Natural Heritage Assessment

Records Review and Feature Scoping: Dunlop Lake

Project: 112049

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1. Introduction

Tulloch Environmental, a division of Tulloch Engineering (Tulloch) has prepared this Natural Heritage Records Review Report for the City of Elliot Lake, in support of a change to the 2001 Dunlop Lake Management Plan (Elliot Lake Research Field Station, 2001), in which 5 of 169 previously approved lots on Dunlop Lake are proposed to be relocated to another location on the lake. This report provides a summary of the existing Natural Heritage Records for Dunlop Lake as well as scoping for natural features that have a probability of being present within the area. The results of this report were used to direct the Site Investigation and Impact Assessment for Dunlop Lake. This report has been provided to the Ministry of Natural Resources and Forestry for review and comment.

1.1 Project Description

The City of Elliot Lake is preparing an application to purchase blocks of Crown Land from the Province of Ontario for the relocation of 5 previously approved shoreline cottage lots and the development of an access road on Dunlop Lake.

Dunlop Lake is located approximately 9 km northwest of the City of Elliot Lake, Ontario, in the townships of Bouck and Beange (Figure 1). General UTM coordinates for Dunlop Lake are: 371836E and 5148626N (NAD 83, Zone 17N). There are five previously approved cottage lots on Dunlop Lake proposed for relocation. These cottage lots will be road access (Figure 2) and located on the eastern shore of Dunlop Lake. At present, Dunlop Lake has 169 approved cottage lots most of which have been developed over the past years.

The proposed access road will be accessed via Pine Pond Road. The proposed right of way (ROW) will be 18-20 m wide and constructed to municipal standards. Utilities will be contained within the ROW corridor. At this time no communication towers or hydroelectric submarine cables are proposed.

2. Methodology

For the purposes of the background review all areas within 1 km of the proposed lots and access road were investigated for existing records (Figure 2). The 1 km buffer was requested by the MNR to accommodate any potential changes to project design during the preliminary planning stages. This area shall be referred to as the review area.

The MNR has indicated that there are few existing natural heritage records for the review area. This is because little inventory work has been completed and not necessarily because significant natural heritage features do not exist within the area. To determine which significant natural heritage features could potentially exist in the area, scoping of potential features was also conducted as part of this background review. Scoping was conducted for lands and waters within 120 m of the project location, which will be the area surveyed during the field investigation program (Figure 2). Scoping consisted of using information collected during the background search to determine which significant features could potentially be found within the study area. The scoping process is further explained in the sections below.

2.1 Ecological Land Classification (ELC)

During the background review, vegetation communities were delineated using Forest Resource Inventory (FRI) orthophotography acquired from Land Information Ontario. Delineation of vegetation communities was conducted by evaluation of variations in the imagery such as: canopy density, contrast, and colour changes. These delineated ecosites were used to aid in the identification of potential rare vegetation communities and other significant habitat.

2.2 Nature Heritage Features

The natural heritage features searched in the background records review included provincial parks and conservation reserves. In addition, natural heritage features as defined in the *Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005* (OMNR, 2010) were also searched for and include:

- Significant habitat of endangered or threatened species (discussed under separate cover: *Natural Heritage Report: Species at Risk (Tulloch, 2014)*;
- Significant wetlands;
- Significant woodlands;
- Significant valleylands;
- Significant wildlife habitat;
- Significant Areas of Natural and Scientific Interest (ANSI - life or earth science); and
- Fish habitat.

Significant wildlife habitat is further defined in the *Significant Wildlife Habitat Technical Guide* (SWHTG; OMNR 2000) and includes four broad categories:

- **Seasonal concentration areas** (e.g. winter deer yards, colonial bird nesting sites, reptile hibernacula);
- **Rare vegetation communities or specialized habitats for wildlife** (e.g. alvars, rare forest types, moose aquatic feeding areas, amphibian woodland breeding ponds, turtle nesting habitat);
- **Habitat of species of conservation concerns** (e.g. species identified as special concern federally or provincially, and species listed as rare or historical in Ontario based on records kept by the Natural Heritage Information Centre [S1- Critically imperiled, S2- Imperiled and S3- Vulnerable ranks; these ranks are not legal designations but are assigned in a manner to set protection priorities.])
- **Animal movement corridors** (e.g. naturally-vegetated corridors or man-made features such as utility corridors that provide animal movement from one habitat to another).

Significant wildlife habitat scoping for the study area was conducted by evaluating each potential habitat on its probability of occurring within the study area. Each habitat type was evaluated using information obtained from the background review.

2.3 Records Searched

Records and resources searched as part of the Natural Heritage Records Review are listed in Table 1. *The Natural Heritage Assessment Guide for Renewable Energy Projects Appendix B* (OMNR, 2011) was consulted to determine information sources that would be applicable to the project. First Nations consultation is being undertaken by City of Elliot Lake representatives.

Table 1. Records searched as part of the natural heritage review.

Record Source	Records Requested and/or Reviewed
Provincial Government	
Ministry of Natural Resources	
District office: Blind River Date of Request: May 1, 2014 / Date of Data Receipt: July 30, 2014	Jim Trottier, Area Biologist - via email • Records related to wildlife species and natural features
Manuals/Guidelines	Natural Heritage Reference Manual, Second Edition (March 2010)
	Significant Wildlife Habitat Technical Guide, Appendices and Decision Support Tool (2010)
Land Information Ontario, Accessed July 2014	• Interactive Online Mapping Tool • Warehouse Data

Natural Heritage Information Centre (NHIC), Accessed July 2014	• Biodiversity Explorer
	  • Rare species
	  • Rare Plant Communities
	  • Natural Areas
	  • Invasive Species
	  • Wildlife Concentration Areas
	• Rare Vascular Plants of Ontario, Fourth Edition

MNR Species at Risk in Ontario (SARO) List, Accessed July 2014	Determine species of conservation concern within range and their status
Federal Government	
COSEWIC, Accessed July 2014	Determine status of wildlife species within range
Conservation Authority	
N/A	N/A Not within the jurisdiction of any conservation authority.
Municipality	
Municipality of Elliot Lake	• Request for applicable studies done in the area to date: May Lake Management Plan (November 2010) • Official Plan and mapping schedules reviewed (2006)
Other Resources	
Ontario Nature Reptile and Amphibian Atlas, Accessed July 2014	Species Range Maps
Ontario Breeding Bird Atlas (OBBA), Accessed July 2014	Determine migratory birds including species of conservation concern within range
Royal Ontario Museum Species at Risk in Ontario List	Species Range Maps
Mammals of the Western Hemisphere v3.0 accessed via NatureServe, Accessed July 2014	Digital Data files of species' ranges
Northern Ontario Plant Database, Accessed July 2014	Locations of plants throughout Northern Ontario.

Record Source	Records Requested and/or Reviewed
North Shore Unit Forest Management Plan, MNR 2000, Accessed July 2014	Summary statistics and land use relating to natural features and wildlife species
Toronto Entomologists Association- Ontario Butterfly Atlas, Accessed July 2014	Species found in range

3. Results

The Dunlop Lake Area falls within Ecodistrict 4E-3 and is part of the North Shore Forest Management Unit. This ecodistrict remains for the most part as natural cover, primarily forest. The forest is predominantly composed of upland hardwoods, mixed conifer complexes, mixed spruce and mixed pine complexes. The remaining vegetation cover is wetland, over half of it open muskeg. Conservation lands make up approximately 13% of the ecodistrict (Henson and Brodribb, 2005).

