



Rideau Waterway
LAND TRUST

Property Management Plan for Brenda Carter Nature Reserve



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Prepared for:

Rideau Waterway Land Trust

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Preserving special places in our community

Acknowledgements and Disclaimers

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1 MISSION STATEMENT

1.1 VISION, MISSION, AND GUIDING PRINCIPLES

The Rideau Waterway Land Trust’s (RWLT) vision is that “Nature has a future because our communities care.” Their mission is “To preserve important natural lands and habitat in the Rideau Corridor and foster a healthy future for our communities.”

RWLT uses the following guiding principles:

- We focus on the preservation of important land that supports plants, animals, and clean water.
- Our actions are inclusive and for the benefit of the community.
- We welcome the participation of those who appreciate the importance of nature.
- We strive for the right balance between access and the protection of conservation values.
- We partner with other organizations on mutually beneficial activities.

1.2 GENERAL GUIDELINES FOR MANAGEMENT PLAN

- The primary objective is the conservation of biodiversity.
- Use of properties owned and managed by the RWLT will be restricted to activities that are consistent with its mission statement, guiding principles and property-specific guidelines.
- Signage will be carefully planned to encourage only compatible activities. Signs at suitable access points will indicate:
 - Property ownership
 - Emergency contact name and telephone number
 - Trespassing is prohibited and access is restricted.

1.3 SITE INFORMATION USED FOR THIS MANAGEMENT PLAN

This Management Plan is based on:

- Woodland Management Plan completed by Stewart Hamill in 1999
- Ecological Gifts Application completed by RWLT in 2010
- Property information collected during site visits by Ontario Land Trust Alliance and RWLT staff in July 2020 and June 2021.

2 PROPERTY MANAGEMENT PLAN SUMMARY

2.1 PROPERTY INFORMATION

Brenda Carter Nature Reserve (NR) consists of three parcels that together make up 174 hectares (430 acres). The property is located at the southern edge of the city of Ottawa boundary (Figure 2) at the corner of Dwyer Hill Road and Flood Road. The property’s landscape features a variety of ecosystem types including deciduous and coniferous forests, open fields, and swamp, marsh, and open water wetlands. The wetlands on the property belong to two different provincially significant wetlands; the most northern wetland belongs to the Marlborough Forest Complex while the creek running across the southern section of the property belongs to Brassil’s Creek Wetland Complex (**Error! Reference source not found.**). The combination of these ecosystem types promotes biodiversity as they create habitat for a wide range of species including several species at risk.

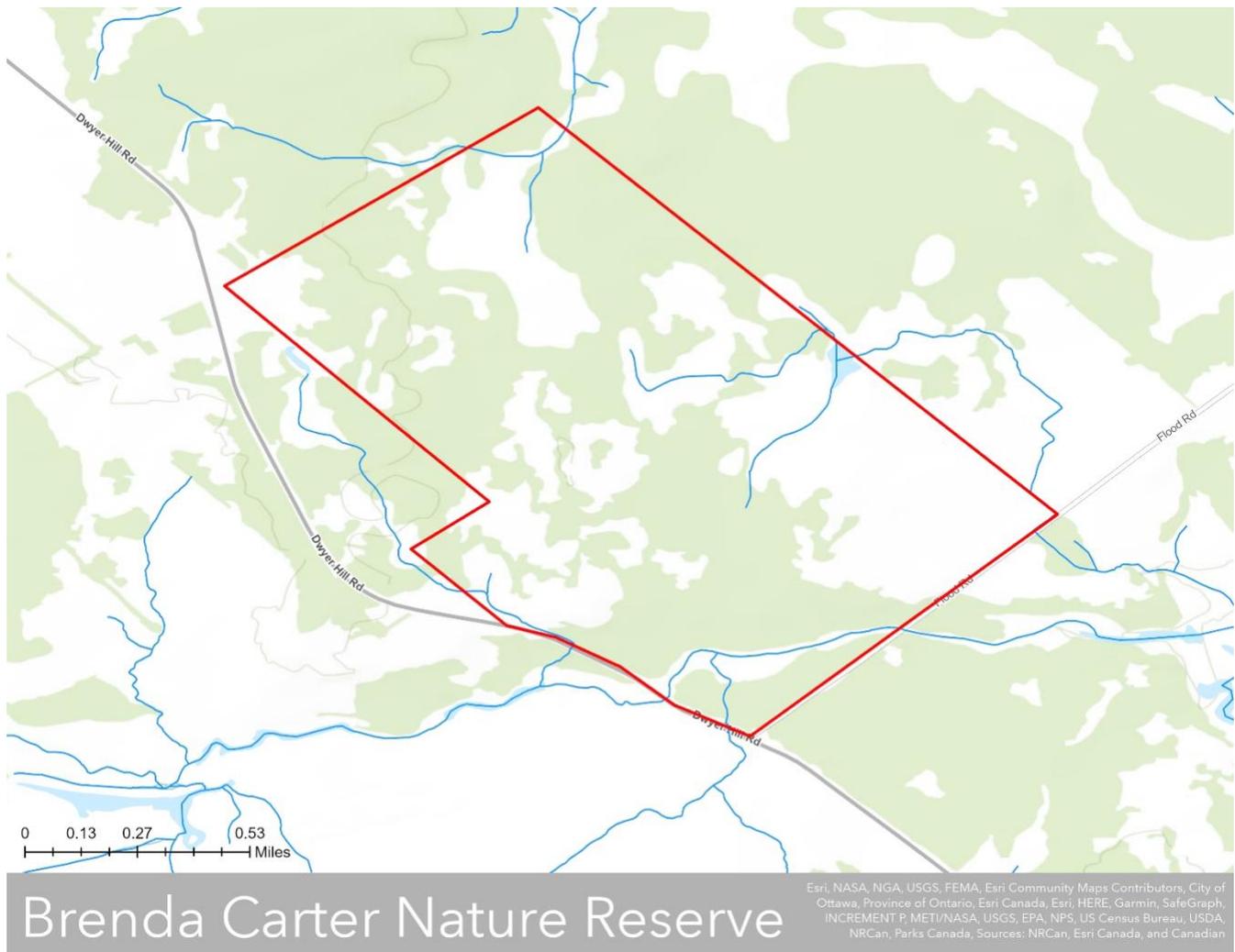


Figure 1: Brenda Carter Nature Reserve (outlined in red)

2.1.1 Location

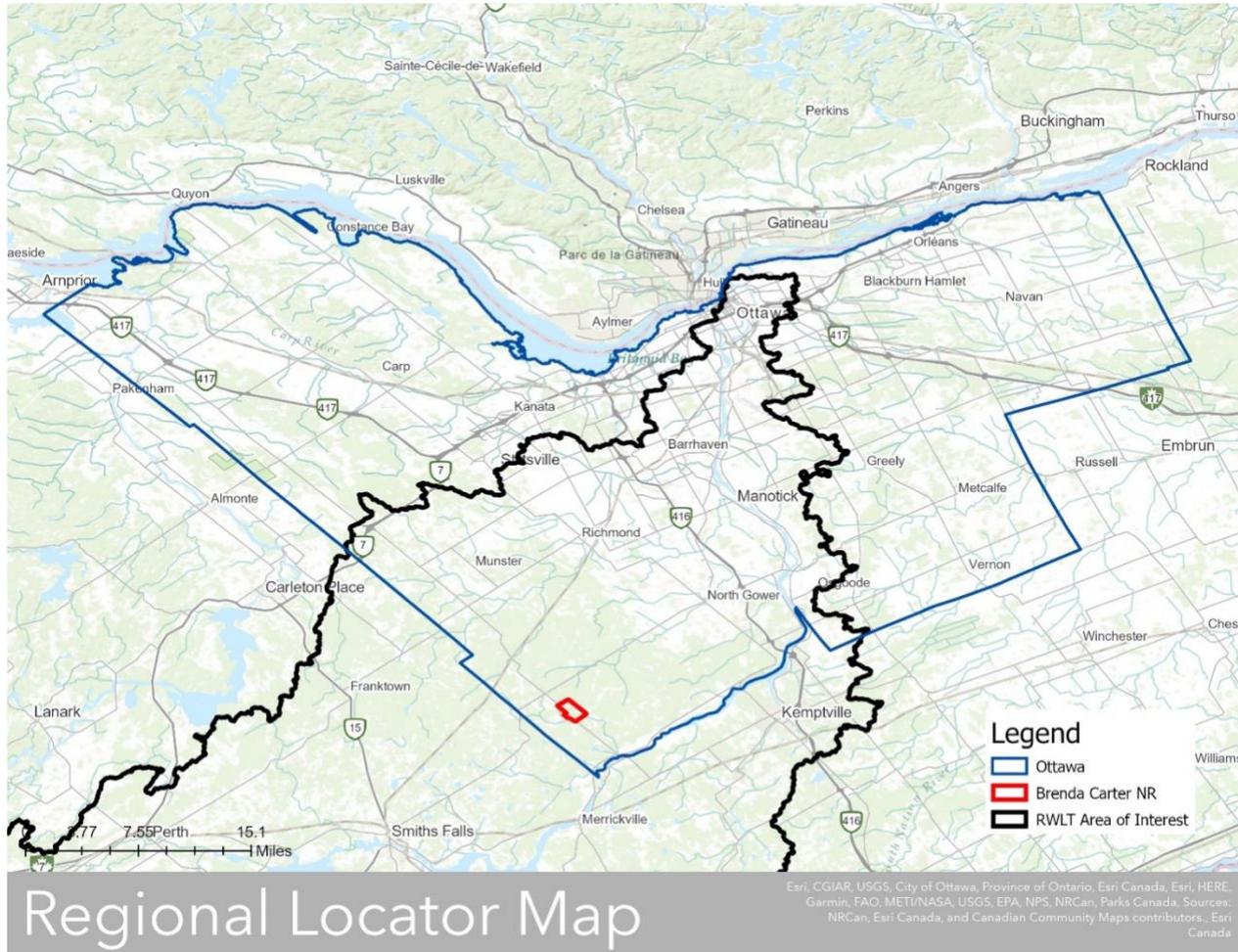


Figure 2: Regional Locator Map – Location of Brenda Carter NR relative to City of Ottawa and RWLT Area of Interest

2.1.2 Property Area

Brenda Carter NR is 174 hectares and is made up of three contiguous parcels bounded by Dwyer Hill Road to the west and Flood Road to the south.

