The Blue Bill

Quarterly Journal of the Kingston Field Naturalists

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Contents

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Send submissions to the editor by the **FIRST** of the month of publication (i.e. the **1st** of March, June, September, or December) to

editor@thebluebill.ca

Submissions may be in any format. Equations should be in LaTeX. Please provide captions and credit information for photos.

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1 Editor's Notes

by Peter Waycik

For those that are not aware, the name of a certain voracious moth species was changed to the LD Moth for the same reason that sports teams in Edmonton, Cleveland and Washington changed their names. There are several sub-species of LD Moth which can be further distinguished by appending an extra letter to LD. For example, in this area, the likely subspecies is *Lymantria dispar ssp. dispar*, so a D would be appended to get LDD Moth. I have taken the liberty of switching all mentions of this moth to its current and correct name (without presuming which subspecies it was) in this issue despite any protests to the contrary. Listeners of Ontario Today will already be up to speed on this change as Ed Lawrence has been using the correct name since it was changed.

For those who are interested in taxonomy, you will know that species' scientific and common names sometimes change. Scientific names are meant to reflect the phylogeny of each species and as researchers delve deeper into where a certain species fits into the evolutionary scheme, they sometimes feel the need to change its classification–and in some cases change it back. In recent times, advances in genetics have resulted in a boom in knowledge about evolutionary and genetic relationships which has also meant an increase in the number of taxonomic changes. If you own a field guide or other manual that is more than a few years old, chances are that at least a few of the Latin binomials contained within have changed.

Let's take a look at Wilson's Warbler for example. It was originally named the Green Blackcapt Flycatcher by Alexander Wilson, but was later named after him (posthumously) by Charles Lucien Bonaparte. Wilson originally gave it the scientific name *Muscicapa pusilla* which Bonaparte changed to *Wilsonia pusilla*. It underwent various other name changes until in 2011, in a more scientific move (phylogenetic analysis of nuclear and mitochondrial DNA sequences), it was changed to *Cardellina pusilla* by the American Ornithologists' Union putting it in the same genus as the Canada Warbler and three other species. It had in fact shared the now inactive taxon *Wilsonia* with both the Canada Warbler and Hooded Warbler, but the latter was moved to the genus *Setophaga*.

Figure 1: Alexander Wilson's drawing of a Green Blackcapt Flycatcher. (from Vol. 3 Plate 26 American Ornithology, 1811)

If you are fretting over changes to your beloved Latin binomials (I'm looking at you Labrador Tea), there are resources that will help you fix up all your lists and ancient manuals and perhaps even help you identify some spelling errors. Searching on iNaturalist.org will find the correct species even if there has been a taxon change. Once you get to the species page, select the "Taxonomy" tab and scroll down to see common and scientific names past and present. This tab will also lead you to information about any taxon changes. The "About" tab will give you the Global Biodiversity Information Facility (GBIF) and other links to the species on other resources which can lead to many interesting hours of research. Now, if you're like me and all your lists are on iNaturalist, they will just get updated automatically whenever there are taxon changes. The same is likely true of most active online resources, but unfortunately, your paper resources need to be updated manually.

2 KFN Income Statement

KINGSTON FIELD NATURALISTS
INCOME STATEMENT
FOR THE YEAR ENDING MARCH 31, 2021

INCOME	
CFKA Grant	1,866.07
Donations - Habitat Preservation	6,905.60
Donations - General	3,316.63
Donations - Queen's Scholarship	100.00
Grazing Income - Amherst Island	2,500.00
GST Rebate	1,077.05
Interest Income	2,222.16
Memberships Junior	700.00
Memberships Other	13,544.00
Other Income	401.97
Sales	361.00
TOTAL INCOME	**32,994.48**
EXPENSES	
Administration	616.11
Bank Charges	68.68
Blue Bill	900.26
Conservation Committee	416.24
Donations Out	300.00
Education	33.14
Field Trips	166.24
Insurance	2,125.44
Junior Naturalist Admin	20.50
Membership Expenses	1,068.47
Paypal Charges	397.79
Property Expenses	940.02
Property Tax	3,310.58
Publicity	847.50
Queen's Scholarship	100.00
Rent Paid (Monthly Meetings)	270.00
Speakers Expenses	200.00
Subscriptions and Memberships	248.00
Website Domain Fee	15.16
TOTAL EXPENSES	**12,044.13**
SURPLUS ON 2020/2021 OPERATIONS	**20,950.35**

Kevin Bleeks

Dianne Croteau

Figure 2: KFN Income Statement for the year ending March 31, 2021 (Larry McCurdy)

3 KFN Balance Sheet

KINGSTON FIELD NATURALISTS
BALANCE SHEET
FOR THE YEAR ENDING MARCH 31, 2021

ASSETS		
Bank Account	27,079.79	
Paypal Account	206.00	
BNS Corp. Tiered	5,210.61	
Canadian Tire Bank	24,000.00	
GIC - Can. West (2021)	20,000.00	
GIC - Home Trust (2022)	17,214.00	
GIC - Home Trust (2023)	17,214.00	
ScotiaMcLeod Account	1,623.86	
Equipment	13,677.82	
2008 Book Inventory	3,173.00	
Property (at cost)	260,800.00	
TOTAL ASSETS		**390,199.08**
LIABILITIES & EQUITY		
Habitat Preservation Fund	11,948.44	
Faith Avis Fund	550.83	
Life Membership Reserve	7,600.00	
Nan Yeomans Young Naturalists Fund	1,487.94	
Property Management Reserve	20,000.00	
ASUS Fund	634.71	
General Equity	347,977.16	
TOTAL LIABILITIES & EQUITY		**390,199.08 ****

** **NOTE**

Total Liabilities & Equity - March 31, 2020	369,248.73
Surplus on 2020/2021 Operations	20,950.35
Total Liabilities & Equity - March 31, 2021	390,199.08

We have reviewed the bank statements together with the supporting documents. We find the above statements accurately reflect the financial position of the Kingston Field Naturalists for the year ended March 31, 2021.

Kevin Bleeks

Dianne Croteau

Figure 3: KFN Balance Sheet for the year ending March 31, 2021 (Larry McCurdy)

4 BioBlitz Report 2021

by Anne Robertson

The 2021 BioBlitz was held in July at the Fourth Lake Nature Reserve. The COVID-19 pandemic restrictions were to be eased somewhat and by delaying our 23rd BioBlitz to mid-July we could accommodate more participants with COVID protections in place. No BBQ was held and no guided walks occurred this year.

The Fourth Lake Nature Reserve North is a newly acquired property of the Land Conservancy for Kingston, Frontenac, Lennox & Addington. It is located west of Parham and this reserve is not open to the public. This 204 acre property has wetlands, forests and rocky outcrops. Habitats include a cultural meadow, deciduous and mixed forest, a 21 acre beaver pond, shallow marsh, a creek, small streams and open aquatic areas as well as small creeks and valleys and many rocky outcrops and ridges.

Figure 4: Waterfall. (Gaye Beckwith)

The aim of a BioBlitz is to list as many species as possible in 24 hours. This gives a good snapshot of the biodiversity that may be found in the area. Due to the 4 week delay in holding our Blitz this year some species will appear and some disappear when compared with other sites. The spring migration was over – birds were on their nests and less conspicuous and the flowering spring ephemerals were decomposing.

Participants included KFN members, amateurs, experts and professionals who listed species between 3:00 pm Friday 9 July and 3:00 pm Saturday 10 July. 40 people registered (usually 70). 23 were KFN members and one youth. 23 people took part on Friday, some returned on Saturday for a total of 37 that day. Due to the nature of the event they were well spread out on the property. Other organisations represented were Land Conservancy for KFLA (3), Ecological Services (4), Museum of Nature (2), Ottawa Field Naturalists (6).

A base was set up with a tent for registration, identification books and a tally board. We also had a drinks table on Saturday with morning coffee, tea and water all day. Parking was on one side of the road.

Figure 5: Base tent. (Gaye Beckwith)

Registration at the base used forms including COVID-19 screening questions. A map of the site was provided showing trails and habitats. The trails were well prepared and marked by the previous owner Bruce Millen. A tally sheet was provided and participants were also encouraged to enter their sightings on eBird (4 people did this) and iNaturalist (7 people did this) or by marking the sheets on the tally board located at the base. Many people emailed their lists directly to Anne.

Explorations took place on foot, and a canoe and

a kayak were launched in the main pond to access water species. There was some dipping from the shore, minnow traps were set and a seine net spread over a small area to sample the fish. Besides moth sheets, we also set up small mammal traps and pitfall traps for invertebrates and four trail cams were installed. Information was collected on everything from night time to early morning and all day, and from minute mosses and invertebrate species to the large sign of a Moose and the big Eastern White Pines.

Figure 6: Chloealtis conspersa – Sprinkled Grasshopper, July 9 2021. (Kurt Hennige)

Figure 7: Green Frog, July 10, 2021KFN Bioblitz. (Kurt Hennige)

The first unusual species to be recorded was a big patch of Pinesap found under the White Pines at the Base. This is a parasitic plant with no chlorophyll. It feeds on the fungi in the soil which in turn are mycorrhizae on the roots of the pine trees. This was just one of the 309 vascular plants including 19 spore-bearing plants – ferns, horsetails and club mosses – found.

The non-vascular plant listers also had a ball and recorded 100 species of moss and liverwort and they said "there are plenty more species that were not recorded." A number of beautiful lichens (15) were added to the non-vascular plant list.

The story for fungi (17) was a bit different as with a dry year and later in the season fewer species than expected were seen despite careful searching on the property.

Highlights came at night with a huge variety of moths which many people enjoyed learning about from our recorders. A couple of special species were the uncommon Satin Moth with its stripy legs and the brightly coloured Painted Lichen Moth and Scarlet-winged Lichen Moth. Of note LD Moth numbers were very high this year and defoliation of trees evident. It was interesting to note the variation in male LD Moth sizes and shades of beige colour.

Figure 8: Coral Hairstreak on lily. (Gaye Beckwith)

The Invertebrate list is huge! There were enormous numbers of moth species (212). There were a good many other insects including butterflies (52) bee-

tles (25) and flies (32) too. Also included in the arthropods are spiders (11), myriapods and crustaceans but slugs and snails are not jointed legged so are invertebrates but not arthropods. Rotifers (6) and worms of various types (6) are also not arthropods, nor are the amoebas, hydras, hairybellies and other minute organisms (4) in the water, (single cell to multi cellular species) that were recorded. The Kingdom of Protists was represented by a slime mold and a Stentor species found in the main pond.

Figure 9: Crab Spider. (Gaye Beckwith)

Six species of bat were recorded using two acoustic bat monitors. Most were considered to be foraging flights but the Silver-haired Bats may have been at a roosting/maternity spot. Some special bird sightings included American Woodcock and Eastern Whip-poor-will and an early morning chorus of Sandhill Cranes. A skink (lizard) was a special sighting too and the Moose scat was unexpected. The mammal live traps were successful and yielded a chipmunk and 3 Deer Mice this year. Our final tally includes 14 mammals, 50 birds, 4 reptiles, 7 amphibians, and 5 fish.

Surely the most interesting species name was the Chocolate-and-cream Sedge which is not a plant but a caddisfly! The hairybacks or hairybellies (phylum Gastrotricha) come a close second. These are microscopic, aquatic, worm-like animals. Baby Tooth Moss (*Plagiomnium cuspidatum*) requires imagination!

Figure 10: Red-fruited pixie cup. (Janet Elliott)

The success of the BioBlitz depends on the submission of tally lists by participants and the variety of species seen as well as the weather. The tallies were collated by Erwin (vertebrates), Kurt and Anne (invertebrates), Barry (vascular plants) and Anne (non-vascular plants and fungi). We found a good number of species though the tally may have been affected by fewer people on the ground and late date of the BioBlitz. Interestingly there were fewer vertebrates than usual but we had terrific moss and moth lists.

Our final total number of species for the Fourth Lake Nature Reserve North property is 965. A very respectable tally. In past years we have recorded in 2020 (individual blitzes due to the COVID-19 pandemic) 801 species, in 2019 (Ontario Power Generation site) 629 species, in 2018 (Helen Quilliam Sanctuary) 942 species. In 2017 (Landon Bay) 996 species and in 2016 (Menzel) 841 species. We look forward to next year.

Many thanks to all our participants. This was another successful BioBlitz. Some said the best ever. The KFN should be proud of continuing this an-

nual tradition despite COVID-19 restrictions being a challenge. The information on each site we have studied is available in the September Blue Bill reports each year which may be accessed on the website. The baseline document produced will be a record for future changes caused by global warming and climate change, invasive species or natural succession.

Figure 11: Erwin and Gaye Butterfly id. (Anne Robertson)

Figure 12: BatBox presentation to Thom Snowman. (Bruce Elliott)

A bat box was presented to the Land Conservancy in recognition of their kindness in allowing us the use of this site. It is to be emphasised that this is protected property and access rights are not normally given.

The following lists of scientific and common names aims to use the most up to date names of species. Various sources for common names have been used. Most species are listed in taxonomic order by family and then alphabetically but note the moths are listed by Hodges number. Species are listed in the order vertebrates, invertebrates, protists, vascular plants, non-vascular plants and fungi.

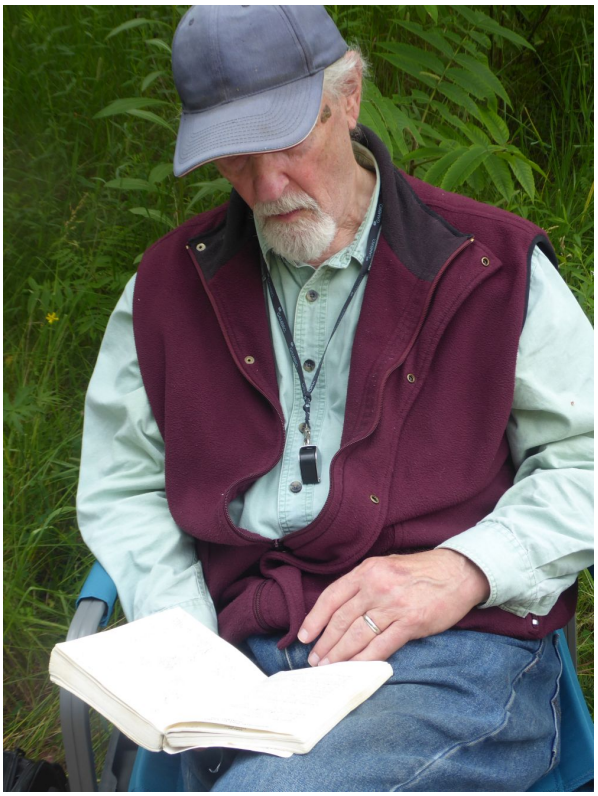

Figure 13: Dave McMurray, Botanist, at id. (Anne Robertson)

Figure 14: Dale adding apple bait to "catch and release" mammal trap. (Anne Robertson)

4.1 Vertebrates

4.1.1 LIST OF MAMMALS

VESPERTILIONIDAE	**BATS**
Eptesicus fuscus fuscus	Big Brown Bat
Perimyotis subflavus	Tri-coloured Bat
Lasiuris cinereus	Hoary Bat
Myotis lucifugus lucifugus	Little Brown Myotis
Lasiurus borealis borealis	Eastern Red Bat
Lasionycteris noctivagans	Silver-haired Bat

SCIURIDAE	**SQUIRRELS**
Tamiasciurus hudsonicus	Red Squirrel
Tamias striatus lysteri	Chipmunk

CASTORIDAE	**BEAVERS**
Castor canadensis	Beaver

MURIDAE	**MICE, RATS AND VOLES**
Peromyscus maniculatus gracilis	Deer Mouse

ERETHIZONTIDAE	**PORCUPINES**
Erithozon dorsatum dorsatum	Porcupine

URSIDAE	**BEARS**
Ursus americanus americanus	Black Bear

CERVIDAE	**DEER**
Alces alces americana	Moose
Odocoileus viginianus borealis	White-tailed Deer

4.1.2 LIST OF BIRDS

ANATIDAE	**SWANS, GEESE, AND DUCKS**
Aix sponsa	Wood Duck

PHASIANIDAE	**TURKEYS AND GROUSES**
Bonasa umbellus	Ruffed Grouse

CUCULIDAE	**CUCKOOS**
Coccyzus americanus	Yellow-billed Cuckoo

CAPRIMULGIDAE	**GOATSUCKERS**
Antrostomus vociferus	Whip-poor-will

GRUIDAE	**CRANES**
Antigone canadensis	Sandhill Crane

SCOLOPACIDAE	**WOODCOCK, SNIPE, SANDPIPERS**
Philohila minor	American Woodcock

ARDEIDAE	**HERONS AND BITTERNS**
Ardea herodius	Great Blue Heron

CATHARTIDAE	**VULTURES**
Cathartes aura	Turkey Vulture

STRIGIDAE	**OWLS**
Strix varia	Barred Owl

PICIDAE	**WOODPECKERS**
Picoides pubescens	Downy Woodpecker
Picoides villosus	Hairy Woodpecker
Colaptes auratus	Northern Flicker

TYRANNIDAE	**FLYCATCHERS**
Contopus virens	Eastern Wood Pewee
Sayornis phoebe	Eastern Phoebe
Myiarchus crinitus	Great-crested Flycatcher
Tyrannus tyrannus	Eastern Kingbird

VIREONIDAE	**VIREOS**
Vireo flavifrons	Yellow-throated Vireo
Vireo olivaceus	Red-eyed Vireo

CORVIDAE	**JAYS AND CROWS**
Cyanocitta cristata	Blue Jay
Corvus brachyrhynchos	American Crow
Corvus corax	Common Raven

