



North Kent Wind 1 Project 2020 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 post-construction Significant Wildlife Habitat (SWH) monitoring conducted in 2020 at the North Kent Wind 1 WP, which represents the third year of post-construction monitoring for Bird Species of Conservation Concern (SCC) habitats and the second year of post-construction monitoring for Vegetation SCC habitats.

Methods

NRSI biologists conducted post-construction wildlife 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; NRSI 2015a), Environmental Effects Monitoring Plan (EEMP; 2015b), and Pre-construction Monitoring Report (NRSI 2017). As outlined in these documents, four (4) provincially SWHs required post-construction surveys in 2020, including:

- One (1) Waterfowl Nesting Area (WFN-001) habitat;
- One (1) habitat for a Bird SCC, [Eastern Wood-pewee (*Contopus virens*) (EWP-001)]; and
- Two (2) habitats for Vegetation SCC, [Muskingum Sedge (*Carex muskingumensis*) (MSE-001)], and [Pawpaw (*Asimina triloba*) (PAW-001)].

These habitats were identified to be provincially significant in the Environmental Impact Study (EIS) report of the NHA (NRSI 2015a), the EEMP (NRSI 2015b), and/or the Pre-construction Monitoring Report (NRSI 2017), which were completed prior to the construction of the Project. Provincial significance of the habitats was identified based on criteria established, or otherwise approved, by the MNRF.

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

- Area search and transect surveys within the Waterfowl Nesting Area were conducted once in each of April, May, and June;
- Point count and transect surveys for breeding Bird SCC, Eastern Wood-pewee, were conducted three (3) times from June to July; and
- One (1) standardized area search was conducted for each Vegetation SCC habitat during a time period when plant species exhibit characteristics that allow for confident identification.

Results

Waterfowl Nesting Area Habitat

The results of the post-construction surveys of the Waterfowl Nesting Area habitat conducted in 2020, in comparison with the baseline data collected in 2016, and the post-construction results from 2018-2019 are outlined below:

Feature ID	Pre-construction Results (2016)	Post-construction Results (2018)	Post-construction Results (2019)	Post-construction Results (2020)
WFN-001	Significant Nine (9) observations of Wood Duck; ≥ 3 nesting pairs	Not Significant Two (2) observations of Wood Duck; < 3 nesting pairs	Significant Ten (10) observations of Wood Duck; ≥ 3 nesting pairs	Significant Nineteen (19) observations of Wood Duck; ≥ 3 nesting pairs

The Waterfowl Nesting Area habitat meets the established standards for significance based on post-construction monitoring surveys conducted in 2020.

Bird Species of Conservation Concern Habitat

The results of the post-construction surveys of the Bird SCC habitat (Eastern Wood-pewee) conducted in 2020, in comparison with the baseline data collected in 2016, and the post-construction results from 2018-2019 are outlined below:

Feature ID	Pre-construction Results (2016)	Post-construction Results (2018)	Post-construction Results (2019)	Post-construction Results (2020)
EWP-001	Significant Five (5) observations of Eastern Wood-pewee Highest Breeding Evidence: Probable	Significant Six (6) observations of Eastern Wood-pewee Highest Breeding Evidence: Probable	Significant Seven (7) observations of Eastern Wood-pewee Highest Breeding Evidence: Probable	Significant Three (3) observations of Eastern Wood-pewee Highest Breeding Evidence: Probable

The Bird SCC habitat meets the established standards for significance based on post-construction monitoring surveys conducted in 2020.

Vegetation Species of Conservation Concern Habitats

The results of the post-construction surveys of the Vegetation SCC habitats (Muskingum Sedge and Pawpaw) conducted in 2020, in comparison with the baseline data collected in 2016, and post-construction results from 2018 are outlined below:

Feature ID	Pre-construction Results (2016)	Post-construction Results (2018)	Post-construction Results (2020)
MSE-001	Significant Approximately 15 individual stems observed of Muskingum Sedge	Significant Approximately 55 individual stems observed of Muskingum Sedge	Significant Approximately 35 individual stems observed of Muskingum Sedge
PAW-001	Significant Approximately 160 individual stems observed of Pawpaw	Significant Approximately 641 individual stems observed of Pawpaw	Significant Approximately 634 individual stems observed of Pawpaw

The Vegetation SCC habitats continue to meet the standards for significance based on post-construction monitoring surveys conducted in 2020.

Additional Monitoring Commitments

Post-construction SWH monitoring conducted by NRSI in 2020 at the North Kent WP represents the second year of post-construction monitoring for Vegetation SCC habitats and the third year of post-construction monitoring for the Bird SWH.

All post-construction disturbance monitoring commitments for Bird SWHs have been met and no further disturbance monitoring for birds is required for the North Kent WP.

Post-construction surveys are required to be conducted for one (1) additional year (2022) for Vegetation SCC habitats (MSE-001, PAW-001) at the North Kent WP.