

# WEBEQUIE SUPPLY ROAD (WSR) PROJECT

## SPECIES AT RISK STUDY PLAN SUMMARY

### OBJECTIVES:

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

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

The assessment of potential effects to Species at Risk (SAR) will include the characterization of existing conditions in the Project area, using publicly available background information and data collected from field investigations. Species that occupy much larger areas, such as Wolverine and Caribou will be assessed at much larger regional scale. As potential effects from the development of the WSR and supportive infrastructure could affect Species at Risk and their habitat, the Project Team will also assess specific potential effects that could have lingering detrimental effects to Species at Risk, such as increased human access, injury or mortality, spills and physical alteration of waterbodies and the landscape.

### Assessed Species

Based on the background information review, field studies conducted to date, and consultations with the Ontario Ministry of the Environment, Conservation and Parks, Species at Risk known to occur within the project area include:

#### Bats

- Little Brown Myotis

#### Mammals

- Caribou (Boreal population)
- Caribou (Eastern migratory population)
- Wolverine

#### Fish

- Lake Sturgeon (Southern Hudson Bay - James Bay population)

#### Birds

- Bald Eagle
- Bank Swallow
- Barn Swallow
- Canada Warbler
- Common Nighthawk
- Evening Grosbeak
- Olive-sided Flycatcher
- Rusty Blackbird
- Yellow Rail



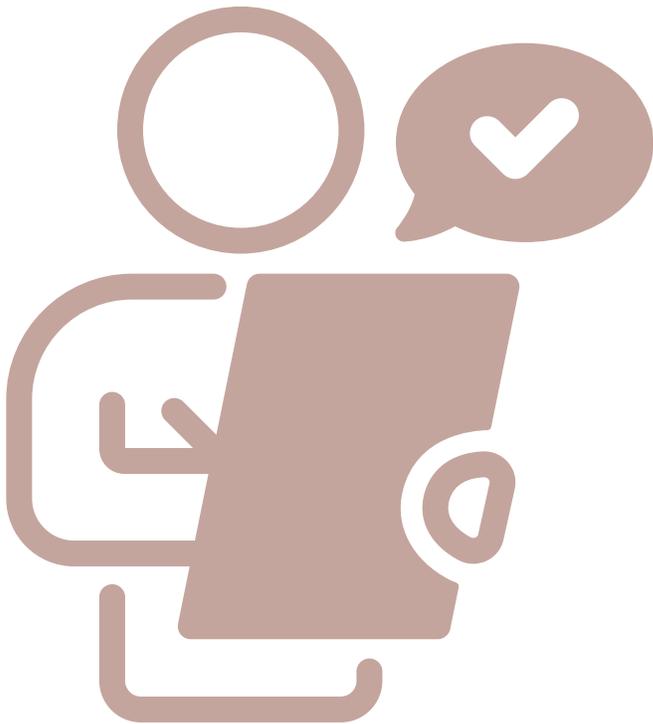
## WHAT INFORMATION IS NEEDED AND HOW WILL IT BE COLLECTED?

Field baseline investigations are intended to collect data within the project area of sufficient quantity and quality, using standardized methodologies. At a minimum, the combined information from existing background data sources and field surveys will be used to describe the distribution and abundance of all Species at Risk in the study area for the Project.

Survey site selection for Species at Risk will focus on sampling of the lands close to the route alternatives within the proposed preliminary preferred corridor for the WSR. The site selection process for Species at Risk involves reviewing existing aerial/light detection and range (LiDAR) and satellite imagery, results from ongoing vegetation/habitat classification and consultation with Indigenous communities and stakeholders.

Where sufficient field data is available, species models will be used to quantify abundance or density, rather than occurrence of species. When possible, model data will be used to develop predictive maps for species distribution and abundance. These maps will be also used to predict population responses to the development of the Project and inform mitigation measures and future monitoring requirements.