2.1.3 Securement Type/ Year

| PROPERTY IDENTIFICATION NUMBER (PIN) | ASSESSMENT ROLL NUMBER | AREA (HECTARES) | YEAR ACQUIRED | ACQUISITION TYPE | PURCHASE PRICE |
|--------------------------------------|------------------------|-----------------|---------------|------------------|----------------|
| 03925-0197 (LT) | 06 14 181 815 21500 | 80.93 | 2009 | Donation | N/A |
| 03925-0195 (LT) | 06 14 181 815 21600 | 80.93 | 2009 | Donation | N/A |
| 03925-0116 (LT) | 06 14 181 815 21700 | 12.14 | 2009 | Donation | N/A |

2.1.4 Key Local Partners

1. Ducks Unlimited Canada
2. Rideau Valley Conservation Authority
3. City of Ottawa

*Note: Contact information for key partners can be found in Appendix C: Contact Information for Key Local Partners

2.2 BIODIVERSITY VALUES

A brief summary can be found below, with further details in Section 5.2: Biological Features.

| | <i>Number of Species</i> | <i>Notes</i> |
|---------------------|--------------------------|---|
| <i>Amphibian</i> | 9 | Including one federally threatened species |
| <i>Bird</i> | 68 | Including 5 Species at Risk, 10 forest interior species, and 1 non-native species |
| <i>Invertebrate</i> | 3 | Including 1 Species at Risk |
| <i>Mammal</i> | 12 | Including white-tail deer, coyote, fisher, beaver, raccoon |
| <i>Plant</i> | 61 | Including 1 provincially tracked species and 16 non-native species |
| <i>Reptile</i> | 6 | Including 3 Species at Risk |
| <i>Tree/Shrub</i> | 30 | Including 2 non-native species |

2.3 CONSERVATION TARGETS AND THREATS

2.3.1 Conservation Targets/ Overall Viability Assessment

| <i>Target</i> | <i>Overall Viability</i> | <i>Comments</i> |
|--------------------------------|--------------------------|---|
| <i>Forest</i> | Good | All indicators are in relatively good condition. The main concerns in the forest are the invasion of Common Buckthorn as well as the areas of forest that are coniferous plantations that do not support biodiversity. |
| <i>Marlborough Wetland</i> | Good | All indicators were ranked as “Good” or “Fair”. There is some information lacking for Marlborough Wetland which could help improve some rankings. In addition, the evaluation of unevaluated wetlands could increase the ecological importance of additional wetlands in the complex. |
| <i>Brassil’s Creek Wetland</i> | Good | All indicators were ranked “Good” or “Fair”. The main concern for this wetland is the invasion of invasive Phragmites, Purple Loosestrife, and Wild Parsnip in some areas of the wetland complex. |

| | | |
|------------------|------|---|
| <i>Grassland</i> | Fair | Indicators are generally “Good” or “Fair”, with one indicator ranked as “Poor”. The area is going through succession in many areas with woody vegetation encroaching on open, grassland habitat that many species depend on. The shrubs include both native juniper and cedar as well as non-native, invasive Common Buckthorn. |
|------------------|------|---|

2.3.2 Highest Threats

| <i>Threat</i> | <i>Ranking</i> | <i>Comments</i> |
|--|----------------|--|
| <i>Invasive, Non-Native Plants and Animals</i> | High | There are records of numerous invasive, non-native plants on the property that negatively impact all Conservation Targets. Some of these species are very aggressive and require immediate attention and management to prevent harm to the ecological integrity of the property. |
| <i>Climate Change</i> | Medium | An assessment of this property revealed that climate change could have serious impacts on the ecology of the property by compounding existing threats like invasive, non-native plants, putting new stresses on Conservation Targets, and introducing new threats to the property such as pests and disease. |

2.4 CONSERVATION MANAGEMENT GOAL AND OBJECTIVES

2.4.1 Goal

It is RWLT’s goal to maintain the ecological integrity of the property with the following vision:

- Forests, meadows, and wetland communities that contribute to maintaining connectivity between neighbouring ecosystems and support a diversity of species from the turtles that nest along Brassil’s Creek to the whip-poor-wills that sing in the meadows and nest in the forests.

2.4.2 Objectives

RWLT intends to maintain the ecological integrity of Brenda Carter NR. This nature reserve has extensive forest and wetlands that are provincially significant. It is our goal to ensure its persistence as well as the species it supports into the future.

RWLT will maintain the ecological integrity of the property with the following objectives:

1. Maintain and where necessary enhance the Forests, Wetlands, and Grasslands;

2. Monitor and manage threats to the conservation targets such as invasive, non-native species that pose a significant threat to biodiversity and species at risk in line with best management practices, trespassing and dumping; and
3. Monitor species at risk and where necessary enhance habitat to support species at risk on the property in line with strategies outlined in government recovery documents.

2.5 FIVE-YEAR BUDGET SUMMARY

The total cost to implement this management plan is about \$24,125 over five years or approximately \$4,825 per year. For information related to stewardship budgeting beyond the scope of the five years covered by this plan, including the plan update scheduled for 2026, please see Section 8.3. All cost calculations are based on rates from 2021 and are subject to change.

2.5.1 Urgent Actions

| Description | | Cost | Frequency |
|-----------------------------|--|---------------------------|----------------|
| Property Maintenance | Perform tasks as needed to keep property in good condition ecologically and functionally <ul style="list-style-type: none"> • Remove invasive species • Remove unauthorized construction | \$792 | Annually |
| | | Total Over 5 Years | \$3,960 |

2.5.2 Necessary Actions

| Description | | Cost | Frequency |
|-------------------------------------|---|---------|----------------|
| Property Taxes and Insurance | <ul style="list-style-type: none"> • Register property under CLTIP CCL • Maintain insurance policy • Liaise with municipalities/MNRF/MPAC | \$1,573 | Annually |
| Property Signage | Maintain and replace signage as needed, assuming 10 year replacement period | \$300 | Every 10 years |
| Annual Monitoring | <ul style="list-style-type: none"> • Conduct annual monitoring visit and complete form • Where appropriate, this visit can also include the following: <ul style="list-style-type: none"> ○ Invasive species inventory ○ Long term snake monitoring ○ Record incidental SAR | \$792 | Annually |

| | | | |
|-----------------------------|--|---------------------------|-----------------|
| | <ul style="list-style-type: none"> Record all species encountered | | |
| Bi-Annual Monitoring | Bi-Annual Monitoring (in addition to annual monitoring) <ul style="list-style-type: none"> Breeding Bird Surveys Amphibian Surveys Marsh Monitoring (where possible) Vernal Pool Surveys | \$792 | Every 2 years |
| Reports and Database | <ul style="list-style-type: none"> Draft any invasive species or SAR reports Update species database Plan visits | \$1,134/year | On-going |
| Partner Liaison | <ul style="list-style-type: none"> Keep in contact with DUC, RVCA, City of Ottawa | \$108/year | On-going |
| | | Total Over 5 Years | \$20,165 |

3 BACKGROUND

3.1 PURPOSE OF THE MANAGEMENT PLAN

Rideau Waterway Land Trust acquired the 174-hectare Brenda Carter Nature Reserve in 2009. This is one of two properties donated to RWLT by Brenda Carter with the intent to manage these lands to protect their natural features to ensure the proper and continuing conservation of the properties.

The only information on the Brenda Carter property is found in a Woodland Management Plan developed in 1999 and an application to Environment and Climate Change Canada’s Ecological Gifts Program completed in 2010. RWLT has not completed a baseline documentation report, property management plan or stewardship plan for this property.

The scope of this management plan is place-based, focused on the Brenda Carter Nature Reserve and the plan is written for a scope of five years. This management plan will describe how the organization will govern this large, ecologically significant piece of nature.

3.2 RIDEAU WATERWAY LAND TRUST’S CONSERVATION EFFORTS

There is no documentation describing the process by which RWLT assessed the property to determine to accept the donation of the properties in 2009. However, the property was donated through Environment and Climate Change Canada’s Ecological Gifts Program (EGP). The EGP certifies land as ecologically significant based on a set of

criteria. The wetlands, forests, connectivity, and species recorded on the property contribute to its designation as ecologically significant.

In addition, the property fits well with RWLT’s updated acquisition criteria including the presence of two provincially significant wetlands on the property, the presence of species at risk and habitat for species at risk on the property, and its adjacency to Marlborough Forest.

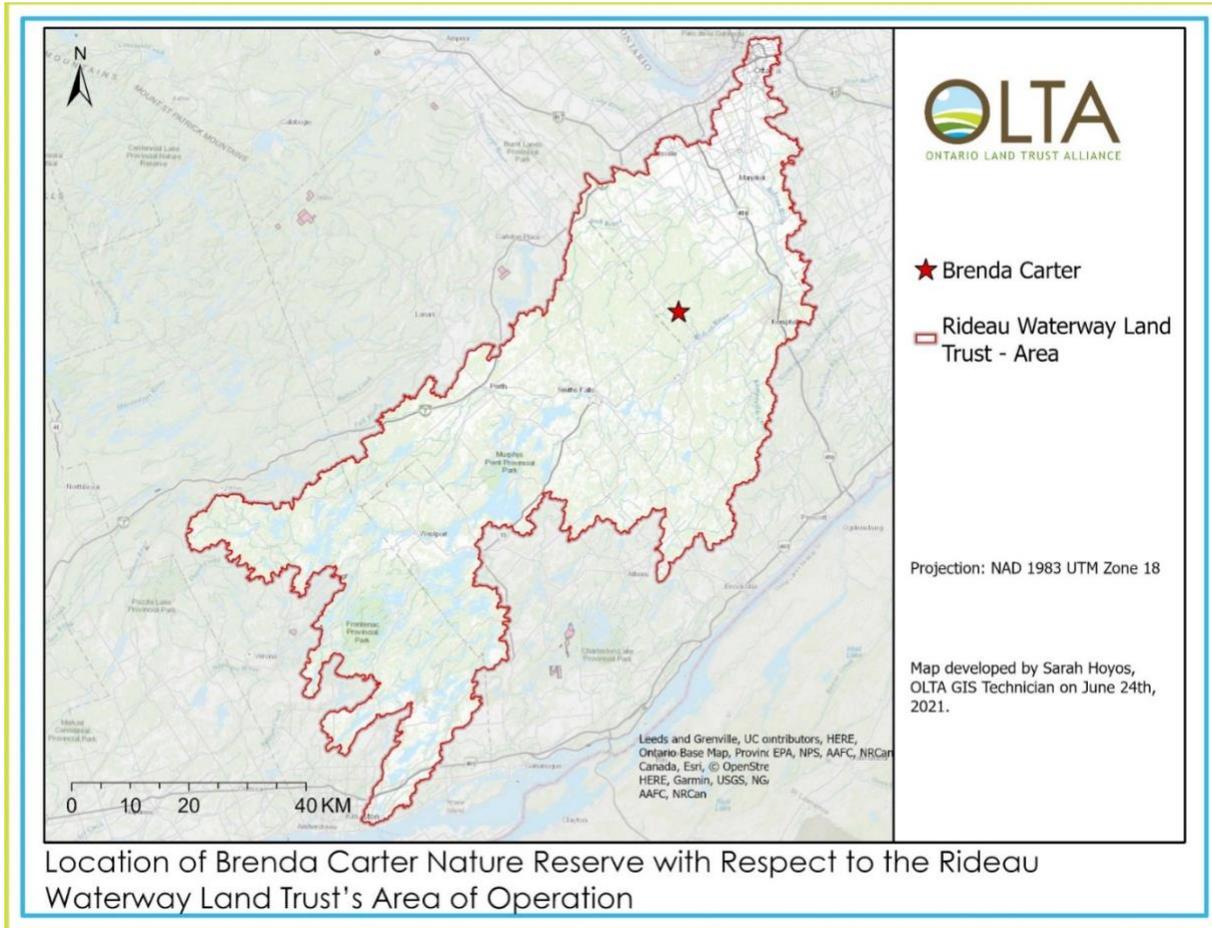


Figure 3: Top - Map of RWLT area of operation w.r.t. Brenda Carter Nature Reserve

3.3 BRENDA CARTER NR MANAGEMENT GOALS

The provincially significant Marlborough Forest Wetland Complex (Class 1) and Brassil’s Creek Wetland Complex (Class 3) are the main features of significance on the Brenda Carter NR property. It is RWLT’s goal to maintain the ecological integrity of the property with the following vision:

- Forests, meadows, and wetland communities that contribute to maintaining connectivity between neighbouring ecosystems and support a diversity of species from the turtles that nest along Brassil’s Creek to the whip-poor-wills that sing in the meadows and nest in the forests.

