



# Implementation of a Long-term Vegetation Monitoring Program at Pictured Rocks National Lakeshore

Natural Resource Technical Report NPS/GLKN/NRTR—2010/405



**ON THE COVER**

Clockwise from top left: recording the groundlayer in 1m<sup>2</sup> quadrat; measuring tree DBH; beech bark disease.  
Photographs by: GLKN vegetation monitoring field crew

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# **Implementation of a Long-term Vegetation Monitoring Program at Pictured Rocks National Lakeshore**

Natural Resource Technical Report NPS/GLKN/NRTR—2010/405

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## Executive Summary

We initiated a long-term vegetation monitoring program at Pictured Rocks National Lakeshore (PIRO) in summer 2009. The goals of this monitoring program are to detect forest change and to draw inferences about forest health so that management recommendations can be provided to Network parks. In 2009, we established 59 plots at PIRO, distributed among five habitat types: 1) very dry to dry, very poor to poor nutrient availability, 2) dry to dry mesic, poor to rich nutrient availability, 3) mesic, poor to medium nutrient availability, 4) mesic, medium nutrient availability, and 5) mesic, medium to rich nutrient availability. Data collected included tree species and diameter at breast height (DBH) for all individuals  $\geq 2.6$  cm DBH, sapling density, and coarse woody material. In the driest habitat, both jack pine and red pine are exhibiting poor regeneration. In this habitat, balsam fir, white pine, red maple, and aspen have the greatest density in the smallest size classes. In mesic habitats, there was a high percentage of trees showing evidence of beech scale ranging from 34 to 73% of beech trees in the four habitats affected. Despite this, the percentage of infestation on individual trees was relatively low, ranging from 1 to 17% in these habitats. In the same habitats, sugar maple was the dominant species, in many areas forming monospecific stands. Management recommendations for PIRO include initiating prescribed burning in the driest sites to promote the growth of jack pine and red pine. In mesic areas, managers may wish to restore areas to the historic species composition, including yellow birch and hemlock. In addition, scouting for resistant beech trees may help facilitate the restoration of beech once this disease becomes more widespread.



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## Introduction

Long-term forest monitoring provides an assessment of forest health by showing the status of plant communities at the time of each sampling event and elucidating how these communities change over time. Despite this value, large-scale monitoring programs for forest health, with regularly scheduled return intervals are not common (for an exception, see U. S. Department of Agriculture (2005)).

In 2007, the Great Lakes Inventory & Monitoring Network of the National Park Service initiated a long-term forest vegetation monitoring program for nine national parks in the Great Lakes region. The general goals of this program are to monitor forest vegetation to gain a better understanding of its dynamics, and to compare, ultimately, vegetation indices to baseline conditions. The summer of 2009 was the initiation of the program at Pictured Rocks National Lakeshore (PIRO) in the Upper Peninsula of Michigan. As this was the initial year of data collection at this park, no comparisons between time intervals can be made. Nonetheless, meaningful data were obtained to demonstrate the current status of forests here.

The goals of the long-term vegetation monitoring effort during the first sampling year at a given park focus on obtaining baseline data on the status of park forests. Here, we report on this effort at PIRO. Specifically, we wanted to answer the following questions for key forest habitats: 1) What is the relationship between density and stem diameter for key tree species? 2) What is the basal area of both individual tree species and all species collectively? 3) What is the density of saplings? 4) What is the percentage of shrub cover?

## Methods

Sampling was conducted at PIRO from July 8-August 25, 2009. Site locations were selected using a generalized random-tessellation stratified design (GRTS, Stevens and Olsen 2004), ensuring that sites are both randomly located, but also spatially balanced throughout the park. All potential sites were overlain on an aerial photography layer using GIS prior to visiting the site in the field. In this way, we were able to eliminate any potential sites that did not meet the minimum 10% forest cover requirement. Potential sites that were partially outside of the park boundary, or that did not meet the minimum 10% cover requirement, were moved the shortest distance possible, to a maximum of 100 m, so that they fell within the park boundary or within the desired amount of cover. If a potential site could not be moved  $\leq 100$  m to meet the criteria for acceptance, it was not sampled. Maps of individual sites are presented in Appendix A.

Sites were sampled using the hybrid plot (Figure 1), developed specifically for the Great Lakes Network long-term vegetation monitoring needs (Johnson et al. 2006, Johnson et al. 2008). This plot is composed of three parallel transects oriented east-west. Tree data were collected in a 6 m wide band along the length of each transect. Data collected included species, diameter at breast height (DBH), whether the tree was alive, and any evident damage or disease. Trees were defined as having a DBH of  $\geq 2.6$  cm (1 in). Groundlayer vegetation was collected in  $1\text{m}^2$  quadrats placed every 5 meters along each transect ( $n = 30$  per plot). Within each quadrat, we recorded all herbaceous, vine, and shrub species present, as well as counted saplings of each tree species present. Saplings are defined as trees  $\leq 2.5$  cm DBH, but at least 15 cm (conifers) or 30

cm (hardwoods) in height and showing evidence of growth from the previous year. Shrub cover was assessed within each of six 2.82 m radius (25 m<sup>2</sup> area) shrub circles, located at the transect ends. Here, we visually estimated percent cover of each species present. We measured data on coarse woody materials (CWM) along each of the three transects using the planar intercept method (Brown 1974, Woodall and Williams 2005) and recorded the diameter at the point of intercept, the small end, and the large end, and recorded the length. Because we defined CWM as having a diameter  $\geq 7.6$  cm (3 in), the length of a piece was recorded only along where the diameter met or exceeded this amount. Finally, we performed a half-hour time delimited search of the entire 50 m  $\times$  100 m plot area to locate any additional species not previously recorded in any of the sampling.

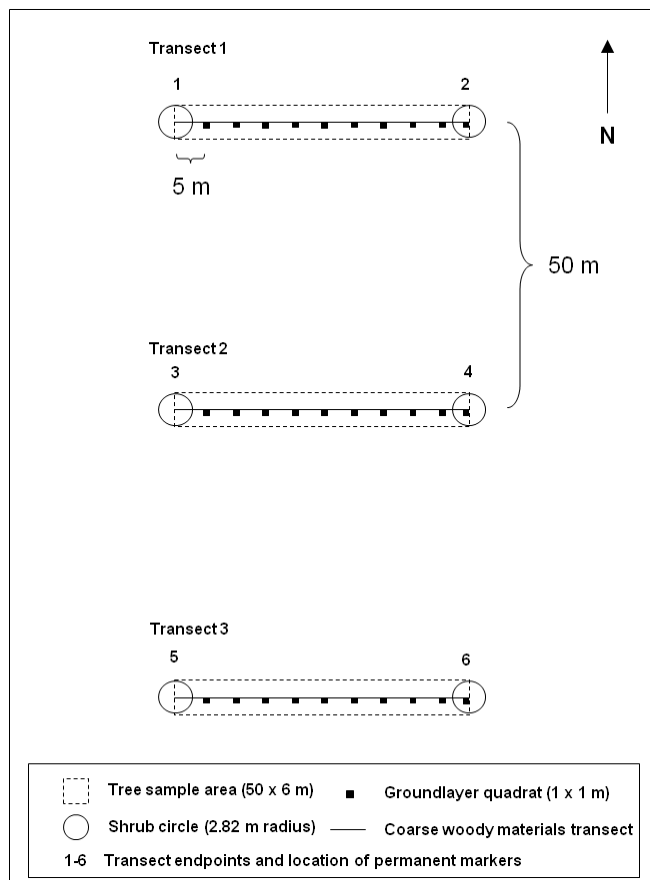


**Figure 1.** Diagram of hybrid plot.

We examined winter and summer browse pressure using both direct and indirect measures. Direct browse was measured along each of the three 50 meter transects, as well as along both of the 100 m transects running north-south at the plot (broken down into 50 meter segments for consistency). Direct browse measurements were done in both 2 m<sup>2</sup> and 4 m<sup>2</sup> circular sampling areas (Figure 2). These browse sampling circles were centered every 5 meters along each transect, for a total of 67 for the plot. This resulted in a total sampling area of 134 m<sup>2</sup> and 268 m<sup>2</sup>, respectively. For each direct browse sampling circle, all woody species present in the browse zone, defined as between 0.20 m and 1.8 m in height were recorded. In addition to species

presence, evidence of any ungulate browse on that species in the sampling circle was recorded. Typically, winter browse surveys are conducted in the spring, prior to the new season's growth. Because we were not able to sample in the spring, we only considered a plant browsed when it was apparent that the browse occurred before the start of the current season's growth. This was evidenced by new growth arising from the bud immediately below the point of browse. Direct browse data was used to calculate a browse index based on all the woody species present and those with evident browse (Waller et al. 2009, Morellet et al. 2003, Morellet et al. 2001).

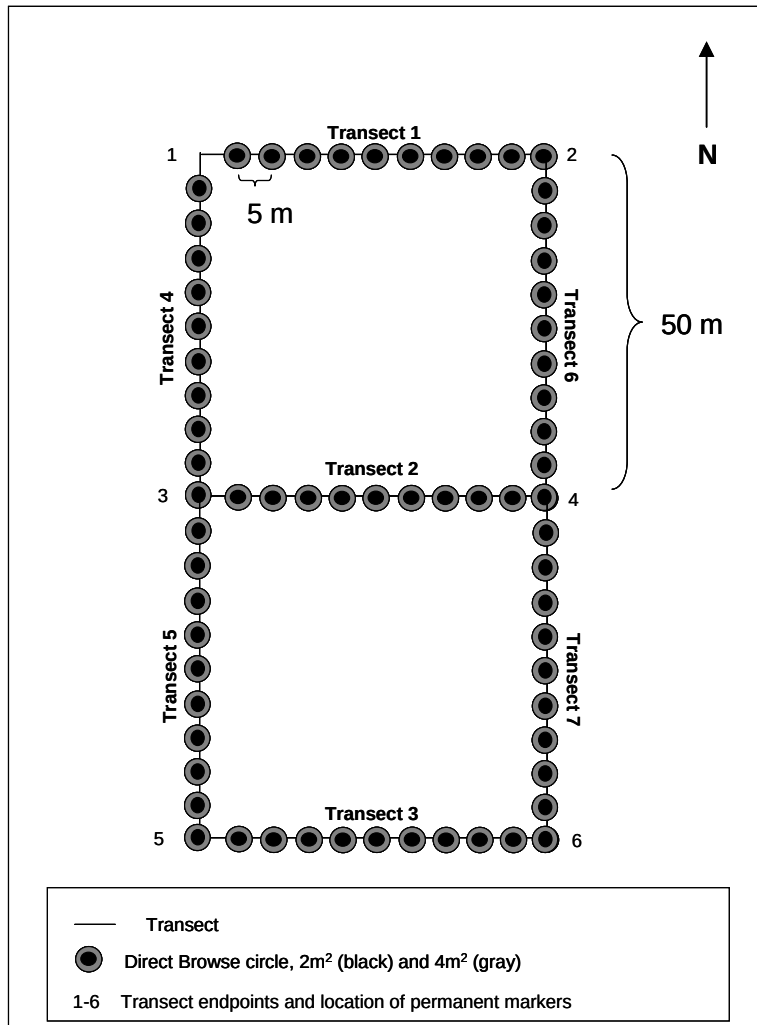


**Figure 2.** Direct browse sampling circles in plot.

To assess the indirect impacts of summer browse on understory species, we selected three target species, *Streptopus lanceolatus* var. *roseus* (rosy twisted-stalk), *Aralia nudicaulis* (wild sarsaparilla), and *Arisaema triphyllum* (jack-in-the-pulpit), that are known to be preferentially browsed by deer. In each 1m<sup>2</sup> herbaceous quadrat, for each species, we counted the number of individuals that were non-reproductive and not browsed, reproductive and not browsed, and browsed (regardless of reproductive state). We also measured the height of the tallest individual of each species.

To assess tree disease, we viewed the boles, leaves, and branches of all trees in the 6 × 50 m tree transects where DBH was measured. We looked for symptoms of target diseases, as well as evidence of abiotic damage (Table 1) and, if found, the severity of damage and disease was recorded.

**Table 1.** Disease organisms and damage agents targeted in the vegetation monitoring protocol.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bark beetles</b><br>eastern larch beetle ( <i>Dendroctonus simplex</i> )<br>red turpentine beetle ( <i>Dendroctonus valens</i> )<br>pine engraver ( <i>Ips pini</i> )                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Root/butt diseases</b><br>armillaria root disease ( <i>Armillaria</i> spp.)                                                                                                                                |
| <b>Defoliators</b><br>large aspen tortrix ( <i>Choristoneura conflictana</i> )<br>spruce budworm ( <i>Choristoneura fumiferana</i> )<br>jackpine budworm ( <i>Choristoneura pinus</i> )<br>larch casebearer ( <i>Coleophora laricella</i> )<br>introduced pine sawfly ( <i>Diprion similis</i> )<br>gypsy moth ( <i>Lymantria dispar</i> )<br>eastern tent caterpillar ( <i>Malacosoma americanum</i> )<br>forest tent caterpillar ( <i>Malacosoma disstria</i> )<br>yellowheaded spruce sawfly ( <i>Pikonema alaskensis</i> )<br>basswood thrips ( <i>Thrips calcaratus</i> ) | <b>Foliage disease</b><br>siricoccus tip blight ( <i>Sirococcus conigenus</i> )<br>diplopedia shoot blight ( <i>Diplodia pinea</i> )                                                                          |
| <b>Sucking insects</b><br>pine spittlebug ( <i>Aphrophora parabell</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Stem rust</b><br>white pine blister rust ( <i>Cronartium ribicola</i> )                                                                                                                                    |
| <b>Boring insects</b><br>two-lined chestnut borer ( <i>Agrilus bilineatus</i> )<br>Zimmerman pine moth ( <i>Dioryctria zimmermani</i> )<br>Asian long-horned beetle ( <i>Anoplophora glabripennis</i> )<br>emerald ash borer ( <i>Agrilus planipennis</i> )<br>hemlock borer ( <i>Melanophila fulvoguttata</i> )<br>Sirex woodwasp ( <i>Sirex noctilio</i> )                                                                                                                                                                                                                   | <b>Fire</b><br><b>Wild animals</b><br><b>Abiotic damage</b><br><b>Human activities</b><br><b>Unknown</b><br>broken top<br>dead top<br>canker/gall<br>open wound<br>resinosis<br>damaged or discolored foliage |

Because we may want to stratify by forest or habitat type during later analyses, we declared a forest type for all plots sampled. We used the Kotar classification system (Kotar and Burger 2000, Burger and Kotar 2003). Under this system, the forest type of an area is based on the potential vegetation rather than the current vegetation. Potential vegetation is the expected climax forest in a stand and reflects both the moisture level, as well as the nutrient availability within the stand. The advantage of using Kotar classification rather than methods that describe the current forest type is that Kotar defined types are not expected to change over decadal time scales, as current types are. Thus, any post-sampling stratification that is performed should result in the same groupings of plots following any sampling event.

Finally, documenting visual assessment of site change will be as important as statistical documentation, and potentially more informative. Therefore, we took six photographs at each plot. The six photopoints were located at each of the six transect endpoints, with the camera facing into the plot (i.e., due east at points 1, 3, and 5 and due west at points 2, 4, and 6, Figure 1).

We attempted to identify all plants to the species level in the field. When this was not possible, we typically collected specimens for later identification. In some instances, it is not possible to

distinguish between multiple species present in a park, unless they are flowering or fruiting, which often was not the case. In these instances, we made the decision to record to genus instead. Examples of this include *Amelanchier* (serviceberry) and *Salix* (willow). For *Amelanchier* sp., the genus was taken down to three groups of species complexes, with Group 1 containing *A. bartramiana*, Group 2 containing *A. arborea*, *A. laevis*, and *A. interior*, and Group 3 containing an uncertain number of species (Smith 2008). In other instances, we were not able to identify certain specimens due to lack of taxonomic expertise. For example, many grasses and sedges were not identified beyond the family or genus level.



## Results

A total of 59 plots were completed at PIRO (Figure 3), representing seven forest types (Table 2). These were then grouped into five habitat types, defined by broader grouping of soil moisture and soil nutrient regimes. Thirty-three tree species were recorded in the sampling plots, as were 42 shrub and woody vine species and 169 herbaceous species (Appendix B).

