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# McMahon Bluff (NCC) Prince Edward County Field Assessment - 16 June 2023

S.M. McKay-Kuja et al.

Prince Edward County Field Naturalists, 2023

# McMahon Bluff (NCC), Prince Edward County

## Field Assessment, 16 June 2023

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Front Cover: Mature trees on wooded slope at McMahon Bluff. Photo by B. Kostiuk, 16 June 2023.  
Back Cover: Spring peeper at McMahon Bluff. Photo by J. Lowry, 16 June 2023.



Figure 1. Participants of the McMahon Bluff (NCC), Prince Edward County Field Assessment, 16 June 2023. From left to right: Danielle Goodvin, Tom Mason, Brenda Kostiuk, Sheila McKay-Kuja, John Lowry, Paul Catling, Lori Borthwick, Emma Sinclair, Eli Drummond. Absent from the photo Mike & Mireille Oldham, David Bree. Photo by E. Bednarczuk.



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## EXECUTIVE SUMMARY

This report includes the results of a casual field assessment in 2023 and a consideration of biological and ecological information that was collected earlier. The 241 acre site includes an elevated limestone plateau with areas of dry Oak-Shagbark Hickory-Red Cedar woodland and meadows returning to forest. Slopes and benches have mesic woodlands of Sugar and Black Maple with Bitternut Hickory and Basswood. The lower slopes descend to a rocky shoreline. Rare and endangered plant species are present including vascular plants such as Four-leaved Milkweed and the parasitic American Cancer-root and lichens known from only a few other localities in Canada, for example, *Bacidia circumspecta*, and *Strigula submuriformis* (under study), as well as bryophytes, such as *Drummondia prorepens* which at the time of discovery was ranked SX in Ontario but based on the new record, the Ontario status has been updated to S1S2. Three additional tracked bryophyte species were detected: *Schistidium dupretii* (S2), *Thelia asprella* (S2) and *Koponeniella graminicolor* (S3). The area has a rich biodiversity with large old growth trees on the steep protected slopes. It is representative of the natural features of the South Bay and South Shore coastline. Parts of the top of the plateau may have been open in pre-settlement times due to drought and natural fire. More recently the area was much more open than today due to wood cutting for heating, cooking, and shelter. Much of the area on top of the plateau was used for pasture as indicated by the prevalence of European weedy plants of pastureland and disturbed sites. Despite past disturbance McMahon Bluff has recovered with native flora and fauna. However, patches of Dog-strangling Vine, Garlic Mustard and extensive development of European Buckthorn on parts of the plateau may be a management challenge in the future. Some specific management considerations are noted.

## INTRODUCTION

**Location:** 43.9562, -77.0401, 1203 County Rd. 13, southeastern shore of Prince Edward County on Prince Edward Bay, west of the mouth of the Black River, 12 km southeast of Picton.

**Time:** For most of the group: 10:30 AM - 4:00 PM., 16 June 2023.

**Weather:** 20° C, overcast with very few sunny periods, distant thunder for much of the day but no rain.

The sources for biological information on this site include Blaney and Blaney (2006), Macdonald (1972, 1987), and Snetsinger *et al.* (2001), as well as unpublished (but included here) records of M.J. Oldham in 2006. Additional sources of information included here are from: iNaturalist and Terry Sprague's Nature Stuff website (<http://naturestuff.net/web/mcmahon-bluff-a-rare-gem>). *N.B.* The Nature Conservancy of Canada staff have previously conducted in-house field work at the site.



Figure 2. Welcome sign at McMahon Bluff.

## ACKNOWLEDGEMENTS

Mark Stabb, Program Director – Central Ontario-East, of the Nature Conservancy of Canada (NCC), provided logistical support and encouragement. The NCC field leaders (listed above) provided orientation and ensured safety.

## RESULTS:

### Lichens – T. McMullen

Lichens were not assessed on 16 June 2023, but T. McMullen visited the area on 12 June 2021 and recorded the following species (previously provided to NCC). Those species shown in bold are considered to be rare in Ontario and their status may be re-evaluated to S1 by NHIC.

Species	Authority	Rank	Substrate	T.M. #
<i>Lecanora caesiorubella</i> ssp. <i>caesiorubella</i>	Ach.	S4S5	Corticolous on <i>Acer saccharum</i>	22449
<i>Physcia stellaris</i>	(L.) Nyl.	S5	Corticolous on a fallen branch	22450
<i>Julella fallaciosa</i>	(Arnold) R.C. Harris	S5	Corticolous on <i>Acer saccharum</i>	22451
<i>Cladonia ignatii</i>	Ahti, Pino-Bodas & J.W. McCarthy	SU	Bryicolous and lignicolous	22452
<i>Rinodina tephrae</i>	(Tuck.) Herre	S4	Saxicolous (non-calcareous)	22453
<i>Sarcogyne hypophaea</i>	(Nyl.) Arnold	SU	Saxicolous (non-calcareous) Corticolous on <i>Acer</i>	22454
<i>Physconia grumosa</i>	Esslinger	S4	<i>saccharum</i>	22455
<i>Candelariella xanthostigma</i>	(Ach.) Lettau	S4S5	Corticolous on <i>Quercus rubra</i>	22456
<i>Pertusaria macounii</i>	(I.M. Lamb) Dibben	S4	Corticolous on <i>Quercus rubra</i> Corticolous on a deciduous	22457
<i>Arthonia cf. granosa</i>	B. de Lesd	SNR	shrub Corticolous on <i>Acer</i>	22459
<i>Graphis scripta</i>	(L.) Ach.	S5	<i>saccharum</i>	22460
<i>Cladonia caespiticia</i>	(Pers.) Flörke	S4	Terricolous	22461
<i>Rhizocarpon cinereovirens</i>	(Müll. Arg.) Vain.	S4?	Saxicolous (non-calcareous)	22462
<i>Punctelia bolliana</i>	(Müll. Arg.) Krog	S4	Corticolous on <i>Quercus rubra</i>	22463
<i>Punctelia rudecta</i>	(Ach.) Krog	S5	Corticolous on <i>Quercus rubra</i> Corticolous on <i>Acer</i>	22464
<i>Phaeophyscia pusilloides</i>	(Zahlbr.) Essl.	S5	<i>saccharum</i> Fungicolous on <i>Trichaptum</i>	22465
<i>Phaeocalicium polyporaeum</i>	(Nyl.) Tibell	S4S5	<i>biforme</i>	22466
<i>Flavoparmelia caperata</i>	(L.) Hale	S5	Lignicolous	22467
<i>Lecanora thysanophora</i>	R.C. Harris	S5	Corticolous on <i>Quercus rubra</i>	22468
<i>Candelaria concolor</i>	(Dicks.) Stein	S5	Corticolous on <i>Quercus rubra</i>	22469
<i>Bacidia rubella</i>	(Hoffm.) A. Massal.	S4	Corticolous <i>alba</i> Corticolous on <i>Acer</i>	22470
<i>Physcia millegrana</i>	Degel.	S5	<i>saccharum</i>	22471
<i>Parmelia sulcata</i>	Taylor	S5	Lignicolous	22472
<i>Arthonia radiata</i>	(Pers.) Ach. (Pers.) Ertz &	S5	Corticolous on <i>Quercus rubra</i>	22473
<i>Alyxoria varia</i>	Tehler	S4	Corticolous on <i>Quercus rubra</i>	22474
<i>Lecanora symmicta</i>	(Ach.) Ach.	S5	Lignicolous	22475
<i>Flavopunctelia flaventior</i>	(Stirt.) Hale	S5	Corticolous on a fallen bark	22476

<b><i>Bacidia circumspecta</i></b>	(Nyl. ex Vain.) Malme	SU	Corticolous on <i>Quercus rubra</i> Corticolous on a deciduous shrub	22477 22478
<i>Chrysothrix caesia</i>	(Flot.) Ertz & Tehler	S5		
<i>Phaeophyscia rubropulchra</i>	(Degel.) Essl. (R.C. Harris) R.C.	S5	Corticolous on <i>Quercus rubra</i>	22479
<b><i>Strigula submuriformis</i> *</b>	Harris	SNR	Corticolous on <i>Quercus rubra</i>	22480

*\*Tentative report under study by T. McMullen.*

Rough Speckled Shield Lichen was previously reported on iNaturalist.

## Fungi – D. Bree, L. Borthwick, J. Lowry, P. Catling

Hexagonal-pored Polypore, *Neofavolus* (previously *Polyporus*) *alveolaris*  
 Crown Rust, *Puccinia coronata* – on European Buckthorn leaves and leaf petioles  
 Mayapple Rust, *Allodus podophylli*  
 Scarlet Cup, *Sarcoscypha* cf. *dudleyi* (but possibly *S. austriaca*; microscopic analysis needed)  
 cf. Witch’s Butter, *Tremella mesenterica*

Previous records (from iNaturalist) include Hare’s Foot Inkcap, Oysterlings, Eastern American Platterful Mushroom, Old-Man-of-the-Woods and Velvet-footed Pax.



Figure 3. Hexagonal-pored Polypore, eastern rim at McMahon Bluff. Photo by P. Catling.