PARIDAE	**CHICKADEES AND ALLIES**
Poecile atricapillus	Black-capped Chickadee

HIRUNDINIDAE	**SWALLOWS**
Iridoprocne bicolor	Tree Swallow

SITTIDAE	**NUTHATCHES**
Sitta carolinensis	White-breasted Nuthatch

TROGLODYTIDAE	**WRENS**
Troglodytes aedon	House Wren
MIMIDAE	**MIMICS**
Dumetella carolinensis	Gray Catbird
Toxostoma rufum	Brown Thrasher
TURDIDAE	**THRUSHES AND BLUEBIRDS**
Catharus fuscescens	Veery
Catharus guttatus	Hermit Thrush
Turdus migratorius	American Robin
BOMBYCILLIDAE	**WAXWINGS**
Bombycilla cedrorum	Cedar Waxwing
FRINGILLIDAE	**FINCHES**
Carpodacus purpureus	Purple Finch
Spinus tristis	American Goldfinch
EMBERIZIDAE	**SPARROWS AND BUNTINGS**
Spizella passerina	Chipping Sparrow
Spizella pusilla	Field Sparrow
Melospiza melodia	Song Sparrow
Melospiza georgiana	Swamp Sparrow
Pipilo erythropthalmus	Eastern Towhee
ICTERIDAE	**MEADOWLARKS AND BLACKBIRDS**
Icterus galbula	Baltimore Oriole
Agelaius phoeniceus	Red-winged Blackbird
Quiscalus quicula	Common Grackle
PARULIDAE	**WOOD WARBLERS**
Seiurus aurocapilla	Ovenbird
Geothlypis trichas	Common Yellowthroat
Setophaga ruticilla	American Redstart
Setophaga petechia	Yellow Warbler
Setophaga pensylvanica	Chestnut-sided Warbler
Setophaga pinus	Pine Warbler
CARDINALIDAE	**CARDINALS AND ALLIES**
Piranga olivacea	Scarlet Tanager
Pheucticus ludovicianus	Rose-breasted Grosbeak
Passerina cyanea	Indigo Bunting

4.1.3 LIST OF REPTILES AND AMPHIBIANS

EMYDIDAE	**POND AND MARSH TURTLES**
Chrysemys picta	Midland Painted Turtle
Emydoidea blandingii	Blanding's Turtle
COLUBRIDAE	**TYPICAL SNAKES**
Thamnophis sirtalis	Eastern Garter Snake
SCINCIDAE	**SKINKS**
Plestiodon fasciatus	Five-lined Skink
SALAMANDRIDAE	**NEWTS**
Notophthalmus viridescens	Eastern Newt
AMBYSTOMATIDAE	**MOLE SALAMANDERS**
Ambystoma sp.	
BUFONIDAE	**TOADS**
Anaxyrus americanus	American Toad
HYLIDAE	**TREEFROGS**
Pseudacris crucifer	Spring Peeper
RANIDAE	**TRUE FROGS**
Lithobates pipiens	Northern Leopard Frog
Lithobates clamitans	Green Frog
Lithobates septentrionalis	Mink Frog
Lithobates catesbeianus	Bull Frog

4.1.4 LIST OF FISH

CYPRINIDAE	
Chrosomus eos	Northern Redbelly Dace
Chrosomus neogaeus	Finescale Dace
Notropus cornutus	Common Shiner
GASTEROSTEIDAE	
Culaea inconstans	Brook stickleback
UMBRIDAE	
Umbra limi	Central Mudminnow

4.2 Invertebrates

4.2.1 INSECTA

Odonata	**Dragonflies and Damselflies**
	Dragonfly (nymph)
Zygoptera	**Damselflies**
Argia fumipennis	Violet Dancer
	American Bluets
Coenagrion resolutum	Taiga Bluet
Enallagma ebrium	Marsh Bluet
Enellagma vernale	Vernal Bluet
Ischnura verticalis	Eastern Forktail
Lestes rectangularis	Slender Spreadwing
Nehalennia irene	Sedge Sprite
Calopteryx maculata	Ebony Jewelwing
Anisoptera	**Dragonflies**
Aeshnidae	**Darners**
Anax junius	Common Green Darner
Corduliieae	**Emeralds**
Cordulia shurtleffii	American Emerald
Epitheca cynosura	Common Baskettail
Gomphidae	**Clubtails**
Gomphus exilis	Lancet Clubtail
Libelluldeae	**Skimmers**
Celithemis elisa	Calico Pennant
Celithemis eponina	Halloween Pennant
Erythemis simplicicollis	Eastern Pondhawk
Leucorrhinia intacta	Dot-tailed Whiteface
Libellula incesta	Slaty Skimmer
Libellula luctuosa	Widow Skimmer
Libellula pulchella	Twelve-spotted Skimmer
Pachydiplax longipennis	Blue Dasher
Plathemis lydia	Common Whitetail
Sympetrum obtrusum	White-faced Meadowhawk
Sympetrum vicinum	Autumn Meadowhawk
Macromiidae	**Cruisers**
Plecoptera	**Stoneflies**
Orthoptera	**Grasshoppers, Katydids and Crickets**
Gryllus Sp	Cricket sp.
Gryllus pensylvanicus	Fall Field Cricket
Gryllus veletes	Spring Field Cricket
Chloealtis conspersa	Sprinkled locust
Melanoplus bivittatus femoralis	Grasshopper
Melanopus punctulatus	Pine-tree Spur-throat
Genus Amblycorypha	Round-headed Katydid
Phasmida	**Stick Insects**
Blattodea	**Roaches**
Parcoblatta pennsylvanica	Pennsylvania Wood Cockroach
Periplaneta americana	American Cockroach
Thysanoptera	**Thrips sp.**
Ephemeroptera	**Mayflies**
Mayfly nymph	Mayfly nymph
Hemiptera	**True Bugs**
Cosmopepla lintneriana	Twice-stabbed Stink Bug
Bansa dimidiata	Stink Bug
Aphrophora alni -	European Alder Spittlebug
Arthaldeus pascuellus	Plant-hopper
Cercopoidea family	Spittlebug
Cicadellidae family	Leaf Hoppers
Corixidae	Water Boatman
Gerris sp.	Water Strider
Capsus ater	Miridae - Plant Bugs
Lopidea sp>	Plant Bug
Lygaeus kalmi	Small Milkweed Bug
Lygus lineolaris	Tarnished Plant Bug
Nabis subcoleoptratus	Black Damsel Bug
Notonecta glauca	Milky Backswimmer
Notonecta sp.	Backswimmer
Phlegyas abbreviatus	True Bugs
Stictopleurus punctiventris	Plant Bug
Arhyssus	Scentless Plant Bug
Aphididae family	Aphid
Neuroptera	**Dobsonflies, Lacewings, Antlions and Relatives**

Sub group Megaloptera	**Fishflies**
Chauliodes pectinicornis	Summer Fishfly

Coleoptera	**Beetles and Weevils**
Agriotes sp.	Click Beetle
Aphorista vittata	Handsome Fungus beetle
Aphrophoridae	True Spittlebugs
Genus Isomira	Comb-clawed Beetles
Arthromacra aenea	Long-jointed Beetles
Limonius sp.	Click Betle
Chrysochus auratus	Dogbane Leaf Beetle
Coccinella tifasciata	Three-banded Lady Beetle
Coleomegilla maculata	Spotted Lady Beetle
Brachyleptura champlaini	Longhorn Beetle
Disonycha sp.	Flea Beetle
Harmonia axyridis	Multicoloured Asian Lady Beetle
Nicrophorus orbicollis	Roundneck Carrion Beetle
Subgenus Haplanthaxia.	Metallic Wood-boring Beetle
Agrilus ruficollis -	Red-necked Cane Borer
Photinus pyralis	Common Eastern Firefly
Photuris sp.	Firefly
Trichodes nuttalli	Red-blue Checkered Beetle
Tetropes tetrophthalmus	Red Milkweed Beetle
Glipa oculata	Tumbling Flower Beetles
Mordellistena fuscipennis	Tumbling Flower Beetles
Genus Mordella	Tumbling Flower Beetles
Nemogatha nemorensis	Blister Beetle
Genus Rhagonyche	Soldier Beetle

Trichoptera	**Caddisflies**
Hydropsychidae family	Caddisfly (larva)
Phryganeidae family	Giant Casemaker Caddisfly
Platycentropis radiatus	Chocolate and Cream Sedge
Species unknown	Caddisfly

Lepidoptera	**Butterflies, Moths and Skippers**
Anatrytone logan	Delaware Skipper
Ancyloxypha numitor	Least Skipper
Boloria selene	Silver-bordered Fritillary
Celastrina lucia	Spring Azure/ Northern Azure
Celastrina ladon	Nothern Azure
Cercyonis pegala	Common Wood-Nymph
Coenonympha tullia	Common Ringlet
Colias philodice	Clouded Sulphur
Cupido comyntas	Eastern Tailed Blue
Danaus plexippus	Monarch
Enodia anthedon	Northern Pealy-eyed
Erynnis baptisidae	Wild Indigo Duskywing
Erynnis lucilius	Columbine Duskywing
Erynnes juvenalis	Juvenal's Duskywing
Erynnes	Duskywing Sp.
Epargyreus clarus	Silver-spotted Skipper
Euphyes dion	Dion Skipper
Everes comyntas	Eastern Tailed Blue
Eyphyes vestris	Dun Skipper
Lethe anthedon	Northern Pearly_Eye
Lethe appalachia	Appalachian Brown
Lethe eurydice	Eyed Brown
Limenitis archippus	Viceroy
Liminites artemis	White Admiral/Red-spotted Purple
Megisto cymela	Little Wood-satyr
Nymphalis antiopa	Mourning Cloak
Nymphalis l-album	Compton's Tortoiseshell
Papilio sp.	
Phyciodes cocyta	Northern Crescent
Phycoides selenis	Northern Crescent
Pieris rapae/ oleraceax	Cabbage White
Poanes viator	Broad-winged Skipper
Polygonia comma	Eastern Comma
Polygonia interrogatonis	Question Mark
Polygonia progne	Gray Comma
Polites origenes	Crossline Skipper
Polites peckius	Peck's Skipper
Polites themistocles	Tawny-edged Skipper
Pompeius verna	Little Glassywing
Satyrium acadica	Acadian Hairstreak
Satyrium lipareps	Strped Hairstreak
Satirium melinus/kingi	Gray Hairstreak
Satyrium titus	Coral Hairstreak
Satyrium calanus	Banded Hairstreak
Satyrodes eurydice	Eyed Brown
Speyeria aphrodite	Aphrodite Fritillary
Strymon melinus	Gray Haistreak
Thorybes pylades	Northern Cloudywing
Thymelicus lineola	European Skipper
Vanessa atalanta	Red Admiral
Vanessa virginiensis	American Painted Lady
Wallengrenia egeremet	Northern Broken Dash

Moths arranged by Hodges #

Monopsis dorsistrigella Skunkback Monopis
Psyche casta 0437 Bagworm Moth (pupa)
Caloptilia bimaculatella 0595 Maple Caloptilia
Agonopterix robinella 0882 Four-dotted Agonopterix Moth
Psilocorsis cryptolechiella 0956 Black-fringed leaftier Moth
Epicallima argenticinctella 1046 Orange-headed Epicallima Moth
Aristotelia roseosuffusella - 1761 Pink-washed Aristotelia
Pubitelphusa latifasciella 1857 White-banded Pubitelphusa Moth
Dichomeris bilobella 2291 Bilobed Dichomeris Moth
Dichomeris flavocostella 2295 Cream-edged Dichomeris Moth
Argyresthia oreasella 2467 Cherry Shoot Borer
Synanthedon acerrubri 2546 Red Maple Borer
Olethreutesfasciatana 2823 Banded Olethreutes
Olethreutes atrodentana 2785
Olethreutes appendicum Serviceberry Leafroller
Epiblema scudderiana prob 3186 Scudeleri's Epiblema
Epiblema otiosana 3202 Biden's Borer Moth
Epiblema brightonana 3203 Brighton's Epiblema
Epinotia criddleana Aspen Leafroller
Ancylis metamelana Hodges#3359 Black-marked Ancylis
Ecdytolopha insiticiana 3497 Locust Twig Borer Moth
Pandemis lamprosana 3593 Woodgrain Leafroller
Pandemis limitata 3594 Three-lined Leafroller
Argyrotaenia velutinana 3597 Red-banded Leafroller Moth
Argyrotaenia quadrifasciana 3621 Four-lined Leafroller Moth
Argyrotaenia querficoliana 3623 Lined Oak Leafroller
Choristoneura rosaceana 3635 Oblique-banded Leafroller
Archips argyrospila 3648 Fruit-Tree Leafroller Moth
Archips mortuana 3649
Archips semiferanus 3653 Oak Leafroller Moth
Archips purpurana 3658 Omnivorous Leafroller
Clepsis peritana 3688 Garden Tortrix
Sparganothis sulfureana 3695 Sparganothis Fruitworm Moth
Sparganothis unifasciana 3711 One-lined Sparganothis Moth
Cenopsis reticulatana 3720 Reticulated Fruitworm
Cenopsis pettitana 3725 Maple-Basswood Leafroller
Cenopsis niveana 3727 Aproned Cenopsis Moth
Coelostathma discopunctana 3742 The Batman Moth
Amorbia humerosana 3748 White Line Leafroller
Tortricidia flexuosa 4654 Abbreviated Button Slug Moth
Apoda biguttata 4669 Shagreened Slug Moth
Euclea delphinii 4697 Spiny Oak Slug Moth
Scoparia biplagialis 4716 Double-striped Scoparia Moth
Scoparia basalis 4719 Many-spotted Scoparia Moth
Elophila icciusalis 4748 Pondside Crambid
Elophila gyralis 4751 Waterlily Borer
Elophila obliteralis 4755 Waterlily Leafcutter Moth
Parapoynx maculalis 4759 Polymorhic Pondweed Moth
Parapoynx allionealis 4764 Watermilfoil Leafcutter Moth
Lipocosmodes fuliginosalis 4888 Sooty lipocosmodes
Photinus consimilis Firefly
Diacme elealis 5142 Paler Diacme
Loxostegopsis merrickalis 5177 Merrick's Pyralid
Diathrausta harlequinalis 5175 Harlequin Webworm
Blepharomastix ranalis 5182 Hollow-spotted Blepharomastix Moth
Palpita aenescentalis 5227
Herpetogramma thestealis 5277 Zigzag Herpetogramma
Herpetogramma aeglealis 5280 Serpentine Webworm
Donacaula dispersellus 5361.1
Crambus bidens 5342 Biden's Grass-veneer
Crambus albellus 5361 Snmall White Grass-Veneer
Crambus agitatellus 5362 Double-banded Grass Veneer
Crambus saltuellus 5363 Pasture Grass Veneer
Chrysteuchia topiaries 5391 Topiary Grass-veneer
Microcrambus elegans 5420 Elegant Grass-Veneer
Urola nivalis 5464 Snowy Urola Moth
Vaxi critica 5466 Straight-lined Argyria
Aglossa cuprina 5518 Grease Moth

Dolichomia olinalis 5533 Yellow-fringed Dolichoma
Condylolomia participalis 5571 Drab Condylolomia
Poco cera asperatella 5606 Maple Webworm
Pococera expandens 5608 Stiped Oak Webworm
Eulogia ochrifrontella 5999 Broad-banded Eulogia Moth
Moodna ostrinella 6005 Darker Moodna Moth
Geina buscki - Hodges#6093 Busck's Plume Moth -
Deejongia lobidactylus 6102 Long-wing Plume Moth
Hellinsia homodactylis 6203 Plain Plume Moth
Macaria pustulana 6273 Lesser Maple Spanworm Moth
Hellinsia homodactylus 6203 Plain Plume Moth
Macaria pustularia 6273 Lesser Maple Spanworm Moth
Emmelina monodactyla 6234 Morning-Glory Plume Moth
Speranza pustularia 6273 Lesser Maple Spanworm
Macaria rubearia 6274 Current Spanworm Moth
Macaria subcessaria 6303 Barred Granite
Macaria minorata 6340 Minor Angle Moth
Macaria bisignata 6342 Red-headed Inchworm
Macaria pinustrobata 6347 White Pine Angle
Iridopsis vellivolata 6582 Large Purplish Grey
Iridopsis ephyraria 6583 Pale-winged Gray
Renia flavipunctalis 6384.1 Yellow-spotted Renia
Anavitrinella pampinaria 6590 Common Grey
Protoboarmia porcelaria 6598 Porcelain Gray
Hypagyrtis piniata 6656 Pine Measuringworm Moth
Xanthotype urticaria 6740 False Crocus Geometer
Euchlaena serrata 6724 The Saw-wing
Euchlaena johnsonaria 6729 Johnson's Euchlaena
Metanema inatomia 6819 Pale Metanema
Nepytia canosaria 6906 False Hemlock Looper Moth
Eusarca confusaria 6941 Confused Eusarca
Eugmobapta nivosaria 6965 Snowy Geometer Moth
Prochoerodes lineola 6982 Large Maple Spanworm
Nematocampa resistaria 7010 Horned Spanworm
Nemoria bistriaria 7046 Red-fringed Emerald
Idaea demissaria 7114 Red-bordered Wave
Cyclophora pendulinaria 7139 Sweetfern Geometer
Scopula cacuminaria 7157 Frosted Tan Wave
Scopula limboundata 7159 Large Lace-border Moth
Scopula quadrilineata 7165 Four-line Wave
Eulithis diversilineata 7196 Lesser Grapevine Looper
Eulithis explanate 7206 White Eulithis
Costaconvexa centrostrigaria 7416 Bent-line Carpet
Eupithecia interruptofasciata 7551 Jennifer Pug
Eupithacia abietaria 7575 Cloaked Pug
Eupithecia absinythiata 7586.1 Wormwood Pug
Calledapteryx dryopterata 7653 Brown Scoopwing
Oleclostera angelica 7665 The Angel
Phyllodesma ameicana 7687 Lappet Moth
Malacasoma disstria 7698 Forest Tent Caterpillar Moth (larva)
Malacasoma americanum 7701 Eastern tent Caterpillar Moth
Smerinthus jamaicensis 7821 Twin-spotted Sphinx
Paonias excaecata 7824 Blinded sphinx
Pachysphinx modesta 7828 Modest sphinx
Clostera albosigma 7895 Sigmoid Prominent
Datana ministra 7902 Yellow-necked Caterpillar Moth
Datana angussi 7903 Angus' Datana
Natada gibbosa 7915 White-dotted Prominent
Peridea basitriens 7919 Oval-based Prominent
Peridia angulosa 7920 Angulose Prominent
Gluphisia septentrionis 7931 Common Gluphisia
Datana drexelii 7940 Drexel's Datana
Macrurocampa marthesia 7975 Mottled Prominent
Heterocampa obliqua 7983 Oblique Heterocampa
Heterocampa umbrata 7990 White-blotched Heterocampa
Heterocampa guttivitta 7993 Saddled Prominent
Heterocampa biundata 7995 Wavy-lined Heterocampa
Lochhmaeus bilineata 7999 Double-lined Prominent
Schizura leptinoides 8011 Black-blotched Shzura 08011
Hypoprepia miniate 8089 Scarlet-winged Lichen Moth
Hypoprepia fucosa 8090 Painted Lichen Moth
Haploa confusa 8112 Confused Haploa
Virbia aurantiaca 8121 Orange Virbia
Virbia ferruginosa 8123 Rusty Virbia
Spilosoma virginica 8137 Virginian Tiger Moth
Hypercompe scribonia 8146 Giant Leopard Moth
Phalaenostola metonalis 8162 Pale Phalaenostola
Grammia parthenice 8196 Parthenice Tiger Moth

