

Scoped Environmental Impact Assessment

79 West Whalley Lake Road
Municipality of Magnetawan

Part of Lots 2 & 3, Concession 9
Former Geographic Township of Croft

July 2023



Introduction

FRi Ecological Services (FRi) was retained to complete field investigations and reporting in support of a proposed consent to create three (3) new shoreline residential lots and one (1) retained lot for the property located at 79 West Whalley Lake Road. The subject property is shown in Figure 1.



Figure 1: 79 West Walley Lake Road; Highway 124 is visible along the south boundary of the property.

The following reporting is intended to meet the application submission requirements outlined in a pre-consultation memo dated December 14, 2022, from MHBC Planning, the municipality's planning consultant. The memo recommends an Environmental Impact Study (EIS) identify the limits of fish habitat on the property as well as mitigation measures for the protection of fish habitat. It refers to an "EIS to provide evidence that the proposed consent applications would conform to Section 2.7 and 4.10 of the Official Plan". The memo also recommends an EIS provide recommendations respecting retaining shoreline vegetation and defining suitable building envelopes and dock locations for each proposed lot.

The proposed lots include three severed and one retained, shown in Figure 2 below.



Figure 2: Proposed three-lot severance and retained portion. The entire parcel outlined in red is the subject of this report and associated field investigations.

Approach

Field Investigations – Fish Habitat Watercourse

FRi biologists completed two field investigations to assess the existing condition of the subject property respecting general environmental considerations, as well as targeted fish habitat and community assessment.

On July 10, 2023, under the authority of a License to Collect Fish issued by the Ministry of Natural Resources and Forestry, biologists deployed minnow traps in the unnamed watercourse which flows under West Whalley Lake Road, along the northern boundary of the subject property and into Whalley Lake. The watercourse and approximate location of the minnow traps are shown in Figure 3.



Figure 3: Unnamed watercourse, wholly within other lands to the west and the adjacent 'Retained Lot 1' to the north of the proposed severed lots. The approximate locations of the deployed minnow traps are shown as a blue dot. Fishes were captured, the watercourse is confirmed cool water fish habitat.

Three (3) traps were deployed in the watercourse, one upstream of the culvert under the road and the remaining two, downstream. The watercourse's physical characteristics were assessed including the riparian area vegetation and slope, water depths, temperature, and substrate.

On July 21, 2023, FRi completed fish habitat investigations along the entirety of the shoreline fronting the proposed lots. The extent and type of wetlands were delineated and noted; suitable dock locations were similarly noted outside of the wetland areas.

Results – Fish Habitat Watercourse

The unnamed watercourse is confirmed direct fish habitat. Fishes captured included brook stickleback, mudminnow and creek chub. Water temperatures at the time of the fish community assessment were 14°C.



Figure 4 & Figure 5: Creek chub and brook stickleback; representative photos of fish captured during fish community assessment in July 2023.

The watercourse is best described as a permanent cool water stream, with coarse mineral substrate. The stream is within a steep-sided valley, with a wide floodplain which accommodates the meandering channel. The average wetted depth was 50 cm with occasional deeper pools along the outside of stream bends and undercut banks, with shallower flats and riffles in areas where the stream gradient was minimal. The average wetted width was 100 cm.



Figure 6: View from top of valley bank looking west toward Whalley Lake. Unnamed watercourse meanders through the valley in centre of photo.

The stream banks were occasionally undercut, and instream aquatic vegetation was present in the lower reach, downstream of the culvert near where the watercourse exits to Whalley Lake. The riparian area is generally heavily vegetated with both shrubs and herbaceous vegetation. These provide shade and a food source for the fish and fish habitat in the stream.



Figure 7 & Figure 8: Watercourse meanders through heavily vegetated floodplain (left); overview of herbaceous vegetation and structure which accommodate the stream channel (right).

Consistent with the Municipality's Official Plan, a 30-metre setback is recommended for the permanent stream, while a 15-metre setback is recommended for the ephemeral watercourse. Figure 9 shows the recommended watercourse setbacks. No development should occur in the setback areas; if development is necessary, FRi recommends a Request for Review be submitted to Fisheries and Oceans (DFO) for review and approval.