## Mosses and Liverworts – Jennifer Doubt

The following list is based on a visit conducted on 24 June 2021. The most exciting find was *Drummondia prorepens* which at the time was ranked SX in Ontario. All prior collections were made before 1900. Since 2021, based on the new record, that Ontario status has been updated to S1S2. Three additional tracked species were detected: *Schistidium dupretii* (S2), *Thelia asprella* (S2) and *Koponeniella graminicolor* (S3). All tracked species are shown below in bold lettering.

Bryophytes observed at McMahon Bluff on 24 June 2021; updated list from 14 June 2023.

Scientific name	Authority	Collected / noted	Moss / Liverwort	Tracked by NHIC?	S-rank (from June 2023 NHIC)
<i>Frullania eboracensis</i>	Lehm.	Collected	Liverwort	N	S5
<i>Lophocolea heterophylla</i>	(Schrad.) Dumort.	Collected	Liverwort	N	S5
<i>Porella platyphylla</i>	(L.) Pfeiff.	Collected	Liverwort	N	S5
<i>Ptilidium pulcherrimum</i>	(Weber) Vain.	Collected	Liverwort	N	S5
<i>Radula complanata</i>	(L.) Dumort.	Collected	Liverwort	N	S5
<i>Atrichum altecristatum</i>	(Renauld & Cardot) Smyth & L.C.R. Smyth	Collected	Moss	N	S5
<i>Atrichum crispulum</i>	Schimp. ex Besch.	Collected	Moss	N	S5
<i>Brachytheciastrum velutinum</i>	(Hedw.) Ignatov & Huttunen	Collected	Moss	N	S4
<i>Brachythecium rivulare</i>	Schimp.	Collected	Moss	N	S5
<i>Brachythecium rutabulum</i>	(Hedw.) Schimp.	Collected	Moss	N	S5
<i>Callicladium haldanianum</i>	(Grev.) H.A. Crum	Collected	Moss	N	S5
<i>Campyliadelphus chrysophyllus</i>	(Brid.) Lange	Collected	Moss	N	S5
<i>Claopodium rostratus</i>	(Hedw.) Ignatov	Noted	Moss	N	S5
<i>Dicranum scoparium</i>	Hedw.	Collected	Moss	N	S5
<i>Dicranum viride</i>	(Sull. & Lesq.) Lindb.	Collected	Moss	N	S5
<b><i>Drummondia prorepens</i></b>	<b>(Hedw.) E. Britton</b>	<b>Collected</b>	<b>Moss</b>	<b>Y</b>	<b>S1S2</b>
<i>Entodon seductrix</i>	(Hedw.) Müll. Hal.	Collected	Moss	N	S4
<i>Eurhynchiastrum pulchellum</i>	(Hedw.) Ignatov & Huttunen	Collected	Moss	N	S5
<i>Funaria hygrometrica</i>	Hedw.	Collected	Moss	N	S5
<i>Hedwigia ciliata</i>	(Hedw.) P. Beauv.	Noted	Moss	N	S5
<i>Hygroamblystegium varium</i>	(Hedw.) Mönk.	Collected	Moss	N	S5

<b><i>Koponeniella graminicolor</i></b>	<b>(Brid.) Huttunen, Ignatov, Min Li &amp; Y.F. Wang</b>	<b>Collected</b>	<b>Moss</b>	<b>Y</b>	<b>S3</b>
<i>Leptodictyum riparium</i>	(Hedw.) Warnst.	Collected	Moss	N	S5
<i>Leucobryum glaucum</i>	(Hedw.) Ångstr.	Collected	Moss	N	S5
<i>Leucodon sciuroides</i>	(Hedw.) Schwägr.	Collected	Moss	N	S4
<i>Orthodicranum montanum</i>	(Hedw.) Loeske	Collected	Moss	N	S5
<i>Orthotrichum anomalum</i>	Hedw.	Collected	Moss	N	S5
<i>Orthotrichum stellatum</i>	Brid.	Collected	Moss	N	S5
<i>Plagiomnium cuspidatum</i>	(Hedw.) T.J. Kop.	Collected	Moss	N	S5
<i>Plagiothecium cavifolium</i>	(Brid.) Z. Iwats.	Collected	Moss	N	S5
<i>Platygyrium repens</i>	(Brid.) Schimp.	Collected	Moss	N	S5
<i>Polytrichum commune</i>	Hedw.	Collected	Moss	N	S5
<i>Pseudanomodon attenuatus</i>	(Hedw.) Ignatov & Fedosov	Collected	Moss	N	S5
<i>Pylaisia</i>	Schimp.	Collected	Moss		
<b><i>Schistidium dupretii</i></b>	<b>(Thér.) W.A. Weber</b>	<b>Collected</b>	<b>Moss</b>	<b>Y</b>	<b>S2</b>
<b><i>Thelia asprella</i></b>	<b>(Schimp.) Sull.</b>	<b>Collected</b>	<b>Moss</b>	<b>Y</b>	<b>S2</b>
<i>Thuidium delicatulum</i>	(Hedw.) Schimp.	Collected	Moss	N	S5
<i>Thuidium recognitum</i>	(Hedw.) Lindb.	Collected	Moss	N	S5
<i>Ulota crispula</i>	Bruch	Collected	Moss	N	SU

Rough *Thelia* (*Thelia asprella*) was previously reported on iNaturalist.

## Vascular Plants – M.J. Oldham

This list is based on the work of Sean and John Blaney (2006), updated during the present assessment by Mike Oldham and participants. The area on top of the plateau was previously much more open as indicated by dead Red Cedar and dead, shaded-out Common Juniper. European weedy species were common, and parts of the plateau had dense stands of Buckthorn and Dog Strangling Vine, suggesting past disturbance. The floristic composition of the plateau gave the impression of having been extensively grazed in the past. Despite the prevalence of introduced species, native species are fairly rich and diverse in the area. Two major populations of American Cancer-root were found.

In the list below, species names in capitals indicate additions to the 2006 list of Blaney. Species with a checkmark in the first column (2023-06-16) indicate those observed on 16 June 2023. For this date there are also iNaturalist observations (see page 29).

2023-06-16	Species	Common Name	Family	Site Status	G-rank	S-rank	STATUS and notes
√	<i>Acer negundo</i>	Box Elder	ACERACEAE	R	G5	S5	
√	<i>ACER NIGRUM</i>	Black Maple	ACERACEAE				
√	<i>Acer saccharum</i>	Sugar Maple	ACERACEAE	C	G5T5	S5	
	<i>Achillea millefolium</i>	Common Yarrow	ASTERACEAE	U	G5	SE or S5	
	<i>Actaea pachypoda</i>	White Baneberry	RANUNCULACEAE	C	G5	S5	
√	<i>Actaea rubra</i>	Red Baneberry	RANUNCULACEAE	F	G5	S5	
	<i>Adiantum pedatum</i>	Northern Maidenhair-fern	PTERIDACEAE	R	G5	S5	
√	<i>AGERATINA ALTISSIMA</i>	White Snakeroot	ASTERACEAE	R			synonym <i>Eupatorium rugosum</i>
	<i>Agrimonia gryposepala</i>	Tall Hairy Groovebur	ROSACEAE	R	G5	S5	
√	<i>ALLIARIA PETIOLATA</i>	Garlic Mustard	BRASSICACEAE	U		SE	
√	<i>Allium canadense</i>	Meadow Onion	LILIACEAE	U	G5	S5	
	<i>Allium tricoccum</i>	Small White Leek	LILIACEAE	R	G5	S5	
	<i>Alnus incana</i>	Speckled Alder	BETULACEAE	R	G5	S5	
	<i>Alopecurus aequalis</i>	Short-awn Foxtail	POACEAE	R	G5	S4S5	
	<i>Ambrosia artemisiifolia</i>	Annual Ragweed	ASTERACEAE	R	G5	S5	
√	<i>AMELANCHIER HUMILIS</i>	Low Serviceberry	ROSACEAE				
	<i>Amelanchier laevis</i>	Smooth Serviceberry	ROSACEAE	R	G4G5Q	S5	
√	<i>AMELANCHIER ×LAMARCKII</i>	Lamarck's Serviceberry	ROSACEAE				
√	<i>AMELANCHIER SANGUINEA</i>	Round-leaved Serviceberry	ROSACEAE				
√	<i>Amelanchier sp.</i>	Serviceberry species	ROSACEAE	R			
√	<i>Amphicarpaea bracteata</i>	American Hog-peanut	FABACEAE	U	G5	S5	
	<i>Anemone acutiloba</i>	Liverleaf	RANUNCULACEAE	C	G5	S5	
	<i>Anemone americana</i>	Round-lobed Hepatica	RANUNCULACEAE	R	G5	S5	
	<i>Anemone canadensis</i>	Canada Anemone	RANUNCULACEAE	R	G5	S5	
	<i>Anemone virginiana</i>	Virginia Anemone	RANUNCULACEAE	C	G5	S5	
√	<i>Apocynum androsaemifolium</i>	Spreading Dogbane	APOCYNACEAE	U	G5	S5	
√	<i>Aquilegia canadensis</i>	Wild Columbine	RANUNCULACEAE	F	G5	S5	
	<i>Arabis canadensis</i>	Sicklepod	BRASSICACEAE	R	G5	S4	MJO specimen # 32792 on 19 June 2006
	<i>Arabis divaricarpa</i>	Spreading Rock-cress	BRASSICACEAE	IBP	G5	S5	
√	<i>Arabis laevigata</i>	Smooth Rock-cress	BRASSICACEAE	C	G5	S5	

