



Nation Rise Wind Farm 2022 Significant Wildlife Habitat Monitoring

Natural Resource Solutions Inc. (NRSI) was retained to conduct post-construction wildlife monitoring at the operational Nation Rise Wind Farm, located within the Township of North Stormont and the United Counties of Stormont, Dundas and Glengarry, Ontario. This wind energy project has a generating capacity of 100MW and consists of 29 turbines. The purpose of this fact sheet is to provide an executive summary of the methods and results of the second year of post-construction monitoring of Significant Wildlife Habitat at the Nation Rise Wind Farm, undertaken in 2022.

Methods

NRSI biologists conducted post-construction Significant Wildlife Habitat monitoring at the Nation Rise Wind Farm following methods approved by the Ministry of Natural Resources and Forestry (MNRF), as part of the project's Natural Heritage Assessment (NHA; NRSI 2017), and the corresponding pre-construction monitoring report (NRSI 2019) and Environmental Effects Monitoring Plan (EEMP; NRSI 2017). The monitoring program and updated schedule was later summarized in the Post-construction Monitoring Schedule memo (NRSI 2022), which was submitted to the MNRF and the Ministry of the Environment, Conservation, and Parks (MECP). As outlined in these documents, 15 provincially Significant Wildlife Habitats, representing six habitat types, required post-construction monitoring in 2022:

- One Waterfowl Stopover and Staging Area (Aquatic; WSA-001);
- One Turtle Wintering Area (TWA-001);
- Four Amphibian Breeding Habitats (Woodland; AWO-011, AWO-016, AWO-018, AWO-023);
- One Open Country Bird Breeding Habitat (OCB-001);
- Six Eastern Wood Pewee (*Contopus virens*) Habitats (Species of Conservation Concern; EAWP-004, EAWP-008, EAWP-009, EAWP-010, EAWP-013, EAWP-015); and
- Two Wood Thrush (*Hylocichla mustelina*) Habitats (Species of Conservation Concern; WOTH-004, WOTH-005).

These habitats were confirmed, or assumed, to be provincially significant in the Environmental Impact Study (EIS) report of the NHA (NRSI 2017) and/or within the associated pre-construction monitoring report (NRSI 2019), 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 2017) and the EEMP (NRSI 2017), the following generalized methods were implemented, for the post-construction monitoring in 2022:

- Standardized point count surveys were conducted at the Waterfowl Stopover and Staging Habitat four times from March to early April, when waterfowl were expected to be present within the general vicinity of the project area;

- Standardized point count surveys were conducted at the Turtle Wintering Area four times between March and May;
- Three standardized anuran call point count surveys were conducted at the Amphibian Breeding Habitats, one in each of April, May and June;
- Two rounds of egg mass area searches were conducted in the Amphibian Breeding Habitats between April and June;
- Three rounds of point count and transect surveys were conducted in the Open Country Bird Breeding Habitat from June and early July;
- Three rounds of point count surveys were conducted at each Eastern Wood-pewee Habitat from June to early July; and
- Three rounds of point count surveys were conducted at each Wood Thrush Habitat from June to early July.

Results

The results of the post-construction monitoring conducted in 2022, in comparison with the baseline data collected in 2017, are outlined below. The majority of the Significant Wildlife Habitats monitored in 2022 continue to meet the established standards for significance, as defined within the Project's NHA (NRSI 2017), based on post-construction monitoring conducted in 2022. Three of the 15 monitored habitats did not meet the standards for significance based on monitoring conducted in 2022.

| Feature ID | Pre-construction Monitoring Results (2017) | Post-construction Monitoring Results (2022) |
|--|--|---|
| Waterfowl Stopover and Staging Area (Aquatic) | | |
| WSA-001 | Significant | Significant |
| Turtle Wintering Area | | |
| TWA-001 | Significant | Significant |
| Amphibian Breeding Habitat (Woodland) | | |
| AWO-011 | Significant | Significant |
| AWO-016 | Significant | Not Significant Site access to this habitat was denied. As a result, it is not possible to confirm significance, nor are the results directly comparable to baseline monitoring in 2017. |
| AWO-018 | Significant | Significant |
| AWO-023 | Significant | Significant |
| Open Country Bird Breeding Habitat | | |
| OCB-001 | Significant | Significant |
| Eastern Wood-Pewee Habitat | | |
| EAWP-004 | Significant | Significant |
| EAWP-008 | Significant | Significant |
| EAWP-009 | Significant | Significant |

| Feature ID | Pre-construction Monitoring Results (2017) | Post-construction Monitoring Results (2022) |
|----------------------------|--|---|
| EAWP-010 | Significant | Not Significant |
| EAWP-013 | Significant | Significant |
| EAWP-015 | Significant | Significant |
| Wood Thrush Habitat | | |
| WOTH-004 | Significant | Not Significant |
| WOTH-005 | Significant | Significant |

Discussion

Post-construction monitoring in 2022 represents the first, and only, year of required post-construction monitoring at the Waterfowl Stopover and Staging (Aquatic) Area, Turtle Wintering Area, and the Amphibian Breeding (Woodland) Habitats. Monitoring conducted at the Open Country Bird Breeding Habitat, Eastern Wood-Pewee Habitats and Wood Thrush Habitats represents the first of three years of required post-construction monitoring. However, 2022 represents the second year of the overall post-construction monitoring program of Significant Wildlife Habitat at the Nation Rise WF, as two habitat types were monitored in 2021 (i.e., Savannah Habitat and Monarch Habitat).

Although the majority of the Significant Wildlife Habitats monitored in 2022 continue to meet the established standards for significance based on post-construction monitoring conducted in 2022, three of the habitats did not meet the standards for significance. These results, however, do not necessarily indicate disturbance or avoidance effects resulting from the construction or operation of the Nation Rise WF.

In consideration of the Amphibian Breeding (Woodland) Habitat AWO-016, site access was denied by the landowner and NRSI was therefore not able to repeat the site-specific surveys that were completed at this habitat in 2017 and instead adjusted the monitoring locations for anuran call surveys to the nearest available roadside or property line location. Amphibian egg mass area searches were unable to be completed as a result of the denied access, as these could not be conducted from outside of the habitat. As such, although call surveys were completed near this habitat, the change in apparent significance could be a result of survey comparability between the new monitoring locations and those surveyed in 2017, as well as the inability to complete egg mass area searches in 2022.

Both of the Eastern Wood-Pewee Habitat EAWP-010 and Wood Thrush Habitat WOTH-004 did not meet the criteria for significance following monitoring completed in 2022. Neither of these habitats were directly impacted or altered by Project-related activities, and it is common for local breeding bird populations to fluctuate in relative abundance and habitat locations from year to year. As such, there are no current indications that any changes in significance are the result of Project-related activities. The significance of these habitats will be re-assessed again in each of the next two monitoring years (2023 and 2024).

Additional Monitoring Commitments

Based on the requirements of the project's REA (No. 0871-AV3TFM), all post-construction monitoring commitments for the Waterfowl Stopover and Staging (Aquatic) Area, Turtle Wintering Area, and Amphibian Breeding (Woodland) Habitats have been met and no further monitoring of these habitats is required at the Nation Rise WF.

Post-construction monitoring is required to be conducted for two additional years (in 2023 and 2024) for the one Open Country Bird Breeding, six Eastern Wood-Pewee, and two Wood Thrush Habitats at the Nation Rise WF. In addition, a second year of post-construction monitoring will be conducted for the Savannah Habitat (SAV-001) at the Nation Rise WF in 2023, with a final year of monitoring for the Savannah habitat required in 2025.