**Field Surveys** – Corridor-specific assessments of Species at Risk wildlife and habitat within the preliminary proposed corridor for the WSR will be conducted, including efforts to confirm species present as listed above. The following field surveys are proposed, or in some cases ongoing, and apply consistent accepted scientific protocols:



- **Winter Aerial Surveys for Caribou and Wolverine** – Aerial surveys consisting of flying a grid of parallel transects conducted to locate Wolverine and Caribou tracks and inventory other wildlife.
- **Caribou Nursery Surveys** – This survey consists of searching beaches, low-lying areas, and areas inland for signs of Caribou presence. The survey collects data on the number of individuals, habitat type and type of observation (signs of being present in the area).
- **Caribou Collaring**– 29 adult female Caribou are safely fitted with satellite GPS collars that transmit location data 8 times per day. In addition to collar deployment, blood samples will be taken from each captured Caribou to assess pregnancy status (using blood serum for Pregnancy-Specific Protein B), and population genetics. Additionally, pellets (for assessment of parasites and/or potential genetic analysis) and hair (for potential genetic analysis and/or assessment of chronic stress using cortisol levels) will be collected. Assessment of molar wear would be conducted to determine age.

## WHAT INFORMATION IS NEEDED AND HOW WILL IT BE COLLECTED?

- **Wolverine Occupancy Surveys** – 25 combined camera traps and hair snare sampling run-poles will be deployed systematically throughout the project area. This integrated sampling method is adequate to passively collect data that will inform wolverine distribution, abundance, density, population demographics (sex ratios), and potentially the presence of lactating females (an indication of nearby denning) or even kits.
- **Bat Habitat and Maternity Roost Screening** – A review of secondary source information will be undertaken to identify natural and man-made features along the proposed route that may provide bat habitat, and a screening survey using a helicopter to search for potential critical habitat features.
- **Bat Acoustic Surveys** – This survey involves 10 survey stations along the preliminary proposed corridor for the road, of which three are near candidate maternity roost habitats.
- **Breeding Bird Point Count Survey** – This survey involves stationary counts of all birds seen and heard over a given time-period at various survey locations.
- **Bird Acoustic Surveys**– This survey involves deployment of Acoustic Recording Units to survey bird presence and will be used to obtain data and support the abundance and distribution modelling process to capture temporal variation of bird Species at Risk.
- **Crepuscular Bird Surveys (Common Nighthawk)** – This survey is to target Common Nighthawk, a species that is known to nest in open habitats across Northern Ontario and is assumed may be present in the project area. Acoustic Recording Units will be placed in suitable habitats to collect data and inform on the presence and distribution of this species.
- **Raptor Nesting Data Collection** – As part of extensive aerial surveys for Caribou and waterfowl, biologists will conduct stick nest searches near river and lake shorelines, and unburned mature deciduous/conifer stands.



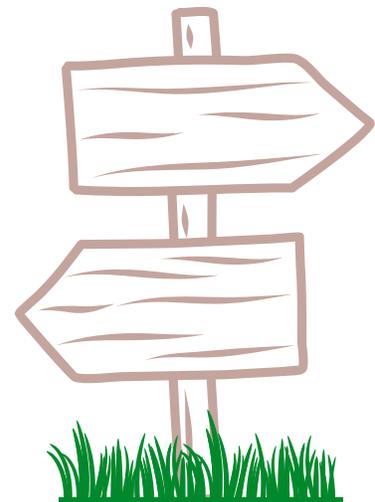
**Eskers, Wetlands / Peatlands** are identified as key habitats for Species at Risk and are present in the project area. The distribution, areas, and characteristics of each key habitat type will be determined through a thorough review of background data, field surveys, and consultation with the Ministry of the Environment, Conservation and Parks, the Ministry of Natural Resources and Forestry, Environment and Climate Change Canada and Indigenous communities. Eskers consist of long, winding ridges of stratified sand and gravel and are the result of glaciation. Information will be collected with respect to Bat maternity roost habitat; Caribou winter use areas; Canada Warbler and Evening Grosbeak nesting habitat; and Bald Eagle nesting and perching habitat. With respect to Species at Risk occurring in proximity to the Project, habitat features that are likely to occur across wetlands/ peatlands include: Bat foraging and movement corridor habitat; Caribou calving and winter use habitats and travel corridors; Wolverine travel corridors; Barn Swallow foraging habitat; and bird Species at Risk breeding habitat.

