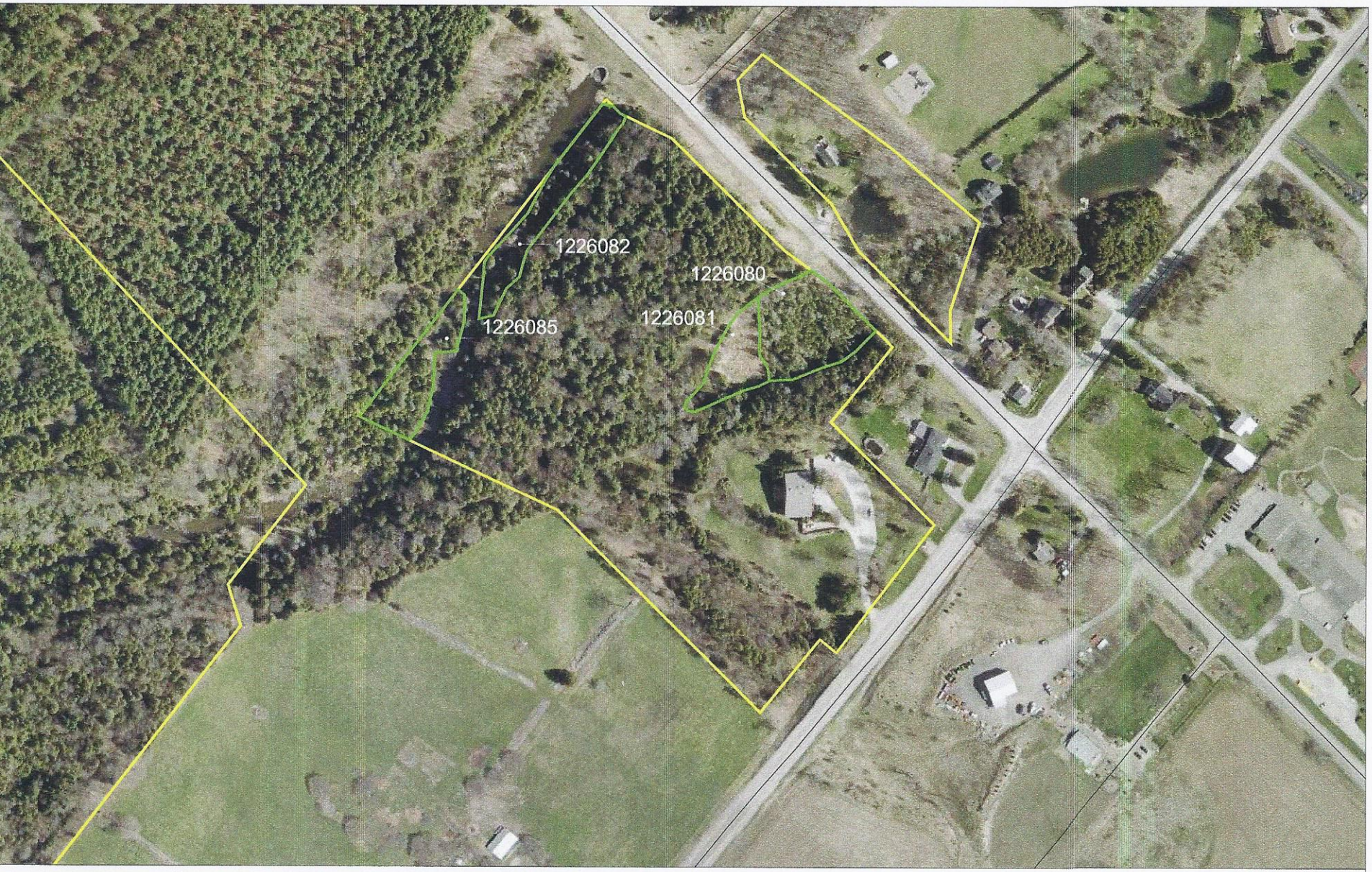

I.R.C.D. Property

Belfountain, Ontario

50 0 50 100 Meters

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N

Legend

- Property Boundary
- Vegetation Community

PROPERTY INFORMATION

Owner:	The Institute for Research, Communication and Development- I.R.C.D.	**Inventory type:**	ELC, OWES
Location:	462 Bush Street, Belfountain	**Watershed:**	Credit River
Municipality:	Town of Caledon	**Subwatershed:**	West Credit River
Region:	Region of Peel	**Date visited:**	August 7th, 2012
Reference #:	1226080, 1226081, 1226082, 1226085		

PROPERTY SUMMARY

CVC staff surveyed four wetland areas that encompass approximately 0.83 ha on your property. These areas consisted of swamp and meadow marsh wetland types.