The general project area (north of Elliot Lake) is designated as rural and crown land according to the Official Plan for the City of Elliot Lake (2006).

The results of the records review are included in the sections below. Dates of access and correspondence with the various sources can be found in Table 1. Correspondence with relevant agencies regarding the searches can be found in Appendix A. Figure 3 indicates the results of the Ecological Land Classification vegetation community delineation and the location of features identified during the background search, respectively. In addition to actual records identified within the 1 km review area, scoping of candidate significant heritage features that could potentially be found in the 120 metre study area is included in the sections below. The information provided in the scoping exercise is intended to direct field efforts and is by no means a comprehensive list of actual features and species that exist within the study area. Field investigations are needed to determine if these features exist within the study area limits.

3.1 Natural Heritage Features

3.1.1 Provincial Parks and Conservation Reserves

No provincial parks or conservation reserves were identified within the 1 km review area.

3.1.2 Significant Habitat of Endangered and Threatened Species

Records review results for SAR habitat are discussed under a separate cover in the *Natural Heritage Report: Species at Risk (Tulloch, 2014).*

3.1.3 Significant Wetlands

No provincially significant wetlands were noted within the 1 km review area however, the search identified two unevaluated wetlands. The unevaluated wetlands are noted in Figure 3.

3.1.4 Significant Woodlands

No significant woodlands were noted within the 1 km review area. Significant woodland protection is applicable to lands south and east of the Canadian Shield and the study area is within the Canadian Shield. No significant woodlands are expected to occur within the study area.

3.1.5 Significant Valleylands

No significant valleylands were noted within the 1 km review area. Significant valleyland protection is applicable to lands south and east of the Canadian Shield and the study area is within the Canadian Shield. No significant valleylands are expected to occur within the field study area.

3.1.6 Significant Wildlife Habitat

The MNR identified several species of special concern that have a higher potential to inhabit the study area including: Snapping Turtle (*Chelydra serpentina*), Milksnake (*Lampropeltis triangulum*), Canada Warbler (*Cardellina canadensis*), Common Nighthawk (*Chordelies minor*), Golden-winged Warbler (*Vermivora chrysoptera*), Monarch (*Danaus plexippus*), and Olive-sided Flycatcher (*Contopus sooperi*).

The MNR noted that there are no documented significant wildlife habitats or Areas of Natural and Scientific Interest within 1 km of the study area. All significant wildlife habitat types, as listed in the *Significant Wildlife Habitat Technical Guide (2000)*, were investigated for their potential to occur within the study area. Table 2 and Table 3 summarize the results and explain the rationale for the potential for occurrence. The “Potential of Occurrence” column only considers the potential of the identified habitat to occur within the study area; it does not take into account potential significance. Many of these features will likely be identified during field investigations; however they may not be evaluated as significant.

Table 2. Summary of significant wildlife habitat (as defined in the *Significant Wildlife Habitat Technical Guide*, 2000) that could potentially occur within the Dunlop Lake study area. The rating given under "Potential of Occurrence" only considers the potential of the identified habitat to occur within the study area, it does not take into account potential significance.

Significant Wildlife Habitat Type	Habitat Description	Potential of Occurrence	Rationale
1. Habitats of Species of Conservation Concern	Many species of conservation concern are uncommon or rare species that normally do not exhibit high population densities and have fairly specialized habitat requirements.	High	Several species of conservation concern have ranges which overlap the study area and suitable habitat could be present. Species listed provincially as special concern are summarized in Table 3 below and other provincially tracked rare species are listed in Table B1 (Appendix B). The MNR has identified the following species of special concern to have a higher potential to be present: Canada Warbler, Common Nighthawk, Golden-winged Warbler, Milksnake, Monarch, Olive-sided Flycatcher and Snapping Turtle.
2. Seasonal Concentrations of Animals			
Winter deer yards	Consist of a core area of mainly coniferous trees with greater than 60% canopy cover. Mixedwood or deciduous forest usually surrounds this area. Deer will use the same yards year after year that are generally known by the MNR.	None	No deer yards have been identified by MNR within the study area.
Moose late wintering areas	Dense stands of coniferous trees with canopy closure of greater than 60% and most trees are at least 6 m tall.	Medium	No moose wintering areas have been identified by the MNR however, potential conifer stands are likely within the study area.
Colonial bird nesting sites	Include areas used by several species of heron, gulls, terns and swallows. Generally, herons nest in trees in swamps and along large bodies of water. Gulls and terns nest on the ground in colonies found on islands in large lakes and rivers. Swallows congregate on specific habitat types such as cliffs, banks and manmade structures.	Medium	Colonial bird nesting sites were not identified to occur within the study area by the MNR, however, two wetlands were identified and low lying areas have the potential to occur within the study area.

Significant Wildlife Habitat Type	Habitat Description	Potential of Occurrence	Rationale
Waterfowl stopover and staging areas	Migrating waterfowl prefer larger wetlands, especially those adjacent to large bodies of water and relatively undisturbed shoreline with vegetation.	Medium	There are two wetlands within the study area that may be suitable for waterfowl stopover.
Waterfowl nesting	Relatively large, undisturbed upland areas with abundant ponds and wetlands. Most species nest in grassy or shrubby fields adjacent to wetlands. Some waterfowl nest in cavities in trees located in swamps or on the shorelines of water bodies. Upland sites should be at least 100m wide.	Medium	There are two wetlands within the study area. Several waterfowl records were noted within the 17LM74 10 km x 10 km OBBA survey square.
Shorebird migratory stopover areas	Great Lakes shorelines, with large and productive beaches.	Medium	Records for spotted sandpiper were noted within the 17LM74 OBBA survey squares.
Landbird migratory stopover areas	Shorelines of the Great Lakes particularly near narrow points.	Low	Lake is located too far from the Great Lakes to be ideal stopover habitat (>2 km)
Raptor Winter Feeding and Roosting Areas	Open fields that support large and productive small mammal populations with scattered trees and fence posts. Roosting sites are found in mixed or coniferous forests adjacent to these fields.	Low	Several raptor species have been identified to potentially inhabit the area. Open fields were not identified within the study area.
Wild turkey winter range	Fields and pastures near dense conifer cover with the presence of groundwater.	None	Study area is outside of the wild turkey's range.
Turkey vulture summer roosting areas	Rocky cliff ledges and large, dead or partially dead trees in undisturbed areas near open water.	High	A record for turkey vulture was noted within the 17LM74 OBBA survey square.
Reptile hibernacula	Animal burrows and rock crevices. Frequently found among broken rocks at the base of cliffs or in karst areas. Can generally be observed in congregations near the hibernacula in spring and fall.	High	Several reptile species were identified as potentially occurring within the study area. Two wetlands are located within the study area that may be suitable turtle wintering areas.
Bat hibernacula	Deep caves and abandoned mines, with remote and restricted opening.	Low	No caves or old mine sites have been noted within the study area.