Apantesis virgo 8197 Virgin Tiger Moth
Halysidota tessellaris 8203 Banded Tussock Moth
Cycnia tenera 8230 Delicate Cycnia
Ctenucha virginica 8262 Virginia Ctenucha
Dasychira vagans 8294 Variable Tussock Moth
Lymantria dispar Gypsy Moth
Dasychira pinicola 8305 Pine Tussock Moth
Orgyia leucosstigma 8316 White-marked Tussock Moth
Lymantria dispar 8318 Gypsy Moth
Leucoma salicis 8319 Satin Moth
Idia americalis 8322 American Idia Moth
Idia aemula 8323 Common Idia
Idia scobialis 8330 Smoky Idia Moth
Idia lubricalis 8334 Glossy Black Idia
Zanclognatha protumnusalis 8349 Complex Fan-foot
Zanclognatha jacchusalis 8353 Wavy-lined Fan-foot
Chytolita morbidalis 8355 Morbid Owlet
Macrochilo absorptalus 8357 Slant-lined Owlet
Macrochilo orciferalis 8360 Bronzy Owlet
Phalaenostala eumelusalis 8363 Dark Phalaenostola
Phalaenostola larentioides 8364 Black-banded Owlet
Bleptina caradrinalis 8370 Bent-winged Owlet Moth
Renia flavipunctalis 8384.1 Yellow-spotted Renia Moth
Palthis asopialis 8398 Faint-spotted Palthis
Colobochyla interpuncta 8411 Yellow-lined Owlet
Hypena manalis 8441 Flowing Line Snout
Calyptra canadensis 8536 Canadian Owlet
Euclidia cuspidea 8731 Toothed Somberwing
Caenurgina crassiuscula 8738 Clover Looper Moth
catacala neogama 8798 The Bridge
Catocala ilia 8801 Ilia Underwing
Catocala coccinata 8851 Scarlet Underwing
Catocala lineella 8878 Little-lined Underwing
Marathyssa inficita 8955 Dark Marathyssa
Protodeltote muscosula 9047 Large Mossy Glyph
Protodeltote albidula 9048 Pale Glyph
Maliattha synochitis 9049 Black-spotted Glyph
Pseudeustrotia carneola 9053 Pink-barred Pseudeustrotia (Lithecodia)
Capis curvata 9059 Curved Halter Moth
Ponometia erastrioides 9095 Smaller Bird-dropping Moth
Panthea acronyctoides 9177 Black ZigZag
Panthea furcilla 9182 Eastern Panthea
Raphia abrupta 9192 Abrupt Brother
Acronicta americana 9200 American Dagger
Acronita hastulifera 9201 Hoary Alder Dagger
Acronita insita 9202 Fingered/Large Gray Dagger
Acronita impleta 9257 Yellow-haired Dagger
Apamea amputatrix 9348 Yellow-headed Cutworm
Neoligia exhusta 9408 Exhausted Brocade
Bellura vulnifica 9523.1 Black-tailed Diver
Chytonix palliarcula 9556 Cloaked Marvel
Callopistria cordata 9633 Silver-spotted Fern Moth
Amphipyra tragopoginis 9639 Mouse Moth
Cosmia calami 9815 American Dun-Bar
Amolita fessa 9818 Feeble Grass Moth
Polia nimbosa 10275 Stormy Arches
Melanchra picta 10293 Zebra Caterpillar Moth
Leucania pseudargyria 10462 False Wainscot
Orthodes majuscula 10585 Rustic Quaker
Agrostis ipsilon 10663 Ipsilon Dart
Ochropleura implecta 10891 Flame-shouldered Dart
Xestia c-nigrum 10942 Setaceous Hebrew Character
Xestia dolosa 10942.1 Greater Black-letter Dart
Noctua pronuba11003.1 Large Yellow Underwing Moth
Eueretagrostis perattentus 11008 Two spot Dart
Lycophotia phyllophora 11010 Lycophotia Moth
Abagrotis alternate 11029 Greater Red Dart

Diptera **True Flies**
Anopheles sp. Mosquito sp.
Genus Geron Bee Flies
Anthomyiidae family Root Maggot Fly
Culicidae family Mosquito sp.
Clinohelea currei Biting Midge
Chironomidae family Midge larva
Contarina virginianiae Chokecherry Midge
Blaesodiplosis Gall Midge
Parallelodiplosis subtruncata Dogwood Eyespot Gall Midge
Condylostylus patibulatus Long-legged Fly
Dolichopus sp. Long-legged Fly
Machimus sp. Robber Fly
Machimus sadyates Robber Fly
Dioctria hyalipennis Robber Fly
Calliphoridae sp. Blow Fly
Genus Pollenia - Cluster flies

Panorpidae sp.	Scorpion Fly
Scarophagidae sp.	Flesh Fly
Toxomerus geminatus	Syrphid Fly
Toxomerus marginatus	Syrphid Fly
Genus Xylota	Syrphid Fly
Platyceirus sp.	Syrphid Fly
Horse Flies	Hybomitra hinei
Tabanus sp.	Horse Fly
Chrysops sackeni	Deer Fly
Chrysops striatus	Deer Fly
Genus Cylindromyia	Parasitic Fly Tachinidae
Tachinidae family	Parasitic Fly
Archytas analis complex	Parasitic Fly
Archytas either aterrimus or instabilis	Parasitic Fly
Sepsis sp.	Black Scavenger Flies
Muscidae sp	Muscid fly

Hymenoptera	**Ants, Bees, Sawflies and Wasps**
Camponotus sp.	Carpenter Ants
Genus Andrena	Minning Bees
Nomadinae–Genus Nomada	Nomad Bees
Apis sp.	Honey Bee sp.
Bombus imaptiens	Common Eastern Bumblebee
Bombus ternarius	Tricolored Bumble Bee
Halictus ligatus	Sweat Bee
Subgenus Dialictus	Metallic-Sweat
Subgenus Lasioglossum	Sweat Bee
Agapostemon virescens	Bicolored Striped-Sweat bee
Megachile pugnata	Pugnacious Leafcutter Bee
Hylaeus modestus modestus	Modest Masked Bee
Subfamily Chrysidinae	Cuckoo Wasp
Ammophila sp.	Common Thread-waited Wasp
Ammophila sp.	Tread-waisted Wasp
Hemadas nubilipennis	Bl;ueberry Stem Gall Wasp
Cimbicidae	club-horned Sawflies
Tenthredinidae	Common Sawflies
Ichneumonidae -	Ichneumonid Wasps
Enicospilus purgatus	Ichneumon Wasp
Philanthinae	Bee Wolf
Ancistrocerus adiabatus	Mason Wasp
Subfamily Crabroninae	Square-headed Wasps

4.2.2 OTHER ARTHROPODS

Chilipoda	**Centipedes**
Geophilomorpha	Soil centipedes
Diplapoda	**Millipedes**
Narceus americanus	Millipede
Arachnida	**Arachnids**
Araneae	**Spiders**
Larinioides cornutus	Furrow Orbweaver
Tetragnatha sp.	Green Long-jawed Orb Weaver
Gladicosa sp	Sword Wolf Spider
Leiobunum vittatum	Eastern Harvestman
Lycosidae family	Wolf Spider sp.
Trochosa sp	Wolf Spider sp.
Misumena vatia	Goldenrod Crab Spider
Phalangiidae family	Harvestman sp.
Opiliones	Harvestmen
Salticus scenicus	Zebra Jumper
Phidippus sp.	Jumping spider
Acari	**Mites and Ticks**
Arrenurus sp.	Water Mite
Dermacentor variabilis	Dog Tick
Ixodes scapularis	Black-legged Tick
Crustacea (sub phylum)	**Crustaceans**
Gammaridae family	Scud sp
	Woodlouse sp.

O.Decapoda

Class Branchiopoda
Simocephalus vetulus

Copepoda

Ostracod sp 2	Seed shrimp, vernal pool

4.2.3 OTHER INVERTEBRATES

Phylum Amoebozoa	**Amoeba**
Arcella sp.	Arcella

Phylum Cnidaria

Hydra viridis	Hydra

Phylum Gastrotricha

Family Chaetonotidae	Hairybacks, Hairybellies

Phylum Mollusca	**Molluscs**
Gastropoda (class)	**Snails**
Cepea sp.	Grove snail
Helisoma sp	Ramshorn Snail
Family Physidae	Bladder snails (pulmonate)
Arion subfuscus	Dusky Slug sp.
Derocerus sp.	Smooth Land Slug
Bivalvia (class)	**Clams, Mussels**
Elliptio complanata	Freshwater Mussel
Family Sphaeriidae	Fingernail Clam
Phylum Platyhelminthes	**Flatworms**
Family Dalyelliidae	Dalyelliid flatworm
Phylum Annelida	**Segmented Worms**
Lumbricus sp	Earthworm sp
Hirudnea (sub order)	**Leeches**
Helobdella sp	Leech
Macrobdella decora	North AmericanMedicinal Leech
Oligochaete sp	Aquatic segmented Worm
Phylum Nematoda	**Nematodes**
Nematode	Roundworm
Phylum Rotifera	**Wheel animals**
Bipalpus hudsoni	
Colotheca sp	
Conochilus sp	Colonial Rorifer
Nothoica sp	
Trichocerca pusilla	
Trichotria sp.	

4.3 Protists

Phylum Ciliophora	**Ciliates**
Stentor sp	Trumpet Animalcule
Phylum Mycetozoa	**Slime Mold**

4.4 Vascular Plants

A species marked with an asterisk denotes an alien species.

LYCOPODIACEAE	**CLUBMOSS FAMILY**
Dendrolycopodium dendroideum	Prixley Tree-clubmoss
Dendrolycopodium hickeyi	Hickey's Tree-club-moss
Dendrolycpodium obscurum	Flat-branched Tree-clubmoss
Lycopodium clavatum	Running Pine
Diphasiastrum digitatum	Southern Ground-cedar
SELAGINELLACEAE	**SPIKEMOSS FAMILY**
Selaginella ruprestris	Rock Spikemoss
EQUISETACEAE	**HORSETAIL FAMILY**
Equisetum arvense	Field (Common) Horsetail
Equisetum pratense	Meadow Horsetail
Equisetum sylvaticum	Woodland Horsetail
OSMUNDACEAE	**FLOWERING FERN FAMILY**
Osmunda claytoniana	Interrupted Fern
Osmunda regalis	Royal Fern
POLYPODIACEAE	**FERN FAMILY**
Athyrium angustum	Northern Lady Fern
Athyrium filix-femina	Lady Fern
Dryopteris marginalis	Marginal Wood (Shield) Fern
Gymnocarpium dryopteris	Oak Fern
Onoclea sensibilis	Sensitive Fern
Polypodium virginianum	Rock (Common) Polypody
Polystichum acrostichoides	Christmas Fern
Pteridium aquilinum	Bracken Fern
PINACEAE	**PINE FAMILY**
Picea glauca	White Spruce
CUPRESSACEAE	**CYPRESS FAMILY**
Juniperus communis	Common Juniper
Juniperus virginiana	Eastern Red Cedar

Thuja occidentalis	Eastern White Cedar
TYPHACEAE	**CATTAIL FAMILY**
Typha latifolia	Broad-leaved Cattail
SPARGANIACEAE	**BUR-REED FAMILY**
Sparganium eurycarpum	Large-fruited (Giant) Bur-reed
POTAMOGETONACEAE	**PONDWEED FAMILY**
Potamogeton amplifolius	Large-leaved Pondweed
ALISMATACEAE	**WATER-PLANTAIN FAMILY**
Sagittario graminea	Grassleaf Arrowhead
Sagittaria latifolia	Broad-leaved Arrowhead
HYDROCHARITACEAE	**FROG-BIT FAMILY**
Elodea canadensis	Canada Water-weed (Pondweed)
Hydrocharis morsus-ranae	European Frog-bit
GRAMINEAE	**GRASS FAMILY**
Agrostis scabra	Rough Bentgrass
Agrostis stolonifera	Creeping Bentgrass
Alopecurus aequalis	Short-awn Foxtail
Avenella flexuosa	Wavy Hair-grass
Brachyelytrum erectum	Bearded Shorthusk
Bromus inermis	Smooth/Awnless Brome
Calamagrostis canadensis	Canada Blue-joint
Danthonia spicata	Poverty Oat-Grass
Deschampsia cespitosa	Tufted Hairgrass
Deschampsia flexuosa	Crinkled Hairgrass
Dichanthelium acuminatum	Tapered (Wooly) Panic Grass
Dichanthelium latifolium	Broad-leaf Panic Grass
Dichanthelium linearifolium	Linear-leaved Witchgrass
Dichanthelium oligosanthes	Panic Grass
Elymus hystrix	Bottle Brush Grass
Elymus repens	Creeping Wild-rye
Elymus trachycaulis	Slender Wheat Grass
Glyceria canadensis	Canada (Rattlesnake) Manna Grass
Glyceria striata	Fowl Manna Grass
Leersia oryzoides	Rough leaved Mountan Rice
Phalaris arundinacea	Reed Canary Grass
*Phleum pratense**	Common Timothy
*Poa compressa**	Canada Blue Grass
Poa pratensis	Kentucky Blue-Grass
Sphenopholis intermedia	Slender Wedge Grass
CYPERACEAE	**SEDGE FAMILY**
Carex bebbii	Bebb's Sedge
Carex brevior	Short-beaked Sedge
Carex comosa	Bristly Sedge
Carex crinita	Fringed Sedge
Carex eburnea	Ebony Sedge
Carex echinata	Star/Little Prickly Sedge
Carex flava	Yellow Sedge
Carex foenea	Straw sedge
Carex intumescens	Bladder (Villose) Sedge
Carex lacustris	Lake Sedge
Carex lupulina	Hop Sedge
Carex pensylvanica	Pennsylvania Sedge
Carex retrorsa	Retrosrse Sedge
Carex scoparia	Pointed Broomsedge
Carex stipata	Stalk-grain Sedge
Carex stricta	Tussock Sedge
Carex utriculata	Northern Beaked Sedge
Carex viridula	Little Green Sedge
Dulichium arundinaceum	Three-way Sedge
Eleocharis acicularis	Least Spike-rush
Eleocharis palustris	Common Spikerush
Scirpus atrovirens	Dark-green Bulrush
ARACEAE	**ARUM FAMILY**
Calla palustris	Water Arum
PONTEDERIACEAE	**PICKEREL-WEED FAMILY**
Pontedaria cordata	Pickerel-weed
JUNCAEAE	**RUSH FAMILY**
Juncus effusus	Soft (Common) Rush
Juncus tenuis	Path (Slender) Rush
LEMNACEAE	**DUCKWEED fAMILY**
Lemna minor	Comon Duckwed
PONTEDERIACEAE	**PICKEREL-WEED FAMILY**
Pontederia cordata	Pickerel-weed

JUNCACEAE	**RUSH FAMILY**
Juncus effusus	Soft (Common) Rush
Juncus tenuis	
LILIACEAE	**LILY FAMILY**
Clintonia borealis	Bluebead-lily
Hemerocallis fulva	Day Lily
Maianthemum canadense	Canada Mayflower, Wild Lily-of-the-Valley
Maianthemum racemosum	False Soloman's Seal
Medeola virginiana	Indian Cucumber-root
Polygonatum pubescens	Hairy Solomon's Seal
Trillium erectum	Red Trillium
Trillium grandiflorum	White Trillium
Uvularia grandiflora	Large-flowered Bellwort
IRIDACEAE	**IRIS FAMILY**
Iris versicolor	Blue Flag
ORCHIDACEAE	**ORCHID FAMILY**
Cypripedium parviflorum	Yellow Lady-Slipper
*Epipactis helleborine**	Broad-leaved Helleborine
Spiranthes lacera	Slender Ladies'-tresses
SALICACEAE	**WILLOW FAMILY**
Populus grandidentata	Large-toothed Aspen
Populus tremuloides	Trembing Aspen
Salix petiolaris	Meadow (Slender) Willow
Salix candida	Hhoary Willow
MYRICACEAE	**BAYBERRY FAMILY**
Comptonia peregrina	Sweet Fern
Myrica gale	Sweet Gale (Bog Myrtle)
JUGLANDACEAE	**WALNUT FAMILY**
Juglans nigra	Black Walnut
BETULACEAE	**BIRCH FAMILY**
Alnus incana	Speckled/ Swamp Alder
Betula alleghaniensis	Yellow Birch
Betula papyrifera	Paper Birch/White Birch
Carpinus caroliniana	Blue Beech (American Hornbeam)
Ostrya virginiana	Hop-Hornbean
FAGACEAE	**BEECH FAMILY**
Quercus alba	White Oak
Quercus bicolor	Swamp White Oak
Quercus macrocarpa	Bur Oak
Quercus rubra	Northern Red Oak
ULMACEAE	**ELM FAMILY**
Ulmus americana	White Elm
CANABACEAE	**INDIAN HEMP FAMILY**
Humulus lupulus	Hops
URTICACEAE	**NETTLE FAMILY**
Boehmeria cylindrica	False Nettle
SANTALACEAE	**SANDALWOOD FAMILY**
Comandra umbellata	Bastard-Toadflax
POLYGONACEAE	**BUCKWHEAT FAMILY**
Fallopia clinoides	Fringed Bindweed
Fallopia scandens	Climmbing False Buckweed
Persicaria amphibium	Water Smartweed
Rumex britannica (orbiculatus)	Greater Water Dock
Rumex acetosella	Sheep Sorrel
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
Chenopodium album	Common Lamb's-Quarters
CARYOPHYLLACEAE	**PINK FAMILY**
Cerastium fontanum	Mouse-eared Chickweed
CERATOPHYLLACEAE	**HORNWORT FAMILY**
Ceratophyllum demersum	Common Hornwort or Coontail
NYMPHAEACEAE	**WATER-LILY FAMILY**
Brasenia schreberi	Water-shield
Nuphar variegata	Variegated Pond-lily
Nymphaea odorata	Fragrant White Water-lily
RANUNCULACEAE	**CROWFOOT FAMILY**
Actaea rubra	Red Baneberry
Anemonastrum canadensis	Meadow (Canada) Anemone
Aquilegia canadensis	Columbine
Clematis virginiana	Virgin's-bower

