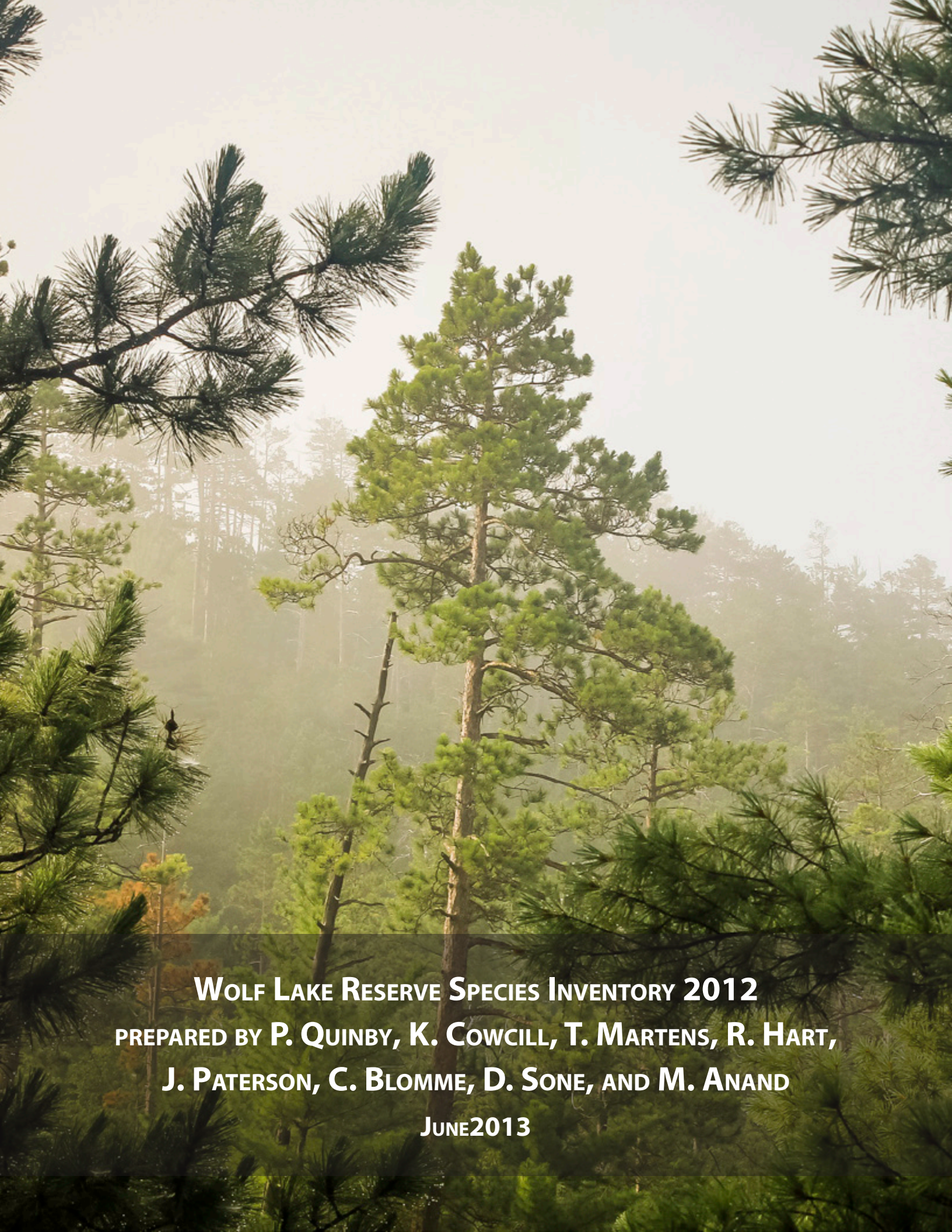


Wolf Lake Reserve Species Inventory 2012

prepared by P. Quinby, K. Cowcill, T. Martens, R. Hart, J. Paterson, C. Blomme, D. Sone, and M. Anand

June2013

"This work indicates that the Wolf Lake old-growth forest is a unique and rich natural laboratory with the potential to provide the answers to many scientific questions relating to the ecology and conservation of endangered forested landscapes.

We strongly urge that no further industrial disturbance be permitted to this ecosystem until a thorough program of scientific research has been designed and implemented.

Any further industrial disturbance risks degrading the scientific value of this irreplaceable ecosystem before we have uncovered its storehouse of ecological information."

Acknowledgements

We thank the Plymouth Hill Foundation for their generous grant to Ancient Forest Exploration & Research. In addition, report design was provided by Rob Nelson.

Executive Summary

The Wolf Lake Reserve area contains the largest known contiguous old-growth Red Pine (*Pinus resinosa Aiton*) forest in the world. The Ontario Ministry of Natural Resources has determined that this Red Pine forest is approximately 1,600 ha in size. Due to extensive logging, mining, agriculture, and urbanization, however, only roughly 1.2% of the original old-growth Red Pine forests remain making them a critically endangered ecosystem. In addition, Red Pine is an endangered species in Connecticut, Illinois, and New Jersey. Currently, most of the Wolf Lake old-growth forest is designated as a forest reserve where logging is not permitted, but where mineral exploration and mining on existing mineral claims is permitted.

Since 1980, a junior mineral exploration company named Flag Resources Ltd. has drilled 230 exploration holes in and around Wolf Lake carving heavy machinery tracks through the old-growth forest, knocking down ancient pines, and running oily drill rigs through creek beds. In response to concerns about the protection of this forest, the Ontario government has made commitments to add the forest to an adjacent protected area. However, continued government approval of mining claims and leases in the Wolf Lake Reserve indicates that the Ontario government has not honored their commitment to protect this unique and rare ecosystem.

The ecological uniqueness and scientific value of the Wolf Lake old-growth forest, and the imminent threat of intensified industrial impacts to this largely intact natural laboratory, create a timely need to thoroughly assess the biodiversity present there. This initial field assessment of biodiversity within the Wolf Lake old-growth forest will improve our understanding of this ecosystem, inform policy making, and form a sound foundation for future studies. The field work focussed primarily on six species group including lichens (47 species), plants (84 species), aquatic invertebrates (6 species), reptiles and amphibians (10 species), and birds (60 species). Incidental observations of mammals (3 species) were also recorded.

Some of the more notable findings of this study include the following:

- a high diversity of lichens,
- an unusually high abundance of Red Pine regeneration,
- observations at the northern range limits of several species of reptiles and amphibians that have helped fill knowledge gaps of species' distributions, and
- observations of two bird species at risk (special concern) (Canada Warbler and Common Nighthawk)

The results of this initial biodiversity assessment are very limited in nature and cannot substitute for a comprehensive biodiversity assessment, which should build on this work as soon as possible. There is a need to determine the true extent of the Wolf Lake old-growth Red Pine forest, which extends beyond the 1,600 ha suggested by MNR, and outside of the area protected from logging and future mineral exploration. We strongly urge that no further industrial impacts be permitted to this ecosystem until this assessment has been completed. Any further industrial disturbance to this unique ecosystem risks degrading its scientific value. In addition, many recommendations for future work are presented in this report.

Introduction

The Wolf Lake area contains the largest known contiguous ancient Red Pine (*Pinus resinosa Aiton*) forest in the world (Quinby 1996). Located approximately 8 km northeast of Lake Wanapitei near Sudbury, Ontario (see Regional Location Map – Figure 1), towering Red Pines – some as old as 300 years – quartzite cliffs, and sparkling blue lakes dominate the landscape. Prior to European settlement ancient Red Pine forests covered an estimated 1.8 million hectares (ha) of eastern North America. Extensive logging, mining, agriculture, and urbanization have eliminated these ancient forests on all but 1.2% of their original range (Quinby 1996), making them a critically endangered ecosystem (Noss 1995). In addition, Red Pine is an endangered species in Connecticut, Illinois, and New Jersey (Natural Resources Conservation Service 2013).

Estimated at approximately 1,600 ha, the Wolf Lake ancient Red Pine forest is more than triple the size of the next largest remnant of this once extensive forest (Quinby 1996). In the Sudbury Forest Management Unit, only 0.3% of the total forested area is composed of old-growth Red Pine dominated stands (2,342 ha) (Dingwall 2011). In the neighbouring Nipissing Forest Management Unit only 0.02% of the total forested area is old-growth Red Pine (Thauvette 2011).

Currently, most of the Wolf Lake old growth forest is designated under "forest reserve" status, which means that logging is not permitted, but mineral exploration and mining on existing mineral claims and leases are. A junior mineral exploration company named Flag Resources Ltd. holds mining leases and claims over a large majority of the Wolf Lake old growth area (MNDM 2012). Since 1980 Flag has drilled 230 exploration holes in and around Wolf Lake in MacKelcan Township (Flag Resources Ltd. 1985). In the process Flag has carved heavy machinery tracks through the old growth, knocked down ancient Pines, and run oily drill rigs through creek beds (Back 2006). In February of 2012, Flag announced plans for future exploratory drilling in the Wolf Lake area (Business Wire 2012). Despite commitments from the Ontario government to add the forest to an adjacent protected area, The Wolf Lake Coalition has documented continued government approval of the claims and

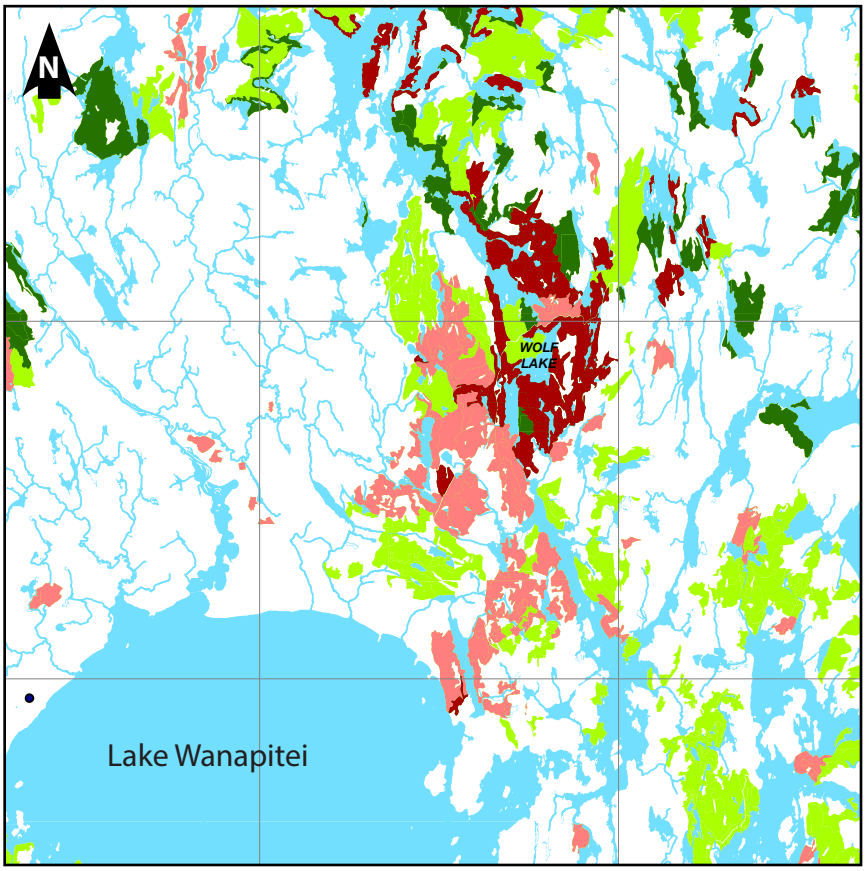


Figure 1:
Regional Location of Wolf Lake

leases in the Wolf Lake Reserve (Wolf Lake Coalition 2012). In the unlikely event that an economically viable mineral is discovered, the lease allows Flag or its successor to develop a mine.