**Table 2.** Habitat and forest types at PIRO and the plots classified in each.

| Habitat type<br>Forest type                                                    | Plots in type                                                                                        |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Very dry to dry, very poor to poor</b>                                      |                                                                                                      |
| <i>Pinus strobus/Vaccinium angustifolium-Epigaea repens</i>                    | 6014, 6015, 6027, 6028, 6034, 6043, 6067                                                             |
| <i>Pinus strobus-Acer rubrum/Vaccinium angustifolium</i>                       | 6004, 6023, 6044, 6053                                                                               |
| <i>Pinus strobus-Acer rubrum/Vaccinium angustifolium-Apocynum</i> variant      | 6020                                                                                                 |
| <b>Dry to dry mesic, poor</b>                                                  |                                                                                                      |
| <i>Pinus strobus-Acer rubrum/Vaccinium angustifolium-Aralia nudicaulis</i>     | 6002, 6031, 6047, 6063                                                                               |
| <b>Mesic, poor to medium</b>                                                   |                                                                                                      |
| <i>Acer saccharum-Tsuga Canadensis-Fagus grandifolia-Dryopteris spinulosa</i>  | 6022, 6024, 6025, 6029, 6032, 6036, 6037, 6039, 6054, 6055, 6059, 6062, 6065, 6068, 6070             |
| <b>Mesic, medium</b>                                                           |                                                                                                      |
| <i>Acer saccharum-Fagus grandifolia/Polygonatum pubescens</i>                  | 6012, 6013, 6016, 6018, 6030, 6040, 6041, 6045, 6056, 6058                                           |
| <b>Mesic, medium to rich</b>                                                   |                                                                                                      |
| <i>Acer saccharum-Fagus grandifolia/Osmorhiza claytoni-Arisaema atrorubens</i> | 6001, 6005, 6006, 6007, 6008, 6009, 6010, 6017, 6021, 6026, 6033, 6035, 6042, 6049, 6051, 6064, 6069 |
| <b>Unclassified (cedar swamp)</b>                                              | 6048                                                                                                 |

## Pictured Rocks National Lakeshore Long-term Monitoring Sites (Established 2009)

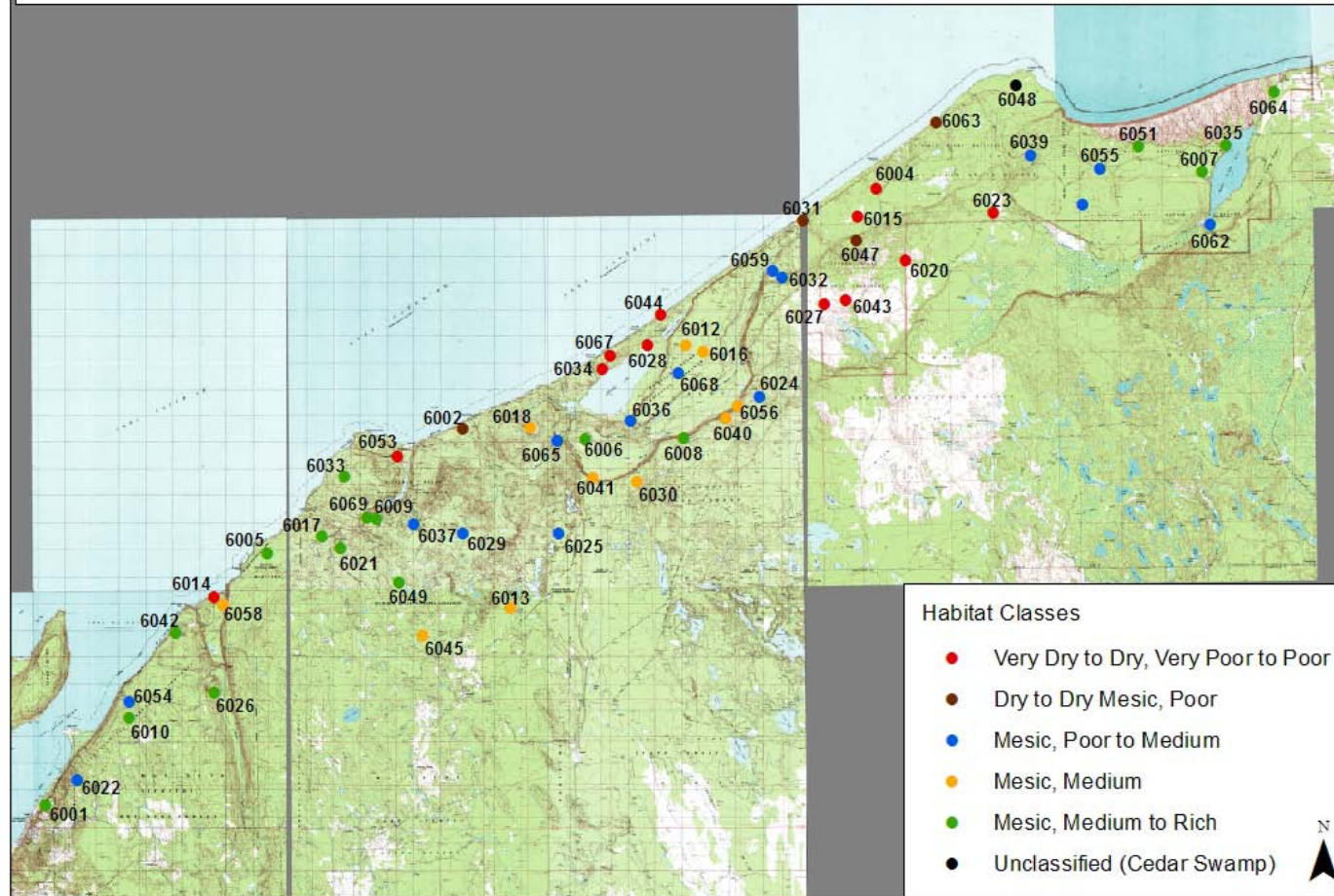


**Figure 3.** Long-term vegetation monitoring plots at Pictured Rocks National Lakeshore. Habitat classes are defined by both soil moisture and soil nutrient regimes.

### **Very Dry to Dry, Very Poor to Poor Nutrient**

Twelve plots were in very dry to dry, very poor to poor nutrient habitat at PIRO (Figure 3). Coniferous trees were more abundant than hardwood trees, comprising 73% of the total tree density (Table 3). Coniferous species were dominated by *Abies balsamea* (balsam fir), which was present primarily in the smaller DBH size classes (<15 cm, Figure 4a). Additional common conifers were *Pinus strobus* (white pine), *Pinus banksiana* (jack pine), and *Pinus resinosa* (red pine), although the latter two were not present at high density in the smaller size classes. The dominant hardwood trees in this habitat include *Acer rubrum* (red maple) and *Betula papyrifera* (paper birch). *Populus tremuloides* (trembling aspen) and *Populus grandidentata* (big tooth aspen) had high densities in the smaller DBH size classes (2.5 – 7.5 cm, Figure 4b).

Seedling densities in this habitat were highest for *Acer rubrum* (red maple), *Abies balsamea* (balsam fir), and *Pinus strobus* (white pine). Seedlings were present, but in low densities, for *Pinus resinosa* (red pine) and *Pinus banksiana* (jack pine), both of which were dominant as mature trees (Table 4).

Nineteen species of shrub and woody vines were identified in this habitat, most with an average of less than 1% cover, except for members of the Ericaceae family – *Vaccinium angustifolium* (low-bush blueberry) at 24.31%, *Gaylussacia baccata* (huckleberry) at 6.28%, and *Vaccinium myrtilloides* (velvet-leaf blueberry) at 3.61% (Table 5).

**Table 3.** Basal area and density of live trees in very dry to dry, very poor to poor nutrient habitat.

| Latin name                   | Common name          | Basal area<br>m <sup>2</sup> /ha | Density<br>trees/ha |
|------------------------------|----------------------|----------------------------------|---------------------|
| <i>Acer rubrum</i>           | red maple            | 1.90                             | 170.37              |
| <i>Acer saccharum</i>        | sugar maple          | 0.10                             | 10.19               |
| <i>Acer spicatum</i>         | mountain maple       | 0.18                             | 48.15               |
| <i>Betula alleghaniensis</i> | yellow birch         | 0.01                             | 1.85                |
| <i>Betula papyrifera</i>     | paper birch          | 1.87                             | 97.22               |
| <i>Fagus grandifolia</i>     | American beech       | 0.03                             | 1.85                |
| <i>Fraxinus nigra</i>        | black ash            | 0.30                             | 15.74               |
| <i>Populus grandidentata</i> | big tooth aspen      | 0.24                             | 62.96               |
| <i>Populus tremuloides</i>   | trembling aspen      | 0.24                             | 60.19               |
| <i>Quercus rubra</i>         | northern red oak     | 0.39                             | 11.11               |
| <i>Abies balsamea</i>        | balsam fir           | 1.57                             | 415.74              |
| <i>Larix laricina</i>        | tamarack             | 0.12                             | 26.85               |
| <i>Picea glauca</i>          | white spruce         | 0.06                             | 7.41                |
| <i>Picea mariana</i>         | black spruce         | 0.15                             | 35.19               |
| <i>Pinus banksiana</i>       | jack pine            | 4.31                             | 204.63              |
| <i>Pinus resinosa</i>        | red pine             | 7.73                             | 199.07              |
| <i>Pinus strobus</i>         | white pine           | 5.15                             | 352.78              |
| <i>Thuja occidentalis</i>    | northern white cedar | 0.73                             | 36.11               |
| <i>Tsuga canadensis</i>      | eastern hemlock      | 1.20                             | 16.67               |
| Total                        |                      | 26.28                            | 1,774.08            |

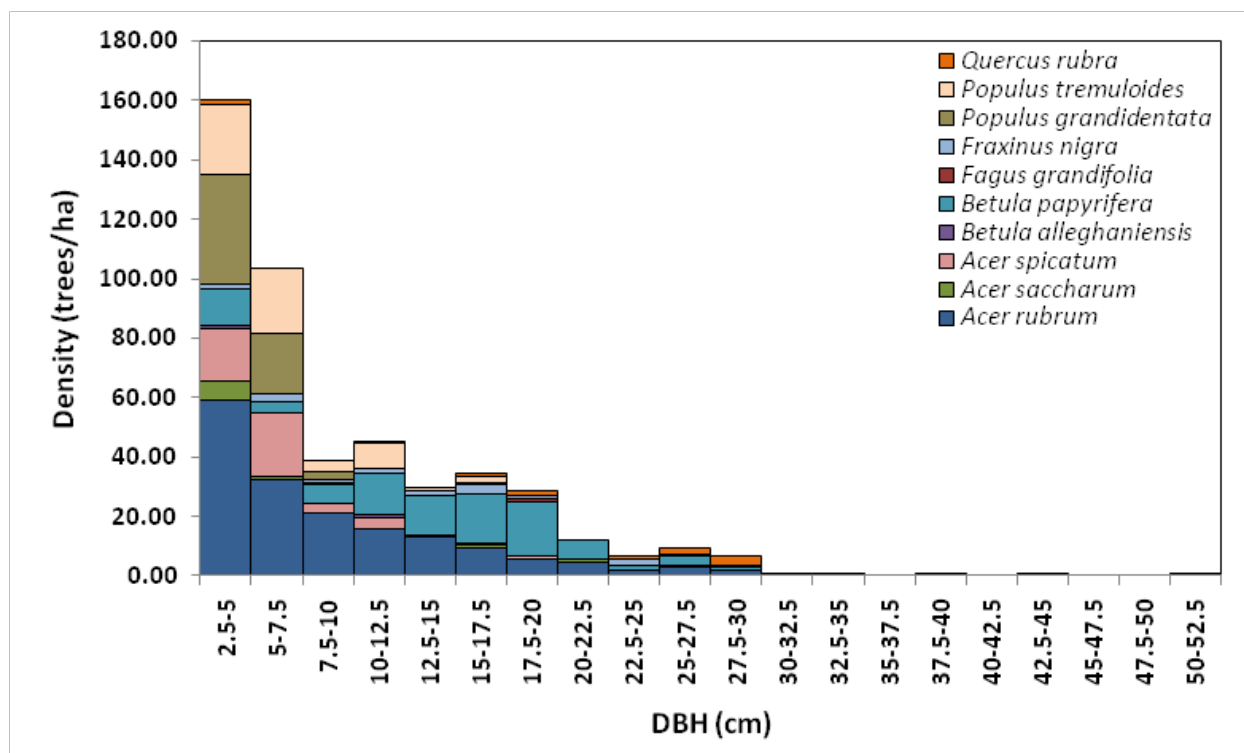


**Figure 4a.** Density-diameter graph of hardwoods in very dry to dry, very poor to poor habitat.

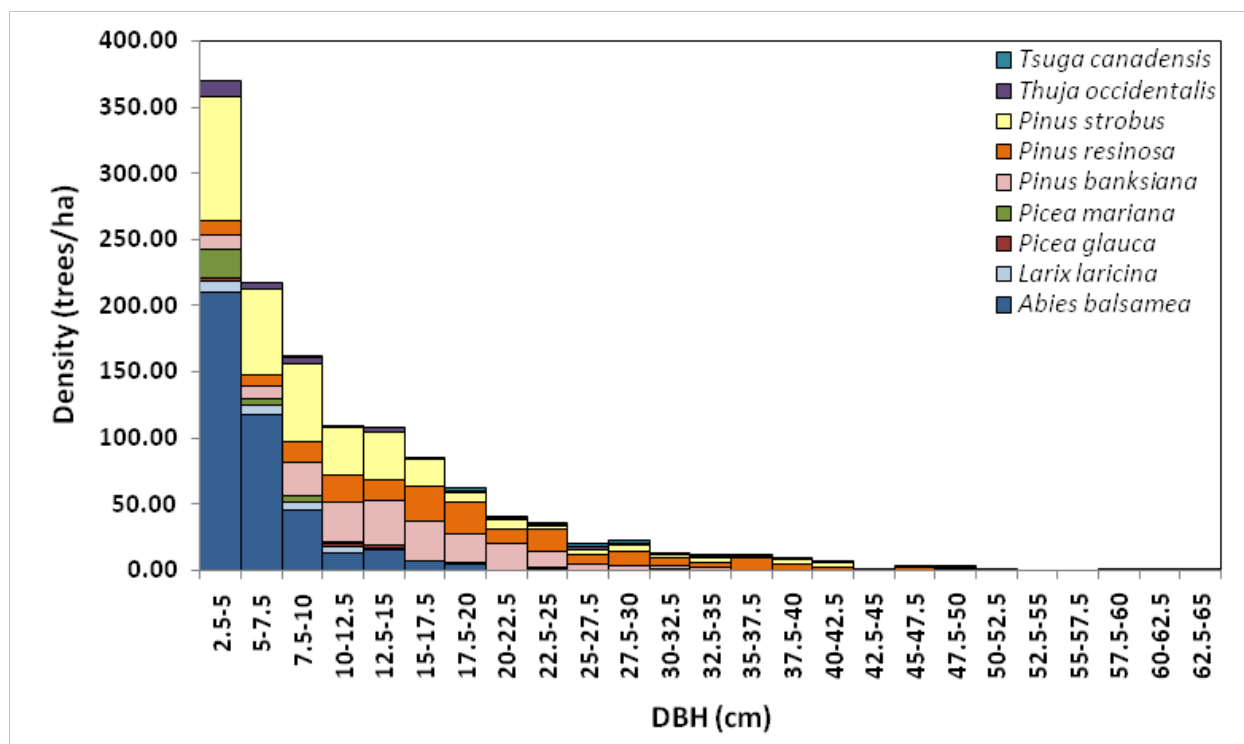


**Figure 4b.** Density-diameter graph of softwoods in very dry to dry, very poor to poor habitat.

Table 4. Seedling density in very dry to dry, very poor to poor habitat.

| Latin name                   | Common name          | Density<br>seedlings/ha |
|------------------------------|----------------------|-------------------------|
| <i>Acer rubrum</i>           | red maple            | 1,216.67                |
| <i>Acer saccharum</i>        | sugar maple          | 227.78                  |
| <i>Acer spicatum</i>         | mountain maple       | 72.22                   |
| <i>Betula papyrifera</i>     | paper birch          | 183.33                  |
| <i>Fraxinus nigra</i>        | black ash            | 16.67                   |
| <i>Prunus virginiana</i>     | chokecherry          | 166.67                  |
| <i>Populus grandidentata</i> | big tooth aspen      | 27.78                   |
| <i>Populus tremuloides</i>   | trembling aspen      | 755.56                  |
| <i>Quercus rubra</i>         | northern red oak     | 72.22                   |
| <i>Abies balsamea</i>        | balsam fir           | 1,977.78                |
| <i>Larix laricina</i>        | tamarack             | 55.56                   |
| <i>Picea glauca</i>          | white spruce         | 16.67                   |
| <i>Picea mariana</i>         | black spruce         | 555.56                  |
| <i>Pinus banksiana</i>       | jack pine            | 38.89                   |
| <i>Pinus resinosa</i>        | red pine             | 66.67                   |
| <i>Pinus strobus</i>         | white pine           | 1,061.12                |
| <i>Thuja occidentalis</i>    | northern white cedar | 216.67                  |
| <i>Tsuga canadensis</i>      | eastern hemlock      | 5.56                    |
| Total                        |                      | 6,733.37                |

**Table 5.** Shrub percent cover in very dry to dry, very poor to poor habitat.

| Family          | Latin name                                          | Common name           | Cover<br>% |
|-----------------|-----------------------------------------------------|-----------------------|------------|
| Anacardiaceae   | <i>Toxicodendron rydbergii</i>                      | western poison ivy    | 1.04       |
| Aquifoliaceae   | <i>Nemopanthus mucronatus</i>                       | mountain holly        | 0.24       |
| Betulaceae      | <i>Alnus incana</i> ssp. <i>rugosa</i>              | speckled alder        | 0.28       |
|                 | <i>Corylus cornuta</i>                              | beaked hazel          | 0.01       |
| Caprifoliaceae  | <i>Diervilla lonicera</i>                           | bush honeysuckle      | 0.40       |
| Elaeagnaceae    | <i>Shepherdia canadensis</i>                        | russet buffaloberry   | 1.01       |
| Ericaceae       | <i>Andromeda polifolia</i> var. <i>glaucophylla</i> | bog rosemary          | 0.21       |
|                 | <i>Gaylussacia baccata</i>                          | huckleberry           | 6.28       |
|                 | <i>Kalmia polifolia</i>                             | bog laurel            | 0.21       |
|                 | <i>Ledum groenlandicum</i>                          | Labrador tea          | 1.32       |
|                 | <i>Vaccinium angustifolium</i>                      | low sweet blueberry   | 24.31      |
|                 | <i>Vaccinium membranaceum</i>                       | thinleaf huckleberry  | 0.01       |
|                 | <i>Vaccinium myrtilloides</i>                       | velvet-leaf blueberry | 3.61       |
| Grossulariaceae | <i>Ribes glandulosum</i>                            | skunk currant         | 0.01       |
| Myricaceae      | <i>Myrica gale</i>                                  | sweet gale            | 0.61       |
| Rhamnaceae      | <i>Rhamnus alnifolia</i>                            | alderleaf buckthorn   | 1.13       |
| Rosaceae        | <i>Amelanchier</i> sp. group 2                      | serviceberry          | 0.10       |
|                 | <i>Amelanchier</i> sp. group 3                      | serviceberry          | 0.25       |
|                 | <i>Rubus idaeus</i> ssp. <i>strigosus</i>           | wild red raspberry    | 0.49       |

### Dry to Dry Mesic, Poor Nutrient Habitat

Only four plots sampled were classified as dry to dry mesic, nutrient poor habitat. Coniferous trees were dominant, comprising approximately 69% of the total tree density (Table 6). Few coniferous trees present with a DBH larger than 22.5 cm were noted, however, with *Abies balsamea* (balsam fir) being the most abundant (Figure 5a, Table 6). The dominant hardwood species were *Acer rubrum* (red maple) and *Betula papyrifera* (paper birch, Figure 5b, Table 6).

Approximately 50% of the seedling density was comprised of *Abies balsamea* (balsam fir) alone. A number of species in addition to *Abies balsamea* were present as seedlings, namely *Acer pensylvanicum* (striped maple) and *Acer saccharum* (sugar maple), though at much lower densities (Table 7).

The dry to dry mesic, poor nutrient habitat does not support a wide array of shrub species. Of the eight species present, all had an average cover of less than 1%, except for *Vaccinium angustifolium* (low sweet blueberry) with a cover of 4.88% (Table 8).