Hepatica americana	Round-lobed Hepatica
Ranunculus abortivus	Small-flowered Crowfoot
*Ranunculus acris**	Common (Tall) Buttercup
Thalictrum pubescens	Tall Meadow-rue
FUMARIACEAE	**FUMITORY FAMILY**
Capnoides sempervirens	Pink (Pale) Corydalis
CRUCIFERAE	**MUSTARD FAMILY**
Lepidium campestre	Field Peppergrass
Rorippa palustris	Marsh Yellowcress
SAXIFRAGACEAE	**SAXIFRAGE FAMILY**
Mitella diphylla	Bishop's-cap (Mitrewort)
GROSSULARAIACEAE	**GOOSEBERRY FAMILY**
Ribes cynosbati	Prickly Gooseberry
Ribes nigrum	Black Currant
ROSACEAE	**ROSE FAMILY**
Amelanchier arborea	Downy Serviceberry
Amelanchier sanguinea	Round-leaved Serviceberry
Amelanchier spicata	Running Serviceberry
Aronia melanocarpa	Black Chokeberry
Comarum palustre	Marsh Cinquefoil
Crataegus flabellata	Fan-leaf Hawthorn
Crataegus sp.	Hawthorn
Fragaria virginiana	Common (Wild) Strawberry
Geum canadense	White Avens
Potentilla argentea	Silvery Cinquefoil
*Potentilla recta**	Sulphur Cinquefoil
Potentilla simplex	Common Cinquefoil
Prunus pensylvanica	Pin Cherry
Prunus serotina	Black Cherry
Prunus virginiana	Choke Cherry
Rosa blanda	Smooth Wild Rose
Rubus alleghaniensis	Alleghany Blackberry
Rubus canadensis	Canada Blackberry
Rubus idaeus	Red Raspberry
Rubus hispidus	Swamp Dewberry
Rubus occidentalis	Black Raspberry
Rubus odoratus	Purple Flowering Raspberry
Rubus pubescens	Dwarf Raspberry
Spiraea alba	Narrow-leaved Meadowsweet
Spiraea tomentosa	Steeplebush
Geum fragarioides/ Waldsteinia	Barren-Strawberry
FABACEAE	**BEAN FAMILY**
Amphicarpaea bracteata	American Hog-peanut
Apios americana	Ground Nut
Desmodium glutinosum	Glutinous Tick-trefoil/ Pointed-leaved
Desmodium paniculatum	Panicled Tick-trefoil
Desmodium rotundifolium	Round-leaved Tick-trefoil
Hylodesmum canadense	Showy Tick-trefoil
Medicago lupulina	Black Medic
Melilotus alba	White Sweet-clover
Trifolium aureum	Hop-clover
*Trifolium pratense**	Red Clover
*Trifolium repens**	White Clover
*Vicia cracca**	Tufted (Cow) Vetch
GERANIACEAE	**GERANIUM FAMILY**
Geranium bicknelii	Bicknell's Crane's-bill
OXALIDACEAE	**WOOD-SORREL FAMILY**
Oxalis stricta	European Yellow Wood-sorrel
POLYGALACEAE	**MILKWORT FAMILY**
Polygala paucifolia	Fringed Milkwort (Gaywings)
ANACARDIACEAE	**CASHEW FAMILY**
Rhus typhina	Staghorn Sumac
Toxicodendron radicans	Eastern Poison Ivy
Toxicodendron rydbergii	(Western)Poison Ivy
AQUIFOLIACEAE	**HOLLY FAMILY**
Ilex verticillata	Winterberry
Nemopanthus mucronatus	Mountain-Holly
CELASTRACEAE	**STAFF-TREE FAMILY**
Celastrus scandens	Climbing Bittersweet
ACERACEAE	**MAPLE FAMILY**
Acer rubrum	Red Maple
Acer saccharinum	Silver Maple
Acer saccharum	Sugar Maple
BALSAMINACEAE	**TOUCH-ME-NOT FAMILY**
Impatiens capensis	Spotted Jewel-weed

RHAMNACEAE	**BUCKTHORN FAMILY**
*Rhamnus cathartica**	European Buckthorn
VITACEAE	**GRAPE FAMILY**
parthenocissus inserta	Thicket Creeper
Parthenocissus quinquefolia	Virginia Creeper
Vitis riparia	Riverbank Grape
TILIACEAE	**LINDEN FAMILY**
Tilia americana	Basswood
HYPERICACEAE	**ST.JOHN'S-WORT FAMILY**
Hypericum fraserii	Fraser's St John's-wort
Hypericum perforatum	Common St.John's-wort
CISTACEAE	**ROCK-ROSE FAMILY**
Lechea intermedia	Large-pod Pinweed
VIOLACEAE	**VIOLET FAMILY**
Viola sagitata	Arrow-leaved Violet
LYTHRACEAE	**LOOSESTRIFE FAMILY**
Lythrum salicaria	Purple Loosestrife
ONAGRACEAE	**EVENING-PRIMROSE FAMILY**
Oenothera biennis	Common Evening-primrose
Oenotheria perennis	Small Sundrops
ARALIACEAE	**GINSENG FAMILY**
Aralia hispida	Bristly Sarsaparilla
Aralia nudicaulis	Wild Sarsaparilla
UMBELLIFERAE	**PARSLEY FAMILY**
Cicuta bulbifera	Bulb-bearing Water Hemlock
Cicuta maculata	Spotted Water (Poison) Hemlock
Osmorrhiza claytoni	Hairy Sweet Cicely
CORNACEAE	**DOGWOOD FAMILY**
Cornus drummondii	Rough-leaved Dogwood
Cornus obliqua	Silky Dogwood
Cornus candensis	Bunchberry
Cornus racemosa	Grey Dogwood
Cornus rugosa	Round-leaved Dogwood
ERICACEAE	**HEATH FAMILY**
Arctostaphylos uva-ursi	Bearberry
Chamaedaphne calyculata	Leatherleaf
Gaultheria procumbens	Wintergreen
Monotropa hypopithys	Pinesap
Monotropa uniflora	Indian Pipe
Vaccinium angustifolium	Early Low-Bush Blueberry
PRIMULACEAE	**PRIMROSE FAMILY**
Lysimachia borealis	Starflower
Lysimachia terrestris	Swamp Loosestrife (Swamp Candles)
OLEACEAE	**OLIVE FAMILY**
Fraxinus americana	White Ash
Fraxinus nigra	Black Ash
Fraxinus pennsylvanica	Red (Green) Ash
*Syringa vulgaris**	Common Lilac
APOCYNACEAE	**DOGBANE FAMILY**
Apocynum androsaemifolium	Spreading Dogbane
Apocynum cannabinum	Indian Hemp
Apocynum sibiricum	Clasping Dogbane
ASCLEPIDACEAE	**MILKWEED FAMILY**
Asclepias incarnata	Swamp Milkweed
Asclepias syriaca	Common Milkweed
LABIATAE	**MINT FAMILY**
Lycopus americanus	American (Cut-leaved) Water-horehound
Lycopus europaeus	Bugleweed
Lycopus uniflorus	Water Horehound (Northern Bugleweed
Prunella vulgaris	Heal-all
Scutellaria galericulata	Marsh Skullcap
Scutellaria lateriflora	Side-flowering (Mad Dog) Skullcap
SOLANAEAE	**NIGHTSHADE FAMILY**
*Solanum dulcamara**	Bittersweet (Climbing) Nightshade
SCROPHULARIACEAE	**FIGWORT FAMILY**
Melampyrum lineare	American Cow Wheat
*Verbascum thapsus**	Common Mullein

Veronica scutellata	Marsh Speedwell

LENTIBULARIACEAE	**BLADDERWORT FAMILY**
Utricularia vulgaris	Common (Greater) Bladderwort

PLANTAGINACEAE	**PLANTAIN FAMILY**
Plantago major	Broad-leaved (Common) Plantain
Plantago rugelii	Rugel's (Blackseed) Plantain

RUBIACEAE	**MADDER FAMILY**
Cephalanthus occidentalis	Buttonbush
Galium asprellum	Rough Bedstraw
Galium labradoricum	Bog Bedstraw
Galium trifidum	Three-petalled Bedstraw
Galium triflorum	Fragrant Bedstraw
Mitchella repens	Partridge-berry

CAPRIFOLIACEAE	**HONEYSUCKLE FAMILY**
Diervilla lonicera	Northern Bush Honeysuckle
Linnaea borealis	Twinflower
Lonicera dioica	Glaucous Honeysuckle
Lonicera hirsuta	Hairy Honeysuckle
Symphoricarpos albus	Thin-leaved Snowberry
Viburnum acerifolium	Maple-leaved Viburnum
Viburnum lentago	Nannyberry
Viburnum rafinesquianum	Downy Arrowwood

CAMPANULACEAE	**HAREBELL FAMILY**
Campanula aparinoides	Marsh Bellflower
Campanula rotundifolia	Harebell
Campanula uliginosa	Large-flowered Marsh Bellflower

LOBELIACEAE	**LOBELIA FAMILY**
Lobelia cardinalis	Cardinal flower

COMPOSITAE	**COMPOSITE FAMILY**
Doelleringia umbellatus	Flat-topped White Aster
Erigeron annuus	Annual Fleabane (Daisy Fleabane)
Erigeron strigosus	Rough (Lesser Daisy) Fleabane
Eupatorium perfoliatum	Common Boneset
Eurybia macrophyllus	Large-leaved Aster
Euthamia graminifolia	Grass-leaved Goldenrod
Eutrochium maculatum	Spotted Joe-pye-weed
Helianthus divaricatus	Woodland Sunflower
Helianthus giganthus	Giant Sunflower
Lactuca canadensis	Canada Lettuce (Wild Lettuce)
*Leucanthemum vulgare**	Ox-eye Daisy
Nabalus albus	(White-lettuce) White Rattlesnakeroot
Nabalus altissimus	Tall (White-Lettuce) Rattlesnakeroot
*Pilosella aurantiacum**	Orange Hawkweed
Pilosella piloselloides	Tall Hawkweed
Rudbeckia hirta	Black-eyed Susan
Solidago caesia	Blue-stemmed Goldenrod
Solidago canadensis	Canada Goldenrod
Solidago nemoralis	Gray Goldenrod
Solidago rugosa	Rough-stemmed Goldenrod
Symphyotrichum cordifolium	Heart-leaved Aster
Symphyotrichum lateriflorum	Calico Aster
*Tragopogon pratensis**	Meadow Goat's-beard

4.5 Non-Vascular Plants

4.5.1 Mosses

Anomodon attenuatus	Slender anomodon; Poodle moss
Asnomodon rostratus	Yellow Yarn Moss
Atrichum altecristatum	Ridged smoothcap moss; Wavy starburst moss
Aulacomnium palustre	Ribbed bog moss
Bartramia pomiformis	Common apple moss
Brachythecium campestre	Field ragged moss; Golden foxtail moss
Brachythecium curtum	Short-leaved ragged moss
Brachythecium falcatum	Falcate Ragged Moss
Brachythecium laetum	Pleated Foxtail Moss
Brachythecium plumosum	Rusty ragged moss
Brachythecium populeum	Matted ragged moss
Bryhnia novae-angliae	New England mat moss; Bonsai moss
Bryum laevifilum	Syed's Bryum
Bryum pseudotriquetrum	Common Green Bryum Moss

Callicladium haldanianum Beautiful branch moss; Sword moss
Calliergon cordifolium Heart-leaved Spear Moss
Campyliadelphus chrysophyllus Golden creeping moss
Ceratodon purpureus Fire moss; Purple moss
Climacium dendroides Northern tree moss; Palm tree moss
Dichelyma capillaceum Hairlike Claw Moss
Dicranum flagellare Whip broom moss; Asparagus broom moss
Dicranum fulvum Fine-leaved Broom Moss; Boulder broom moss
Dicranum montanum Mountain broom moss; Crispy broom moss
Dicranum scoparium Common broom moss; Windswept broom moss
Dicranum viride Green broom moss; Brittle broom moss
Entodon seductrix Cord Glaze Moss
Eurhynchiastrum pulchellum Rug Moss
Fissidens adianthoides Maidenhair Pocket Moss
Fissidens bryoides Pyxie Pocket Moss
Fissidens dubius Rock pocket moss; Fan pocket moss
Fontinalis sphagnifolia Sphagnum-like water moss
Grimmia muehlenbeckii Muehlenbeck's grimmia
Hedwigia ciliata Ciliate Hedwig's moss; Medusa moss
Homalia trichomanoides Frog Skin Moss
Hygroamblystegium varium Willow feather moss; Tangled thread moss
H. varium (tenax)
Hylocomium splendens Stairstep Moss
Hypnum cupressiforme Cypress-leaved plait moss
Hypnum lindbergii Lindberg's plait moss; Pale plait moss
Hypnum pallescens Stump plait moss; Lesser plait moss
Leskea polycarpa Many-fruited Leske's moss; Curled chain moss
Leskeella nervosa Frayed String Moss
Leucobryum glaucum White pincushion moss; Pincushion moss
Leucodon scuiroides Squirrel-tail Moss
Mnium lycopodioides Ambiguous Thyme Moss
Myurella julacea Stubby Mousetail Moss
Neckera pennata Shingle Moss
Orthotrichum obtusifolium Blunt-leaved bristle moss
Orthotrichum ohioense Ohio bristle moss
Orthotrichum stellatum Bald Bristle Moss
Philonotis fontana Fountain Moss
Philonotis marchica Bog apple moss
Plagiomnium cilare Sabre Tooth Moss
Plagiomnium cuspidatum Woodsy leafy moss; Baby tooth moss
Plagiothecium cavifolium Round silk moss
Plagiothecium denticulatum Wet Silk Moss
Plagiothecium laetum Bright silk moss
Platygyrium repens Flat-brocade moss; Oil-spill moss
Pleurozium schreberi Red-stemmed feather moss; Phoenix feather moss
Pohlia cruda Opal Nodding Moss
Pohlia nutans Copper Wire Moss
Polytrichum commune Common haircap moss
Polytrichum juniperinum Juniper haircap moss
Polytrichum piliferum Bristly haircap moss
Pseudotaxiphyllum distichaceum Scimitar Silk Moss
Pterigynandrum filiforme Capillary Wing-moss
Pylasiapolyantha Stiff Paintbrush Moss
Pylaisia selwynii Selwyn's pylaisia; Paintbrush moss
Rhizomnium punctatum Red Penny Moss
Rhodobryum ontariense Rose Moss
Saelnia glaucesens Cobweb Moss
Schistidium apocarpum PricklyCannikin Moss
Schistidium rivulare Brook Cannikin Moss
Sphagnum centrale Central peat moss
Sphagnum fimbriatum Fringed peat moss
Sphagnum subsecundum Orange peat moss; Cow-horn peat moss
Syntrichia ruralis Talon Moss
Thuidium assimile Philibert's fern moss
Thuidium delicatulum Delicate Fern Moss
Thuidium recognitum Kilt Fern Moss
Tortella tortuosa Twisted Moss
Trichostomum tenuirostre Narrow-fruited Crisp Moss
Ulota crispula Crisped pincushion moss; Crispy tuft moss
Ulota hutchinsiae

4.5.2 Liverworts

Barbilophozia barbata	Bearded Pawwort
Chiloscyphus profundus	Variable-leaved Crestwort
Frullania eboracensis	New York Scalewort
Jamesoniella autumnalis	Autumn Flapwort
Lejeunea cavifolia	Least Pouncewort
Lophocolea minor	Lesser Crestwort
Lophozia ventricosa	Tumid Notchwort
Metzgeria furcata	Forked Veilwort
Pellia sp	
Plagiochila porelloides	Lesser Featherwort
Porella pinnata	Pinnate Scalewort
Porella platyphylla	Wall Scalewort
Ptilidium ciliare	Ciliated Fringewort
Ptilidium pulcherrimum	Tree Fringewort
Radula complanata	Flattened Scalewort
Scapania nemorea	Grove Earwort

4.6 Fungi

4.6.1 Fungi

Amanita flavorubens	Yellow American Blusher
Amanita muscaria	American Yellow Fly Agaric
Cantharellus cibarius	Chanterelle
Coprinellus micaceus	Mica Cap
Exidia glandulosa	Black Witch's Butter
Favolaschia calocera	Orange Pore Fungus
Gymnopus dryophilus	Oak-loving Gymnopus
Hygrophoropsis aurantiaca	False Chanterelle
Kuehneromyces mutabilis	Sheathed Woodtuft
Mycena sp.	Bonnets
Omphalotus illudens	Jack O'Lantern
Pluteus cervinus	Deer Mushroom
Polyporus alveolarus	Hexagonal-pored Polypore
Scutellinia scutellata	Eyelash Cups
Stereum complicatum	Crowded Parchment
Trichaptum abietinum	Purplepore Bracket
Trichaptum biforme	Violet-toothed polypore

4.6.2 Lichens

Cladonia chlorophacea	Mealy Pixie Cup
Cladonia pleurota	Red-fruited Pixie Cup
Cladonia pyxidata	Pebbled Pixie Cup
Cladonia rangiferina	Gray Reindeer Lichen
Cladoniastellaris	Star-tipped Reindeer Lichen
Dermatocarpon luridum	Brook Stippleback Lichen
Leptogium cyanscens	Blue Vinyl
Lobaria quercizans	Smooth Lungwort
Parmelioideae subfamily	Parmelia sp
Peltigera elisabethae	Dog lichen
Peltigera leucophlebia	Ruffled Freckled Pelt
Punctelia rudecta	Rough Speckled Shield Lichen
Ramelina intermedia	Strap Lichen
Xanthmendoza hasseana	Poplar Sunburst Lichen
Umbellicaria mammulata	Smooth Rock Tripe

5 Kingston Region Birds—Spring 2021 (March 1 to May 31)

by Mark D. Read

The KFN reporting area is centred on MacDonald Park, Kingston and extends for a radial distance of 50km. An interactive map showing the KFN circle is available on the website. If errors are noted or significant observations omitted, please contact me and I will update accordingly. We also encourage you to submit ***all*** sightings, so that a better understanding of our region's birdlife can be achieved. Members already using eBird can very easily share their sightings with the username 'Kingston FN'. Alternatively, please email or phone me directly with your sightings (markdread@gmail.com / 613-217-1246). Please note the total below includes the following 4 species that remain unconfirmed until accepted by the Rare Birds Committee: **American White Pelican, Cataraqui Bay, Kingston, 24 May; Say's Phoebe, Amherst Island, 29 March to 6 April; Townsend Solitaire, Waterton 25 Febru-**

ary to 12 March; Yellow-throated Warbler, Prince Edward Point, 2 May.