The long-term vision for the property is to steward and maintain the health of conservation targets, reduce or eliminate threats, and support species at risk.

3.4 PROPERTY DESCRIPTION

Table 1: Brenda Carter NR Property Summary

| | |
|-------------------------------|---|
| Property Owner | Rideau Waterway Land Trust |
| Nearest Major Centre | Ottawa, Ontario |
| Directions | From Ottawa, take ON-417 west. Then take the ON-416 south exit toward ON-401 and continue on ON-416 south. Take exit 49 for Ottawa Regional Road 6 and head west on Ottawa Regional Road 6/Roger Stevens Drive. Head south on Dwyer Hill Road/Ottawa Road 3 and then head east on Flood Road. Continue on Flood Road for approximately 800 metres, parking and access to the property is on the north side of Flood Road. |
| Coordinate Reference | 45.020638, -75.834261 (parking on the north side of Flood Road) |
| Elevation | Ranges from ~115 m ASL up to ~120 m ASL. |
| Surface Area | 174 hectares |
| Conservation Authority | Rideau Valley Conservation Authority |
| Watershed | Lower Rideau River Subwatershed |
| EcoDistrict | Smith's Falls 6E-11 |
| MNRF District | MNRF's Southern Region, Kemptville District. -Address: Unit 1, 10 Campus Drive, Kemptville, ON K0G 1J0 -Phone: 613-258-8204 |

3.4.1 Legal Description

Table 2: Legal Description of Parcels

| Assessment Roll Number | Property Identification Number | Legal Description | Year Secured |
|------------------------|--------------------------------|--|--------------|
| 06 14 181 815 21500 | 03925-0197 (LT) | Lot 24, Con 4, Former Township of Marlborough, now City of Ottawa, as described in deed Reg. #N770074 | 2009 |
| 06 14 181 815 21600 | 03925-0195 (LT) | Lot 25, Con 4, Former Township of Marlborough, now City of Ottawa, as described in deed Reg. #N770074 | 2009 |
| 06 14 181 815 21700 | 03925-0116 (LT) | Part Lot 26, Con 4, Former Township of Marlborough, now City of Ottawa, as described in deed Reg. #N770074 | 2009 |

3.4.2 Description of Property Perimeter Boundaries

Brenda Carter NR is bound to the southeast by Flood Road. Flood Road is a short road that reaches a dead-end about 3 kilometres east of the eastern property corner and where it intersects with Dwyer Hill Road at the property's southern corner. The southwestern property boundary follows Dwyer Hill Road for about 800 metres. After this point, the boundary line veers away from the road and continues northwest with private land between the boundary and Dwyer Hill Road. The boundary then veers northeast for about 275 metres and continues northwest for about 1 kilometre. This section of the southwestern boundary is marked by a combination of treeline and fences. The northwestern boundary is approximately 1.1 kilometres long and follows an unopened road allowance. There are some stretches of old cedar fences along this boundary. The northeastern property boundary is adjacent to two parcels of land. The northern parcel is mostly forested. The southern parcel contains a few buildings and at least a portion of the property is maintained for agricultural purposes, the boundary between these two parcels is marked by a fence about 700 metres in length that runs from Flood Road, northwest, to the wetland.

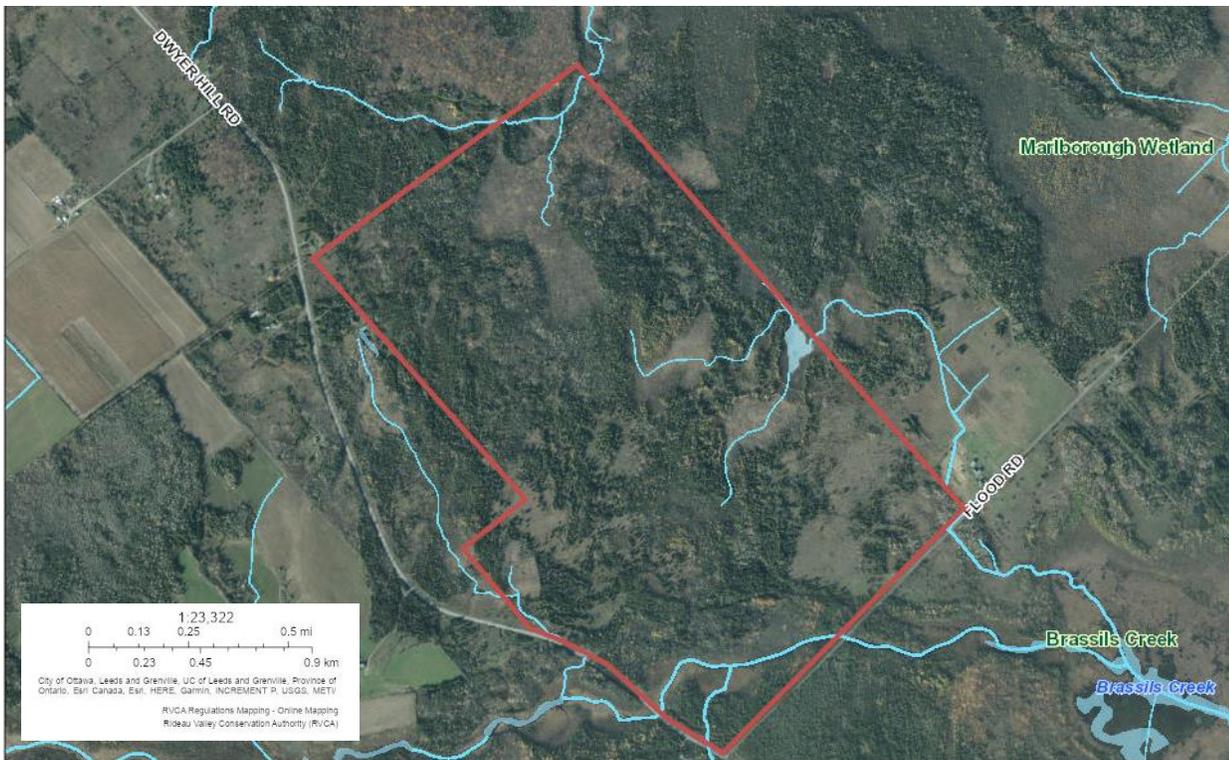


Figure 4: Satellite Imagery of Brenda Carter Nature Reserve (displayed by red polygon)

3.4.3 Site Designations

Two Provincially Significant Wetlands (PSW) occur on Brenda Carter NR. The Marlborough Wetland PSW occupies about 11 hectares on the northern corner of the property and Brassil's Creek PSW occupies about 9 hectares on the southern corner of the property.

3.4.4 Agreements (leases, encumbrances, etc.)

There is a small hydro corridor along the southwest corner of the property that is managed to prevent the growth of large trees that may interfere with power lines. This is a small portion of the property that is cut fairly infrequently.

The property was donated through Environment and Climate Change Canada's Ecological Gifts Program. As the recipient of an Ecological Gift, RWLT is required to uphold recipient responsibilities under the federal EGP. This includes maintaining current land use consistent with the original objectives of the Ecological Gifts. The penalty for an unauthorized disposition or change in use of an Ecological Gift is a federal tax equal to 50% of the current fair market value of the land.

The property is also registered under the Conservation Land Tax Incentive Program (CLTIP) as a Community Conservation Land (CCL). The CCL category broadens the range of properties owned by Conservation Authorities or like-minded organizations that are eligible for a property tax reduction. No use that would be detrimental to the natural heritage values of the property is permitted on a property registered under CLTIP (Ontario Ministry of Natural Resources, 2021). RWLT is required to reapply annually for properties registered in this program.

3.4.5 Adjacent Land Use and Cultural Elements

Brenda Carter NR contains areas of Marlborough Wetland and Brassil's Creek Provincially Significant Wetlands (PSW). Much of the surrounding area also contains wetlands that are part of these PSWs. The properties directly adjacent to Brenda Carter NR are almost completely natural with small pockets of agricultural and residential areas. The surrounding landscape mirrors this pattern.

The City of Ottawa owns and manages Marlborough Forest, an 8,149-hectare natural area where the community can enjoy hiking, snowmobiling, and hunting. This forest is Ottawa's largest natural area. Although it is not directly adjacent to the Brenda Carter NR property, it surrounds a significant portion of it and is opposite Flood Road.

Within 5 kilometres of Brenda Carter NR, there are four areas of provincial significance including the Regional Road 4 Fossils Earth Science Area of Natural and Scientific Interest, Porter Swamp PSW, Nichols Creek PSW, South Montague Swamp PSW.

4 PROPERTY MANAGEMENT

4.1 HISTORICAL LAND USE

Prior to European settlement, the area on which Brenda Carter NR occurs was occupied by the Algonquin. Brenda Carter NR is part of Crawford's Purchases, made by Captain William Crawford and certain Indigenous peoples in 1783. This purchase involved the land along the north shore of eastern Lake Ontario and the St. Lawrence River. A formal treaty was never signed, no copies of the deed for this transfer were found, and the only information available is based on letters. The Algonquins of Ontario formally submitted a land claim to Canada in 1983 and Ontario in 1985 but historic records related to this claim include petitions to the Crown that date back to 1772. The proposed settlement area includes parcels of land across a large portion of eastern Ontario. The nearest proposed settlement lands include 49 hectares on the Rideau River about 5 kilometres south of Brenda Carter NR.

Since the 1950's, the property was used for duck hunting and cattle pasture. Trees on the property were cut and sold as cedar fence posts and butternut for shelving. In 1964, a coniferous plantation was planted under a *Woodlot Improvement Act* agreement. This resulted in the planting of red pine, Jack pine, and white pine. During this time, a tractor cabin and a sleeping cabin were built. The Rideau Trail had a marked side loop that extended onto the property making the sleeping cabin a common stopover. These structures are now derelict. Over the past 50 years, the plantations have matured and expanded significantly extending the forest cover on the property. Deer hunting was carried out on properties fronting on Flood Road up until fall 2020. RWLT staff have taken measures to prevent this prohibited activity from continuing on the property.

In the Woodland Management Plan developed by Stewart Hamill in 1999, the objectives outlined the need to plan for the eventual disposition of the property to ensure its long-term protection (Hamill, 1999). The management objectives, both short-term and long-term are to allow natural growth and maturation to improve wildlife habitat and observe, monitor, and document wildlife. Harvesting on the Flood Road lots was not a priority objective in the plan.

