Environmental Impact Study

Oil Tank Road Industrial Park, Town of Iroquois Falls

January 2024

FRICORP
ECOLOGICAL SERVICES

Contents

Introduction

FRi Ecological Services (FRi) was retained to complete an environmental impact study for a future development property in the Town of Iroquois Falls (Town), known as 'Oil Tank Road Industrial Park'. The subject property is approximately 23.5 hectares (58 acres) plus 2.5 hectares of potential road and utility right of ways and has frontage on Oil Tank Road and is nearby the Public Works Yard. There are a few rural residences to the west and immediately south of the property. The subject property is shown in Figure 1.

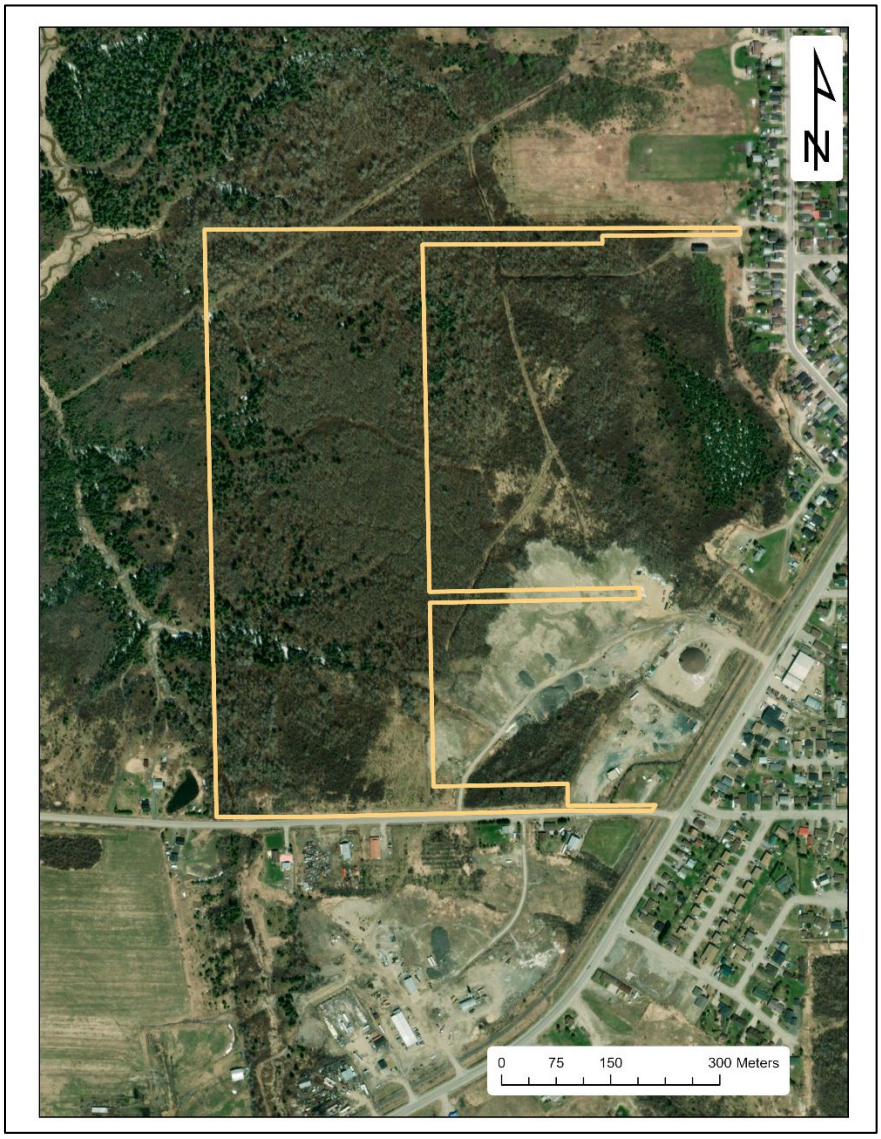

Figure 1: Location and size of subject property – future industrial park, Oil Tank Road

The property is accessed by Highway 11 north to Highway 67 and left on Oil Tank Road. The exact nature of the future development is not known currently; however it is the Town's intention to promote and sell large, road accessible lots for light and heavy industrial development. The lots

will be 0.5 to 10.5 hectares (1 – 26 acres) in size to accommodate the anticipated future businesses.

Approach

The background information, field investigations and reporting are consistent with the Town's Official Plan (OP), Appendix A, which details the requirements for an environmental impact study. The OP states that an 'EIS will be required for development in or adjacent to natural heritage features. An EIS will evaluate the ecological function of natural heritage features and adjacent lands and assess potential impacts on the features and /or adjacent lands.'

The OP states that a terms of reference and guidelines for an EIS are to be consistent with the Natural Heritage Reference Manual. From the OP, the EIS will generally include:

a) Define and assess the nature and the boundaries of any significant features and ecological functions on or adjacent to the site;
b) Describe the location, extent and nature of the proposed development;
c) Describe the relationship of the adjacent lands to any significant features or ecological functions;
d) Assess areas within the development site and in a landscape context supporting ecological function and biodiversity of natural heritage systems;
e) Outline the potential impacts and assess potential negative impacts;
f) Describe any mitigation or compensation proposals designed to alleviate or eliminate impacts and identify residual impacts;
g) Identify whether residual impacts are 'negative impacts'; and
h) Include any other requirements as identified by the Town.

This report addresses each of the items above in relevant sections as follows:

a) The Background Information, Field Investigations, Ecological Land Classification, Wetlands, and Fish Habitat define and assess the nature and the boundaries of any significant features and ecological functions on or adjacent to the site.
b) The Introduction describes the location, extent and nature of the proposed development.
c) The Summary of Natural Heritage Features, Recommendations and Impact Assessment table describes the relationship of the adjacent lands to any significant features or ecological functions
d) The Ecological Land Classification and Summary of Natural Heritage Features, Recommendations, and Impact Assessment assesses areas within the development site and in a landscape context supporting ecological function and biodiversity of natural heritage systems.
e) The Habitat of Endangered and Threatened Species, Significant Wetlands and Other Wetlands, Significant Wildlife Habitat and Fish Habitat sections outline the potential

impacts and assess potential negative impacts. The Summary of Natural Heritage Features, Recommendations and Impact Assessment table provides a summary of the same.

f) Each natural heritage section includes recommendations to mitigate or eliminate impacts on the respective natural heritage feature; residual impacts are identified where they are anticipated. These are summarized in the Summary of Natural Heritage Features, Recommendations and Impact Assessment section.

g) The Summary of Natural Heritage Features, Recommendations and Impact Assessment section identifies whether residual impacts are 'negative impacts'. Each subsection of the report also outlines potential residual impacts and whether they are anticipated to be negative.

h) There were no other requirements identified by the Town at the outset of this environmental impact study. The Relevant Provincial & Municipal Policy and Legislation section summarizes the policy and legislative framework which apply to this industrial development. The Authorizations and Permitting section also summarizes the necessary authorizations under this framework.

Background Information

A review of the available natural heritage information was conducted including the Town's OP[1], and the Make a Map: Natural Heritage Areas online interactive map.[2] The following sources were also consulted:

- Natural Heritage Information Centre (NHIC) database;
- Land Information Ontario GeoHub database[3];
- e-Bird[4]
- i-Naturalist[5]
- Atlas of the Breeding Birds of Ontario (OBBA)[6]; and
- Ontario Reptile and Amphibian Atlas[7].

Natural heritage categories as per the Natural Heritage Reference Manual (2010)[8], were considered to complete and environmental impact study that is consistent with the Town's Official Plan[9] and the 2020 Provincial Policy Statement[10].

[1] Town of Iroquois Falls Official Plan. February 10, 2022. Draft to Public/Ministry. 65pp.
[2]https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA
[3] https://geohub.lio.gov.on.ca/
[4] https://ebird.org/home
[5] https://www.inaturalist.org/
[6] https://www.birdsontario.org/jsp/datasummaries.jsp
[7] https://ontarionature.org/programs/community-science/reptile-amphibian-atlas/
[8] Natural Heritage Reference Manual for the Natural Heritage Policies of the Provincial Policy Statement, 2005. Ontario Ministry of Natural Resources. 2nd Edition. March 2010. 245pp.
[9] Ibid 1.
[10] Provincial Policy Statement. 2020. Ministry of Municipal Affairs and Housing.

Considerations initially included:

- Habitat of endangered and threatened species;
- Significant wetlands and other wetlands;
- Significant wildlife habitat;
- Areas of natural & scientific interest; and
- Fish habitat.

Field Investigations

A combined habitat-based and field assessment approach to field investigations was undertaken. The ecosites on and adjacent the subject property were assessed during in-person field investigations in late September 2023. A fisheries assessment was completed for a watercourse and wetland on the property. Following this, an initial constraint mapping was created, and the ecosites were cross-referenced with preferred habitats for wildlife including species at risk. For those species and habitats where there was potential for presence, they were explored further.