In total, **248 species of bird** were recorded in our region during the reporting period, six more than last year's total of 242. All observations were obtained from eBird (ebird.ca), though the number of checklists being shared with the KFN account has declined. In total, 641 observers logged 8986 checklists, equating to 137 221 sightings, a surprising increase over last spring considering the travel restrictions around COVID-19. As usual, an impressive number of individual birds (1 002 355) were recorded, though many of these were, of course, the same birds seen on subsequent days. A huge thank you goes out to every observer, without whom our understanding of bird distribution would be far more limited. Unfortunately, only observers with sightings in the current report are noted below.

The spring of 2021 will be remembered for the continuing impact of COVID-19. The weather was also rather unpredictable, swinging from mild to cold and back again on several occasions. Shorebird habitat was much improved with lower water levels in Lake Ontario though the amount of rainfall (that typically creates flooded fields) was noticeably lower. Here are the highlights of spring 2021:

Snow Goose: There were 33 reported observations of the species this spring, with the first (2) at Perch River WMA, NY, on 6 March (LyS). A high count of 3000 came from Watertown, NY on 12 March (RiB), with the last (1) at Woodburn Rd on 29 April (DCRB).

Brant: Dates for this species ranged from 8 May at Amherstview (BMDL) to 25 May at Moscow Marsh (LuB). A high count of 1700 birds came from Verona on 20 May (TAN).

Cackling Goose: There were just 3 reports this spring with a high count of 5 on Amherst Island on 13 March (EOB).

Trumpeter Swan: Birds were regular along the Rideau Canal throughout the period but decreased in numbers as the birds moved away to breed on smaller lakes in the area in April/May (KFN).

Tundra Swan: It was a better season for this species with more than 50 records, mainly from the islands and shores of Lake Ontario where a high of 165 was seen at Point Peninsula, NY, on 21 March (StK).

Blue-winged Teal: The first record for the year was of 4 exceptionally early birds seen on 5th Line, Wolfe Island, on 11 March (MDR).

Eurasian Wigeon: An adult male was seen at Sand Bay, Invista (Kingston), from 23-25 March (KSB).

Canvasback: There were just 3 records this spring, all of singles at Lemoine Point, Invista and Gray's Creek.

Redhead: Good numbers were seen across the area this spring with 3500 seen at Waupoos Marina on 13 March (PaJ).

Black Scoter: There were 14 records this year, all from the Prince Edward Point area; a high count of 28 was noted on 17 May on Long Point Road (PhM et al).

Ring-necked Pheasant: There were 41 records this spring from the main locations of Amherst Island and Point Peninsula, NY, with a handful of reports from Napanee Limestone Plain IBA.

Red-necked Grebe: There were 10 records of this species this spring with a high of 7 birds seen near Waupoos on 9 April (AnE, RKFE).

Sandhill Crane: This species is showing a remarkable increase in the area. Just last spring, I was happy to share news of the 44 records received but 2021 saw an impressive 88! A high count of 5 birds came from Russell Road on 25 March (LaM, JET).

Whimbrel: There were 10 records this spring with a high count of 17 at Prince Edward Point on 27 May (JeD et al).

Ruddy Turnstone: Four birds were seen on Snake Island on 21 May (PhH), with a single at Prince Edward Point on 25 May (anon).

Red Knot: A single bird was at Martin Edwards Reserve, Amherst Island, on 27 May (NAK, CaK, RiL, KeR).

White-rumped Sandpiper: A single bird was present at Kaiser Cross Road, Prince Edward, 22-23 May (RKB et al).

Pectoral Sandpiper: Twenty-four birds were seen at Martin Edwards Reserve, Amherst Island, on 17 May (ShJ), with 2 remaining until 19 May. 1-2 birds were also present at Kaiser Cross Road 17-19 May (PhM et al).

Short-billed Dowitcher: The first of the season was seen on Wolfe Island on 15 May (MDR), with a high of 10 seen at Martin Edwards Reserve, Amherst Island, on 19 May (KFN).

Wilson's Phalarope: The first birds (5) were seen on 8 May (VPM), at Martin Edwards Reserve, Amherst Island, with a high count of 12 noted there on 19 May (KFN).

Little Gull: There were 19 records this year, though numbers were generally low. Ten birds were seen at Martin Edwards Reserve, Amherst Island, on 25 April (AnE, RKFE). Other locations included Kaiser Cross Road and Wolfe Island.

Lesser Black-backed Gull: There were 4 records this spring; an adult on Wolfe Island 11-15 April (MDR et al); 1, Prince Edward Point, 27 April (PaJ); 1, Waupoos Marina, 9 May (ToH, KoH); and another on Wolfe Island, 16 May (AlS).

Black Tern: The first birds of the spring (3) were seen at Perch River WMA, NY, on 7 May (ToA). A high count of 30 birds came from Camden Lake on 25 May (LuB).

Red-throated Loon: Two birds were seen this spring; the first at Martin Edwards Reserve, Amherst Island, on 20 May (DoR), and the second at Prince Edward Point the following day (MaT).

Common Loon: The first bird of the season was seen on the Gananoque waterfront on 17 March (BMDL).

American Bittern: The first bird of the year was heard near Seeley's Bay on 9 April (GaU).

Least Bittern: There were 19 records this spring with the first at Marble Rock Road on 30 April (BON).

Glossy Ibis: A lone bird was seen and photographed at Perch River WMA, NY, on 21 May (BrM).

Osprey: The first of the year was seen on Wolfe Island on 26 March (MDR).

Golden Eagle: There were 5 records this spring from a number of locations; 1 at Bedford Mills on 2 March (JAL); 1 near Gould Lake on 4 March (DaK); 1 on Blue Mountain Road 12 March (JET); 1 at Amherstview on 7 May (BER); and one at Millhaven on 13 May (KJH).

Snowy Owl: It was a fairly poor season with a high of just 5 birds on Amherst Island, and very few records from Wolfe. The last was seen on Amherst on 27 April (DoR).

Long-eared Owl: Away from Amherst Island, a bird was noted calling near Storms Corners on 21 March with two on Fourth Lake Road on 26 April (KJH).

Northern Saw-whet Owl: All but one record came from Amherst Island where no more than 2 birds were noted.

Red-headed Woodpecker: There were 18 records this spring from 5 locations, with a high count of 2 on James Wilson Road (near Frontenac Provincial Park) on 23 May (KFN).

Peregrine Falcon: There were many records across the region this spring with breeding confirmed or expected at Kingston, Gananoque and the OPG station, near Bath.

Olive-sided Flycatcher: There were just 2 records this spring. The first was seen on Amherst Island on 22 May (NaM et al), and the second was near Codes Corners on 27 May (HeC).

Yellow-bellied Flycatcher: There were 22 records this spring with a high count of 3 at Prince Edward Point on 22 May (JeB).

Loggerhead Shrike: The first bird of the year was seen at Napanee Limestone Plain IBA on 30 March (CrE).

Northern Shrike: The last bird of the season was

seen at Napanee Limestone Plain IBA on 6 April (KJH), illustrating the overlap in dates between the two species.

Tufted Titmouse: There were a good number of records this spring (24). Many of these observations came from the US side of the border but birds were also noted at several locations in the general Kingston area with a long-staying bird entertaining visitors at Hillview Park through to April.

Sedge Wren: A single bird was seen/heard on California Road on 27 May (BER) and 31 May (PhW).

Carolina Wren: There were 57 records this spring, an amazing number. Many of these were long-staying birds but there does seem to be a genuine upturn in the number of birds in the Kingston area.

Northern Mockingbird: There were 19 records of this species, but the vast majority came from either the Prince Edward Point area or Amherst Island.

Grey-cheeked Thrush: There were 9 spring records this year; the first at Marshlands CA, Kingston, on 16 May (BER) and the last, also at Marshlands CA, on 24 May (NAK).

Evening Grosbeak: There were 42 records this spring from across the area, though many of those were in May as birds, presumably, returned north. The last record was of 2 birds on Canoe Lake Road on 28 May (EOB).

Pine Grosbeak: The only record (after a pretty good winter) was of a single bird near Verona on 10 March (TAN).

Common Redpoll: The bumper year for this species continued into the spring. The largest single flock (of 185) was seen in Kingston on 8 March (MaK).

Hoary Redpoll: After the 149 reports over the winter, an additional 66 were received in the spring. Often associating with Common Redpolls, their numbers were much lower with highs of just 2-3 birds.

Red Crossbill: There were an additional 35 reports of this irruptive species this winter with a high count of 18 in downtown Kingston on 7 April (CoG).

White-winged Crossbill: There were just 5 further reports this spring with a high count of 8 from Kingston on 12 Mar (JaD).

Pine Siskin: This species remained loyal to a few private feeders but was generally quite tricky to see. A high count of 14 was received from Prince Edward Point on 5 May (BMDL).

Lapland Longspur: There were just 3 reports with a high (and last report) of 4 seen on Wolfe Island on 9 March (MDR).

Orchard Oriole: It was a very great season with 56 records, the first of which were 2 birds seen at Prince Edward Point on 2 May (MJP).

Rusty Blackbird: The first birds of the season (2) were seen near Perch River, NY, on 14 March (StK). A high count of 100 came from Verona on 12 May (TAN).

Louisiana Waterthrush: There were several records this year of up to 2 birds at their regular location of Canoe Lake Road.

Golden-winged and Blue-winged Warbler: It was another great year for this species pair with Golden-winged Warbler more common (109) and widespread than the Blue-winged Warbler (58 reports). The latter was mainly seen at locations south of, or just on, the shield.

Orange-crowned Warbler: The first of just 6 records came from Camden East Alvar where 2 were seen and heard on 9 May (WTD, KAW).

Mourning Warbler: It was a better year than last with 19 reports, the first of which came from Parrott's Bay on 16 May (NiB).

Hooded Warbler: A beautiful male was photographed at Lemoine Point CA, Kingston, on 3 May (PhH). Another was seen near Robert Wehle SP, NY, on 17 May (GrL). One or more birds were seen at Prince Edward Point on 21 May (MaT) and 22 May (AnE, RKFE).

Cerulean Warbler: It was an average season for this species with 30 records though some of those

were impressive like the 13 noted at Frontenac Provincial Park on 31 May (DaD).

Prairie Warbler: It was a good year for this species in our area though the vast majority of records came from the traditional breeding areas of Chaumont Barrens. However, several birds were also noted on this side of the border with a very impressive total of 6 birds noted at Fishing Lake Road (WTD, KAW) on 16 and 30 May.

Canada Warbler: The first bird of the season was seen at Lemoine Point CA, Kingston, on 15 May (JaD).

Other species observed during the reporting period: Canada Goose, Mute Swan, Wood Duck, Northern Shoveler, Gadwall, American Wigeon, Mallard, American Black Duck, Northern Pintail, Green-winged Teal, Ring-necked Duck, Greater Scaup, Lesser Scaup, Surf Scoter, White-winged Scoter, Long-tailed Duck, Bufflehead, Common Goldeneye, Hooded Merganser, Common Merganser, Red-breasted Merganser, Ruffed Grouse, Wild Turkey, Pied-billed Grebe, Horned Grebe, Rock Pigeon, Mourning Dove, Yellow-billed Cuckoo, Black-billed Cuckoo, Common Nighthawk, Eastern Whip-poor-will, Chimney Swift, Ruby-throated Hummingbird, Virginia Rail, Sora, Common Gallinule, American Coot, Black-bellied Plover, Semipalmated Plover, Killdeer, Upland Sandpiper, Dunlin, Least Sandpiper, Semipalmated Sandpiper, American Woodcock, Wilson's Snipe, Spotted Sandpiper, Solitary Sandpiper, Greater Yellowlegs, Lesser Yellowlegs, Bonaparte's Gull, Ring-billed Gull, Herring Gull, Iceland Gull, Glaucous Gull, Great Black-backed Gull, Caspian Tern, Common Tern, Double-crested Cormorant, Great Blue Heron, Great Egret, Green Heron, Black-crowned Night-Heron, Turkey Vulture, Northern Harrier, Sharp-shinned Hawk, Cooper's Hawk, Northern Goshawk, Bald Eagle, Red-shouldered Hawk, Broad-winged Hawk, Red-tailed Hawk, Rough-legged Hawk, Eastern Screech-Owl, Great Horned Owl, Barred Owl, Short-eared Owl, Belted Kingfisher, Yellow-bellied Sapsucker, Red-bellied Woodpecker, Downy Woodpecker, Hairy Woodpecker, Pileated Woodpecker, Northern Flicker, American Kestrel, Merlin, Eastern Wood-Pewee, Alder Flycatcher, Willow Flycatcher, Least Flycatcher, Eastern Phoebe, Great Crested Flycatcher, Eastern Kingbird, Yellow-throated Vireo, Blue-headed Vireo, Philadelphia Vireo, Warbling Vireo, Red-eyed Vireo, Blue Jay, American Crow, Common Raven, Black-capped Chickadee, Horned Lark, Northern Rough-winged Swallow, Purple Martin, Tree Swallow, Bank Swallow, Barn Swallow, Cliff Swallow, Golden-crowned Kinglet, Ruby-crowned Kinglet, Red-breasted Nuthatch, White-breasted Nuthatch, Brown Creeper, Blue-grey Gnatcatcher, House Wren, Winter Wren, Marsh Wren, European Starling, Grey Catbird, Brown Thrasher, Eastern Bluebird, Veery, Swainson's Thrush, Hermit Thrush, Wood Thrush, American Robin, Bohemian Waxwing, Cedar Waxwing, House Sparrow, American Pipit, House Finch, Purple Finch, American Goldfinch, Snow Bunting, Grasshopper Sparrow, Chipping Sparrow, Clay-coloured Sparrow, Field Sparrow, American Tree Sparrow, Fox Sparrow, Dark-eyed Junco, White-crowned Sparrow, White-throated Sparrow, Vesper Sparrow, Savannah Sparrow, Song Sparrow, Lincoln's Sparrow, Swamp Sparrow, Eastern Towhee, Bobolink, Eastern Meadowlark, Baltimore Oriole, Red-winged Blackbird, Brown-headed Cowbird, Common Grackle, Ovenbird, Northern Waterthrush, Black-and-white Warbler, Tennessee Warbler, Nashville Warbler, Common Yellowthroat, American Redstart, Cape May Warbler, Northern Parula, Magnolia Warbler, Bay-breasted Warbler, Blackburnian Warbler, Yellow Warbler, Chestnut-sided Warbler, Blackpoll Warbler, Black-throated Blue Warbler, Palm Warbler, Pine Warbler, Yellow-rumped Warbler, Black-throated Green Warbler, Wilson's Warbler, Scarlet Tanager, Northern Cardinal, Rose-breasted Grosbeak, Indigo Bunting.

Observers: Michael Arthurs (MiA), Tom Auer (ToA), Nick Bartok (NiB), Luke Berg (LuB), Eastern Ontario Birding (EOB), R. Kyle Blaney (RKB), Kevin S. Bleeks (KSB), Jessica Bao (JeB), Heidi Csernak (HeC), Dianne Croteau/Richard Brault (DCRB), Richard Brouse (RiB), James Darling (JaD), Jess Daze (JeD), William T. Depew (WTD), Dan Derbyshire (DaD), Bruce M. Di Labio (BMDL), Andrew Edwards (AnE), R. Ken F. Edwards (RKFE), Craig Evans (CrE), Cole Gaerber (CoG), Todd Hagedorn (ToH), Stewart Hamill (StH), Phil

Harvey (PhH), Kurt J. Hennige (KJH), Kathryn Hoo (KaH), Sherri Jensen (ShJ), Paul Jones (PaJ), Carl Kaduck (CaK), N. Anthony Kaduck (NAK), Steve Kelling (StK), Marlene Kraml (MaK), Dale Kristensen (DaK), Greg Lawrence (GrL), John Licharson (JAL), Richard Lott (RiL), Lana Marion (LaM), Phillip Mercier (PhM), Brian Miller (BrM), Nathan Miller (NaM), Barbara O'Neill (BON), Kingston Field Naturalists (KFN), Todd A. Norris (TAN), Mark J. Patry (MJP), Gerard Phillips (GeP), Mark D. Read (MDR), Bruce Ripley (BER), Dorlisa Robinson (DoR), Kenneth Ross (KeR), Lynn Sprott (LyS), Alex Stone (AlS), Matthew Tobey (MaT), James E. Thompson (JET), Gary Ure (GaU), Kathy A. Webb (KAW), Philip Wright (PhW).

6 Articles

6.1 Exploring the Backyard: Getting to Know the Woodlot Part 1

by Carolyn Bonta

Part 1: Animal and Plant Life

Last fall, I wrote about now having two "backyards:" one around my home in Kingston and the other a woodlot north of Verona. As the first full year of being steward to a beautiful 143 acre parcel of forest, field, swamp, and pond comes to a close, I take time to reflect on what these lands have shown me over the seasons. This is the first of a two-part reflection.

In July 2020 we began to compile a species list for the woodlot, including species physically present within its bounds or its "directly-above airspace" – Sandhill Crane and Common Loon are examples in this latter category – but not including species found on the nearby road or heard on adjacent properties. We rely on sight, sound, tracks, and a trail camera, but no traps yet. Some taxa are more familiar to us than others, so our list is more comprehensive with regards to birds (85 species), mammals (16 species), herptiles (13 species), trees (30 species), and ferns (at least 9 species) but I'm excited by the challenge of identifying other life forms. Most interesting, however, has been getting to know the habits of wildlife, the life stages of plants, and the seasonality of insects and fungi through the months.