In May of 2012, Cleveland based Cliffs Natural Resources announced plans to build a $1.8-billion chromite processing facility near Capreol, north of Sudbury (CBC News 2012a). The site is approximately 20 km west of Wolf Lake, raising the potential for increased influx of industrial pollutants. Chromite mining is associated with hexavalent chromium, a potentially deadly by-product (CBC News 2012b).

The ecological uniqueness of the Wolf Lake old growth, and the imminent threat of intensified industrial impacts to this largely intact natural laboratory, create a timely need to thoroughly assess the biodiversity present at Wolf Lake. A biodiversity assessment is necessary to contribute to our scientific knowledge of this ecosystem, to inform policy making, and to form a sound baseline for future comparison (Yoccoz et al. 2001).

To date, few scientific studies have been conducted to examine biodiversity features of the Wolf Lake landscape. These studies have focussed mainly on plant diversity (Carleton and Gordon, 1992, Leithead et al. 2010, Joner et al. 2012) and general old-growth forest characteristics (Henry and Quinby 2010). This report documents the first effort towards a comprehensive biodiversity assessment of the Wolf Lake landscape and makes recommendations for future studies.

Methods

Ecosystems that make up the Wolf Lake landscape are shown on Figure 2 and are based on available digital mapping. Figure 2 also shows the elevation gradients (contour lines) in the Wolf Lake landscape. This information showing the distribution of ecosystem types and elevation gradients was used by the field biologists to plan their studies and locate their sample sites. Appendix A includes location coordinates and habitat types for the sample sites.

Lichens

Results of field work to assess lichens will be reported separately as a peer-reviewed publication. Lichen presence/absence and abundance was surveyed on live trees, logs, snag and stumps in July 2012 in the Wolf Lake Forest Reserve (46.860°, -80.643°). At least 20 sampling units for each substrate type were sampled, which

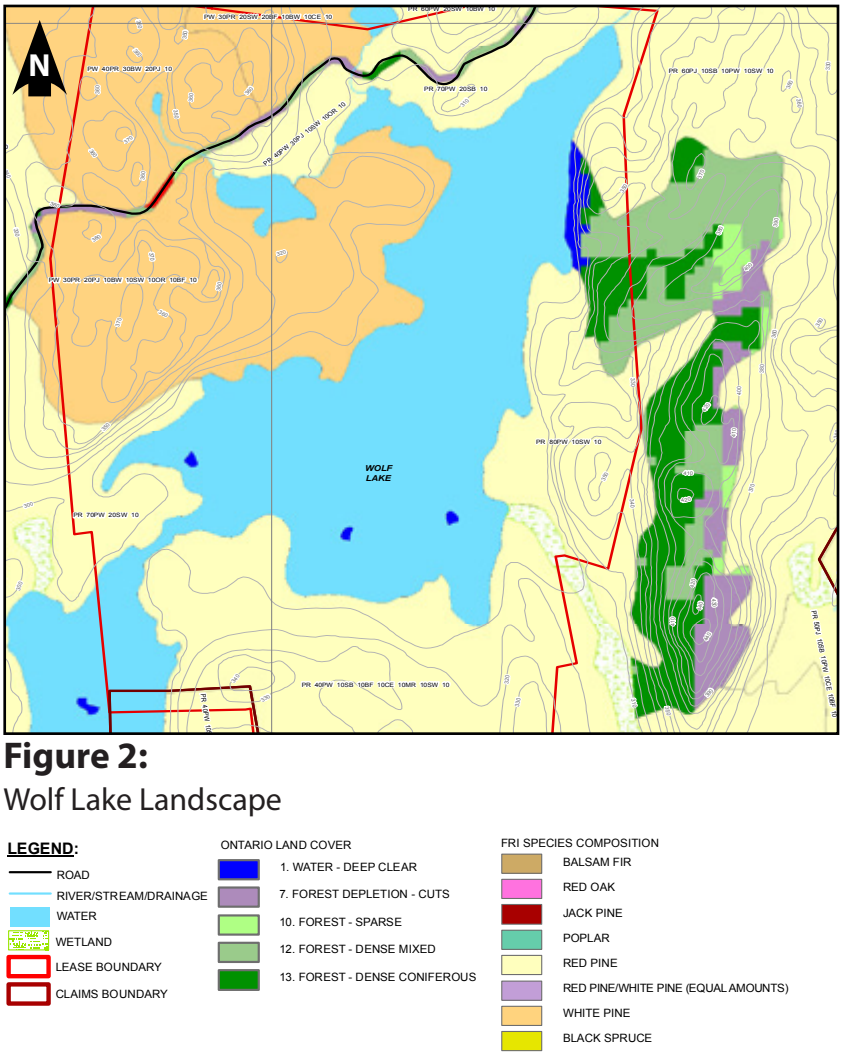


Figure 2:
Wolf Lake Landscape

were randomly chosen along five 50 m-200 m transects. Each lichen sampling plot was a 10 x 10 cm plastic grid separated into 1.0 x 1.0 cm subplots. A detailed description of sampling design, methods, and results can be found in Wagner et al. (submitted). A few lichen species were identified and listed in this report as part of the plant species assessment field work.

Plants

Using topographic maps and a GPS unit from September 10-12, 2012, visits were made to all accessible habitat types in the mining lease area of the Wolf Lake Reserve. In order to visit as many habitat types with different moisture regimes, slope aspects, slope percentages, and elevation as possible, four forest stands that represented the greatest variety in these habitat conditions were selected. Each stand was searched from the lowest elevation (the lake) along the slope to the highest point within a corresponding aspect.

In addition, more specialized habitat types were sought out and searched including riparian habitats such as lake edge, streams, bogs, and rivers as well as cliffs, ledges, cave openings, etc. A second field trip (September 29-30) was made to explore the Wolf Lake old-growth forest area. Incidental observations of plant species that were considered to be uncommon in the area were recorded along the portage between Wolf Lake and Laundry Lake.

Aquatic Invertebrates

Invertebrate samples were collected by dip net in the short expanse of river flowing between Dewdney Lake and Wolf Lake on June 17, 2012. Samples were collected from three sites along the river: site 1 was at the outflow of Dewdney Lake; site 2 was immediately downstream of the bridge where the road crosses the river and site 3 was at the mouth of the river where it flows into Wolf Lake. All samples were collected using a dip net with 0.5 mm mesh.

The aim of the sampling was to identify species and determine species richness; therefore no effort was made to quantify the area sampled. At each of the three sites, all possible habitats were sampled that were accessible with the dip net. In areas of higher flow, the 'kick and sweep' method was used. For this, the net is held vertically just downstream of one's feet – the collector then proceeds to move backwards while disturbing the substrate vigorously with her/his feet in an effort to dislodge any organisms that will then flow into the waiting dip-net. In shallow areas, rocks and other larger substrates were picked up by hand and invertebrates were collected using fingers or forceps.

All specimens were preserved immediately in 70% reagent alcohol (90% ethanol, 5% methanol, 5% isopropyl alcohol). Specimens were identified to genus using Pennak's Freshwater Invertebrates of the United States (1978) and cross referenced with the University of Guelph Publication Common Benthic Invertebrates, Zooplankton, Algae, and Macrophytes of the Speed River Watershed, by Mackie (1991). Specimens were further verified by making visual comparison's to online images.

Reptiles and Amphibians

Visual surveys were conducted in early July (1-3) for reptile and amphibian species. A total of 65 person-hours were spent surveying. Effort was focused on wetlands in the southeastern, northern, and western portions of Wolf Lake because density and diversity were expected to be highest in those habitats. Surveys were conducted on foot for frogs, snakes, and salamanders; and by canoe for basking turtles near shorelines. Due to the low detectability of most species and the limited survey effort, results can confirm the presence of species, but not their abundance. In addition, calling frogs were detected during the auditory surveys for detecting bird songs and calls (see below Birds, Survey 2).

Birds

Survey 1

This survey was carried out on May 29, 2012 from 6:30 am until 2:00 pm at the following four locations:

- SW corner of the Wolf Lake Old-Growth Area (46 50.844' 80 38.830')
- The trapper's cabin at 46 50.842' 80 38.855'
- A campsite at 46 51.205' 80 38.199'
- The bridge at 46.51.218' 80 38.217'

These four locations and their surrounding area were surveyed by identifying bird songs and calls, and by visual sightings. Areas were accessed by foot and by vehicle, and other animal observations made while travelling between these locations were also recorded. The habitat surveyed was primarily old-growth Red Pine and associated riparian habitat along the shores of the waterways. A Tamarack wetland and smaller waterways were also surveyed. The month of May (2012) was generally very dry but the entire area had just received a substantial rainfall the night before, allowing for ideal avian activity in the morning. Mammal species observed were also recorded.

Survey 2

In a second survey, song meters (Wildlife Acoustics – SM2+) were deployed in a variety of habitat types within the Wolf Lake old-growth Red Pine during the 2012 breeding bird season (June 10-20) in order to record bird songs and calls that were later used to identify bird species and other animal species (e.g., amphibians). One song meter was placed in each of the following habitat types.

- Red Pine Stand, Hilltop
- Red Pine Stand, Mid-Slope, East-Facing
- Red Pine Stand, Mid-Slope, South-Facing
- Red Pine Stand, Lower Slope, Stream-side
- Red Pine Stand, Lower Slope, Beside Swamp
- Red Pine Stand, Lower Slope, Beside Wetland

The song meters were programmed to record 14 times over a 24 hour period for 11 days. Seven recordings were obtained in the a.m. including 1:00, 3:00, 5:00, 5:30, 6:00, 7:00, and 7:30, and seven recordings starting in the evenings included 21:00, 21:30, 22:00, 22:30, 23:00, 23:30 and 23:59. For this study, recordings from June 11-14 and June 19-20 were interpreted, with at least two recordings in the a.m. (taken from 5:00, 5:30, 6:00 or 7:00), and two recordings in the p.m. (taken from 21:00, 21:30, 22:00, 22:30 or 23:00). The recordings from 1:00 and 3:00 were also checked at least once for each station.