The groups considered included:

- Avian Species
- Amphibians
- Reptiles
- Mammals
- Other Wildlife
- Significant Wildlife habitat
- Species at risk

Ecological Land Classification

Ecological Setting

The subject property is situated within the Ontario Shield Ecozone. This ecozone occupies more than half of the province and includes Ecoregions 2W through 5S and contains both boreal forest and non-boreal forest regions. It experiences long cold winters and short, warm summers. There are a wide range of temperatures, precipitation and diverse surficial geology and substrates, as well as complex drainage patterns.[11]

The study area is within the Lake Abitibi Ecoregion (3E), specifically the Kirkland Lake Ecodistrict (3E-6). The climate in this ecoregion is humid and cool, with mean annual temperatures ranging

[11] Crins, William J., Paul A. Grey, Peter W. C. Uhlig and Monique C. Wester. 2009. The Ecosystems of Ontario, Part 1: Ecozones and Ecoregions. Ontario Ministry of Natural Resources, Peterborough Ontario. Inventory, Monitoring and Assessment, SIV TER IMA TR-01, 71pp.

from -0.5 to 2.5°C. The average growing season is between 167 and 185 days and the mean annual precipitation ranges from 220 to 291 mm annually.[12]

Ecosites

Ecological land classification or 'ecosites' are determined by assessing the soil and vegetation characteristics of a site. To assess for the presence of potential wildlife habitat and natural heritage features, the ecosites were determined during field investigations.

There are two (2) natural ecosites, and an anthropogenic ecosite represented by the Town's Public Works yard, on and within the 120 metre adjacent area. They include:

- B088Tt Fresh, Clayey: Aspen – Birch Hardwood
- B096S Fresh, Silty to Fine Loamy: Shrub
- B199X Compact Mineral Surface

B088Tt Fresh, Clayey: Aspen – Birch Hardwood

The aspen birch hardwood ecosite is represented almost exclusively on the subject property and the surrounding 120 m information area. It is dominated by an even-aged trembling aspen (*Populus tremuloides*) and white birch (*Betula papyrifera*) canopy, with pockets of white spruce (*Picea glauca*) and balsam fir (*Abies balsamea*) on the slopes in the western half of the property.

The shrub layer is dense and includes wild raisin (*Viburnum nudum*), red-osier dogwood (*Cornus sericea*), fly honeysuckle (*Lonicera canadensis*), wild raspberry (*Rubus idaeus*), with occasional speckled alder (*Alnus incana spp. rugosa*), willow (*Salix sp*) and highbush cranberry (*Viburnum trilobum*). Herbaceous vegetation includes goldenrod (*Solidago sp.*) and fireweed (*Chamaenerion angustifoloium*).

Soils were a very deep, fine clayey mineral with silty inclusions. Soils were assessed using a hand-held auger with a maximum depth of 120 cm. Field crews did not encounter bedrock; however the clay soils were quite difficult to penetrate by hand auger. Initial test pit data suggests at least 4.5 metres of lacustrine clay. Nearby water well records suggest the clay soils in this area are more than 27 metres deep[13].

[12] Ibid.
[13] Email correspondence. November 24, 2023. David Land, EXP to Rebecca Geauvreau, FRi.


Figure 2: (left) Representative B088 ecosite west side of the subject property, trembling aspen, white birch and occasional spruce/balsam. The shrub understory was dense in most locations. Figure 3: (right) Representative B088Tt ecosite east site of the property; similar hardwood species composition, but conifers notably absent.


Figure 4: (left) Representative shrub layer B088 ecosite. Figure 5: (right) Highbush cranberry, common on B088 ecosite.


Figure 6: (left) Clayey-loam mineral soils at surface. Figure 7: (right) 'Ribbon test' from auger soil core, confirms clay-dominated soils in the B088 ecosite.

B096S Fresh, Silty to Fine Loamy: Shrub

The B096S ecosite is limited to the extreme southeast corner of the subject property and the information area further to the east. It is a mix of tall and short shrubs and trees including willows, trembling aspen, white birch, balsam poplar (*Populus balsamifera*), wild rose (*Rosa acicularis*) and occasional white spruce.

Herbaceous vegetation includes grasses (*Poa sp*), dwarf raspberry (*Rubus pubescens*), cow vetch (*Vicia cracca*), goldenrod, fragrant bedstraw (*Galium triflorum*), buttercup (*Ranunculus acris*), and wild strawberry (*Fragaria vesca*).

Figure 8: (left) Representative shrub field ecosite, southeast corner and adjacent area of subject property. Figure 9: (right) Representative shrub community in B096S ecosite.

Figure 10 (left): Single white spruce shrub growing in open grasses/herbaceous vegetation in B096S ecosite. Figure 11 (right): Representative herbaceous vegetation in B096S ecosite.

B199X Mineral Compact Surface

The existing disturbed and developed areas to the east of the subject property are collectively described as B199X, an anthropogenic ecosite. The Town's Public Works yard is located here as well as seen in Figure 12 below.

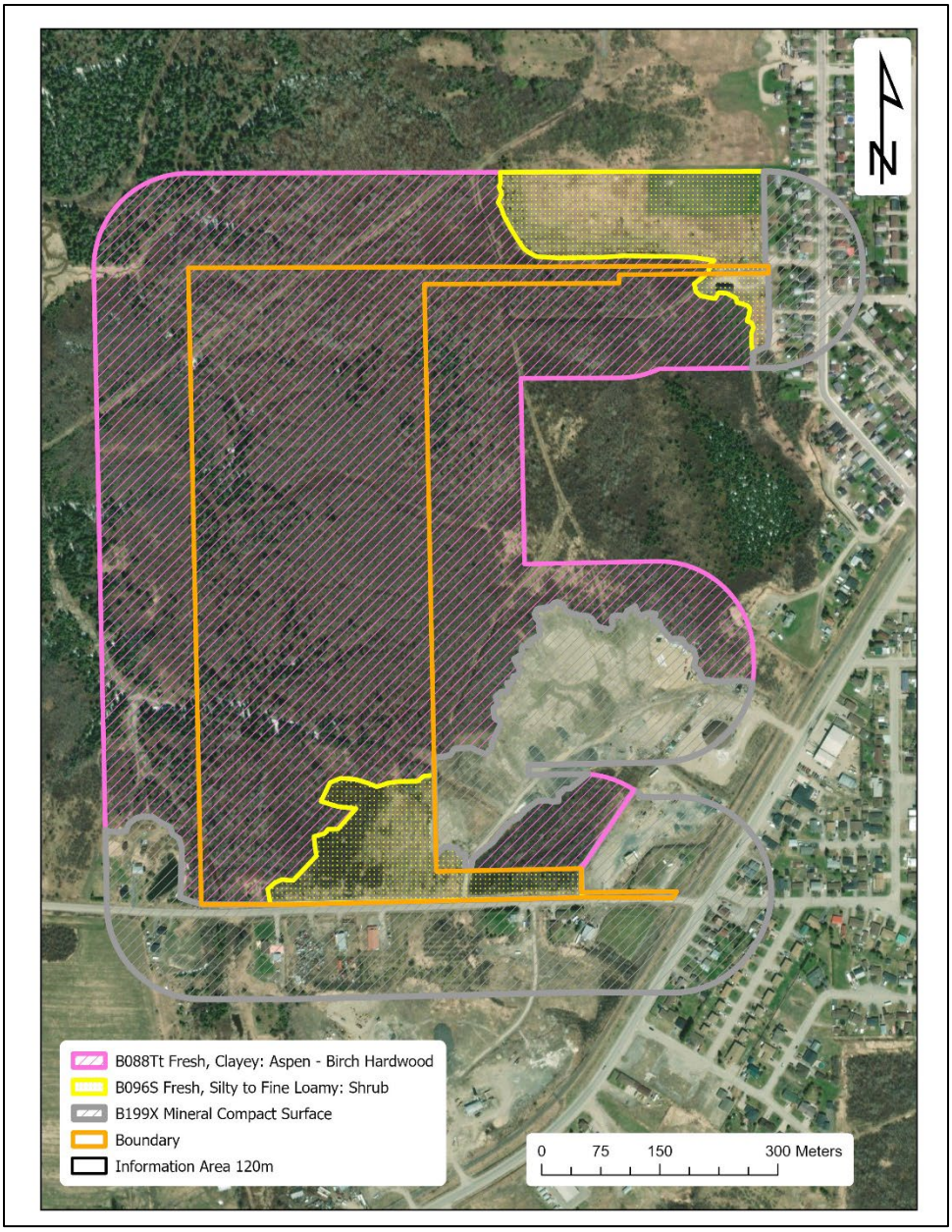

Figure 12: Ecosites on and adjacent (120m) the subject property.

Habitat of Endangered and Threatened Species

The habitat of species at risk, specifically those listed as 'endangered' or 'threatened' on Ontario's Species at Risk list, are afforded both species and habitat protection under the *Endangered Species Act (2007).* The protection of individuals of a species prohibits harming, harassing and killing while the habitat protection provisions generally provide protection for habitat features and general habitat; and for some species, geography-specific provisions e.g., habitat regulation.

The list of species at risk initially considered for this impact study was obtained from the Natural Heritage Information Centre's database. Additionally, publicly available databases including iNaturalist and eBird were referenced.

Species initially considered:

- American White Pelican (*Pelecanus erythrorhynchos*) – recent observations (confirmed) in the Town, Abitibi River; suitable waterbodies/watercourses absent from subject property.
- Bank Swallow (*Riparia riparia*) – recent confirmed observations in and around the Town. Steep slopes associated with beaver pond and watercourse, possibly offer suitable breeding.
- Bobolink (*Dolichonyx oryzivorus*) – confirmed observations in agricultural fields to the immediate west and south of the subject property. Suitable field habitat is not present on or immediately adjacent the subject property.
- Black Ash (*Fraxinus nigra*) – generally confirmed in suitable habitat in the entire area, possibly present.
- Eastern whip-poor-will (*Antrostomus vociferus*) – confirmed to the south of the subject property; and at a single location in Town. The subject property lacks the semi-open habitat preferred for breeding by the species.
- Little brown myotis – species range overlaps subject property, suitable habitat present
- Northern myotis – species range overlaps subject property, suitable habitat present

Species considered following ecosite determination, species whose range overlaps the subject property and where suitable habitat is present.