Late last summer, we were tickled pink when several large Fly Agaric mushrooms appeared throughout our campsite area. And by large, I mean large – two were nearly dinner plate sized! As the profusion of this species died off and fall rains began, cheerful little worm-like (*Clavaria fragilis*) and rosy club (*Clavaria rosea*) corals poked up everywhere. Other fungi made themselves known as well: we admired the brilliant lime green of young Parrot Waxcap and enjoyed "helping" Pear-shaped Puffball propagate its ripe spores. We also giggled at the paintball effect of bursting premature Wolf's Milk slime mould, a life form that superficially resembles a fungus (and indeed was once within Kingdom Fungi) but that is now understood to have characteristics of fungi, plants, and animals. By default of not quite fitting everywhere, slime moulds thus fit nowhere and are now classified within Kingdom Protista. While exploring the woodlot on snowshoe during the winter, a large and stunningly beautiful bracket fungus caught our attention but we were unable to identify it. This spring, morels were a welcome addition to our woodlot diet, pairing nicely with fiddleheads (young Ostrich Fern) and steamed Garlic Mustard.

After years of overlooking Prickly Ash as simply another obstacle during fieldwork, my appreciation for this native species has grown. Often while cycling the K&P Trail in late summer and early fall, I've noticed a pleasant citrus scent. But from what? In reading about Prickly Ash, which grows densely in two areas of the woodlot, I learned that

this species, which I've long known that, despite its ash-like leaves is not *Fraxinus* but instead *Zanthoxylum*, is not even in the olive family (as are the true ashes) but in the citrus family. Mystery solved! And recently I was reminded by fellow KFN member Gary Hillaby that Prickly Ash is the primary food source for Giant Swallowtail – a butterfly we frequently see in the woodlands surrounding one of the two patches of Prickly Ash. Similar to the relationship between Monarchs and milkweed, orange dogs (as Giant Swallowtail caterpillars are called) have digestive systems that can handle the furanocoumarins that would otherwise make Prickly Ash toxic. Furanocoumarins are chemicals produced by plants in the citrus and parsley families, believed to aid primarily in defending the plant against fungal pathogens. I'm now on the lookout for orange dogs among the Prickly Ash, but not sure I've quite developed a search image for bird droppings that resemble snake heads!

Figure 15: Clockwise from top left: mature Fly Agaric; Worm-like Coral; Pear-shaped Puffball; young Parrot Waxcap. (M. Johnson)

This year was a snowy winter, perfect for observing tracks. We noticed that the Prickly Ash thickets are important travel corridors for *Lepus*, which we suspect are Eastern Cottontail but this species is not yet confirmed. Compared to hares, rabbits are more social, with a tendency to hide from danger rather than run, and thus more likely to present the heavily trodden paths through dense shrubbery than the solitary Snowshoe Hares that we encountered regularly – by track and by sight – in the more open woodland habitat. An area of Eastern White Cedar rimming a maple swamp and a mature Eastern Hemlock grove both confirmed their winter importance as yarding areas for deer, with numerous tracks and droppings, nipped buds, and flattened areas where deer had bedded down. Tracks in the snow also revealed that the two porcupines inhabiting a large, dead cavity tree only traveled to two other feeding trees all winter.

Figure 16: The first photo taken by our trail camera was of a Fisher, a species we hadn't yet (or since) observed. Habitat in this area is dense Speckled Alder transitioning to Eastern White Pine. (C. Bonta / M. Johnson)

Come spring, animals were on the move. Looking out over the regenerating sandpit, it was hard to picture that, hardly 30 years ago, large machinery operated over a devastated landscape stripped of top cover. Now, Mourning Cloaks warmed their bodies in the sun, the first of many species of butterfly that will abound both within the meadow and along the forest edge through the warmer months ahead. Early one evening, I watched a young beaver lope across the open field in search of a pond of its own to call home. Painted Turtles emerged from the sandy nests where they had overwintered and one morning we crossed paths with a large Blanding's Turtle traveling between wetlands. As a child, I was obsessed with turtles and practically memorized the species descriptions in "A Golden Guide: Reptiles and Amphibians." I really wanted a pet Blanding's Turtle, wooed by the guide's description that "This shy turtle tames easily and will make a good pet if kept in a large, shallow pan of water." Goodness, what a horrid and outdated statement that is now! I'm proud to say that the Blanding's Turtles that share my company now are wild and free-ranging across the extensive Piccadilly Swamp Provincially Significant Wetland.

Figure 17: If 11 year old me had known one day I'd have a swamp with Blanding's Turtles, I wouldn't have slept for 35 years! (C. Bonta)

Last summer, a neighbour pointed out Halberd-leaved Tearthumb growing in a damp area at swamp edge. This plant from the Smartweed family, so-named "tear thumb" as a possible consequence to the tiny prickles on its stem, is ranked S3 ("Vulnerable") in Ontario. We tried to locate the plant again this summer, but the site is closely guarded by Stinging Nettle and we decided to spare our skin and look for the tearthumb another year – preferably one in which our epidermis isn't already ravaged by rash from LD Moth caterpillar hairs. Because what an assault those horrid critters caused to our bodies and woodlot's trees this year!

In fact, 2021 was focused on trees and this will be the topic of the second part of my end-of-year woodlot reflection... stay tuned.

6.2 Wildlife Photography Tips #9—Manual Mode

by Anthony Kaduck

As a pandemic make-work project I went through and reclassified about 20 000 of my images, going back to 2005 when we got our first digital camera. Looking through the bird photographs in particular I could see that I have been on a bit of a journey. Increasing experience and investment in better equipment showed up as progressively better images

So I now find myself not content to just get another decent image of a bird – I want images of better quality that show the bird and its environment clearly and even (not as often as I would hope) artistically.

(n.b. If the best image available is going to be of poor quality I may still take it – mainly to keep those eBird county recorders - I'm looking at you, Mark and Kurt 😊 – satisfied that I did see what I claimed to see!)

As I mentioned in the previous installment of this column, automatic modes such as aperture priority and shutter priority are a good way to become familiar with the capabilities of the camera, but they both involve trade-offs. I have used both modes extensively but as my focus (sorry!) shifted to producing better quality images I felt that it might be time to try manual mode. I switched to manual in the spring as an experiment and haven't yet had a reason to shift back.

Figure 18: Stilt Sandpiper and Lesser Yellowlegs. 1/1600 sec, f/5.6, ISO 500. (A. Kaduck)

This article will explain why you might want to try out manual mode, and how to go about it.

What is manual mode?

Manual mode is just that – you take complete control of all of the elements of photography, and in particular the light triangle of aperture, shutter speed and ISO.

Why you should you use manual mode?

Manual mode is the only way to have complete control of the shot. Its use avoids the possibility that an automated function makes the wrong adjustment – for example by setting the aperture too wide which gives insufficient depth of field. In principle using manual mode gives you the capability to get the best achievable results. It may not be the best choice for everyday use, but from my experience so far it is the preferable approach when the quality of the image is important.

Using manual mode requires foresight, quick reactions and a good understanding of the trade-offs between control adjustments. To get the best results you need to be actively thinking about your photography choices while you are out on the land.

Why should you not use manual mode?

The use of manual mode unquestionably adds complexity to your life. There is a lot to learn and it should be expected that, like using a new piece of equipment, the quality of your results will decline in the short term.

You may also find that you miss a few shots where an automated mode would have given you a fighting chance. So that once-in-a-lifetime brief exposure of a Yellow-legged Seedshrike may go unrecorded.

But the principal downside is that "actively thinking about your photography choices" as mentioned above can detract from simple pleasures of birding/wildlife watching.

So my advice would be not to go down this road until you reach a point where you really want to improve the quality of your images.

How to get set up

Most camera bodies have a PASM dial on the top right hand corner. Switching that to M is all you need to be in manual mode. For Nikon camera bodies there is usually a mode button on the top left – depressing that allows you to cycle through the mode options.

Figure 19: PASM dial. (Kārlis Dambrāns, CC BY 2.0, via Wikimedia Commons)

Your first task will be to ensure that you are familiar with controls – how to adjust shutter speed, aperture, ISO, and metering mode quickly and efficiently. Controls vary from camera to camera so you will need to consult your owners' manual.

Higher-end DSLRs and mirrorless camera bodies make this a bit easier because they have multiple control thingies (dials, levers, buttons) that can have separate functions. Bridge (superzoom) cameras and entry-level DSLR bodies may require you to access changes to settings through the menu system, which is slower and more fiddly.

Figure 20: Nikon D500 Control thingies. (A. Kaduck)

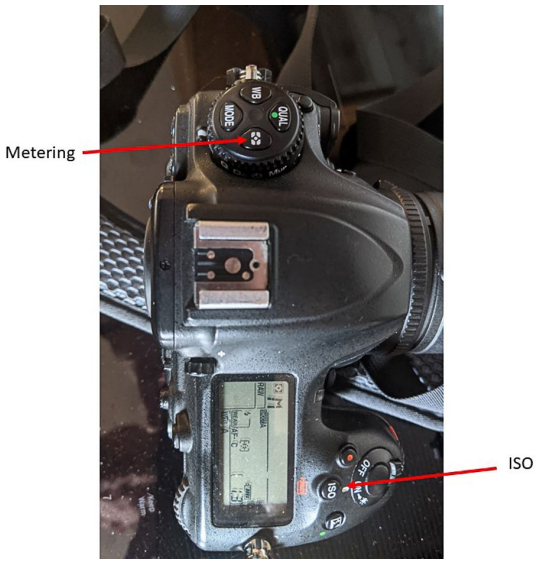

Figure 21: Nikon D500 Control thingies. (A. Kaduck)

Now looking through your viewfinder, you should see an exposure meter. It indicates whether, with the current camera settings, the image is likely to be properly exposed. If the meter points to the right-hand side of the scale the shot may be overexposed; to the left indicates underexposure. We will return to this point later on.

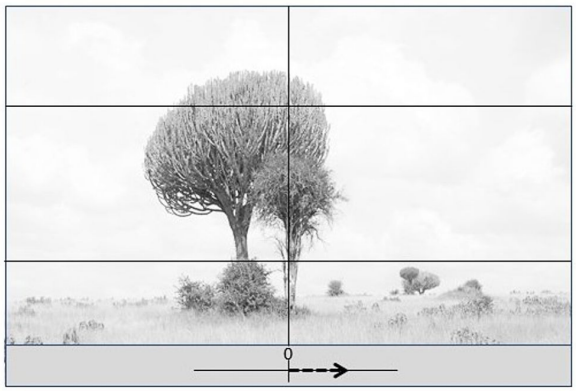

Figure 22: Representative viewfinder showing overexposure. (A. Kaduck)

Using manual in the field

When you set out on a photography expedition, make a habit of pre-setting the controls for the shot that you are expecting. Consider your target species and set a shutter speed that will work if you get a brief chance meeting. For birds it should never be lower than 1/500 sec, and if you are anticipating flight shots 1/1600 is a good starting point. For mammals 1/500 is a good choice as well, whereas for amphibians you could start as low as 1/200.

Then consider the range at which exposure is likely to occur. If you are headed to Marshlands CA then the creatures will be at close range, so an aperture of at least f5.6 or better f/8 will help you get the right depth of field. On the other hand if you are on Wolfe Island anything you see will be far enough away that the widest aperture of your lens should work.

Now take a look at the surroundings, particularly the amount of ambient light available, and set your ISO. In an ideal world your camera's lowest ISO will give the best shots. But don't be afraid to go a bit higher. For DSLRs and mirrorless cameras an ISO of 800 should produce good images with low or non-existent noise. Bridge/superzoom cameras struggle in this area due to their smaller sensors and less exotic software, so you may not want to go above ISO 400. Experiment with your camera equipment to determine the range within which you want to work.

Finally, consider how the conditions will work with your metering mode. Most of the time you should stick with matrix metering (Canon calls this evaluative metering). This is the default mode for your camera and works well most of the time. However in situations where there are wide variations in light between the subject and the background you should consider using center-weighted metering. For birds, particularly distant ones, spot metering (which looks at only the exact center point of the frame) may give you the best chance of ensuring that your target is correctly exposed.

Now that you have made your initial settings, take a look at a likely point for a photograph and see what the exposure meter is telling you. If in doubt, take a test exposure and check it in your monitor.

If everything is good you are ready to set out. But more likely you will have to make some trade-offs. In Marshlands, for example, there is not a lot of ambient light on the trail so you may find that you

have to increase the ISO – sometimes by a lot – to get a proper exposure with the aperture and shutter speed settings you want. Here it is important to remember that, to a certain extent, underexposure can be fixed in post-production. With the right software (the subject of a future column) the noise associated with high ISO can be dealt with. But nothing will fix blurred images caused by a too-low shutter speed and there is no way of adding depth of field after the shot is taken. So where possible err on the side of correct shutter speed and aperture, even if it means a higher ISO. And if the situation permits (i.e. the pesky bird is content to sit still for a moment), take a test exposure of the subject and then check the monitor to see how your settings are working.

Figure 23: Eastern Wood Pewee, 1/800 sec, f/8.0, ISO 250. Cropped but otherwise unadjusted. (A. Kaduck)

You will find as you get familiar with manual mode that you develop a feel for interpreting the exposure meter. With backlit or silhouetted subjects (e.g. a bird high in a bare tree) the meter may show that the shot is overexposed but if you don't have time to switch to center-weighted mode experience will allow you to judge how much "overexposure" of the sky is needed to ensure that the target is properly exposed.

Summary

Manual mode is not for everyone, nor is it ideal for every situation. It is a complex approach which elevates optimal image quality above other photography considerations. But the complexity should not be overstated. Manual mode photography is not any more difficult than photography was in the age of film when all cameras were essentially manual.

As with any new addition to your photography repertoire, practice, and then evaluation of what went right and what went wrong in a particular shoot, will help build your skills in manual photography.

And of course, if possible shoot in raw format. If the exposure ends up a bit off you can usually set things right during post-processing.

Figure 24: Greater and Lesser Yellowlegs together at Trenton/Bayside sewage lagoons, 2021-09-11. (John Licharson)

Figure 25: Wilson's Warbler near Charwell Point, Prince Edward County, 2021-09-15. (Peter Waycik)

7 KFN Outings

7.1 Teen Naturalist Trip to the Fallow Deer Reserve (March 13, 2021)

by Everett Bark

On a beautiful day near the end of a lovely winter, ten of the Kingston Teen Naturalists, and both of the leaders, met up at 9:30 am to hike The Fallow Deer Reserve. Their names were James, Ryan, Damon, Billy, Amelie, Connor, Liam, Abel, Beckett, Chris Grooms, Anne Robertson and myself, Everett. The temperature was $-4\,°C$, with a light breeze and some sun. The terrain was slightly icy and there was some snow and water.

On the start of our walk we saw and heard a raven and some chickadees. We started at the gate of the reserve and went right from there. We passed the fallow deer enclosure. There were once 13 male fallow deer who called the property home. They have unfortunately died of old age, but the land is still home to a lot of wildlife. While we were at the enclosure we found Bobcat and Coyote tracks, and some meat that Chris had left out the day before. We continued along the path to find more chickadees, Ruffed Grouse feathers, a Downy Woodpecker, White-tailed Deer tracks and more Coyote tracks. We also found either Bobcat or Coyote scat and deer scat. We saw some plants too, such as Speckled Alder (*Alnus incana*), different types of moss and a big patch of last years' flowers of Ghost Pipe (it was red) (*Monotropa uniflora*). On the ground we saw evidence of American Red Squirrel (*Tamiasciurus hudsonicus*) based on a bunch of gnawed off tree branches on the ground. The tips appeared to have bite marks from the squirrels. Anne and Chris helped to identify the different kinds of scat and tracks.

While walking, we came to a fork in the road. We took the road less traveled (which was to the right, hehe). That path took us to the trail camera. On our walk there we saw more of the tracks and scat that we saw before. When we got to the trail cam, Chris told us how it worked and some of the different types of animals that he sees on it and shared some stories of how some of the animals react. He told us that whenever animals walk up to the trail cam, a motion sensor is set off and an infrared light shines. Humans can't see it very well, but animals can. It illuminates everything around the animal. Whenever Coyotes see the light, they tend to be frightened by it and they will look around it as if they see ghosts. Usually there is only one Bobcat that Chris sees on the trail cam. It usually doesn't seem to care about the infrared light. It generally stops, looks around for a second, then has no other reaction. Some of the different types of animals that Chris sees on the camera are House Cats, Fishers, otters, skunks, porcupines, and flying squirrels. If you want to see the videos of the animals on the trail cam Chris has a YouTube Channel. To find it you go to YouTube and search for "Chris Grooms bobcat."

After viewing the trail cam, we continued along the path. We came out into a clearing where we found some bunny fur. Chris told us about the rock we were walking on and how it had been there for millions of years and there was a lot of it in the area. It was a mix of limestone and granite. Then he told us about the fault line that we were on. After that we went back to the trail cam to observe a tree with Downy Woodpecker holes in it. We found some of the birds regurgitated food close by. In the food there were exoskeletons of ants. In the holes themselves, there were snow fleas encased in the trees' sap. After that we went back to the fork in the path. This time we went left to see the three owl boxes that Chris had put up previously. Two of them were out of reach so we used a tree branch to scratch the bottom of the boxes. We were trying to scare anything that was inside of the box out for us to observe (neither of them had anything). The third box was at head level so we opened it. There were no animals in it at the time, but there were chewed up cedar bark shavings in it, which led us to think that a squirrel had been using it as a home. Sometimes squirrels use cedar bark shavings in their nests to help keep parasites out. Af-

ter that we went back to the beginning of the trail where we stopped to have lunch. During lunch, we found some ants under a rock. When lunch was done we recorded details of our hike in our teen naturalist field note books. Right before we left, Chris found an intact frozen Eastern Bluebird egg with the yolk still in it from last year.

Overall I had a great time and I think everyone else did too. We all shared Anne's excitement to see the Bobcat tracks on the trail. This was a great trip because it was a very popular place for animals to walk, so we got to see a lot of tracks. Not very many people go to the reserve which is privately owned so most of the tracks have been left untouched. I had a really good time on this trip and we were lucky to be able to go on this trail.

7.2 Ramble to Helen Quilliam Sanctuary (June 15, 2021)

by Dawna Bate

Figure 26: Female Red-winged Blackbird "Grabbing a bite of lunch." (Dawna Bate)

On Tuesday, June 15 we started with 12 members meeting for the ramble through one of the Helen Quilliam trails – the Faith Avis Trail, led by Anne Robertson.