Swamps are wetlands dominated by trees (treed swamp) or shrubs (thicket swamp). There is often standing water or seasonal pooling present in these communities. High water tables in swamps usually result in shallow-rooted trees. These are easily blown down, causing pits where the roots were pulled up, and mounds where the tree trunks decompose. Pit and mounds and fallen logs are a great place to find many locally rare or interesting plants.

Treed swamps are further divided into deciduous, coniferous and mixed swamp types based on the dominant tree cover. Deciduous swamps are dominated by deciduous tree species such as Red Maple and White Elm. Coniferous swamps are dominated by coniferous species such as Eastern White Cedar and Balsam Fir. Mixed swamps consist of a mix of deciduous and coniferous species. Treed swamps surveyed on your property consisted of coniferous swamp types.

A meadow marsh is a type of marsh wetland where flooding occurs seasonally, usually drying up by summer. These sites are usually dominated by grasses, sedges and other herbaceous plants which are less tolerant to prolonged flooding.

Vegetation communities are further analysed and assigned classifications based on vegetation and soil types. Vegetation types are assigned based on the dominant plant species present at the site. The soil is classified as either organic (made up of decaying plant matter) or mineral (i.e. sand, clay, silt or loam). Four vegetation polygons were identified and mapped on your property consisting of three unique vegetation types (Table 1). These vegetation communities provide important habitat that adds to the diversity of your property.

Table 1: Vegetation Communities Surveyed

Polygon ID	Size (ha)	Community Type	Dominant Species at Each Height Layer				
			> 10 m	2 to 10 m	0.5 to 2 m	0 to 0.5 m	0 to -0.5 m
1226080	0.280	White Cedar Conifer Organic Coniferous Swamp	Balsam Fir > Trembling Aspen > White Cedar > American Elm	White Cedar > Balsam Fir > American Elm	White Cedar > Balsam Fir > Wrinkleleaf Goldenrod > Climbing Nightshade	Fowl Manna-Grass > Spotted Touch-me-not > Sensitive Fern > Sedge Species	Moss Species

1226081	0.142	Cattail Graminoid Organic Meadow Marsh		Trembling Aspen > Bebb's Willow	Broad-leaf Cattail > Reed Canary Grass > Narrow-leaved Cattail > American Sweetflag	Water Sedge > Slender Sedge > Smartweed Species > Marsh Fern	
1226082	0.220	Mixed Forb Organic Meadow Marsh	White Cedar > American Elm	White Cedar > Speckled Alder > Pussy Willow > Common Elderberry	Spotted Joe-pye Weed > White Cedar > Reed Canary Grass > Swamp Aster	Spreading Bentgrass > Rice Cutgrass > True Forget-me-not > Sensitive Fern	
1226085	0.186	White Cedar Conifer Organic Coniferous Swamp	White Cedar > Balsam Fir > Yellow Birch > White Spruce	White Cedar > Balsam Fir > Black Ash >	White Cedar > Balsam Fir > Spotted Joe-pye Weed > Inland Sedge	Bulblet Fern > Sensitive Fern > Fowl Manna-Grass	

PLANTS

There were 101 different plant species found on your property. Of these species, ten are considered locally rare (Table 2). Eight species are non-native, of which six are invasive (Table 3).

Spotted Touch-me-not

American Sweetflag

Spotted Joe-pye Weed

The following table lists the locally rare plant species found on your property. A plant is considered rare when it has been confirmed in only a few locations throughout the Credit River watershed and is thus considered a species of conservation concern. Plants may be rare for a number of reasons including specialized habitat requirements that allow them to grow only in certain areas, or as a result of human activities which have resulted in population declines.

Table 2: Locally Rare Plant Species

Common Name	Scientific Name	Provincial Status	Local Status
American Sweetflag	*Acorus americanus*	Apparently secure	Rare
Bristly Sedge	*Carex comosa*	Secure	Rare
Creeping Snowberry	*Gaultheria hispidula*	Secure	Rare
Gronovius Dodder	*Cuscuta gronovii*	Secure	Rare
Linear-leaved Willow-herb	*Epilobium leptophyllum*	Secure	Rare
Slender Sedge	*Carex lasiocarpa*	Secure	Rare
Swamp Fly-honeysuckle	*Lonicera oblongifolia*	Secure	Rare
Water Dock	*Rumex orbiculatus*	Secure	Rare

Water Horsetail	*Equisetum fluviatile*	Secure	Rare
Water Sedge	*Carex aquatilis*	Secure	Rare

Non-native plants are plants that do not occur in the Credit River Watershed naturally and have been introduced from other regions or countries. Invasive plants are typically non-native plants that have characteristics which enable them to out-compete our native plants for space and resources. Unfortunately, invasive species have become quite common. This is a cause for concern due to the negative effects these plants can have on our ecosystems. The following table lists the non-native plants found on your property.