Significant Wildlife Habitat Type	Habitat Description	Potential of Occurrence	Rationale
	Flowing water is often present.		
Bullfrog concentration areas	Primarily found in aquatic and marsh habitats. Bullfrogs will congregate in the late spring.	Medium	Bullfrogs and wetlands have been noted as potentially occurring within the study area.
Migratory butterfly stopover areas	Large congregations of butterflies will stop near edges of the great lakes before migrating. Preferred stopover areas have abundance of nectar plants as well as places for shelter and sunning.	None	The study area is located 25 km north of the Great Lakes which is too far to be suitable for a butterfly stopover area.
3. Rare Vegetation Communities			
Alvars	Thin soil over flat limestone, dolostone or marble rock. They support sparse shrub and herb vegetation.	None	There are no flat open areas that appear to be appropriate bedrock within the study area.
Tall-grass prairies	Usually small remnant s (<1 ha) located mainly in south western Ontario. Indicator species include: big bluestem, indian grass, switch grass, and tall chord grass.	None	There are no open, treeless areas, or previously cultivated sites located within the study area.
Savannahs	Widely-spaced, open trees producing a cover of 60% or less that grow in association with an assortment of grasses and forbs characteristic of prairie communities.	None	There are no open areas with flat topography within the study area. Savannahs are also noted as extremely rare habitats in Ontario
Rare forest types	Treed communities with >60% cover. Planning authorities may identify forest communities that may be significant by jurisdiction.	Medium	The study area consists of primarily continuous forest which could support a rare forest type.
Talus slopes	Characterized by blocks of limestone/dolostone, sandstone, or granite found at the base of cliffs or steep slopes. Greater than 50% ground cover is composed of rocky material.	Low	Geology of the type required for talus slopes does not occur within the study area, as identified by air photo interpretation.
Rock barrens	Open to moderately-treed site (up to 60% crown coverage)	None	Rock barrens were not identified to occur within the study area through air photo interpretation.

Significant Wildlife Habitat Type	Habitat Description	Potential of Occurrence	Rationale
	characterized by exposed bedrock and very shallow soils.		
Sand barrens	Open tree cover (less than 25%) occurring inland on dry deep sand deposits. Vegetation is usually low to the ground, sparse and patchy.	None	No potential sand barrens were identified from the aerial images.
Great lakes dunes	Vegetation communities occurring on sand dunes along the shores of the great lakes.	None	Study site is not on the shores of the Great Lakes.
4. Specialized habitats for Wildlife			
Habitat for area-sensitive species	Some wildlife species require large areas of suitable habitat for long term survival. Forests should cover about 40% of the regional landscape to provide minimal conditions for these species and there should be several woodlands greater than 30 ha in size present to provide enough suitable forest interior.	High	Several area-sensitive species were identified to potentially occur within the study area for example: Common Loon (*Gavia immer*), Great Blue Heron (*Ardea herodia*), Broad-winged Hawk (*Buteo playpterus*), Moose (*Alces alces*), and Canadian Lynx (*Lynx canadensis*).
Forests providing a high diversity of habitats	Forest stands particularly large, older, undisturbed forests and those containing species of conservation concern as well as other specialized habitat for wildlife.	Low	The area has likely been harvested several times although it is likely that some areas remain older growth.
Old-growth or mature forest stands	Forest stands that exhibit the greatest number of old growth characteristics within the planning area.	Medium	The study area has likely been harvested several times although it is likely that some areas remain older growth.
Foraging areas with abundant mast	Forests containing numerous large beech and red oak trees. Also more open areas, with large patches of berry-producing shrubs (blueberries, raspberries, huckleberries).	High	The study area appears to consist primarily of mixedwood and deciduous forest and therefore has the potential to host oak trees.
Amphibian woodland breeding ponds	Ponds used for breeding by several species of frogs and salamanders.	High	Several frog species were identified to potentially inhabit the area and there were two wetlands noted

Significant Wildlife Habitat Type	Habitat Description	Potential of Occurrence	Rationale
	May be small and ephemeral but important to local amphibian populations. May be found on the edges of ponds or within ponds with surrounding closed-canopy woodlands with rather dense undergrowth that maintains a damp environment.		within the study area.
Turtle nesting habitat	Preferred nesting habitats for turtles are usually soft substrates that allow turtles to easily dig their nests and are located in open, sunny areas. Usually close to water.	Medium	The MNR noted that snapping turtle have a higher potential to occur within the study area. There are two wetlands noted to occur within the study area. Sandy beaches were not observed within the study area through air photo interpretation.
Specialized raptor nesting habitat	May be found in all forested ecosites and can be identified by the presence of stick nests within tops or crotches of trees.	High	The study area contains large tracts of contiguous forest next to water as well as some open areas; raptor species were identified to potentially inhabit the area.
Moose calving areas	In mid-May solitary cow moose move to calving sites which are usually located on elevated areas. Islands and peninsulas seem to be preferred, but shoreline and uplands are also used if they are relatively close to water.	Low	Study area is located close to human settlement and no peninsulas or islands occur.
Moose aquatic feeding areas (MAFA)	Ideal moose aquatic feeding areas provide abundant food, particularly pondweeds, water milfoil, and yellow water lily, and have adjacent stands of lowland conifers to provide shade and hiding cover.	High	MNR did not identify any MAFA within the study area; however two wetlands with potentially suitable vegetation were identified within the study area.
Mineral licks	Areas where moose congregate. Generally surrounded by forest with little human disturbance. These sites are rare, and occur most frequently in areas of sedimentary and volcanic bedrock.	Medium	Moose and deer are noted to potentially inhabit the area, although the MNR has not noted any mineral licks.
Mink, otter, marten, and fisher denning sites	Mink prefer shorelines dominated by coniferous or mixed forests for feeding and denning. Otters utilize	Medium	These species have been identified to potentially occur in the area, and the study area includes tracts of forest along a water body.

Significant Wildlife Habitat Type	Habitat Description	Potential of Occurrence	Rationale
	undisturbed shoreline with abundant shrubby vegetation. Marten and fisher require large unbroken tracts of coniferous or mixed forest with abundant large trees for maternal denning.		
Highly diverse areas	Areas containing high species diversity. Highly diverse areas often contain a wide range of habitat or ecosystems and large variety of plants and animals associated with them.	None	On the Canadian Shield, areas underlain by carbonate bedrock frequently support diverse communities. No carbonate bedrock was noted by the Ontario Geologic Survey within the study area.
Cliffs	Dominated by bedrock with sharp or broken edges and a vertical relief greater than three meters. Average soil depth is usually very shallow.	Low	Cliffs were not identified to occur within the study area through air photo interpretation.
Seeps and Springs	Ground water sources that are part of a forest or some other natural vegetation community and those associated with the head waters of cold water streams and wetlands. Often support a high diversity of plant species.	Low	Streams were not identified to occur within the study area however there is still the possibility for these features to occur.
5. Animal Movement Corridors	Elongated, naturally vegetated parts of the landscape used by animals to move from one habitat to another.	Medium	The area is potentially suitable for amphibian, cervid and furbearer movement corridors as the area is primarily natural environment and much of the study area is associated with water and shoreline habitats.

Table 3. Summary of species of conservation concern (listed under the ESA as special concern) that may potentially occur within the Dunlop Lake 120 m study area and rational for their probability of occurring.