- Bank swallow
- Black Ash
- Little brown myotis
- Northern myotis

Bank Swallow (*Riparia riparia)*

As their Latin name suggests, Bank Swallows are most often found in riparian areas, specifically nesting along the steep, sandy banks of rivers. Less often, they use steep sandy slopes in aggregate pits/quarries and cut banks along roadways. They nest colonially, with males excavating a burrow prior to pair formation. Once pairs are formed, nest-building begins immediately in the excavated burrow.[14]

They are an aerial insectivore, eating a variety of insects on the wing; though sometimes they take land and water-based insects when they are available.[15] They forage in open areas, including lakes, ponds, rivers, meadows, fields, pastures, and bogs; occasionally over forests and woodlands.

[14] Garrison, Barrett A. 1999. Bank Swallow (Riparia riparia), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/414

[15] http://www.ontario.ca/page/bank-swallow

During the breeding season, adults are usually within 200 metres of their young for feeding purposes.

Potential for Bank Swallow

Suitable habitat for Bank Swallows is potentially present along the western boundary of the subject property associated with the permanent watercourse. No evidence of burrows was observed during field investigations; however, the suitable habitat is wholly within the adjacent area and therefore direct observations (other private land) were not possible.

Impact Assessment Bank Swallow

As noted above, all the potentially suitable bank habitat for Bank Swallows is located outside of the proposed development area. There are recommended minimum setbacks on the watercourse and wetland area, along with municipal side-yard setbacks which serve to protect potential nesting sites for bank swallows. If the lot development respects these setbacks, the watercourse banks will be protected. There are no anticipated negative impacts or residual impacts to Bank Swallows or their habitat.

Black Ash (*Fraxinus nigra*)

Black ash is a medium-sized, shade intolerant tree species that was recently listed (January 2022) as endangered on Ontario's species at risk list. Ash trees are common in Northern Ontario, in fact, they are typically present in wetlands including hardwood swamps and along marsh habitats. The Emerald Ash Borer is an invasive species responsible for the species decline and subsequent listing of black ash.

Given its extensive range, particularly in Central and Northern Ontario the government has suspended protections for black ash for two years while it formulates a plan to protect and recover the species. Because protections are suspended, proponents will not need to consider whether an authorization is needed for activities that impact black ash and its habitat until after January 25, 2024.[16]

A draft habitat regulation for Black Ash was posted for public comment on the Environmental Registry of Ontario in September 2023. The draft regulation proposes how species protections will be implemented and includes the possibility of extending the pause in protections until January 2025.

The proposed regulation limits species protection (Section 9 of the ESA) to healthy black ash in specific geographic areas of the province. A map showing the geographic scope of the regulatory approach for black ash in Ontario does not include the Town. Therefore, the proposed species protections do not apply to black ash.

[16] https://www.ontario.ca/page/black-ash-0

The habitat protection provisions for black ash are directly related to the species protection – if an individual tree is considered 'protected' following the criteria above, then a 30 metre radius around it is considered the 'protected habitat' for the purpose of the ESA. The species protection provisions do not apply, therefore, there is no protected habitat on or nearby the subject property.

Any black ash outside of the identified setbacks can be removed provided that the *Migratory Birds Convention Act* (1994), the *Fisheries Act (1985)* and the *Endangered Species Act* (2007) are adhered to. To respect these Acts and their regulations; tree clearing, and vegetation removal should occur between the dates of October 1st through March 31st to protect migratory birds and bats.

Potential for Black Ash

Black ash were not confirmed on site during field investigations, however, it is possible they are present in the valleys and near the wetted corridors, watercourse and beaver pond. The subject property is within the known range of the species, and it is expected to grow where habitat conditions are suitable.

Impact Assessment Black Ash

Sections 9 and 10 of the *Endangered Species Act* do not apply to black ash and their habitat as the subject property is outside of the proposed geographic scope of the protection provisions. There are no negative impacts or residual impacts anticipated to black ash.

Any black ash outside of the identified setbacks can be removed provided that the *Migratory Birds Convention Act* (1994), the *Fisheries Act (1985)* and the *Endangered Species Act* (2007) are adhered to. To respect these Acts and their regulations; tree clearing, and vegetation removal should occur between the dates of October 1st through March 31st to protect migratory birds and bats.

Little Brown Myotis (*Myotis lucifugus*) & Northern Myotis (*Myotis septentrionalis*)

The little brown myotis (*Myotis lucifugus*) and the Northern myotis (*Myotis septentrionalis*) were 'emergency' listed on Ontario's Species at Risk list in January 2013. A disease called White Nose Syndrome poses a very serious threat to bat populations in North America, threatening to extirpate the species in many locations.

During the active season, bats feed on insects at night and roost during the day. They roost either individually (males) or in groups (females with pups), usually in warm, elevated spaces. Bats often choose human-created roosts such as attics and abandoned buildings as these offer optimum habitat for summer roosts, usually close to water and open areas for foraging. Natural roosts include large hollow trees and spaces behind loose bark. Both species hibernate in caves and

abandoned mines in October through April where temperatures remain above freezing and humidity levels are high.[17] [18]

Little brown myotis use caves, quarries, tunnels, hollow trees or buildings for roosting. Maternity colonies are most often found in warm dark areas, like barns, attics and old buildings. They overwinter in caves and mine adits (horizontal mine shafts) in Ontario. This species forages over open areas including wetlands and near forest edges where insect densities are greater.[19]

Northern myotis roost in hollow trees or under loose bark. Males roost individually while females are found in maternity colonies of up to 60 adults. They overwinter in mines and caves like other species which hibernate in Ontario. Unlike little brown myotis, Northern myotis hunt primarily in forested areas, below the canopy.[20]

Potential for Roost Habitat – Little Brown & Northern Myotis

The most recent guidance from the Ministry of Environment, Conservation and Parks[21] states that maternity colonies for little brown and Northern myotis are found in large cavity trees in an early state of decay. These are usually situated in contiguous mature forest, typically deciduous trees; ecosites B016 - B019, B028, B040-B043, B055-B059, B070-B076, B088-B092, B103- B108, and B118-B125 are listed as suitable forested ecosites.[22] The B088Tt terrestrial ecosite is listed as being potentially suitable bat roosting habitat for both species at risk bats.

Potential for Hibernacula – Little Brown & Northern Myotis

For both little brown and Northern myotis, the draft SWH Ecoregion 5E Criterion Schedule[23] lists B158, B159, B164, B165, B174, B175, B180, and B181 as ecosites where hibernacula may be found. The criterion schedule is specific to significant wildlife habitat – drafted prior to the species being listed as endangered - however the ecosites where the species are expected have not changed. None of the listed ecosites are present on the subject property.

Both bat species will also overwinter in caves and abandoned mines in October through April where temperatures remain above freezing and humidity levels are high.[24] [25] A search of the Ministry of Energy, Northern Development, and Mines (ENDM) Abandoned Mine Information

[17] Dobbyn, S. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists. 120 pp.
[18] Ontario Ministry of Natural Resources. 2000. Significant Wildlife Habitat Technical Guide. Toronto: Queen's Printer for Ontario. 151pp.
[19] Forbes, G. 2012. COSEWIC. Technical Summary and Supporting Information for an Emergency Assessment of the Little Brown Myotis, *Myotis lucifugus*. 25pp.
[20] Technical Note Species at Risk (SAR) Bats. June 2015. Ontario Ministry of Natural Resources. 37pp.
[21] Ibid.
[22] Ontario Ministry of Natural Resources. 2012. Draft Significant Wildlife Habitat Ecoregion 5E Criterion Schedule. 46 pp.
[23] SWH Ecoregion 5E Criterion Schedule. February 2012. Ontario Ministry of Natural Resources. 46pp.
[24] Dobbyn, S. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists. 120 pp.
[25] Ontario Ministry of Natural Resources. 2000. Significant Wildlife Habitat Technical Guide. Toronto: Queen's Printer for Ontario. 151pp.

System) AMIS confirms the absence of abandoned mines or active mine infrastructure on or near the subject property. The nearest suitable mine infrastructure site – 6 m adit - according to AMIS is located approximately 24 km away from the subject permit location.

Impact Assessment Little Brown & Northern Myotis

For both species, suitable general roost habitat is present on the subject property (trees); the presence of maternity roosts is unlikely given the young, even-aged forest condition of the candidate B088 ecosite. However, there are occasional larger trees with loose or peeling bark and suitable cavities. These are suitable roosts.

In the absence of field investigations which confirm presence or absence and relative numbers of the species, this report and assessment assumes the presence of individual roosting bats, and the possible presence of maternity roosts. The MECP guidance supports this approach of assuming presence without the requirement for surveys.[26]

Assuming species and habitat are present, MECP guidance provides two options for project proponents. The first option is to respect a strict timing restriction on all activities that could impact tree roosting bats. This guidance from MECP[27] notes the Northern Ontario active bat maternity roosting season is from May 1st through August 31st. To avoid impacts to roosting bats and their habitat, no tree clearing, vegetation removal or any other activity that may negatively affect bats is permitted from May 1st through August 31st. Conversely, tree clearing, vegetation removal and any other activity that may impact bats is permitted from September 1st through April 30th. If the timing restriction for all activities that may impact bats, including tree and vegetation clearing are respected, no impacts to little brown or northern myotis are anticipated. Similarly, if the timing restrictions are respected, there are no anticipated residual impacts to individual bats or their habitat.