Table 3: Non-native Plant Species

Common Name	Scientific Name	Invasiveness
Black Bentgrass	*Agrostis gigantean*	Not applicable
Climbing Nightshade	*Solanum dulcamara*	Moderately invasive
Creeping Thistle	*Cirsium arvense*	Highly invasive
European Mountain-ash	*Sorbus aucuparia*	Minimally invasive
Narrow-leaved Cattail	*Typha angustifolia*	Highly invasive
One-row Water-cress	*Nasturtium microphyllum*	Not applicable
Purple Loosestrife	*Lythrum salicaria*	Transformer
True Forget-me-not	*Myosotis scorpioides*	Minimally invasive

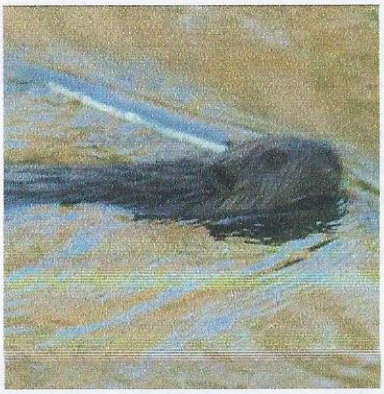
A minimally invasive species is one that does not pose an immediate threat to natural areas, but does compete with more desirable native species and is difficult to eradicate once established. Moderately invasive species can become dominant given certain conditions (e.g. soils, human impacts) and should be controlled to reduce spread into other areas. Highly invasive species tend to dominate certain niches or do not spread rapidly from large populations and should be controlled. Transformers are the largest threat to natural areas as they exclude all other species from the sites they dominate and disperse widely and should be removed.


Purple Loosestrife

Purple Loosestrife is the most invasive plants on your property as is indicated by the status of *Transformer*. Purple Loosestrife has the potential to dominate and exclude all other species because it has tremendous reproductive capacity. Seedlings quickly develop a strong taproot from which new shoots arise annually. Plants bloom throughout the growing season and a single plant can produce more than a million seeds each year. Infestations quickly take over wetlands, excluding other plant species. Purple Loosestrife is a top priority for removal, but control may be difficult with large populations. Immediate removal is recommended to prevent the spread into other areas. For more information about invasive species including options for controlling them, please see the additional information included in your package.

WILDLIFE

The presence of wildlife can be verified in a number of different ways including visual observation, sounds, tracks, scat and signs of a dwelling like a nest or a den. The following sections list the species that were recorded on your property at the time of our visit; however, other species not mentioned could potentially utilize the habitat located on your property. Further observation during other times of the year may reveal additional species.



Beaver

Wood Frog

Meadowhawk species

Amphibians

Two amphibian species were recorded on your property the Green Frog and Wood Frog. Green Frogs are relatively common and are found in or near permanent ponds, swamps, marshes and slow moving streams. Wood Frogs are considered a species of urban interest in the Credit River watershed, meaning they are not abundant in areas of human development, and disturbance. They are a forest-dwelling species that use woodland vernal pools for breeding habitat. Vernal pools are isolated seasonal pools of water that typically dry up in the summer. Due to the fact they typically dry up they are usually devoid of fish. Many amphibian species require these specialized habitats for breeding since the lack of fish predators provides a safe area for breeding and the development of amphibian larvae.

Birds

Three bird species were recorded on your property: American Goldfinch, American Robin and Hairy Woodpecker. All three of these species are common throughout the Credit River watershed. The Hairy Woodpecker is a small- to medium-sized woodpecker which inhabits mixed forests and small woodlots. Woodpeckers perform an important ecological function in creating cavities in trees which are then used by other birds and mammals.

Dragonflies and Other Insects

One dragonfly species and one cicada species were recorded on your property: a Meadowhawk dragonfly and a Dog Day Cicada.

Dragonflies are very important ecologically. As insect predators close to the bottom of the food chain, dragonflies reflect changes in the health of aquatic ecosystems much faster than can be recognized through monitoring of most other animal or plant groups. These "indicator species" can therefore provide a measure of the current health of aquatic ecosystems as well as predict future changes in those environments.

The buzzing sound of Cicada's are familiar sounds during the hot, humid days of summer. Cicadas are very long lived species by insect standards, spending 5-10 years underground (depending on the species) before emerging and molting into their adult forms.