	<i>Aralia nudicaulis</i>	Wild Sarsaparilla	ARALIACEAE	F	G5	S5	
√	<i>Arctium</i> sp.	Burdock sp.	ASTERACEAE	R		(SE)	
	<i>ARENARIA SERPYLLIFOLIA</i>	Thyme-leaved Sandwort	CARYOPHYLLACEAE				MJO sight 22 June 2006
√	<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	ARACEAE	U	G5	S5	
	<i>Asarum canadense</i>	Canada Wild-ginger	ARISTOLOCHIACEAE	U	G5	S5	
	<i>Asclepias quadrifolia</i>	Four-leaved Milkweed	ASCLEPIADACEAE	R	G5	SH	Orr, MJO sight 22 June 2006
√	<i>Asclepias syriaca</i>	Kansas Milkweed	ASCLEPIADACEAE	F	G5	S5	
	<i>ASPARGUS OFFICINALIS</i>	Asparagus	LILIACEAE			SE	MJO sight 22 June 2006
√	<i>Athyrium filix-femina</i> var. <i>angustum</i>	Lady Fern	DRYOPTERIDACEAE	C	G5T5	S5	
	<i>Betula papyrifera</i>	Paper Birch	BETULACEAE	R	G5	S5	
	<i>Bidens frondosa</i>	Devil's Beggar-ticks	ASTERACEAE	F	G5	S5	
	<i>Boehmeria cylindrica</i>	False Nettle	URTICACEAE	U	G5	S5	
	<i>Bolboschoenus fluviatilis</i>	River Club-rush	CYPERACEAE	R	G5	S4S5	
	<i>BOTRYPUS VIRGINIANUS</i>	Rattlesnake Fern	OPHIOGLOSSACEAE				MJO sight 22 June 2006
√	<i>BROMUS INERMIS</i>	Awnless Brome	POACEAE	R		SE	
	<i>Bromus kalmii</i>	Kalm's Brome Grass	POACEAE	IBP	G5	S4	
√	<i>Bromus pubescens</i>	Hairy Wood Brome Grass	POACEAE	C	G5	S4	r
	<i>Calystegia sepium</i>	Hedge Bindweed	CONVOLVULACEAE	R	G5	S5	
√	<i>Campanula rotundifolia</i>	American Harebell	CAMPANULACEAE	U	G5	S5	
	<i>Cardamine concatenata</i>	Cutleaf Toothwort	BRASSICACEAE	C	G5	S5	
	<i>Cardamine diphylla</i>	Two-leaf Toothwort	BRASSICACEAE	R	G5	S5	
	<i>Cardamine pensylvanica</i>	Pennsylvania Bitter-cress	BRASSICACEAE	R	G5	S5	
	<i>Carex albursina</i>	A Sedge	CYPERACEAE	R	G5	S5	
	<i>Carex aurea</i>	Golden Sedge	CYPERACEAE	MJO	G5	S5	
	<i>CAREX BACKII</i>	Back's Sedge	CYPERACEAE				MJO sight 22 June 2006
	<i>CAREX BICKNELLII</i>	Bicknell's Sedge	CYPERACEAE				MJO specimen # 32798 on 22 June 200
√	<i>Carex blanda</i>	Woodland Sedge	CYPERACEAE	C	G5?	S5	
√	<i>Carex cephalophora</i>	Oval-leaved Sedge	CYPERACEAE	F	G5	S5	
	<i>Carex cristatella</i>	Crested Sedge	CYPERACEAE	U	G5	S5	
	<i>Carex deweyana</i>	Dewey's Sedge	CYPERACEAE	IBP	G5	S5	
	<i>Carex eburnea</i>	Sedge	CYPERACEAE	MJO	G5	S5	
	<i>Carex gracillima</i>	Graceful Sedge	CYPERACEAE	R	G5	S5	

	<i>Carex granularis</i>	Meadow Sedge	CYPERACEAE	R	G5	S5	
√	<i>Carex hitchcockiana</i>	Hitchcock's Sedge	CYPERACEAE	C	G5	S5	iNaturalist obs.
	<i>Carex lacustris</i>	Lake-bank Sedge	CYPERACEAE	R	G5	S5	
√	<i>Carex laxiflora</i>	Loose-flowered Sedge	CYPERACEAE	C	G5	S5	
√	<i>Carex molesta</i>	Sedge	CYPERACEAE	MJO	G5	S5	
√	<i>Carex oligocarpa</i>	Eastern Few-seeded Sedge	CYPERACEAE	U	G4	S2	Orr, iNaturalist obs.
√	<i>Carex pedunculata</i>	Longstalk Sedge	CYPERACEAE	U	G5	S5	
√	CAREX PELLITA	WOOLLY SEDGE	CYPERACEAE				MJO sight 19 June 2006
√	<i>Carex pennsylvanica</i>	Pennsylvania Sedge	CYPERACEAE	C	G5	S5	
	<i>Carex platyphylla</i>	Broad-leaved Sedge	CYPERACEAE	U	G5	S5	
√	CAREX RADIATA	Eastern Star Sedge	CYPERACEAE	R			
√	<i>Carex rosea</i>	Rosy Sedge	CYPERACEAE	C	G5	S5	
	CAREX SICCATA	Dry-spike Sedge	CYPERACEAE				MJO sight 22 June 2006
	<i>Carex stipata</i>	Stalk-grain Sedge	CYPERACEAE	R	G5	S5	
	<i>Carex tenera</i>	Slender Sedge	CYPERACEAE	R	G5	S5	
	CAREX VULPINOIDEA	Fox Sedge	CYPERACEAE				MJO sight 19 June 2006
	<i>Carpinus caroliniana</i>	American Hornbeam	BETULACEAE	C	G5	S5	
√	<i>Carya cordiformis</i>	Bitternut Hickory	JUGLANDACEAE	F	G5	S5	
√	<i>Carya ovata</i>	Shagbark Hickory	JUGLANDACEAE	C	G5	S5	
(√)	<i>Caulophyllum giganteum</i>	Blue Cohosh	BERBERIDACEAE	C	G4G5	S5	Caulophyllum sp. observed
√	<i>Ceanothus americanus</i>	New Jersey Tea	RHAMNACEAE			S5	iNaturalist obs.
√	<i>Celastrus scandens</i>	Climbing Bittersweet	CELASTRACEAE	U	G5	S5	iNaturalist obs.
√	<i>Cerastium arvense</i> ssp. <i>strictum</i>	Field Mouse-ear Chickweed	CARYOPHYLLACEAE	R	G5T5	S4	
	<i>Cerastium fontanum</i>	Common Mouse-ear Chickweed	CARYOPHYLLACEAE	U	G?	SE5	
	<i>Ceratophyllum demersum</i>	Common Hornwort	CERATOPHYLLACEAE	R	G5	S5	
	<i>Chelone glabra</i>	White Turtlehead	SCROPHULARIACEAE	R	G5	S5	
√	<i>Chrysanthemum leucanthemum</i>	Oxeye Daisy	ASTERACEAE	F	G?	SE5	
	<i>Cicuta bulbifera</i>	Bulb-bearing Water-hemlock	APIACEAE	R	G5	S5	
√	<i>Circaea lutetiana</i>	Southern Broadleaf Enchanter's Nightshade	ONAGRACEAE	C	G5	S5	
√	<i>Cirsium arvense</i>	Creeping Thistle	ASTERACEAE	R	G?	SE5	
	<i>Cirsium vulgare</i>	Bull Thistle	ASTERACEAE	R	G5	SE5	