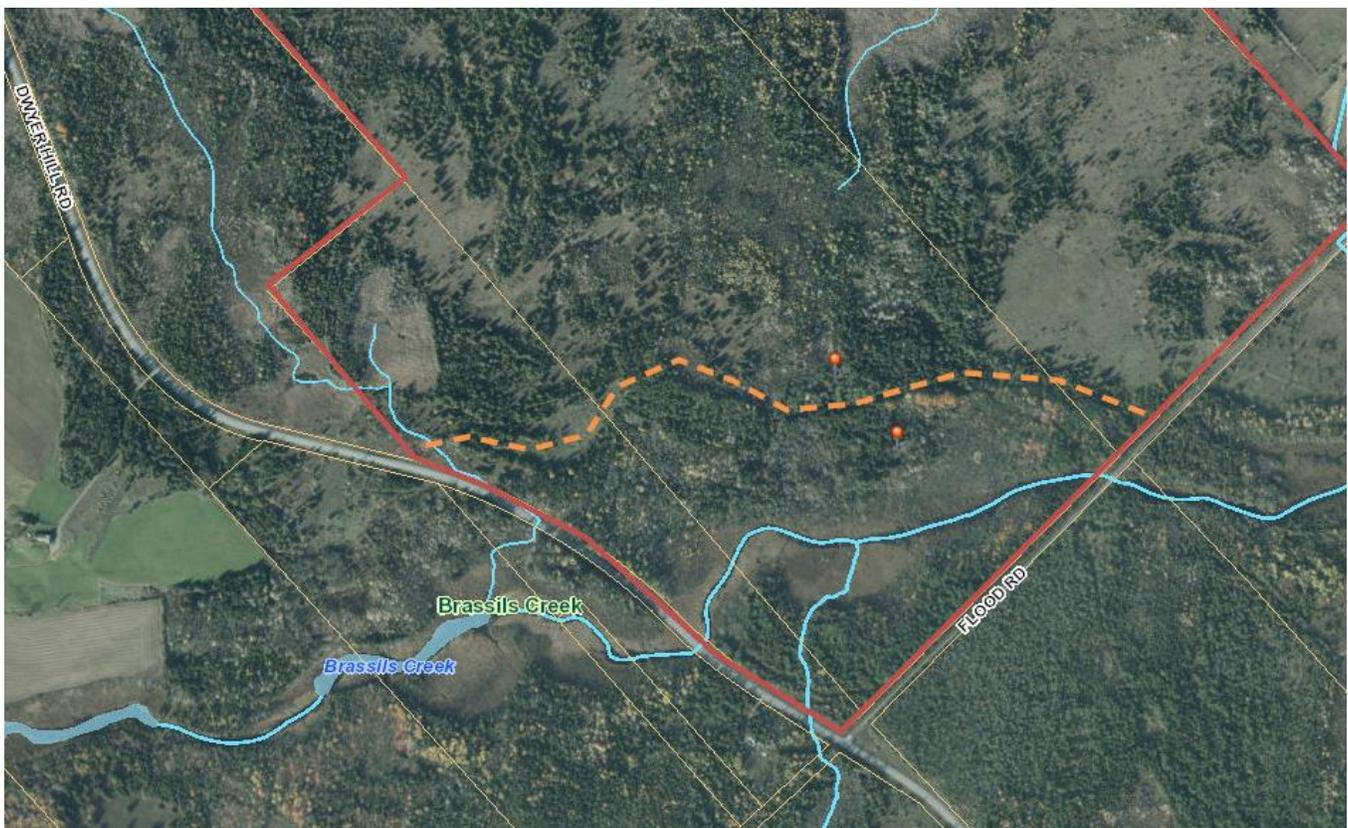


Figure 5: Improvements and Structures: There are two dilapidated cabins on the Brenda Carter NR property displayed above by red pins. There is an old trail that runs across the southwest corner of the property from Flood Road to Dwyer Hill Road. The trail is not maintained and is overgrown along the majority of its length.

4.2 ACQUISITION HISTORY

Brenda Carter NR was donated to the Rideau Waterway Land Trust in 2009. There is no plan to actively secure lands to extend this nature reserve beyond the current 174 hectares.

4.3 CURRENT MANAGEMENT

The only management plan available is the Woodland Management Plan developed by Stewart Hamill in 1999. Since the property was donated in 2009, RWLT has passively managed the property focusing on annual inspections and monitoring with minimal human interference. Public access is not permitted on the property. With the development of this plan and an increase in capacity, RWLT intends to carry out management actions outlined in this plan as required.

4.4 FUTURE ACQUISITIONS

While Brenda Carter NR is secured with no active plans of extending this nature reserve, there may be opportunities for future acquisition in the area to increase the protection of the Marlborough Wetland PSW and Brassil's Creek PSW.

4.5 STEWARDSHIP

RWLT staff are the primary stewards of nature reserves protected by the organization. When resources and time is limited, board members may also complete annual monitoring visits when necessary. These individuals visit the property at least once each year completing a standard monitoring worksheet. Stewards report any unwanted and illegal activity to RWLT, and the organization decides the actions necessary to address any concerns.

5 BASELINE INVENTORY SUMMARY

A formal Baseline Documentation Report for Brenda Carter NR is not completed. However, there is a Woodland Management Plan written by Stewart Hamill in 1999. There are also Natural Areas Reports for the Marlborough PSW and Brassil's Creek PSW developed by the Ministry of Natural Resources and Forestry. These reports outline the vegetation communities, observed species, and potential species that could occur on the property, which have been recorded in previous inventories of the PSWs. Although the Natural Areas Reports did not focus on the Brenda Carter NR property, species occurrences and vegetation communities documented in those reports can provide insight into what to expect on the property.

In July 2020 and June 2021, the Ontario Land Trust Alliance and Rideau Waterway Land Trust undertook an inventory of Brenda Carter NR. Surveyors revisited each area described in the Woodland Management Plan to assess succession and determine if any significant changes to the lands had occurred since the report was developed. In addition, surveyors undertook breeding bird surveys, amphibian surveys, nightjar surveys, and installed an acoustic recorder to record bats on the property.

With the previously mentioned inventories and surveys that took place on the property, RWLT must continue to collect data on the property through annual monitoring visits and other initiatives.

5.1 PHYSICAL FEATURES

5.1.1 Geology

Brenda Carter NR is located in an area that was once part of an old mountain chain, the Grenville Mountains, that eroded over millions of years. Due to its history, the property is dominated by bedrock from the Paleozoic Era.

During the last ice age in the Pleistocene Epoch, the Champlain Sea occupied a large area of eastern Ontario. The weight of glacial ice pressed the Earth's crust downward forcing parts of Ontario down below sea level. The ice sheet melted gradually and areas of eastern Ontario were flooded by seawater and glacial lakes. This resulted in the coarse-textured glaciomarine littoral deposits that occur throughout the property. Some of these areas also include beach ridges and nearshore bars which likely formed as a result of the Champlain Sea.

The wetlands on the property are the result of organic deposits of peat, muck and marl from the Holocene Epoch.

5.1.2 Soils

Extensive areas of the region consist of thin deposits of unconsolidated sediments over bedrock. This sediment is referred to as Farmington association soil due to its association with limestone and dolomite bedrock from the Paleozoic Era. Farmington association soils typically occur in areas with very gently sloping or undulating topography. These soils are moderately coarse and contain a considerable amount of calcareous material from the Paleozoic limestone and dolomite bedrock. Deposit tend to be between 10-50 cm thick. The majority of the soils on the property are Farmington. The dominant soil type of the Farmington-Brooke series occurs in areas of well-drained soils in combination with significant areas of poorly drained soils, associated with the wetlands on the property.

There are also significant portions of the property classified as Oka-Farmington. Oka association soils are developed on gently to moderately sloping marine beach materials on bedrock-controlled landscapes – and most often on those which Farmington association soils occur such as those that occur on the Brenda Carter NR property.

There is a section of Oka soils that occur on the property north of Brassil's Creek and east of Dwyer Hill Road. Oka soils develop on gently to moderately sloping marine beach materials, such as those in which Farmington association soils occur. Soils are typically gravelly and coarse and overlay Paleozoic bedrock and are typically rapidly- to well-drained.

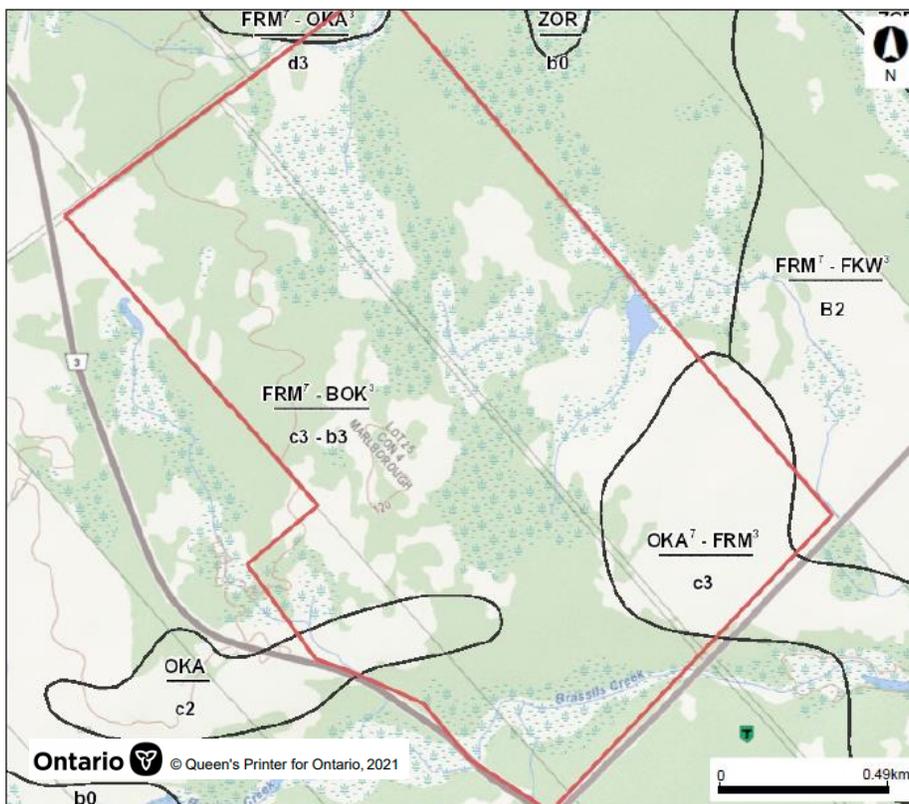


Figure 6: Brenda Carter NR Soils Map

5.1.3 Surface Hydrology

The property has significant areas of wetlands and connecting streams which are part of the Lower Rideau River Subwatershed. The property contains two catchment areas of this watershed. The majority (>75%) of the property falls within Brassil's Creek catchment and the wetlands and streams on this portion of the property flow into Brassil's Creek, generally south and east. Brassil's Creek flows south and empties into the Rideau River about 5 kilometres southeast of Brenda Carter NR. The remaining land, a small section located in the northeast corner, falls within the Steven's Creek catchment, generally flowing north and east. Steven's Creek ultimately drains into the Rideau River near Kars about 20 kilometres northeast of Brenda Carter NR.

The topography of the property is very gently rolling. The shallow, well-drained soils and minimal change in topography on the landscape lead to the accumulation of water in the spring and fall, particularly in depressions and on flat areas. Later in the summer, these areas dry out, particularly in open areas exposed to the sun.

5.1.4 Climate

Brenda Carter NR occurs in the Lake Simcoe-Rideau Ecoregion (6E). The climate in this region is warmer and drier than that of 5E – Georgian Bay Ecoregion to the north and cooler with a lower evapotranspiration rate than 7E – Lake Erie/Lake Ontario Ecoregion to the south. The area is generally cold and temperate with significant rainfall throughout the year.

5.2 BIOLOGICAL FEATURES

5.2.1 Land Cover

Brenda Carter NR is 174 hectares consisting of forest, wetland, and old fields displaying alvar characteristics. The dominant land cover is forest including deciduous, coniferous, mixed forest types as well as coniferous plantations followed by wetlands including swamp and marsh community types. Lastly, a small area on the property is composed of a cultural field that has been left to regenerate over the years.

5.2.2 Flora

Due to the geological history and the climate of the area, the vegetation communities on Brenda Carter NR are typical of those that occur in the Smiths Falls Ecodistrict (6E-11). Although a full Ecological Land Classification assessment is not available for the property, the Woodland Management Plan (1999) describes six vegetation communities found in the plan area.