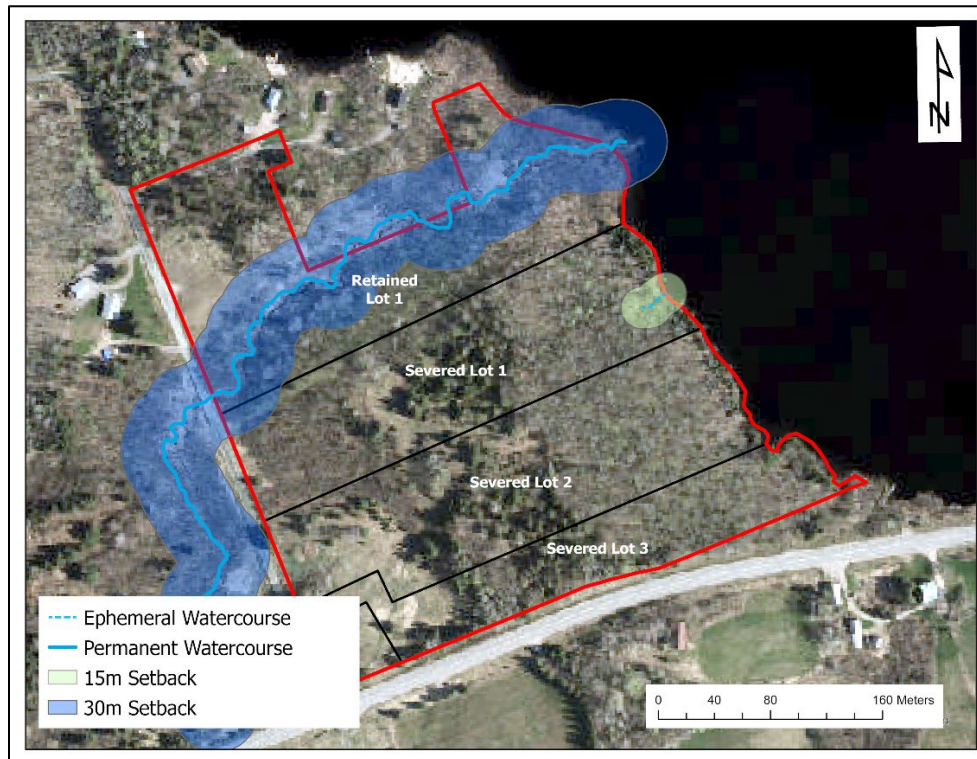


Figure 9: Recommended 15m and 30m no-development setbacks on ephemeral and permanent watercourses.

Field Investigations – Fish Habitat Whalley Lake

According to Fish Online¹, Whalley Lake is home to the following fish species:

- Black Crappie
- Brown Bullhead
- Largemouth Bass
- Pumpkinseed
- Smallmouth Bass
- White Sucker
- Yellow Perch

The Parry Sound Ministry of Natural Resources and Forestry (MNR) Fisheries Habitat Management database indicates the presence of both specialized and non-specialized fish habitat fronting the subject property. Figure 10 shows the MNR fish habitat mapping and the descriptions accompanying each fish habitat polygon in Table 1. The information source is listed as 'OMNR, 1993 aerial video tape interpretation'. Note that aerial video tape interpretation results should be considered appropriate for a landscape scale approach to fish habitat delineation, but less appropriate for small sections of shoreline. It's also important to note that the data from 1993 is thirty (30) years old, and lakes and their lacustrine areas are dynamic, so changes to fish habitat at the lot-level are highly likely.