The second option assumes presence where project proponents cannot respect the timing restrictions on site clearing and other activities that may impact bats. If the timing restrictions cannot be followed, project proponents are advised to seek an authorization under the *Endangered Species Act*. The MECP is responsible for reviewing projects and confirming if an authorization is required. This report recommends the future lot owners/project proponents contact MECP for guidance if the timing restrictions on activities during the bat active season cannot be respected.

[26] MECP. 2022 Treed Habitats – Maternity Roost Surveys. Received by email February 24, 2023. SAR Ontario to H. Wolfram February 24, 2023
[27] Ibid.

Significant Wetlands and Other Wetlands

Significant Wetlands

There are no evaluated provincially significant wetlands on or adjacent to the property.

Other Wetlands

The wetland layer from Land Information Ontario (LIO) includes wetland areas overlapping the subject property and adjacent information area. However, recent aerial imagery supported by in-person field investigations confirm the absence of the LIO wetland units.

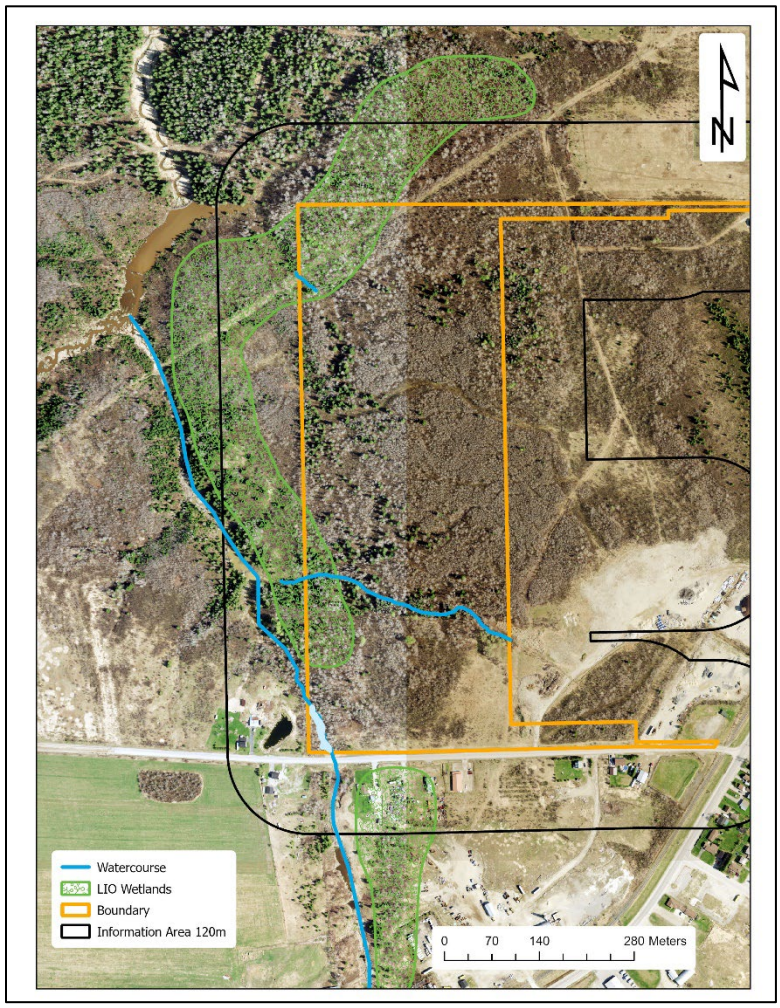

Figure 13: Overview of LIO wetland layer and overlap of apparent 'wetlands' with subject property and adjacent area.

The wetland unit shown running approximately north south, appears to misrepresent the watercourse which is slightly to the west. The area overlapped by this wetland polygon is terrestrial in nature and forested. It is not wetland; see Figure 14 which shows a larger scale version of this area overlapping the subject property.

Similarly the wetland unit, an apparent 'bog', from LIO south of Oil Tank Road is not present. There is a small stream which flows through a culvert under the road to the subject property. The area overlapped by LIO wetland, is in fact a residence and storage area (Figure 15). There was no wetland observed during in person field investigations.

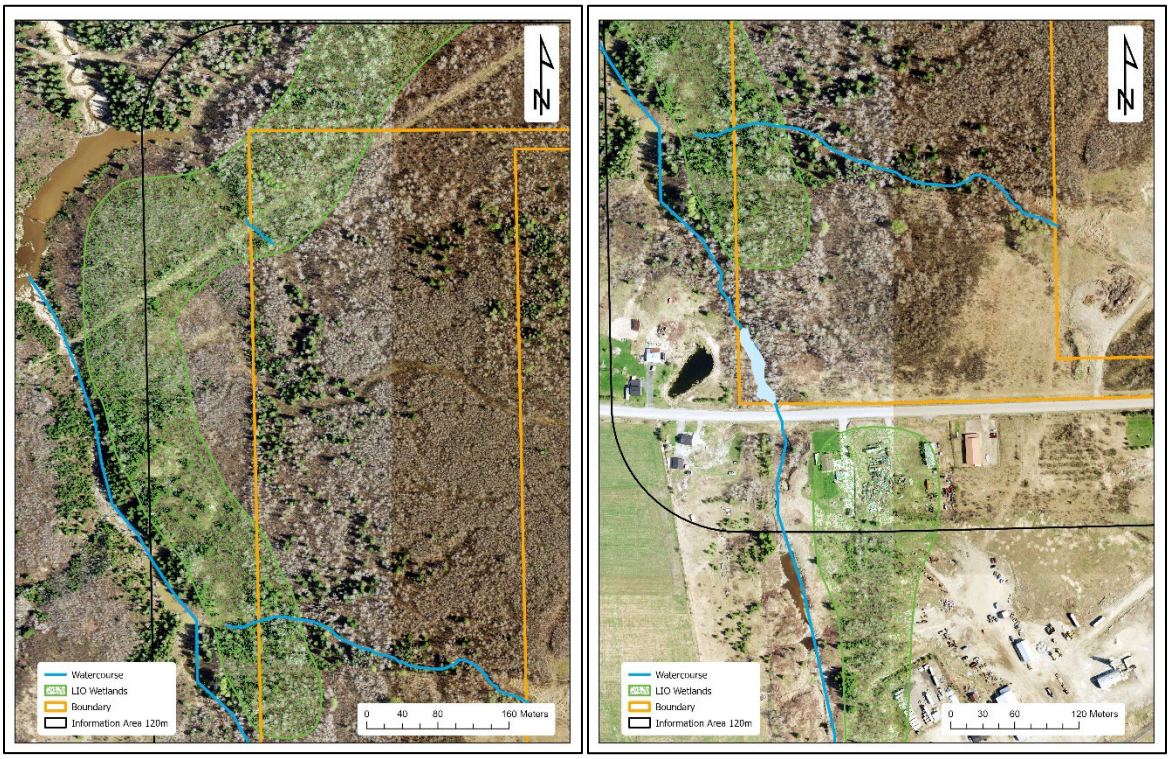

Figure 14 (left): LIO wetland overlapping the subject property; note that the shape mirrors the watercourse to the west, likely the intended location of the polygon. The LIO shape as shown, does not overlap any wetlands; the areas were confirmed forested, B088Tt during in person field investigations.

Figure 15 (right): LIO wetland to the south of the subject property in the information area. Note the absence of wetland 'under' the polygon; likely intended to reflect the watercourse and associated riparian wetland area to the immediate west.

Field biologists confirmed the presence of a small wetland pond area, in-stream with the unnamed watercourse that runs from the southwest, through the extreme southwesterly corner of the property and northerly. The pond is a direct result of active beavers. There is a dam and associated high water levels resulting in a small pond. Fish were captured in the pond; this is addressed in detail in the relevant section.

The larger watercourse has areas of associated wetland as it experiences beaver activity over time. There is evidence of older, unmaintained dams, as well as new dams and beavers presently maintaining and living there.

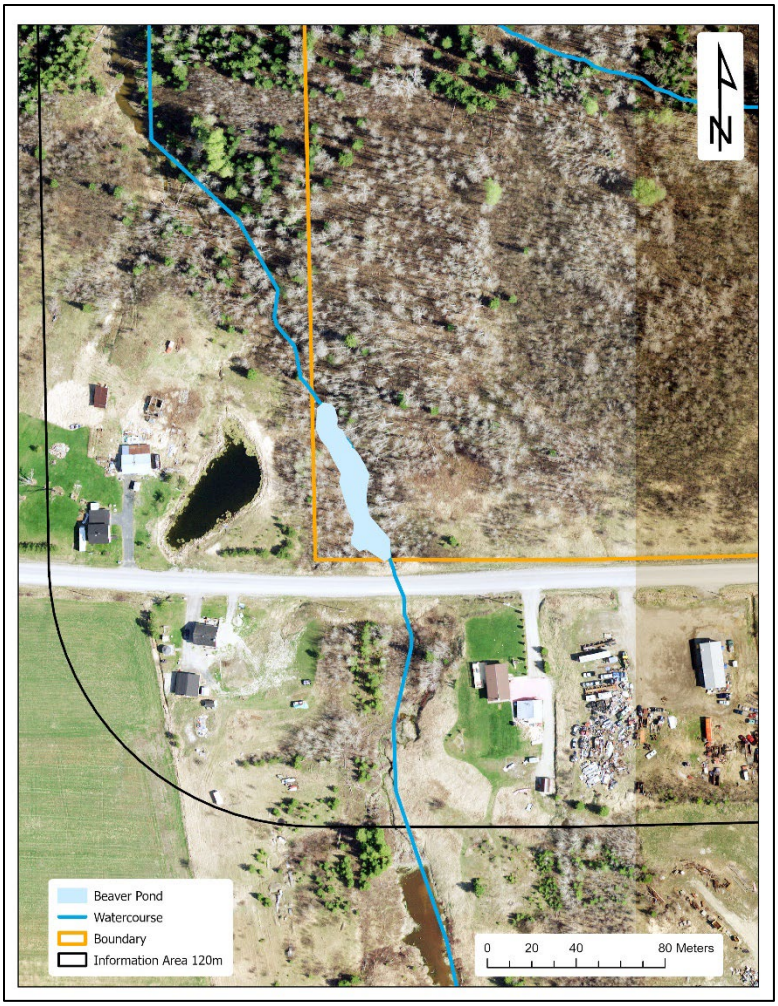

Figure 16: A beaver pond and watercourse which originates south of the subject property, flowing northerly through the southwest corner, following which it eventually outlets in a larger unnamed watercourse to the north and ultimately in the Abitibi River.