Common Name (Scientific Name)	Conservation Status			Habitat Requirements	Potential For Occurrence	Rationale
	National	Provincial				
	SARA	ESA	Srank			
Birds						
Bald Eagle (*Haliaeetus leucocephalus*)	—	SC	S3B	Large continuous areas of deciduous or mixed woods that surround large lakes and rivers; require an area of 255 ha for nesting, shelter, feeding, roosting and prefer open woods with 30 to 50% canopy cover; nest in tall trees 50 to 200 m from shore and require trees that are tall, dead, or partially dead within 400 m of nest for perching	High	Recorded presence during Christmas bird count 2007-2011 (Bird Studies Canada, 2010). Additionally, the study area is located around a body of water with continuous forest surrounding it.
Black Tern (*Chlidonias niger*)	—	SC	S3	Wetlands, coastal or inland marshes including, large cattail marshes, marshy edges of rivers, lakes or ponds, wet open fens, and wet meadows; return to the same area to nest each year in loose colonies; must have shallow (0.5 to 1 m deep) water and areas of open water near nests; require marshes >20 ha in size.	Low	Wetlands within the study area are smaller than 20 ha and not likely suitable for the species.
Canada Warbler (Cordellina *canadensis*)	THR	SC	S5B	Interior forest species; usually requires >30 ha of dense, mixed coniferous, deciduous forests with closed canopy, wet bottomlands of cedar or alder and shrubby undergrowth in cool moist mature woodlands. Canada warblers have also been associated with riparian habitat.	High	MNR indicated higher potential for this species to occur within the study area. Suitable habitat for the Canada Warbler may be present within the study area due to the continuous forest that surrounds the lake and its associated riparian habitat.
Cerulean Warbler (*Setophaga cerulea*)	SC	SC	S3B	Mature deciduous woodlands of Great Lakes- St. Lawrence and Carolinian forests; coniferous forests; swamps or bottomlands with large trees; area sensitive species and requires extensive areas of forest >100 ha.	Low	The study area consists of primarily mixedwood forest, with lowlands and therefore could potentially contain suitable habitat for the cerulean warbler. The study area is also outside of the species' known range.

Common Name (Scientific Name)	Conservation Status			Habitat Requirements	Potential For Occurrence	Rationale
	National	Provincial				
	SARA	ESA	Srank			
Common Nighthawk (*Chordelies minor*)	THR	SC	S4B	Prefer open ground, including clearings in dense forests, ploughed fields, gravel beaches, barren areas with rocky soils, open woodlands and flat gravel roofs.	Medium	MNR indicate a higher potential for this species to occur within the study area, however, openings in the forest canopy, rock barrens etc. were not observed using aerial imagery.
Golden-winged Warbler (*Vermivora chrysoptera*)	THR	SC	S4B	Early successional habitat that is shrubby, or grassy; abandoned fields with small deciduous trees bordered by low woodland; wooded areas found in alder bogs and deciduous, damp woods; requires greater than 10 ha of continuous habitat.	High	Habitat of this type may be found in the study area. MNR also indicated a higher potential for this species to occur within the study area.
Olive-sided Flycatcher (*Contopus cooperi*)	THR	SC	S5B	Semi-open, conifer forest, spruce forests in particular; usually near ponds, lakes or rivers; utilize treed wetlands for nesting and dead trees for perching	High	Records for olive-sided flycatcher are noted within the 17LM74 OBBA survey square. MNR also indicated higher potential for this species to occur within the study area.
Peregrine Falcon (*Falco peregrinus*)	SC	SC	S2B	Rock cliffs, and crags, especially those situated near water; also areas with tall buildings in urban centers.	Low	Records for peregrine falcon were noted within 17LM74 OBBA survey square. However, no cliffs were noted through aerial imagery.
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	THR	SC	S4B	Open, deciduous forests with little understory, and pasture lands with scattered large trees.	Medium	The majority of the study area appears to be mixed wood forest. No open pasture lands were identified to occur within the study area, through air photo interpretation.
Rusty Blackbird (*Euphagus carolinus*)	SC	SC	S5B	Openings in coniferous woodlands that border bodies of water, tree- bordered marshes, beaver ponds, muskegs, bogs, fens or wooded swamps, stream borders with alder and willow, and wooded islands on lakes.	High	No openings in the forest canopy were observed however, suitable habitat may be found within the forest bordering the wetlands and lakeshore within the study area. Rusty blackbirds were also identified in the Elliot Lake area during the 2007 Christmas bird count (Bird Studies Canada, 2010).

Common Name (Scientific Name)	Conservation Status			Habitat Requirements	Potential For Occurrence	Rationale
	National	Provincial				
	SARA	ESA	Srank			
Short-eared Owl (*Asio flammeus*)	—	SC	S2	Grasslands, open areas or meadows that are grassy or bushy, marshes, bogs or tundra; both diurnal and nocturnal and are ground nesters. Home ranges for the species are 25 -125 ha in size and they require 75-100 ha of contiguous open habitat.	Low	No open areas or grasslands were observed using aerial imagery or mapping. Wetlands within the study area were either too small in size or appear to be frequently or permanently saturated or flooded (prevents nesting).
Yellow Rail (*Coturnicops noveboracensis)*	SC	SC	S4B	Large freshwater grass and sedge marshes with dense vegetation including bulrushes, horsetails, and grasses.	Medium	There are two wetlands located within the study area which may act as suitable habitat for the yellow rail.
Herpetozoa						
Common Five-lined Skink (*Eumeces fasciatus*)	SC	SC	S3	Moderately dense or open deciduous, mixed woodlands with logs and slash piles, open talus slopes, barren rock, shores of lakes and islands and on sandy beaches.	Low	The majority of the study area is composed of mixedwood forest. Sandy beaches and rock barrens were not identified to occur within the study area through air photo interpretation. The study area is outside of the species' know range.
Common Snapping Turtle (*Chelydra serpentina*)	—	SC	S5	Permanent, semi-permanent fresh water including: marshes, swamps or bogs, rivers and streams with soft muddy banks and bottoms; commonly seen using soft soil or clean dry sand on south-facing slopes for nest sites; may nest some distance from water; home range of approximately 28ha.	High	Dunlop Lake as well as two wetlands were identified within the study area. The MNR indicated a higher potential for this species to occur.
Eastern Milk Snake (*Lampropeltis triangulum*)	SC	SC	S4	Farmlands, meadows, hardwood or aspen stands, pine forest with brushy or woody cover, river bottoms and bog wood. Milk snake can be found hiding under logs, stones, or boards or in outbuildings.	High	The majority of the study area is made up of mixedwood forest that would act as suitable habitat for the milksnake. MNR also indicated higher potential for this species to occur within the study area.

Common Name (Scientific Name)	Conservation Status			Habitat Requirements	Potential For Occurrence	Rationale
	National	Provincial				
	SARA	ESA	Srank			
Lepidoptera						
West Virginia White (*Pieris virginiensis*)	—	SC	S3	Moist, deciduous woodlands. Breeding habitat of the species only occurs where toothwort (*Dentaria diphylla, Dentaria X maxima*), a spring blooming plant found on the forest floor, is located as this is the larvae's only food source.	Medium	The majority of the study appears to be deciduous or mixed wood forest which may host toothwort, and be suitable habitat West Virginia white.
Monarch (*Danaus plexippus*)	SC	SC	S2N, S4B	Breeding habitat that is confined to where milkweed grows, since the leaves of these plants are the sole food of the caterpillars. Different species of milkweed grow in a variety of environments, including meadows, along roadsides and in ditches, open wetlands, dry sandy areas, short and tall grass prairies, river banks, irrigation ditches, arid valleys and south facing hillsides.	High	There is potential for milkweed to grow in various locations within the study area. MNR also indicated higher potential for this species to occur within the study area. Butterfly atlas indicated records of monarch butterflies occurring in the general Elliot Lake area.
Mammals						
Eastern Wolf (*Canis lupis lycaon*)	SC	SC	S4	Deciduous and mixed forests in the southern part of its range, and mixed and coniferous forests further north; known to use linear features such as hydro right of ways (ROW) for movement corridors (James and Stuart-Smith, 2000).	Medium	The majority of the study area is made up of mixedwood forest and there are several logging roads which may act as suitable habitat for the eastern wolf.
Fish						
Northern Brook Lamprey (*Ichthyomyzon fossor*)	SC	SC	S3	Clear streams of varying sizes; prefer spawning on rocky or gravel substrate within soft flowing waters (COSEWIC, 2007); require a small amount of silt-free sand or some other fine material to which the eggs can adhere, unidirectional current and suitable water temperatures (Manion and Hanson 1980).	Low	Streams were not identified to occur within the study area.