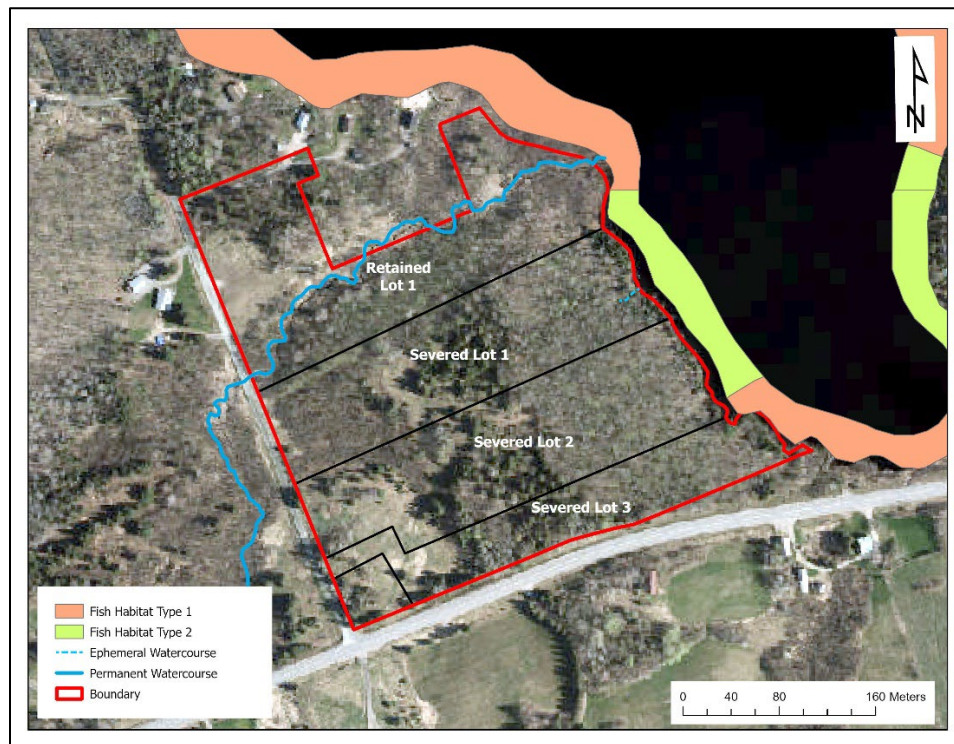


Figure 10: Fish habitat type mapping from MNR fish habitat management. Note the mapped fish habitat reflects data from 1990's aerial video tape interpretation, not the existing fish habitat condition in 2023.

¹ Fish Online. Accessed May & July 2023.

<https://www.lioapplications.lrc.gov.on.ca/fishonline/Index.html?viewer=FishONLine.FishONLine&locale=en-CA>

TYPE	LAKE NAME	HABITAT	DESCRIPTION
1	Whalley Lake	Specialized spawning, nursery and feeding habitat	Significant areas of emergent and/or submergent aquatic vegetation
2	Whalley Lake	Variable; non-specialized spawning areas for centrarchids (bass), cyprinids (minnows), y. perch etc.; nursery area for minnows and bass; feeding areas for pike, bass, minnows, etc.	Highly variable ; ranging from detritus substrate to small aquatic vegetation beds to rocky bedrock substrate. Generally abundant non-specific habitat utilized by a wide variety of inhabiting fish species at various life stages.
1	Whalley Lake	Specialized spawning, nursery and feeding habitat	Significant areas of emergent and/or submergent aquatic vegetation

Table 1: Description of mapped fish habitat from MNRF 1990's database. See Figure 10 above for habitat polygon locations.

Results – Fish Habitat Whalley Lake

FRi did not complete a fish community assessment for Whalley Lake. The Fish Online database includes a comprehensive list of species present. In addition, the unnamed watercourse outlets directly to Whalley Lake so those species are also assumed present in the lake.

FRi completed an in-person shoreline fish habitat assessment for the entire frontage along the retained and proposed lots in July 2023. The shoreline is fully vegetated and the terrestrial upland area rises from the lake on moderate slopes for the majority of the proposed severed lots. The areas of 'type 1' and 'type 2' fish habitat as identified and delineated in the field, are shown in Figure 11 and are not entirely consistent with the Parry Sound fish habitat mapping shown in Figure 10 above.