√	<i>Clinopodium vulgare</i>	Field Basil	LAMIACEAE	F	G5	S5	
√	<i>Comandra umbellata</i>	Umbellate Bastard Toad-flax	SANTALACEAE	R	G5	S5	
√	CONOPHOLIS AMERICANA	American Cancer-root	OROBANCHACEAE				<a href="https://www.inaturalist.org/observations/87005536">https://www.inaturalist.org/observations/87005536</a>
	<i>Cornus alternifolia</i>	Alternate-leaf Dogwood	CORNACEAE	F	G5	S5	
	<i>Cornus amomum</i>	Silky Dogwood	CORNACEAE	R	G5	S5	
	<i>Cornus racemosa</i>	Grey Dogwood	CORNACEAE	R	G5	S5	
√	<i>Cornus rugosa</i>	Roundleaf Dogwood	CORNACEAE	C	G5	S5	
√	<i>Cornus stolonifera</i>	Red-osier Dogwood	CORNACEAE	R	G5	S5	
	<i>Corylus cornuta</i>	Beaked Hazelnut	BETULACEAE	C	G5	S5	
	<i>Cystopteris bulbifera</i>	Bulblet Fern	DRYOPTERIDACEAE	U	G5	S5	
√	<i>Cystopteris tenuis</i>	Mackay's Brittle Fern	DRYOPTERIDACEAE	U	G5	S5	
√	DACTYLIS GLOMERATA		POACEAE	R		SE	
√	<i>Danthonia spicata</i>	Poverty Grass	POACEAE	IBP	G5	S5	
√	<i>Daucus carota</i>	Wild Carrot	APIACEAE	R	G?	SE5	
	<i>Desmodium glutinosum</i>	Large Tick-trefoil	FABACEAE	R	G5	S4	
	<i>Dicentra cucullaria</i>	Dutchman's Breeches	FUMARIACEAE	R	G5	S5	
	<i>Dipsacus fullonum</i>	Fuller's Teasel	DIPSACACEAE	R	G?	SE5	
	DRYMOCALLIS ARGUTA	Tall Cinquefoil	ROSACEAE				MJO sight 19 June 2006
	<i>Dryopteris carthusiana</i>	Spinulose Shield Fern	DRYOPTERIDACEAE	C	G5	S5	
	DRYOPTERIS INTERMEDIA	Intermediate Wood-fern	DRYOPTERIDACEAE				MJO sight 19 June 2006
	<i>Dryopteris marginalis</i>	Marginal Wood-fern	DRYOPTERIDACEAE	F	G5	S5	
	<i>Echium vulgare</i>	Blueweed	BORAGINACEAE	IBP			
	ELEOCHARIS COMPRESSA	Flattened Spike-rush	CYPERACEAE				MJO sight 22 June 2006
	ELYMUS CURVATUS	Awnless Wild Rye					<a href="https://www.inaturalist.org/observations/60700670">https://www.inaturalist.org/observations/60700670</a>
√	<i>Elymus hystrix</i>	Bottlebrush Grass	POACEAE	C	G5	S5	
	ELYMUS VILLOSUS	Hairy Wild Rye	POACEAE				MJO specimen # 32799 on 22 June 2006
	<i>Elymus virginicus</i> var. <i>virginicus</i>	Virginia Wild Rye	POACEAE	R	G5T5	S5	
	<i>Epilobium parviflorum</i>	Small-flower Willow-herb	ONAGRACEAE	R	G?	SE4	
√	<i>Epipactis helleborine</i>	Eastern Helleborine	ORCHIDACEAE	F	G?	SE5	

	<i>Erigeron annuus</i>	White-top Fleabane	ASTERACEAE	U	G5	S5	
√	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	ASTERACEAE	C	G5	S5	
√	<i>Erigeron strigosus</i>	Daisy Fleabane	ASTERACEAE	R	G5	S5	
√	<i>Erysimum cheiranthoides</i>	WORMSEED WALLFLOWER	BRASSICACEAE				
√	<i>Eurybia macrophylla</i>	Large-leaf Wood-aster	ASTERACEAE	F	G5	S5	
	<i>Euthamia graminifolia</i>	Flat-top Fragrant-golden-rod	ASTERACEAE	R	G5	S5	
√	<i>Fagus grandifolia</i>	American Beech	FAGACEAE	F	G5	S4	
√	<i>Festuca subverticillata</i>	Nodding Fescue	POACEAE	C	G5	S4	
√	<i>Fragaria vesca</i>	Woodland Strawberry	ROSACEAE	R	G5	S5	
	<i>Fragaria virginiana</i>	Virginia Strawberry	ROSACEAE	U	G5	S5	
√	<i>Fraxinus americana</i>	White Ash	OLEACEAE	C	G5	S5	
√	FRAXINUS PENNSYLVANICA	Green Ash	OLEACEAE				
	<i>Galeopsis tetrahit</i>	Brittle-stem Hempnettle	LAMIACEAE	R	G?	SE5	
√	<i>Galium aparine</i>	Catchweed Bedstraw	RUBIACEAE	C	G5	S5	
√	<i>Galium boreale</i>	Northern Bedstraw	RUBIACEAE	U	G5	S5	
√	<i>Galium circaezans</i>	Wild Licorice	RUBIACEAE	U	G5	S5	
	<i>Galium lanceolatum</i>	Torrey's Wild Licorice	RUBIACEAE				<a href="https://www.inaturalist.org/observations/129269704">https://www.inaturalist.org/observations/129269704</a>
	<i>Galium palustre</i>	Marsh Bedstraw	RUBIACEAE	U	G5	S5	
	<i>Galium triflorum</i>	Sweet-scent Bedstraw	RUBIACEAE	C	G5	S5	
	GERANIUM CAROLINIANUM	Carolina Crane's bill	GERANIACEAE				MJO specimen # 32797 on 22 June 2006
√	<i>Geranium maculatum</i>	Wild Crane's-bill	GERANIACEAE	C	G5	S5	
√	<i>Geranium robertianum</i>	Herb-robert	GERANIACEAE	C	G5	SE5	
√	<i>Geum canadense</i>	White Avens	ROSACEAE	C	G5	S5	
	<i>Glyceria grandis</i>	American Mannagrass	POACEAE	R	G5	S4S5	
	<i>Glyceria striata</i>	Fowl Manna-Grass	POACEAE	R	G5	(S5)	
	HACKELIA VIRGINIANA	Virginia Stickseed	BORAGINACEAE				<a href="https://www.inaturalist.org/observations/129269113">https://www.inaturalist.org/observations/129269113</a>
√	<i>Helianthus divaricatus</i>	Woodland Sunflower	ASTERACEAE	F	G5	S5	
√	<i>Hieracium caespitosum</i>	Field Hawkweed	ASTERACEAE	C	G?	SE5	
	<i>Hydrocharis morsus-ranae</i>	European Frogbit	HYDROCHARITACEAE	U	G?	SE5	
√	<i>Hypericum perforatum</i>	A St. John's-wort	CLUSIACEAE	U	G?	SE5	

√	<i>Impatiens capensis</i>	Spotted Jewelweed	BALSAMINACEAE	C	G5	S5	
	<i>Juglans cinerea</i>	Butternut	JUGLANDACEAE	R	G3G4	S3?	END
√	<i>JUGLANS NIGRA</i>	Black Walnut	JUGLANDACEAE				
√	<i>Juniperus communis</i>	Ground Juniper	CUPRESSACEAE	C	G5	S5	
√	<i>Juniperus virginiana</i>	Eastern Red Cedar	CUPRESSACEAE	C	G5	S5	
(√)	<i>Lactuca canadensis</i>	Canada Lettuce	ASTERACEAE	R	G5	S5	Lactuca sp. observed
√	<i>LAPSANA COMMUNIS</i>	Nipplewort	ASTERACEAE	U			
√	<i>Lathyrus ochroleucus</i>	Pale Vetchling Peavine	FABACEAE	F	G4G5	S4	
	<i>Lemna minor</i>	Lesser Duckweed	LEMNACEAE	U	G5	S5	
	<i>Lemna trisulca</i>	Star Duckweed	LEMNACEAE	R	G5	S5	
√	<i>Leonurus cardiaca</i>	Common Mother-wort	LAMIACEAE	R	G?	SE5	
√	<i>Lithospermum officinale</i>	European Gromwell	BORAGINACEAE	R	G?	SE5	iNaturalist obs.
√	<i>Lonicera dioica</i>	Mountain Honeysuckle	CAPRIFOLIACEAE	F	G5	S5	
	<i>Lonicera hirsuta</i>	Hairy Honeysuckle	CAPRIFOLIACEAE	F	G4G5	S5	
	<i>Lonicera tatarica</i>	Tartarian Honeysuckle	CAPRIFOLIACEAE	R	G?	SE5	
	<i>Lotus corniculatus</i>	Birds-foot Trefoil	FABACEAE	R	G?	SE5	
	<i>Lycopus europaeus</i>	European Bugleweed	LAMIACEAE	F	G?	SE5	
	<i>Lysimachia ciliata</i>	Fringed Loosestrife	PRIMULACEAE	R	G5	S5	
	<i>Lysimachia nummularia</i>	Creeping Jennie	PRIMULACEAE	F	G?	SE5	
	<i>Lysimachia thyrsoiflora</i>	Water Loosestrife	PRIMULACEAE	R	G5	S5	
√	<i>Maianthemum canadense</i>	Wild-lily-of-the-valley	LILIACEAE	C	G5	S5	
√	<i>Maianthemum racemosum</i>	False Solomon's-Seal	LILIACEAE	C	G5	S5	
√	<i>Maianthemum stellatum</i>	Starflower False Solomon's-seal	LILIACEAE	R	G5	S5	
√	<i>Medicago lupulina</i>	Black Medic	FABACEAE	U	G?	SE5	
	<i>Mentha arvensis</i>	Corn Mint	LAMIACEAE	R	G5	S5	
	<i>Milium effusum</i>	Tall Millet-grass	POACEAE	R	G5	S4S5	r
	<i>Minuartia michauxii</i>	Rock Sandwort	CARYOPHYLLACEAE	IBP			
	<i>Mitella diphylla</i>	Two-leaf Bishop's-cap	SAXIFRAGACEAE	R	G5	S5	
√	<i>Moehringia lateriflora</i>	Grove Sandwort	CARYOPHYLLACEAE	C	G5	S5	
	<i>Monarda fistulosa</i>	Wild Bergamot Bee-balm	LAMIACEAE	R	G5	S5	
	<i>Monotropa uniflora</i>	Indian Pipe	MONOTROPACEAE	IBP			
	<i>Myosotis laxa</i>	Small Forget-me-not	BORAGINACEAE	R	G5	S5	
	<i>Myriophyllum sibiricum</i>	Common Water-milfoil	HALORAGACEAE	R	G5	S5	