Table 3: Vegetation Communities Identified on Brenda Carter Nature Reserve

| Name | Description |
|------------------|---|
| Old Field | Former pasture with alvar characteristics |
| Treed Swamp | Flooded swamp |
| Marsh | Wetlands dominated by grasses |
| Thick Cedar | Wet and dry cedar bush |
| Open Cedar | Dry cedar groves |
| Deciduous Forest | Dry upland hardwood bush |

5.2.3 Fauna

The Brenda Carter NR property and the surrounding area provide significant habitat for wildlife. Almost seventy birds are confirmed on the property including migratory species, raptors and waterbirds. Eleven mammals are confirmed on the property including fishers, white-tailed deer, and beavers. Nine amphibians were reported on the property including the Western Chorus Frog (Great Lakes-St. Lawrence-Canadian Shield population). Four reptiles are confirmed on the property including the smooth greensnake, red-bellied snake, and Midland Painted Turtle.

5.2.4 Species of Conservation Concern

Brenda Carter NR provides suitable habitat for a wide range of flora and fauna, including nine species at risk (**Error! Reference source not found.**). Some of these species were recorded many years ago, and targeted surveys should be undertaken to determine if the species is likely to still be present.

According to the Natural Heritage Information Centre, there are nine species of conservation concern known to be present in the area surrounding Brenda Carter NR. They include six species of at-risk birds and three species of turtles. There are also two Provincially Significant Wetlands: Marlborough Forest and Brassil's Creek, as well as a Colonial Waterbird Nesting Area (Ontario Ministry of Natural Resources and Forestry, 2019).

Table 4: Species of Conservation Concern – NHIC

| Common Name | Scientific Name | SARO Status | COSEWIC Status |
|------------------------|----------------------------------|-------------|----------------|
| Eastern Whip-poor-will | <i>Antrostomus vociferus</i> | THR | THR |
| Snapping Turtle | <i>Chelydra serpentina</i> | SC | SC |
| Black Tern | <i>Chlidonias niger</i> | SC | NAR |
| Midland Painted Turtle | <i>Chrysemys picta marginata</i> | | SC |
| Bobolink | <i>Dolichonyx oryzivorus</i> | THR | THR |
| Blanding's Turtle | <i>Emydoidea blandingii</i> | THR | END |
| Least Bittern | <i>Ixobrychus exilis</i> | THR | THR |
| Loggerhead Shrike | <i>Lanius ludovicianus</i> | END | END |
| Eastern Meadowlark | <i>Sturnella magna</i> | THR | THR |

5.2.5 Invasive Species

Initial surveys of the property indicate that the nature reserve has a high incidence of invasive species. Invasive species proliferate once introduced and displace native species in the ecosystem. Invasive species were recorded in almost every vegetation community on the property.

Table 5: Invasive Species Recorded

| Common Name | Date Observed | Description |
|--------------------|---------------|---|
| Common Buckthorn | June 2021 | Present throughout the property |
| Wild Parsnip | June 2021 | Present along Dwyer Hill Road and hydro corridor |
| Phragmites | June 2021 | Present in one wetland on the property |
| White Sweet-clover | June 2021 | Present in some of the open areas on the property |
| Purple Loosestrife | July 2020 | Present in at least one wetland on the property |
| Scots Pine | June 2021 | Present in plantations on the property |
| European Frogbit | 1999 | Reported in the Woodland Management Plan as present along Brassil's Creek |

5.3 CONSERVATION CONTEXT

5.3.1 Protected Areas

Brenda Carter Nature Reserve is located about 5 km north of another RWLT Conservation Land, the Carter-Phillips Nature Reserve. Both of these properties were donated by the late Brenda Carter. There are also two Provincially Significant Wetlands (PSWs) that occur on and around the property: the Brassils Creek PSW and the Marlborough Forest PSW. As well, two Areas of Natural and Scientific Interest (ANSIs) are located nearby: the Regional Road 4 Fossils area is about 1.6 km northwest of Brenda Carter NR, while the Steven's Creek Swamp Candidate ANSI is about 1.5 km northeast (Figure 7). There are no known properties in the area owned by any other conservation organization.

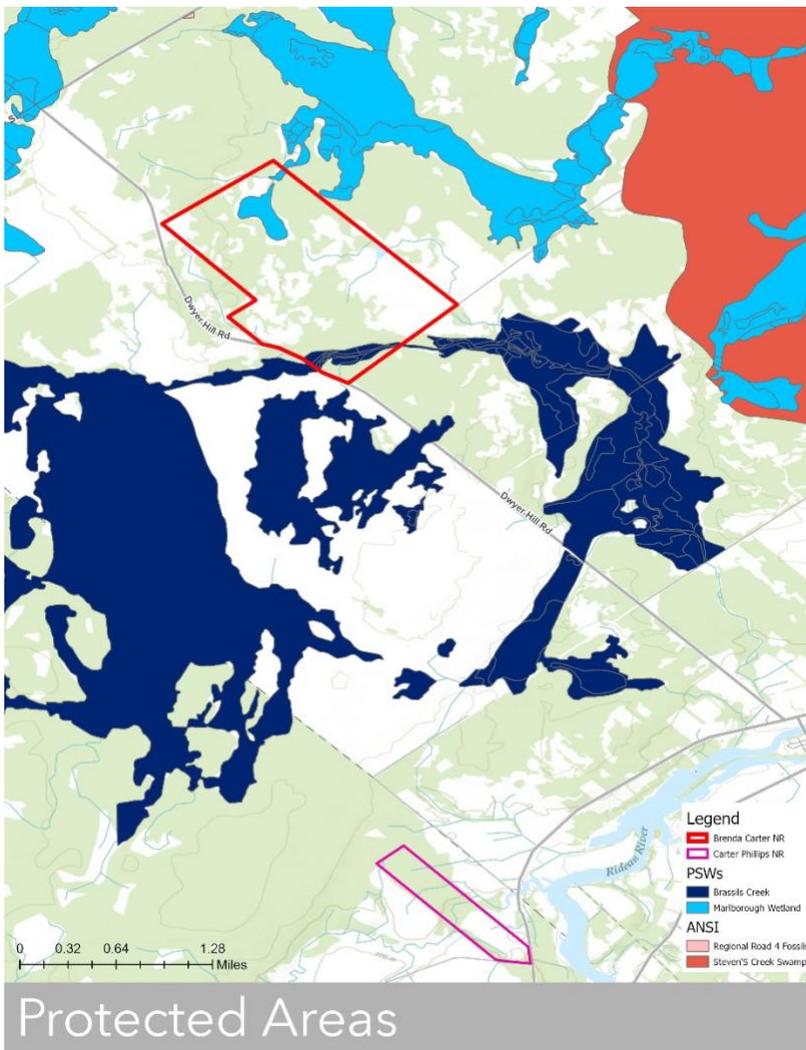


Figure 7: Protected Properties Surrounding Brenda Carter Nature Reserve

5.3.2 Policy Areas

5.3.2.1 Official Plan of Ottawa

This official plan was adopted by Council on May 14, 2003, and approved by the Ministry on November 10, 2003. Section 3.1 of the official plan contains Generally Permitted Uses policies that are applicable to all land-use designations. The subject land is designated under Schedule A: Rural Policy Plan primarily as Natural Environment Area with two small areas designated as Significant Wetland. The policies applicable to these designations are contained in sections 3.2.1 and 3.2.2. Section 3.2.2: Natural Environment Areas, acknowledges that much of the areas are owned privately and depend on private stewardship for their protection.

On Schedule K: Environmental Constraints, the subject property is further designated as Wellhead Protection Zone with a vulnerability of 2. Policies relevant to development in Wellhead Protection Zones can be found in sections 4.7.5 and 4.8.2.

5.3.2.2 *Zoning By-law #2008-250*

The City of Ottawa Zoning By-law zones the subject lands as Environmental Protection Zone 3 (EP-3). In Environmental Protection Zones, environmental preserve and education areas and forestry operations are permitted. As well, EP-3 zones allow one detached dwelling on a lot fronting a public road, plus an accessory building that is located no further than 60 m from the detached dwelling.

Development in an EP zone may be regulated under the *Conservation Authorities Act* and may require a permit from the Conservation Authority or other authority having jurisdiction over the regulated area.

5.3.2.3 *Environmental Designations*

The property is part of two provincially significant wetlands: Marlborough Wetland and Brassil's Creek and is protected by the Rideau Valley Conservation Authority and both upper and lower tier planning.

5.4 LANDSCAPE CONTEXT

The property is located in an area dominated by forest, wetlands and agricultural lands. There is low development pressure on and directly surrounding the property.

6 CONSERVATION TARGET ANALYSIS

RWLT staff have worked collaboratively with the Ontario Land Trust Alliance to identify four main conservation targets for the Brenda Carter Nature Reserve. Targets include forests, the Marlborough Forest PSW, the Brassils Creek PSW, and the grasslands of the property. Each of these conservation targets is described below with a particular focus on their ecological significance. General assessment criteria are identified, and a rating assigned where possible.

6.1 FORESTS

In this section, forests are all those types that exist within the Brenda Carter Nature Reserve including:

- Thick Cedar – White Cedar dominated with white spruce, tamarack, and white ash
- Open Cedar – white cedar groves with American elm, sugar maple, and basswood
- Coniferous Plantation – red pine, Jack pine, Scots pine, and white pine
- Upland Deciduous – sugar maple with basswood, ironwood and white cedar

6.1.1 Ecosystem Description

Brenda Carter NR is in an area of the Rideau Valley that has significant forest cover. Forests are the dominant ecosystem on the Brenda Carter Nature Reserve making up 55% of the total plan area. The majority of the forested area is coniferous with various areas of coniferous plantations that were planted in the 1960s and a small patch of deciduous forest on the northeast corner. The forest types are further described in the Woodland Management Plan (Hamill, 1999).

6.1.2 Biodiversity

The forests are, and for the most part, have been managed as a natural preserve. There are large amounts of decaying wood, pits and mounds, mosses, cavity trees and snags, signs of a healthy, mature forest. The mature stands are mostly made up of white cedar, white spruce, paper birch and ash. Younger regeneration is occurring within the forest. Poplar, Ash, white cedar, paper birch and balsam fir are in early and advanced stages of regeneration.

These forest stands create the habitat required for a wide variety of fern and wildflower species. Other understory species include round-leaved pyrola, lesser pyrola, and orchids. Herbaceous species are important food sources for wildlife such as white-tailed deer. The also contains an area identified as a deer wintering yard.

Many bird species are recorded in the forest. Forest interior breeding birds require large contiguous tracts of forest. Species including the black-and-white warbler (*Mniotilta varia*), black-throated green warbler (*Setophaga virens*), winter wren (*Troglodytes hiemalis*), veery (*Catharus fuscescens*), ovenbird (*Seiurus aurocapillus*) and Hermit thrush (*Catharus ustulatus*) were all observed in the forest singing during the breeding season, and these species likely use the forests on the property as breeding habitat.

The dense forest cover creates a moist environment ideal for amphibians. There are many vernal pools present on the property that dry up by early summer which create ideal breeding conditions for many species of amphibians. Frog species including tree frogs and wood frogs were recorded in the forest but no salamanders or reptiles have been identified in this area of the property.