The near shore substrates include a mix of larger cobble, usually a single or incomplete layer over coarse to fine sand. None of this constitutes significant Type 1 habitat; a search of the Land Information Ontario 'Spawning Areas' database, shows there are no spawning areas overlapping the frontages of the proposed (or retained) lots. The fishes present in the lake include large and smallmouth bass, black crappie, yellow perch and white sucker. There were no areas of specialized spawning habitat identified for any of the fish species present in Whalley Lake.

There are three small wetland inlets, where patches of aquatic vegetation were present; these areas are shown in Figure 11 and are considered to represent suitable Type 1 fish habitat. The remainder of the lacustrine shoreline area was largely free of aquatic vegetation, with occasional small, scattered patches of watershield (*Brasenia schreberi*) and pickerelweed (*Pontederia*

cordata). The absence of abundant aquatic vegetation appears to be related to water depths of >2 metres almost immediately offshore.

The areas identified as green stippled polygons represent the assessed aquatic vegetation patches, which could support spawning and nursery or other Type 1 habitat functions for fish. There are no docks or other activities (e.g. dredging) recommended for these areas. The areas of aquatic vegetation should be avoided and similarly, the shoreline activity areas/access, should avoid these areas.

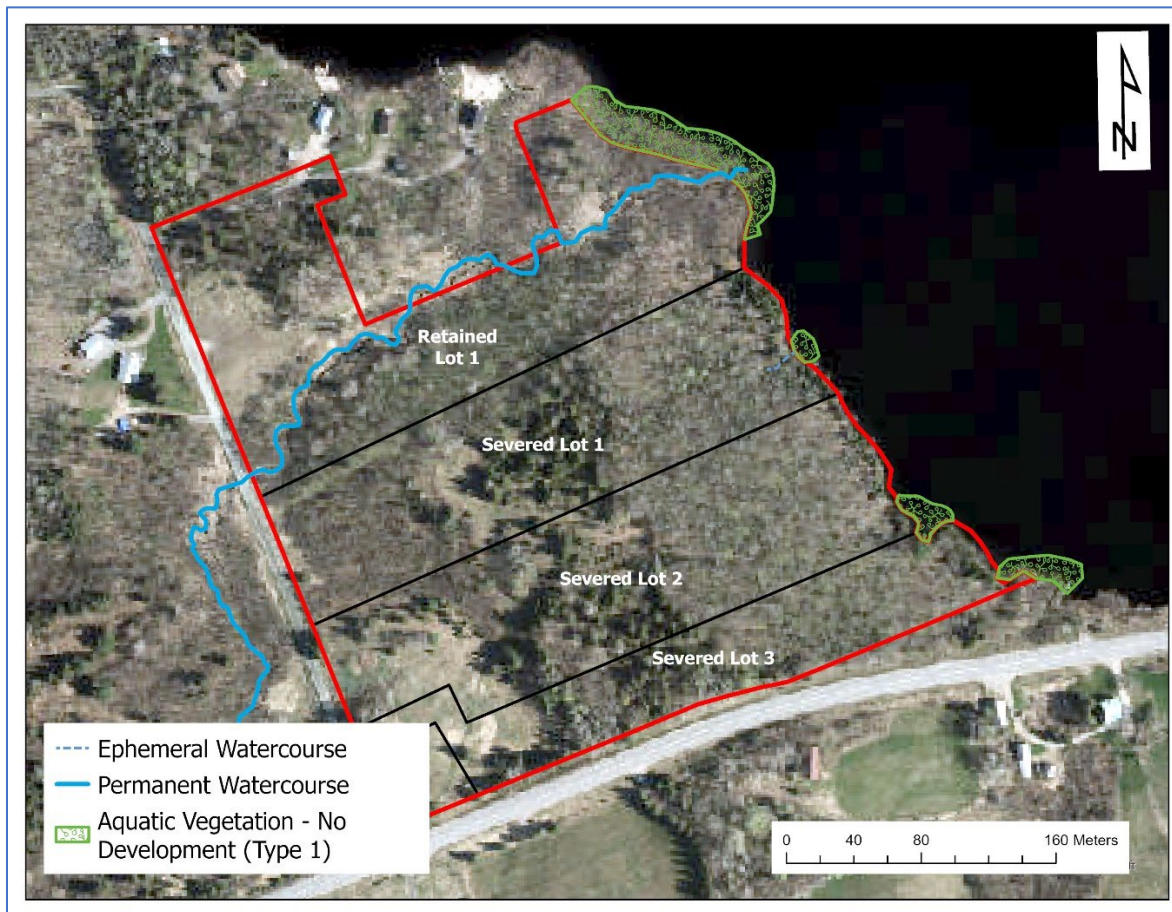


Figure 11: Fish habitat fronting proposed and retained lots. Note the green stippled polygons represent assessed Type 1 fish habitat.

The remaining frontage is considered 'Type 2' habitat, which is best described as non-specific, general fish habitat. Shoreline activities, including access and floating docks are appropriate in these areas and there are no negative impacts to fish or fish habitat are anticipated. The areas where floating docks and shoreline access are permitted are shown in Figure 12.

Proposed severed lot 1 has approximately 45 and 20 metres of frontage outside of Type 1 habitat. Proposed severed lot 2 has approximately 70 metres of frontage outside of Type 1 habitat and

Proposed severed lot 3 has approximately 40 metres of frontage outside of Type 1 habitat. All distances were measured 'straight-line' from edge to edge.