	<i>Nymphaea odorata</i> ssp. <i>odorata</i>	White Water-lily	NYMphaeaceae	R	G5T5	S5?	
	<i>Oenothera</i> sp.	Evening Primrose species	ONAGRACEAE	R			
	<i>Onoclea sensibilis</i>	Sensitive Fern	DRYOPTERIDACEAE	R	G5	S5	
	<i>Oryzopsis asperifolia</i>	White-grained Mountain-ricegrass	POACEAE	R	G5	S5	
√	<i>Osmorhiza claytonii</i>	Hairy Sweet-cicely	APIACEAE	R	G5	S5	
	<i>Osmorhiza longistylis</i>	Smoother Sweet-cicely	APIACEAE	R	G5	S5	
√	<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	BETULACEAE	C	G5	S5	
	<i>Oxalis stricta</i>	Upright Yellow Wood-sorrel	OXALIDACEAE	F	G5	S5	
	<i>Panax quinquefolius</i>	American Ginseng	ARALIACEAE	R	G3G4	S2	END
	<i>Parietaria pennsylvanica</i>	Pennsylvania Pellitory	URTICACEAE	C	G5	S4	
√	<i>Parthenocissus vitacea</i>	Virginia Creeper	VITACEAE	C	G5	S5	
	<i>Pastinaca sativa</i>	Wild Parsley	APIACEAE	IBP	G5	SE5	
√	<i>Penstemon hirsutus</i>	Hairy Beardtongue	SCROPHULARIACEAE	U	G4	S4	
	<i>Phalaris arundinacea</i>	Reed Canary Grass	POACEAE	F	G5	S5	
√	<i>Phleum pratense</i>	Meadow Timothy	POACEAE	R	G?	SE5	
√	<i>Phlox divaricata</i>	Wild Blue Phlox	POLEMONIACEAE	C	G5	S4	
	<i>Phryma leptostachya</i>	Lopseed	VERBENACEAE	U	G5	S4S5	
√	<i>Pilea pumila</i>	Canada Clearweed	URTICACEAE	U	G5	S5	
√	<i>Pinus strobus</i>	Eastern White Pine	PINACEAE	ANS I	G5	S5	
√	<i>Plantago major</i>	Nipple-seed Plantain	PLANTAGINACEAE	R	G5	SE5	
	<i>Plantago rugelii</i>	Black-seed Plantain	PLANTAGINACEAE	C	G5	S5	
√	<i>Poa compressa</i>	Canada Bluegrass	POACEAE	C	G?	SE5	
	<i>Poa palustris</i>	Fowl Bluegrass	POACEAE	R	G5	S5	
√	<i>Poa pratensis</i>	Kentucky Bluegrass	POACEAE	F	G5	S4S5 or S5	
√	<i>Podophyllum peltatum</i>	May Apple	BERBERIDACEAE	C	G5	S5	
	<i>Polygala paucifolia</i>	Fringed Polygala	POLYGALACEAE	IBP	G5	S5	
	<i>Polygala senega</i>	Seneca Snakeroot	POLYGALACEAE	R	G4G5	S4	
	<i>Polygonatum pubescens</i>	Downy Solomon's-seal	LILIACEAE	F	G5	S5	
	<i>Polygonum hydropiper</i>	Marshpepper Smartweed	POLYGONACEAE	R	G5	SE5	
	<i>Polypodium virginianum</i>	Rock Polypody	POLYPODIACEAE	R	G5	S5	
√	<i>Populus grandidentata</i>	Large-tooth Aspen	SALICACEAE	R	G5	S5	
√	<i>Populus tremuloides</i>	Trembling Aspen	SALICACEAE	ANS I	G5	S5	

	<i>Potentilla recta</i>	Sulphur Cinquefoil	ROSACEAE	R	G?	SE5	
	<i>Potentilla simplex</i>	Cinquefoil	ROSACEAE	IBP	G5	S5	
	<i>Prenanthes alba</i>	White Rattlesnake-root	ASTERACEAE	U	G5	S5	
	<i>Prenanthes altissima</i>	Tall Rattlesnake-root	ASTERACEAE	R	G5?	S5	
√	<i>Prunella vulgaris ssp. lanceolata</i>	Self-heal	LAMIACEAE	U	G5T5	S5	
	<i>Prunus serotina</i>	Wild Black Cherry	ROSACEAE	U	G5	S5	
√	<i>Prunus virginiana</i>	Choke Cherry	ROSACEAE	F	G5	S5	
√	<i>Quercus alba</i>	White Oak	FAGACEAE	ANS I	G5	S5	
√	<i>QUERCUS MACROCARPA</i>	Bur Oak	FAGACEAE				
√	<i>Quercus muehlenbergii</i>	Chinquapin Oak	FAGACEAE	ANS I	G5	S5	
√	<i>Quercus rubra</i>	Northern Red Oak	FAGACEAE	C	G5	S5	
√	<i>Ranunculus abortivus</i>	Kidney-leaved Buttercup	RANUNCULACEAE	C	G5	S5	
√	<i>Ranunculus acris</i>	Tall Butter-cup	RANUNCULACEAE	C	G5	SE5	
	<i>Ranunculus fascicularis</i>	Early Buttercup	RANUNCULACEAE	ANS I	G5	S4	
	<i>Ranunculus recurvatus</i>	Hooked Crowfoot	RANUNCULACEAE	R	G5	S5	
	<i>Ranunculus sceleratus</i>	Cursed Crowfoot	RANUNCULACEAE	R	G5	S5	
√	<i>Rhamnus cathartica</i>	Buckthorn	RHAMNACEAE	C	G?	SE5	
√	<i>Rhus aromatica</i>	Fragrant Sumac	ANACARDIACEAE	C	G5	S5	
√	<i>Rhus radicans ssp. rydbergii</i>	Poison Ivy	ANACARDIACEAE	F	G5T5	S5	
√	<i>Rhus typhina</i>	Staghorn Sumac	ANACARDIACEAE	F	G5	S5	
	<i>Ribes americanum</i>	Wild Black Currant	GROSSULARIACEAE	R	G5	S5	
√	<i>Ribes cynosbati</i>	Prickly Gooseberry	GROSSULARIACEAE	C	G5	S5	
	<i>Ribes rubrum</i>	Northern Red Currant	GROSSULARIACEAE	R	G4G5	SE5	
	<i>Rosa blanda</i>	Smooth Rose	ROSACEAE	r	G5	S5	
√	<i>Rosa carolina</i>	Carolina Rose	ROSACEAE	F	G5	S4	r
	<i>RUBUS ALLEGHENIENSIS</i>	Allegheny Blackberry	ROSACEAE				<a href="https://www.inaturalist.org/observations/49902106">https://www.inaturalist.org/observations/49902106</a>
	<i>Rubus idaeus ssp. melanolasius</i>	Red Raspberry	ROSACEAE	C	G5T5	S5	
√	<i>Rubus occidentalis</i>	Black Raspberry	ROSACEAE	C	G5	S5	
	<i>Rubus odoratus</i>	Purple Flowering Raspberry	ROSACEAE	C	G5	S5	
	<i>Rubus pensilvanicus</i>	Pennsylvania Blackberry	ROSACEAE	R	G5	SU	Rr
	<i>Rumex crispus</i>	Curly Dock	POLYGONACEAE	R	G?	SE5	
	<i>Sagittaria latifolia</i>	Broadleaf Arrowhead	ALISMATACEAE	R	G5	S5	
	<i>Salix x rubens</i>	A Willow	SALICACEAE	R	HYB	SE4	

	<i>Sambucus racemosa</i>	European Red Elder	CAPRIFOLIACEAE	C	G5	S5	
√	<i>Sanguinaria canadensis</i>	Bloodroot	PAPAVERACEAE	C	G5	S5	
	<i>Sanicula marilandica</i>	Black Snake-root	APIACEAE	R	G5	S5	
	<i>Saxifraga virginensis</i>	Virginia Saxifrage	SAXIFRAGACEAE	R	G5	S5	
√	<i>Schizachne purpurascens</i>	Purple Oat	POACEAE	C	G5	S5	
√	<i>Scrophularia lanceolata</i>	Lance-leaved Figwort	SCROPHULARIACEAE	R	G5	S4	(Photo - Ewa)
	<i>Scrophularia nodosa</i>	Woodland Figwort	SCROPHULARIACEAE	R		(SE)	
	<i>Scutellaria galericulata</i>	Hooded Skullcap	LAMIACEAE	R	G5	S5	
	<i>Scutellaria lateriflora</i>	Mad Dog Skullcap	LAMIACEAE	R	G5	S5	
√	<i>SHEPHERDIA CANADENSIS</i>	Soapberry	ELAEAGNACEAE	R			iNat. - MJO
√	<i>SILENE VULGARIS</i>	Bladder Campion	CARYOPHYLLACEAE	R			
	<i>Sium suave</i>	Hemlock Water-parsnip	APIACEAE	R	G5	S5	
	<i>Solanum dulcamara</i>	Climbing Nightshade	SOLANACEAE	F	G?	SE5	
	<i>Solidago altissima</i> var. <i>altissima</i>	Late Goldenrod	ASTERACEAE	R	G5	S5	
√	<i>Solidago caesia</i>	Bluestem Goldenrod	ASTERACEAE	C	G5	S5	
	<i>Solidago canadensis</i> var. <i>canadensis</i>	Canada Goldenrod	ASTERACEAE	U	G5T5	S5	
√	<i>Solidago flexicaulis</i>	Broad-leaved Goldenrod	ASTERACEAE	C	G5	S5	
√	<i>Solidago juncea</i>	Early Goldenrod	ASTERACEAE	F	G5	S5	
	<i>Sparganium eurycarpum</i>	Large Bur-reed	SPARGANIACEAE	R	G5	S5	
	<i>Spirodela polyrhiza</i>	Common Water-flaxseed	LEMNACEAE	R	G5	S5	
	<i>Sporobolus neglectus</i>	Dropseed	POACEAE	IBP	G5	S5	
	<i>Stachys</i> sp.	Hedge-Nettle species	LAMIACEAE	U			
√	<i>Symphoricarpos albus</i> var. <i>albus</i>	Snowberry	CAPRIFOLIACEAE	C	G5T4	S4S5	
	<i>Symphyotrichum cordifolium</i>	Heart-leaf Aster	ASTERACEAE	U	G5	S5	
	<i>Symphyotrichum lanceolatum</i>	Panicled Aster	ASTERACEAE	R	G5	(S5)	
	<i>Symphyotrichum lateriflorum</i>	Calico Aster	ASTERACEAE	R	G5	(S5)	
	<i>Symphyotrichum novae-angliae</i>	New England Aster	ASTERACEAE	R	G5	S5	
	<i>Symphyotrichum oolentangiense</i>	Sky Blue Aster	ASTERACEAE				<a href="https://www.inaturalist.org/observations/129274395">https://www.inaturalist.org/observations/129274395</a>
	<i>Symphyotrichum urophyllum</i>	Arrow-leaved Aster	ASTERACEAE	F	G4	S4	
√	<i>Taraxacum officinale</i>	Brown-seed Dandelion	ASTERACEAE	C	G5	SE5	
	<i>Taxus canadensis</i>	Canadian Yew	TAXACEAE	R	G5	S4	