6.1.3 Assessment

Table 6: Target Viability Assessment for Forest Target

| Type | Key Attribute | Indicator | Ranking | Notes |
|-------------|---|-----------------------|---------|---|
| Size/Extent | Size/Extent of Characteristic Communities | Area of habitat | Good | The area of the forest on Brenda Carter NR is 96 hectares and is contiguous with forest cover on adjacent Marlborough Forest. |
| | Size/Extent of Characteristic Communities | Interior Forest Area | Fair | The Brenda Carter NR property contains 15 hectares of interior forest (~15% of the forest area), most of which occurs in the northeastern portion of the property. This is due to many small open areas scattered throughout the forested area on the property. |
| Condition | Indicator Species | Interior Forest Birds | Fair | Large, intact forests reduce nest predation and parasitism that many forest-dwelling bird species are subjected to. The presence of forest interior birds, specifically those that are edge-intolerant, is an indicator of |

| | | | | |
|--------------------------|--|---------------------|------|--|
| | | | | quality interior forest habitat. In Ottawa-Carleton, there are 18 forest interior bird species in range. Eight species found on Brenda Carter NR are considered area-sensitive forest birds. |
| | Indicator Species | Amphibian diversity | Fair | Amphibians such as wood frogs and salamanders are often found on the forest floor under woody debris and leaf litter. Many species rely on vernal pools for breeding. Wood frogs and tree frogs were recorded but no salamanders have been observed in the forest. |
| | Forest Quality | Tree Health | Good | The forest on the property is in good health and there is no evidence of pests or disease noted in the Woodland Management Plan (1999) nor was there any evidence observed during site visits undertaken in 2020-21. In addition, some forest patches contain characteristics of mature forest stands. |
| | Forest Quality | Vernal Pools | Good | Forest on the property contains extensive vernal ponds of variable sizes, while some have inlets/outlets others do not. Generally, the pools dry up by June. |
| | Forest Quality | Successional Stages | Fair | Forest on the property have characteristics of mature forest stands. These include fallen logs of various sizes and stages of decomposition including some large fallen logs. Although the natural forest shows some signs of natural succession, plantation areas are uniform in stand age with little to no vegetation on the ground, understory and sub-canopy. |
| Landscape Context | Connectivity with Adjacent Natural Areas | | Good | The presence of roads and small-scale agriculture in the surrounding area lead to some disturbance to the natural forest community. However, beyond these small disturbances, the forest on |

| | | | | |
|------------------------|--|--|------|--|
| | | | | the property is part of a large, contiguous forest and wetland system that extends in all directions. This includes the Marlborough Forest as well as areas that are under protection due to the provincially significant wetlands that are a dominant feature on the landscape. To the south, the main disturbance is fragmentation caused by roads. Approaching Rideau River, an increase in disturbance occurs due to the vicinity of the more populated area of Burritts Rapids. |
| Overall Ranking | | | Good | |

6.2 MARLBOROUGH WETLAND COMPLEX

In this section, Marlborough Wetland Complex includes all those wetland areas that are part of and associated with the Marlborough Provincially Significant Wetland which, generally, fall within the Steven’s Creek catchment area. The wetlands in this area fall into the following broad categories:

- Swamp
- Marsh

6.2.1 Ecosystem Description

The wetlands in this area consist of two types, swamp and marsh making up 14% of the planning area. These wetlands are contiguous with the Marlborough Provincially Significant Wetland which continues roughly 7 kilometres north and east of Brenda Carter NR.

6.2.2 Biodiversity

The Marlborough wetlands are part of a large contiguous natural area that includes both forest and wetlands of various types. The wetland characteristics vary from standing water among snags (dead trees), standing water among living trees and some open water occurring up to 1 metre deep. According to the Woodland Management Plan, wetlands are dominated by white ash and soft maple with dead snags of white cedar, poplar, elm, and white spruce (Hamill, 1999).

These wetlands create the habitat for a wide variety of plant species that have a high coefficient of wetness. These include swamp milkweed, blue flag iris, cattails, and marsh skullcap. Standing and fallen dead trees are abundant and cavity trees are present which create habitat for a myriad of species.

Many bird species are recorded in the wetlands including both wetland-dependent birds as well as forest interior breeding birds due to the high-quality connectivity of forests and wetlands associated with the Marlborough

Wetland. Species including the wood duck, red-shouldered hawk, and swamp sparrow were all recorded in the wetlands on the property, and it is likely that these species use the forests and wetlands on the property both temporarily (by migrating birds) and permanently.

Reptiles and amphibians observed in the Marlborough wetlands include both common and rare species as well as species that are mostly aquatic and those that are more terrestrial. A red-bellied snake was recorded during a site visit in July 2020. Spring peepers and chorus frogs were both reported in the Woodland Management Plan (Hamill, 1999).

6.2.3 Assessment

Table 7: Target Viability Assessment for Marlborough Wetland Target

| Type | Key Attribute | Indicator | Ranking | Notes |
|--------------------------|---|--|----------------|--|
| Size/Extent | Size/extent of characteristic communities | Area of habitat | Good | The area of the wetland on the property is ~23 hectares. Stevens Creek Catchment Report – pre-settlement data and current wetland data show limited wetland loss on the property. |
| Condition | Indicator Species | Amphibian diversity | Fair | The red-spotted newt was observed in a wetland during a property visit in 2020. |
| | Indicator Species | Marsh birds | Unknown | Marsh monitoring on the large wetland is required before a ranking can be assigned. |
| | Species Composition | Invasive, non-native species abundance and diversity | Good | No invasive, non-native species were recorded in wetlands within or connected to the Marlborough Wetland Complex. |
| Landscape Context | Connectivity with Adjacent Natural Areas | | Good | The Marlborough Wetlands are generally very well connected across the landscape. The Marlborough Wetland complex extends north and east of the property with very little disturbance aside from roads. |
| Overall Ranking | | | Good | Some baseline data is still required. |

6.3 BRASSIL'S CREEK WETLAND COMPLEX

In this section, Brassil's Creek Wetland includes the provincially significant wetland as well as those wetlands associated with it. These wetlands all fall within the Brassil's Creek catchment area. Wetlands on the property in this system fit into the following categories:

- Swamp
- Marsh
- Open Water

6.3.1 Ecosystem Description

The wetlands in this area consist of three types, swamp, marsh, and open water making up 20% of the planning area. These wetlands are contiguous with Brassil's Creek Provincially Significant Wetland which extends south and west of the property to Rideau River.

6.3.2 Biodiversity

Brassil's Creek wetlands are part of a large contiguous natural area that includes both forest and wetlands of various types.

6.3.3 Assessment

Table 8: Target Viability Assessment for Brassil's Creek Wetland Target

| Type | Key Attribute | Indicator | Ranking | Notes |
|-------------|---|--|-----------|--|
| Size/Extent | Size/extent of characteristic communities | Habitat Area | Good | The wetland is 35 hectares in size. Wetland loss in the area has been fairly limited. |
| Condition | Riparian Cover | % natural cover along the river between Dwyer Hill and Flood Road | Very Good | The extent of Brassil's Creek that flows through the property is fully forested with buffers over 100 metres from the centre of the watercourse. |
| | Water Quality | Surface Water Quality Index (Nutrients, E. coli, Metals, Benthics) | Good | Rideau Valley Conservation Authority has one monitoring point south of the property on Paden Road northeast of Dwyer Hill Road. Based on the Water Quality Index, this area was assigned a rating of "Good" in 2012. |
| | Species composition | Non-native Invasive Species (abundance and diversity) | Fair | Brassil's Creek generally has native plants in it. Phragmites was observed in a wetland on the property that connects to Brassil's Creek. Wild Parsnip and purple loosestrife were observed along |

| | | | | |
|------------------------|-------------------------------|---|------|---|
| | | | | the roadside adjacent to Brassil’s Creek. In addition, European Frogbit was noted in the Woodland Management Plan. |
| | | Fish Diversity | | RVCA has two monitoring sites |
| Landscape | Connectivity among ecosystems | Surrounding landscape | Good | The wetlands are generally very well connected across the landscape. The water flows east and extends southeast into Marlborough forest and east of the property with very little disturbance aside from roads. |
| | | Barriers to migration (number and permanence) | Good | Multiple beaver dams located along Brassil’s Creek create natural barriers to aquatic species migration (e.g. fish). Many of these barriers are seasonal and during the spring/early summer when water levels are high, none pose a threat to species migration up or downstream. |
| Overall Ranking | | | Good | |

6.4 GRASSLAND

In this section, the grassland includes all the open areas that occur on the property, generally characterized as a bedrock-controlled cultural meadow with alvar characteristics.

6.4.1 Ecosystem Description

The grassland on the property is generally flat with areas of exposed bedrock and encompasses 11% of the planning area. The area was a former pasture with no recent activity. This area is located on the southeast corner of the property and continues onto the adjacent property where the land is currently used for pasture.

6.4.2 Biodiversity

The grassland is mostly open with patches of white cedar, trembling aspen, and other pioneer species typical of early succession. In addition, juniper shrubs are scattered throughout the open areas with hawthorn, willows, dogwoods, and common buckthorn.

The grassland provides habitat variety with food shrubs that attract wildlife species such as deer. There are no standing dead trees, cavity trees, fallen dead trees or mast trees in the area but white cedar on the property provides super-canopy (trees that poke through the canopy) and thickets for wildlife habitat.

Several birds are reported in this portion of the property including those that require edge or open habitat for nesting and foraging. Species include killdeer, American kestrel, Northern harrier, savannah sparrow, eastern meadowlark, and upland sandpiper.

6.4.3 Assessment

Table 9: Target Viability Assessment for Grassland Target

| Type | Key Attribute | Indicator | Ranking | Notes |
|------------------------|---|---------------------------------------|---------|--|
| Size/Extent | Size/extent of characteristic communities | Habitat Area | Fair | Patch size on Brenda Carter NR is ~20 ha however, trees and shrubs are growing throughout the area deteriorating the quality of habitat for grassland birds. |
| Condition | Fire Regime | Frequency | Unknown | |
| | Species Composition | Non-native invasive species abundance | Poor | Common Buckthorn is growing on the landscape and non-native species dominate due to previous pasturing on the land. |
| | Indicator Species | Grassland Birds | Good | 5 birds were identified on the property based on Woodland Management Plan and 2020-2021 surveys, including one at-risk species. |
| Connectivity | Connectivity with Adjacent Natural Areas | Surrounding landscape | Good | Grassland on Brenda Carter NR is connected to adjacent pastures to the northeast and on the opposite side of Flood Road ~65 ha. |
| Overall Ranking | | | Fair | |

6.5 OTHER TARGETS

Maintaining the diversity of species at risk present on Brenda Carter NR is an important conservation target. There are at least eight known species at risk present on the property. We hope to continue to provide habitat for these species and where possible, improve and enhance habitat for these species.

7 THREATS

7.1 INVASIVE NON-NATIVE/ PLANTS AND ANIMALS – HIGH

Several invasive species occur on the Brenda Carter NR property. Invasive species occur across the property affecting each conservation target described in Section 6. The most harmful invasive plants identified on the property include Phragmites which was found in a wetland connected to Brassil's Creek and Common Buckthorn which is growing in the grassland area as well as some sections of the forest.

7.2 HUNTING AND COLLECTING TERRESTRIAL ANIMALS – LOW

During the site visit in July 2020, evidence of hunting was found in the forest. This included a hunting blind and some shotgun shells. Following this field visit, RWLT staff discovered that hunting was occurring on the site. Previous landowners had an agreement with a group of local hunters permitting them to hunt on the site. RWLT staff communicated with the hunting group, confirming that they are now the owners of the property and hunting is not permitted at this location any longer. RWLT staff dismantled any hunting blinds found on the site and installed signage to make it clear that hunting is not permitted on the property. No evidence of hunting has been found on the property since that time.

7.3 UTILITY AND SERVICE LINES – LOW

There is a small hydro corridor on the property between Flood Road and Brassil's Creek. Vegetation along this corridor is maintained by the hydro company. Maintenance likely occurs once every 5-10 years. The area affected by this corridor is relatively small and impacts only Brassil's Creek and a small section of the forest.