Common Name (Scientific Name)	Conservation Status			Habitat Requirements	Potential For Occurrence	Rationale
	National	Provincial				
	SARA	ESA	Srank			
Silver Lamprey (*Icthyomyzon unicuspis*)	SC	SC	S3	Creeks and Rivers that feed into all of the Ontario Great Lakes. Spawning habitat includes gravel and sand for building nests and clean fast flowing water (COSEWIC, 2011).	Low	Streams were not identified to occur within the study area.
Upper Great Lakes Kiyi (*Coregonus kiyi kiyi*)	SC	SC	S3	Inhabit the Great Lakes	Low	The study area is located well outside of the species' known range.

3.1.7 ANSI, Life Science

The background review did not reveal the presence of any life science ANSIs or candidate life science ANSIs within the 1 km review area.

3.1.8 ANSI, Earth Science

The background review did not reveal the presence of any earth science ANSIs or candidate earth science ANSIs within the 1 km review area.

3.1.9 Fish Habitat

The MNR indicated that Dunlop Lake is officially listed as a Lake Trout Lake in the MNR policy document *Inland Ontario Lakes Designated for Lake Trout Management* (May 2006). Other fish species known to be present in Dunlop Lake include:

- Brook Trout (*Salvelinus fontinalis*)
- Lake Whitefish (*Coregonus clupeaformis*)
- Round Whitefish (*Prosopium cylindraceum*)
- Rainbow Smelt (*Osmerus mordax*)
- Longnose Sucker (*Catostomus catostomus*)
- White Sucker (*Catostomus commersonni*)
- Golden Shiner (*Notemigonus crysoleucas*)
- Brown Bullhead (*Ameiurus nebulosus*)
- Burbot (*Lota lota*)
- Rock Bass (*Ambloplites rupestris*)
- Pumpkinseed (*Lepomis gibbosus*)
- Smallmouth Bass (*Micropterus dolomieu*)
- Yellow Perch (*Perca flavescens*)
- Walleye (*Sander vitreus*)

The MNR also indicated that Lake Trout spawning habitat has been identified at a number of locations at the east end of Dunlop Lake. Other types of Lake Trout habitat, and habitat for other fishes, have not been identified.

4. Summary and Conclusion

This Natural Heritage Records Review was completed in support of a change to the 2001 Dunlop Lake Management Plan (Elliot Lake Research Field Station, 2001) in which 5 of 169 previously approved lots on Dunlop Lake are proposed to be relocated to another location on the lake. A Natural Heritage Site Investigation Program was developed to determine the presence/absence of features identified in this report. Table 4 summarizes the key findings of this report.

Table 4. Summary of natural heritage features that have been carried forward to the site investigation.

Feature	Carried Forward to Site Investigation (Y/N)	Known Recorded Information
Wetlands	Yes	None
Woodland	N/A	N/A
Valleylands	N/A	N/A
Habitat of Endangered or Threatened Species		
Species as identified in Species at Risk Report	Yes	None
Significant Habitat of Special Concern Species		
Species as identified in Table 4 and table B1	Yes	None
Seasonal Concentration of Animals		
Winter deer yards	No	No deer yards have been identified by MNR within the study area.
Moose late wintering areas	Yes	None
Colonial bird nesting sites	Yes	None
Waterfowl stopover and staging areas	Yes	None
Waterfowl nesting	Yes	None
Shorebird migratory stopover areas	Yes	None
Landbird migratory stopover areas	No	None
Raptor winterfeeding and roosting areas	No	None
Wild turkey winter range	No	None
Turkey vulture summer roosting areas	Yes	None
Reptile hibernacula	Yes	None
Bat hibernacula	Yes	None
Bullfrog concentration areas	Yes	None
Migratory butterfly stopover areas	No	None
Rare Vegetation Communities		
Alvars	No	None
Tall-grass prairies	No	None
Savannahs	No	None
Rare forest types	Yes	None
Talus slopes	Yes	None
Rock barrens	No	None
Sand barrens	No	None
Great Lakes dunes	No	None
Specialized Habitats for Wildlife		
Habitat for area-sensitive species	Yes	None
Forests providing a high diversity of habitats	No	None

Feature	Carried Forward to Site Investigation (Y/N)	Known Recorded Information
Old-growth or mature forest stands	Yes	None
Foraging areas with abundant mast	Yes	None
Amphibian woodland breeding ponds	Yes	None
Turtle nesting habitat	Yes	None
Specialized raptor nesting habitat	Yes	None
Moose calving areas	No	None
Moose aquatic feeding areas	Yes	None
Mineral licks	Yes	None
Mink, otter, marten, and fisher denning sties	Yes	None
Highly diverse areas	No	None
Cliffs	No	None
Seeps and Springs	Yes	None
Animal movement corridors	Yes	None
Areas of Natural and Scientific Interest		
ANSI Life	No	Not present in the study area.
ANSI Earth	No	Not present in the study area.
Provincial parks	No	Not present in the study area.
Conservation Reserve	No	Not present in the study area.
Fish habitat	Yes	Dunlop Lake was identified as a lake trout lake.

The information contained in this report is representative of the records and resources available at the time of the review. Tulloch has used its best professional judgment to interpret the review results and provide accurate conclusions.

If you have any questions, please contact the undersigned.

