



North Kent Wind 1 Project 2018 Disturbance Monitoring

Natural Resource Solutions Inc. (NRSI) was retained to conduct post-construction wildlife monitoring at the operational North Kent Wind 1 Project (North Kent WP) located north of the City of Chatham, in the Municipality of Chatham-Kent Ontario. This wind energy project has a total nameplate capacity of 100MW and consists of 34 turbines. This document provides an executive summary of the methods and results of the first year of post-construction wildlife monitoring conducted at the North Kent WP in 2018.

Methods

NRSI biologists conducted post-construction behaviour monitoring at the North Kent WP 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) (NRSI 2015a, 2017, 2015b). As outlined in these documents, four (4) provincially Significant Wildlife Habitats (SWH) required post-construction surveys in 2018:

- One (1) Habitat for Waterfowl Nesting Area (WFN-001);
- One (1) Habitat for Bird Species of Conservation Concern for Eastern Wood-pewee (*Contopus virens*) (EWP-001); and
- Two (2) Habitats for Vegetation Species of Conservation Concern for Muskingum Sedge (*Carex muskingumgensis*) (MSE-001) and Pawpaw (*Asimina triloba*)

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, or otherwise approved, by the MNRF.

Post-construction monitoring was not required at one (1) Vegetation Species of Conservation Concern Habitat for Muskingum Sedge (MSE-007) because infrastructure that was proposed to be built near these habitats was not constructed and therefore no project activities occurred within 120m of this SWH.

As per the Environmental Impact Study (EIS) report of the NHA and the EEMP (NRSI 2015a, 2015b), the following methods were implemented for the monitoring study:

- Area search and transect surveys for Waterfowl Nesting Area were conducted during the spring: once in each of April, May, and June;
- Point count surveys for breeding Eastern Wood-pewee were conducted three (3) times from June to July; and
- Standardized area searches for Vegetation Species of Conservation Concern, Muskingum Sedge and Pawpaw, occurred on July 19.

Results

Waterfowl Nesting Area Habitat

The results of the post-construction Waterfowl Nesting Area surveys completed by NRSI in 2018, in comparison with the baseline data collected in 2016, are outlined below:

Feature ID	Pre-Construction Results (2016)	Post-Construction Results (2018)
WFN-001	Significant	Not Significant
	Visit #1 Number of Indicator Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • 7 Wood Ducks - Probable 	Visit #1 Number of Indicator Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • None
	Visit #2 Number of Indicator Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • 2 Wood Ducks - Probable 	Visit #2 Number of Indicator Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • 2 Wood Ducks - Probable
	Visit #3 Number of Indicator Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • None 	Visit #3 Number of Indicator Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • None

A change in significance was observed at the Waterfowl Nesting Area in 2018, relative to baseline monitoring conducted in 2016, such that the habitat no longer meets the provincial standards for significance. These results, however, do not necessarily indicate disturbance or avoidance effects resulting from construction or operation of North Kent WP since changes in local populations, prey or food availability, weather conditions, adjacent land use, etc. can also result in annual variation in the use of local habitats.

Bird Species of Conservation Concern Habitat

The results of the post-construction surveys of the Bird Species of Conservation Concern Habitat (Eastern Wood-pewee), in comparison with the baseline data collected in 2016, are outlined below:

Feature ID	Pre-Construction Results (2016)	Post-Construction Results (2018)
EWP-001	Significant	Significant
	Visit #1 Number of Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • 2 - Possible 	Visit #1 Number of Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • 2 - Possible
	Visit #2 Number of Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • 2 - Probable 	Visit #2 Number of Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • 1 - Probable
	Visit #3 Number of Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • 1 - Probable 	Visit #3 Number of Species Observations and Highest Breeding Evidence: <ul style="list-style-type: none"> • 3 - Probable

The Bird Species of Conservation Concern habitat continues to meet the established standards for significance based on post-construction monitoring surveys conducted in 2018.

Vegetation Species of Conservation Concern Habitat

The results of the post-construction surveys of the Vegetation Species of Conservation Concern habitats (Muskingum Sedge and Pawpaw), in comparison with the baseline data collected in 2016, are outlined below:

Feature ID	Pre-Construction Results (2016)	Post-Construction Results (2018)
MSE-001	<p>Significant</p> <p>Number of Species Observations:</p> <ul style="list-style-type: none"> • Approximately 15 individuals observed total 	<p>Significant</p> <p>Number of Species Observations:</p> <ul style="list-style-type: none"> • Approximately 55 individuals observed total
PAW-001	<p>Significant</p> <p>Number of Species Observations:</p> <ul style="list-style-type: none"> • Approximately 160 individual stems observed. 	<p>Significant</p> <p>Number of Species Observations:</p> <ul style="list-style-type: none"> • Approximately 641 individual stems observed.

The Vegetation Species of Conservation Concern habitats continues to meet the standards for significance based on post-construction monitoring surveys conducted in 2018.

Additional Monitoring Commitments

Post-construction wildlife monitoring conducted by NRSI in 2018 represents the first of three (3) years of post-construction monitoring of SWH to be conducted at the North Kent WP.

Additional post-construction surveys will be conducted for two (2) additional years, in 2019 and 2020, at the following habitats, in accordance with the EIS of the NHA and EEMP (NRSI 2015a, 2015b):

- Waterfowl Nesting Area Habitat (WFN-001); and
- Bird Species of Conservation Concern Habitat (Eastern Wood-Pewee) (EWP-001)

Additional post-construction surveys will be conducted for two (2) additional years, in 2020 and 2022, at the following habitats, in accordance with the EIS of the NHA and EEMP (NRSI 2015a, 2015b):

- Vegetation Species of Conservation Concern Habitat (Muskingum Sedge and Pawpaw) (MSE-001, PAW-001)