The June 11-14 and June 19-20 recording sessions were used in order to simulate a two-visit point count as per Bird Studies Canada Point Count protocols, which are two visits to a site, minimum of 6 days between visits, and with the first visit May 24-June 17, and the second June 13-July 10. Rough estimates for the distance birds were from the song meters was also noted using the following codes: 1 = 50 m or closer, 2 = 50-100 m, 3 = 100 m and greater. Note that distance estimates even from observers in the field are highly variable and may not be reliable (see Alldredge et al. 2007a).

Each 10-minute recording was divided into three time intervals for potential future analysis using time-of-detection methods to estimate bird population parameters (see Alldredge et al. 2007b, for example). The time interval codes are 1= first three minutes, 2 = the next two minutes, 3 = last five minutes. Birds were placed into the interval in which they were first heard.

Recordings were opened in Adobe Audition 2.0 and were cleaned up using the light hiss removal option. They were converted to spectrograms (e.g. Fig. 3), and listened to using BOSE QuietComfort 15 Noise Cancelling Headphones.

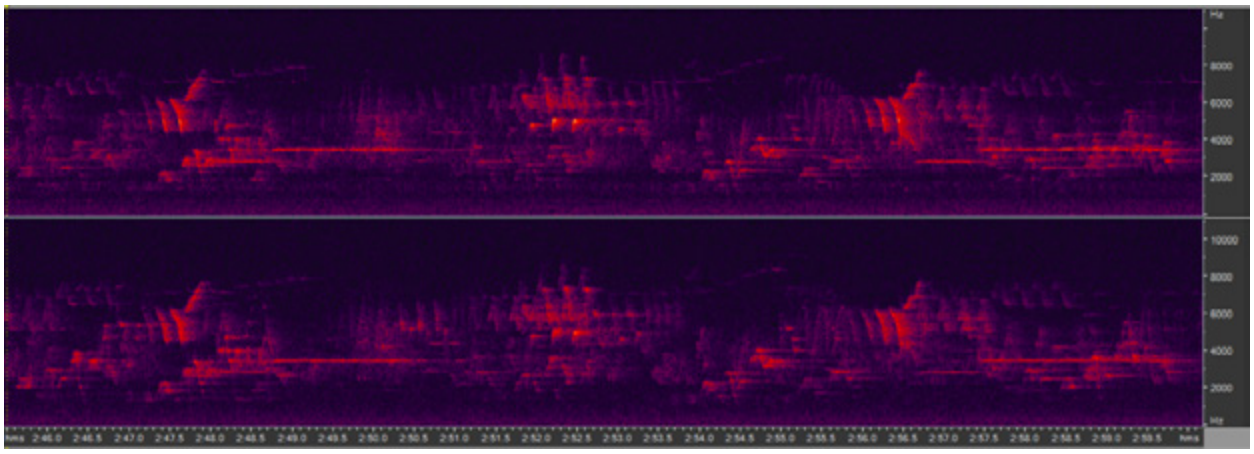


Figure 3: Example of a spectrogram from AF4, June 19, 2012, 5:30 hours showing White-throated Sparrow, two Swainson's Thrushes, Golden-crowned Kinglet, and American Redstart as well as some other background birds

Calls were identified conservatively. That is, if there was a possibility between a call belonging to a common species or a relatively uncommon one, then the more common species was chosen. For example, Pine Warblers were identified as Dark-eyed Juncos so the results from the song meters would under-represent Pine Warblers. Point counts conducted in the field will balance this conservative bias. Scientific names for birds include all changes up to May 1, 2012 (12th supplement to 7th edition of AOU's Check-list of North American Birds 1998; also see Chesser et al. 2012).

Survey 3

This bird survey was conducted from July 4-6 with the field work based out of the large, high campsite on the east side of Wolf Lake. Species were observed and recorded during casual activities as well as during formal survey efforts. The formal surveys occurred in the morning and evening of July 4 with transects of points approximately 200 m apart where 10-minute, 50 m radius point counts were completed. A total of 10 point counts were completed. Observations made between point counts were also recorded but were kept separate from the point count data. On July 5, additional species were recorded while hiking up to and along the ridge west of Wolf Lake. On July 6 additional species were also recorded while hiking around the two small lakes to the east of Wolf Lake and south of the old logging road. Weather conditions throughout the three days were mostly clear with light to moderate winds.

Results and Discussion

A total of 164 species distributed among six species groups were found during the 2012 biodiversity inventory conducted in the Wolf Lake Forest Reserve (excluding the species observed by Wagner et al. (submitted)). Details for each species observation are presented in Appendix A.

Lichens

Forty-seven species of lichen were identified by Wagner et al. (submitted), which indicates that surprisingly high levels of lichen diversity can be found in Red Pine-dominated old-growth forests of the Wolf Lake Forest Reserve. This list of lichen species will be available once the manuscript has been published in a refereed journal. Three lichen species were found as part of the plant species inventory (Table 1). A preliminary assessment showed that none of these lichen species are threatened or endangered.

Plants

A total of 84 plant species were found during the plant species inventory (Table 1). The plant species found in the forests at Wolf Lake are typical of Red Pine-dominated ecosystems, which is generally characterized by low light levels, relatively nutrient poor/acidic and shallow soils, and historically frequent and hot wildfires. However, what is most unusual about Wolf Lake, is the very successful recruitment of uneven-aged Red Pine regeneration throughout the vertical structure of the forest.

Future plant and vegetation field studies should include a spring and summer visit to the same sites visited in this fall study as well as to additional areas within the Wolf Lake Red Pine ecosystem. The

second visit should focus on plant species that complete their life cycles at an earlier point during the growing season and should search for species missed during the first investigation. Habitats not visited in the first study should also be targeted in the future. A thorough on-site survey is required to determine the full extent of the old-growth Red Pine forest area, which extends beyond the 1,600 ha identified by MNR mapping. Finally, the Wolf Lake Red Pine Forest presents an excellent opportunity to study the role that fire plays in the creation and maintenance of natural Red Pine-dominated forest ecosystems, particularly in terms of Red Pine regeneration.

It is also recommended that pollen analysis of sediment in Wolf Lake be conducted in order assess the history of tree species composition in the area. In particular, this method could identify the duration of time during which the Wolf Lake Red Pine forest has been self-sustaining through natural regeneration.

Aquatic Invertebrates

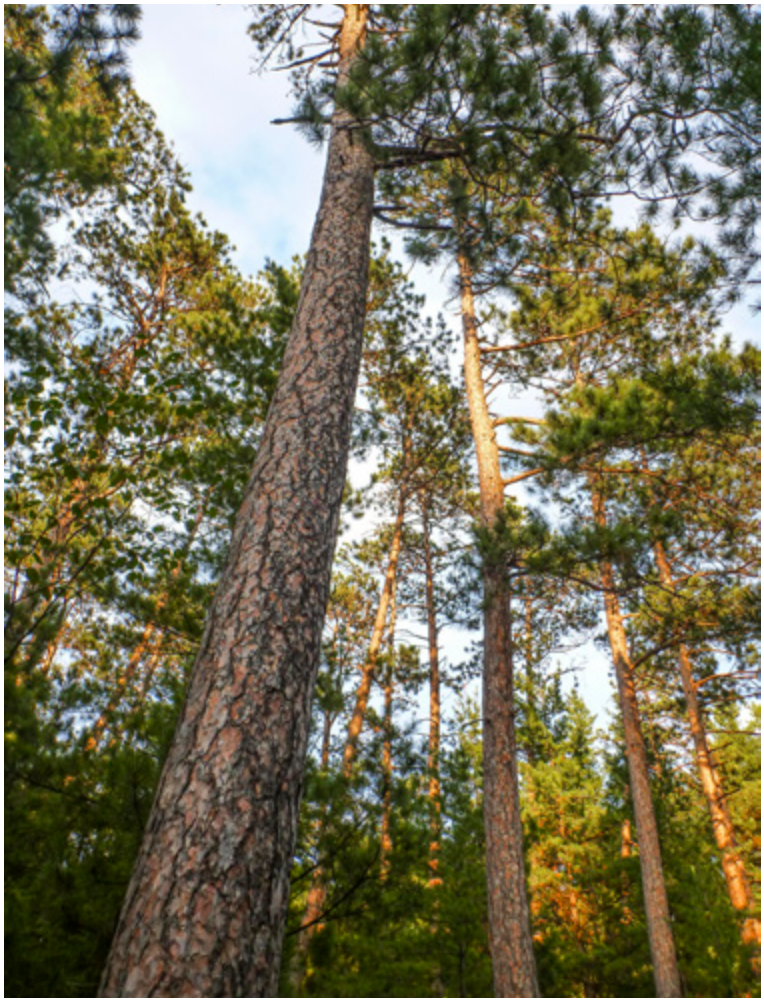
Six species of aquatic invertebrates were found at the Wolf Lake Reserve (Table 1). More expansive surveys should be conducted on a variety of waterways throughout the Wolf Lake area. These should include shorelines of lakes and surveys of streams and rivers that are accessible. Benthic analysis of lake bottom littoral zones should also be conducted to determine benthic species representation within the lakes and other waterbodies associated with Red Pine-dominated landscapes. It may be wise to sample streams of the Wolf Lake area using protocols provided by the Ontario Benthic Biomonitoring Network or by using methods developed by the Canadian Aquatic Biomonitoring Inventory Network. These protocols and methods can be used to assess stream water quality. Sampling should be conducted twice per year in each area, once in the early summer and again in early fall so that species with differing temporal emergence patterns will be collected.

Reptiles and Amphibians

A total of 10 species of reptiles and amphibians were found in the Wolf Lake Forest Reserve (Table 1). The data collected on reptile and amphibian distribution in the Wolf Lake area represents the first recent observations (<20 years old) collected within a 25 kilometer radius of this site. This region represents the northern range limits of several species of reptiles and amphibians, and has helped fill knowledge gaps of species' distributions. Future work on this species group at Wolf Lake should focus on completing species lists and estimating abundances for more common species, especially anurans. Work during 2012 did not result in any salamander sightings and very few turtle observations, thus, spring surveys should target these groups.

Birds

The breeding bird surveys suggest high quality heterogeneous bird habitat is found throughout the forest reserve. While the species identified (total of 60; see Table 1) were typical of the region, the densities of Swainson's Thrush, Pine Warbler, and Ovenbird are impressive. Birds detected at all six song meter sites were Yellow-rumped Warbler, White-throated Sparrow, Swainson's Thrush, Ovenbird Nashville Warbler, Hermit Thrush, and Blackburnian Warbler. Red-eyed Vireo and Magnolia Warbler were detected at five of the six song meter sites. Two species at risk were found including Common Nighthawk and Canada Warbler. Both of these species are designated as "special concern" at the provincial level and "threatened" at the federal level.



The significance of the Wolf Lake Forest to birds may not be in the provision of habitat for unique or rare species, but in the abundance of birds that are able to thrive in the forests' distinct habitats. Some future high-priority field projects include the following.