Respectfully submitted,

Kristan Washburn, MES
Terrestrial Ecologist

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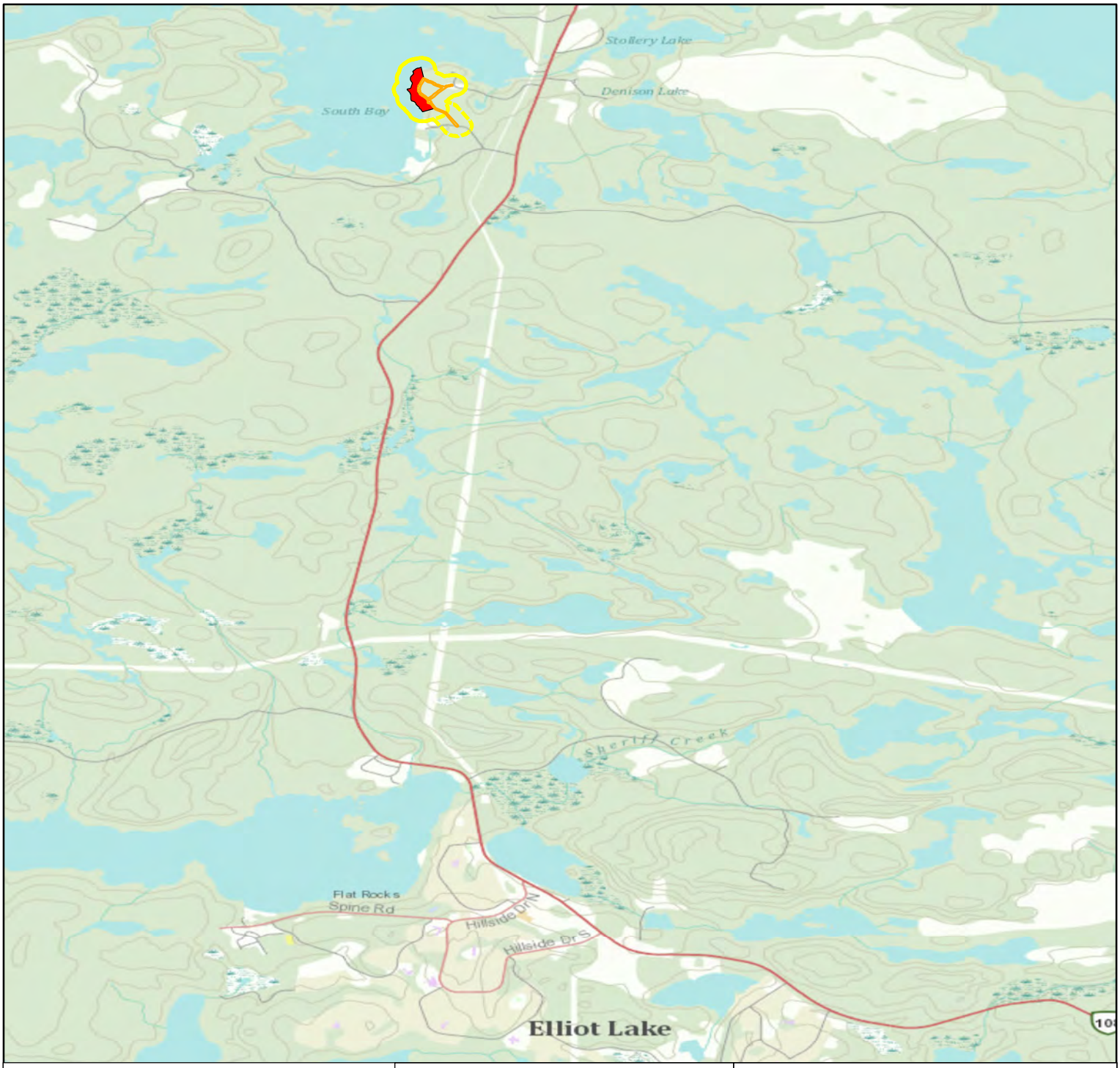
FIGURES



Legend

- Proposed Road
- Proposed Lots
- Study area

Notes:

Background base map produced by ESRI, Bing Hybrid Map 2009

TULLOCH ENVIRONMENTAL

0 0.5 1 2 3 4 km

Datum: NAD83
Projection: UTM Zone 17N

N W E S

Dunlop Lake

General Area

PROJECT: 11-2049	Figure 1
SCALE: 1:71,000	DATE: September 2014

Dunlop Lake

Review Area- 1km Setback of Proposed Lot Areas and Access Road Options

Project: 112049	Figure 2
SCALE: 1:11,500	DATE: SEPTEMBER 2014
Datum: NAD83 Projection: UTM Zone 17N	N W E S

Legend

- Studyarea_Buffer1
- Road Centre-Line
- Lots
- Road

Dunlop Lake

Notes:

Background base map produced by the Ontario Ministry of Natural Resources under Licence with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2006/07/08/09/10.

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0 500 1,000 2,000 3,000 4,000 Meters

Dunlop Lake

Results of the Record Review

Project: 112049	Figure 3
SCALE: 1:11,300	DATE: SEPTEMBER 2014
Datum: NAD83 Projection: UTM Zone 17N	

Legend

- Record Review Area - 1km Buffer
- Wetlands
- Township
- Spawning Area
- Lots
- Study area
- Buildings
- Utility Line
- Roads
- Contours
- Wooded Area
- Waterbody
- Pit or Quarry
- Road Centre-Line
- Road

Notes:

Ecosites classified using Chambers, B., Naylor, B, Nieppola, J., Merchant, B, Uhlig, P (1997) Field Guide to Forest Ecosystems of Central Ontario. Ministry of Natural Resources, Queens printer Ontraio, Ontario, Canada.

TULLOCH ENVIRONMENTAL

0 500 1,000 2,000 3,000 4,000 Meters

APPENDIX !: #ÏÒÒÅÓÐÏÎÄÅÎÃÅ

TULLOCH
ENVIRONMENTAL

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May 1, 2014

Jim Trottier
Northshore Management Biologist
Ministry of Natural Resources
62 Queen Ave.,
Blind River, ON
P0R 1B0
T: 705356-3011

Dear Mr. Trottier:

Re: Natural Heritage Background Information Request- Dunlop Lake
Project 112049

Tulloch Environmental has been retained by the City of Elliot Lake to obtain natural heritage background information for lakes within the Elliot Lake area. The lakes are being considered as part of a development strategy for proposed shoreline cottage lots. Background information is currently being gathered and reviewed for **Dunlop Lake,** which is situated approximately 11km northwest of the City of Elliot Lake in the townships of Beange and Bouck (Figure 1). We are requesting any natural heritage information (values, local knowledge) that the Ministry of Natural Resources might have regarding Dunlop Lake.

Tulloch has reviewed the Natural Heritage Information Centre (NHIC) website to screen for any significant values which may be listed. Occurrence data was found for milksnake within 1km of proposed lot areas (Figure 2). No other values were found in our searches. We have also prepared a list of SAR and species of conservation concern that may potentially inhabit the area based on searches of various other resources including:

- Ontario Nature Reptile and Amphibian Atlas
- Ontario Breeding Bird Atlas
- Mammals of the Western Hemisphere v3.0 accessed via NatureServe

A copy of this list has been appended to this letter (Table 1).

A map of Dunlop Lake outlining the areas of proposed development is included in Figure 2.

We are requesting that the MNR review the information we have gathered and provide any additional values, including the identity of any data sensitive species. We would also like information regarding the SAR species we have identified as potentially inhabiting the area; including, specific sighting information and any specific protection that is assigned to them. We would also appreciate any additional insight regarding the list of species at risk and species of conservation concern that may potentially inhabit the area.

In addition to the items listed above, we are requesting information on any of the following values that may be present on or within 1km of the areas of development:

- Significant wetlands,
- Significant portions of the habitat of any endangered or threatened species,
- Fish habitat,
- Significant wildlife habitat,
- Significant areas of natural and scientific interest

If you have any questions please do not hesitate to contact the undersigned.

Thank you for your time and assistance.

Yours truly,

Kristan Washburn MES
Terrestrial Ecologist
Tel: 705 522 6303
Fax: 705 671 9477
Cell: 705 662 2843

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Legend

- 1 km Records Review Area
- Lots
- Road Centre-Line

Notes:

Background base map produced by ESRI, World Topo Map 2009

TULLOCH ENVIRONMENTAL

0 0.5 1 2 3 4 km

Datum: NAD83
Projection: UTM Zone 17N

N W E S

Dunlop Lake

Study Area General Location

PROJECT: 11-2049	Figure 1
SCALE: 1:75,000	DATE: April 2013

Dunlop Lake

Study Area

Project: 112049	Figure 2
SCALE: 1:3,500	DATE: APRIL 2014
Datum: NAD83 Projection: UTM Zone 17N	N W E S

Legend

- Study area
- Lots
- Road
- Road Centre-Line

Notes:

Ecosites classified using Chambers, B., Naylor, B, Nieppola, J., Merchant, B, Uhlig, P (1997) Field Guide to Forest Ecosystems of Central Ontario. Ministry of Natural Resources, Queens printer Ontraio, Ontario, Canada.

