

One (1) significant amphibian woodland breeding habitat (ABW-07) continues to meet the provincial standards for significance based on post-construction monitoring surveys conducted in 2018. Surveys at the other habitat (ABW-06) included multiple incidental observations of an additional frog species, which, if included, would result in the habitat meeting the provincial criteria for significance.

### Significant Bird Habitat Surveys

The results of the post-construction Habitat for Species of Conservation Concern (Wood Thrush) surveys completed by NRSI in 2018, in comparison with the baseline data collected in 2012 and 2013, are outlined below:

Feature ID	Pre-Construction Results (2012/2013)	Post-Construction Results (2018)
WOTH-03	<b>Significant</b> 1 observation of Wood Thrush	<b>Significant</b> 4 observations of Wood Thrush
WOTH-06	<b>Significant</b> 3 observations of Wood Thrush	<b>Significant</b> 8 observations of Wood Thrush
WOTH-10	<b>Significant</b> 7 observations of Wood Thrush	<b>Significant</b> 6 observations of Wood Thrush
WOTH-18	<b>Significant</b> 5 observations of Wood Thrush	<b>Significant</b> 2 observations of Wood Thrush
WOTH-19	<b>Significant</b> 1 observation of Wood Thrush	<b>Significant</b> 4 observations of Wood Thrush
WOTH-23	<b>Significant</b> 4 observations of Wood Thrush	<b>Significant</b> 6 observations of Wood Thrush
WOTH-26	<b>Significant</b> 4 observations of Wood Thrush	<b>Significant</b> 3 observations of Wood Thrush
WOTH-30	<b>Significant</b> 1 observation of Wood Thrush	<b>Not Significant</b> No observations of Wood Thrush
WOTH-32	<b>Significant</b> 6 observations of Wood Thrush	<b>Significant</b> 19 observations of Wood Thrush
WOTH-45	<b>Significant</b> 3 observations of Wood Thrush	<b>Significant</b> 2 observations of Wood Thrush
WOTH-47	<b>Significant</b> 2 observations of Wood Thrush	<b>Significant</b> 7 observations of Wood Thrush
WOTH-48	<b>Significant</b> 3 observations of Wood Thrush	<b>Significant</b> 2 observations of Wood Thrush
WOTH-52	<b>Significant</b> 1 observation of Wood Thrush	<b>Significant</b> 7 observations of Wood Thrush
WOTH-55	<b>Significant</b> 7 observations of Wood Thrush	<b>Significant</b> 1 observation of Wood Thrush*
WOTH-56	<b>Significant</b> 10 observations of Wood Thrush	<b>Significant</b> 5 observations of Wood Thrush

*\*One (1) Wood Thrush was heard calling in the habitat after the point count concluded. Since this individual was heard from within the habitat, it confirms use of the habitat by the target species and has therefore been included in the evaluation of significance above.*

All significant bird breeding habitats continue to meet the established standards for significance based on post-construction monitoring surveys conducted in 2018, with the exception of WOTH-30 where no Wood Thrush were observed in 2018.

## **Summary**

Post-construction wildlife monitoring conducted by NRSI in 2018 represents the third and final year of monitoring conducted at the Cedar Point II WEC.

One (1) amphibian breeding habitat ABW-06 was no longer significant in 2018, however, multiple incidental observations of an additional indicator frog species were made directly adjacent to the habitat during 2018 monitoring, indicating continued local presence of a second indicator species. Furthermore, both amphibian breeding habitats, ABW-06 and ABW-07, were found to be significant in the first and second years of monitoring. There is no evidence that the construction or operation of the Cedar Point II WEC contributed to any change in use of the habitats.

All but one (1) Wood Thrush habitat remained significant following 2018 post-construction monitoring, however based on an overall documented increase in habitat use by this species within multiple years that the Cedar Point II WEC was operating (NRSI 2017, 2018), it is expected that the observed results in 2018 are likely explained by annual variation in species behaviour. All Wood Thrush habitats were found to be significant in the first and second years of monitoring. There is no evidence that the construction or operation of the Cedar Point II WEC contributed to any change in use of the habitats.

As the post-construction monitoring requirements for amphibian breeding (woodland) habitats and Wood Thrush habitats have been completed and no displacement or avoidance effects associated with the construction or operation of the Cedar Point II WEC have been noted, no further monitoring for these species will be conducted.