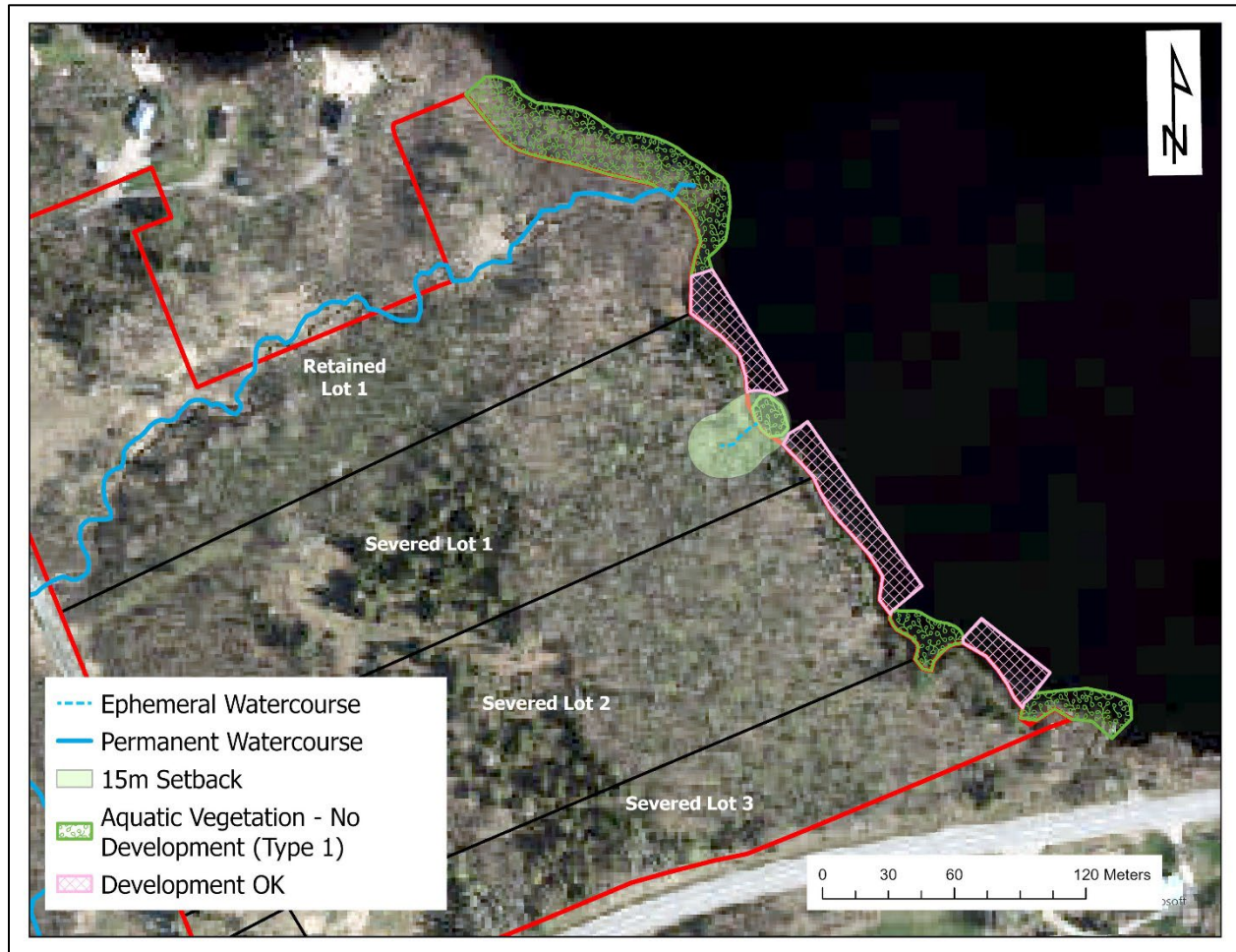


Figure 12: Pink hatched polygons represent the 'Type 2' or general fish habitat areas as assessed and delineated during field investigations in July 2023. Note that all three of the proposed severed lots have more than 10 metres of frontage on non-Type 1 fish habitat. Floating docks can be situated anywhere within the pink hatched areas fronting each proposed (and retained) lot.

Proposed Severed Lot 1

Proposed severed lot 1 includes mature hardwood forest for the portion fronting Whalley Lake. It has a moderate slope from the lake shoreline and is naturally vegetated. There is an old (since grown up) flat area along the south boundary with proposed severed lot 2 which may have been the site of an old building. The lot reaches a height of land and includes some conifer which is visible in the leaf-off aerial imagery above. The backlot slopes gently toward West Whally Lake Road and includes a shrubby old field area.



Photo: 1 – View from Lot 1 looking southeast Photo: 2 – Hardwood forest and ATV trail Lot 1

Proposed Severed Lot 2

Proposed severed lot 2 is similar to proposed severed lot 1 with mature hardwood forest and moderate slopes on the east side and old field on the backlot roadside. The hardwood bush includes sugar maple and beech, with occasional inclusions of basswood and yellow birch. Soils are mineral in nature and generally considered shallow as bedrock is visible at the surface or <15cm below the soil layer. The old field area on proposed severed lot 2 includes fewer shrubs and is almost entirely grasses and other herbaceous vegetation.



Photo: 3 & Photo: 4 – View from Lot 2 looking northeast