- Surveys should be expanded to include more stations and habitat types. If possible, surveys should start earlier and run a few days later. This would require moving the song meters around more often or having people out in the field doing point counts.
- Key species such as Pine Warbler should be better documented using standardized methods including comparison with other areas. Data from the Forest Bird Monitoring Program or Ontario Breeding Bird Atlas could be used for this.
- It would be useful to examine the success of breeding and productivity of the bird populations given the quality of the habitat. For example, there appears to be a separation in areas of high Swainson's Thrush and Hermit Thrush, which may be of interest to ornithologists.
- Hawk watching along the one of the ridges should be done, especially during migration season.
- Owl surveys should be carried out. They are typically done in April before running water and spring peepers drown out distant owls. Surveys can be conducted along the roadway using owl survey protocols (drive a set distance, play standardized recording disk, listen for responses, drive to next station).
- Special effort to assess for species at risk including Eastern Whip-poor-will (not found in 2012), Common Nighthawk, and Canada Warbler, including breeding habitat, should take place.
- Loon surveys should be conducted, especially to assess nesting success, which can be negatively affected by motor boat wakes and other fishing activity.

Mammals

Three species of mammals were identified by track and observation. Numerous other species of mammals occur in the area and should be targeted for future field surveys. In particular, habitat diversity, vegetation types, and waterway linkages suggest that representatives of the mustelid group likely use the Wolf Lake landscape. Review of mammal harvests along current and historical trap lines in the area might be useful prior to conducting field work. Future surveys should include surveys for small mammals using live traps stratified by habitat types.

Conclusion and Directions for Future Work

We stress that the results of this initial biodiversity assessment are very limited in nature and cannot substitute for a comprehensive biodiversity assessment. Our species list is in no way exhaustive and can only be interpreted as a confirmation of the presence of certain species, not proof of absence of any species. However, this work indicates that the Wolf Lake old-growth forest is a unique and rich natural laboratory with the potential to provide the answers to many scientific questions relating to the ecology and conservation of endangered forested landscapes.

We strongly urge that no further industrial disturbance be permitted to this ecosystem until a thorough program of scientific research has been designed and implemented. Any further industrial disturbance

risks degrading the scientific value of this irreplaceable ecosystem before we have uncovered its storehouse of ecological information.

Some of the more notable findings of this initial biodiversity field work include the following:

- a high diversity of lichens,
- an unusually high abundance of Red Pine regeneration,
- observations at the northern range limits of several species of reptiles and amphibians that have helped fill knowledge gaps of species' distributions, and
- observations of two bird species "At Risk" (special concern).

In addition to the specific recommendations for future work addressed for each species group in the Results and Discussion section, we recommend several high-level directions for future work as follows.

Some major taxonomic groups are missing from this study, most notably insects. Thus, further taxonomic surveys are required to address missing species groups as well as to complete lists for groups focused on during 2012.

1. Comparative analyses focussing on the variety of habitats within the Wolf Lake Forest reserve are required to determine the role of environmental heterogeneity on forest biodiversity. This includes identifying and mapping all habitats in the reserve.
2. While an initial assessment of species presence is essential, the stability of this unique ecosystem needs to be further examined by constructing species interaction networks (e.g., trophic, pollinator, dispersal), which will help to identify keystone and/or core species.
3. A comprehensive study to examine forest recruitment dynamics and its implications for plant and lichen diversity should be conducted.
4. The relationship between biodiversity and ecosystem function and services should be determined for this forest type.
5. Permanent sample plots to characterize changes in ecosystem structure, function, and composition should be established.
6. Aerial image analysis as well as ground surveys are required to determine the full extent of the Wolf Lake old-growth Red Pine forest, which extends beyond the 1,600 ha identified by MNR.

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Biographies

Madhur Anand (B.Sc., Ph.D.) is Professor and University Research Chair in the School of Environmental Sciences, University of Guelph. Her research areas include forest and landscape ecology, biodiversity, restoration ecology, dendrochronology, and ecological modelling. Her lab has been conducting field studies involving the Wolf Lake forest since 2009.

Chris Blomme (B.Sc, M.Sc.) is a Technologist in the Department of Biology, Laurentian University and is President of the Sudbury Ornithological Society.

Kevan Cowcill (B.Sc., M.Sc.) is a professional field biologist, and has been conducting bird surveys in Ontario, Alberta, British Columbia, and the Yukon for government and non-government organizations for the past 20 years. He currently specializes in wildlife monitoring and vegetation as it applies to habitat characterization. He is member of the Board of Directors for Ancient Forest Exploration & Research.

Ramsey Hart (B.E.S., M.Sc.) is an ecologist and field naturalist, and is currently the Canada Program Coordinator of MiningWatch Canada. An avid birder, Ramsey was a Regional Coordinator for the Maritime Breeding Bird Atlas. He has also worked with Ontario Parks, Bird Studies Canada, and the Canadian Wildlife Service.

Tim Martens (B.A.) is a professional field biologist with 20 years of experience conducting plant, bird, and mammal inventories for the Ontario Ministry of Natural Resources, various conservation authorities, and consulting companies in Ontario and British Columbia. He is member of the Board of Directors for Ancient Forest Exploration & Research.

James Paterson (B.Sc., M.Sc.) has over five years of field experience working with reptiles and amphibians in Ontario, and has been Coordinator for the Ontario Reptile and Amphibian Atlas with Ontario Nature since 2011. He is a member of the Ontario Multi-Species Turtle at Risk Recovery Team.

Peter Quinby (B.A., M.Sc., Ph.D.) is a professional ecologist and is presently a Senior Environmental Scientist with Knight Piesold Ltd. He has served as a faculty member at Wilfrid Laurier University and the University of Pittsburgh. He specializes in the ecology and conservation of old-growth forests, landscape ecology, species at risk assessments, and baseline studies for environmental assessment. He is also Chair of the Board of Directors for Ancient Forest Exploration & Research.

Paul Smylie (B.Sc., M.Sc.) is a Technologist and Instructor in the Biology Department at Nipissing University. His research interests focus on aquatic ecology and his most recent teaching duties include Conservation Biology, Ornithology, Freshwater Biology Field Camp, and Invertebrate Zoology. In addition to Ontario, he has conducted field studies in Arizona and British Columbia.

David Sone (B.Sc.) is a campaigner at Earthroots, an environmental non-profit organization that works with communities to protect wilderness, watersheds, and wildlife in Ontario.

The red pines surrounding Wolf lake have survived four incidents of fire over the past 300 years.

TABLE 1 - List of Species

Group	Scientific Name	Common name	# Observations
Lichens	*Cladonia chorophaea*	False Pixie Cup	1
Lichens	*Cladonia cristatella*	British Soldiers	1
Lichens	*Umbilicaria mammulata*	Rock Tripe	1
3 species			
Plants	*Abies balsamea*	Balsam Fir	1
Plants	*Acer rubrum*	Red Maple	1
Plants	*Acer spicatum*	Mountain Maple	1
Plants	*Alnus incana ssp. Rugosa*	Speckled Alder	1
Plants	*Alnus viridis*	Green Alder	1
Plants	*Amelanchier spp.*	Serviceberry spp.	1
Plants	*Aralia hispida*	Bristly Sarsaparilla	2
Plants	*Aralia nudicaulis*	Wild Sarsaparilla	1
Plants	*Aronia melanocarpa*	Chokeberry	1
Plants	*Aster nemoralis*	Bog Aster	1
Plants	*Aster umbellatus*	Flat-topped White Aster	1
Plants	*Betula alleganiensis*	Yellow Birch	2
Plants	*Betula papyrifera*	White Birch	1
Plants	*Carex crinita*	Fringed Sedge	1
Plants	*Carex trisperma*	Three-fruited Sedge	1
Plants	*Chamaedaphne calyculata*	Leatherleaf	1
Plants	*Clintonia borealis*	Blue-bead Lily	1
Plants	*Coptis trifolia*	Goldthread	1
Plants	*Cornis canadensis*	Bunchberry	1
Plants	*Cyprepedium acaule*	Pink Lady's Slipper	1
Plants	*Dennstaedtia punctilobula*	Hay-scented Fern	1
Plants	*Diervilla lonicera*	Bush Honeysuckle	1
Plants	*Drosera intermedia*	Spatulate-leaved Sundew	1
Plants	*Drosera rotundifolia*	Round-leaved Sundew	1
Plants	*Dulichium arundinaceum*	Three-way Sedge	1
Plants	*Epigaea repens*	Trailing Arbutus	1
Plants	*Eriocaulon aquaticum*	Pipewort	1
Plants	*Eriophorum spp.*	Cotton Grass spp.	1
Plants	*Euthamia graminifolia?*	Flat-topped Goldenrod	1
Plants	*Gaultheria hispidula*	Creeping Snowberry	1
Plants	*Gaultheria procumbens*	Wintergreen	1
Plants	*Goodyera repens*	Dwarf Rattlesnake Plantain	1
Plants	*Hypericum sp.*	St. John's Wort spp.	1
Plants	*Hypericum virginicum*	Marsh St. Johns Wort	1
Plants	*Ilex verticillata*	Winterberry Holly	1
Plants	*Iris versicolor*	Blue Flag Iris	1
Plants	*Juncus canadensis*	Canadian Rush	1
Plants	*Kalmia angustifilia*	Sheep Laurel	1
Plants	*Kalmia paliifolia*	Bog Laurel	1
Plants	*Lycopodium clavatum*	Wolf's Claw Clubmoss	1

Plants	*Lycopus uniflorus*	Northern Bugleweed	1
Plants	*Lysimachia terrestris*	Swamp Candles	1
Plants	*Maianthemum canadense*	Canada Mayflower	1
Plants	*Maianthemum trifolium*	Three-leaved Solomon's Seal	1
Plants	*Mediola virginiana*	Indian Cucumber Root	2
Plants	*Myrica Gale*	Sweet Gale	1
Plants	*Nemopanthus mucronatus*	Mountain Holly	1
Plants	*Orthilia secunda*	One-sided Wintergreen	1
Plants	*Osmunda cinnamomea*	Cinnamon Fern	1
Plants	*Osmunda regalis*	Royal Fern	2
Plants	*Phegopteris connectilis*	Northern Beech Fern	1
Plants	*Phegopteris hexagonoptera*	Southern Beech Fern	1
Plants	*Picea glauca*	White Spruce	1
Plants	*Picea mariana*	Black Spruce	1
Plants	*Pinus banksianna*	Jack Pine	1
Plants	*Pinus resinosa*	Red Pine	1
Plants	*Pinus strobus*	White Pine	1
Plants	*Polypodium virginianum*	Polypody Fern	1
Plants	*Polytrichum commune*	Common Hair Cap Moss	1
Plants	*Pteridium aquilinum*	Bracken Fern	1
Plants	*Quercus rubra*	Red Oak	1
Plants	*Rhododendron groenlandicum*	Labrador Tea	1
Plants	*Rubus pubescens*	Dwarf Raspberry	1
Plants	*Rubus alllegheniensis*	Common Blackberry	1
Plants	*Sarracenia purpurea*	Pitcher Plant	1
Plants	*Scirpus cyperinus*	Wool Grass	1
Plants	*Scirpus validus*	Soft-stem Bulrush	1
Plants	*Sorbis americana*	Mountain Ash	1
Plants	*Sphagnum warnstorfii*	Warnstorf's Peat Moss	1
Plants	*Spiraea alba*	Meadowsweet	1
Plants	*Spiraea tomentosa*	Steeple Bush	1
Plants	*Taxus canadensis*	Ground Hemlock	1
Plants	*Thuja occidentalis*	Eastern White Cedar	1
Plants	*Trientalis borealis*	Starflower	1
Plants	*Trillium undulatum*	Painted Trillium	1
Plants	*Tussilago farfara*	Coltsfoot	1
Plants	*Vaccinium angustifolium*	Low-sweet Blueberry	1
Plants	*Vaccinium myrtilloides*	Velvet-leaved Blueberry	1
Plants	*Vaccinium oxycoccus*	Small Cranberry	1
Plants	*Viburnum cassinoides*	Northern Wild Raisin	1
Plants	*Viola lanceolata*	Lance-leaved Violet	1
Plants	*Viola mackloskeyi*	Northern White Violet	1
82 species			

