

WEBEQUIE SUPPLY ROAD (WSR) PROJECT

Migratory Birds Study Plan Summary

OBJECTIVES:

- Identify and consider the potential effects on birds as a result of the Project
- Provide recommendations for minimizing negative environmental, health, social and economic effects related to effects to birds during the construction and operation/maintenance of the Project

WHAT WILL BE ASSESSED AND HOW WILL THE ASSESSMENT BE DONE?

- Forest Birds – Forest birds include migratory birds that live, feed and nest in northern forests during the spring and summer such as warblers, sparrows, thrushes, flycatchers, and kinglets.
- Raptors – Raptors are carnivorous birds of prey such as hawks, eagles, owls and vultures.
- Shorebirds – Shorebirds live, feed and nest along the shoreline of waterbodies. Examples of shorebirds include yellowlegs, sandpipers, plovers, snipes, and allies.
- Waterfowl – Waterfowl are birds that frequent waterbodies such as ducks, geese, and swans.
- Crepuscular Birds – Crepuscular birds are primarily active during the twilight hours, such as nighthawks.
- Wetland Birds – Wetland birds live, feed and/or nest in bogs, fens and swamps. Wetlands provide habitat for many of the birds mentioned above as well as marsh species such as rails and bitterns.



The assessment of birds will examine:

- **Habitat Availability** – Habitat availability will be assessed as a measure of habitat quantity and quality
- **Habitat Quantity** refers to the amount of habitat available for birds and their various life history stages. This will be assessed by determining potential changes to total area of habitat and any known or assumed critical life cycle habitat (e.g., breeding, rearing, etc.) due to the Project
- **Habitat Quality** refers to the quality of habitat available for birds and their various life history stages. This is assessed by determining the changes in habitat quality (i.e., quality of breeding, rearing, or overwintering habitats for criteria species) due to the Project
- **Abundance and Distribution** refers to the total number of a population or how common a certain species is in the project area. Bird abundance may change due to direct changes to the population (i.e., mortality of individuals resulting from physical activities of the Project); or indirect changes to the population because of changes to habitat availability that may affect survival and reproduction. Distribution relates to the spatial configuration and connectivity of habitats for birds in the project area, and the spatial distribution and movement of bird species
- **Species Richness** refers to direct changes to the number and relative proportion of species present within the study area (i.e., disappearance of individual populations resulting from physical activities of the Project); or indirect changes to the population due to changes to habitat availability
- **Relative Overlap** refers to the presence of species in multiple habitats
- **Species Habitat Specificity** refers changes to availability of specific habitat types, or habitats that certain species require for life processes. Specific habitat types include: Specialized Upland Landcover Type, Specialized Wetland Landcover type (e.g., Bog, Fen, Swamp, marsh etc.), Specialized Riparian habitat, and Critical Land Forms/ Habitats of Conservation Concern
- **Predation/Habitat Usage** refers to potential increases to predator access and habitat utilization by new species to specific areas resulting in changes to populations due to increased hunting access, increased raptor and mammal predation, and introduction of new species competition for available resources resulting from physical activities of the Project
- **Cultural Significance** of Importance refers to potential changes to cultural interaction with and usage of birds within the project area resulting from physical activities of the Project (e.g., new travel corridors, and hunting access, introduction of non- native/invasive species, increased fire potential).





WHAT INFORMATION IS NEEDED AND HOW WILL IT BE COLLECTED?

Indigenous Knowledge – Indigenous Knowledge from First Nation communities will be requested to help understand birds and their habitat, cultural importance of birds and their perspective of potential effects on birds that may result from the Project. The Project Team will ensure that the information is protected, kept confidential, and appropriately and respectfully integrated into the bird assessment with the help of community knowledge holders and Elders.

Breeding Bird Point Count Surveys – For these surveys, a surveyor conducts a stationary count of all birds seen and heard over a given period. Each sample location will be surveyed by a qualified biologist skilled in visual and auditory identification of Ontario bird species. The biologists use a standardized 10-minute point count, recording each species encountered at 1-minute intervals with distance estimates recorded between 0-50 m, 50-100 m and >100 m away. Notes related to land cover within 100 m of each sample point will also be taken to confirm the land cover class and vegetation type. Many of the birds that nest within the project area can be adequately sampled using this survey type.