Mammals

A Beaver was recorded on your property. It is most active at night and prefers to stay in the water as it is vulnerable on land. The beaver works as a keystone species in an ecosystem, creating wetlands by damming streams and rivers which are used by many other species.

PLANT SPECIES LIST

Species observed: 101

Taxa Type	Common Name	Scientific Name	Rarity
Fern	Bulblet Fern	*Cystopteris bulbifera*	Common
Fern	Crested Shield-fern	*Dryopteris cristata*	Common
Fern	Field Horsetail	*Equisetum arvense*	Common
Fern	Marsh Fern	*Thelypteris palustris var. pubescens*	Common
Fern	Ostrich Fern	*Matteuccia struthiopteris var. pensylvanica*	Common
~~Fern~~	~~Sensitive Fern~~	~~*Onoclea sensibilis*~~	~~Common~~
Fern	Water Horsetail	*Equisetum fluviatile*	Rare
Grass	American Manna-grass	*Glyceria grandis*	Common
Grass	Black Bentgrass	*Agrostis gigantea*	Non-native
Grass	Canada Blue-joint	*Calamagrostis canadensis*	Common
Grass	Fowl Bluegrass	*Poa palustris*	Common
Grass	Fowl Manna-grass	*Glyceria striata*	Common
Grass	Reed Canary Grass	*Phalaris arundinacea*	Common
Grass	Rice Cutgrass	*Leersia oryzoides*	Common
Grass	Spreading Bentgrass	*Agrostis stolonifera*	Common
Grass	Virginia Wild-rye	*Elymus virginicus var. virginicus*	Common
Herb	American Sweetflag	*Acorus americanus*	Rare
Herb	Bedstraw species	*Galium* species	Not available
Herb	Blue Flag	*Iris versicolor*	Common
Herb	Blue Vervain	*Verbena hastata*	Common
Herb	Broadleaf Arrowhead	*Sagittaria latifolia*	Common
Herb	Broad-leaf Cattail	*Typha latifolia*	Common
Herb	Bulb-bearing Water-hemlock	*Cicuta bulbifera*	Common
Herb	Canada Anemone	*Anemone canadensis*	Common
Herb	Canada Mayflower	*Maianthemum canadense*	Common
Herb	Common Boneset	*Eupatorium perfoliatum*	Common
Herb	Creeping Thistle	*Cirsium arvense*	Non-native
Herb	Devil's Beggar-ticks	*Bidens frondosa*	Common
Herb	Flat-top Goldentop	*Euthamia graminifolia*	Common
Herb	Goldthread	*Coptis trifolia*	Common
Herb	Great Blue Lobelia	*Lobelia siphilitica*	Common
Herb	Gronovius Dodder	*Cuscuta gronovii*	Rare
~~Herb~~	~~Hemlock Water-parsnip~~	~~*Sium suave*~~	~~Common~~
Herb	Hooded Skullcap	*Scutellaria galericulata*	Common
Herb	Late Goldenrod	*Solidago altissima var. altissima*	Common
Herb	Lesser Duckweed	*Lemna minor*	Common
Herb	Linear-leaved Willow-herb	*Epilobium leptophyllum*	Rare
Herb	Mad Dog Skullcap	*Scutellaria lateriflora*	Common