Aquatic Inverts	*Boyeria spp.*	Spotted Darner (nymph)	1
Aquatic Inverts	*Chimarra spp.*	Little Black Sedge Caddisfly	1
Aquatic Inverts	*Hydropsyche spp.*	Net-spinning Caddisfly	1
Aquatic Inverts	*Rhyacophila spp.*	Green Sedge Caddisfly	1
Aquatic Inverts	*Stenonema spp.*	Mayfly Nymph	1
Aquatic Inverts	*Wormaldia spp.*	Little Autumn Sedge Caddisfly	2
6 species			
Herps	*Anaxyrus americanus*	American Toad	3
Herps	*Chrysemys picta marginata*	Midland Painted Turtle	2
Herps	*Hyla versicolor*	Gray Treefrog	2
Herps	*Lithobates pipiens*	Leopard Frog	1
Herps	*Lithobates septentrionalis*	Mink Frog	1
Herps	*Lithobates sylvaticus*	Wood Frog	1
Herps	*Opheodrys vernalis*	Smooth Greensnake	2
Herps	*Pseudacris crucifer*	Spring Peeper	6
Herps	*Lithobates clamitans*	Green Frog	6
Herps	*Thamnophis sirtalis sirtalis*	Eastern Gartersnake	1
10 species			
Birds	*Actitis macularius*	Spotted Sandpiper	2
Birds	*Agelaius phoeniceus*	Red-winged Blackbird	2
Birds	*Anas rubripes*	American Black Duck	1
Birds	*Archilochus colubris*	Ruby-throated Hummingbird	1
Birds	*Aythya collaris*	Ring-necked Duck	1
Birds	*Bombycilla cedrorum*	Cedar Waxwing	1
Birds	*Bonasa umbellus*	Ruffed Grouse	3
Birds	*Bucephala albeola*	Bufflehead	1
Birds	*Bucephala clangula*	Common Goldeneye	2
Birds	***Cardellina canadensis***	**Canada Warbler (SAR)**	**1**
Birds	*Cardellina pusilla*	Wilson's Warbler	2
Birds	*Catharus fuscescens*	Veery	1
Birds	*Catharus guttatus*	Hermit Thrush	24
Birds	*Catharus ustulatus*	Swainson's Thrush	25
Birds	*Certhia americana*	Brown Creeper	1
Birds	***Chordeiles minor***	**Common Nighthawk (SAR)**	**5**
Birds	*Coccyzus erythropthalmus*	Black-billed Cuckoo	1
Birds	*Colaptes auratus*	Northern Flicker	2
Birds	*Contopus virens*	Eastern Wood-pewee	1
Birds	*Corvus corax*	Common Raven	4
Birds	*Cyanocitta cristata*	Blue Jay	1
Birds	*Dendroica coronata*	Yellow-rumped Warbler	24
Birds	*Dendroica pensylvanica*	Chestnut-sided Warbler	2
Birds	*Dendroica pinus*	Pine Warbler	2
Birds	*Dryocopus pileatus*	Pileated Woodpecker	2
Birds	*Empidonax flaviventris*	Yellow-bellied Flycatcher	2
Birds	*Empidonax minimus*	Least Flycatcher	1
Birds	*Gallinago gallinago*	Wilson's Snipe	2
Birds	*Gavia immer*	Common Loon	13
Birds	*Geothlypis philadelphia*	Mourning Warbler	3

Birds	*Grus canadensis*	Sandhill Crane	2
Birds	*Junco hyemalis*	Dark-eyed Junco	15
Birds	*Melospiza georgiana*	Swamp Sparrow	7
Birds	*Melospiza melodia*	Song Sparrow	3
Birds	*Mergus merganser*	Common Merganser	1
Birds	*Mniotilta varia*	Black-and-white Warbler	9
Birds	*Oreothlypis ruficapilla*	Nashville Warbler	20
Birds	*Pheucticus ludovicianus*	Rose-breasted Grosbeak	1
Birds	*Picoides villosus*	Hairy Woodpecker	2
Birds	*Poecile atricapillus*	Black-capped Chickadee	4
Birds	*Regulus calendula*	Ruby-crowned Kinglet	1
Birds	*Regulus satrapa*	Golden-crowned Kinglet	14
Birds	*Seiurus aurocapilla*	Ovenbird	17
Birds	*Setophaga caerulescens*	Black-throated Blue Warbler	1
Birds	*Setophaga castanea*	Bay-breasted Warbler	1
Birds	*Setophaga fusca*	Blackburnian Warbler	18
Birds	*Setophaga magnolia*	Magnolia Warbler	24
Birds	*Setophaga petechia*	Yellow Warbler	3
Birds	*Setophaga ruticilla*	American Redstart	9
Birds	*Setophaga virens*	Black-throated Green Warbler	11
Birds	*Sitta canadensis*	Red-breasted Nuthatch	3
Birds	*Sphyrapicus varius*	Yellow-bellied Sapsucker	2
Birds	*Spizella passerina*	Chipping Sparrow	1
Birds	*Troglodytes hiemalis*	Winter Wren	2
Birds	*Turdus migratorius*	American Robin	2
Birds	*Vermivora peregrina*	Tennessee Warbler	1
Birds	*Vireo olivaceous*	Red-eyed Vireo	23
Birds	*Vireo philadelphicus*	Philadelphia Vireo	2
Birds	*Vireo solitarius*	Blue-headed Vireo	11
Birds	*Zonotrichia albicollis*	White-throated Sparrow	27
60 species			
Mammals	*Alces alces*	Moose	1
Mammals	*Canis lupus*	Grey Wolf	1
Mammals	*Tamiasciurus hudsonicus*	Red Squirrel	6
3 species			
164 species total			

APPENDIX 1 - Wolf Lake Species Inventory 2012, Sorted by Habitat

Habitat	Common name	Scientific Name	Group	Date	Breeding	Easting	Northing	Specimen	Photos	Observer	Comments
Bog	Bog Laurel	*Kalmia paliifolia*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Bog	Cinnamon Fern	*Osmunda cinnamomea*	Plants	Sept 10-12, 2012		527621	5187847	n	y	Tim Martens	
Bog	Coltsfoot	*Tussilago farfara*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Bog	Pitcher Plant	*Sarracenia purpurea*	Plants	Sept 10-12, 2012		527607	5189380	n	n	Tim Martens	
Bog	Ruby-throated Hummingbird	*Archilochus colubris*	Birds	May 29, 2012		526748	5188246	n	n	Chris Blomme	m
Bog	Small Cranberry	*Vaccinium oxycoccus*	Plants	Sept 10-12, 2012		528176	5189317	n	n	Tim Martens	
Bog	Smooth Greensnake	*Opheodrys vernalis*	Herps	July 1-3, 2012		528186	5188510	n	y	James Paterson	
Bog	Tennessee Warbler	*Vermivora peregrina*	Birds	May 29, 2012		526748	5188246	n	n	Chris Blomme	1 individual
Bog	Three-leaved Solomon's Seal	*Maianthemum trifolium*	Plants	Sept 10-12, 2012		527621	5187847	n	y	Tim Martens	
Bog	Wolf's Claw Clubmoss	*Lycopodium clavatum*	Plants	Sept 10-12, 2012		528176	5189317	n	n	Tim Martens	
Lake	American Black Duck	*Anas rubripes*	Birds	July 4, 2012	H	527510	5188741	n	n	Ramsey Hart	
Lake	Bufflehead	*Bucephala albeola*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	m, f
Lake	Bufflehead	*Bucephala albeola*	Birds	July 6, 2012	H	529316	5189817	n	n	Ramsey Hart	
Lake	Common Goldeneye	*Bucephala clangula*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	m, f
Lake	Common Goldeneye	*Bucephala clangula*	Birds	July 6, 2012	H	529316	5189817	n	n	Ramsey Hart	
Lake	Common Loon	*Gavia immer*	Birds	May 29, 2012		527025	5187970	n	n	Chris Blomme	3 individuals
Lake	Common Loon	*Gavia immer*	Birds	July 4, 2012	H	527510	5188741	n	n	Ramsey Hart	
Lake	Common Merganser	*Mergus merganser*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	f
Lake	Ring-necked Duck	*Aythya collaris*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	m, f
Pond	Green Frog	*Lithobates clamitans*	Herps	July 1-3, 2012		527616	5189368	n	n	James Paterson	
Red Pine Stand, Hilltop	Black-and-white Warbler	*Mniotilta varia*	Birds	June 20, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Black-billed Cuckoo	*Coccyzus erythropthalmus*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Blackburnian Warbler	*Setophaga fusca*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Blackburnian Warbler	*Setophaga fusca*	Birds	June 12, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Blackburnian Warbler	*Setophaga fusca*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Blackburnian Warbler	*Setophaga fusca*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Blue Jay	*Cyanocitta cristata*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Blue-headed Vireo	*Vireo solitarius*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Blue-headed Vireo	*Vireo solitarius*	Birds	June 12, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Blue-headed Vireo	*Vireo solitarius*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Blue-headed Vireo	*Vireo solitarius*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Brown Creeper	*Certhia americana*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Common Loon	*Gavia immer*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Common Loon	*Gavia immer*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Common Nighthawk	*Chordeiles minor*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Dark-eyed Junco	*Junco hyemalis*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Dark-eyed Junco	*Junco hyemalis*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Green Frog	*Lithobates clamitans*	Herps	June 20, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Hermit Thrush	*Catharus guttatus*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Hermit Thrush	*Catharus guttatus*	Birds	June 12, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Hermit Thrush	*Catharus guttatus*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Hermit Thrush	*Catharus guttatus*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Hermit Thrush	*Catharus guttatus*	Birds	June 20, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Magnolia Warbler	*Setophaga magnolia*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Magnolia Warbler	*Setophaga magnolia*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Magnolia Warbler	*Setophaga magnolia*	Birds	June 20, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Mourning Warbler	*Geothlypis philadelphia*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 20, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Ovenbird	*Seiurus aurocapilla*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Ovenbird	*Seiurus aurocapilla*	Birds	June 12, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Ovenbird	*Seiurus aurocapilla*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Ovenbird	*Seiurus aurocapilla*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Ovenbird	*Seiurus aurocapilla*	Birds	June 20, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Red Squirrel	*Tamiasciurus hudsonicus*	Mammals	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Red-breasted Nuthatch	*Sitta canadensis*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 20, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Ruffed Grouse	*Bonasa umbellus*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Sandhill Crane	*Grus canadensis*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Swainson's Thrush	*Catharus ustulatus*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Swainson's Thrush	*Catharus ustulatus*	Birds	June 12, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Swainson's Thrush	*Catharus ustulatus*	Birds	June 20, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 12, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 20, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Yellow-bellied Sapsucker	*Sphyrapicus varius*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Yellow-bellied Sapsucker	*Sphyrapicus varius*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 11, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 12, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 13, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Hilltop	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 14, 2012		526939	5189480	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	American Redstart	*Setophaga ruticilla*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	American Redstart	*Setophaga ruticilla*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	American Redstart	*Setophaga ruticilla*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	American Toad	*Anaxyrus americanus*	Herps	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Black-and-white Warbler	*Mniotilta varia*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Blackburnian Warbler	*Setophaga fusca*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Blackburnian Warbler	*Setophaga fusca*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Blackburnian Warbler	*Setophaga fusca*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Black-capped Chickadee	*Poecile atricapillus*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Black-throated Green Warbler	*Setophaga virens*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Black-throated Green Warbler	*Setophaga virens*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Black-throated Green Warbler	*Setophaga virens*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Black-throated Green Warbler	*Setophaga virens*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Blue-headed Vireo	*Vireo solitarius*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Common Loon	*Gavia immer*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Common Nighthawk	*Chordeiles minor*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Common Raven	*Corvus corax*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Dark-eyed Junco	*Junco hyemalis*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Dark-eyed Junco	*Junco hyemalis*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Gray Treefrog	*Hyla versicolor*	Herps	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Green Frog	*Lithobates clamitans*	Herps	June 10, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Green Frog	*Lithobates clamitans*	Herps	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Hermit Thrush	*Catharus guttatus*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Leopard Frog	*Lithobates pipiens*	Herps	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Magnolia Warbler	*Setophaga magnolia*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Magnolia Warbler	*Setophaga magnolia*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Magnolia Warbler	*Setophaga magnolia*	Birds	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Magnolia Warbler	*Setophaga magnolia*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Magnolia Warbler	*Setophaga magnolia*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Mink Frog	*Lithobates septentrionalis*	Herps	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Ovenbird	*Seiurus aurocapilla*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Philadelphia Vireo	*Vireo philadelphicus*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Philadelphia Vireo	*Vireo philadelphicus*	Birds	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Red Squirrel	*Tamiasciurus hudsonicus*	Mammals	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Red Squirrel	*Tamiasciurus hudsonicus*	Mammals	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter