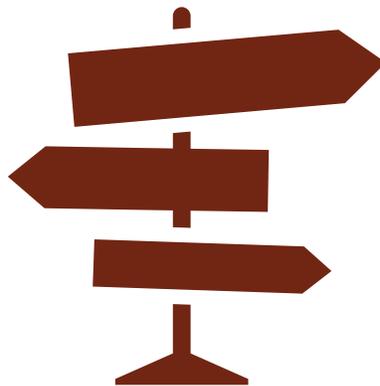
Acoustic Bird Sampling – Acoustic recording units (ARUs) will be used to survey bird presence. The ARUs can be programmed to record 24 hours a day or at particular times each day. ARUs will be used to obtain data to support the abundance and distribution modelling process and capture time variations in bird species presence, abundance and distribution across a broad range of dates (including seasons) and times of day. ARUs will be placed at least 500 m apart and will sample all habitat types present, as done with the point count surveys.

Crepuscular Bird Surveys – These studies are generally designed to target a single species. They will be conducted during twilight hours in species-specific habitat, allowing biologists to observe and collect data on the species, including evidence of breeding such as territorial wing-booms and calling. Due to the remote location of the proposed WSR, crepuscular birds will be primarily surveyed by way of the ARU bird sampling.

Waterfowl Migration Aerial Surveys – This survey will consist of flying the entire length of the preliminary road alternative routes and circling over each lake or open wetland within 1 km of the study area.

Shorebird Migration Aerial Surveys – This survey will include two biologists experienced in the identification of shorebirds: one primary observer and one secondary observer/recorder/navigator. The survey will include low level helicopter flight along 50 km of the Winisk River, north of Winisk Lake. All wildlife observed will be recorded, including shorebirds, waterfowl, raptors, and any other observations. Data collected will include the date, time, location, weather, species observed and number of individuals.

Raptor Nesting Data Collection – During aerial surveys particular attention will be given to stick nest searches in the vicinity of rivers and lake shorelines, and unburned mature deciduous/conifer stands. The classification of nest type will be determined through a combination of staff knowledge, habitat type, stick and nest size, nest placement, and visual raptor sightings, and photos where possible. If the nest type species are indiscernible, they were simply recorded these as stick nests.



WHAT INFORMATION IS NEEDED AND HOW WILL IT BE COLLECTED?

- Evaluating route alternative as well as refinement of the preferred route for the road to minimize or avoid significant habitat for birds
- Avoid clearing trees or other vegetation during the migratory bird nesting period
- Use road design aspects and consider regulated speed limits or warning signage along road to reduce potential bird-vehicle collisions.
- Establishing species-specific buffer zones and setback distances.
- Consideration of implementation of artificial habitats to compensate for lost habitat features, if necessary (e.g., Bank Swallow).
- Design the road and supportive infrastructure (aggregate areas, construction camps, etc.) so that water levels in wetlands and functions and values of habitats are retained

BIRD STUDY AREAS

Spatial boundaries define the geographic extent to consider potential project effects on birds. As such, these boundaries define the study areas for the effects assessment. The study areas to be used in the assessment will be refined and validated with input and feedback from Indigenous communities, as well as guidance from federal and provincial regulators, and other stakeholders.

To capture the potential direct and indirect effects of the Project for each valued component, general study areas have been established (i.e., Project Footprint, Local Study Area and Regional Study Area). The proposed study areas identified for the bird valued component are considered adequate to assess the direct and indirect effects to most wildlife, including birds and their habitat. The study areas are described below and presented in Figure 1.