**Table 6.** Basal area and density of live trees in dry to dry mesic, poor nutrient habitat.

| Latin name                   | Common name          | Basal area<br>m <sup>2</sup> /ha | Density<br>trees/ha |
|------------------------------|----------------------|----------------------------------|---------------------|
| <i>Acer pensylvanicum</i>    | striped maple        | 0.03                             | 8.33                |
| <i>Acer rubrum</i>           | red maple            | 10.82                            | 444.44              |
| <i>Acer saccharum</i>        | sugar maple          | 0.97                             | 94.44               |
| <i>Acer spicatum</i>         | mountain maple       | 0.90                             | 91.67               |
| <i>Betula alleghaniensis</i> | yellow birch         | 0.59                             | 36.11               |
| <i>Betula papyrifera</i>     | paper birch          | 7.45                             | 230.56              |
| <i>Fagus grandifolia</i>     | American beech       | 0.35                             | 41.67               |
| <i>Populus grandidentata</i> | big tooth aspen      | 0.84                             | 11.11               |
| <i>Sorbus decora</i>         | showy mountain-ash   | 0.06                             | 5.56                |
| <i>Abies balsamea</i>        | balsam fir           | 7.18                             | 1,958.33            |
| <i>Picea mariana</i>         | black spruce         | 0.21                             | 41.67               |
| <i>Pinus resinosa</i>        | red pine             | 0.37                             | 8.33                |
| <i>Pinus strobus</i>         | white pine           | 0.77                             | 44.44               |
| <i>Thuja occidentalis</i>    | northern white cedar | 0.06                             | 5.56                |
| <i>Tsuga canadensis</i>      | eastern hemlock      | 1.32                             | 119.44              |
| Total                        |                      | 31.92                            | 3,141.66            |

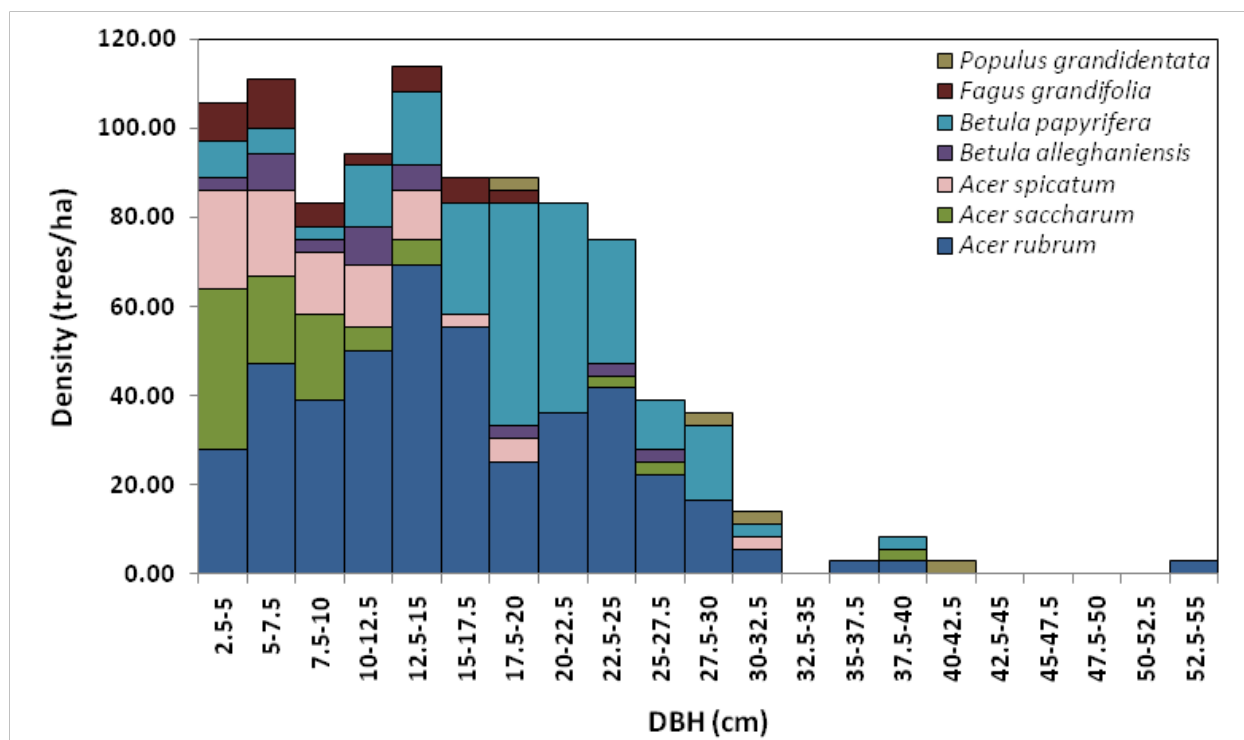


Figure 5a. Density-diameter graph of hardwoods in dry to dry mesic, poor habitat.

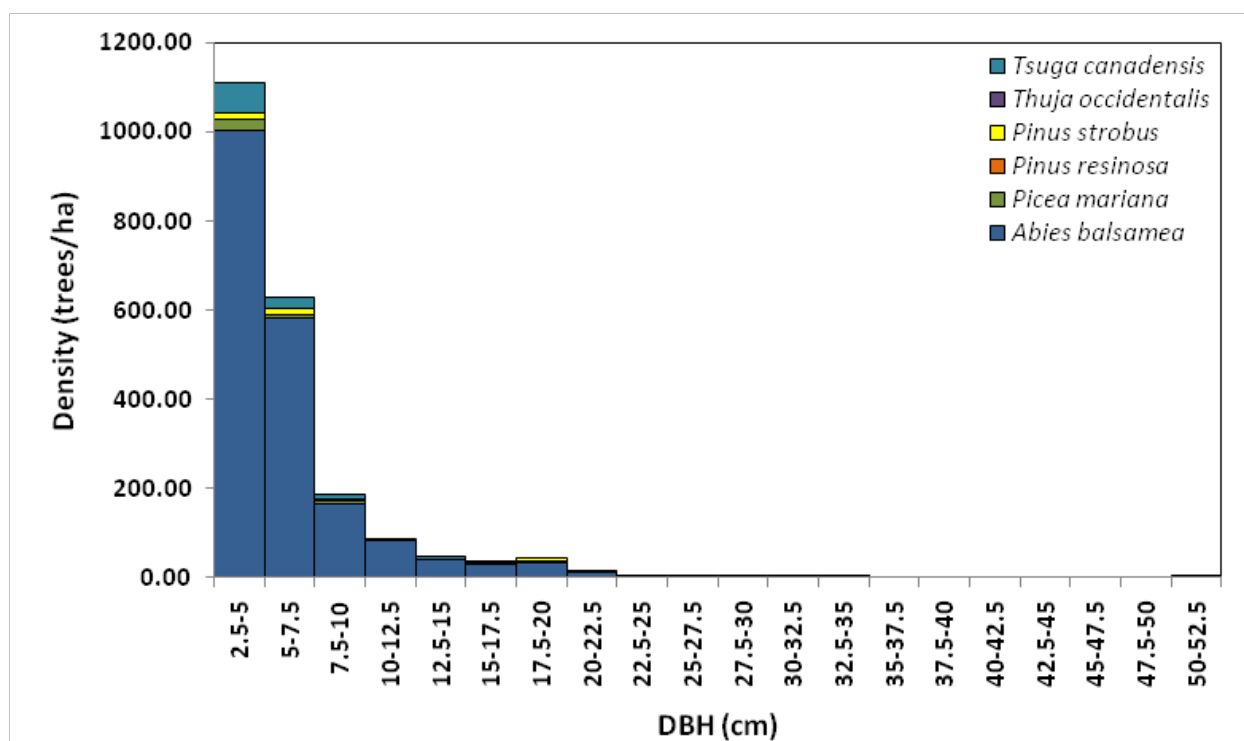


Figure 5b. Density-diameter graph of softwoods in dry to dry mesic, poor habitat.

**Table 7.** Seedling density in dry to dry mesic, poor habitat.

| Latin name                   | Common name     | Density<br>seedlings/ha |
|------------------------------|-----------------|-------------------------|
| <i>Acer pensylvanicum</i>    | striped maple   | 4,033.33                |
| <i>Acer rubrum</i>           | red maple       | 1,216.67                |
| <i>Acer saccharum</i>        | sugar maple     | 2,016.67                |
| <i>Acer spicatum</i>         | mountain maple  | 1,183.34                |
| <i>Betula papyrifera</i>     | paper birch     | 16.67                   |
| <i>Fagus grandifolia</i>     | American beech  | 800.00                  |
| <i>Populus grandidentata</i> | big tooth aspen | 16.67                   |
| <i>Sorbus americana</i>      | mountain-ash    | 350.00                  |
| <i>Abies balsamea</i>        | balsam fir      | 10,550.00               |
| <i>Picea mariana</i>         | black spruce    | 283.33                  |
| <i>Pinus strobus</i>         | white pine      | 83.33                   |
| <i>Tsuga canadensis</i>      | eastern hemlock | 733.33                  |
| Total                        |                 | 21,283.34               |

**Table 8.** Shrub percent cover in dry to dry mesic, poor habitat.

| Family         | Latin name                     | Common name           | Cover<br>% |
|----------------|--------------------------------|-----------------------|------------|
| Caprifoliaceae | <i>Diervilla lonicera</i>      | bush honeysuckle      | 0.04       |
|                | <i>Lonicera canadensis</i>     | fly honeysuckle       | 0.04       |
| Ericaceae      | <i>Ledum groenlandicum</i>     | Labrador tea          | 0.04       |
|                | <i>Vaccinium angustifolium</i> | low sweet blueberry   | 4.88       |
|                | <i>Vaccinium membranaceum</i>  | thinleaf huckleberry  | 0.13       |
|                | <i>Vaccinium myrtilloides</i>  | velvet-leaf blueberry | 0.04       |
|                | <i>Vaccinium ovalifolium</i>   | oval-leaved bilberry  | 0.75       |
| Rosaceae       | <i>Amelanchier</i> sp.         | serviceberry          | 0.04       |
|                | <i>Amelanchier</i> sp. group 2 | serviceberry          | 0.08       |
|                | <i>Amelanchier</i> sp. group 3 | serviceberry          | 0.17       |

### Mesic, Poor to Medium Nutrient Habitat

Fifteen plots sampled were classified as mesic, with nutrient content ranging from poor to medium. This habitat type was fairly well distributed throughout the park (Figure 3). The dominant hardwood trees were *Acer saccharum* (sugar maple), *Acer rubrum* (red maple) and *Fagus grandifolia* (American beech) (Figure 6a, Table 9). The dominant conifer was *Abies balsamea* (balsam fir), though at a lower density in this habitat type than in the very dry to dry and dry to dry mesic habitat types. In addition, *Tsuga canadensis* (eastern hemlock) and *Thuja occidentalis* (northern white cedar) were present in nearly every DBH size class, however not at high densities (Figure 6b, Table 9).

**Table 9.** Basal area and density of live trees in mesic, poor to medium nutrient habitat.

| Latin name                   | Common name          | Basal area<br>m <sup>2</sup> /ha | Density<br>trees/ha |
|------------------------------|----------------------|----------------------------------|---------------------|
| <i>Acer pensylvanicum</i>    | striped maple        | 0.12                             | 25.93               |
| <i>Acer rubrum</i>           | red maple            | 10.08                            | 276.30              |
| <i>Acer saccharum</i>        | sugar maple          | 10.13                            | 603.70              |
| <i>Acer</i> sp.              | maple                | 0.01                             | 0.74                |
| <i>Acer spicatum</i>         | mountain maple       | 0.38                             | 43.70               |
| <i>Betula alleghaniensis</i> | yellow birch         | 2.61                             | 68.89               |
| <i>Betula papyrifera</i>     | paper birch          | 1.61                             | 46.67               |
| <i>Fagus grandifolia</i>     | American beech       | 3.10                             | 221.48              |
| <i>Fraxinus nigra</i>        | black ash            | 0.20                             | 11.85               |
| <i>Populus tremuloides</i>   | trembling aspen      | 0.11                             | 1.48                |
| <i>Prunus pensylvanica</i>   | pin cherry           | 0.04                             | 14.07               |
| <i>Prunus serotina</i>       | black cherry         | 1.31                             | 40.00               |
| <i>Ulmus americana</i>       | American elm         | 0.00                             | 0.74                |
| <i>Abies balsamea</i>        | balsam fir           | 1.24                             | 121.48              |
| <i>Picea glauca</i>          | white spruce         | 0.65                             | 37.04               |
| <i>Picea mariana</i>         | black spruce         | 0.00                             | 2.96                |
| <i>Thuja occidentalis</i>    | northern white cedar | 4.28                             | 50.37               |
| <i>Tsuga canadensis</i>      | eastern hemlock      | 3.00                             | 51.11               |
| Total                        |                      | 38.87                            | 1,618.51            |

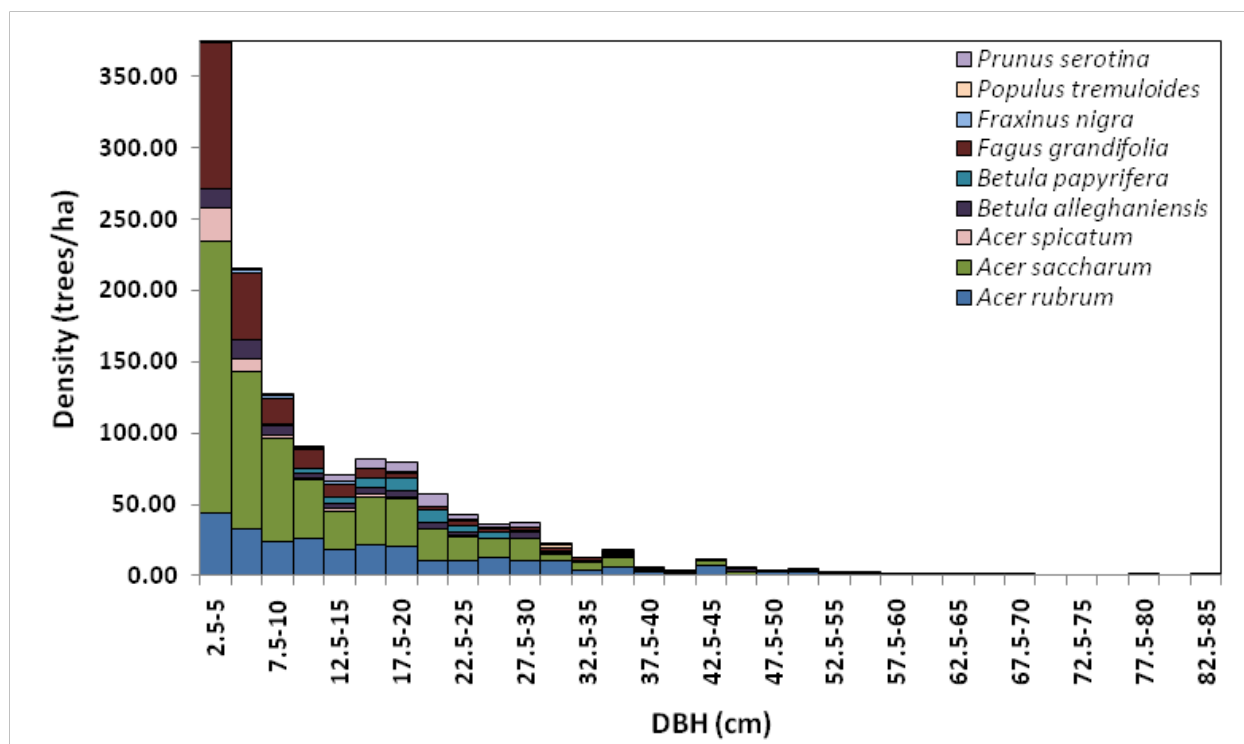


Figure 6a. Density-diameter graph of hardwoods in mesic, poor to medium habitat.

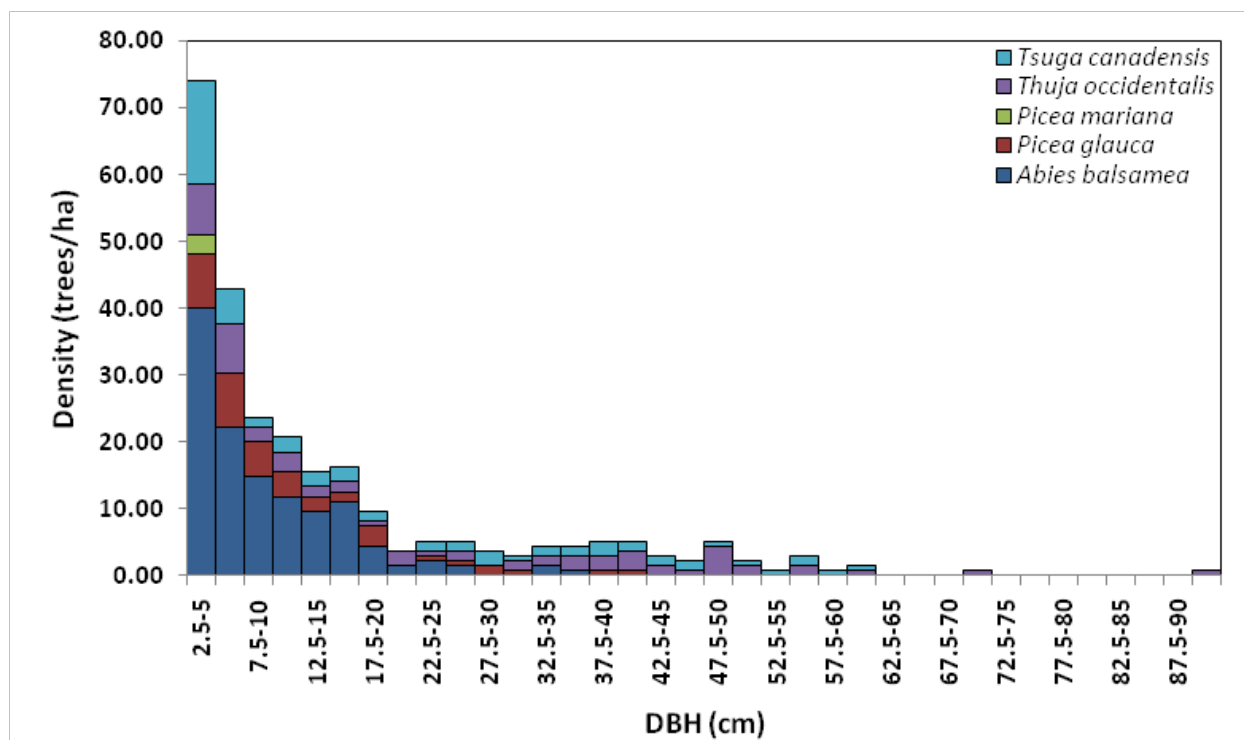


Figure 6b. Density-diameter graph of softwoods in mesic, poor to medium habitat.