	<i>Teucrium canadense</i> ssp. <i>canadense</i>	American Germander	LAMIACEAE	R	G5T5	S5?	
√	<i>Thalictrum dioicum</i>	Early Meadowrue	RANUNCULACEAE	C	G5	S5	
√	<i>Thuja occidentalis</i>	Eastern White Cedar	CUPRESSACEAE	F	G5	S5	
√	<i>Tilia americana</i>	American Basswood	TILIACEAE	C	G5	S5	
√	<i>Tragopogon dubius</i>	Meadow Goat's-beard	ASTERACEAE	R	G?	SE5	
	<i>TRICHOSTEMA BRACHIATUM</i>	False Pennyroyal	LAMIACEAE				MJO sight 22 June 2006
	<i>Trifolium campestre</i>	Low Hop Clover	FABACEAE	R	G?	SE5	
√	<i>Trifolium pratense</i>	Red Clover	FABACEAE	R	G?	SE5	
√	<i>Trifolium repens</i>	White Clover	FABACEAE	R	G?	SE5	
√	<i>Trillium grandiflorum</i>	White Trillium	LILIACEAE	C	G5	S5	
√	<i>Triosteum aurantiacum</i>	Coffee Tinker's-weed	CAPRIFOLIACEAE	F	G5	S5	
	<i>Tsuga canadensis</i>	Eastern Hemlock	PINACEAE	F	G5	S5	
	<i>Typha angustifolia</i>	Narrow-leaved Cattail	TYPHACEAE	R	G5	SE5	
	<i>Typha latifolia</i>	Broad-leaf Cattail	TYPHACEAE	F	G5	S5	
	<i>Ulmus americana</i>	American Elm	ULMACEAE	U	G5?	S5	
	<i>Ulmus rubra</i>	Slippery Elm	ULMACEAE	R	G5	S5	
	<i>Urtica dioica</i> ssp. <i>gracilis</i>	Tall Nettle	URTICACEAE	F	G5T5	S5	
	<i>Uvularia grandiflora</i>	Large-flowered Bellwort	LILIACEAE	R	G5	S5	
√	<i>Verbascum thapsus</i>	Great Mullein	SCROPHULARIACEAE	R	G?	SE5	
	<i>Verbena urticifolia</i>	White Vervain	VERBENACEAE	R	G5	S5	r
	<i>VERONICA PEREGRINA</i> VAR. <i>XALAPENSIS</i>	Hairy Purselane Speedwell	SCROPHULARIACEAE				MJO sight 22 June 2006
√	<i>Veronica serpyllifolia</i> ssp. <i>serpyllifolia</i>	Thyme-leaved Speedwell	SCROPHULARIACEAE	R	G5T?	SE5	
	<i>Viburnum acerifolium</i>	Maple-leaf Viburnum	CAPRIFOLIACEAE	U	G5	S5	
√	<i>Viburnum lentago</i>	Nannyberry	CAPRIFOLIACEAE	F	G5	S5	
√	<i>Viburnum rafinesquianum</i>	Downy Arrowwood	CAPRIFOLIACEAE	C	G5	S5	
√	<i>VICIA CRACCA</i>	Cow Vetch	FABACEAE	R			
	<i>Viola cucullata</i>	Marsh Blue Violet	VIOLACEAE	R	G4G5	S5	
	<i>Viola labradorica</i>	Labrador Violet	VIOLACEAE	R	G5	S4S5	
	<i>Viola pubescens</i>	Downy Yellow Violet	VIOLACEAE	C	G5	(S5)	
	<i>Viola sororia</i>	Woolly Blue Violet	VIOLACEAE	C	G5	S5	
√	<i>Vitis riparia</i>	Riverbank Grape	VITACEAE	F	G5	S5	
√	<i>Waldsteinia fragarioides</i>	Barren Strawberry	ROSACEAE	F	G5	S5	
	<i>Wolffia</i> sp.	Water-Meal species	LEMNACEAE	U			

√	<i>Zanthoxylum americanum</i>	Northern Prickly Ash	RUTACEAE	C	G5	S5	
	<i>Zizia aurea</i>	Common Alexanders	APIACEAE	U	G5	S5	r



Figure 4. Left. Shagbark Hickory catkins. Right. Flower of Grove Sandwort. Below, left, White Avens. Below, right, Woodland Strawberry fruit.





Figure 5. American Cancer-root flowering inflorescences.

## Invertebrates

### Snails (Mollusca) – P.M. Catling, B. Kostiuk

Eastern Whitelip, *Neohelix albolabris* – several seen.

Upland Pillsnail, *Euchemotrema fraternum* – scattered throughout in leaf litter of dry woods.

White-lip Globe, *Mesodon thyroideus* – three in Shagbark Hickory woods.



Figure 6. Searching for snails often results in the observer blending into the woodland floor or being identified as a corpse, as has happened previously in the case of P. Catling. Photo by B. Kostiuk.



*Mesodon  
thyroidus*



*Euchemotrema fraternum*



*Neohelix  
albolabris*

*Mesodon  
thyroidus*



*Mesodon  
thyroidus*

Figure 7. The three species of snails recorded. Photos by P. Catling.



## **Crustaceans – T. Mason**

Wood louse, *Porcellio scaber* (photo taken)

## **Spiders and relatives (Arachnida) – T. Mason (D. Bree)**

Drumming Sword Wolf Spider, *Gladicosa gulosa* (T.M. photos, specimen)

Brush-legged Wolf Spider, *Schizocosa ocreata* (T.M. photo)

Shiny Wolf Spider, *Pardosa moesta*

Tangle Web Spider, Theridiidae -1 (T.M. specimen)

Tangle Web Spider, Theridiidae -2 (T.M. specimen)

Funnel Weaver, *Coras juvenalis* (T.M. specimen)

Furrow Spider, *Larinoidea cornutus*

Hammock Spider, *Pityohyphantes costatus* (T.M. specimen)

Grass Spider, *Agelopsis* sp. (juvenile)

A Jumping Spider, cf. *Phidippus whitmani* (D.B. photo)

Oblong Running Spider, *Tibellus oblongus* (D.B. photo)

Black-legged Tick, *Ixodes scapularis* (T.M. specimen)

Daddy Longlegs, *Phalangium opilio*

## **Mites – D. Bree, M. Oldham**

Maple Spindle Gall Mites, *Vasates aceriscrumena*

Ash Bead Gall Mite, *Aceria fraxini*

## **Insects:**

### **Damselflies (Odonata) – D. Bree. T. Mason**

Eastern Forktail, *Ishnura verticalis*

Emerald Spreadwing, *Lestes dryas*

### **Beetles (Coleoptera)– Tom Mason et al.**

Round-necked Longhorn Beetle, *Clytus ruricola*

Click beetle, *Ampedus* sp.



Figure 8. Round-necked Long-horn Beetle, *Clytus ruricola*. Photo by M.D. Oldham, iNat. 167864552 (licensed under <http://creativecommons.org/licenses/by-nc/4.0/>). 16 June 2023.