Photo: 5 – Interior upland hardwood forest on 'lake side' of lot; note large boulders at surface and moderate slopes

Proposed Severed Lot 3

Similar to proposed severed lots 1 and 2, Lot 3 has a moderately sloped hardwood forest on the east (lake) side with a mixedwood – conifer height of land, after which it slopes gently to the west where it meets West Whalley Lake Road. The old field area is like proposed severed Lot 2 and includes mostly grasses and herbaceous vegetation, the absence of shrubs suggests it was more recently subject to activities. A small network of existing ATV trails run throughout all three proposed and the retained lot.



Photo: 6 View of proposed Lot 3 frontage; note aquatic vegetation in foreground (identified Type 1 fish habitat) Photo: 7 Hardwood forested area, large boulders at surface, moderately sloping uphill from Whalley Lake on proposed Lot 3



Photo: 8 Typical old field habitat at back of all three proposed severed lots.

Conformity to Magnetawan Official Plan & Zoning By-Law

Section 4.7 and 4.10 'Significant Fish Habitat' and 'Adjacent Lands'

Section 4.7 of the Official Plan requires that new waterfront lots have a minimum of 10 metres of shoreline frontage that is outside of Type 1 fish habitat. FRi delineated the fish habitat along the entire shoreline frontage of the subject property to provide field-supported conclusions that there is at least 10 metres of non-Type 1 fish habitat fronting each of the three proposed severed lots. There is similarly, at least 10 metres of frontage on non-type 1 fish habitat fronting the retained lot. The methods and rationale for the updated fish habitat associated with the proposed severed and retained lots is detailed in the following section of this report.