The mesic, poor to medium habitat had a high density of seedlings, 21,325 seedlings per hectare, with the most dominant being *Fagus grandifolia* (American beech) and *Acer saccharum* (sugar maple) (Table 12). There was also a high density of other *Acer* species (mountain maple, red maple, and striped maple), and *Abies balsamea* (balsam fir).

**Table 10.** Seedling density in mesic, poor to medium habitat.

| Latin name                    | Common name          | Density<br>seedlings/ha |
|-------------------------------|----------------------|-------------------------|
| <i>Acer pensylvanicum</i>     | striped maple        | 1,400.92                |
| <i>Acer rubrum</i>            | red maple            | 2,453.33                |
| <i>Acer saccharum</i>         | sugar maple          | 5,287.51                |
| <i>Acer spicatum</i>          | mountain maple       | 2,586.66                |
| <i>Betula alleghaniensis</i>  | yellow birch         | 66.66                   |
| <i>Betula papyrifera</i>      | paper birch          | 44.44                   |
| <i>Fagus grandifolia</i>      | American beech       | 6,382.22                |
| <i>Fraxinus nigra</i>         | black ash            | 8.89                    |
| <i>Fraxinus pennsylvanica</i> | green ash            | 8.89                    |
| <i>Populus grandidentata</i>  | big tooth aspen      | 8.89                    |
| <i>Prunus pensylvanica</i>    | pin cherry           | 4.44                    |
| <i>Prunus serotina</i>        | black cherry         | 355.56                  |
| <i>Prunus virginiana</i>      | chokecherry          | 13.33                   |
| <i>Abies balsamea</i>         | balsam fir           | 1,528.88                |
| <i>Picea glauca</i>           | white spruce         | 177.77                  |
| <i>Picea mariana</i>          | black spruce         | 17.78                   |
| <i>Pinus strobus</i>          | white pine           | 35.55                   |
| <i>Thuja occidentalis</i>     | northern white cedar | 561.53                  |
| <i>Tsuga canadensis</i>       | eastern hemlock      | 382.22                  |
| Total                         |                      | 21,325.47               |

Sixteen shrub species were present, with most having an average cover of less than 1%. The most abundant shrub was *Rubus pubescens* (dwarf raspberry), with an average cover of 2.01% (Table 11).

**Table 11.** Shrub percent cover in mesic, poor to medium habitat.

| Family          | Latin name                                | Common name                 | Cover<br>% |
|-----------------|-------------------------------------------|-----------------------------|------------|
| Betulaceae      | <i>Alnus incana</i> ssp. <i>rugosa</i>    | speckled alder              | 0.46       |
| Caprifoliaceae  | <i>Lonicera canadensis</i>                | beaked hazel                | 1.32       |
| Cornaceae       | <i>Cornus alternifolia</i>                | alternate-leaf dogwood      | 0.02       |
|                 | <i>Cornus sericea</i> ssp. <i>sericea</i> | red osier dogwood           | 0.18       |
| Ericaceae       | <i>Vaccinium angustifolium</i>            | low sweet blueberry         | 0.03       |
|                 | <i>Vaccinium membranaceum</i>             | thinleaf huckleberry        | 0.01       |
|                 | <i>Vaccinium ovalifolium</i>              | oval-leaved bilberry        | 0.03       |
| Grossulariaceae | <i>Ribes cynosbati</i>                    | prickly gooseberry          | 0.09       |
|                 | <i>Ribes hudsonianum</i>                  | northern wild black currant | 0.04       |
|                 | <i>Ribes lacustre</i>                     | bristly black currant       | 0.10       |
|                 | <i>Ribes triste</i>                       | swamp red currant           | 0.03       |
| Rosaceae        | <i>Amelanchier</i> sp. group 2            | serviceberry                | 0.07       |
|                 | <i>Amelanchier</i> sp. group 3            | serviceberry                | 0.03       |
|                 | <i>Rubus allegheniensis</i>               | common blackberry           | 0.02       |
|                 | <i>Rubus idaeus</i> ssp. <i>strigosus</i> | wild red raspberry          | 0.80       |
|                 | <i>Rubus pubescens</i>                    | dwarf raspberry             | 2.01       |
| Taxaceae        | <i>Taxus canadensis</i>                   | Canada yew                  | 1.49       |

### Mesic, Medium Nutrient Habitat

Ten plots were classified as mesic, medium nutrient habitat. The tree density was lower for this habitat than very dry to dry, dry to dry mesic, and mesic poor nutrient habitats, at only 1,076 trees/hectare (Table 12). There was, however, a higher density of hardwood trees present in larger DBH size classes (>35 cm) than in the drier habitats. The only tree species with a density greater than 100 trees/hectare was *Acer saccharum* (sugar maple, Figure 7a, Figure 7b, Table 12).

The seedling density was higher than for any other habitat type, with 41,720 seedlings per hectare. The dominant seedling species were *Acer saccharum* (sugar maple), comprising 57% of the seedling density, and *Fagus grandifolia* (American beech) (Table 13).

In contrast to the dense seedling cover, there were only ten species of shrubs recorded, with most having an average cover of less than 1%. Two raspberry species, *Rubus idaeus* ssp. *strigosus* (wild red raspberry) and *Rubus pubescens* (dwarf red raspberry), had an average cover just above 3% (Table 14).

**Table 12.** Basal area and density of live trees in mesic, medium nutrient habitat.

| Latin name                   | Common name          | Basal area<br>m <sup>2</sup> /ha | Density<br>trees/ha |
|------------------------------|----------------------|----------------------------------|---------------------|
| <i>Acer pensylvanicum</i>    | striped maple        | 0.03                             | 5.56                |
| <i>Acer rubrum</i>           | red maple            | 1.34                             | 54.44               |
| <i>Acer saccharum</i>        | sugar maple          | 20.88                            | 675.56              |
| <i>Acer spicatum</i>         | mountain maple       | 0.15                             | 67.78               |
| <i>Betula alleghaniensis</i> | yellow birch         | 1.07                             | 23.33               |
| <i>Betula papyrifera</i>     | paper birch          | 0.40                             | 10.00               |
| <i>Fagus grandifolia</i>     | American beech       | 2.91                             | 77.78               |
| <i>Ostrya virginiana</i>     | hop-hornbeam         | 0.12                             | 10.00               |
| <i>Populus grandidentata</i> | big tooth aspen      | 0.17                             | 1.11                |
| <i>Populus tremuloides</i>   | trembling aspen      | 2.27                             | 18.89               |
| <i>Prunus serotina</i>       | black cherry         | 1.16                             | 28.89               |
| <i>Sorbus decora</i>         | showy mountain-ash   | 0.04                             | 1.11                |
| <i>Abies balsamea</i>        | balsam fir           | 0.25                             | 65.56               |
| <i>Picea glauca</i>          | white spruce         | 0.00                             | 1.11                |
| <i>Picea mariana</i>         | black spruce         | 0.06                             | 5.56                |
| <i>Thuja occidentalis</i>    | northern white cedar | 0.71                             | 17.78               |
| <i>Tsuga canadensis</i>      | eastern hemlock      | 0.24                             | 12.22               |
| Total                        |                      | 31.79                            | 1,076.68            |

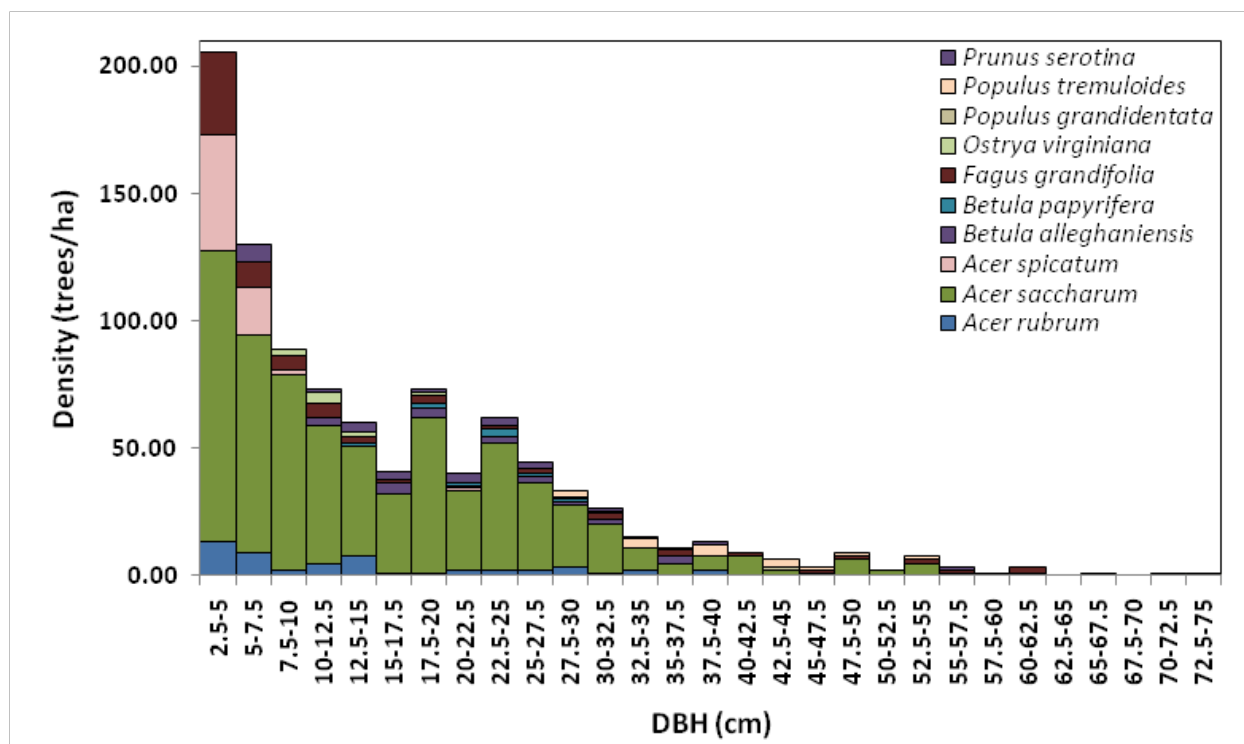


Figure 7a. Density-diameter graph of hardwoods in mesic, medium habitat.

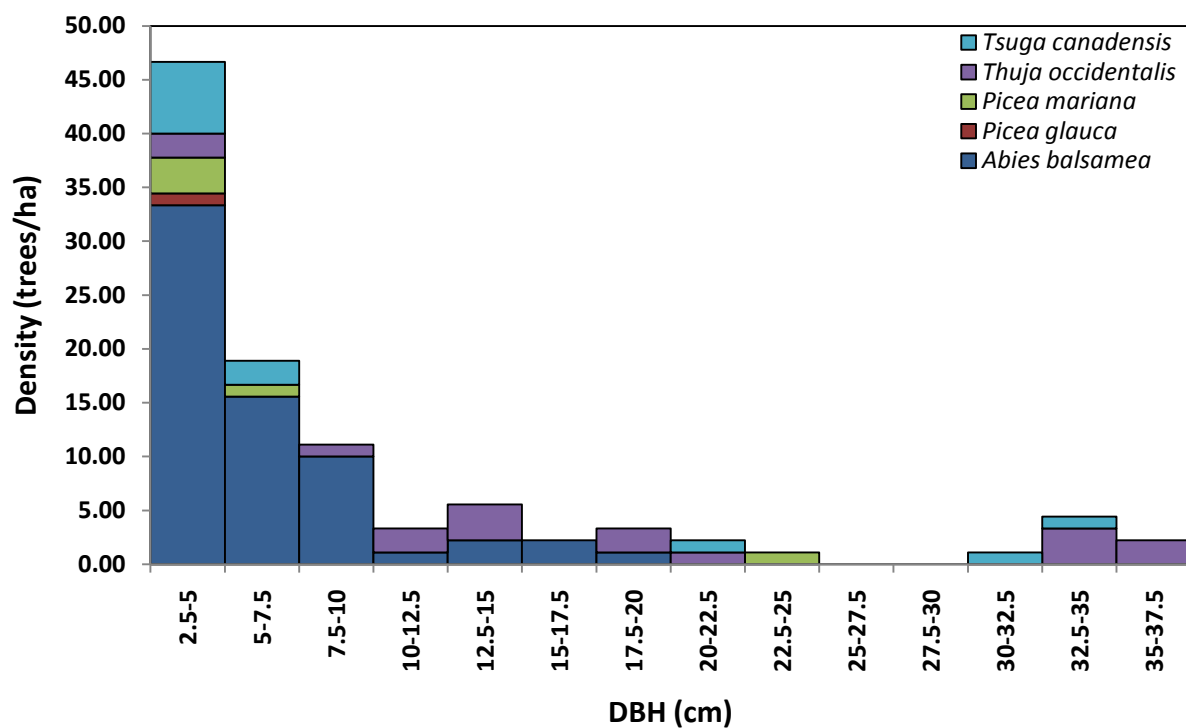


Figure 7b. Density-diameter graph of softwoods in mesic, medium habitat.

**Table 13.** Seedling density in mesic, medium nutrient habitat.

| Latin name                   | Common name          | Density<br>seedlings/ha |
|------------------------------|----------------------|-------------------------|
| <i>Acer pensylvanicum</i>    | striped maple        | 2,433.33                |
| <i>Acer rubrum</i>           | red maple            | 1,620.00                |
| <i>Acer saccharum</i>        | sugar maple          | 23,966.67               |
| <i>Acer spicatum</i>         | mountain maple       | 2,206.67                |
| <i>Betula alleghaniensis</i> | yellow birch         | 13.33                   |
| <i>Betula papyrifera</i>     | paper birch          | 66.66                   |
| <i>Fagus grandifolia</i>     | American beech       | 8,133.33                |
| <i>Fraxinus nigra</i>        | black ash            | 33.33                   |
| <i>Ostrya virginiana</i>     | hop-hornbeam         | 13.33                   |
| <i>Populus balsamifera</i>   | balsam poplar        | 226.67                  |
| <i>Populus grandidentata</i> | big tooth aspen      | 33.33                   |
| <i>Prunus serotina</i>       | black cherry         | 1,186.67                |
| <i>Prunus virginiana</i>     | chokecherry          | 106.67                  |
| <i>Sorbus decora</i>         | showy mountain-ash   | 6.67                    |
| <i>Ulmus americana</i>       | American elm         | 46.66                   |
| <i>Abies balsamea</i>        | balsam fir           | 826.67                  |
| <i>Picea glauca</i>          | white spruce         | 6.67                    |
| <i>Picea mariana</i>         | black spruce         | 13.33                   |
| <i>Thuja occidentalis</i>    | northern white cedar | 560.00                  |
| <i>Tsuga canadensis</i>      | eastern hemlock      | 220.00                  |
| Total                        |                      | 41,720.00               |

**Table 14.** Shrub percent cover in mesic, medium nutrient habitat.

| Family         | Latin name                                    | Common name          | Cover<br>% |
|----------------|-----------------------------------------------|----------------------|------------|
| Betulaceae     | <i>Alnus incana</i> ssp. <i>rugosa</i>        | speckled alder       | 0.02       |
|                | <i>Corylus cornuta</i>                        | beaked hazel         | 0.10       |
| Caprifoliaceae | <i>Lonicera canadensis</i>                    | fly honeysuckle      | 1.33       |
|                | <i>Sambucus racemosa</i> var. <i>racemosa</i> | red elderberry       | 0.15       |
| Ericaceae      | <i>Vaccinium membranaceum</i>                 | thinleaf huckleberry | 0.02       |
| Rosaceae       | <i>Amelanchier</i> sp. group 3                | serviceberry         | 0.03       |
|                | <i>Rubus canadensis</i>                       | smooth blackberry    | 0.23       |
|                | <i>Rubus idaeus</i> ssp. <i>strigosus</i>     | wild red raspberry   | 3.18       |
|                | <i>Rubus parviflorus</i>                      | thimbleberry         | 0.50       |
|                | <i>Rubus pubescens</i>                        | dwarf red raspberry  | 3.25       |

### **Mesic, Medium to Rich Nutrient Habitat**

Seventeen plots were located in mesic, medium to rich nutrient habitat, with these plots fairly well distributed across the park (Figure 3). This habitat type also had the most tree species (23) of the five habitat types. The most common tree species for this habitat was *Acer saccharum* (sugar maple, Table 15). The total tree density for this habitat type was the lowest of the five habitat types sampled. There was, however, a higher density of trees present in the larger DBH size classes (>30 cm) than in other habitats (Figure 8a, Table 15). The coniferous component in this habitat was small, with some *Abies balsamea* (balsam fir) in the smaller DBH size classes (<10 cm), and a low number of larger conifers (Figure 8b).

The most abundant seedling species was *Acer saccharum* (sugar maple), comprising over 80% of the seedling density (Table 16).

There were eleven shrub species identified, with most having an average cover of less than 1%. The most common shrub was *Rubus idaeus* ssp. *strigosus* (wild red raspberry) (Table 17).