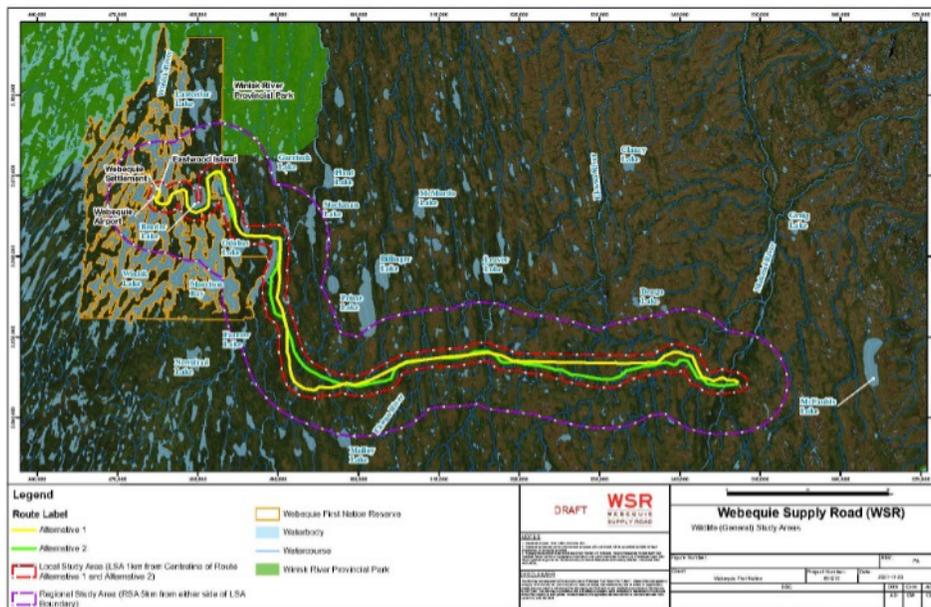


Figure 1 - Birds Study Areas

- **Project Footprint (PF)** - The area of direct disturbance (i.e., the physical area required for Project construction and operation). The PF is defined as the 35 m right-of-way (ROW) width for the WSR and temporary or permanent areas needed to support the Project, including laydown/storage yards, construction camps, access roads and aggregate extraction sites.
- **Local Study Area (LSA)** - The area where largely direct, and indirect effects of the Project are likely to be measurable. The LSA for birds is a 1 km buffer from either side of the centreline of the supply road Alternative 1 and Alternative 2, and 500 m from supportive infrastructure (camps, aggregate/rock source areas, access roads).
- **Regional Study Area (RSA)** - The area where potential, largely indirect and cumulative effects of the Project in the broader, regional context may occur. The RSA for birds extends 5 km from either side of the LSA boundaries.

BIRD CRITERIA AND INDICATORS

To determine project effects to birds, evaluation criteria and indicators are developed that represent the resource, feature or issue where measurable changes can be identified. Criteria, also known as valued components, are elements or conditions of the natural and human environment that may be affected by the Project and are of concern or value to the public, Indigenous peoples, federal/provincial authorities and interested parties. Indicators represent a resource, feature, or issue related to the criteria that, if changed, may demonstrate an effect on the environment. The table below identifies indicators for the proposed bird valued component, also referred to as criteria (interchangeable term) based on the Ontario Environmental Assessment terminology.

Valued

Component/Criteria

Birds, including the following:

Forest Birds, such as:

- Canada Warbler (*Cardellina canadensis*)
- Common Nighthawk (*Chordeiles minor*)
- Evening Grosbeak (*Coccothraustes Vespertinus*); and,
- Olivesided Flycatcher (*Contopus cooperi*)

Raptors, such as:

- Bald Eagle (*Haliaeetus Leucocephalus*)

Shorebirds, such as:

- Killdeer (*Charadrius vociferus*),
- Spotted Sandpiper (*Actitis macularius*)
- Greater Yellowlegs, Lesser Yellowlegs (*Tringa flavipes*)
- Solitary Sandpiper (*Tringa solitaria*); and,
- Wilson's Snipe (*Gallinago delicata*)

Waterfowl, such as:

- Common Goldeneye (*Bucephala clangula*)
- Ring-necked Ducks (*Aythya collaris*)
- Mallards (*Anas platyrhynchos*); and,
- Common Loon (*Gavia immer*)

Bog/Fen Birds and Other Wetland Birds, such as:

- Black Tern (*Chidonias niger*),
- Rusty Blackbird (*Euphagus carolinus*); and,
- Yellow Rail (*Coturnicops noveboracensis*)

Indicators

Changes to habitat availability (quantity [ha] and quality)

Changes to abundance (i.e., population) and distribution (i.e., configuration and connectivity) of species and habitat (number/ha)

Changes to species richness (diversity)

Changes to survival and reproduction

Changes to predator access, habitat use and population

Change in wildlife mortality (due to increased anthropogenic stressors; hunting, trapping, vehicle travel)