Based on the fish habitat assessment of both the watercourse and the shoreline within and adjacent the subject property, there is at least 10 metres of 'non-Type 1' fish habitat fronting each of the proposed severed and retained lots.

Further, floating dock structures often provide excellent cover for spawning fish like large and smallmouth bass. It is our opinion that there are suitable locations for floating docks for each of the proposed (and retained) lot which would be situated outside of Type 1 fish habitat, and which would similarly have no negative impact on fish or fish habitat.

Section 4.10 defines 'adjacent lands' as those within 30 metres of a watercourse and within 120 metres of Type 1 fish habitat. To meet the Municipality's Official Plan and zoning by-law requirements respecting the lot creation and anticipated development, the following recommendations apply to the proposed lots and associated development:

- a) A thirty (30) metre naturally vegetated setback from the high-water mark; excepting a permitted Shoreline Activity Area (SAA);
- b) Shoreline Activity Area – lands within the naturally vegetated setback used for recreation and lake access. This SAA will be contiguous with the area identified as 'Development OK' or 'Type 2' fish habitat in Figure 12.
 - a. The SAA maximum recommended width of 10 m, and contiguous (not split into separate sections);
 - b. The SAA maximum recommended area of 50m² with a maximum 10m width as noted above;
 - c. The SAA is expected to include a floating dock and associated infrastructure, e.g. trail to the lake; but does not include buildings or other structures; and,
- c) Trail to access the lake through the 30 m vegetated setback to the SAA should not exceed 2.5m in width.

These recommendations for shoreline naturally vegetated setbacks and Shoreline Activity Areas are consistent with other shoreline properties in the municipality. The recommended 30 metre shoreline setback meets or exceeds the Zoning By-law requirements for building setbacks on watercourses (Section 3.25).

Figure 13 shows all of the recommendations for setbacks on the watercourses (permanent and ephemeral), shoreline and identified Type 1 fish habitat areas. With the exceptions already noted e.g. permitted Shoreline Activity Area, the natural vegetation should not be disturbed in these areas, and no development activities should occur.