**Table 15.** Basal area and density of live trees in mesic, medium to rich nutrient habitat.

| Latin name                    | Common name              | Basal area         | Density   |
|-------------------------------|--------------------------|--------------------|-----------|
|                               |                          | m <sup>2</sup> /ha | trees/ha  |
| <i>Acer pensylvanicum</i>     | striped maple            | 0.02               | 5.23      |
| <i>Acer rubrum</i>            | red maple                | 0.23               | 11.76     |
| <i>Acer saccharum</i>         | sugar maple              | 25.55              | 639.22    |
| <i>Acer spicatum</i>          | mountain maple           | 0.39               | 11.11     |
| <i>Amelanchier arborea</i>    | downy serviceberry       | 0.01               | 2.61      |
| <i>Amelanchier sanguinea</i>  | New England serviceberry | 0.02               | 1.31      |
| <i>Betula alleghaniensis</i>  | yellow birch             | 0.85               | 18.30     |
| <i>Betula papyrifera</i>      | paper birch              | 1.37               | 32.03     |
| <i>Fagus grandifolia</i>      | American beech           | 1.90               | 45.10     |
| <i>Fraxinus nigra</i>         | black ash                | 0.03               | 1.31      |
| <i>Fraxinus pennsylvanica</i> | green ash                | 0.34               | 22.88     |
| <i>Malus</i> sp.              | apple                    | 0.03               | 1.31      |
| <i>Ostrya virginiana</i>      | hop-hornbeam             | 0.00               | 2.61      |
| <i>Populus tremuloides</i>    | trembling aspen          | 0.21               | 1.96      |
| <i>Prunus pensylvanica</i>    | pin cherry               | 0.01               | 1.96      |
| <i>Prunus serotina</i>        | black cherry             | 0.00               | 0.65      |
| <i>Prunus virginiana</i>      | chokecherry              | 0.01               | 5.88      |
| <i>Tilia americana</i>        | basswood                 | 0.47               | 3.27      |
| <i>Ulmus americana</i>        | American elm             | 0.08               | 5.88      |
| <br><i>Abies balsamea</i>     | <br>balsam fir           | <br>0.56           | <br>65.36 |
| <i>Picea glauca</i>           | white spruce             | 0.25               | 5.88      |
| <i>Picea mariana</i>          | black spruce             | 0.05               | 1.31      |
| <i>Thuja occidentalis</i>     | northern white cedar     | 0.14               | 1.96      |
| <i>Tsuga canadensis</i>       | eastern hemlock          | 0.00               | 0.65      |
| Total                         |                          | 32.54              | 889.54    |

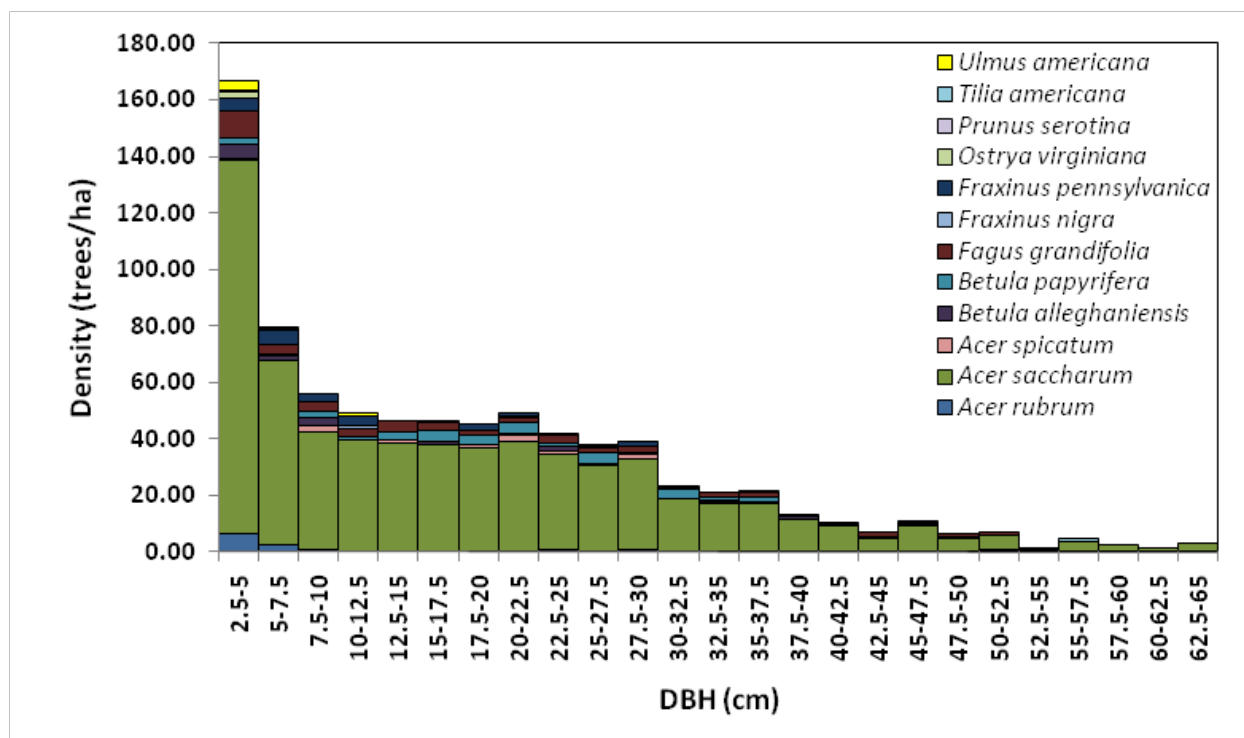


**Figure 8a.** Density-diameter graph of hardwoods in mesic, medium to rich habitat.

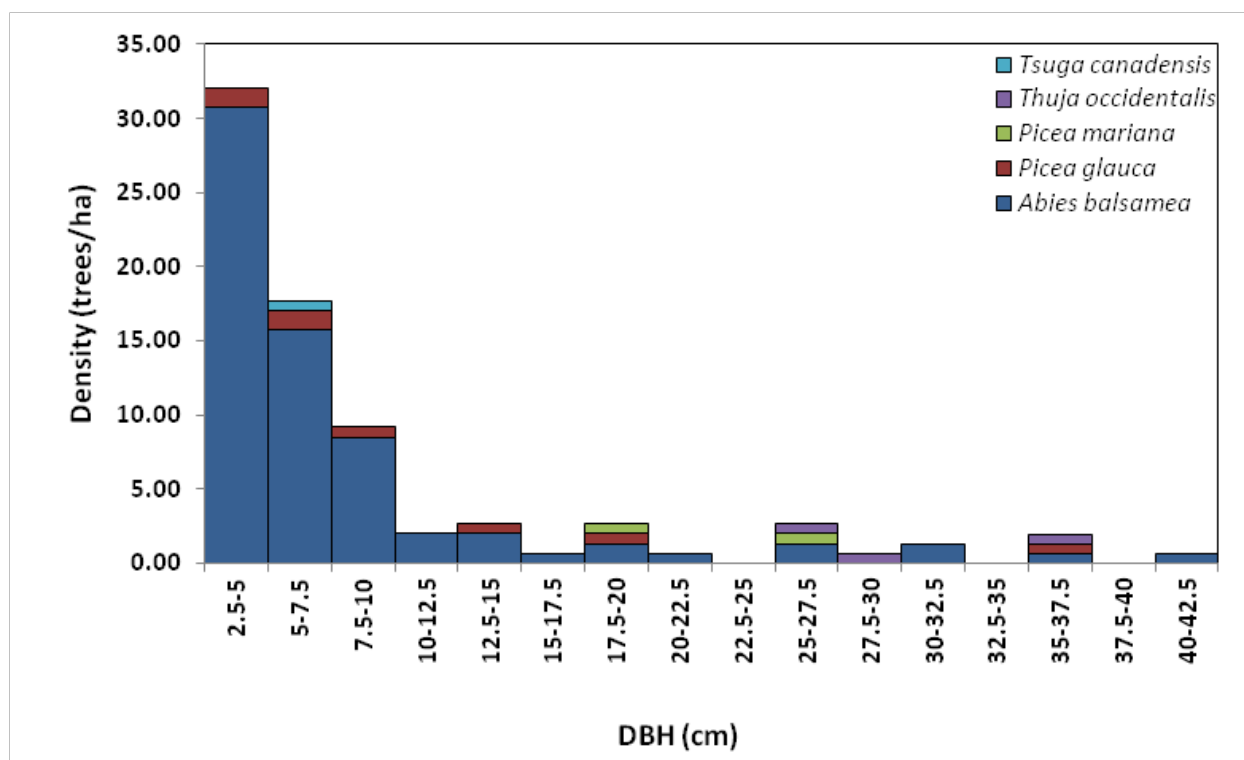


**Figure 8b.** Density-diameter graph of softwoods in mesic, medium to rich habitat.

**Table 16.** Seedling density in mesic, medium to rich nutrient habitat.

| Latin name                    | Common name        | Density<br>seedlings/ha |
|-------------------------------|--------------------|-------------------------|
| <i>Acer pensylvanicum</i>     | striped maple      | 215.69                  |
| <i>Acer rubrum</i>            | red maple          | 47.06                   |
| <i>Acer saccharum</i>         | sugar maple        | 15,631.37               |
| <i>Acer spicatum</i>          | mountain maple     | 164.70                  |
| <i>Betula alleghaniensis</i>  | yellow birch       | 82.36                   |
| <i>Betula papyrifera</i>      | paper birch        | 137.26                  |
| <i>Fagus grandifolia</i>      | American beech     | 1,231.37                |
| <i>Fraxinus pennsylvanica</i> | green ash          | 152.94                  |
| <i>Ostrya virginiana</i>      | hop-hornbeam       | 184.31                  |
| <i>Populus balsamifera</i>    | balsam poplar      | 11.76                   |
| <i>Populus tremuloides</i>    | trembling aspen    | 231.37                  |
| <i>Prunus serotina</i>        | black cherry       | 78.43                   |
| <i>Prunus virginiana</i>      | chokecherry        | 372.55                  |
| <i>Sorbus decora</i>          | showy mountain-ash | 3.92                    |
| <i>Ulmus americana</i>        | American elm       | 7.84                    |
| <br><i>Abies balsamea</i>     | <br>balsam fir     | <br>537.26              |
| <i>Picea glauca</i>           | white spruce       | 19.67                   |
| Total                         |                    | 19,109.87               |

**Table 17.** Shrub percent cover in mesic, medium to rich nutrient habitat.

| Family          | Latin name                                    | Common name            | Cover<br>% |
|-----------------|-----------------------------------------------|------------------------|------------|
| Caprifoliaceae  | <i>Lonicera canadensis</i>                    | fly honeysuckle        | 0.58       |
|                 | <i>Sambucus nigra</i> ssp. <i>canadensis</i>  | common elderberry      | 1.08       |
|                 | <i>Sambucus racemosa</i> var. <i>racemosa</i> | red elderberry         | 1.28       |
| Cornaceae       | <i>Cornus alternifolia</i>                    | alternate-leaf dogwood | 0.07       |
| Grossulariaceae | <i>Ribes cynosbati</i>                        | prickly gooseberry     | 0.01       |
|                 | <i>Ribes lacustre</i>                         | bristly black currant  | 0.08       |
|                 | <i>Ribes</i> sp.                              | gooseberry             | 0.03       |
|                 | <i>Ribes triste</i>                           | swamp red currant      | 0.74       |
| Rosaceae        | <i>Amelanchier</i> sp. group 2                | serviceberry           | 0.28       |
|                 | <i>Amelanchier</i> sp. group 3                | serviceberry           | 0.07       |
|                 | <i>Malus</i> sp.                              | apple                  | 0.01       |
|                 | <i>Rubus hispidus</i>                         | bristly dewberry       | 0.04       |
|                 | <i>Rubus idaeus</i> ssp. <i>strigosus</i>     | wild red raspberry     | 2.17       |
| Taxaceae        | <i>Taxus canadensis</i>                       | Canada yew             | 0.78       |

## Unclassified

One plot, which was a cedar swamp, was not classified as this does not fall within the typing of the Kotar system. Summaries were not done for this one plot. All data for the plot are available in Appendix C, plot 6048.

## Coarse Woody Material

Coarse woody material (CWM) varied between habitats, with the very dry to dry habitat having the least amount in both volume (27.24 m<sup>3</sup>/ha) and biomass (6550 kg/ha). The four remaining habitats all had similar values, with volume ranging from 41.61 m<sup>3</sup>/ha for mesic, medium to rich, to 51.03 m<sup>3</sup>/ha for mesic, poor to medium. Biomass estimates for the four remaining habitats had a larger range, with mesic, medium nutrient having the largest biomass at 17,316 kg/hectare (Table 18).

The total pieces of CWM per habitat type followed a different trend. Dry to dry mesic, poor nutrient habitat had the most CWM, at 862 pieces/ha. The four remaining habitat types had similar densities, ranging from 406 pieces/ha to 479 pieces/ha (Table 19).

The density of standing dead trees varied between habitat types. The very dry to dry habitat had the least amount of standing dead, at only 4.65 trees/ha, while the dry to dry mesic habitat had the most, at 13.9 trees/ha (Table 20).

**Table 18.** Coarse woody material volume and biomass for each habitat.

| Habitat*                           | Number of plots<br>in habitat | Volume             | Biomass   |         |
|------------------------------------|-------------------------------|--------------------|-----------|---------|
|                                    |                               | m <sup>3</sup> /ha | kg/ha     | tons/ac |
| Very Dry to Dry, Very Poor to Poor | 12                            | 27.24              | 6550.95   | 2.92    |
| Dry to Dry Mesic, Poor             | 4                             | 45.29              | 12,785.76 | 5.70    |
| Mesic, Poor to Medium              | 15                            | 51.03              | 13,780.02 | 6.15    |
| Mesic, Medium                      | 10                            | 48.61              | 17,316.93 | 7.72    |
| Mesic, Medium to Rich              | 17                            | 41.61              | 12,324.68 | 5.50    |

\*Habitat is based on Kotar classification and defined by both the moisture and nutrient availability.

Table 19. Coarse woody material density in four diameter classes.

| Habitat*                           | Density (pieces/ha) in diameter classes (cm) |           |           |           | Total<br>pieces/ha |
|------------------------------------|----------------------------------------------|-----------|-----------|-----------|--------------------|
|                                    | 8.0-19.9                                     | 20.0-32.9 | 33.0-45.9 | 46.0-60.0 |                    |
| Very Dry to Dry, Very Poor to Poor | 358.55                                       | 38.75     | 8.50      | 0.98      | 406.77             |
| Dry to Dry Mesic, Poor             | 806.26                                       | 52.60     | 4.03      | 0.00      | 862.89             |
| Mesic, Poor to Medium              | 367.74                                       | 70.95     | 15.95     | 1.20      | 455.83             |
| Mesic, Medium                      | 418.45                                       | 51.16     | 9.52      | 0.71      | 479.84             |
| Mesic, Medium to Rich              | 406.32                                       | 49.68     | 6.95      | 2.35      | 465.30             |

\*Habitat is based on Kotar classification and defined by both the moisture and nutrient availability.

**Table 20.** Density of standing dead trees  $\geq 30$  cm DBH.

| Habitat*                           | Total density<br>(trees/ha) |
|------------------------------------|-----------------------------|
| Very Dry to Dry, Very Poor to Poor | 4.65                        |
| Dry to Dry Mesic, Poor             | 13.90                       |
| Mesic, Poor to Medium              | 8.14                        |
| Mesic, Medium                      | 12.21                       |
| Mesic, Medium to Rich              | 11.07                       |

\*Habitat is based on Kotar classification and defined by both the moisture and nutrient availability.

## Browse

All habitat types showed some evidence of ungulate browse. There was not a large difference between browse circles with an area of  $2\text{m}^2$  versus browse circles with an area of  $4\text{m}^2$ . The browse index, which is a comparison of the number of browse circles with evident browse to the number of browse circles with species present, was 0.12 for the  $2\text{m}^2$  area and 0.17 for the  $4\text{m}^2$  area (Table 21, Table 22).

The indirect browse assessment of the three target herbaceous species showed there is some evidence of browse on *Aralia nudicaulis* (wild sarsaparilla) and *Streptopus lanceolatus* var. *roseus* (twistedstalk). Evidence of browse on both of these species was small in relation to their abundance (Table 23).

**Table 21.** Direct browse at the 2m<sup>2</sup> browse circles, by habitat and for the whole park.

| Habitat                            | Number of Plots | Browse circles with species present | Browse circles with evident browse | Browse Index |
|------------------------------------|-----------------|-------------------------------------|------------------------------------|--------------|
| Very Dry to Dry, Very Poor to Poor | 12              | 725                                 | 89                                 | 0.12         |
| Dry to Dry Mesic, Poor             | 4               | 261                                 | 32                                 | 0.13         |
| Mesic, Poor to Medium              | 15              | 907                                 | 99                                 | 0.11         |
| Mesic, Medium                      | 10              | 598                                 | 32                                 | 0.06         |
| Mesic, Medium to Rich              | 17              | 782                                 | 157                                | 0.20         |
| Whole Park                         | 59              | 3328                                | 411                                | 0.12         |

**Table 22.** Direct browse at the 4m<sup>2</sup> browse circles, by habitat and for the whole park.

| Habitat                            | Number of Plots | Browse circles with species present | Browse circles with evident browse | Browse Index |
|------------------------------------|-----------------|-------------------------------------|------------------------------------|--------------|
| Very Dry to Dry, Very Poor to Poor | 12              | 753                                 | 117                                | 0.16         |
| Dry to Dry Mesic, Poor             | 4               | 264                                 | 40                                 | 0.15         |
| Mesic, Poor to Medium              | 15              | 960                                 | 145                                | 0.15         |
| Mesic, Medium                      | 10              | 633                                 | 49                                 | 0.08         |
| Mesic, Medium to Rich              | 17              | 906                                 | 236                                | 0.26         |
| Whole Park                         | 59              | 3572                                | 590                                | 0.17         |

**Table 23.** Summary of indirect browse for 2009.

| Species                                          | Number of quads. where present | Mean max. height per quadrat<br>cm | Abundance | Number of unbrowsed and non-reproductive individuals | Number of unbrowsed and reproductive individuals | Number of browsed individuals |
|--------------------------------------------------|--------------------------------|------------------------------------|-----------|------------------------------------------------------|--------------------------------------------------|-------------------------------|
| <i>Aralia nudicaulis</i>                         | 107                            | 26.56                              | 350       | 338                                                  | 5                                                | 7                             |
| <i>Arisaema triphyllum</i>                       | 17                             | 14.80                              | 219       | 219                                                  | 0                                                | 0                             |
| <i>Streptopus lanceolatus</i> var. <i>roseus</i> | 152                            | 15.80                              | 1310      | 1086                                                 | 168                                              | 56                            |

Evidence of beech scale (*Cryptococcus fagisuga*) was detected in all habitat types except the very dry to dry, very poor to poor nutrient habitat, which had very little *Fagus grandifolia* (American beech). The disease was present on more than 60% of the trees for dry to dry mesic, mesic poor to medium nutrient and mesic medium nutrient habitats. The amount of damage per tree, however, averaged between only 1% and 17% (Table 24).