7.4 GARBAGE AND SOLID WASTE – LOW

RWLT staff documented evidence of dumping on the site near the old trail. Waste was removed from the site. There is little evidence of dumping elsewhere on the property with minimal litter blowing onto the property from the adjacent roads.

7.5 CLIMATE CHANGE – MEDIUM

Upon completion of the Climate Change Vulnerability Assessment, climate change is likely to compound existing threats and put new stresses on the conservation targets.

Threats related to invasive non-native species, pests, and diseases may be compounded by an increase in extreme weather events. Extreme weather can cause an increase in habitat disturbance, particularly in treed habitats. Changes in precipitation patterns may lead to heat stress changing habitat structure and composition. Ultimately, these two factors may put significant stress on the conservation targets and create suitable conditions for non-native species to move in.

Climate change may also create new threats that currently do not exist or have very minimal impacts on the conservation targets. Changes in temperature and precipitation show an increase in precipitation in the winter, spring, and fall as well as a significant increase in temperature over these periods. This increase in precipitation and temperature will result in more liquid precipitation year-round and potentially less snow cover. This may result in significant nutrient loading from agricultural lands located upstream of the property. Nutrient loading favours a small number of plant species which may reduce the diversity of plants in these areas. Increases in powerful floods may also increase disturbance, creating opportunities for non-native species to invade. Temperature increases in the summer paired with similar rainfall during that season may result in increased water temperature. This may cause a mismatch between the species and the environment leading to reduced health and survival.

General anticipated changes resulting from climate change also include species migration and changes in species ranges. The changes in temperature and precipitation patterns will affect the species that can thrive on the property under future climate scenarios. It is an important consideration for any restoration work that may take place on the property to ensure that activities are sustainable under current and future climate projections.

8 MANAGEMENT GOAL, OBJECTIVES AND ACTIONS

8.1 MANAGEMENT GOAL

RWLT intends to maintain the ecological integrity of Brenda Carter NR. This nature reserve has extensive forest and wetlands that are provincially significant. It is our goal to ensure its persistence as well as the species it supports into the future.

It is RWLT’s goal to maintain the ecological integrity of the property with the following objectives:

1. Maintain and where necessary enhance the Forests, Wetlands, and Grasslands;
2. Monitor and manage threats to the conservation targets such as invasive, non-native species, trespassing and dumping; and
3. Monitor species at risk and where necessary enhance habitat to support species at risk on the property in line with strategies outlined in recovery documents.

8.2 STEWARDSHIP ACTIONS

The following was compiled based on the Conservation Actions Classification (V2.0) created by the Conservation Management Practices (IUCN, 2012).

Table 10: Planned Stewardship Actions

| Action Category | Description | Target(s) | Threat(s) | |
|--|--|-----------|-----------|---|
| A. Target Restoration/Stress Reduction Actions | | | | |
| Land/Water Management | Monitor property boundaries for evidence | All | All | i) Annual monitoring visits to check property. This includes monitoring the property boundary, changes to |

| | | | | |
|----------------|--|-------------------|------------------|--|
| | of trespass, threats, risks and liabilities | | | the land, evidence of trespass, threats, SAR, and invasive species. ii) Monitoring form is completed and data is stored in a database. Any issues and threats are addressed. |
| | Monitor property for undocumented anthropogenic features | All | All | i) Annual monitoring visits to check the property for features including trails, cabins, hunting blinds. ii) Monitoring form is completed and data is stored in a database. Features are known and removed/addressed. |
| | Monitor property for invasive species | All | Invasive species | i) Inventory property to document location and extent of invasive species on the property and develop an action plan. ii) Action plan will mitigate impacts of invasive species. Scope and severity of threat are better understood. |
| | Monitor natural barriers along Brassil's Creek | Brassil's Creek | Climate Change | Inventory Brassil's Creek for obstructions such as beaver dams. Barriers to migration are identified and documented. |
| Species | Maintain current species list for the property | All | All | Annual monitoring visits to document incidental SAR, birds, reptiles and amphibians. Species list is updated. Database is updated with new observations. SAR/tracked species are reported to NHIC. |
| Species | Breeding Bird Surveys | Forest, Grassland | All | Undertake approved breeding bird survey and/or targeted SAR bird survey. Sites established for personnel to undertake BBS and Nightjar surveys. Database updated with new records. SAR/tracked species reported to NHIC. Data will help inform management plans, stewardship actions, priorities. |

| | | | | |
|--|---|---------------------------------------|----------------|--|
| Species | Amphibian Surveys | Forest, Wetland | All | <p>Undertake approved amphibian survey and targeted Western Chorus Frog Survey.</p> <p>Sites established for amphibian monitoring. Database updated with new records. SAR/tracked species reported to NHIC. Data will help inform management plans, stewardship actions, priorities.</p> |
| Awareness Raising | Maintain signage on the property boundaries | All | All | <p>Annual monitoring to check that signs are in good condition and reflect permitted uses on the property.</p> <p>Signs installed/maintained. Trespassing minimized.</p> |
| Law & Policy | Connect with Indigenous communities | All | All | <p>Meet with local Indigenous communities to discuss the property and community interests.</p> <p>Relationship established and traditional knowledge incorporated into property stewardship.</p> |
| Conservation Designation & Planning | Evaluate the wetlands on the property | Brassil's Creek & Marlborough Wetland | All | <p>Evaluate wetlands using the Ontario Wetland Evaluation System.</p> <p>All wetlands are evaluated. Wetlands may be better protected in the area.</p> |
| Research & Monitoring | Identify vegetation communities | All | All | <p>Identify and map all ELC communities on the property.</p> <p>ELC data updated to inform stewardship.</p> |
| Research & monitoring | Address climate change threats | All | Climate Change | <p>Assess vegetation type and size of buffers around wetlands/watercourses on the property.</p> <p>Understand buffer contributions to water filtration and shade. Inform stewardship to increase buffers and shade.</p> |

| | | | | |
|----------------------------------|--|--------|----------------|---|
| Research & Monitoring | Monitor vernal pools | Forest | Climate Change | <p>Undertake vernal pool monitoring protocol in forest habitat (amphibian diversity/abundance, hydrological characteristics).</p> <p>Improve understanding of impacts of climate change on vernal pools and amphibians.</p> |
| Education and Training | Train staff | All | All | <p>Provide personnel with specific knowledge and skills in species ID and survey protocols.</p> <p>Personnel are trained and better able to undertake actions.</p> |
| Institutional Development | Secure funding for permanent and seasonal staff | All | All | <p>Identify funding sources and positions.</p> <p>Funding secured, increase capacity.</p> |
| Institutional Development | Establish volunteer community | All | All | <p>Volunteers are trained to undertake annual monitoring and where relevant additional targeted surveys.</p> <p>RWLT grows current volunteer pool and increases engagement with those volunteers.</p> |
| Institutional | Establish alliances/partnerships | All | All | <p>Partnerships are formed with organizations with shared priorities (DUC, RVCA).</p> <p>Coordinated conservation – data is shared.</p> |
| Institutional | Secure financial support for conservation activities | All | All | <p>Funding sources identified and applied for where appropriate.</p> <p>Secured funds support stewardship actions.</p> |

8.3 STEWARDSHIP COST SUMMARY

Table 11: Cost breakdown to implement management actions

For full stewardship budget breakdown, see Appendix D: Stewardship Budget. All prices are based on 2021 unit costs.

| Action | Cost | Frequency |
|---|---|----------------------|
| Property taxes and insurance <ul style="list-style-type: none"> • Register property under CLTIP CCL • Maintain insurance policy • Liaise with MNRF, MPAC, City of Ottawa | Insurance Cost: \$1,465 Property Taxes: \$0 Staff Time: \$108 Total = \$1,573 | Annually |
| Signage Replacement <ul style="list-style-type: none"> • Identification Sign • No Trespassing Signage *Estimated lifespan of signs = 10 years | Cost of Signage: \$200 Labourer Time: \$90 Travel: with other trip Total = \$290 | 2031, Every 10 years |
| Annual Monitoring: <ul style="list-style-type: none"> • Conduct annual monitoring visit and complete form • Where appropriate, this visit can also include the following: | Biologist Time: \$432 Assistant Time: \$240 Travel: \$120 | Annually |

| | | |
|---|---|----------------------------|
| <ul style="list-style-type: none"> ○ Invasive species inventory ○ Ratsnake nest box ○ Snake boards? ○ Record incidental SAR ○ Record all species encountered ○ Trail monitoring ● Update database with new information | <p>Total = \$792</p> | |
| <p>Bi-Annual Monitoring (in addition to annual monitoring)</p> <ul style="list-style-type: none"> ● Breeding Bird Surveys ● Amphibian Surveys | <p>Biologist Time: \$472</p> <p>Assistant Time: \$240</p> <p>Travel: \$120</p> <p>Total = \$792</p> | <p>Every 2 years</p> |
| <p>Planning and Database Update</p> <ul style="list-style-type: none"> ● Plan monitoring visits ● Write reports ● Report SAR to NHIC ● Update species database | <p>Biologist Time: \$1,134</p> <p>Total = \$1,134</p> | <p>Annually</p> |
| <p>Yearly maintenance</p> <p>May include the following as needed:</p> <ul style="list-style-type: none"> ● Removal of invasive species ● Removal of hunting blinds/other unauthorized construction | <p>Biologist Time: \$432</p> <p>Labourer Time: \$240</p> <p>Travel: \$120</p> <p>Total: \$792</p> | <p>Annually, as needed</p> |

| | | |
|--|--|----------------------------|
| <p>Partner Liason</p> <ul style="list-style-type: none"> Maintain partnerships with DUC, RVCA, City of Ottawa | <p>Staff Time: \$108 Total = \$108</p> | <p>Annually</p> |
| <p>Plan Update</p> <ul style="list-style-type: none"> 2 site visits in addition to annual monitoring (2 days each, to see property in 3 seasons) Estimated 5 days of revising PMP and getting approved | <p>Biologist Time: \$3,618 Assistant Time: \$960 Travel: \$240 Total = \$4,818</p> | <p>2026, Every 5 years</p> |

9 MANAGEMENT PLAN REVIEW

Every 5 years – starting June 2026.