Before we headed out to the trails, we learned about a lot of different things. Anne started by telling us about the history of the Helen Quilliam Sanctuary covering the acquisition of the property, the different trails and the significance of the gravel pit.

We talked about LD Moth caterpillars and the current infestation of them. The hairs of the LD Moth make it difficult for birds to eat them. Cuckoos are one type that can feast on them, as they are a bird species able to shed the lining of their stomachs. So as the LD Moth caterpillar population rises, so does the population of cuckoos. We also learned that there are two different types of LD Moths and research is being done to determine if the Asian variety has also made an appearance, as some have been seen feeding on white pines.

Figure 27: American Bullfrog. (Dawna Bate)

Anne had samples of deer ticks and dog ticks to show us. The deer ticks are smaller and have a red-orange body. One suggestion that was shared with us is to wrap packing tape around the bottom of our pant legs (with the sticky side out) to capture any ticks that might try to make their way up our legs.

There was a suggestion that we use non-deet bug spray, such as PiACTIVE (available at several stores including Canadian Tire) or Life Brand's equivalent available at Shopper's Drug Marts. There was a discussion about the concerns with DEET, including health issues and effects of melting rubber on binoculars and cameras.

Anne handed out turtle ID sheets to anyone wanting them. Locally we have 7 species of turtles, all on the endangered species list.

Figure 28: American Toad (Dawna Bate)

During our walk we saw and heard a lot. It was an overcast day, that had been preceded by a downpour on the way to the property, so we didn't see as much as we had hoped.

One thing that Anne explained was the difference between sedges, rushes and grass. "Sedges have edges, rushes are round. Grasses have lashes wherever they're found."

A partial list of flora we saw includes several types of sedges, as listed below. There were also others that were not identified. Thank you to Paul MacKenzie for supplying the list of sedges. We also saw Blue Iris, maidenhair ferns, sensitive ferns, red elders, Buffalo Berry with bright red berries and several Wood Lilies.

Carex comosa – Bearded Sedge or Bristly Sedge. Large, Velcro-like. It has beaks with long spreading teeth at the tips of the perigynia (seeds) longer than those of other similar big looking sedges like Porcupine Sedge Bladder Sedge and Hop Sedge.

Carex gracillima – Graceful sedge with thin hanging spikes.

Carex crinita – Fringed Sedge with thicker hanging spikes.

Carex albersina – White Bear Sedge Which you saw with wide leaves bit not as wide as Plantain-leaved Sedge.

Carex vulpinoides – Fox Sedge roadside ditch.

Carex rosea – Rosy Sedge a fine-leaved woodland sedge with small spaced out spikes.

Caex blanda – Eastern Woodland Sedge.

Carex sprengelii – Long-beaked Sedge – hanging spikes with long beaks on perigynia.

Carex pensylanica – Early Flowering or Oak Sedge – too late for fruit.

Carex sparganoides – Bur-reed Sedge.

Carex stricta – Tussock Sedge in the marsh.

Birds that we saw or heard are listed below. I learned that I can't distinguish a lot of the bird calls – partly because of my lack of experience and partly because I can't distinguish sounds when there are many things happening at the same time. Thank you to Paul MacKenzie and Janis Grant for supplying this list. (28 species, 45 individuals)

Hooded Merganser (*Lophodytes cucullatus*) 1 Small merganser flying over, not rare here

Wilson's Snipe (*Gallinago delicata*) 1

Turkey Vulture (*Cathartes aura*) 1

Osprey (*Pandion haliaetus*) 2

Northern Flicker (*Colaptes auratus*) 1

Eastern Phoebe (*Sayornis phoebe*) 1

Great Crested Flycatcher (*Myiarchus crinitus*) 1

Yellow-throated Vireo (*Vireo flavifrons*) 1

Warbling Vireo (*Vireo gilvus*) 1

Red-eyed Vireo (*Vireo olivaceus*) 4

Common Raven (*Corvus corax*) 1 Calling; not rare

here

Tree Swallow (*Tachycineta bicolor*) 6

Barn Swallow (*Hirundo rustica*) 1

White-breasted Nuthatch (*Sitta carolinensis*) 1

Veery (*Catharus fuscescens*) 1

American Robin (*Turdus migratorius*) 2

American Goldfinch (*Spinus tristis*) 1

Chipping Sparrow (*Spizella passerina*) 1

Swamp Sparrow (*Melospiza georgiana*) 1

Baltimore Oriole (*Icterus galbula*) 1

Red-winged Blackbird (*Agelaius phoeniceus*) 5

Common Grackle (*Quiscalus quiscula*) 2

Ovenbird (*Seiurus aurocapilla*) 1

Common Yellowthroat (*Geothlypis trichas*) 2

Yellow Warbler (*Setophaga petechia*) 2

Scarlet Tanager (*Piranga olivacea*) 1

Rose-breasted Grosbeak (*Pheucticus ludovicianus*) 1

Indigo Bunting (*Passerina cyanea*) 1

Other fauna we noticed included American Bullfrogs, Green Frogs, American Toad and a Pearl Crescent butterfly. There weren't many moths and butterflies around as it was an overcast, wet day. We also noticed that there was a definite lack of mammals, as no one reported seeing any. We did spend some time trying to identify mystery bubbles that appeared at one point. There was no definitive answer as to what caused them.

7.3 Field Trip to NCC Milburn (June 26, 2021)

by Gary Hillaby

It was our first field trip during Phase One of the pandemic. The weather was overcast and threatening showers were around every corner. We did get lucky with the weather only having to endure a brief sprinkle of rain. Temperature was approximately 21 degrees Celsius and the number of attendees was affected by the threat of rain. There were a total of four KFN members in the group.

The Milburn property isn't huge but has a variety of habitats that contributed to us seeing 53 bird species. One of the highlights was seeing parent Trumpeter Swans with their three cygnets. We were also informed by a Hairy Woodpecker that we were walking too close to the family home. A just-fledged Rose-breasted Grosbeak posed for pictures as we proceeded along the trail. We extended the natural trail to include a birding stroll through the village of Battersea. We walked over to the public boat launch before returning to our parking lot. The grand total for our walk was 4.1 kilometres.

7.4 Ramble To Upper Brewer's Locks (July 6, 2021)

by Helen Pyne

A group of 9 met this morning with Anne Robertson at Upper Brewer's Lock. The weather was generally hot and humid, so when we felt a breeze we sure enjoyed it. Originally we were supposed to take a trail from the cottage lane, to Cranberry Lake. Because it is now overgrown in areas, we decided to stay with the cottage lane, and the island in the Rideau Canal with locks on one side and a dam on the other. And the original lock house on the island up a hill overlooking the canal.

A Warbling Vireo, American Robin, and Common Grackle were heard right off the bat. Then a beautiful monarch butterfly which kept flying off and coming back while we tried to determine if it was a male with a black spot on the hind wing.

We had fun too looking at field horsetail – Anne mentioned the silica content (up to 25% of dry weight) which means it can be used to clean pots and pans (when camping perhaps). We noticed the leaf veins curving towards the tip on Alternate-leaved or Pagoda Dogwood. We noticed too the sensitive fern (sensitive to frost), Spotted Joe-Pye Weed not showing its pink flowers yet, and the enormous leaves of Elecampane.

After a bit we did do a very small part of the trail to Cranberry Lake.

As we had a huge rain the night before, the woods were still quite wet. A Red-backed Salamander caused some excitement where it was found under a rotting log in a drying ephemeral pond. Tiny Wood Frogs were jumping about. But the big interest for me was all the discussion around the LD Moth life cycle. We saw caterpillars starting the process of cocooning, as well as cocoons, white female moths on trees and many many of the tan-coloured males flying about. There was much evidence of defoliation, but nothing where the tree was completely eaten of leaves. Anne educated us about the life cycle and the relationship of LD Moths to the cuckoos. When this bird population is up, the LD Moth numbers are down, as cuckoos can eat the caterpillars. The caterpillar hairs, which get stuck in the stomach walls of the bird, are removed when this bird sheds the lining of its stomach.

We also heard Eastern Wood-Pewee, Red-eyed Vireos, a Downy Woodpecker, American Goldfinch, Belted Kingfisher, Eastern Kingbird, White-breasted Nuthatch, Cedar Waxwing, Song Sparrow, Common Yellowthroat, American Redstarts, Northern Cardinals, and Indigo Bunting amongst the 20 bird species recorded this morning. A Great Blue Heron flew over the water up into a nearby White Pine tree.

A Cabbage White butterfly entertained us as well as a Violet Dancer damselfly. Anne caught a freshwater snail, and we continued on looking at Japanese Beetles, Common and Swamp Milkweed side-by-side, Flowering Rush (alien), as well as some digger wasps and their nests.

Once we crossed the locks onto the island, we saw several different species of trees, but the most unusual to me was the American Bladdernut shrub. We also saw a Cecropia Moth cocoon. Wow they are big! By then it was getting pretty toasty. Felt great to change into my sandals, unzip my cut-off pants, take a huge gulp of water, and head to the picnic table to relax. And of course the air conditioning in the car afterwards was fantastic! (temperature was up to 30 degrees!)

7.5 Cat on a Bike Field Trip (August 14, 2021)

by Gary Hillaby

Figure 29: Cat on a bike participants enjoy a cooler day. (Gary Hillaby)

The weather cooperated and provided the group with a beautiful day to go biking on the Cataraqui Trail east of Perth Road. The high humidity of the previous week broke the day before our outing and created excellent conditions for riding about 24 °C. There were a total of seven participants and we observed twenty-seven bird species and several plant species. A couple of birding highlights we observed were a Solitary Sandpiper and a Greater Yellowlegs. We paused at several wetlands along the trail to see what the area offered in both bird and plant sightings. Farther up the trail we went off on a secondary trail to see an old abandoned

mica mine. Another highlight of this excursion was watching three Blanding's Turtles frolicking (if you can call it that) in a pond. The turtles weren't bothered by our presence and we certainly weren't bother by theirs.

In total we covered approximately 32 km. Going forward, I'd like to see this field trip continue on an annual or semi-annual basis. We could move the ride to various portions of the Cataraqui Trail to get a variety of habitats and landscapes. We start together and we leave no one behind so have your bicycles ready for next year.

7.6 Ramble to Howe Island (August 17, 2021)

by Peter Waycik

A humid, misty and rainy day did not deter eleven Kingston Field Naturalists from exploring the Howe Island Trail on Tuesday, August 17, 2021. The Howe Island Trail is a relatively new endeavour of the Township of Frontenac Islands that follows an unused road allowance through varied habitat between farm fields and forests. It generally follows a straight line, but there is a small loop at the end that touches the tip of Johnson Bay.

The adventure began with an uneventful ferry ride on a ferry that is fraught with possible complications. Some of the participants parked on the mainland side of the Frontenac County run ferry (south of Joyceville Road) and carpooled–fully masked–to avoid paying the $8 per car toll. Two participants avoided both the toll and the carpooling by taking the ferry on foot and walking the 1.8 km up the hill to the trailhead (and back again later). One latecomer ended up crossing on her own and bearing the entire weight of the toll. And one smart fellow had the foresight to buy a house on the island to avoid both the potential problems with the ferry and the toll.

Once everyone was assembled at the trailhead parking lot (corner of Baseline Road and Howe Island Drive), the ramble began. Shortly thereafter, the rain let up and those who had brought umbrellas put them away. It was still humid and misty though, so no one got out dry, but there was certainly no danger of hypothermia. The weather might have been compared to that of a tropical rainforest in July. Two groups quickly formed: one small group looking for birds and another group examining everything else along the way, which will be referred to as the ramble group.

As birders take delight in identifying and counting things, it can be said with a great amount of certainty that 23 species of bird and one species of *Parulidae* (species undetermined) were observed by the bird group with a total of 115 individual birds. The four most abundant species observed from greatest to least were: Mourning Doves (15), American Goldfinches (15), Red-eyed Vireos (10) and Cedar Waxwings (10).

The ramble group observed many plants and animals right out of the gate. There were trees such as hickories and basswoods and oaks to discuss. Plants such as tearthumb and jewelweed were prodded and poked and in at least one case, a plant was released from its comfortably rooted position in lush fertile soil to be properly examined and identified by the observers. Some may be intrigued to know more about tearthumb and jewelweed based solely on their names. Tearthumb got its name because of its very sharp back pointing prickles all along the stem which dig into the skin when passing too close to this plant. Jewelweed is so named because of its jewel-like appearance under the right conditions which include a little moisture and sunshine. Jewelweed has an even more beguiling name: Spotted Touch-Me-Not. Touch-me-not does not have anything to do with the spots, but because of what happens when you touch the seeds. From Wikipedia, "The seed pods have five valves which coil back rapidly to eject the seeds in a process called explosive dehiscence." Deer are charmed by this plant and will readily munch on it. Perhaps they like it for the

same reason human children like Pop Rocks. According to local plant expert, Anne Robertson, "it is also reputed to counteract the effects of poison ivy, has a very juicy stem and is related to the garden plant Busy Lizzie or Impatience."

It should also be noted that someone caught a grasshopper in a gentle and somewhat amazing way as grasshoppers can hop great distances and this particular species enhances its hops with wings that appear to be bands of black and white in a semi-circle in flight. They tend not to stick around long enough for a human to capture them. Perhaps this one was ill.

At one point, an unfamiliar plant drew the attention of the larger ramble group. The plant was ostensibly a shrub with flowers and three colours of fruits–yellow, red and black increasing in ripeness – all at the same time. At least two participants initiated a gustatory and tactile investigation into the structure and chemical composition of the fruits and each fruit was discovered to contain about three seeds indicating the shrub was not in the cherry family (drupes of cherries contain a single pit). It was also ascertained that the fruits of this shrub might not be suitable for a pie, at least not one you would feed to company. Further research after the ramble revealed this to be a Glossy Buckthorn, a plant introduced into this area via anthropogenic means (the reader therefore is cautioned not to carry too much disdain for the plant as it was put there through no choice of its own, found some soil and did what plants do). Glossy Buckthorn differs from Common Buckthorn (another human-introduced species) in that the leaf veins are a little straighter and there are no spine-tipped short shoots.

Several other species were observed varying from a Monarch caterpillar with its black, white and yellow stripes, to Hedge Bindweed (a relative of Morning Glory) and some green algae covered Turkey Tail mushrooms. A fairly large scat full of partly digested corn was examined. The animal, perhaps a raccoon, had likely been feeding in the neighbouring fields rather than purchasing the corn at a roadside stand, for example.

On a one-way trail, it is fairly easy to determine how far to go – simply divide your allotted time in half and when you have reached that amount of time, turn around. This is what several of the ramble participants did, but several others felt a desire to reach Johnson Bay and complete the small loop before returning. To achieve this took about 45 minutes longer than the scheduled time of the ramble, so if the reader is interested in visiting this seldom-visited trail, it would be a good idea to plan for three hours at a moderate naturalist pace. A fast pace with a few observations can be accomplished in two hours; however if you are of the ilk to record everything and the warbler migration happens to be in full swing, it might be best to plan for four hours.

The salamander search that began earlier in the ramble was ultimately successful near Johnson Bay in a wooded area under a fairly substantial, rotting, but still liftable log that netted four Red-backed Salamanders. The search for butterflies, on the other hand, was a miserable failure mainly due to the fact that butterflies much prefer dry days with sun shining to cloudy days with mist and rain.

Figure 30: Red-backed Salamanders on the Howe Island Trail near Johnson Bay. (Peter Waycik)

Thank you for reading this ramble report. It is quite likely that if someone else wrote it, it might have given you a much different impression of how the ramble unfolded. For example, if one of the birders had written it, you might have had to slog through a list of all 23 species plus one species

of *Parulidae* and be regaled by exposition of how those pesky birds were darting around too fast for binoculars to keep up, too high for middle-aged necks, and continually hiding behind leaves to explain why two *Parulidae* could not be identified to species. Were a lepidopterist to write this ramble report, the reader would have had to read only complaints about the weather conditions. Regardless, it was I who wrote it, and I do hope with sincerity that you will attend the next, nay all future rambles and on occasion volunteer to write your perspective of this relaxing activity.

7.7 Field Trip to Presqu'ile Provincial Park (August 29, 2021)

by Anthony Kaduck

Figure 31: The trip leader failed to take a group photo until the end. Christine Hough, Steve Ottenhof, Carl Kaduck. Missing: Monique Grenier, John Licharson, Walter Sliva, Peter Waycik. (A. Kaduck)

It's been some time since we last held an out-of-area birding trip, but with the province in stage 3 and fall migration starting to kick in it seemed like the right time to gear up for birding adventure. And it all worked like clockwork: eight members participating (of which five were on their first KFN field trip), park passes successfully negotiated, everyone arriving on time – what could possibly go wrong? Well, we'll get to that.

We started out with a patrol of the beaches, but apart from the gull flock and some Caspian Terns there was little to see. No worries, the next station stop was Owen Point – a legendary shorebird hotspot. Unfortunately, no one had advised the birds. We had good looks at the usual suspects (Spotted, Least and Semipalmated Sandpipers, Lesser Yellowlegs) but nothing really exciting. Then, acting on a hot tip, we quick-marched back to the beaches only to find that the Baird's Sandpipers had just decamped in the direction of Gull Island. By now it had turned into a really hot and humid day so we decided to stop by the Park Store for a much-needed ice cream break.

The next point of call was the lighthouse, usually a highly reliable spot for passerine migrants. But for our pains all we could come up with were some cormorants and a couple of MODOs. Convinced that there had to be birds somewhere we worked back up the access road and (finally) discovered a small mixed flock. Four species of warbler were ticked, along with a group of Red-eyed Vireos and singles of several other species. Eastern Wood Pewees appeared to be on the move as we had four in view at the same time, to add to several spotted earlier.

Figure 32: Scarlet Tanager (female). (A. Kaduck)

We then moved on to the Calf Pasture where we ate our lunch, mostly unmolested by birds. Deciding

that there must be some shorebirds to see we returned to Owen Point to find... well, nothing much actually. So after 13 km of marching in the heat we decided to call it a day.

Or so we thought. John Licharson had declined the last walk to Owen Point in favour of visiting the Bayside sewage lagoons on the way back. As we headed home we got a call on a dodgy connection but the word "dowitcher" was clear. So off we trooped to Bayside for excellent views of a Short-billed Dowitcher feeding amid a group of four not-very-solitary Solitary Sandpipers. Flushed with success the hard core survivors decided to make a final stop at the Amherstview sewage lagoons to add a few new species to the trip list, which totalled 66 species for the day.