Figure 17 (left): Beaver pond looking north toward the dam. Figure 18 (right): Beaver pond looking south toward Oil Tank Road.

Figure 19 (left): Beaver pond at upstream end; note culvert (perched) under Oil Tank Road, centre of the photo, flowing water through the culvert at the time of field investigations. Figure 20 (right): View of the beaver pond, looking upstream; note the steep 'sides' which are still vegetated and treed, and in-stream trees suggesting this beaver pond is a relatively recent creation.

As noted, the beaver pond wetland is confirmed direct fish habitat. This will be discussed and addressed in the Fish Habitat section below. As a new 'wetland' area, the beaver pond offers habitat for beavers, fish and other wildlife. A minimum 30 metre setback, consistent with the Natural Heritage Reference Manual is recommended for this feature. The setback should be measured from the top of bank as it is anticipated water levels could rise to at least the same height as the inlet culvert.

In discussions with the Town's staff in November 2023, they indicated that a 70 metre setback will be applied to the west boundary of the property for approximately 170 metres and a 30 metre setback will be applied to the south boundary of the property. Figure 21 shows these setbacks as well as the recommended 30 metre setback on the beaver pond. Based on the discussions, it is FRi's understanding that the property boundary setbacks are related to adjacent residential land use; however, they will also serve to protect the identified natural heritage features.

If the 30 and 70 metre setbacks as shown in Figure 21 are implemented and respected, there are no anticipated impacts to the beaver pond wetland, watercourse or the natural heritage values they provide.

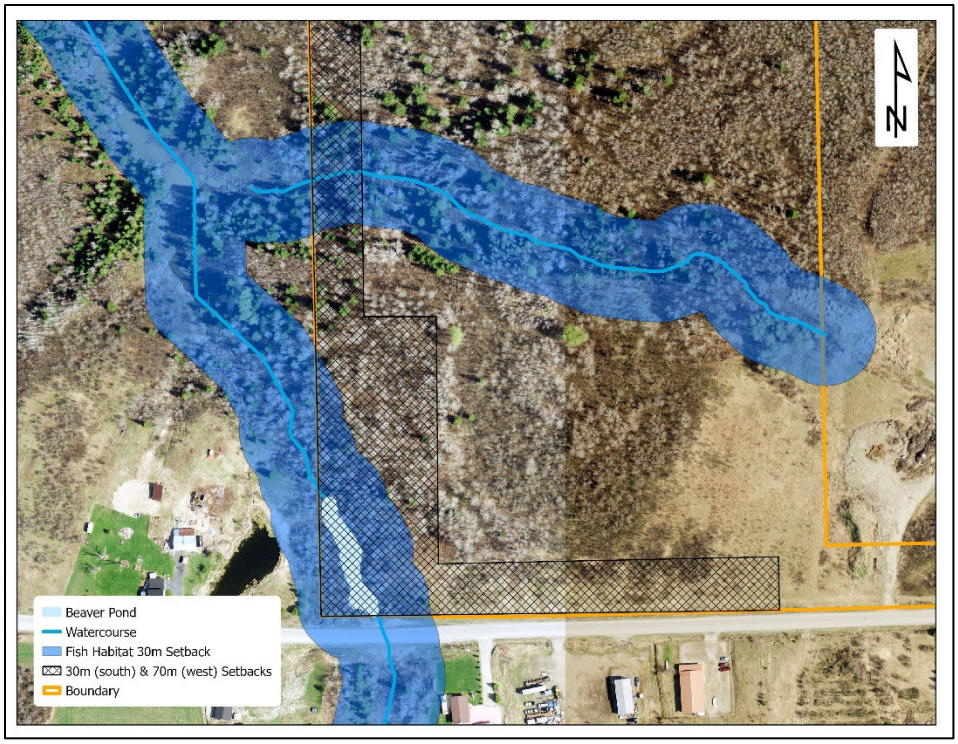

Figure 21: Beaver pond and watercourse with recommended 30m setback; the 70m (west) and 30m (south) setbacks overlap and exceed the recommended setback (blue).

Construction activities have the potential to indirectly impact natural heritage values, e.g., exposed soils combined with a heavy precipitation event could result in erosion and sedimentation. To minimize or eliminate the risk of these indirect and residual impacts, this report recommends implementing both temporary and permanent measures including standard erosion and sediment controls around active construction activities, clear delineation of the boundary setbacks and safe handling and storage of equipment, fuel and associated materials. These are detailed in the summary section and table.

Significant Wildlife Habitat

There are four broad categories of significant wildlife habitat that were considered during field investigations, assessment, and reporting. They include:

- Seasonal concentration areas,
- Rare vegetation communities or specialized habitat for wildlife.
- Habitats for species of conservation concern (i.e. species of special concern), (excluding the habitats of endangered and threatened species), and
- Animal movement corridors

The Significant Wildlife Habitat Criteria Schedule (SWHCS) for Ecoregion 3E[28], the Significant Wildlife Habitat Technical Guide (SWHTG)[29] and the process outlined in the Ministry of Natural Resources Heritage Reference Manual (2010) (NHRM)[30] were referenced. A habitat-based approach to significant wildlife habitat was undertaken. The ecosites on the subject property were cross-referenced to possible significant wildlife habitats and an assessment for the presence or potential for each is provided below.

Potential for Significant Wildlife Habitat

Several potentially significant habitats were identified following the classification of the ecosites and cross-referencing the list of known species ranges that overlap the study area. According to the SWH Ecoregion 3E Criterion Schedule, there are approximately forty-five different types of significant wildlife habitat for initial consideration; only those that were present or had the potential to be present based on the ecosite assessment are described further.

Seasonal Concentration Areas

Seasonal concentration areas are defined by the SWHTG are relatively small areas where species of wildlife are concentrated at certain times of the year. For example, in the spring and fall, migratory species of birds and butterflies concentrate at stopover areas where they can rest and feed. Winter deer yards, reptile hibernacula, and heronries are other examples of seasonal concentration areas that may be present at a relatively undisturbed site.

Bat Maternity Colonies - B088

The possible presence of bat maternity roosts was assessed and described in the 'Little Brown Myotis & Northern Myotis' section of this report. This report assumes the presence of roosts since the B088Tt ecosite represents candidate roost habitat.

As noted for the species at risk bats, maternity roosts are found in tree cavities and sometimes in older buildings. The subject property is undeveloped, there are no buildings which could support roosts. The forest stand is young and does not reflect the seral stage (>80years) which supports suitable, large diameter roost trees.

Regardless, in the absence of surveys to confirm species presence or absence, this report assumes presence and recommends the following:

- Implement a timing restriction on all activities that could impact tree roosting bats. The Northern Ontario active bat maternity roosting season is from May 1st through August 31st.

[28] Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E. January 2015. Ontario Ministry of Natural Resources and Forestry. Regional Operations Division. 48 pp.
[29] Significant Wildlife Habitat Technical Guide. 2000. Ontario Ministry of Natural Resources. 396pp.
[30] Ontario Ministry of Natural Resources. March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second edition. Toronto: Queen's Printer for Ontario. 248pp.

- To avoid impacts to roosting bats and their habitat, no tree clearing, vegetation removal or any other activity that may negatively affect bats is permitted from May 1st through August 31st.
- Conversely, tree clearing, vegetation removal and any other activity that may impact bats is permitted from September 1st through April 30th.

If the timing restriction for all activities that may impact bats, including tree and vegetation clearing are respected, no impacts to little brown or northern myotis are anticipated.

Colonially Nesting Bird Breeding Habitat (Tree/Shrubs) – B088

The B088 tall-treed ecosite represents potentially suitable nesting habitat for colonially nesting birds like Great Blue Herons, Bonaparte's Gull and Double Crested Cormorants. Nesting habitats are selected based on close proximity to a waterbody. Colonially nesting birds will use live or dead standing trees, and the nests are usually near the top of the tree, approximately 11- 15-metres from the ground. Shrubs and emergent vegetation are occasionally used for nesting; sometimes cormorants will nest on the ground on islands or where trees have fallen.[31] When present, these large stick nest colonies are visible. No nests were observed during the field investigations, nor were any of the listed species recorded as observations in the 1km square that overlaps the property.

Potentially suitable nesting habitat seems absent based on the requirement for proximity to a waterbody. No impacts to colonially nesting bird breeding habitat are anticipated.

Rare Vegetation Communities and Specialized Habitat for Wildlife

Rare vegetation communities and specialized habitats for wildlife are defined by SWHTG as areas that contain a provincially rare vegetation community and areas that support wildlife species that have highly specific habitat requirements or habitat that enhances a species' survival respectively.