### **Ants (Hymenoptera) – P. Catling, T. Mason**

*Lasius subglaber* Emery, 1893, Somewhat Hairy Fuzzy Ant - 1 location  
*Lasius flavus* (Fabricius, 1782), Blond Fuzzy Ant - 1 location  
*Tapinoma sessile* (Say, 1836), Odorous House Ant - 1 location  
*Campanotus pennsylvanicus* (DeGeer, 1773), Black Carpenter Ant - 3 locations  
*Aphaenogaster picea* (Wheeler, 1908), Pitch-black Aphaenogaster - 3 locations  
*Formica neogagates* Viereck, 1903, New World Black Ant - 1 location  
*Formica dolosa* Buren, 1944, Sly Ant - 1 location

### **Bees, Sawflies (Other Hymenoptera) – D. Bree**

Bee sp. Epifamily Anthophila - on iNaturalist for identification  
Violet Leaf-mining Sawfly, *Nefusa ambigua*  
Snowberry Sawfly, *Blennogeneris spissipes* – gall

### **Butterflies (Lepidoptera) - Tom Mason, Paul Catling, David Bree**

Black Swallowtail, *Papilio polyxenes* - 1 in field  
Silvery Blue, *Glaucopsyche lygdamus* - few near County Rd. 13, in meadow and along McMahon Lane

Spring Azure, *Celestrina lucia* (photo T. Mason)  
 Little Wood Satyr, *Megisto cymela* - 20 seen throughout  
 Red Admiral, *Vanessa Atalanta* - 1  
 Homomok Skipper, *Poanes hobomok* - 10 in open areas on plateau  
 Northern Cloudywing, *Thorybes pylade* - 1 in forest clearing

## Moths (Lepidoptera) – D. Bree, T. Mason, P. Catling

Pale Beauty, *Campaea perlata* (Hodges #6796)  
 Morbid Owlet - *Chytolita morbidalis* (Hodges #8355)  
 Toothed Somberwing, *Euclidia cuspidata* (Hodges #8731)  
 Bagworm Moth, member of Psychidae family

## Flies (Diptera) – D. Bree, M. Oldham (on iNaturalist)

Long-legged Fly, *Condylostylus cf. caudatus*  
 Globetail Syrphid, *Sphaerophoria sp.*  
 Leaf-mining Fly, *Phytomyza minuscula* – in Meadowrue  
 Leaf-mining Fly, *Aulagromyza cornigera* – in Snowberry  
 Leaf-mining Fly, *Liriomyza sp.* – in White Snakeroot

## True Bugs (Hemiptera) – T. Mason

Soldier Bug, *Podisus brevispinus* (photo by T.M)

## Insect reports from other sources.

There are more records of insects for the area than one might expect. Oldham and others listed several species of dragonflies and damselflies at McMahon Bluff in 2006 (listed below).

Species	Date	Latitude	Longitude	Observers
Eastern Pondhawk				
<i>Erythemis simplicicollis</i>	19-Jun-06	43.95873109	-77.02912856	M.J. Oldham & T. Norris
<i>Erythemis simplicicollis</i>	22-Jun-06	43.95889764	-77.03035047	M.J. Oldham, Norris & Van Sleeuwen
Eastern Forktail				
<i>Ischnura verticalis</i>	19-Jun-06	43.95873109	-77.02912856	M.J. Oldham & T. Norris
<i>Ischnura verticalis</i>	19-Jun-06	43.95873109	-77.02912856	M.J. Oldham & T. Norris
Slaty Skimmer				
<i>Libellula incesta</i>	19-Jun-06	43.95873109	-77.02912856	M.J. Oldham & T. Norris
Widow Skimmer				
<i>Libellula luctuosa</i>	19-Jun-06	43.95873109	-77.02912856	M.J. Oldham & T. Norris
<i>Libellula luctuosa</i>	22-Jun-06	43.95889764	-77.03035047	M.J. Oldham, Norris & Van Sleeuwen
Sedge Sprite				
<i>Nehalennia irene</i>	22-Jun-06	43.95889764	-77.03035047	M.J. Oldham, Norris & Van Sleeuwen

Between 2019 and 2022, 27 observations of insects were submitted to iNaturalist. The links may be followed (control click) for additional information.

Latin/Common Name	Order	Link
<i>Actias luna</i> , Luna Moth	Lepidoptera	<a href="https://www.inaturalist.org/observations/124414056">https://www.inaturalist.org/observations/124414056</a>
<i>Ancyloxypha numitor</i> , Least Skipper	Lepidoptera	<a href="https://www.inaturalist.org/observations/65904367">https://www.inaturalist.org/observations/65904367</a>
<i>Apantesis virgo</i> , Virgin Tiger Moth	Lepidoptera	<a href="https://www.inaturalist.org/observations/126689199">https://www.inaturalist.org/observations/126689199</a>
<i>Callophrys gryneus</i> , Juniper Hairstreak	Lepidoptera	<a href="https://www.inaturalist.org/observations/83081642">https://www.inaturalist.org/observations/83081642</a>
<i>Caloptilia rhoifoliella</i> , Sumac Blotch Miner	Lepidoptera,	<a href="https://www.inaturalist.org/observations/129274411">https://www.inaturalist.org/observations/129274411</a>
<i>Cameraria guttifinitella</i> , Poison Ivy Miner	Lepidoptera	<a href="https://www.inaturalist.org/observations/129274410">https://www.inaturalist.org/observations/129274410</a>
<i>Chauliodes rastricornis</i> , Spring Fishfly	Megaloptera	<a href="https://www.inaturalist.org/observations/145931514">https://www.inaturalist.org/observations/145931514</a>
<i>Coreinae</i>	Hemiptera	<a href="https://www.inaturalist.org/observations/93364342">https://www.inaturalist.org/observations/93364342</a>
<i>Danaus plexippus</i> , Monarch	Lepidoptera	<a href="https://www.inaturalist.org/observations/28393771">https://www.inaturalist.org/observations/28393771</a>
<i>Dicercia</i>	Coleoptera	<a href="https://www.inaturalist.org/observations/48371232">https://www.inaturalist.org/observations/48371232</a>
<i>Erebidae</i>	Lepidoptera	<a href="https://www.inaturalist.org/observations/81350878">https://www.inaturalist.org/observations/81350878</a>
<i>Erythemis simplicicollis</i> , Eastern Pondhawk	Odonata	<a href="https://www.inaturalist.org/observations/28393772">https://www.inaturalist.org/observations/28393772</a>
<i>Euchaetes egle</i> , Milkweed Tussock Moth	Lepidoptera	<a href="https://www.inaturalist.org/observations/83063009">https://www.inaturalist.org/observations/83063009</a>
<i>Gillmeria pallidactyla</i> , Yarrow Plume Moth	Lepidoptera	<a href="https://www.inaturalist.org/observations/122335103">https://www.inaturalist.org/observations/122335103</a>
<i>Harmonia axyridis</i> , Asian Lady Beetle	Coleoptera	<a href="https://www.inaturalist.org/observations/90426475">https://www.inaturalist.org/observations/90426475</a>
<i>Idia americalis</i> , American Idia Moth	Lepidoptera	<a href="https://www.inaturalist.org/observations/132413730">https://www.inaturalist.org/observations/132413730</a>
<i>Leucorrhinia intacta</i> , Dot-tailed Whiteface	Odonata	<a href="https://www.inaturalist.org/observations/28393769">https://www.inaturalist.org/observations/28393769</a>
<i>Melanoplus viridipes</i> , Green-legged Grasshoppers	Orthoptera	<a href="http://inaturalist.ca/observations/4944681">http://inaturalist.ca/observations/4944681</a>
<i>Nymphalis antiopa</i> , Mourning Cloak	Lepidoptera	<a href="https://www.inaturalist.org/observations/16054662">https://www.inaturalist.org/observations/16054662</a>
<i>Ophiomyia</i>	Diptera	<a href="https://www.inaturalist.org/observations/129274392">https://www.inaturalist.org/observations/129274392</a>
<i>Pachysphinx modesta</i> , Modest Sphinx	Lepidoptera	<a href="https://www.inaturalist.org/observations/82237471">https://www.inaturalist.org/observations/82237471</a>
<i>Phyllocnistis vitifoliella</i> ,	Lepidoptera	<a href="https://www.inaturalist.org/observations/129269116">https://www.inaturalist.org/observations/129269116</a>
<i>Phytomyzinae</i>	Diptera	<a href="https://www.inaturalist.org/observations/129274400">https://www.inaturalist.org/observations/129274400</a>
<i>Popillia japonica</i> , Japanese Beetle	Coleoptera	<a href="https://www.inaturalist.org/observations/57873692">https://www.inaturalist.org/observations/57873692</a>
<i>Scopariinae</i> , a Moss-eating Crambid Moth	Lepidoptera	<a href="https://www.inaturalist.org/observations/83062936">https://www.inaturalist.org/observations/83062936</a>
<i>Smerinthus jamaicensis</i> ,		
Twin-spotted Sphinx	Lepidoptera	<a href="https://www.inaturalist.org/observations/84644053">https://www.inaturalist.org/observations/84644053</a>
<i>Trigonarthris</i>	Coleoptera	<a href="https://www.inaturalist.org/observations/35679958">https://www.inaturalist.org/observations/35679958</a>

## Millipedes (Myriopoda)

American Giant Millipede Complex, Complex  
*Narceus americanus*  
 Parajulidae

Figure 9. Over one hundred American Giant Millipedes were observed at the site.