10 REFERENCES

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11 APPENDICES

11.1 APPENDIX A: SPECIES LIST (TO DATE)

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11.2 APPENDIX B: MONITORING REPORT TEMPLATE



Property Monitoring Report Form

Please complete this form and include any supporting illustrations, maps or photos in the appropriate section.
 Please email the completed form to lands@rwlt.org or give directly to RWLT Ecologist.

| | | | |
|---|--------------------------|----------------------|---|
| Community Land or Conservation Land (circle one) | | | |
| Property: | | Date of Visit: | |
| Name(s) of Monitor(s): | | Contact Information: | |
| Report Completed By: | | | |
| Date of Last Monitoring Visit: | | | |
| Management Plan Reviewed: | <input type="checkbox"/> | Yes | <input type="checkbox"/> No |
| Follow-up Required? | <input type="checkbox"/> | Yes | <input type="checkbox"/> No |
| If yes, please describe: | | | |
| | | | |
| Management Action Taken: | <input type="checkbox"/> | Yes | <input type="checkbox"/> No |
| If yes, please describe: | | | |
| | | | |
| I - Hazards | | | |
| Bears | <input type="checkbox"/> | Tree Snags | <input type="checkbox"/> Old Wells <input type="checkbox"/> |
| Poison Ivy | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Describe: | | | |
| | | | |

| |
|--|
| |
|--|

II - Existing Structures (buildings, signs, footbridges, fences, etc.)

| Structure | Location | Condition | Comments |
|-----------|----------|-----------|----------|
| | | | |
| | | | |
| | | | |

III - Recreational Uses (Please check off those activities observed and whether they are either allowed (A) or prohibited (P)).

| | A | P | | A | P | | A | P |
|---------------------|--------------------------|--------------------------|------------------|--------------------------|--------------------------|--------------------|--------------------------|--------------------------|
| Formal Trails | <input type="checkbox"/> | <input type="checkbox"/> | Picnicking | <input type="checkbox"/> | <input type="checkbox"/> | Skating | <input type="checkbox"/> | <input type="checkbox"/> |
| Informal Trails | <input type="checkbox"/> | <input type="checkbox"/> | Swimming | <input type="checkbox"/> | <input type="checkbox"/> | Snowmobiling | <input type="checkbox"/> | <input type="checkbox"/> |
| Hiking | <input type="checkbox"/> | <input type="checkbox"/> | Camping | <input type="checkbox"/> | <input type="checkbox"/> | Snowshoeing | <input type="checkbox"/> | <input type="checkbox"/> |
| Berry Picking | <input type="checkbox"/> | <input type="checkbox"/> | Boating | <input type="checkbox"/> | <input type="checkbox"/> | Trapping | <input type="checkbox"/> | <input type="checkbox"/> |
| Nature Appreciation | <input type="checkbox"/> | <input type="checkbox"/> | Cycling | <input type="checkbox"/> | <input type="checkbox"/> | Dog walking | <input type="checkbox"/> | <input type="checkbox"/> |
| Bird Watching | <input type="checkbox"/> | <input type="checkbox"/> | Rock Climbing | <input type="checkbox"/> | <input type="checkbox"/> | Equestrian use | <input type="checkbox"/> | <input type="checkbox"/> |
| Photography | <input type="checkbox"/> | <input type="checkbox"/> | X-country Skiing | <input type="checkbox"/> | <input type="checkbox"/> | Angling | <input type="checkbox"/> | <input type="checkbox"/> |
| Hunting | <input type="checkbox"/> | <input type="checkbox"/> | Bus tours | <input type="checkbox"/> | <input type="checkbox"/> | Motorized vehicles | <input type="checkbox"/> | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | |

Describe:

IV - Natural Heritage Values

a) Wildlife Observations (mammals, amphibians, reptiles, fish, birds, other):

b) Vegetation (trees, shrubs, plants):

c) Habitat Features (examples: snags/cavity trees, fallen trees, conifer thickets, brush piles, waterfowl nesting, waterfowl feeding, dens, nests, wildlife trails, etc.):

V - Disturbances

a) Natural

- | | | | | | |
|-------------|--------------------------|---------------------|--------------------------|-----------|--------------------------|
| Beaver Dams | <input type="checkbox"/> | Erosion | <input type="checkbox"/> | Fire | <input type="checkbox"/> |
| Flooding | <input type="checkbox"/> | Heavy deer browsing | <input type="checkbox"/> | Siltation | <input type="checkbox"/> |
| Wind falls | <input type="checkbox"/> | Invasive species | <input type="checkbox"/> | Other | <input type="checkbox"/> |

Describe:

b) Human

- | | | | | | |
|------------------------------|--------------------------|--------------------|--------------------------|---------------------------|--------------------------|
| Camping | <input type="checkbox"/> | Pesticides | <input type="checkbox"/> | Road widening | <input type="checkbox"/> |
| Channelization of Streams | <input type="checkbox"/> | Horseback riding | <input type="checkbox"/> | Shoreline alteration | <input type="checkbox"/> |
| Clearing of municipal drains | <input type="checkbox"/> | Motorized vehicles | <input type="checkbox"/> | Stray animals | <input type="checkbox"/> |
| Ditching | <input type="checkbox"/> | Mountain bikes | <input type="checkbox"/> | Trampling | <input type="checkbox"/> |
| Dumping | <input type="checkbox"/> | Pets | <input type="checkbox"/> | Trapping | <input type="checkbox"/> |
| Feeding wildlife | <input type="checkbox"/> | Plant harvesting | <input type="checkbox"/> | Trespass | <input type="checkbox"/> |
| Fires | <input type="checkbox"/> | Poaching | <input type="checkbox"/> | Unauthorized construction | <input type="checkbox"/> |
| Urban runoff | <input type="checkbox"/> | Utility corridors | <input type="checkbox"/> | Vandalism | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | | | | |

Describe:

VI - Contact with Neighbours or Visitors (briefly describe your conversation, provides names if possible):

VII - Notes/Comments:

VIII – Maps, Illustrations, Photographs

11.3 APPENDIX C: CONTACT INFORMATION FOR KEY LOCAL PARTNERS

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11.4 APPENDIX D: STEWARDSHIP BUDGET

N.B. All dollar values are based on 2021 costs

| | <i>Necessary Stewardship Items</i> | <i>Subtotal</i> | <i>Endowment</i> | <i>Explanation</i> | |
|--------------------------|--|-----------------|---------------------|--------------------|--|
| <i>Ownership</i> | | | Funds Needed | | |
| | Taxes | | | Actual costs now | |
| | Liability Insurance – total RWLT | 4,000.00 | | | |
| | Acres, RWLT | 1,174 | | | |
| | Average cost per acre | 3.41 | | | |
| | Factor | 1 | | | |
| | Cost per acre, | 3.41 | | | |
| | Acres, | 430 | | | |
| | Annual Insurance Cost, | | 1,465.08 | 36,627 | |
| | Follow up with MNR/MPAC/Municipality regarding CLTIP | | 108.00 | 2,700 | |
| | Administrator Hours | 2 | | | |
| | Administrator Wage | 54 | | | |
| | | | 290.00 | 625 | |
| | <i>Signage</i> | | | | |
| Replacement period | 10 | | | | |
| Cost of signs | 200 | | | | |
| Labourer hours | 3 | | | | |
| Labourer hourly rate | 30.00 | | | | |
| Sub-total, labourer | 90.00 | | | | |
| Travel – number of trips | | With other trip | | | |
| Travel – km’s per trip | 240 | | | | |

| | | | | |
|-------------------|--------------------------------|--------|--------|---|
| <i>Monitoring</i> | Travel – rate per kilometre | 0.50 | | |
| | Sub-total, travel | 0.00 | | |
| | Annual Property Monitoring | | 792.00 | 19,800 Trespassing, invasives, incidental species observations |
| | Biologist hours | 8 | | |
| | Biologist hourly rate | 54.00 | | |
| | Sub-total, biologist | 432.00 | | |
| | Labourer hours | 8 | | |
| | Labourer hourly rate | 30.00 | | |
| | Sub-total, labourer | 240.00 | | |
| | Travel – number of trips | 1 | | |
| | Travel – km’s per trip | 240 | | |
| | Travel – rate per kilometre | 0.50 | | |
| | Sub-total, travel | 120.00 | | |
| | Biannual Ecological Monitoring | | 792.00 | 9,706 Breeding birds, amphibians |
| | Frequency, # of years | 2 | | |
| | Biologist hours | 8 | | |
| | Biologist hourly rate | 54.00 | | |
| | Sub-total, biologist | 432.00 | | |
| | Labourer hours | 8 | | |
| | Labourer hourly rate | 30.00 | | |
| | Sub-total, labourer | 240.00 | | |
| | Travel – number of trips | 1 | | |
| | Travel – km’s per trip | 240 | | |

| | | | | |
|---------------------------|------------------------------|--------|----------|---|
| | Travel – rate per kilometre | 0.50 | | |
| | Sub-total, travel | 120.00 | | |
| | Planning and Database Update | | 1,134.00 | 13,897 Plan visit, write reports, update database |
| | Biologist hours | 21 | | |
| | Biologist hourly rate | 54.00 | | |
| | Sub-total, biologist | 756.00 | | |
| <i>Maintenance</i> | | | | |
| | Yearly Maintenance | | 792.00 | 19,800 invasive species removal, removal of hunting blinds/etc |
| | Biologist hours | 8 | | |
| | Biologist hourly rate | 54.00 | | |
| | Sub-total, biologist | 432.00 | | |
| | Labourer hours | 8 | | |
| | Labourer hourly rate | 30.00 | | |
| | Sub-total, labourer | 240.00 | | |
| | Travel – number of trips | 1 | | |
| | Travel – km’s per trip | 240 | | |
| | Travel – rate per kilometre | 0.50 | | |
| | Sub-total, travel | 120.00 | | |
| <i>Management Targets</i> | | | 4,818.00 | 22,238 |
| | Plan Update | | | |
| | Frequency, # of years | 5 | | |
| | Biologist hours | 67 | | |
| | Biologist hourly rate | 54.00 | | |

| | | | |
|-----------------------------|----------|-------------------|--|
| Sub-total, biologist | 3,618.00 | | |
| Labourer hours | 32 | | |
| Labourer hourly rate | 30.00 | | |
| Sub-total, labourer | 960.00 | | |
| Travel – number of trips | 2 | | 2 extra visits in addition to annual monitoring, to visit in all 3 seasons |
| Travel – km’s per trip | 240 | | |
| Travel – rate per kilometre | 0.50 | | |
| Sub-total, travel | 240.00 | | |
| Partner Liason | | 108.00 | 2,700 |
| Biologist hours | 2 | | |
| Biologist hourly rate | 54.00 | | |
| Sub-total, biologist | 216.00 | | |
| | | | |
| | | Total | 128,109 |
| | | Endowment | |
| | | Fund Needs | |

11.5 APPENDIX E: RESTRICTIONS UPON USE OR DISPOSITION OF BRENDA CARTER NR

11.5.1 CLTIP

The Conservation Land Tax Incentive Program offers a 100% rebate on property taxes on eligible properties in exchange for a long-term commitment to steward them as conservation lands. Only uses deemed compatible with the natural heritage and biodiversity objectives are allowed on properties enrolled in CLTIP. This includes but is not limited to:

- low-impact recreational activities such as hiking, skiing, hunting, fishing, and wildlife viewing,
- routine land-use activities such as invasive species management, prescribed burns, trail maintenance, tree removal for safety or forest health purposes, and planting of native species.

Other land-use activities may be permitted if approval from MNRFP program staff is solicited, including:

- culling nonnative tree species
- sustainable fuelwood removal for personal use only
- planned trail development or upgrading.

Land uses such as:

- building structures
- landscaping/grooming areas or farming
- use of motorized vehicles (off-trail)
- sale of forest products (timber and non-timber products)
- alteration of ecosystems by draining, dredging, filling, grading or extracting aggregate

are incompatible with objectives under CLTIP and will likely result in the portions of the property affected becoming ineligible for tax exemption.

11.5.2 EcoGift

Donation under the EcoGifts program provided the late Brenda Carter's estate and her husband, Gerard Phillips, with significant tax benefits and ensured that the RWLT would conserve the property's biodiversity and environmental heritage in perpetuity.

Written authorization from Environment and Climate Change Canada is required for any changes in use or dispositions of properties certified as an EcoGift. Failure to receive this authorization before making changes to the property may result in a penalty tax equal to 50% of the current fair market value of the property.

Changes of use that would enhance or restore the conservation value of the property are typically authorized. Any change in use that is not consistent with the original objectives of the ecological gift, such as subdivision, the building of structures or trails, or other changes that may threaten the environmental values, are not likely to be allowed. As well, **the sale or transfer of ownership can only be to another conservation organization that is authorized by ECCC as an EcoGift recipient.**