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0 155 310 620 930 1,240 Meters

Table 1. Species at Risk identified to potentially occur wihtin the Dunlop Lake study area through searches of various resources.

Common Name	Scientific Name	Conservation Status			Info Source				
		National	Provincial						
		SARA[1]	ESA[2]	SRank[3]	NHIC[4]	ROM[5]	OBBA[6]	Mammals[7]	Herpetofaunal Atlas[8]
Birds									
Bald Eagle	*Haliaeetus leucocephalus*	—	SC	S3B		✔			
Barn Swallow	*Hirundo rustica*	THR	THR	S1B		✔			
Black Tern	*Chlidonias niger*	—	SC	S3		✔			
Bobolink	*Dolichonyx oryzivorus*	—	THR	S4B		✔			
Canada Warbler	*Wilsonia canadensis*	THR	SC	S5B		✔	✔		
Cerulean Warbler	*Dendroica cerulea*	SC	SC	S3B					
Chimney Swift	*Chaetura pelagica*	THR	THR	S5B		✔			
Common Nighthawk	*Chordelies minor*	THR	SC	S4B		✔			
Eastern Meadowlark	*Stumella magna*	THR	THR	S4B		✔			
Eastern Whip-poor-will	*Caprimulgus vociferus*	THR	THR	S5B		✔			
Olive-sided Flycatcher	*Contopus cooperi*	THR	SC	S5B		✔			
Peregrine Falcon	*Falco peregrinus*	SC	THR	S2B		✔	✔		
Red-headed Woodpecker	*Melanerpes erythrocephalus*	THR	SC	S4B					
Rusty Blackbird	*Euphagus carolinus*	SC	SC	S5B		✔			
Short-eared Owl	*Asio flammeus*	—	SC	S2		✔			
Yellow Rail	*Coturnicops noveboracensis*	SC	SC	S4B					
Herpetozoa									
Blanding's Turtle	*Emydoidea blandingi*	THR	THR	S4		✔			✔
Common Snapping Turtle	*Chelydra serpentina*	—	SC	S5		✔			✔
Eastern Milk Snake	*Lampropeltis triangulum*	SC	SC	S4		✔			✔
Wood Turtle	*Clemmys insculpta*	THR	END	S2		✔			✔
Lepidoptera									
West Virginia white	*Pieris virginiensis*	—	SC	S3		✔			
Monarch	*Danaus plexippus*	SC	SC	S2N, S4B		✔			

Mammals									
Eastern Cougar	*Felis concolor couguar*	—	END	SH		✔			
Little Brown Myotis	*Myotis lucifugus*	—	END	S3				✔	
Northern Myotis	*Myotis septentrionalis*	—	END	S3				✔	
Eastern Wolf	*Canis lupis lycaon*	SC	SC	S4		✔			
Fish									
Lake Sturgeon	*Acipense fulvescens*	THR	THR	S3		✔			
Northern Brook Lamprey	*Ichthyomyzon fossor*	SC	SC	S3		✔			

[1]Species at Risk Act, 2002; [2]Endangered species act, 2007; [3]SRank Code; [4]MNR NHIC Database; [5]Royal Ontario Museum SAR distribution maps; [6]Ontario Breeding Bird Atlas; [8] Digital Distribution Maps of the Mammals of the Western Hemisphere, version 3.0. NatureServe; [9] Ontario Nature, 2014.

From:	Trottier, Jim (MNR)
To:	Kristan Washburn
Cc:	Hall, Marjorie (MNR)
Subject:	RE: Natural Heritage Information Request: Dunlop Lake
Date:	Wednesday, July 30, 2014 4:17:01 PM
Attachments:	image001.png SSM_SAR_List(June27_2014).pdf Dunlop Lake Fish Spawning Areas (East End).pdf

---

Hi Kristan,

I have had the opportunity to review the information from the preliminary background data review on Dunlop Lake that you sent me, and I can provide the following additional information:

Significant Wetlands

No wetlands within Bouck Township have ever been evaluated for significance, thus it is unknown if any wetlands within the 1 km Dunlop Lake study area would score as provincially significant.

Significant Portions of the Habitat of END or THR species

There are no known Endangered or Threatened Species within the 1km study area around Dunlop Lake. That being said, there has been little or no inventory work carried out by MNRF in that area which may have detected END or THR species. A list of Species at Risk known to occur or which have occurred within Sault Ste. Marie District is attached.

Several Endangered and Threatened species have a higher possibility of occurrence within 1 km of the Dunlop Lake study site: Little Brown Myotis, Northern Myotis, Blanding's Turtle and Whip-poor-will.

Fish Habitat

Dunlop Lake is officially designated as a lake trout lake in the MNR policy document "Inland Ontario Lakes Designated for Lake Trout Management (May 2006)". Other fish species that have been recorded from Dunlop Lake in the past include brook trout, lake whitefish, round whitefish, rainbow smelt, longnose sucker, white sucker, golden shiner, brown bullhead, burbot, rock bass, pumpkinseed, smallmouth bass, yellow perch, and walleye. Lake trout spawning habitat has been identified at a number of locations in Dunlop Lake, with spawning areas at the east end of the lake shown on the attached map. Other types of lake

trout habitat, and habitat for other species, have not been identified.

Significant Wildlife Habitat

There are no documented significant wildlife habitats identified within 1 km of your study site on Dunlop Lake. Again, this is likely due to fact that little or no inventory work has been undertaken in this area to identify habitat features rather than there being no significant wildlife habitat present.

While any of the Species of Special Concern listed on the Sault Ste. Marie District Species at Risk list have the potential to be present if suitable habitat exists, there is a higher possibility that Snapping Turtle and Milksnake could be present within suitable habitat but have not been documented to date. The following also have a somewhat higher potential to be present: Canada Warbler, Common Nighthawk, Golden-winged Warbler, Monarch, and Olive-sided Flycatcher.

Significant Areas of Natural and Scientific Interest

There are no areas of natural and scientific interest identified within the Dunlop Lake study area.

Should you have any questions about any of the information provided, please feel free to contact me by email or phone.

Regards,

Jim

_____

James Trottier
Management Biologist
Ontario Ministry of Natural Resources and Forestry
62 Queen Avenue
PO Box 190
Blind River, ON P0R 1B0
Telephone: (705) 356-3018
Email: jim.trottier@ontario.ca

From: Kristan Washburn [mailto:kristan.washburn@tulloch.ca]
Sent: July-17-14 3:26 PM
To: Trottier, Jim (MNR)
Subject: FW: Natural Heritage Information Request: Dunlop Lake

Hello Jim,

I was wondering if you had the opportunity to look into this information request yet?

Thanks,

Kristan

Kristan Washburn MES
Terrestrial Ecologist

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From: Kristan Washburn [mailto:kristan.washburn@tulloch.ca]
Sent: Thursday, May 01, 2014 3:37 PM
To: jim.trottier@ontario.ca
Cc: Angela Keefe (angela.keefe@tulloch.ca)
Subject: Natural Heritage Information Request: Dunlop Lake

Hello Jim,

Please find attached a formal letter of request for natural heritage background information for proposed cottage lot development on Dunlop Lake.