**Table 24.** Summary of targeted damage and disease for 2009.

| Habitat                         | Species                      | Damage or disease                                                               | Number of<br>damaged or<br>diseased<br>trees | Average<br>damage<br>severity<br>per tree<br><br>% | Percent of the<br>species that<br>shows damage<br>or disease<br><br>% |
|---------------------------------|------------------------------|---------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------|
| Dry to<br>Dry<br>Mesic,<br>Poor | <i>Fagus<br/>grandifolia</i> | beech bark disease<br>( <i>Neonectria faginata</i><br>and <i>N. ditissima</i> ) | 11                                           | 1.00                                               | 73.33                                                                 |
| Mesic,<br>Poor to<br>Medium     | <i>Fagus<br/>grandifolia</i> | beech bark disease<br>( <i>Neonectria faginata</i><br>and <i>N. ditissima</i> ) | 195                                          | 9.83                                               | 65.22                                                                 |
| Mesic,<br>Medium                | <i>Fagus<br/>grandifolia</i> | beech bark disease<br>( <i>Neonectria faginata</i><br>and <i>N. ditissima</i> ) | 47                                           | 17.15                                              | 67.14                                                                 |
| Mesic,<br>Medium<br>to Rich     | <i>Fagus<br/>grandifolia</i> | beech bark disease<br>( <i>Neonectria faginata</i><br>and <i>N. ditissima</i> ) | 24                                           | 12.04                                              | 34.78                                                                 |



## Discussion

### Ecology and Interpretation

This initial round of monitoring at PIRO shows a number of emerging issues in park forests that warrant attention by park staff. We found a high proportion of the trees showing evidence of beech scale (*Cryptococcus fagisuga*), an organism associated with beech bark disease. Beech bark disease is a complex caused by the non-native beech scale insect and one or both of the fungi, *Neonectria ditissima* and *N. faginata*. While the former species of *Neonectria* is native, the nativity of *N. faginata* is unclear but is generally believed to be non-native (Rossman and Samuels 1999). Beech scales feed on tree sap by inserting a 2 mm long stylet into the bark parenchyma cells. Later-staged nymphs and adults secrete a white, wool-like wax that is very evident on affected trees (Figure 9). Tree mortality occurs not by direct damage from the scale, but by the subsequent infection now afforded to the fungi, which opportunistically invade areas attacked by the scale.



**Figure 9.** Beech scale on American beech tree in plot 6068.

For beech scale infestation, we assessed damage of individual trees by estimating the percentage of surface area affected within a 1 m section of bole that was judged to be most representative. For example, the infested beech in the figure above would likely have been assessed around 80%. Across all beech trees, the percentage of individuals infested was 73%, 65%, 67%, 35% in each of the individual habitats where beech was located, for an average of 61% over all four of these habitats. Despite the high percentage of affected trees, the mean damage per affected tree was relatively low (1%, 10%, 17%, and 12%, in the habitats above, respectively). We did not observe any of the red fruiting bodies of the fungi.

The presence of beech bark disease in an area is classified into three temporally distinct phases (Shigo 1972, Houston 1994). The “advancing front” occurs where the scale has arrived and is present in sparse numbers on larger trees. The “killing front” occurs once both scale and *Neonectria* populations have built up and tree mortality is high. The “aftermath zone” follows the killing front and is evidenced by only a few large trees along with many saplings of both seedling and root sprout origin. Although we did not detect any evidence of *Neonectria* sp. within plots, it is known to be present within the park (Figure 10, Bruce Leutscher, Pictured Rocks National Lakeshore Biologist, Personal Communication). The killing front is now present in the eastern area of the park from the Sable Lake area to the Log Slide area and is moving westward. This is now a pressing issue as a large percentage of beech within the park are expected to die within the next 10-15 years.



**Figure 10.** Recently killed beech trees in the eastern portion of PIRO, resulting from beech bark disease.

Management of beech bark disease at Pictured Rocks National Lakeshore should focus on promoting reproduction of resistant genotypes. Resistance occurs via the inability of the scale to successfully feed and reproduce on the tree, rather than by any means associated with the fungi. The exact mechanism of this resistance are unclear, although it is possible that it is occurring via multiple means. Wargo (1988) reported reduced concentration of amino nitrogen in the bark of

resistant trees compared with susceptible ones. Lonsdale (1983) examined the relationship between beech scale and European beech (*Fagus sylvatica*) and found that those trees supporting only low densities of beech scale had sclerophyll cells that were thicker, more continuous, and located closer to the bark surface than those with larger populations of scale.

Genetic markers to test for BBD resistance are not known and the only available method for resistance screening, inoculating with scale and waiting a year to determine if viable eggs are present (Houston 1982), is not practical. In lieu of screening, resistant trees become readily apparent in the aftermath zone, where they are estimated to have <1% occurrence, and often exist in discrete groups (Houston 2001). As PIRO is recently within the killing front of this epidemic, managers may begin identifying potentially resistant trees which may be apparent in areas of high beech scale infestation. Managers must keep in mind, however, that lack of scale infestation does not necessarily imply these trees are resistant, as escapes from beech scale infestation are occasionally observed. Once the killing front fully moves through, creating gaps in the canopy around trees that are not showing signs of disease will encourage regeneration and stump sprouting.

While beech is a large component on mesic forests at PIRO, sugar maple is present in even greater density, especially in those forests with medium to rich nutrient levels. This includes the Miner's River and Sable Lake areas. In addition, the Beaver Basin Wilderness contains large areas composed exclusively of sugar maple. Historically, some mesic forest types in this region also had a large component of eastern hemlock and yellow birch in climax conditions. Removal of these desirable species by logging, as well as the stringent requirements for germination and seedling growth, have reduced the abundance of these species to a fraction of that, presettlement. Currently, the Michigan Natural Features Inventory ranks mesic northern forest as "S3". This ranking is assigned to habitats that are vulnerable in the state due to one or more of the following: a restricted range, relatively few occurrences, recent and widespread declines, or other factors. Pictured Rocks National Lakeshore has a unique opportunity to promote the restoration of this forest type to the presettlement condition. Heavy snowfall along the south shore of Lake Superior severely limits the winter white-tailed deer population. The 2009 estimate for the Lake Superior deer management unit, which includes Alger County, Michigan, is 2.3 deer/km<sup>2</sup> (5.8 deer/mile<sup>2</sup>, Keven Swanson, Michigan DNR, personal communication). This density is similar to presettlement deer densities and is low enough that the growth of preferred browse species, including northern white cedar and eastern hemlock, is possible. This, coupled with the fact that logging is no longer occurring within the core unit of PIRO, presents a real opportunity for forest restoration of these historically once dominant species.

Beside mesic forests, patterns observed in dry forests are also potential cause for concern. In dry, sandy forests, neither red pine nor jack pine are successfully regenerating. In the driest sites, in the absence of fire, these habitats are expected to follow a successional trajectory toward white pine (Eyre and LeBarron 1944, Burger and Kotar 2003). Sites with slightly more moisture holding capacity and nutrients, in the absence of fire, are expected to move toward white pine and red maple, with a significant mixed oak component (Abrams and Scott 1989, Burger and Kotar 2003). Indeed, in the driest habitat, white pine and red maple are successfully regenerating, although balsam fir and aspen are more abundant at the smaller size classes. If park managers at

SLBE wish to preserve jack pine and red pine in these habitats, burning will be necessary. In addition, stocking and/or seeding may facilitate attaining desired densities (Burger and Kotar 2003).

### **Implementation: Problems, Logistics, and Future Plans**

Sampling in 2009 was fairly uneventful, despite the fact that large sections of H-58 were closed, making access to many plots difficult. Despite this, there are three areas that we would like to improve on in 2015. First, we would like to implement a soil sampling protocol where horizon depth is measured and earthworm abundance is assessed by way of midden counts. We could then relate these values to various vegetation monitoring indices. Second, we would like to add additional sites located in cedar swamps. Wet areas are anticipated to change quicker than mesic areas so this information would be valuable. Finally, we would like to implement additional QA/QC checks. We resampled 3 sites in 2009 although this only represented approximately 5% of the 59 total plots sampled. In future years, we will attempt to resample 10% of plots.

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# Appendix A

## Field Sites Maps

Maps have been omitted from this electronic version due to the large files size and to protect sensitive information.  
Anyone wishing to obtain copies should contact the Great Lakes Network office.



## Appendix B

### Complete List of Species Sampled

# Species Encountered during Site Visits - by Park

**Park: PIRO Year: 2009**

This report reflects data from Original Plots only.

## Species

### HERBACEOUS

#### Apiaceae

Osmorhiza claytonii  
Osmorhiza sp.  
Sanicula marilandica

#### Apocynaceae

Apocynum androsaemifolium

#### Araceae

Arisaema triphyllum

#### Araliaceae

Aralia nudicaulis

#### Asteraceae

Arctium minus  
Asteraceae fam.  
Cirsium palustre  
Cirsium sp.  
Eupatorium maculatum  
Eurybia macrophylla  
Hieracium aurantiacum  
Hieracium sp.  
Lactuca canadensis  
Lactuca sp.  
Prenanthes alba  
Solidago flexicaulis  
Solidago sp.  
Symphyotrichum lateriflorum  
Symphyotrichum puniceum  
Symphyotrichum sp.  
Taraxacum officinale

#### Balsaminaceae

Impatiens capensis  
Impatiens sp.

#### Berberidaceae

Caulophyllum thalictroides

#### Boraginaceae

Myosotis scorpioides  
Myosotis sp.

#### Brassicaceae

Cardamine diphylla

#### Caprifoliaceae

Linnaea borealis

#### Caryophyllaceae

Dianthus barbatus  
Silene latifolia

#### Clusiaceae

Hypericum perforatum  
Hypericum sp.

#### Cornaceae

Cornus canadensis

### HERBACEOUS

#### Cyperaceae

Carex arctata  
Carex brunnescens  
Carex canescens  
Carex communis  
Carex debilis  
Carex deweyana  
Carex disperma  
Carex gracillima  
Carex gynandra  
Carex intumescens  
Carex lacustris  
Carex laxiflora  
Carex leptoneura  
Carex oligosperma  
Carex pedunculata  
Carex pennsylvanica  
Carex plantaginea  
Carex retrorsa  
Carex rosea  
Carex scabrata  
Carex sp.  
Carex stipata  
Carex trisperma  
Scirpus cyperinus

#### Dennstaedtiaceae

Pteridium aquilinum

#### Dryopteridaceae

Athyrium filix-femina  
Dryopteris carthusiana  
Dryopteris cristata  
Dryopteris goldiana  
Dryopteris intermedia  
Gymnocarpium dryopteris  
Matteuccia struthiopteris  
Onoclea sensibilis  
Polystichum braunii

#### Equisetaceae

Equisetum arvense  
Equisetum palustre  
Equisetum pratense  
Equisetum scirpoides  
Equisetum sylvaticum

#### Ericaceae

Epigaea repens  
Gaultheria hispidula  
Gaultheria procumbens

#### Fumariaceae

Dicentra canadensis  
Dicentra cucullaria

#### Geraniaceae

Geranium robertianum

#### Iridaceae

Iris versicolor

# Species Encountered during Site Visits - by Park

## HERBACEOUS

### Juncaceae

Juncus effusus

### Lamiaceae

Galeopsis tetrahit

Lamiaceae fam.

Lycopus americanus

Lycopus uniflorus

Mentha arvensis

Prunella vulgaris

Scutellaria lateriflora

### Liliaceae

Allium tricoccum

Clintonia borealis

Maianthemum canadense

Maianthemum racemosum ssp. racemosum

Maianthemum stellatum

Maianthemum trifolium

Polygonatum pubescens

Streptopus amplexifolius

Streptopus lanceolatus var. roseus

Trillium cernuum

Trillium grandiflorum

Trillium sp.

Uvularia grandiflora

### Lycopodiaceae

Huperzia lucidula

Lycopodium annotinum

Lycopodium clavatum

Lycopodium dendroideum

Lycopodium digitatum

Lycopodium hickeyi

Lycopodium obscurum

### Monotropaceae

Monotropa hypopithys

Monotropa uniflora

### Onagraceae

Circaea alpina

Circaea lutetiana ssp. canadensis

Epilobium ciliatum

Epilobium coloratum

Epilobium sp.

### Ophioglossaceae

Botrychium sp.

Botrychium virginianum

### Orchidaceae

Corallorhiza maculata

Cypripedium acaule

Cypripedium sp.

Epipactis helleborine

Goodyera oblongifolia

Goodyera pubescens

Goodyera tessellata

Platanthera hyperborea

### Osmundaceae

Osmunda cinnamomea

## HERBACEOUS

### Osmundaceae

Osmunda claytoniana

Osmunda regalis

### Oxalidaceae

Oxalis montana

### Papaveraceae

Sanguinaria canadensis

### Poaceae

Calamagrostis canadensis

Cinna latifolia

Dactylis glomerata

Danthonia spicata

Deschampsia flexuosa

Elymus hystrix var. hystrix

Glyceria canadensis

Glyceria striata

Melica smithii

Milium effusum

Oryzopsis asperifolia

Poa sp.

Poaceae fam.

### Polygalaceae

Polygala paucifolia

### Polygonaceae

Polygonum cilinode

Rumex acetosella

Rumex obtusifolius

### Primulaceae

Trientalis borealis

### Pteridaceae

Adiantum pedatum

### Pyrolaceae

Chimaphila umbellata

Pyrola asarifolia

Pyrola elliptica

Pyrola sp.

### Ranunculaceae

Actaea pachypoda

Actaea rubra

Actaea sp.

Anemone quinquefolia

Caltha palustris

Clematis virginiana

Coptis trifolia

Hepatica nobilis var. obtusa

Ranunculus abortivus

Ranunculus acris

Ranunculus hispidus

Ranunculus recurvatus

Ranunculus sp.

Thalictrum dasycarpum

Thalictrum dioicum

### Rosaceae

Agrimonia gryposepala

Agrimonia striata

# Species Encountered during Site Visits - by Park

## HERBACEOUS

### Rosaceae

Fragaria vesca  
Fragaria virginiana  
Geum aleppicum  
Geum canadense  
Geum macrophyllum  
Geum sp.

### Rubiaceae

Galium aparine  
Galium triflorum  
Mitchella repens

### Sarraceniaceae

Sarracenia purpurea

### Saxifragaceae

Mitella nuda

### Scrophulariaceae

Chelone glabra  
Melampyrum lineare  
Verbascum thapsus  
Veronica chamaedrys  
Veronica officinalis  
Veronica sp.

### Thelypteridaceae

Phegopteris connectilis  
Thelypteris palustris

### Typhaceae

Typha sp.

### Urticaceae

Urtica dioica ssp. gracilis

### Violaceae

Viola canadensis  
Viola sp.

## SHRUB

### Anacardiaceae

Toxicodendron rydbergii

### Aquifoliaceae

Ilex verticillata  
Nemopanthes mucronatus

### Betulaceae

Alnus incana ssp. rugosa  
Corylus cornuta

### Caprifoliaceae

Diervilla lonicera  
Lonicera canadensis  
Lonicera hirsuta  
Lonicera oblongifolia  
Lonicera sp.  
Sambucus nigra ssp. canadensis  
Sambucus racemosa var. racemosa  
Sambucus sp.  
Viburnum lentago  
Viburnum opulus var. americanum

## SHRUB

### Cornaceae

Cornus alternifolia  
Cornus sericea ssp. sericea

### Cupressaceae

Juniperus communis

### Elaeagnaceae

Shepherdia canadensis

### Ericaceae

Andromeda polifolia var. glaucophylla  
Gaylussacia baccata  
Kalmia polifolia  
Ledum groenlandicum  
Vaccinium angustifolium  
Vaccinium membranaceum  
Vaccinium myrtilloides  
Vaccinium ovalifolium  
Vaccinium oxycoccos  
Vaccinium sp.

### Grossulariaceae

Ribes cynosbati  
Ribes glandulosum  
Ribes hirtellum  
Ribes hudsonianum  
Ribes lacustre  
Ribes sp.  
Ribes triste

### Myricaceae

Myrica gale

### Rhamnaceae

Rhamnus alnifolia

### Rosaceae

Amelanchier sp.  
Amelanchier sp. Group 2  
Amelanchier sp. Group 3  
Malus sp.  
Rubus allegheniensis  
Rubus canadensis  
Rubus hispidus  
Rubus idaeus ssp. strigosus  
Rubus parviflorus  
Rubus pubescens  
Rubus sp.

### Salicaceae

Salix sp.

### Taxaceae

Taxus canadensis

### Thymelaeaceae

Dirca palustris

## TREE

### Aceraceae

Acer pensylvanicum  
Acer rubrum  
Acer saccharum  
Acer sp.

# ***Species Encountered during Site Visits - by Park***

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## **TREE**

### **Aceraceae**

Acer spicatum

### **Betulaceae**

Betula alleghaniensis

Betula papyrifera

Betula sp.

Ostrya virginiana

### **Cupressaceae**

Thuja occidentalis

### **Fagaceae**

Fagus grandifolia

Quercus rubra

### **Oleaceae**

Fraxinus americana

Fraxinus nigra

Fraxinus pennsylvanica

Fraxinus sp.

### **Pinaceae**

Abies balsamea

Larix laricina

Picea glauca

Picea mariana

Pinus banksiana

Pinus resinosa

Pinus sp.

Pinus strobus

Tsuga canadensis

### **Rosaceae**

Amelanchier arborea

Amelanchier sanguinea

Prunus pensylvanica

Prunus serotina

Prunus virginiana

Sorbus americana

Sorbus decora

Sorbus sp.