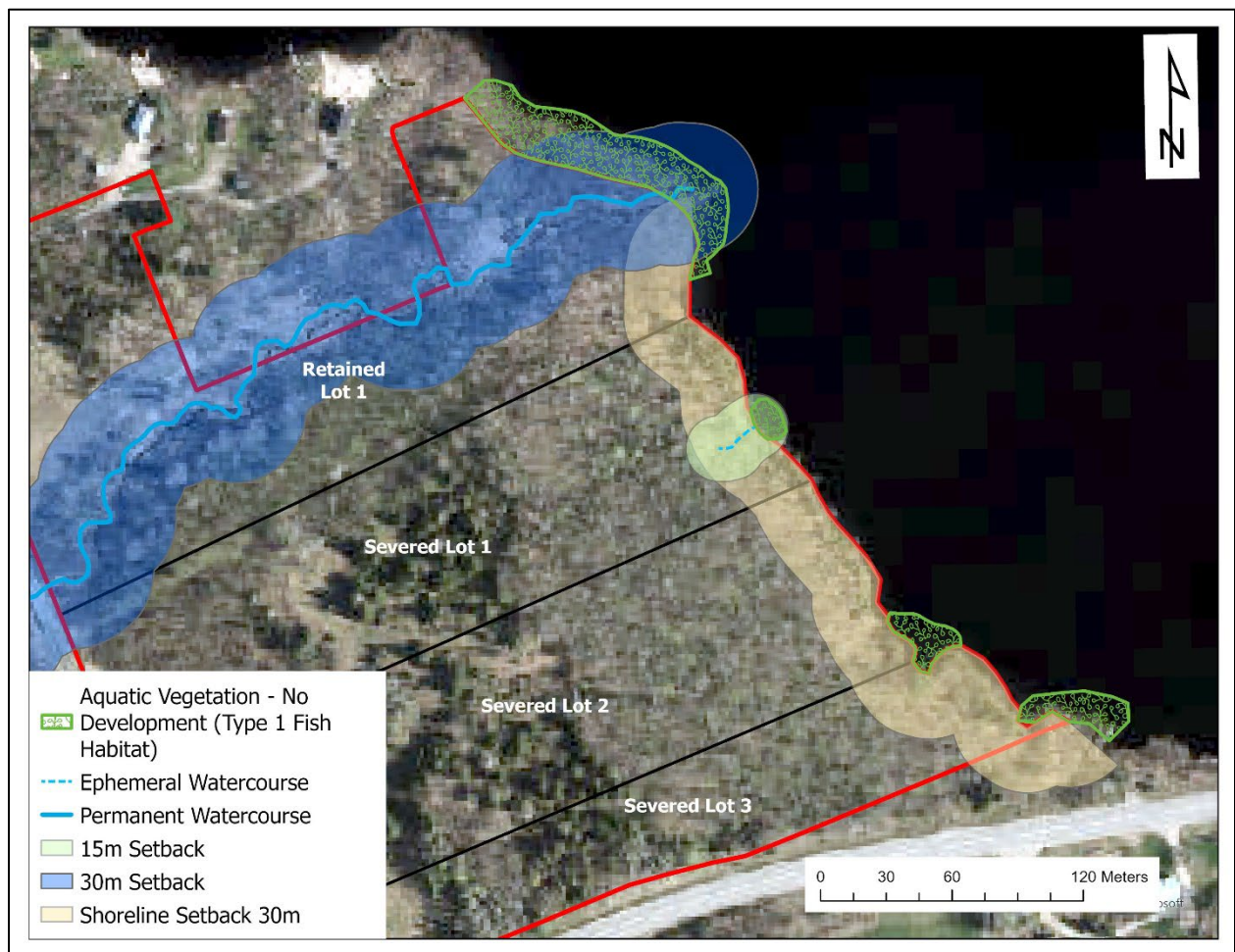


Figure 13: The recommended 15m, 30m and 'no development areas' for all three proposed severed lots.

The areas outside of the recommended setbacks and delineated habitat areas can accommodate anticipated shoreline residential development with no negative impacts to any identified natural heritage features and areas including fish and fish habitat.

General recommendations for protecting natural heritage features are as follows:

- To protect breeding birds and other wildlife during their active seasons, vegetation and tree clearing including site preparation activities in the field and forested areas of the lots should occur from October 1st through March 31st of any given year.
 - This recommended timing window for site preparation and construction activities applies to work in natural areas only. For example, the installation of a driveway/access, well and septic and site preparation for buildings.
 - Once an area is cleared and prepared for construction, erosion and sediment controls should be in place to ensure loose materials and substrate do not enter either the watercourses or the lake. Suggested controls include appropriately installed and maintained light-duty silt fencing. This will protect the identified nearby Type 1 fish habitat.
- Minimum lot coverage setbacks will be adhered to; and
- Septic systems will be a minimum 30 metres from the high-water mark and situated and installed in accordance with the applicable regulations.
- If new culverts are needed for access or construction, they may require a Request for Review by Fisheries and Oceans. A self-assessment can be completed following instructions online.

Summary

The property at 79 West Whalley Lake Road includes frontage on Whalley Lake. There are three proposed severed lots for which a scoped environmental impact assessment was completed based on the pre-consultation memo dated December 2022.

We trust this report addresses the pre-consultation comments fish and fish habitat considerations and provides recommendations to avoid negative impacts to the same. Provided the areas identified as fish habitat and the associated setbacks are avoided, the proposed lots can accommodate shoreline residential development and avoid negative impacts to fish and fish habitat as well as the adjacent areas. If the recommendations are appropriately implemented, it is FRi's opinion that the proposed consent to create three lots is consistent with the Municipality of Magnetawan's planning framework.

Respectfully submitted,



Rebecca Geauvreau, FRi Ecological Services