Red Pine Stand, Lower Slope, Beside Swamp	Spring Peeper	*Pseudacris crucifer*	Herps	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Spring Peeper	*Pseudacris crucifer*	Herps	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Spring Peeper	*Pseudacris crucifer*	Herps	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Swainson's Thrush	*Catharus ustulatus*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Swainson's Thrush	*Catharus ustulatus*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Swainson's Thrush	*Catharus ustulatus*	Birds	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Swainson's Thrush	*Catharus ustulatus*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Swainson's Thrush	*Catharus ustulatus*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Swamp Sparrow	*Melospiza georgiana*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Swamp Sparrow	*Melospiza georgiana*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Swamp Sparrow	*Melospiza georgiana*	Birds	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Swamp Sparrow	*Melospiza georgiana*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Swamp Sparrow	*Melospiza georgiana*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Winter Wren	*Troglodytes hiemalis*	Birds	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Yellow Warbler	*Setophaga petechia*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Yellow Warbler	*Setophaga petechia*	Birds	June 19, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Yellow-bellied Flycatcher	*Empidonax flaviventris*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Yellow-bellied Flycatcher	*Empidonax flaviventris*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 11, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 12, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 13, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Swamp	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 14, 2012		528452	5190119	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	American Redstart	*Setophaga ruticilla*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	American Redstart	*Setophaga ruticilla*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	American Redstart	*Setophaga ruticilla*	Birds	June 12, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	American Redstart	*Setophaga ruticilla*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	American Robin	*Turdus migratorius*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Black-and-white Warbler	*Mniotilta varia*	Birds	June 12, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Black-and-white Warbler	*Mniotilta varia*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Blackburnian Warbler	*Setophaga fusca*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Blackburnian Warbler	*Setophaga fusca*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Blackburnian Warbler	*Setophaga fusca*	Birds	June 12, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Black-throated Green Warbler	*Setophaga virens*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Black-throated Green Warbler	*Setophaga virens*	Birds	June 12, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Black-throated Green Warbler	*Setophaga virens*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Cedar Waxwing	*Bombycilla cedrorum*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Chestnut-sided Warbler	*Setophaga pensylvanica*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Common Loon	*Gavia immer*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Common Loon	*Gavia immer*	Birds	June 12, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Common Raven	*Corvus corax*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Hermit Thrush	*Catharus guttatus*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Hermit Thrush	*Catharus guttatus*	Birds	June 12, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Hermit Thrush	*Catharus guttatus*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Hermit Thrush	*Catharus guttatus*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Least Flycatcher	*Empidonax minimus*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Magnolia Warbler	*Setophaga magnolia*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Magnolia Warbler	*Setophaga magnolia*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Magnolia Warbler	*Setophaga magnolia*	Birds	June 12, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Magnolia Warbler	*Setophaga magnolia*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Mourning Warbler	*Geothlypis philadelphia*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Mourning Warbler	*Geothlypis philadelphia*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Ovenbird	*Seiurus aurocapilla*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 12, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Red-winged Blackbird	*Agelaius phoeniceus*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Song Sparrow	*Melospiza melodia*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Spring Peeper	*Pseudacris crucifer*	Herps	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Spring Peeper	*Pseudacris crucifer*	Herps	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Spring Peeper	*Pseudacris crucifer*	Herps	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Swainson's Thrush	*Catharus ustulatus*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Swainson's Thrush	*Catharus ustulatus*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Swamp Sparrow	*Melospiza georgiana*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 10, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 12, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 11, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Beside Wetland	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 19, 2012		527237	5189546	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Blackburnian Warbler	*Setophaga fusca*	Birds	June 13, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Blue Jay	*Cyanocitta cristata*	Birds	June 13, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Blue-headed Vireo	*Vireo solitarius*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Blue-headed Vireo	*Vireo solitarius*	Birds	June 13, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Dark-eyed Junco	*Junco hyemalis*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Dark-eyed Junco	*Junco hyemalis*	Birds	June 12, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Dark-eyed Junco	*Junco hyemalis*	Birds	June 13, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Dark-eyed Junco	*Junco hyemalis*	Birds	June 20, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 12, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 13, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 20, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Hermit Thrush	*Catharus guttatus*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Hermit Thrush	*Catharus guttatus*	Birds	June 12, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Hermit Thrush	*Catharus guttatus*	Birds	June 13, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Hermit Thrush	*Catharus guttatus*	Birds	June 20, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Magnolia Warbler	*Setophaga magnolia*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Magnolia Warbler	*Setophaga magnolia*	Birds	June 12, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 12, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 20, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Ovenbird	*Seiurus aurocapilla*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Ovenbird	*Seiurus aurocapilla*	Birds	June 20, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Red Squirrel	*Tamiasciurus hudsonicus*	Mammals	June 12, 2012		528467	5190031	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 12, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 13, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 20, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Swainson's Thrush	*Catharus ustulatus*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Swainson's Thrush	*Catharus ustulatus*	Birds	June 12, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Swainson's Thrush	*Catharus ustulatus*	Birds	June 13, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Swainson's Thrush	*Catharus ustulatus*	Birds	June 20, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 12, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 13, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 20, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 11, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 12, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 13, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, Stream-side	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 20, 2012		527697	5189906	n	n	Kevan Cowcill	song meter
Red Pine Stand, Lower Slope, West-Facing	Bristly Sarsaparilla	*Aralia hispida*	Plants	Sept 30, 2012		528467	5190031	n	n	Peter Quinby & Michael Henry	along portage from Wolf L. to Laundry L., south of road
Red Pine Stand, Lower Slope, West-Facing	Dwarf Rattlesnake Plantain	*Goodyera repens*	Plants	Sept 30, 2012		528467	5190031	n	n	Peter Quinby & Michael Henry	along portage from Wolf L. to Laundry L., south of road
Red Pine Stand, Lower Slope, West-Facing	Ground Hemlock	*Taxus canadensis*	Plants	Sept 30, 2012		528467	5190031	n	n	Peter Quinby & Michael Henry	along portage from Wolf L. to Laundry L., south of road
Red Pine Stand, Lower Slope, West-Facing	Indian Cucumber Root	*Medeola virginiana*	Plants	Sept 30, 2012		528467	5190031	n	n	Peter Quinby & Michael Henry	along portage from Wolf L. to Laundry L., south of road