## WHAT INFORMATION IS NEEDED AND HOW WILL IT BE COLLECTED?



## WHAT ARE SOME OF THE WAYS TO REDUCE ANY POTENTIAL NEGATIVE EFFECTS OF THE PROJECT?

- Moving the road to avoid areas containing critical habitat for Species at Risk
- Avoid construction during times of breeding and in locations where migration and other essential life processes may be occurring
- Consideration of wildlife passages to allow for the free and safe movement of Species at Risk across the road
- Regulate speed limits and have warning signs for road users to reduce potential wildlife-vehicle collisions
- Establishing species-specific buffer zones and setback distances
- Consideration of artificial habitats to compensate for lost habitat features, if necessary (e.g., Bank Swallow or Bats)
- Implement best management practices to avoid or mitigate negative effects on Caribou



## SPECIES AT RISK STUDY AREAS

Spatial boundaries define the geographic extent to consider potential project effects on Species at Risk. 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 Species at Risk are divided into various distinct sets of study areas: general wildlife (for SAR bats and birds), Caribou, Wolverine, and aquatic study areas. The general wildlife and aquatic study areas allow for the assessment of direct and indirect effects to SAR bats, birds and fish while considering the range and distribution of land cover/habitat types. The caribou Regional Study Area covers the Missisa and Ozhiski Ranges for the species in Ontario where potential effects may occur. Finally, the wolverine Local Study Area is larger and accounts for their relatively large home range to accurately capture all direct Project effects. The study areas are described below and presented in Figures 1, 2, 3, and 4.

- **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.
  - For general wildlife (including SAR bats and birds) and aquatic (fish and fish habitat) the LSA 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).
  - For caribou and wolverine the LSA is an 11 km buffer from either side of the centreline of the supply road Alternative 1 and Alternative 2, and 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.
  - For general wildlife (including SAR bats and birds) the RSA extends 5 km from either side of the LSA boundaries
  - For aquatic (fish and fish habitat) the RSA is the combined area of the quaternary watersheds crossed by route Alternative 1 and Alternative 2
  - For caribou the RSA encompasses the entire Missisa and Ozhiski Ranges for the species in Ontario
  - For wolverine the RSA extends 50 km from either side of the LSA boundaries