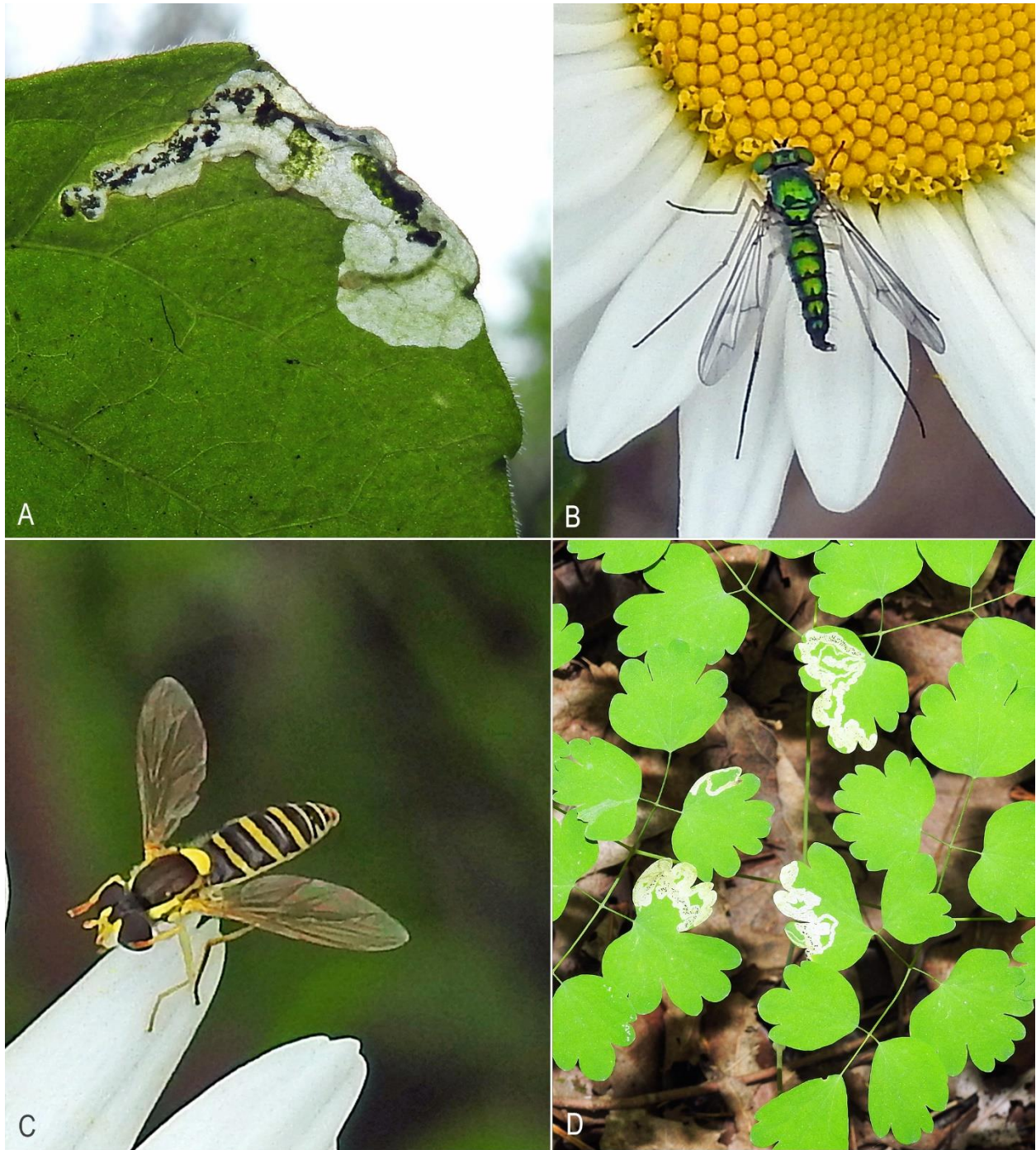


Figure 10. **A. Violet Leafmining Sawfly** (*Nefusa ambigua*). **B. Long-legged Fly** (*Condylostylus* sp.), Family Dolichopodidae, on Oxe-eye Daisy. **C. Globetail Fly** (Sphaerophoriae). **D. Leaf Miner**, *Phytomyza* sp., Complex *Phytomyza minuscula* group, on Meadowrue. All photos taken by D. Bree on June 16, 2023 at McMahon Bluff. Others can be found at [https://inaturalist.ca/observations?on=2023-06-16&place\\_id=27602&subview=table](https://inaturalist.ca/observations?on=2023-06-16&place_id=27602&subview=table).

## Vertebrates

### Reptiles and amphibians

Northern Leopard Frog, *Lithobates pipiens* - 1

Spring Peeper, *Pseudacris crucifer* - 2

Immature (neonate) Blue Spotted/Jefferson Salamander complex (*Ambystoma laterale*/*A. jeffersonianum* complex) – 1, pond

Red-backed Salamander, *Plethodon cinereus* - in a few places, red-backed colour phase.

Species reported previously in the McMahon Bluff area, on iNaturalist, include Northern Watersnake, Midland Painted Turtle, Common Snapping Turtle, Eastern Red-backed Salamander.

### Birds – all participants contributed (includes list submitted to ebird by E. Sinclair)

1 - Wild Turkey, *Meleagris gallopavo*

1 - Herring Gull, *Larus argentatus*

1 - Great Blue Heron, *Ardea herodias*

1 - Turkey Vulture, *Cathartes aura*

1 - Barred Owl, *Strix varia*

1 - Belted Kingfisher, *Megaceryle alcyon alcyon*

3 - Downy Woodpecker, *Dendrocopus pubescens*

1 - Pileated Woodpecker, *Dryocopus pileatus*

4 - Eastern Wood-pewee, *Contopus virens*

1 - Great Crested Flycatcher, *Myiarchus crinitus*

8 - Red-eyed Vireo, *Vireo olivaceus*

1 - Blue Jay, *Cyanocitta cristata*

3 - American Crow, *Corvus brachyrhynchos*

2 - Common Raven, *Corvus corax*

2 - Black-capped Chickadee, *Poecile atricapillus*

1 - White-breasted Nuthatch, *Sitta carolinensis*

5 - Wood Thrush, *Hylocichia mustelina*

1 - American Robin, *Turdus migratorius*

1 - Cedar Waxwing, *Bombycilla cedrorum*

1 - Field Sparrow, *Spizella passerina*

1 - Song Sparrow, *Melospiza melodia*

3 - Ovenbird, *Seiurus aurocapilla*

3 - Common Yellowthroat, *Geothlypis trichas*

4 - American Redstart, *Setophaga ruticilla*

1 - Scarlet Tanager, *Piranga olivacea*

1 - Northern Cardinal, *Cardinalis cardinalis*

2 - Rose-breasted Grosbeak, *Pheucticus ludovicianus*

1 - Indigo Bunting, *Passerina cyanea*

We anticipate many more species of breeding birds are using this site. Additional species seen on other occasions (noted on iNaturalist) included Merlin, Red-tailed Hawk, Mute Swan and American Kestrel.

## Mammals

White-tailed Deer, *Odocoileus virginianus*

Red Squirrel, *Tamiasciurus hudsonicus*

Eastern Chipmunk, *Tamias striatus*



Figure 11. White-tailed Deer on McMahon Lane. Photo by B. Kostiuk.

Previously, Virginia Opossum has been recorded in the area on iNaturalist. Very large dead trees on the slopes and caves may provide cover for bats.

## SOME MANAGEMENT CONSIDERATIONS

### (1) Four-leaved Milkweed.

The exact location of the Four-leaved Milkweed was not encountered on the 16<sup>th</sup> but the entire site was not accessed. It is desirable to have the population delineated and described for future monitoring purposes. In addition, adjacent habitats could be improved by opening the canopy (removal of shrubs, etc.) and some disturbance to the soil, for example by raking. This canopy opening combined with ground disturbance has been associated with other populations of Four-leaved Milkweed in the County.

### (2) European Buckthorn.

European Buckthorn has become abundant on the plateau, and it appears to be displacing native species. Although substantial control may not be possible, some experimental management in key areas could be considered. The plateau area was evidently much more open in the past and its closure is due largely to European Common Buckthorn. For more information on buckthorn see (Catling and Mitrow 2012).

### (3) An Annual Cooperative Event.

The success of this event suggests that it could be done annually and include monitoring by NCC in cooperation with local naturalists. This may lead to education and new information on the site.

### (4) New Jersey Tea.

The occurrence of New Jersey Tea shrubs on the site may enable it to become one of the areas selected for re-introduction of the endangered Mottled Duskywing butterfly (COSEWIC 2012). This is currently supported by the Ontario Ministry of Forestry and Natural Resources with whom some cooperation in habitat manipulation may be possible.

### (5) Rare Mosses and Lichens.

Very rare mosses and lichens were discovered during preliminary field visits. Since these were the first evaluation of these groups at McMahon Bluff, and involved only short surveys, it is anticipated that more search effort would result in the discovery of additional significant occurrences.

### (6) Restricted Access.

The shoreline is particularly attractive to visitors and this may lead to difficulty in managing people, eco-vandalism and excessive costs. Consequently, restricted access, as currently exists, may continue to be desirable.



Figure 12. Crown Rust (*Puccinea coronata*) on European Common Buckthorn is not sufficiently abundant to reduce its dominance in natural ecosystems which leads to decline of native biodiversity. Photo by P.M. Catling, McMahon Bluff, 16 June 2023.



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Figure 13. A granite gneiss, glacial erratic with seams of pure black biotite and pink feldspar with possibly rose quartz visible in upper close-up. Photo by B. Kostiuk.