Red Pine Stand, Lower Slope, West-Facing	Royal Fern	*Osmunda regalis*	Plants	Sept 30, 2012		528467	5190031	n	n	Peter Quinby & Michael Henry	along portage from Wolf L. to Laundry L., south of road
Red Pine Stand, Lower Slope, West-Facing	Yellow Birch	*Betula alleghaniensis*	Plants	Sept 30, 2012		528467	5190031	n	n	Peter Quinby & Michael Henry	along portage from Wolf L. to Laundry L., south of road
Red Pine Stand, Mid-Slope, East-Facing	American Redstart	*Setophaga ruticilla*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Black-and-white Warbler	*Mniotilta varia*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Black-and-white Warbler	*Mniotilta varia*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Blackburnian Warbler	*Setophaga fusca*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Blackburnian Warbler	*Setophaga fusca*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Blackburnian Warbler	*Setophaga fusca*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Black-throated Green Warbler	*Setophaga virens*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Black-throated Green Warbler	*Setophaga virens*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Common Loon	*Gavia immer*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Common Loon	*Gavia immer*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Common Loon	*Gavia immer*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Common Loon	*Gavia immer*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Common Nighthawk	*Chordeiles minor*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Common Nighthawk	*Chordeiles minor*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Dark-eyed Junco	*Junco hyemalis*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Dark-eyed Junco	*Junco hyemalis*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Dark-eyed Junco	*Junco hyemalis*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Gray Treefrog	*Hyla versicolor*	Herps	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Hermit Thrush	*Catharus guttatus*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Hermit Thrush	*Catharus guttatus*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Hermit Thrush	*Catharus guttatus*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Hermit Thrush	*Catharus guttatus*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Magnolia Warbler	*Setophaga magnolia*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Magnolia Warbler	*Setophaga magnolia*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Magnolia Warbler	*Setophaga magnolia*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Ovenbird	*Seiurus aurocapilla*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Ovenbird	*Seiurus aurocapilla*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Ovenbird	*Seiurus aurocapilla*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Ovenbird	*Seiurus aurocapilla*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Swainson's Thrush	*Catharus ustulatus*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Swainson's Thrush	*Catharus ustulatus*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Swainson's Thrush	*Catharus ustulatus*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Swainson's Thrush	*Catharus ustulatus*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Wilson's Snipe	*Gallinago gallinago*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Wilson's Snipe	*Gallinago gallinago*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 11, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 12, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 13, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, East-Facing	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 20, 2012		528022	5189903	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Bay-breasted Warbler	*Setophaga castanea*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Black-and-white Warbler	*Mniotilta varia*	Birds	June 14, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Blackburnian Warbler	*Setophaga fusca*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Blackburnian Warbler	*Setophaga fusca*	Birds	June 14, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Blackburnian Warbler	*Setophaga fusca*	Birds	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Black-capped Chickadee	*Poecile atricapillus*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Blue-headed Vireo	*Vireo solitarius*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Blue-headed Vireo	*Vireo solitarius*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Common Loon	*Gavia immer*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Common Loon	*Gavia immer*	Birds	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Dark-eyed Junco	*Junco hyemalis*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Dark-eyed Junco	*Junco hyemalis*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Dark-eyed Junco	*Junco hyemalis*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 14, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Golden-crowned Kinglet	*Regulus satrapa*	Birds	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Hermit Thrush	*Catharus guttatus*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Hermit Thrush	*Catharus guttatus*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Hermit Thrush	*Catharus guttatus*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Hermit Thrush	*Catharus guttatus*	Birds	June 14, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Magnolia Warbler	*Setophaga magnolia*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Magnolia Warbler	*Setophaga magnolia*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Magnolia Warbler	*Setophaga magnolia*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Magnolia Warbler	*Setophaga magnolia*	Birds	June 14, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Magnolia Warbler	*Setophaga magnolia*	Birds	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 14, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Ovenbird	*Seiurus aurocapilla*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Ovenbird	*Seiurus aurocapilla*	Birds	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Red Squirrel	*Tamiasciurus hudsonicus*	Mammals	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 14, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Red-eyed Vireo	*Vireo olivaceus*	Birds	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Swainson's Thrush	*Catharus ustulatus*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Swainson's Thrush	*Catharus ustulatus*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Swainson's Thrush	*Catharus ustulatus*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Swainson's Thrush	*Catharus ustulatus*	Birds	June 14, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Swainson's Thrush	*Catharus ustulatus*	Birds	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 14, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	White-throated Sparrow	*Zonotrichia albicollis*	Birds	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Wilson's Warbler	*Cardellina pusilla*	Birds	June 20, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 11, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 12, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 13, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
Red Pine Stand, Mid-Slope, South-Facing	Yellow-rumped Warbler	*Setophaga coronata*	Birds	June 14, 2012		527840	5189896	n	n	Kevan Cowcill	song meter
River Edge, Water	Little Autumn Sedge Caddisfly	*Wormaldia spp.*	Aquatic Inverts	June 10, 2012		527712	5189842	y	n	Paul Smylie	
River Edge, Water	Mayfly Nymph	*Stenonema spp.*	Aquatic Inverts	June 10, 2012		527712	5189842	y	n	Paul Smylie	
River Head, Water	Green Sedge Caddisfly	*Rhyacophila spp.*	Aquatic Inverts	June 10, 2012		527770	5189973	y	n	Paul Smylie	
River Head, Water	Little Autumn Sedge Caddisfly	*Wormaldia spp.*	Aquatic Inverts	June 10, 2012		527770	5189973	y	n	Paul Smylie	
River Head, Water	Net-spinning Caddisfly	*Hydropsyche spp.*	Aquatic Inverts	June 10, 2012		527770	5189973	y	n	Paul Smylie	
River Mouth, Water	Little Black Sedge Caddisfly	*Chimarra spp.*	Aquatic Inverts	June 10, 2012		527744	5189792	y	n	Paul Smylie	
River Mouth, Water	Net-spinning Caddisfly	*Hydropsyche spp.*	Aquatic Inverts	June 10, 2012		527744	5189792	y	n	Paul Smylie	
River Mouth, Water	Spotted Darner (nymph)	*Boyeria sp.*	Aquatic Inverts	June 10, 2012		527744	5189792	y	n	Paul Smylie	
Roadside	Green Frog	*Lithobates clamitans*	Herps	May 29, 2012		527001	5188556	n	n	Chris Blomme	
Roadside	Smooth Greensnake	*Opheodrys vernalis*	Herps	May 29, 2012		526600	5188308	n	n	Chris Blomme	
Rocky Shoreline	American Toad	*Anaxyrus americanus*	Herps	July 1-3, 2012		528130	5188432	n	n	James Paterson	
Rocky Shoreline	Eastern Gartersnake	*Thamnophis sirtalis sirtalis*	Herps	July 1-3, 2012		528166	5189085	n	n	James Paterson	
Rocky Shoreline	Green Frog	*Lithobates clamitans*	Herps	July 1-3, 2012		528166	5189085	n	n	James Paterson	
Shoreline	Midland Painted Turtle	*Chrysemys picta marginata*	Herps	May 29, 2012		526791	5188216	n	n	Chris Blomme	
Shoreline	Spotted Sandpiper	*Actitis macularius*	Birds	May 29, 2012		527151	5188217	n	n	Chris blomme	2 individuals
Shoreline Riparian	American Redstart	*Setophaga ruticilla*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	m
Shoreline Riparian	American Toad	*Anaxyrus americanus*	Herps	May 29, 2012		527001	5188556	n	n	Chris Blomme	
Shoreline Riparian	Blue Flag Iris	*Iris versicolor*	Plants	Sept 10-12, 2012		527225	5188791	n	n	Tim Martens	