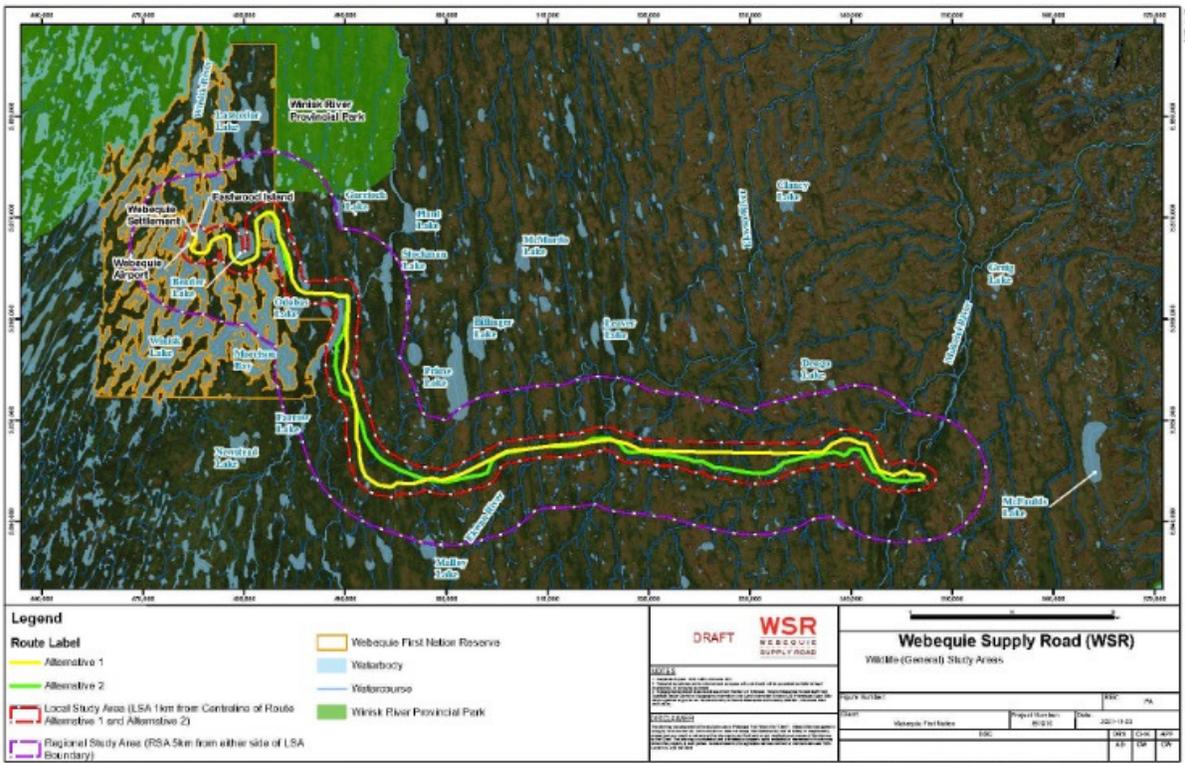


Figure 1 - Wildlife (General) Study Areas

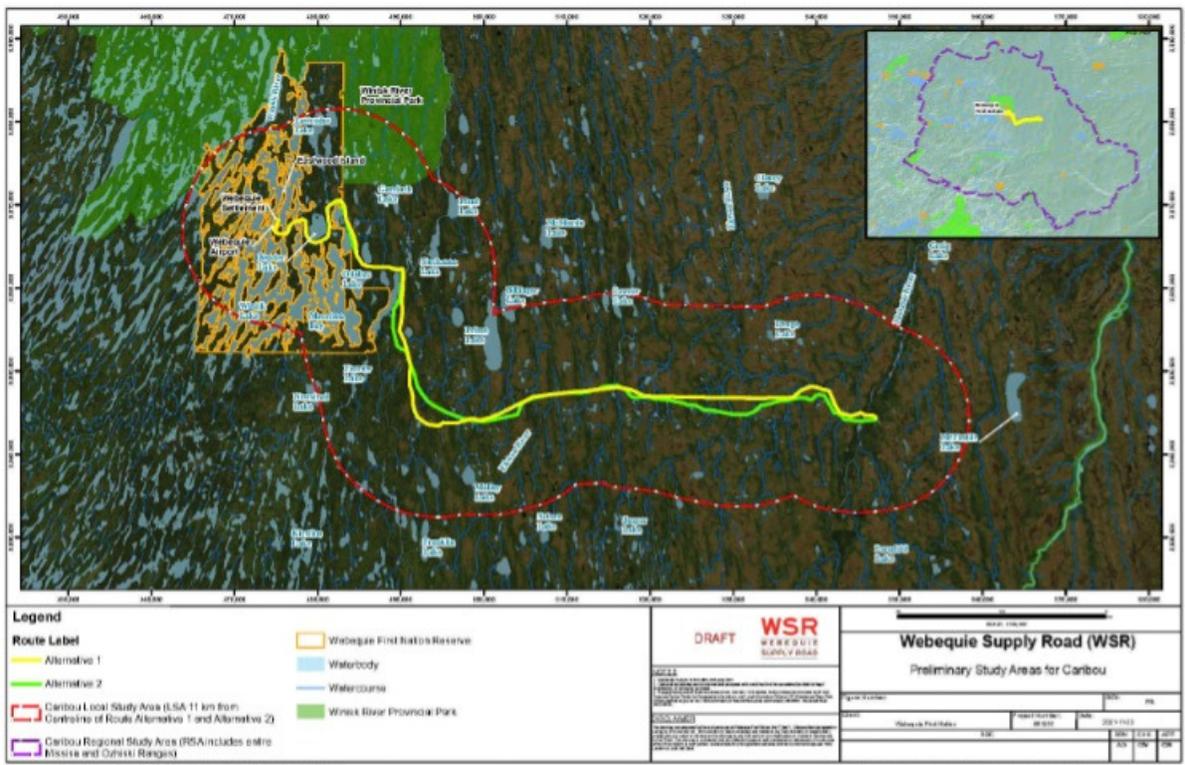


Figure 2 - Caribou Study Areas

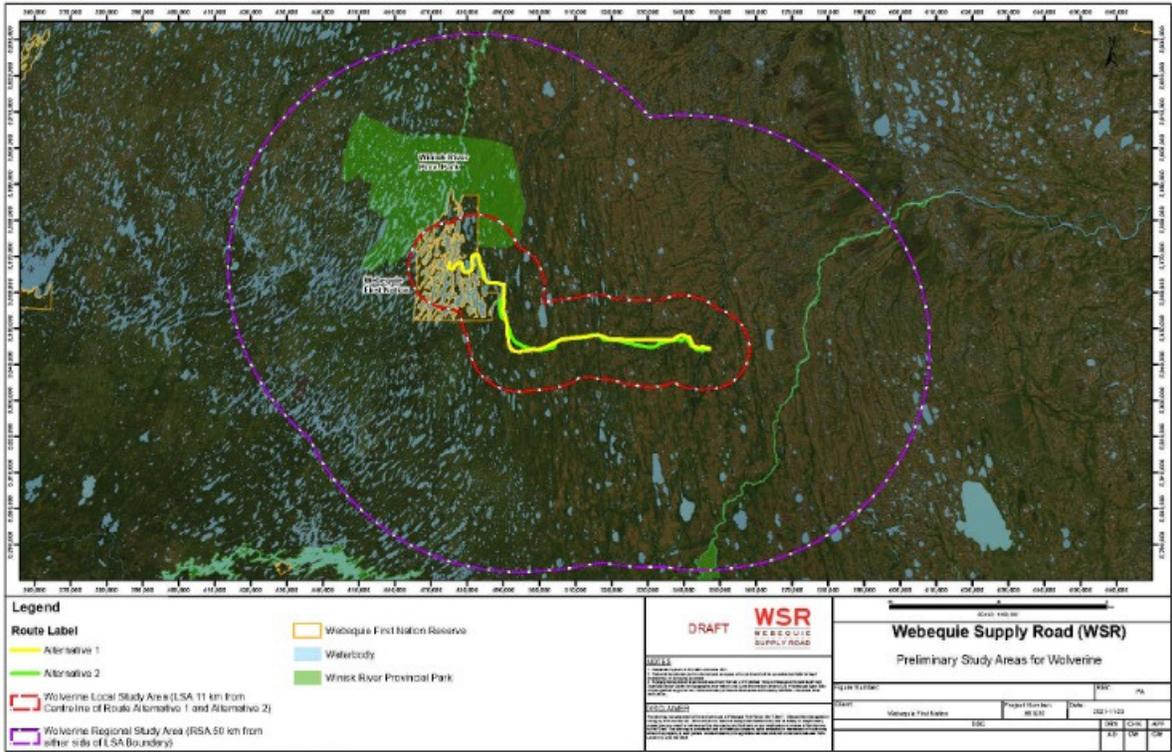


Figure 3 - Wolverine Study Areas

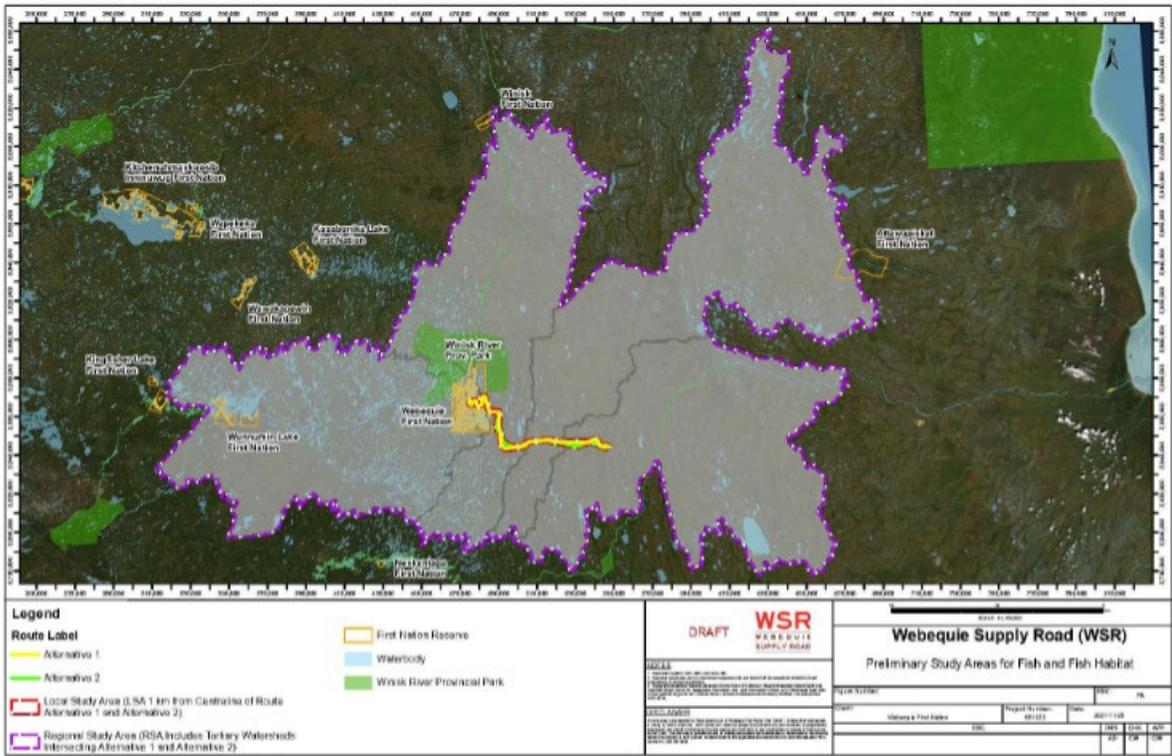


Figure 4 - Aquatic (Fish and Fish Habitat) Study Areas

## SPECIES AT RISK CRITERIA AND INDICATORS

To determine Project effects on Species at Risk, 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 Species at Risk-related valued components, which are also referred to as criteria (interchangeable term) based on the Ontario Environmental Assessment terminology.

### Valued Component/Criteria

Bats, including:

- Little Brown Myotis

### Indicators

- Changes to habitat availability (quantity – hectare 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 increase anthropogenic stressors; hunting, trapping, vehicle travel)

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Caribou

### Species:

- Changes to Population Size and Trend Estimates at the Range Level