Figure 33: The star bird of the trip – Short-billed Dowitcher. (A. Kaduck)

7.8 Ramble to Roger Candy Trail (September 7, 2021)

by Tammy Browning

Figure 34: Philadelphia Vireo. (Kathy Webb)

Though members awoke to overcast grey skies in the morning, the clouds began to part allowing the sun to shine through just in time for the commencement of this wonderful ramble. 29 members gathered, prepared for rain or shine, looking forward to exploring this unique and beautiful trail.

Coming to life over the course of two decades, the Roger Candy Trail is unique to the County of Frontenac and its surrounding area as it is a fundraised 'human made' project. Fundraising for the project began in the early 1990s by staff, residents, families, community partners and the many donors affiliated with Fairmount Home. The trail is approximately one kilometre long and offers a wheelchair accessible, fully paved path that runs around the entire park. There are several accessible resting areas including gazebos and granite benches and the trail is open for the public to enjoy.

The members were given the opportunity to narrow in on their individual interests and participate with the 'birding' group or the 'plants, trees and various other species' group. The 'birding' group, binoculars and cameras in hand, were off to a quick start rapidly disappearing from the sight of the 'plant' group who were already stopped and observing goldenrod approximately 10 feet into the trail.

The 'birding' group observed a wide variety of species, 24 in total, starting with five Tennessee Warblers in the parking lot. Other warblers noted were Black-and-white, Nashville and Black-throated Green. Red-breasted and White-breasted Nuthatches were both seen and a hummingbird, 16 Turkey Vultures and a couple of hawks amongst other species.

As mentioned, the 'plant' group began their ramble observing goldenrod, a member of the Asteraceae, (composite) family. Observers quickly noticed that much of the first half of the trail beautifully displayed many of plants from this family. We looked closely at the stems (for hairiness), leaves (for venation and toothing) and florets for number of rays, on these composite flowers all of which help distinguish the various species of goldenrod.

Figure 35: Cone shaped galls made by a Gall Gnat Midge. The larva overwinters in the gall which grows on Willow shrubs when stimulated by the egg laying adult midge. (Bruce Elliott)

Anne stopped to point out and identify several plants including asters, soapwort and Wild Carrot flowers. Members were given the chance to taste some Wild Carrot (or Queen Anne's Lace) seeds that were maturing in closed flower heads. Fun fact: Wild Carrot seed heads serve as a natural barometer. The changes in atmospheric moisture cause opening and closing of the seed heads. This is an adaptation so that the hairy dry seeds may be carried by passing animals but when the seeds are wet, and the hairs do not attach, the seed head closes to prevent seeds just dropping to the ground and not getting dispersed.

Ramblers were fascinated to learn about Horsetail. Species of Horsetail date back to the time of the dinosaurs about 65 million years ago. Think that is old? Members also observed an approximately 8 ton, 1 billion year old boulder. One of several glacial erratics intentionally placed at the different cross roads of the trail to aid in navigation. The boulder displayed evidence of quartz, and an oxidised red iron vein. Before the arrival of oxygen to the planet, more than two billion years ago, this oxidation would not have occurred. Common Mullein, False Solomon's Seal, Wild Thyme, Scots Pine, Red Pine, White Pine, Manitoba Maple, Eastern Hemlock as well as male and female sumac were identified. Members also stumbled across some mini crab apples which contained very bright red seeds inside. It was finally also noted that the wide and open natural sand deposit plateau at the end of our two hour foray was just enough distance away from Kingston to serve as a wonderful place to observe the stars at night.

Figure 36: Grey Goldenrod. (Peter Waycik)

The 'birding' group finished a few minutes before the 'plants' group; some of these people had been around the trail twice. Another wonderful ramble, participants were looking forward to the next one. In total the KFN donated $65 to the upkeep of the park. An excellent experience.

7.9 Jones Creek Ramble (September 21, 2021)

by Ken Ross

Figure 37: Chicken of the Woods growing on a fallen tree trunk. (Ken Ross)

On September 21, 2021, fourteen hikers enjoyed an easy 5 kilometre ramble at the Jones Creek trails in the Thousand Islands National Park. Geologically, this area sits on part of the Frontenac Arch which joins the Canadian Shield to the Adirondacks. The weather on this day was temperate and cloudy with sunny breaks. The ramble commenced with a sighting of a Merlin perched atop a dead tree. This was immediately followed by sightings of an American Redstart and a Ruby-crowned Kinglet. Other birds seen over the 3 hours were: Eastern Phoebe, Blue Jays, Song Sparrow, White-throated Sparrow, Northern Flicker, Mallard, American Crows, American Goldfinches, Downy Woodpeckers, Red-winged Blackbirds, Cedar Waxwings, Black-capped Chickadees, Brown Creeper, Common Yellowthroats, Marsh Wrens, Northern Cardinals, Mourning Doves, and a Turkey Vulture for a total of 23 species.

Numerous Eastern Chipmunks, Red Squirrels and Grey Squirrels escorted us along the paths. No one was observed feeding these beggars.

Several amphibians were identified and the highlight was finding the lead-backed colour phase of the Eastern Red-backed Salamander. An American Toad, a Grey Treefrog and a Northern Leopard Frog also made brief appearances for us.

Some of the invertebrates seen included a Monarch, a Clouded Sulfur, a Cabbage White, a Common Eastern Bumblebee, a ladybird beetle, a Hemlock Looper Moth and an Autumn Meadowhawk.

A few fungi were noted including: Late Fall Polypore, Turkey-tail, and Chicken of the Woods. British Soldier Lichen was noted growing from the tops of fence posts.

Among the usual tree species such as Eastern White Pine, Eastern Hemlock (which likes acidic soils), American Beech, and Basswood, we saw a rarity for this region, the Pitch Pine. This species of pine is at the northern limits of its range and it is easily identified by its needles in bunches of three.

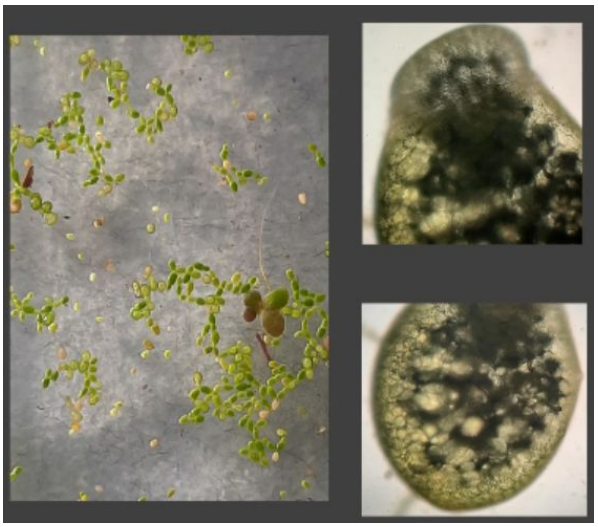

Figure 38: Tray (far left) showing the smallest duckweed species which Anne referred to as *Wolffia sp.* (size ∼1 mm). It is the smallest flowering plant in the world. Wolffia is rootless, but the larger *Lemna minor* duckweed has roots. Leaf close-up shows the tiny chloroplasts (small green dots) and most likely, dark starch grains. Wolffia is rich in nutrients. Its common name is "watermeal" referring to its "mealy" texture. (Shirley French)

Some shrubs that were noted included male and female Staghorn Sumac, Maple Leaf Viburnum, Grey Dogwood, Grey Alder and blueberries.

Interesting plants included Ghost Pipes, wild grapes, boneset, cinquefoil, tearthumb, jewelweed, Doll's Eyes, New England Aster, Calico Aster, Hepatica, Partridgeberry, Wintergreen and a big stand of Wild Rice in the creek.

A number of ferns were seen such as Marsh Fern, Christmas Fern, Interrupted Fern, Sensitive Fern, Rock Polypody and Marginal Wood fern.

From the wetlands bordering the creek a water sample viewed under magnification showed the smallest flowering plant, *Wolffia sp.*, a species of watermeal.

Overall, it was a very enjoyable and informative ramble and we all learned interesting facts about the plants and animals of this unique area. We extend a sincere and collective "thank you" to Anne Robertson for organizing these events and for identifying specimens for us and sharing so many interesting facts about the flora and fauna of this area.

8 Not for Adults!

by Rick Bortolotti

Introduction

One of my favourite poets as a young adult was Milton Acorn. He wrote a series of poems called the Jack Pine Sonnets. I loved those poems, and Acorn's structural relationship in them to how the Jack Pine grows, helped me to understand that form is important to learn, yet have the freedom to let something be what it needs to be – with a little work!

In the Duck Bum poem I purposefully used a true rhyme only at the end of Part I, and while trying to keep a somewhat consistent rhythm, played with the length of verse and line, near rhyme and wee bit of meter change. Part I was written in the spring and uses more or less an anapaest meter, like in a limerick.

Part II was written in the summer and in a freer verse, signalling growth.

Hope you enjoy it!

Figure 39: My wife Alix and I watched a yellow bellied sapsucker carve this out around a maple sapling over a weekend. (Rick Bortoletti)

Four Duck Bum Pond (not to be read by adults)

Part I – An Anapaest Spring

My yurt's by a pond in the forest
And seasons go by one by one.
Winter and fall, summer to swim,
But the birds all come back in the spring!

Goose is the first
With ice still on the pond,
She walks on the cold frozen water.
From hummock to hill
Tiny islands they are,
Which one will be good for a nest?

I watch from my place
Every year it's the same,
Her inspection can last several days.
Finally no doubt! A spot has been found
Behind beaver's lodge it will be.

Robins of course
Among the first to arrive
With phoebe not too far behind.
Phoebes like us
Enjoy a home that's well-made
And this year we're sharing my stoop.

Most bird names work well
In a poem like this
To keep rhythm and meter just fine

The yellow-bellied-sapsucker just happens not to be one of them –

But bear with me a while
As I come to the point
For its story I do want to tell

A woodpecker by trade
He drums trees with his beak,
To say this is my spot
Here I am.

Dada-tat-tat

Tatta-dat-dat

Tadda-ta-dat
Dada-tat!

I got spooked by the beat!
With his rap on the door
Of my outhouse (yes, toilet:
my home-made wood toilet)
Datta-dat-tat on my door!!

What makes it so good
For a sounding board,
Is the year that the
Porcupine came.

She chewed at the joint
When I was away
As wood makes a porcupine's feast,
Metal screen on the walls
Stops her chomp chomp,
And sounds like a xylophone too!

(PS- nothing is yours in the forest)

Butt… one of the funniest sights
I'd say funny because:

To see four in a row
In the very same place
At the very same time
(We all eat around 9)
There's something they like
At the spot where
They stop on the pond

How do they know
That beneath them is food in the dark mucky water
pee-ew?!
With their bums in the air

Duck their duck heads in the goo,
They feast on the good food below!

Part II – Summer Free

Now July into August
The pond, all frog sound bounce
gauwp Green
Of gauwp gauwp bauwp
Bull frog rhaow rhaow rhaow rum
Mink frog
A curious sound
Random knuckles knocking
On my picnic table
Pierced by the whistle-trill Towhee
And the Vireo that's been singing
since 1863

I daydream, as Sirius lines up with the Sun
To give us a dog day's heat,
The deep silence below autumn night's moon
Turns the scurry-stop scurry-rustle of a chipmunk
Into a bear

And the land
Now belonging to deer flies and mosquitos
A longing - almost, as there's still time to swim –
For black spruce sun-dialling
Long shadows on January's pond
Jupiter rising, clouds from the west
Not long 'til spring.

9 Clipped Classics

Edited by Alexandra Simmons

Excerpts from past issues of The Blue Bill

[During the summers of 2020 and 2021, some KFN members took to canoeing as a way to get exercise and observe nature from a different perspective. Fifty years ago, a pair of KFN couples took a canoe trip down the Rideau Canal. Their experiences were published in Volume 18, No. 3 of the Blue Bill (September 1971). Perhaps some current members could repeat the trip and report on changes in habitats, flora and fauna in the last half-century! –ed.]

Ottawa to Kingston by Canoe, June 1971
P.T. Nation

Paddling swiftly along with the sun warming your back and a light breeze crinkling the water's surface; floating motionless above an inverted reflection on a misty surface so idyllically smooth its edges could not be surely seen; gripping tightly to the lowest branches of a huge willow as a stiff headwind spills a cloud full of rain over you while summer lightning cuts the blackness with distant flashes: these are moments from a June canoe trip which took Edith and Bill Powles and Nancy and Pip Nation from Dow's Lake in Ottawa to the foot of West Street in Kingston in six and a half fascinating days. We did not share the fierce grandeur of the Coppermine nor the swirling white-water of the Madawaska, but thoroughly enjoyed the easy going, the varying and largely unspoiled scenery, the birds and the late spring growth along the shores, and the revelation of the canals, weirs, dams and locks built 140 years ago.

The timing proved sound. Mooney's Bay on a Sunday was full of pleasure boats, but leaving them behind we saw only five or six cruisers all the way and shared a lock only once. It was mosquito time, but they stayed ashore and at night we dined, slept and breakfasted in restaurants, cottages and motels. This frustrated the mosquitoes and eliminated time and effort required for camping. It made detailed planning necessary as all accommodation had to be reserved in advance. It gave us a specific goal each day, helped us finish the long ones and let us enjoy the easy ones.

The locks and dams are the most interesting. We read Legget's "Rideau Waterway" before the trip, and as we travelled we tried to picture the lakes and swamps before the levels were changed. This is one system improved by man in both usefulness and beauty. We were surprised how little of the shore is filled with cottages, how extensive are the empty natural areas. The high dams at Long Island and Jones' Falls are very impressive. For some years they were the highest in North America. The narrow curving approach channels at Burritts Rapids, Poonamalie, Newboro, Chaffey's, Jones' Falls and Upper Brewers bring with mystery and expectation as the trees and rocky walls close in on the slender craft. The locks themselves, especially the higher sets at Smith's Falls (35 feet) Jones' Falls (59 feet) and Kingston Mills (45 feet) carry you vertically from one kind of countryside to another. When it was quicker and easier, e.g. Black Rapids and Brewers Mills, we portaged, avoiding the locks. After 5 p.m. June closing time we portaged all we came to (Old Sly's in the dusk is very nasty); but at the big lifts and where portaging was awkward, e. g. Burritt's, Clowes and Davis, we floated up or down in the locks admiring the stone and timber work and trying to dodge the spray from crannies behind some of the great granite blocks.

Birds were not numerous, but 61 species were noted. From Ottawa to Smith's Falls, where land is open or alder-covered, Red-winged Blackbirds, grackles, orioles, meadowlarks, Kingbirds, Tree Swallows, Song Sparrows and Yellow Warblers were the most common. Further south with heavier woods, rock cliffs, islands, swamps and open fields alternating, there were more species in smaller numbers: herons, loons, Common and Black Terns, Kingfishers, Blue Jays, Black-capped Chickadees, Cedar Waxwings, Catbirds, Phoebes, Pewees, Ovenbirds, Killdeer, Goldfinches and one each Bald Eagle and Osprey. A flock of Black Brant Geese was feeding among cattails near Kars, but we saw only a handful of ducks and a pair of White-winged Scoters. One Scarlet Tanager flew over on its way across Rideau Lake. The best sightings were the loons: one flying over the bridge at Rideau Ferry in the moonlight, two courting below our balcony at Newboro and first three, then four, in a courting swim-and-dive ritual off Goat Island south of Newboro early one morning.

Animal life was scarce except for a few water rats and groundhogs and groups of interested cows with which Edith Powles seemed able to communicate. Two or three water snakes showed themselves, but at the wharf at Davis Lock at a hot noon break a lot of grass snakes acted very unpleasantly, popping their heads up between the boards where we set out the lunch. There must have been a nest on the rock-fill under the decking.

The waterway was at its greenest, the trees dressed out and the hayfields lush. The water was clear even in the drowned land full of stumps and stringy weed, as below Joyceville. We were not well placed to see spring wildflowers but honeysuckle, columbine and many white flowering shrubs hung over the banks and ferns filled shaded niches in the rocks.

For the statisticians – a day's travel varied from 6 miles and 4 locks to 27 miles and 11 locks, with 3 days over 22 miles. Headwinds blew for two days, tailwinds for three. There is virtually no current. Both canoes were 16 feet long, one aluminum and one (a little lighter) was fibreglass. They averaged 3 2/3 miles an hour for an average of 5 1/4 hours paddling plus 2 1/2 hours of resting, eating snacks and sight-seeing each day. Bill estimates the Powles used 50,025 strokes at 23 per minute, the Nations 60,900 shorter quicker ones. Having two canoes was the best: the two crews encouraged each other and provided friendly competition.

In all it was a very pleasant and interesting trip, an inspiration for bigger ones and one we know many others could enjoy.

Kingston Field Naturalists

Objectives

The Kingston Field Naturalists (KFN) is an active, local club of over 500 members interested in a wide variety of natural history. The objectives of the club are:

- to acquire, record and disseminate knowledge of natural history;
- to stimulate public interest in nature and in the protection and preservation of wildlife and natural habitats; and
- to acquire, receive and hold lands for the purpose of preserving their natural flora and fauna, and to encourage and assist other organizations and individuals to do likewise.

Nature Reserves

The KFN owns properties that are designated as nature reserves.

Helen Quilliam Sanctuary at Otter Lake: A 217 hectare (536 acre) property of mixed forest located in the Canadian Shield in the Township of South Frontenac accessible to members through a trail system..

Martin Edwards Nature Reserve: A 100 hectare (247 acre) property of fields and marshland located on the southeast shore of Amherst Island.

Sylvester-Gallagher Nature Reserve: An 80 acre (32.4 hectare) parcel of forest and grassland, adjacent to the Martin Edwards Nature Reserve.

Conservation and Education

The KFN actively supports conservation efforts. Issues such as park creation, wildlife and habitat protection, and environmental welfare are of on-going concern. The club also makes natural history resources and knowledge available to the community through education programs which include field courses, talks, awards and a loan library.

Be a Contributor!

This edition of The Blue Bill could have contained your article, anecdote, fantastic photo, nature sketch, report, puzzle, quiz, conundrum, cartoon, or other contribution.

(If it did, many thanks!)

Email The Blue Bill (editor@thebluebill.ca) for more information.

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