Shoreline Riparian	Bog Aster	*Aster nemoralis*	Plants	Sept 10-12, 2012		528176	5189317	n	y	Tim Martens	
Shoreline Riparian	Bristly Sarsaparilla	*Aralia hispida*	Plants	Sept 10-12, 2012		528355	5189595	n	n	Tim Martens	
Shoreline Riparian	Canadian Rush	*Juncus Canadensis*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Shoreline Riparian	Chestnut-sided Warbler	*Dendroica pensylvanica*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	1 individual
Shoreline Riparian	Chokeberry	*Aronia melanocarpa*	Plants	Sept 10-12, 2012		527225	5188791	n	n	Tim Martens	
Shoreline Riparian	Common Blackberry	*Rubus allegheniensis*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Shoreline Riparian	Common Hair Cap Moss	*Polytrichum commune*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Shoreline Riparian	Cotton Grass spp.	*Eriophorum spp.*	Plants	Sept 10-12, 2012		528411	5190030	y	y	Tim Martens	
Shoreline Riparian	Creeping Snowberry	*Gaultheria hispidula*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Shoreline Riparian	Dwarf Raspberry	*Rubus pubescens*	Plants	Sept 10-12, 2012		527739	5189348	n	y	Tim Martens	
Shoreline Riparian	Eastern White Cedar	*Thuja occidentalis*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	False Pixie Cup	*Cladonia chorophaea*	Lichens	Sept 10-12, 2012		528355	5189595	n	n	Tim Martens	
Shoreline Riparian	Flat-topped Goldenrod	*Euthamia graminifolia*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Shoreline Riparian	Fringed Sedge	*Carex crinita*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Shoreline Riparian	Grey Wolf	*Canis lupus*	Mammals	May 29, 2012		526705	5188339	n	n	Chris Blomme	tracks in fresh mud
Shoreline Riparian	Hay-scented Fern	*Dennstaedtia punctilobula*	Plants	Sept 10-12, 2012		528411	5190030	y	y	Tim Martens	
Shoreline Riparian	Indian Cucumber Root	*Medíola virginiana*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Shoreline Riparian	Labrador Tea	*Ledum groenlandicum*	Plants	Sept 10-12, 2012		527621	5187847	n	n	Tim Martens	
Shoreline Riparian	Lance-leaved Violet	*Viola lanceolata*	Plants	Sept 10-12, 2012		527866	5189083	y	y	Tim Martens	
Shoreline Riparian	Leatherleaf	*Chamaedaphne calyculata*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	Magnolia Warbler	*Setophaga magnolia*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	8 individuals
Shoreline Riparian	Marsh St. Johns Wort	*Hypericum virginicum*	Plants	Sept 10-12, 2012		528411	5190030	y	n	Tim Martens	
Shoreline Riparian	Meadowsweet	*Spiraea alba*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	Moose	*Alces alces*	Mammals	May 29, 2012		526705	5188339	n	n	Chris Blomme	tracks in fresh mud
Shoreline Riparian	Mountain Holly	*Nemopanthus mucronatus*	Plants	Sept 10-12, 2012		528411	5190030	y	y	Tim Martens	
Shoreline Riparian	Mountain Maple	*Acer spicatum*	Plants	Sept 10-12, 2012		527739	5189348	n	n	Tim Martens	
Shoreline Riparian	Narrow-leaved Meadowsweet	*Spiraea alba*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	Nashville Warbler	*Oreothlypis ruficapilla*	Birds	May 29, 2012		526918	5188247	n	n	Chris Blomme	8 individuals
Shoreline Riparian	Northern Bugleweed	*Lycopus uniflorus*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	Northern White Violet	*Viola mackloskeyi*	Plants	Sept 10-12, 2012		527607	5189380	n	y	Tim Martens	
Shoreline Riparian	Northern Wild Raisin	*Viburnum cassinoides*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Shoreline Riparian	Pipewort	*Eriocaulon aquaticum*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Shoreline Riparian	Red-winged Blackbird	*Agelaius phoeniceus*	Birds	May 29, 2012		526706	5188154	n	n	Chris Blomme	m
Shoreline Riparian	Round-leaved Sundew	*Drosera rotundifolia*	Plants	Sept 10-12, 2012		527655	5189587	n	n	Tim Martens	
Shoreline Riparian	Royal Fern	*Osmunda regalis*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	Sheep Laurel	*Kalmia angustifilia*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	Soft-stem Bulrush	*Scirpus validus*	Plants	Sept 10-12, 2012		527621	5187847	n	y	Tim Martens	
Shoreline Riparian	Song Sparrow	*Melospiza melodia*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	4 individuals
Shoreline Riparian	Song Sparrow	*Melospiza melodia*	Birds	July 4 2012	S	528193	5189259	n	n	Ramsey Hart	
Shoreline Riparian	Southern Beech Fern	*Phegopteris hexagonoptera*	Plants	Sept 10-12, 2012		528411	5190030	y	y	Tim Martens	
Shoreline Riparian	Spatulate-leaved Sundew	*Drosera intermedia*	Plants	Sept 10-12, 2012		528169	5188873	n	y	Tim Martens	
Shoreline Riparian	Speckled Alder	*Alnus incana ssp. Rugosa*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	Spotted Sandpiper	*Actitis macularius*	Birds	July 4 2012	H	528375	5189897	n	n	Ramsey Hart	
Shoreline Riparian	St. John's Wort spp.	*Hypericum sp.*	Plants	Sept 10-12, 2012		528411	5190030	y	y	Tim Martens	
Shoreline Riparian	Steeple Bush	*Spiraea tomentosa*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	Swamp Candles	*Lysimachia terrestris*	Plants	Sept 10-12, 2012		528169	5188873	n	y	Tim Martens	
Shoreline Riparian	Swamp Sparrow	*Melospiza georgiana*	Birds	July 4 2012	S	528233	5188792	n	n	Ramsey Hart	
Shoreline Riparian	Sweet Gale	*Myrica Gale*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	Three-fruited Sedge	*Carex trisperma*	Plants	Sept 10-12, 2012		528411	5190030	y	y	Tim Martens	
Shoreline Riparian	Three-way Sedge	*Dulichium arundinaceum*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Shoreline Riparian	Warnstorf's Peat Moss	*Sphagnum warnstorfii*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Shoreline Riparian	Winterberry Holly	*Ilex verticillata*	Plants	Sept 10-12, 2012		527621	5187847	n	n	Tim Martens	
Shoreline Riparian	Wool Grass	*Scirpus cyperinus*	Plants	Sept 10-12, 2012		528411	5190030	n	y	Tim Martens	
Shoreline Riparian	Yellow Birch	*Betula alleganiensis*	Plants	Sept 10-12, 2012		527739	5189348	n	n	Tim Martens	
Shoreline Riparian, Lake	Midland Painted Turtle	*Chrysemys picta marginata*	Herps	July 1-3, 2012		526610	5188226	n	n	James Paterson	
Unknown	Sandhill Crane	*Grus canadensis*	Birds	July 5, 2012	X	529047	5188653	n	n	Ramsey Hart	location approximate; heard bugling from lower elevation to eastwhile on ridge-top
Upland Conifer	American Robin	*Turdus migratorius*	Birds	May 29, 2012		527954	5188561	n	n	Chris Blomme	1 individual
Upland Conifer	Balsam Fir	*Abies balsamea*	Plants	Sept 10-12, 2012		527655	5189587	n	n	Tim Martens	
Upland Conifer	Black Spruce	*Picea mariana*	Plants	Sept 10-12, 2012		528355	5189595	n	n	Tim Martens	
Upland Conifer	Black-and-white Warbler	*Mniotilta varia*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	4 individuals
Upland Conifer	Black-and-white Warbler	*Mniotilta varia*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Blackburnian Warbler	*Setophaga fusca*	Birds	May 29, 2012		527128	5188526	n	n	Chris Blomme	5 individuals
Upland Conifer	Black-capped Chickadee	*Poecile atricapillus*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Black-throated Blue warbler	*Setophaga caerulescens*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	1 individual
Upland Conifer	Black-throated Green Warbler	*Setophaga virens*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	3 individuals
Upland Conifer	Black-throated Green Warbler	*Setophaga virens*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Blue-bead Lily	*Clintonia borealis*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	Blue-headed Vireo	*Vireo solitarius*	Birds	May 29, 2012		527128	5188526	n	n	Chris Blomme	4 individuals
Upland Conifer	Blue-headed Vireo	*Vireo solitarius*	Birds	July 4, 2012	FY	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Bracken Fern	*Pteridium aquilinum*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	British Soldiers	*Cladonia cristatella*	Lichens	Sept 10-12, 2012		528355	5189595	n	n	Tim Martens	
Upland Conifer	Bunchberry	*Cornis Canadensis*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	Bush honeysuckle	*Diervilla lonicera*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	Canada Mayflower	*Maianthemum canadense*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	Canada Warbler	*Cardellina canadensis*	Birds	July 4, 2012	FY	528149	5188396	n	n	Ramsey Hart	female feeding young in dense scrubby spruce at edge of small pond
Upland Conifer	Chipping Sparrow	*Spizella passerina*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	1 individual
Upland Conifer	Common Nighthawk	*Chordeiles minor*	Birds	July 4, 2012	S	527510	5188741	n	n	Ramsey Hart	flying and calling overhead south of Wolf Lake
Upland Conifer	Common Raven	*Corvus corax*	Birds	May 29, 2012		527954	5188561	n	n	Chris Blomme	1 individual
Upland Conifer	Common Raven	*Corvus corax*	Birds	July 4, 2012	H	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Dark-eyed Junco	*Junco hyemalis*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	4 individuals
Upland Conifer	Eastern Wood-pewee	*Contopus virens*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Flat-topped White Aster	*Aster umbellatus*	Plants	Sept 10-12, 2012		527755	5189823	n	y	Tim Martens	
Upland Conifer	Golden-crowned Kinglet	*Regulus satrapa*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Goldthread	*Coptis trifolia*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	Green Alder	*Alnus viridis*	Plants	Sept 10-12, 2012		527277	5189046	n	n	Tim Martens	
Upland Conifer	Hairy Woodpecker	*Picoides villosus*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	1 individual
Upland Conifer	Hairy Woodpecker	*Picoides villosus*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Hermit Thrush	*Catharus guttatus*	Birds	May 29, 2012		527954	5188561	n	n	Chris Blomme	1 individual
Upland Conifer	Hermit Thrush	*Catharus guttatus*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Jack Pine	*Pinus banksianna*	Plants	Sept 10-12, 2012		528355	5189595	n	n	Tim Martens	
Upland Conifer	Low-sweet Blueberry	*Vaccinium angustifolium*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	Magnolia Warbler	*Setophaga magnolia*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Mountain Ash	*Sorbis americana*	Plants	Sept 10-12, 2012		527277	5189046	n	n	Tim Martens	
Upland Conifer	Northern Beech Fern	*Phegopteris connectilis*	Plants	Sept 10-12, 2012		527739	5189348	n	y	Tim Martens	
Upland Conifer	Northern Flicker	*Colaptes auratus*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	2 individuals
Upland Conifer	Northern Flicker	*Colaptes auratus*	Birds	July 5, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	One-sided Wintergreen	*Orthilia secunda*	Plants	Sept 10-12, 2012		527655	5189587	y	n	Tim Martens	
Upland Conifer	Ovenbird	*Seiurus aurocapilla*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	8 individuals
Upland Conifer	Ovenbird	*Seiurus aurocapilla*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Painted Trillium	*Trillium undulatum*	Plants	Sept 10-12, 2012		528189	5188718	n	y	Tim Martens	
Upland Conifer	Pileated Woodpecker	*Dryocopus pileatus*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	1 individual
Upland Conifer	Pileated Woodpecker	*Dryocopus pileatus*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Pine Warbler	*Dendroica pinus*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	4 individuals
Upland Conifer	Pine Warbler	*Setophaga pinus*	Birds	July 4, 2012	FY	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Pink Lady's Slipper	*Cyprepedium acaule*	Plants	Sept 10-12, 2012		527277	5189046	n	y	Tim Martens	
Upland Conifer	Polypody Fern	*Polypodium virginianum*	Plants	Sept 10-12, 2012		528355	5189595	n	n	Tim Martens	
Upland Conifer	Red Maple	*Acer rubrum*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	Red Oak	*Quercus rubra*	Plants	Sept 10-12, 2012		527277	5189046	n	n	Tim Martens	
Upland Conifer	Red Pine	*Pinus resinosa*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Upland Conifer	Red Squirrel	*Tamiasciurus hudsonicus*	Mammals	May 29, 2012		527129	5188341	n	n	Chris Blomme	
Upland Conifer	Red-breasted Nuthatch	*Sitta canadensis*	Birds	May 29, 2012		527954	5188561	n	n	Chris Blomme	1 individual
Upland Conifer	Red-breasted Nuthatch	*Sitta canadensis*	Birds	July 4, 2012	T	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Red-eyed Vireo	*Vireo olivaceus*	Birds	July 4, 2012	T	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Rock Tripe	*Umbilicaria mammulata*	Plants	Sept 10-12, 2012		527225	5188791	n	n	Tim Martens	
Upland Conifer	Ruby-crowned Kinglet	*Regulus calendula*	Birds	May 29, 2012		527954	5188561	n	n	Chris Blomme	2 individuals
Upland Conifer	Ruffed Grouse	*Bonasa umbellus*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	2 individuals, drumming and egg
Upland Conifer	Ruffed Grouse	*Bonasa umbellus*	Birds	July 4, 2012	H	528763	5190378	n	n	Ramsey Hart	
Upland Conifer	Serviceberry spp.	*Amelanchier spp.*	Plants	Sept 10-12, 2012		527621	5187847	n	n	Tim Martens	
Upland Conifer	Starflower	*Trientalis borealis*	Plants	Sept 10-12, 2012		528355	5189595	n	n	Tim Martens	
Upland Conifer	Swainson's Thrush	*Catharus ustulatus*	Birds	May 29, 2012		527954	5188561	n	n	Chris Blomme	2 individuals

Upland Conifer	Swainson's Thrush	*Catharus ustulatus*	Birds	July 4, 2012	T	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Trailing Arbutus	*Epigaea repens*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	Veery	*Catharus fuscescens*	Birds	May 29, 2012		527954	5188561	n	n	Chris Blomme	2 individuals
Upland Conifer	Velvet-leaved Bluedberry	*Vaccinium myrtilloides*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	White Birch	*Betula papyrifera*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	White Pine	*Pinus strobus*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Upland Conifer	White Spruce	*Picea glauca*	Plants	Sept 10-12, 2012		527330	5188185	n	n	Tim Martens	
Upland Conifer	White-throated Sparrow	*Zonotrichia albicollis*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	3 individuals
Upland Conifer	White-throated Sparrow	*Zonotrichia albicollis*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Wild Sarsaparilla	*Aralia nudicaulis*	Plants	Sept 10-12, 2012		527739	5189348	n	n	Tim Martens	
Upland Conifer	Wilson's Warbler	*Cardellina pusilla*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Winter Wren	*Troglodytes hiemalis*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Wintergreen	*Gaultheria procumbens*	Plants	Sept 10-12, 2012		528411	5190030	n	n	Tim Martens	
Upland Conifer	Wood Frog	*Lithobates sylvaticus*	Herps	July 1-3, 2012		527611	5189395	n	n	James Paterson	
Upland Conifer	Yellow Warbler	*Setophaga petechia*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer	Yellow-rumped Warbler	*Dendroica coronata*	Birds	May 29, 2012		527149	5188557	n	n	Chris Blomme	4 individuals
Upland Conifer	Yellow-rumped Warbler	*Setophaga coronata*	Birds	July 4, 2012	S	528233	5188792	n	n	Ramsey Hart	
Upland Conifer and Bog	Black-capped Chickadee	*Poecile atricapillus*	Birds	May 29, 2012		526761	5190222	n	n	Chris Blomme	4 individuals
Upland Conifer and Shoreline Riparian	Red-eyed Vireo	*Vireo olivaceous*	Birds	May 29, 2012		527963	5186709	n	n	Chris Blomme	6 individuals

NOTES:

1. m = male, f = female
2. FY = Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight, H = Species observed in its breeding season in suitable nesting habitat, S = Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season, T = Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two days, a week or more appart, at the same place, X = Species observed in its breeding

Photos by Rob Nelson