Herb	Marsh Marigold	*Caltha palustris*	Common
Herb	Narrow-leaved Cattail	*Typha angustifolia*	Non-native
Herb	Nodding Beggar-ticks	*Bidens cernua*	Common
Herb	Northern Bugleweed	*Lycopus uniflorus*	Common
Herb	One-row Water-cress	*Nasturtium microphyllum*	Non-native
Herb	Panicled Aster subspecies	*Symphyotrichum lanceolatum ssp. lanceolatum*	Common
Herb	Purple Loosestrife	*Lythrum salicaria*	Non-native
Herb	Rough Bedstraw	*Galium asprellum*	Common
~~Herb~~	~~Small Forget-me-not~~	~~*Myosotis laxa*~~	~~Common~~
Herb	Smartweed species	*Polygonum* species	Not available
Herb	Smooth Goldenrod	*Solidago gigantea*	Common
Herb	Spotted Joe-pye Weed	*Eupatorium maculatum ssp. maculatum*	Common
Herb	Spotted Touch-me-not	*Impatiens capensis*	Common
Herb	Starflower	*Trientalis borealis ssp. borealis*	Common
Herb	Swamp Aster	*Symphyotrichum puniceum*	Not available
Herb	Swamp Buttercup	*Ranunculus hispidus var. caricetorum*	Common
Herb	Swamp Milkweed	*Asclepias incarnata ssp. incarnata*	Common
Herb	True Forget-me-not	*Myosotis scorpioides*	Non-native
Herb	Water Dock	*Rumex orbiculatus*	Rare
Herb	Water Smartweed	*Polygonum amphibium*	Uncommon
Herb	White Turtlehead	*Chelone glabra*	Common
Herb	Wild Mint	*Mentha arvensis ssp. borealis*	Not available
Herb	Wood Nettle	*Laportea canadensis*	Common
Herb	Wrinkleleaf Goldenrod	*Solidago rugosa ssp. rugosa*	Common
Moss	Moss species	*Moss* species	Not available
Moss	Sphagnum Moss species	*Sphagnum* species	Not available
Sedge	Bristly Sedge	*Carex comosa*	Rare
Sedge	Bristly-stalk Sedge subspecies	*Carex leptalea ssp. leptalea*	Common
Sedge	Graceful Sedge	*Carex gracillima*	Common
Sedge	Inland Sedge	*Carex interior*	Common
Sedge	Porcupine Sedge	*Carex hystericina*	Common
Sedge	Retrorse Sedge	*Carex retrorsa*	Common
Sedge	Sedge species	*Carex* species	Not available
Sedge	Slender Sedge	Carex lasiocarpa	Rare
Sedge	Soft-stem Bulrush	*Schoenoplectus tabernaemontani*	Common
~~Sedge~~	~~Water Sedge~~	~~*Carex aquatilis*~~	~~Rare~~
Sedge	Yellow Sedge	*Carex flava*	Common
Shrub	Bebb's Willow	*Salix bebbiana*	Common
Shrub	Common Elderberry	*Sambucus canadensis*	Common
Shrub	Creeping Snowberry	*Gaultheria hispidula*	Rare
Shrub	Dwarf Red Raspberry	*Rubus pubescens*	Common

Shrub	European Mountain-ash	*Sorbus aucuparia*	Non-native
Shrub	Grayleaf Red Raspberry	*Rubus idaeus ssp. strigosus*	Common
Shrub	Meadow Willow	*Salix petiolaris*	Common
Shrub	Narrow-leaved Meadow-sweet	*Spiraea alba*	Common
Shrub	Pussy Willow	*Salix discolor*	Common
Shrub	Red-osier Dogwood	*Cornus stolonifera*	Common
Shrub	Speckled Alder	*Alnus incana ssp. rugosa*	Common
Shrub	Swamp Fly-honeysuckle	*Lonicera oblongifolia*	Rare
Shrub	Wild Black Currant	*Ribes americanum*	Common
Tree	American Elm	*Ulmus americana*	Common
Tree	Balsam Fir	*Abies balsamea*	Common
Tree	Balsam Poplar	*Populus balsamifera ssp. balsamifera*	Common
Tree	Eastern White Cedar	*Thuja occidentalis*	Common
Tree	Green Ash variety	*Fraxinus pennsylvanica var. subintegerrima*	Not available
Tree	Red Maple	*Acer rubrum*	Common
Tree	Sugar Maple	*Acer saccharum ssp. saccharum*	Common
Tree	Trembling Aspen	*Populus tremuloides*	Common
Tree	Yellow Birch	*Betula alleghaniensis*	Common
Tree	White Spruce	*Picea Glauca*	Uncommon
Woody vine	Climbing Nightshade	*Solanum dulcamara*	Non-native
Woody vine	Riverbank Grape	*Vitis riparia*	Common
Woody vine	Thicket Creeper	*Parthenocissus inserta*	Common

WILDLIFE SPECIES LIST

Species observed: 8

Taxa Type	Common Name	Scientific Name	Rarity
Amphibian	Green Frog	*Rana clamitans*	Common
Amphibian	Wood Frog	*Rana sylvatica*	Urban Interest
Bird	American Goldfinch	*Carduelis tristis*	Common
Bird	American Robin	*Turdus migratorius*	Common
Bird	Hairy Woodpecker	*Picoides villosus*	Common
Dragonfly	Meadowhawk species	*Sympetrum* species	Not available
Insect	Dog Day Cicada species	*Tibicen* species	Not available
Mammal	Beaver	*Castor canadensis*	Common

Please note: plant and wildlife data included in this document were recorded within one or more of the vegetation communities surveyed on your property. If communities extend beyond your property, not all species listed above may be found on your property. Also, the Plant Species List and the Wildlife Species List should not necessarily be considered complete inventories of all species on your property if other natural areas that were not surveyed exist.