### **Salicaceae**

Populus balsamifera

Populus grandidentata

Populus tremuloides

### **Tiliaceae**

Tilia americana

### **Ulmaceae**

Ulmus americana



## Appendix C

### Individual Plot Data

# Density and Basal Area of Tree Species (Live trees)

| <b>Plot: 6001</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer saccharum</i>        | 766.7                            | 13.5                                   |
| <i>Acer spicatum</i>         | 188.9                            | 6.6                                    |
| <i>Amelanchier sanguinea</i> | 22.2                             | 0.4                                    |
| <i>Betula papyrifera</i>     | 166.7                            | 7.5                                    |
| <i>Fagus grandifolia</i>     | 88.9                             | 4.1                                    |
| <i>Malus sp.</i>             | 22.2                             | 0.4                                    |
| <i>Populus tremuloides</i>   | 33.3                             | 3.6                                    |
| <i>Prunus virginiana</i>     | 66.7                             | 0.2                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 177.8                            | 0.4                                    |
| <i>Tsuga canadensis</i>      | 11.1                             | 0.0                                    |
| <b>TOTAL</b>                 | <b>1,544.4</b>                   | <b>36.6</b>                            |

| <b>Plot: 6002</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 1177.8                           | 26.0                                   |
| <i>Acer saccharum</i>        | 11.1                             | 0.5                                    |
| <i>Betula alleghaniensis</i> | 100.0                            | 1.0                                    |
| <i>Fagus grandifolia</i>     | 33.3                             | 0.2                                    |
| <i>Sorbus decora</i>         | 22.2                             | 0.2                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 4811.1                           | 14.3                                   |
| <i>Picea mariana</i>         | 88.9                             | 0.7                                    |
| <i>Tsuga canadensis</i>      | 111.1                            | 0.5                                    |
| <b>TOTAL</b>                 | <b>6,355.6</b>                   | <b>43.5</b>                            |

| <b>Plot: 6004</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 288.9                            | 0.5                                    |
| <i>Betula papyrifera</i>     | 55.6                             | 1.0                                    |
| <i>Populus grandidentata</i> | 22.2                             | 0.8                                    |
| softwood                     |                                  |                                        |
| <i>Pinus banksiana</i>       | 566.7                            | 20.6                                   |
| <i>Pinus resinosa</i>        | 66.7                             | 1.5                                    |
| <i>Pinus strobus</i>         | 11.1                             | 0.3                                    |
| <b>TOTAL</b>                 | <b>1,011.1</b>                   | <b>24.7</b>                            |

| <b>Plot: 6005</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer saccharum</i>        | 422.2                            | 34.2                                   |
| <i>Betula alleghaniensis</i> | 11.1                             | 1.1                                    |
| <b>TOTAL</b>                 | <b>433.3</b>                     | <b>35.3</b>                            |

| <b>Plot: 6006</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer rubrum</i>       | 11.1                             | 0.0                                    |
| <i>Acer saccharum</i>    | 911.1                            | 20.5                                   |
| <i>Betula papyrifera</i> | 144.4                            | 6.3                                    |
| <i>Fagus grandifolia</i> | 144.4                            | 3.1                                    |
| <i>Ostrya virginiana</i> | 22.2                             | 0.0                                    |
| <b>TOTAL</b>             | <b>1,233.3</b>                   | <b>30.0</b>                            |

| <b>Plot: 6007</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 744.4                            | 30.6                                   |
| softwood              |                                  |                                        |
| <i>Abies balsamea</i> | 11.1                             | 0.0                                    |
| <b>TOTAL</b>          | <b>755.6</b>                     | <b>30.6</b>                            |

| <b>Plot: 6008</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 455.6                            | 33.9                                   |
| <b>TOTAL</b>          | <b>455.6</b>                     | <b>33.9</b>                            |

| <b>Plot: 6009</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 88.9                             | 2.5                                    |
| <i>Acer saccharum</i>        | 522.2                            | 13.0                                   |
| <i>Betula alleghaniensis</i> | 44.4                             | 6.5                                    |
| <i>Fraxinus nigra</i>        | 22.2                             | 0.5                                    |
| softwood                     |                                  |                                        |
| <i>Picea mariana</i>         | 22.2                             | 0.9                                    |
| <i>Thuja occidentalis</i>    | 11.1                             | 0.5                                    |
| <b>TOTAL</b>                 | <b>711.1</b>                     | <b>23.9</b>                            |

| <b>Plot: 6010</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer saccharum</i>        | 588.9                            | 30.4                                   |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.6                                    |
| <i>Tilia americana</i>       | 33.3                             | 3.4                                    |
| <b>TOTAL</b>                 | <b>633.3</b>                     | <b>34.4</b>                            |

| <b>Plot: 6012</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer saccharum</i>    | 566.7                            | 20.6                                   |
| <i>Fagus grandifolia</i> | 55.6                             | 3.7                                    |
| <b>TOTAL</b>             | <b>622.2</b>                     | <b>24.3</b>                            |

| <b>Plot: 6013</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer saccharum</i>    | 511.1                            | 22.0                                   |
| <i>Ostrya virginiana</i> | 11.1                             | 0.3                                    |
| <i>Prunus serotina</i>   | 77.8                             | 3.6                                    |
| <b>TOTAL</b>             | <b>600.0</b>                     | <b>25.9</b>                            |

| <b>Plot: 6014</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Betula papyrifera</i> | 22.2                             | 0.1                                    |
| softwood                 |                                  |                                        |
| <i>Pinus banksiana</i>   | 1055.6                           | 24.0                                   |
| <i>Pinus resinosa</i>    | 11.1                             | 0.0                                    |
| <b>TOTAL</b>             | <b>1,088.9</b>                   | <b>24.1</b>                            |

| <b>Plot: 6015</b>      | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------|----------------------------------|----------------------------------------|
| Species                |                                  |                                        |
| hardwood               |                                  |                                        |
| <i>Acer rubrum</i>     | 33.3                             | 0.0                                    |
| softwood               |                                  |                                        |
| <i>Picea mariana</i>   | 100.0                            | 0.2                                    |
| <i>Pinus banksiana</i> | 833.3                            | 7.2                                    |
| <i>Pinus resinosa</i>  | 255.6                            | 18.5                                   |
| <i>Pinus strobus</i>   | 366.7                            | 5.3                                    |
| <b>TOTAL</b>           | <b>1,588.9</b>                   | <b>31.4</b>                            |

| <b>Plot: 6016</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer saccharum</i>    | 1588.9                           | 25.5                                   |
| <i>Fagus grandifolia</i> | 22.2                             | 0.0                                    |
| <i>Ostrya virginiana</i> | 88.9                             | 0.9                                    |
| <i>Prunus serotina</i>   | 200.0                            | 6.7                                    |
| softwood                 |                                  |                                        |
| <i>Abies balsamea</i>    | 44.4                             | 0.6                                    |
| <b>TOTAL</b>             | <b>1,944.4</b>                   | <b>33.7</b>                            |

| <b>Plot: 6017</b>      | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------|----------------------------------|----------------------------------------|
| Species                |                                  |                                        |
| hardwood               |                                  |                                        |
| <i>Acer saccharum</i>  | 566.7                            | 40.7                                   |
| <i>Ulmus americana</i> | 11.1                             | 0.5                                    |
| <b>TOTAL</b>           | <b>577.8</b>                     | <b>41.2</b>                            |

| <b>Plot: 6018</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 33.3                             | 3.0                                    |
| <i>Acer saccharum</i>        | 622.2                            | 13.7                                   |
| <i>Betula alleghaniensis</i> | 77.8                             | 3.0                                    |
| <i>Fagus grandifolia</i>     | 188.9                            | 6.5                                    |
| <i>Populus grandidentata</i> | 11.1                             | 1.7                                    |
| <i>Sorbus decora</i>         | 11.1                             | 0.3                                    |
| <b>TOTAL</b>                 | <b>944.4</b>                     | <b>28.2</b>                            |

| <b>Plot: 6020</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 144.4                            | 0.8                                    |
| <i>Acer spicatum</i>         | 55.6                             | 0.1                                    |
| <i>Populus grandidentata</i> | 711.1                            | 1.3                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 11.1                             | 0.1                                    |
| <i>Pinus resinosa</i>        | 311.1                            | 15.0                                   |
| <i>Pinus strobus</i>         | 1011.1                           | 5.6                                    |
| <b>TOTAL</b>                 | <b>2,244.4</b>                   | <b>22.8</b>                            |

| <b>Plot: 6021</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 100.0                            | 1.4                                    |
| <i>Acer saccharum</i>        | 566.7                            | 14.6                                   |
| <i>Betula alleghaniensis</i> | 144.4                            | 0.8                                    |
| <i>Betula papyrifera</i>     | 66.7                             | 0.4                                    |
| <i>Fagus grandifolia</i>     | 77.8                             | 2.3                                    |
| <i>Ostrya virginiana</i>     | 22.2                             | 0.0                                    |
| <i>Prunus pensylvanica</i>   | 33.3                             | 0.2                                    |
| <i>Prunus serotina</i>       | 11.1                             | 0.0                                    |
| <i>Prunus virginiana</i>     | 33.3                             | 0.1                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 277.8                            | 2.5                                    |
| <i>Picea glauca</i>          | 22.2                             | 0.1                                    |
| <b>TOTAL</b>                 | <b>1,355.6</b>                   | <b>22.5</b>                            |

| <b>Plot: 6022</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 177.8                            | 17.9                                   |
| <i>Acer saccharum</i>        | 422.2                            | 11.5                                   |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.1                                    |
| <i>Betula papyrifera</i>     | 11.1                             | 0.5                                    |
| <i>Fagus grandifolia</i>     | 144.4                            | 6.9                                    |
| <i>Populus tremuloides</i>   | 22.2                             | 1.6                                    |
| <i>Prunus serotina</i>       | 77.8                             | 3.8                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 122.2                            | 0.2                                    |
| <i>Picea mariana</i>         | 11.1                             | 0.0                                    |
| <b>TOTAL</b>                 | <b>1,000.0</b>                   | <b>42.6</b>                            |

| <b>Plot: 6023</b>          | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|----------------------------|----------------------------------|----------------------------------------|
| Species                    |                                  |                                        |
| hardwood                   |                                  |                                        |
| <i>Acer rubrum</i>         | 166.7                            | 0.8                                    |
| <i>Betula papyrifera</i>   | 11.1                             | 1.3                                    |
| <i>Populus tremuloides</i> | 100.0                            | 0.1                                    |
| softwood                   |                                  |                                        |
| <i>Abies balsamea</i>      | 544.4                            | 3.9                                    |
| <i>Picea glauca</i>        | 66.7                             | 0.4                                    |
| <i>Pinus resinosa</i>      | 22.2                             | 0.3                                    |
| <i>Pinus strobus</i>       | 122.2                            | 3.9                                    |
| <b>TOTAL</b>               | <b>1,033.3</b>                   | <b>10.7</b>                            |

| <b>Plot: 6024</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer rubrum</i>       | 277.8                            | 10.2                                   |
| <i>Acer saccharum</i>    | 733.3                            | 13.2                                   |
| <i>Fagus grandifolia</i> | 188.9                            | 0.4                                    |
| <i>Prunus serotina</i>   | 22.2                             | 0.7                                    |
| softwood                 |                                  |                                        |
| <i>Abies balsamea</i>    | 77.8                             | 0.6                                    |
| <i>Picea glauca</i>      | 33.3                             | 0.2                                    |
| <i>Tsuga canadensis</i>  | 55.6                             | 1.6                                    |
| <b>TOTAL</b>             | <b>1,388.9</b>                   | <b>26.9</b>                            |

| <b>Plot: 6025</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 122.2                            | 7.2                                    |
| <i>Acer saccharum</i>        | 733.3                            | 13.6                                   |
| <i>Acer spicatum</i>         | 222.2                            | 5.0                                    |
| <i>Betula alleghaniensis</i> | 66.7                             | 0.9                                    |
| <i>Fagus grandifolia</i>     | 811.1                            | 7.3                                    |
| <b>TOTAL</b>                 | <b>1,955.6</b>                   | <b>34.0</b>                            |

| <b>Plot: 6026</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer saccharum</i>        | 555.6                            | 22.2                                   |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.1                                    |
| <i>Ulmus americana</i>       | 22.2                             | 0.8                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 233.3                            | 5.6                                    |
| <b>TOTAL</b>                 | <b>822.2</b>                     | <b>28.7</b>                            |

| <b>Plot: 6027</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 11.1                             | 0.0                                    |
| <i>Populus grandidentata</i> | 11.1                             | 0.2                                    |
| <i>Populus tremuloides</i>   | 288.9                            | 1.2                                    |
| softwood                     |                                  |                                        |
| <i>Pinus resinosa</i>        | 433.3                            | 13.3                                   |
| <i>Pinus strobus</i>         | 233.3                            | 1.8                                    |
| <b>TOTAL</b>                 | <b>977.8</b>                     | <b>16.4</b>                            |

| <b>Plot: 6028</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer rubrum</i>        | 44.4                             | 0.4                                    |
| <i>Betula papyrifera</i>  | 44.4                             | 0.8                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 77.8                             | 0.3                                    |
| <i>Larix laricina</i>     | 322.2                            | 1.5                                    |
| <i>Picea mariana</i>      | 222.2                            | 0.6                                    |
| <i>Pinus resinosa</i>     | 100.0                            | 7.6                                    |
| <i>Pinus strobus</i>      | 388.9                            | 15.1                                   |
| <i>Thuja occidentalis</i> | 244.4                            | 3.0                                    |
| <b>TOTAL</b>              | <b>1,444.4</b>                   | <b>29.4</b>                            |

| <b>Plot: 6029</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer rubrum</i>        | 66.7                             | 0.8                                    |
| <i>Acer saccharum</i>     | 55.6                             | 0.5                                    |
| <i>Acer spicatum</i>      | 55.6                             | 0.0                                    |
| <i>Betula papyrifera</i>  | 577.8                            | 17.8                                   |
| <i>Fraxinus nigra</i>     | 133.3                            | 1.6                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 711.1                            | 10.0                                   |
| <i>Picea glauca</i>       | 44.4                             | 0.2                                    |
| <i>Thuja occidentalis</i> | 433.3                            | 13.4                                   |
| <b>TOTAL</b>              | <b>2,077.8</b>                   | <b>44.3</b>                            |

| <b>Plot: 6030</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer saccharum</i>    | 777.8                            | 32.1                                   |
| <i>Fagus grandifolia</i> | 33.3                             | 0.3                                    |
| <b>TOTAL</b>             | <b>811.1</b>                     | <b>32.4</b>                            |

| <b>Plot: 6031</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer spicatum</i>         | 366.7                            | 3.6                                    |
| <i>Betula papyrifera</i>     | 300.0                            | 10.3                                   |
| <i>Populus grandidentata</i> | 44.4                             | 3.4                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 1200.0                           | 7.9                                    |
| <i>Picea mariana</i>         | 77.8                             | 0.1                                    |
| <i>Pinus resinosa</i>        | 22.2                             | 1.4                                    |
| <i>Pinus strobus</i>         | 33.3                             | 1.7                                    |
| <b>TOTAL</b>                 | <b>2,044.4</b>                   | <b>28.4</b>                            |

| <b>Plot: 6032</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer pensylvanicum</i>    | 44.4                             | 0.0                                    |
| <i>Acer rubrum</i>           | 355.6                            | 6.7                                    |
| <i>Acer saccharum</i>        | 677.8                            | 20.3                                   |
| <i>Betula alleghaniensis</i> | 22.2                             | 0.0                                    |
| <i>Fagus grandifolia</i>     | 200.0                            | 3.5                                    |
| <b>TOTAL</b>                 | <b>1,300.0</b>                   | <b>30.7</b>                            |

| <b>Plot: 6033</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 377.8                            | 32.6                                   |
| <b>TOTAL</b>          | <b>377.8</b>                     | <b>32.6</b>                            |

| <b>Plot: 6034</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer rubrum</i>        | 188.9                            | 3.0                                    |
| <i>Acer spicatum</i>      | 433.3                            | 1.5                                    |
| <i>Betula papyrifera</i>  | 244.4                            | 5.7                                    |
| <i>Quercus rubra</i>      | 88.9                             | 3.3                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 88.9                             | 0.6                                    |
| <i>Picea glauca</i>       | 22.2                             | 0.3                                    |
| <i>Pinus resinosa</i>     | 144.4                            | 11.2                                   |
| <i>Pinus strobus</i>      | 377.8                            | 8.0                                    |
| <i>Thuja occidentalis</i> | 166.7                            | 3.4                                    |
| <b>TOTAL</b>              | <b>1,755.6</b>                   | <b>37.1</b>                            |

| <b>Plot: 6035</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer saccharum</i>    | 377.8                            | 19.8                                   |
| <i>Fagus grandifolia</i> | 200.0                            | 8.6                                    |
| <b>TOTAL</b>             | <b>577.8</b>                     | <b>28.4</b>                            |

| <b>Plot: 6036</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 33.3                             | 0.8                                    |
| <i>Acer saccharum</i>        | 788.9                            | 20.6                                   |
| <i>Acer spicatum</i>         | 22.2                             | 0.1                                    |
| <i>Betula alleghaniensis</i> | 44.4                             | 3.1                                    |
| <i>Fagus grandifolia</i>     | 22.2                             | 0.3                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 11.1                             | 0.0                                    |
| <i>Picea glauca</i>          | 33.3                             | 1.1                                    |
| <i>Thuja occidentalis</i>    | 77.8                             | 13.0                                   |
| <i>Tsuga canadensis</i>      | 100.0                            | 11.5                                   |
| <b>TOTAL</b>                 | <b>1,133.3</b>                   | <b>50.5</b>                            |

| <b>Plot: 6037</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 555.6                            | 20.3                                   |
| <i>Acer saccharum</i>        | 333.3                            | 2.1                                    |
| <i>Acer spicatum</i>         | 33.3                             | 0.1                                    |
| <i>Betula alleghaniensis</i> | 266.7                            | 1.5                                    |
| <i>Fagus grandifolia</i>     | 255.6                            | 7.9                                    |
| <i>Prunus pensylvanica</i>   | 211.1                            | 0.7                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 366.7                            | 4.0                                    |
| <i>Picea glauca</i>          | 100.0                            | 1.9                                    |
| <i>Tsuga canadensis</i>      | 166.7                            | 0.5                                    |
| <b>TOTAL</b>                 | <b>2,288.9</b>                   | <b>39.0</b>                            |

| <b>Plot: 6039</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer pensylvanicum</i>    | 200.0                            | 1.0                                    |
| <i>Acer rubrum</i>           | 477.8                            | 16.4                                   |
| <i>Acer saccharum</i>        | 277.8                            | 1.9                                    |
| <i>Betula alleghaniensis</i> | 188.9                            | 4.1                                    |
| <i>Fagus grandifolia</i>     | 722.2                            | 3.4                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 55.6                             | 0.3                                    |
| <i>Thuja occidentalis</i>    | 11.1                             | 3.3                                    |
| <i>Tsuga canadensis</i>      | 177.8                            | 9.4                                    |
| <b>TOTAL</b>                 | <b>2,111.1</b>                   | <b>39.7</b>                            |

| <b>Plot: 6040</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer rubrum</i>    | 66.7                             | 3.2                                    |
| <i>Acer saccharum</i> | 544.4                            | 25.8                                   |
| <b>TOTAL</b>          | <b>611.1</b>                     | <b>29.0</b>                            |