- Changes to indirect mortality due to increases in prey sources (moose) leading to increase predation (wolves, bears, etc.) and spread of disease (e.g., brainworm)
- Changes to Indirect effects due to sensory disturbances (e.g. light, sound, vibration)
- Changes to incidental mortality due to anthropogenic effects (e.g. vehicular collisions, increased hunting pressure)

### Habitat:

Changes to habitat availability (abundance spatially and temporally)

#### Changes to disturbances at Range Level

- Additional disturbance (ha) to the range
- Length of route adjacent to existing disturbance
- Length of new linear disturbance from route

#### Changes to habitat amount and arrangement/distribution at the Sub-range Level

- Category 1: High Use Area – Nursery Area Habitat (number or ha)
- Category 1: High Use Area – Winter Use Areas (number or ha)
- Category 1: High Use Area – Travel (number or ha)
- Category 2: Seasonal Ranges (ha)
- Category 3: Remaining Areas in the Range (ha)

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#### Wolverine

- Changes to habitat availability (quantity – hectare 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 increase anthropogenic stressors; hunting, trapping, vehicle travel)

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#### Fish and Fish Habitat, including:

- Lake Sturgeon

- Changes to habitat available to fish (quantity and quality)
- Number or area (ha) of waterbodies crossed
- Number/area of waterbodies crossed that include known or assumed critical habitat such as spawning or nursery areas.
- Changes to abundance and distribution (population, survival, reproduction movement)

Birds, including:

- Bald Eagle
- Bank Swallow
- Barn Swallow
- Canada Warbler
- Common Nighthawk
- Evening Grosbeak
- Olive-sided Flycatcher
- Rusty Blackbird
- Yellow Rail

Changes to habitat availability (quantity – hectare 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 increase anthropogenic stressors; hunting, trapping, vehicle travel)