Thanks,

Kristan

Kristan Washburn MES
Terrestrial Ecologist

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Sault Ste. Marie District Species at Risk (June 27, 2014)

	At Risk Status – Endangered (**END**), Threatened (**THR**), Special Concern (**SC**)	
Species Common Name	**Species At Risk in Ontario - (SARO)**	**Species at Risk Act (Federal Listing) - (SARA)**
American Chestnut	END	END
American Eel	END	No Status
Butternut	END	END
Cougar or Mountain Lion	END	Data Deficient
Eastern Small-footed Myotis	END	No Status
Golden Eagle	END	Not At Risk
Henslow's Sparrow	END	END
Hickorynut	END	No Status
King Rail	END	END
Kirtland's Warbler	END	END
Little Brown Myotis	END	No Status
Loggerhead Shrike	END	END
Northern Myotis	END	No Status
Redside Dace	END	SC
Shortnose Cisco	END	END
Wood Turtle	END	THR
American White Pelican	THR	Not At Risk
Bank Swallow	THR	No Status
Barn Swallow	THR	No Status
Blanding's Turtle	THR	THR
Bobolink	THR	No Status
Chimney Swift	THR	THR
Eastern Meadowlark	THR	No Status
Lake Sturgeon (Great Lakes - Upper St. Lawrence population)	THR	No Status
Least Bittern	THR	THR
Massasauga Rattlesnake	THR	THR
Shortjaw Cisco	THR	THR
Whip-poor-will	THR	No Status
Bald Eagle	SC	Not At Risk
Black Tern	SC	Not At Risk
Canada Warbler	SC	THR
Cerulean Warbler	SC	SC
Common Five-lined Skink	SC	SC
Common Nighthawk	SC	THR
Eastern Wolf	SC	SC
Golden-winged Warbler	SC	THR
Milksnake	SC	SC
Monarch Butterfly	SC	SC
Northern Brook Lamprey	SC	SC
Olive-sided Flycatcher	SC	THR
Peregrine Falcon	SC	SC
Red-headed Woodpecker	SC	THR
Short-eared Owl	SC	SC
Silver Lamprey (Great Lakes - Upper St. Lawrence population)	SC	No status
Snapping Turtle	SC	SC
Upper Great Lakes Kiyi	SC	SC
West Virginia White Butterfly	SC	-
Yellow Rail	SC	SC

Lake Trout Spawning Habitat at East End of Dunlop Lake

APPENDIX B: Provincially Significant Species

Table B1: Rare species that may potentially inhabit the Dunlop Lake area based on background review search.

Common Name	Scientific Name	Provincial S-Rank	Info Source							
			NHIC[1]	OBBA[2]	CBC[3]	Mammals[4]	Herpetofaunal Atlas[5]	Odonata Atlas[6]	Butterfly Atlas[7]	RVPO[8]
Birds										
Red-necked Grebe	*Podiceps grisegena*	S3B			✔					
Odonata										
Extra-striped Snaketail	*Ophiogomphus anomalus*	S3						✔		
Flag-tailed Spinyleg	*Dromogomphus spoliatus*	S1						✔		
Frosted Whiteface	*Leucorrhinia frigida*	S1S3						✔		
Riffle Snaketail	*Ophiogomphus carolus*	S2S3						✔		
Uhler's Sundragon	*Helocordulia uhleri*	S3						✔		
Mammals										
Northern long eared bat	*Myotis septentrionalis*	S3				✔				
Plants										
Alga pondweed	*Potamogeton confervoides*	S2								✔
Auricled twayblade	*Listera auriculata*	S3								✔
Braun's holly fern	*Polystichum braunii*	S3								✔
Greater poverty rush	*Juncus anthelatus*	S1								✔
Hornemann's willow herb*	*Epilobium hornemannii*	S1								✔
Large roundleaved orchid*	*Platanthera macrophylla*	S2								✔
Limestone oak Fern	*Gymnocarpium*	S2								✔
Nahanni oak Fern	*Gymnocarpium jessoense*	S3								✔
Nuttall's waterweed	*Elodea nuttallii*	S3								✔
Single-glumed spike-rush*	*Eleocharis uniglumis*	S3?								✔
Thick-leaved Orache	*Atriplex dioica*	S2S3								✔
Western lady fern	*Athyrium filixfemina var.*	SH								✔
Alpine woodsia	*Woodsia alpina*	S2								✔
Beautiful serviceberry	*Amelanchier amabilia*	S2S3								✔
Blue wild rye	*Elymus glaucus*	S1								✔
Boreal bedstraw	*Galium kamtschaticu*	S2								✔
Brook cinquefoil	*Potentilla rivalis*	SH								✔
Clinton's clubrush	*Trichophorum clintonii*	S2S3								✔
Fall crab grass	*Digitaria cognata*	S1								✔
moonwort	*Botrychium*	S1								✔
Floccose tansy	*Tanacetum bipinnatum*	S4								✔
Great lakes sand reed	*Calamovilfa longifolia var.*	S3								✔
Green's rush	*Juncus greene*	S3								✔
Ground fir	*Diphasiastrum sabinifolium*	S3								✔
Large water starwort	*Callitriche heterophylla*	S2?								✔

Common Name	Scientific Name	Provincial S-Rank	Info Source							
			NHIC[1]	OBBA[2]	CBC[3]	Mammals[4]	Herpetofaunal Atlas[5]	Odonata Atlas[6]	Butterfly Atlas[7]	RVPO[8]
Large-leaved sandwort	*Moehringia macrophylla*	S2								✔
Laurentian bladder fern	*Cystopteris laurentiana*	S3								✔
Long headed spike rush	*Eleocharis macrostachya*	S1S3								✔
Long-branched frostweed	*Helianthemum canadense*	S3								✔
Mountain firmoss	*Huperzia appressa*	S3?								✔
Mountain woodsia	*Woodsia scopulina*	S3								✔
Musk flower	*Mimulus moschatus*	S2?								✔
Northern manna grass	*Glyceria canadensis var.*	SH								✔
Northern twayblade	*Listera borealis*	S1S2								✔
Ontario goldenrod	*Solidago simplex var.*	S3?								✔
Oval-leaved bilberry	*Vaccinium ovalifolium*	S3								✔
Pale moonwort	*Botrychium pallidum*	S1								✔
Pointed moonwort	*Botrychium acuminatum*	S1								✔
Quill spike-rush	*Eleocharis nitida*	S2S3								✔
Rattlesnake hawkweed	*Hieracium venosum*	S2								✔
Russet sedge	*Carex saxatilis*	S3								✔
Soft cinquefoil	*Potentilla pulcherrima*	S2								✔
Triangle moonwort	*Botrychium lanceolatum*	S1								✔
Water awlwort	*Subularia aquatica*	S3								✔
Western moonwort	*Botrychium hesperium*	S1								✔
Wiegand's sedge	*Carex wiegandii*	S1								✔
Woodland pine drops	*Pterospora andromedea*	S2								✔
Woolly beach heath	*Hudsonia tomentosa*	S3								✔

[1]MNR NHIC Database; [2]Ontario Breeding Bird Atlas; [3]Christmas Bird Count; [4]Digital Distribution Maps of the Mammals of the Western Hemisphere, version 3.0. NatureServe; [5]Ontario Herpetofaunal Atlas, 2000.[6]Ontario Odonata Atlas, 2005;[7]Ontario Butterfly Atlas, 2011; [8]Rare Vascular Plants of Ontario, Fourth Edition, 2009.