Rare Treed Type – Yellow Birch - B088

Ecoregion 3E represents the extreme northern limit for many tree species including yellow birch. When present, yellow birch stands could represent significant wildlife habitat. This rare, treed type is generally found on warmer than normal sites with a higher nutrient regime. To achieve significance, the stand must have a hardwood canopy consisting of mostly yellow birch; specifically, >10% absolute cover or >35% relative cover of yellow birch.

The ecosites were assessed along with a comprehensive vegetation list for the subject property. Yellow birch were not identified on or near the site. The 'rare treed type – yellow birch' is not present on the property.

[31] Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E. January 2015. Ontario Ministry of Natural Resources and Forestry. Regional Operations Division. 48 pp.

Habitat for Species of Conservation Concern

Habitat for species of conservation concern includes four (4) possible sub-categories which include: Marsh Bird Breeding Habitat, Open Country Bird Breeding Habitat, Shrub/Early Successional Bird Breeding Habitat, and Special Concern and Rare Wildlife Species.

Two of the four (4) categories were potentially represented within the subject property – Shrub/Early Successional Bird Breeding Habitat and Special Concern and Rare Wildlife Species.

Shrub/Early Successional Bird Breeding Habitat – B096S

The B096S shrub ecosite represents potential breeding habitat for sparrows, Ruffed Grouse and Eastern Kingbird. Significant sites are described in the SWHCS as 'large natural field areas succeeding to shrub and thicket habitats, >30 ha in size'. To assess for significance, spring and summer field surveys will be required.

The B096 ecosite offers suitable breeding habitat but does not meet size listed. Surveys were not conducted at the appropriate time of year to assess for breeding birds; rather this report assumes the shrub ecosite is used by breeding birds and appropriate mitigation to avoid impacts to birds and their habitat are recommended.

The *Migratory Birds Convention Act (1994)* prohibits harm to nests and eggs of migratory birds. To comply with the MBCA, this report recommends following Environment and Climate Change Canada's (ECCC) safe dates for avoiding impacts in Zone C5.[32] They are late April through late August. This report recommends avoiding activities like tree and vegetation clearing, grubbing and other initial site preparation activities from April 15th through August 31st to avoid impacts to migratory birds.

Special Concern and Rare Wildlife Species

Special concern species whose presence along with confirmed candidate habitat based on ecosite assessment are considered below. The following species were considered possibly present following in-person field investigations or were present within NHIC's database or another relevant database.

- Bald Eagle – associated with water, large stick nests in large 'super-canopy' trees. Suitable habitat is absent on and adjacent the subject property.
- Barn Swallow – Sightings are likely related to the nearby sand dome and farming infrastructure such as barns. Suitable habitat is present nearby, but not on or within 120m of the property.

[32]https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#_zoneC_calendar

- Common Nighthawk – Similar to whip-poor-wills, the property lacks the open and semi-open forest habitat preferred by nighthawks. Suitable habitat generally absent.
- Evening Grosbeak (*Coccothraustes vespertinus*) – Generally confirmed in the area (eBird), however, they usually breed in mature and second growth coniferous forests; this habitat is absent on the subject property.
- Olive-Sided Flycatcher (*Contopus cooperi*) – generally confirmed in the area (eBird), suitable breeding habitat is coniferous forests with forest edges, this is largely absent on the subject property.
- Canada Warbler (*Cardella canadensis*) – confirmed in adjacent OBBA squares; possibly present in shrubby and riparian areas.
- Snapping turtle – generally in the area, although very uncommon. Limited suitable aquatic habitat; no further consideration required.
- Yellow-banded bumblebee – confirmed in adjacent 1km squares.

Special concern species considered in this report are those whose range overlaps the subject property or records are confirmed and where suitable habitat is present.

Canada Warbler

Canada Warbler's are most often found in cool, wet, low-lying areas; including swamps, sphagnum bogs and moist forest edges and openings. They are often associated with sites that have a dense understory near open water, vegetation associations including alder and willow.

Female Canada Warblers build a loosely constructed cup-shaped nest on or near the ground in early May. The nest is well-concealed, often in thickets or areas with dense ferns. These are typically wet, mossy areas within forest among ferns, stumps, and fallen logs. Nests have been documented in a variety of micro-habitats including within a recessed hole of upturned tree root mass, rotting tree stump or sphagnum moss hummock. They are less often reported within clump of grass, at base of tree stump, tucked under overhanging bank, beside fallen log, in rock cavity, at base of sedge tussock, under leaf on forest floor, at base of moss-covered logs/rocks, or in brush pile. Eggs are laid at the end of May, fledglings leave the nest and are ready to migrate by the end of July, early August. Migration peaks at the end of August, beginning of September.[33] [34] [35]

Potential for Canada Warbler

Canda warblers are confirmed in the adjacent 1km square by recent observations in iNaturalist and eBird. There were no observations of Canada Warblers during the in-person field

[33] COSEWIC. 2008. COSEWIC assessment and status report on the Canada Warbler Wilsonia Canadensis in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp. (www.sararegistry.gc.ca/status/status_e.cfm).

[34] Reitsma, Len, Marissa Goodnow, Michael T. Hallworth and Courtney J. Conway. 2010. Canada Warbler (Cardellina canadensis), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/421

[35] http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/MNR_SAR_CND_WRBLR_EN.html

investigations, however it is likely most migratory species were already enroute to their overwintering habitats.

Impact Assessment – Canada Warbler

As a migratory bird, they receive protection under the federal *Migratory Birds Convention Act.* This Act prohibits the taking of or destroying the nests and eggs of all migratory birds. To avoid impacts to all migratory birds and to comply with the MBCA, this report recommends following Environment and Climate Change Canada's (ECCC) safe dates for avoiding impacts in Zone C5.[36]

The date range for migratory breeding bird activity in Zone C5 is late April through late August. This report recommends avoiding activities like tree and vegetation clearing, grubbing and other initial site preparation activities from April 15th through August 31st to avoid impacts to Canada Warblers.

Olive-sided Flycatcher

In the Ontario portion of its range, the Olive-sided Flycatcher breeds in the boreal forest, specifically riparian zones, bogs, cutovers and areas of recent fire. Olive-sided Flycatchers are a late migrant, arriving in Ontario from mid-May through mid-June. This late migration often results in migrating individuals incorrectly being identified as breeders.

Olive-sided flycatchers are aerial insectivores, foraging above or near the top of the adjacent forest canopy. They use a technique known as 'sallying' to capture flying insects including bees, wasps, flying ants and less frequently moths from a perch. Coniferous trees, tall snags and semi-open areas for foraging are important features in a breeding territory.

Males and females build open-cup nests usually in a conifer tree; approximately 1 metre away from the trunk of the tree and between 3 and 15 metres off the ground although there is some variability in nest heights. Typical clutch includes 3 – 4 eggs which incubate for approximately two weeks. Hatchlings are fed at the nest for another two weeks.[37]

Potential for Olive-sided Flycatcher

Olive-sided Flycatcher are confirmed present as a 'possible breeder' in the OBBA square that overlaps the subject property. There is also a photographic record from 2021 within 20km of the site. They are confirmed present in survey squares all around the property (north, south, east and west). They were not observed during field investigations, but if present, likely had already began a migration south at that time. There are a limited mature conifer trees on the subject property which seem to provide the preferred nesting and perching habitat for Olive-sided Flycatchers.

[36]https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#_zoneC_calendar

[37] Altman, Bob and Rex Sallabanks. 2012. Olive-sided Flycatcher (Contopus cooperi), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/502

Figure 22 (below) shows the conifer on the property, seen as dark green in the leaf-off ortho-imagery.

Impact Assessment – Olive-sided Flycatcher

Most of the conifer trees are within the recommended 30 metre setback on the watercourse and the 70 & 30 metre setback on the western property boundary which ensures they will be protected for the long term and available for nesting flycatchers (Figure 22). To further protect Olive-sided Flycatchers the recommended timing window for clearing is consistent with the 'safe dates' provided by Environment and Climate Change Canada. These dates cover forested, wetland and open habitats and represent the earliest (April 15) and latest (August 31) dates for species presence and breeding activities.

This report recommends avoiding activities like tree and vegetation clearing, grubbing and other initial site preparation activities from April 15th through August 31st to avoid impacts to Olive-sided Flycatchers.

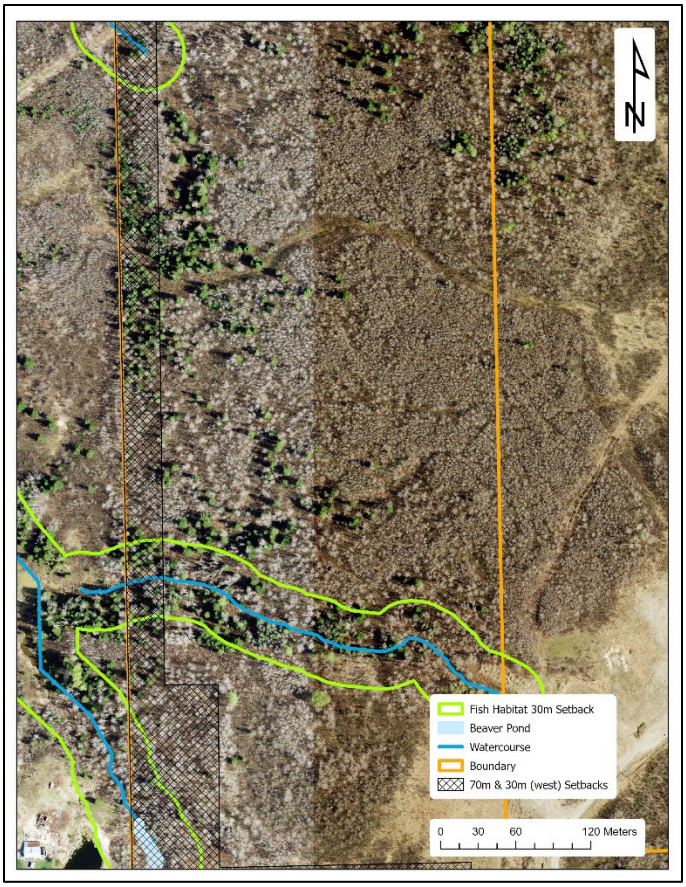

Figure 22: Note the dark green tree tops visible in the ortho-imagery represent mostly mature white spruce and the occasional balsam fir. These trees offer potentially suitable nesting and perching habitat for Olive-sided flycatcher. Many are within the 30 m watercourse setback and the 70 m & 30m west boundary setback and will be protected from development activities.

Yellow-banded Bumblebee

Yellow-banded bumblebee are found in a wide variety of open habitats including meadows within coniferous, deciduous, and mixed wood ecosystems; prairie grasslands, riparian zones, urban parks, gardens, and along roadsides[38]. Due to the generalist nature of the yellow-banded bumble bee's habitat requirements, both the subject property, as well as the adjacent property to the south, have the potential to accommodate this species.

There are several threats to the yellow-banded bumblebee including pathogens and parasites, pesticide use, climate change, and habitat fragmentation. According to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), although habitat loss from both residential and commercial development may contribute to local declines of this species, it is not a major threat throughout most of this species' range.

Potential for Yellow-banded Bumblebee

This report assumes that yellow-banded bumblebees are present based on the suitability of the habitat and nearby (within 1km) confirmed occurrences.

Impact Assessment – Yellow Banded Bumblebee

The 70 and 30 metre boundary setbacks on the west and south sides of the property will preserve considerable natural habitat and will allow yellow-banded bumblebees to continue feeding, nesting, and breeding in the area. Trees provide most of the nectar consumed by yellow-banded bumblebees. The roots of trees and wood cavities also provide spaces used by rodents for nesting, which are, in turn, used for nesting by the bees.

This report recommends from May 1st through August 31st, no tree clearing, vegetation removal or any other activity that may negatively affect bees or their active season habitat. Conversely, tree clearing, vegetation removal and any other activity that may impact bees is permitted from September 1st through April 30th.

By timing vegetation clearing and construction-related activities outside of the active season for bees, impacts to bee populations and their habitat can be avoided.[39]

Areas of Natural & Scientific Interest

There are no areas of natural and scientific interest within or adjacent to the subject property. No impacts are anticipated.

[38] Committee on the Status of Species at Risk in Ontario. January 2016. Ontario Species at Risk Evaluation Report for Yellow-banded Bumble Bee (Bombus terricola).
[39] Environment and Climate Change Canada. 2022. Management Plan for the 3 Yellow-banded Bumble Bee (Bombus terricola) in Canada [Proposed]. Species at Risk 4 Act Management Plan Series. Environment and Climate Change Canada, Ottawa. 5 iv + 46 pp.

Fish Habitat

Permanent Watercourse

There are two permanent watercourses on the subject property. The first is an unnamed stream that flows from south of Oil Tank Road, northerly, where it eventually connects to the Abitibi River downstream of the Town. The second is a smaller channel, set in a deep valley which crosses the property from east to west. It originates in a channelized area in the Public Works Yard to the east of the subject property.

Watercourse 1

This watercourse is conveyed under Oil Tank Road through a corrugated steel pipe culvert. The culvert is perched at the downstream end, where it outlets into a newly formed beaver pond. The beaver pond is home to active beavers who were observed swimming, dam building and cutting trees. At the time of field investigations, the pond was long, deep and narrow. It is in a natural valley with steep banks. The banks are vegetated, but it is expected that continued beaver activity will result in higher water levels and progressive removal of vegetation.

This pond is confirmed fish habitat. FRi field staff captured dozens of pearl dace (*Margariscus nachtriebi*) and creek chub (*Semotilus atromaculatus*), and a few Northern redbelly dace (*Chrosomus eos*) in minnow traps (Figures 23 & 24).

Figure 23 (left): Pearl dace captured during fish sampling in unnamed watercourse on subject property. Figure 24 (right): Fishes in minnow trap, captured in unnamed watercourse.

Additional photos of the beaver pond and watercourse are found at Figures 17 to 20 in the Other Wetland section of this report.

Impact Assessment Watercourse 1

Watercourse 1 is confirmed direct fish habitat. As an existing watercourse and new 'wetland' area, the beaver pond offers habitat for beavers, fish and other wildlife. The remainder of the watercourse is outside of the subject property and is not part of the future industrial subdivision.

Consistent with the Natural Heritage Reference Manual to protect fish and fish habitat, a minimum 30 metre setback is recommended for the watercourse and beaver pond. The setback should be measured from the top of bank as it is anticipated water levels could rise to at least the same height as the inlet culvert.

In discussions with the Town's staff in November 2023, they indicated that a 70 metre setback will be applied to the west boundary of the property and a 30 metre setback will be applied to the south boundary of the property. The wetland section of this report shows these setbacks as well as the recommended 30 metre setback on the beaver pond. Based on the discussions, it is FRi's understanding that the property boundary setbacks are related to adjacent residential land use; however, they will also serve to protect the identified natural heritage features including the watercourse and the identified fish habitat.

If the 30 and 70 metre setbacks as shown in Figure 29 below are implemented and respected, there are no anticipated impacts to the beaver pond wetland, watercourse or the natural heritage values they provide.

Watercourse 2

The second permanent watercourse on the property originates in the Public Works Yard to the east, enters a small channel and flows generally west to the larger unnamed watercourse 1. As it flows westerly, the channel becomes slightly narrower, and the banks become steeper. The topography at the outlet end of this channel is quite rugged.

There was a small amount of flow at the time of field investigations and the watercourse channel had sorted substrates and the bottom was absent of vegetation. All of these provide evidence that the watercourse is wetted all or most of the year. The banks are relatively stable as they are vegetated, however the soils are almost pure clay which can slump and erode.

This watercourse did not contain enough water at the time of field investigations to allow for a fish assessment. There is a significant stream gradient and the lack of wetted habitat for fish, likely preclude their presence at most if not all times of the year. Figures 25 through 28 below are representative photographs of the watercourse.


Figure 25 & Figure 26: Watercourse 2; permanent flows at the upstream, easterly sections.


Figure 27 & Figure 28: Watercourse 2, permanent flows and much steeper/deeper banks, westerly section

Impact Assessment Watercourse 2

This watercourse is indirect fish habitat. The watercourse outlets into confirmed fish habitat downstream. Consistent with the Natural Heritage Reference Manual to protect fish and fish habitat, a minimum 30 metre setback is recommended for the watercourse and beaver pond. The

setback should be measured from the top of bank as it is anticipated that development activities will need to maintain a physical setback from the steep slopes of the watercourse banks.
A portion of the watercourse, specifically the section that outlets just beyond the west boundary of the property, will have a 70 metre minimum setback because of the adjacent residential land use (Figure 29). There are no impacts anticipated to the watercourse or its contribution to downstream fish and fish habitat if the recommended setbacks are implemented.

Intermittent Watercourse

Watercourse 3

There is a small channel at the northwest corner of the subject property which is considered an intermittent channel that flows off the property, across the pipeline and to a larger permanent channel. This channel joins the larger unnamed watercourse which connects to the Abitibi River.

Impact Assessment Watercourse 3

This intermittent channel is small, but it contributes seasonal inputs to the larger watercourses downstream. A 30 metre no development setback is recommended for this feature. However, the 70 metre west boundary setback includes this and more property, effectively providing a 50+ metre setback on the intermittent stream. There are no anticipated impacts to fish and fish habitat if the recommended setbacks are implemented.

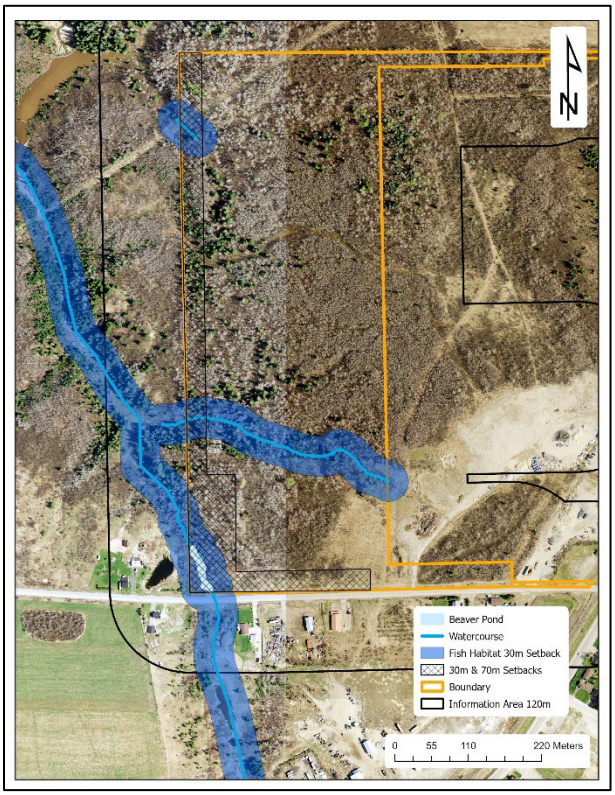

Figure 29: Recommended 30 metre minimum setback in light blue; 30 and 70 metre boundary setbacks shown in black hatching.

Recommendations for all Watercourses

Construction activities have the potential to indirectly impact natural heritage values, e.g., exposed soils combined with a heavy precipitation event could result in erosion and sedimentation. To minimize or eliminate the risk of these indirect and residual impacts, this report recommends implementing both temporary and permanent measures including standard erosion and sediment controls around active construction activities, clear delineation of the boundary setbacks and safe handling and storage of equipment, fuel and associated materials. These are detailed in the summary section and table.

Relevant Provincial & Municipal Policy and Legislation

The Town's Official Plan[40], Appendix A to the OP 'Environmental Impact Study Requirements', the Provincial Policy Statement (2020)[41] and the associated Natural Heritage Reference Manual[42] were referenced to guide field investigations and report recommendations.

Provincial legislation which was considered included the *Endangered Species Act (2007),* the *Fish and Wildlife Conservation Act (1997)* and the *Planning Act (1990),* as well as associated regulations and policies. Federal legislation relevant to this environmental impact study includes the *Fisheries Act (1985)* and the *Migratory Birds Convention Act (1994)* and their respective policies and regulations.

The recommendations, mitigation and suggested approaches in this report considered the regulatory frameworks associated with the municipal, provincial and federal legislation, and are compliant with the same.

[40] Town of Iroquois Falls Official Plan. February 10, 2022. Draft to Public/Ministry. 65pp.

[41] Provincial Policy Statement. 2020. Ministry of Municipal Affairs and Housing.

[42] Natural Heritage Reference Manual for the Natural Heritage Policies of the Provincial Policy Statement, 2005. Ontario Ministry of Natural Resources. 2nd Edition. March 2010. 245pp.

Summary of Natural Heritage Features, Recommendations and Impact Assessment

The following table summarizes the field findings and provides recommendations to move forward with the proposed development while ensuring the intent of the natural heritage policies in the Official Plan are met.

Table 1: Summary of the natural heritage features and values on the subject property along with recommendations to avoid and minimize impacts to the same.

Natural Heritage Category	Natural Heritage Feature	Species/Habitat	Recommendations	Relevant Plans, Policies and Legislation	Impacts Expected?	Authorization Required?
Habitat of Endangered and Threatened Species	General Wildlife Habitat	Black Ash (B088)	Tree & vegetation clearing, and site preparation activities permitted from September 1st through April 30th. Tree & vegetation clearing, and site preparation activities are **not** permitted from May 1st through August 31st.	*Endangered Species Act, Migratory Birds Convention Act, Fisheries Act, Town of Iroquois Falls OP*	None; black ash are not protected by ESA provisions in Iroquois Falls. Ash trees as habitat for wildlife will not be impacted if the recommended timing restriction is respected.	No
	Roost Habitat	Little Brown Myotis, Northern Myotis (B088)	Option 1: Tree & vegetation clearing, and site preparation activities permitted from September 1st through April 30th. Tree & vegetation clearing, and site preparation activities are **not** permitted from May 1st through August 31st	*Endangered Species Act, Town of Iroquois Falls OP*	None.	No
	Roost Habitat	Little Brown Myotis, Northern Myotis (B088)	Option 2: If tree clearing, vegetation removal or any construction activity that could impact bats or their roost habitat must occur between the dates of May 1st and August 31st, seek authorization from MECP.	*Endangered Species Act, Town of Iroquois Falls OP*	Yes, impacts to individual bats and their roosts are likely if activities in bat habitat are conducted during the May 1st through August 31st window.	Yes. Consult with MECP on next steps to authorize proposed activity.

Natural Heritage Category	Natural Heritage Feature	Species/Habitat	Recommendations	Relevant Plans, Policies and Legislation	Impacts Expected?	Authorization Required?
Wetlands	Other Wetlands	Beaver Pond, Fish habitat	A 30 metre minimum no development setback on the pond feature. Recommend measuring from the top of bank rather than the water's edge.	*Fish & Wildlife Conservation Act, Fisheries Act, Town of Iroquois Falls OP*	None. A 70 metre setback is anticipated on the west property boundary in consideration of the neighbouring residential property.	No
Significant Wildlife Habitat	Seasonal Concentration Areas	Bat Maternity Colonies (B088)	**No** tree clearing, vegetation removal or any other activity that may negatively affect bats is permitted **from May 1st through August 31st**.	*Fish & Wildlife Conservation Act, Town of Iroquois Falls OP*	None.	No
	Habitat for Species of Conservation Concern	Shrub/Early Successional Bird Breeding Habitat (B096)	Avoid activities like tree and vegetation clearing, grubbing and other initial site preparation activities **from April 15th through August 31st**	*Migratory Birds Convention Act (1994), Town of Iroquois Falls OP*	None. **Note the earlier start to the restricted timing window for the B096 ecosite compared to the bat timing window. (April 15 vs May 1)**	No
		Special Concern Species – Canada Warbler	Avoid activities like tree and vegetation clearing, grubbing and other initial site preparation activities **from April 15th through August 31st**	*Migratory Birds Convention Act (1994), Town of Iroquois Falls OP*	None. **Note the earlier start to the restricted timing window for the B096 ecosite compared to the bat timing window. (April 15 vs May 1)**	No
		Special Concern Species – Olive-sided Flycatcher	Avoid activities like tree and vegetation clearing, grubbing and other initial site preparation activities **from April 15th through August 31st**	*Migratory Birds Convention Act (1994), Town of Iroquois Falls OP*	None. **Note the earlier start to the restricted timing window for the B096 ecosite compared to the bat timing window. (April 15 vs May 1)**	No
		Special Concern Species – Yellow-banded Bumblebee	Avoid activities like tree and vegetation clearing, grubbing and other initial site preparation activities **from April 15th through August 31st**	*Fish & Wildlife Conservation Act (1997), Town of Iroquois Falls OP*	None. **Note the earlier start to the restricted timing window for the B096 ecosite compared to the bat timing window. (April 15 vs May 1)**	No

Natural Heritage Category	Natural Heritage Feature	Species/Habitat	Recommendations	Relevant Plans, Policies and Legislation	Impacts Expected?	Authorization Required?
Fish Habitat	Unnamed Permanent Watercourse 1	Cool / warm water fishes	A 30 metre minimum no development setback on the watercourse, measured from the top of bank.	*Fisheries Act, Town of Iroquois Falls OP*	None. A 70 metre setback is anticipated on the west property boundary in consideration of the neighbouring residential property.	No
	Unnamed Permanent Watercourse 2	Indirect fish habitat	A 30 metre minimum no development setback on the watercourse, measured from the top of bank.	*Fisheries Act, Town of Iroquois Falls OP*	None. A 70 metre setback is anticipated on the west property boundary in consideration of the neighbouring residential property.	No
	Unnamed Intermittent Watercourse	Indirect fish habitat	A 30 metre minimum no development setback on the watercourse, measured from the top of bank.	*Fisheries Act, Town of Iroquois Falls OP*	None. A 70 metre setback is anticipated on the west property boundary in consideration of the neighbouring residential property.	No

Authorizations and Permitting

Breeding by non-species at risk migratory birds, is highly likely on the entire subject property. The forested ecosite (B088) and the shrub field ecosite (B096) offer suitable nesting, perching and feeding opportunities for many species. Nesting is likely occurring on the ground and in shrubs and trees.

Although non-species at risk birds are not specifically covered under the natural heritage categories in the PPS (2020) or the Town's Official Plan, the *Migratory Birds Convention Act (1994)* and its regulations apply. The Act prohibits the disturbance, destruction or taking of a nest, egg, or nest shelter of a migratory bird except under the authority of a permit.

This report assumes that the subject property will be developed respecting the recommendations contained herein to protect migratory birds and their nests. If a lot owner/developer cannot respect the timing restrictions on clearing or recommended setback distances, they should seek advice and possibly an authorization from Environment and Climate Change Canada agency.

Fish and fish habitat are protected under the *Fisheries Act (1985)* and associated regulations. The 30 metre minimum setback recommendations on both the permanent and intermittent watercourses will achieve compliance with the Act. If culverts or any other water crossing is to be installed on any of these watercourses, the project proponent is advised to submit a Request for Review to Fisheries and Oceans Canada to ensure that an authorization under the *Fisheries Act* is not required.

There is a moderate likelihood that species at risk bats are present on the subject property during the active season. There are likely general roosts (e.g., suitable trees) and possibly maternity roosts. The MECP provided the following guidance to avoid impacts to individual roosting bats and their habitat:

Option 1:

- Respect a strict timing restriction on all activities that could impact tree roosting bats.
- To avoid impacts to roosting bats and their habitat, no tree clearing, vegetation removal or any other activity that may negatively affect bats is permitted from May 1st through August 31st.
- Conversely, tree clearing, vegetation removal and any other activity that may impact bats is permitted from September 1st through April 30th.

Option 2:

- Project proponents cannot respect the timing restrictions on site clearing and other activities that may impact bats.

- If the timing restrictions cannot be followed, this report recommends the lot owners/project proponents contact MECP for guidance. The MECP is responsible for reviewing projects and deciding if an authorization under the *Endangered Species Act (2007)* may be required. The lot owner/developer is advised to seek advice and possibly an authorization from the Ministry of Environment, Conservation and Parks.

Conclusions

It is our opinion that the proposed industrial subdivision development can proceed while minimizing or eliminating the potential impacts on natural heritage features on and adjacent the site. This is dependent on appropriate implementation of the recommendations in this report including setbacks, timing restrictions and agency review of activities when required.

This environmental impact study meets or exceeds the requirements listed in Appendix A of the Town of Iroquois Falls Official Plan and is consistent with the Provincial Policy Statement (2020), and the other listed relevant legislation.

Respectfully submitted,

Rebecca Geauvreau
Species at Risk Biologist