| <b>Plot: 6041</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer pensylvanicum</i>    | 55.6                             | 0.3                                    |
| <i>Acer rubrum</i>           | 355.6                            | 6.2                                    |
| <i>Acer saccharum</i>        | 211.1                            | 4.0                                    |
| <i>Acer spicatum</i>         | 22.2                             | 0.0                                    |
| <i>Betula alleghaniensis</i> | 11.1                             | 1.2                                    |
| <i>Fagus grandifolia</i>     | 188.9                            | 8.8                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 166.7                            | 0.5                                    |
| <i>Thuja occidentalis</i>    | 33.3                             | 1.1                                    |
| <i>Tsuga canadensis</i>      | 122.2                            | 2.4                                    |
| <b>TOTAL</b>                 | <b>1,166.7</b>                   | <b>24.6</b>                            |

| <b>Plot: 6042</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer saccharum</i>    | 411.1                            | 18.2                                   |
| <i>Fagus grandifolia</i> | 188.9                            | 13.9                                   |
| <i>Tilia americana</i>   | 22.2                             | 4.6                                    |
| softwood                 |                                  |                                        |
| <i>Abies balsamea</i>    | 22.2                             | 0.0                                    |
| <b>TOTAL</b>             | <b>644.4</b>                     | <b>36.6</b>                            |

| <b>Plot: 6043</b>          | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|----------------------------|----------------------------------|----------------------------------------|
| Species                    |                                  |                                        |
| hardwood                   |                                  |                                        |
| <i>Acer rubrum</i>         | 11.1                             | 0.1                                    |
| <i>Betula papyrifera</i>   | 22.2                             | 0.4                                    |
| <i>Populus tremuloides</i> | 333.3                            | 1.6                                    |
| softwood                   |                                  |                                        |
| <i>Pinus resinosa</i>      | 544.4                            | 14.0                                   |
| <i>Pinus strobus</i>       | 500.0                            | 6.2                                    |
| <b>TOTAL</b>               | <b>1,411.1</b>                   | <b>22.2</b>                            |

| <b>Plot: 6044</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 466.7                            | 3.4                                    |
| <i>Acer spicatum</i>         | 88.9                             | 0.6                                    |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.1                                    |
| <i>Betula papyrifera</i>     | 488.9                            | 9.6                                    |
| <i>Populus grandidentata</i> | 11.1                             | 0.5                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 2844.4                           | 8.7                                    |
| <i>Picea mariana</i>         | 66.7                             | 0.4                                    |
| <i>Pinus resinosa</i>        | 11.1                             | 1.9                                    |
| <i>Pinus strobus</i>         | 88.9                             | 7.6                                    |
| <i>Tsuga canadensis</i>      | 88.9                             | 3.5                                    |
| <b>TOTAL</b>                 | <b>4,166.7</b>                   | <b>36.4</b>                            |

| <b>Plot: 6045</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer rubrum</i>       | 88.9                             | 1.1                                    |
| <i>Acer saccharum</i>    | 755.6                            | 30.3                                   |
| <i>Fagus grandifolia</i> | 111.1                            | 0.1                                    |
| <i>Prunus serotina</i>   | 11.1                             | 1.3                                    |
| softwood                 |                                  |                                        |
| <i>Abies balsamea</i>    | 33.3                             | 0.0                                    |
| <b>TOTAL</b>             | <b>1,000.0</b>                   | <b>32.8</b>                            |

| <b>Plot: 6047</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer pensylvanicum</i> | 33.3                             | 0.1                                    |
| <i>Acer rubrum</i>        | 322.2                            | 5.4                                    |
| <i>Acer saccharum</i>     | 355.6                            | 3.3                                    |
| <i>Betula papyrifera</i>  | 477.8                            | 16.2                                   |
| <i>Fagus grandifolia</i>  | 133.3                            | 1.2                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 233.3                            | 0.9                                    |
| <i>Pinus resinosa</i>     | 11.1                             | 0.0                                    |
| <i>Pinus strobus</i>      | 111.1                            | 0.3                                    |
| <b>TOTAL</b>              | <b>1,677.8</b>                   | <b>27.5</b>                            |

| <b>Plot: 6048</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer rubrum</i>        | 133.3                            | 1.9                                    |
| <i>Betula papyrifera</i>  | 133.3                            | 8.0                                    |
| <i>Fraxinus nigra</i>     | 611.1                            | 2.7                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 2333.3                           | 8.3                                    |
| <i>Larix laricina</i>     | 11.1                             | 4.3                                    |
| <i>Thuja occidentalis</i> | 2444.4                           | 29.8                                   |
| <b>TOTAL</b>              | <b>5,666.7</b>                   | <b>55.0</b>                            |

| <b>Plot: 6049</b>      | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------|----------------------------------|----------------------------------------|
| Species                |                                  |                                        |
| hardwood               |                                  |                                        |
| <i>Acer saccharum</i>  | 566.7                            | 37.1                                   |
| <i>Ulmus americana</i> | 44.4                             | 0.1                                    |
| softwood               |                                  |                                        |
| <i>Abies balsamea</i>  | 366.7                            | 0.9                                    |
| <b>TOTAL</b>           | <b>977.8</b>                     | <b>38.2</b>                            |

| <b>Plot: 6051</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer saccharum</i>        | 500.0                            | 27.2                                   |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.4                                    |
| softwood                     |                                  |                                        |
| <i>Picea glauca</i>          | 33.3                             | 3.7                                    |
| <b>TOTAL</b>                 | <b>544.4</b>                     | <b>31.2</b>                            |

| <b>Plot: 6053</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer rubrum</i>        | 533.3                            | 13.0                                   |
| <i>Acer saccharum</i>     | 122.2                            | 1.2                                    |
| <i>Betula papyrifera</i>  | 66.7                             | 1.3                                    |
| <i>Fagus grandifolia</i>  | 22.2                             | 0.4                                    |
| <i>Fraxinus nigra</i>     | 188.9                            | 3.6                                    |
| <i>Quercus rubra</i>      | 22.2                             | 1.3                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 1411.1                           | 5.3                                    |
| <i>Picea mariana</i>      | 33.3                             | 0.5                                    |
| <i>Pinus strobus</i>      | 44.4                             | 0.4                                    |
| <i>Thuja occidentalis</i> | 22.2                             | 2.3                                    |
| <i>Tsuga canadensis</i>   | 111.1                            | 10.9                                   |
| <b>TOTAL</b>              | <b>2,577.8</b>                   | <b>40.1</b>                            |

| <b>Plot: 6054</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer pensylvanicum</i>    | 11.1                             | 0.0                                    |
| <i>Acer rubrum</i>           | 266.7                            | 15.6                                   |
| <i>Acer saccharum</i>        | 411.1                            | 4.5                                    |
| <i>Acer sp.</i>              | 11.1                             | 0.1                                    |
| <i>Betula alleghaniensis</i> | 88.9                             | 7.8                                    |
| <i>Betula papyrifera</i>     | 22.2                             | 1.5                                    |
| <i>Fagus grandifolia</i>     | 44.4                             | 0.6                                    |
| <i>Fraxinus nigra</i>        | 22.2                             | 1.0                                    |
| <i>Ulmus americana</i>       | 11.1                             | 0.0                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 33.3                             | 0.4                                    |
| <i>Thuja occidentalis</i>    | 33.3                             | 0.5                                    |
| <i>Tsuga canadensis</i>      | 144.4                            | 13.1                                   |
| <b>TOTAL</b>                 | <b>1,100.0</b>                   | <b>45.3</b>                            |

| <b>Plot: 6055</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 100.0                            | 5.0                                    |
| <i>Acer saccharum</i>        | 1366.7                           | 15.9                                   |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.2                                    |
| <i>Prunus serotina</i>       | 33.3                             | 2.0                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 33.3                             | 0.5                                    |
| <i>Picea glauca</i>          | 11.1                             | 0.2                                    |
| <b>TOTAL</b>                 | <b>1,555.6</b>                   | <b>23.7</b>                            |

| <b>Plot: 6056</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer saccharum</i>        | 611.1                            | 29.6                                   |
| <i>Betula alleghaniensis</i> | 11.1                             | 1.2                                    |
| <i>Fagus grandifolia</i>     | 177.8                            | 9.7                                    |
| <b>TOTAL</b>                 | <b>800.0</b>                     | <b>40.5</b>                            |

| <b>Plot: 6058</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer saccharum</i>        | 566.7                            | 5.1                                    |
| <i>Acer spicatum</i>         | 655.6                            | 1.4                                    |
| <i>Betula alleghaniensis</i> | 133.3                            | 5.3                                    |
| <i>Betula papyrifera</i>     | 100.0                            | 4.0                                    |
| <i>Populus tremuloides</i>   | 188.9                            | 22.7                                   |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 411.1                            | 1.3                                    |
| <i>Picea glauca</i>          | 11.1                             | 0.0                                    |
| <i>Picea mariana</i>         | 55.6                             | 0.6                                    |
| <i>Thuja occidentalis</i>    | 144.4                            | 6.0                                    |
| <b>TOTAL</b>                 | <b>2,266.7</b>                   | <b>46.4</b>                            |

| <b>Plot: 6059</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 533.3                            | 20.2                                   |
| <i>Acer saccharum</i>        | 822.2                            | 12.4                                   |
| <i>Betula alleghaniensis</i> | 22.2                             | 0.5                                    |
| <i>Betula papyrifera</i>     | 11.1                             | 0.8                                    |
| <i>Fagus grandifolia</i>     | 500.0                            | 8.7                                    |
| softwood                     |                                  |                                        |
| <i>Tsuga canadensis</i>      | 11.1                             | 0.8                                    |
| <b>TOTAL</b>                 | <b>1,900.0</b>                   | <b>43.4</b>                            |

| <b>Plot: 6062</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer pensylvanicum</i>    | 66.7                             | 0.6                                    |
| <i>Acer rubrum</i>           | 77.8                             | 8.5                                    |
| <i>Acer saccharum</i>        | 388.9                            | 2.7                                    |
| <i>Acer spicatum</i>         | 133.3                            | 0.2                                    |
| <i>Betula alleghaniensis</i> | 88.9                             | 6.3                                    |
| <i>Betula papyrifera</i>     | 11.1                             | 0.4                                    |
| <i>Fagus grandifolia</i>     | 111.1                            | 0.2                                    |
| <i>Fraxinus nigra</i>        | 22.2                             | 0.4                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 33.3                             | 1.0                                    |
| <i>Picea glauca</i>          | 22.2                             | 0.1                                    |
| <i>Picea mariana</i>         | 33.3                             | 0.0                                    |
| <i>Thuja occidentalis</i>    | 55.6                             | 16.4                                   |
| <i>Tsuga canadensis</i>      | 88.9                             | 7.3                                    |
| <b>TOTAL</b>                 | <b>1,133.3</b>                   | <b>44.2</b>                            |

| <b>Plot: 6063</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 277.8                            | 11.9                                   |
| <i>Acer saccharum</i>        | 11.1                             | 0.1                                    |
| <i>Betula alleghaniensis</i> | 44.4                             | 1.3                                    |
| <i>Betula papyrifera</i>     | 144.4                            | 3.3                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 1588.9                           | 5.6                                    |
| <i>Pinus strobus</i>         | 33.3                             | 1.1                                    |
| <i>Thuja occidentalis</i>    | 22.2                             | 0.3                                    |
| <i>Tsuga canadensis</i>      | 366.7                            | 4.7                                    |
| <b>TOTAL</b>                 | <b>2,488.9</b>                   | <b>28.3</b>                            |

| <b>Plot: 6064</b>             | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-------------------------------|----------------------------------|----------------------------------------|
| Species                       |                                  |                                        |
| hardwood                      |                                  |                                        |
| <i>Acer pensylvanicum</i>     | 88.9                             | 0.3                                    |
| <i>Acer saccharum</i>         | 1788.9                           | 21.2                                   |
| <i>Amelanchier arborea</i>    | 44.4                             | 0.2                                    |
| <i>Betula alleghaniensis</i>  | 77.8                             | 4.9                                    |
| <i>Betula papyrifera</i>      | 166.7                            | 9.2                                    |
| <i>Fagus grandifolia</i>      | 66.7                             | 0.3                                    |
| <i>Fraxinus pennsylvanica</i> | 388.9                            | 5.7                                    |
| <i>Ulmus americana</i>        | 22.2                             | 0.0                                    |
| softwood                      |                                  |                                        |
| <i>Abies balsamea</i>         | 22.2                             | 0.1                                    |
| <i>Picea glauca</i>           | 44.4                             | 0.6                                    |
| <i>Thuja occidentalis</i>     | 22.2                             | 1.8                                    |
| <b>TOTAL</b>                  | <b>2,733.3</b>                   | <b>44.4</b>                            |

| <b>Plot: 6065</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer pensylvanicum</i>    | 66.7                             | 0.2                                    |
| <i>Acer rubrum</i>           | 11.1                             | 0.0                                    |
| <i>Acer saccharum</i>        | 433.3                            | 10.9                                   |
| <i>Acer spicatum</i>         | 188.9                            | 0.3                                    |
| <i>Betula alleghaniensis</i> | 211.1                            | 14.6                                   |
| <i>Betula papyrifera</i>     | 66.7                             | 3.2                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 144.4                            | 1.1                                    |
| <i>Picea glauca</i>          | 200.0                            | 3.4                                    |
| <i>Thuja occidentalis</i>    | 144.4                            | 17.5                                   |
| <i>Tsuga canadensis</i>      | 11.1                             | 0.0                                    |
| <b>TOTAL</b>                 | <b>1,477.8</b>                   | <b>51.2</b>                            |

| <b>Plot: 6067</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 155.6                            | 0.7                                    |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.0                                    |
| <i>Betula papyrifera</i>     | 211.1                            | 2.3                                    |
| <i>Quercus rubra</i>         | 22.2                             | 0.0                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 11.1                             | 0.0                                    |
| <i>Pinus resinosa</i>        | 488.9                            | 9.3                                    |
| <i>Pinus strobus</i>         | 1088.9                           | 7.5                                    |
| <b>TOTAL</b>                 | <b>1,988.9</b>                   | <b>19.9</b>                            |

| <b>Plot: 6068</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 277.8                            | 15.1                                   |
| <i>Acer saccharum</i>        | 1133.3                           | 18.1                                   |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.0                                    |
| <i>Fagus grandifolia</i>     | 266.7                            | 6.1                                    |
| <i>Prunus serotina</i>       | 44.4                             | 1.6                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 11.1                             | 0.0                                    |
| <i>Picea glauca</i>          | 22.2                             | 0.5                                    |
| <i>Tsuga canadensis</i>      | 11.1                             | 0.8                                    |
| <b>TOTAL</b>                 | <b>1,777.8</b>                   | <b>42.2</b>                            |

| <b>Plot: 6069</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 744.4                            | 24.9                                   |
| <b>TOTAL</b>          | <b>744.4</b>                     | <b>24.9</b>                            |

| <b>Plot: 6070</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer rubrum</i>       | 811.1                            | 6.4                                    |
| <i>Acer saccharum</i>    | 477.8                            | 3.7                                    |
| <i>Fagus grandifolia</i> | 55.6                             | 1.1                                    |
| <i>Prunus serotina</i>   | 422.2                            | 11.6                                   |
| softwood                 |                                  |                                        |
| <i>Abies balsamea</i>    | 222.2                            | 0.5                                    |
| <i>Picea glauca</i>      | 88.9                             | 2.2                                    |
| <b>TOTAL</b>             | <b>2,077.8</b>                   | <b>25.6</b>                            |

# Density and Basal Area of Tree Species (Dead trees)

| <b>Plot: 6001</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer saccharum</i>    | 77.8                             | 0.1                                    |
| <i>Acer spicatum</i>     | 11.1                             | 0.0                                    |
| <i>Prunus virginiana</i> | 11.1                             | 0.0                                    |
| <b>TOTAL</b>             | <b>100.0</b>                     | <b>0.2</b>                             |

| <b>Plot: 6002</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 366.7                            | 2.6                                    |
| <i>Acer saccharum</i>        | 22.2                             | 0.2                                    |
| <i>Betula alleghaniensis</i> | 22.2                             | 0.3                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 11.1                             | 0.0                                    |
| <i>Pinus strobus</i>         | 11.1                             | 0.8                                    |
| <i>Tsuga canadensis</i>      | 11.1                             | 0.1                                    |
| unknown dead tree - softwood | 11.1                             | 1.1                                    |
| <b>TOTAL</b>                 | <b>455.6</b>                     | <b>5.1</b>                             |

| <b>Plot: 6004</b>      | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------|----------------------------------|----------------------------------------|
| Species                |                                  |                                        |
| hardwood               |                                  |                                        |
| <i>Acer rubrum</i>     | 22.2                             | 0.0                                    |
| softwood               |                                  |                                        |
| <i>Pinus banksiana</i> | 122.2                            | 0.3                                    |
| <i>Pinus resinosa</i>  | 11.1                             | 0.0                                    |
| <b>TOTAL</b>           | <b>155.6</b>                     | <b>0.3</b>                             |

| <b>Plot: 6005</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 66.7                             | 0.3                                    |
| <b>TOTAL</b>          | <b>66.7</b>                      | <b>0.3</b>                             |

| <b>Plot: 6006</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer saccharum</i>    | 155.6                            | 0.6                                    |
| <i>Fagus grandifolia</i> | 11.1                             | 0.0                                    |
| <i>Ostrya virginiana</i> | 33.3                             | 0.3                                    |
| <b>TOTAL</b>             | <b>200.0</b>                     | <b>0.9</b>                             |

| <b>Plot: 6007</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer saccharum</i>    | 44.4                             | 0.7                                    |
| <i>Fagus grandifolia</i> | 22.2                             | 4.8                                    |
| <i>Ostrya virginiana</i> | 11.1                             | 0.1                                    |
| softwood                 |                                  |                                        |
| <i>Abies balsamea</i>    | 22.2                             | 2.1                                    |
| <b>TOTAL</b>             | <b>100.0</b>                     | <b>7.8</b>                             |

| <b>Plot: 6008</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 144.4                            | 4.9                                    |
| <b>TOTAL</b>          | <b>144.4</b>                     | <b>4.9</b>                             |

| <b>Plot: 6009</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 11.1                             | 0.1                                    |
| <i>Acer saccharum</i>        | 77.8                             | 0.4                                    |
| <i>Acer sp.</i>              | 11.1                             | 0.3                                    |
| <i>Betula alleghaniensis</i> | 33.3                             | 2.1                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 11.1                             | 0.6                                    |
| <b>TOTAL</b>                 | <b>144.4</b>                     | <b>3.6</b>                             |

| <b>Plot: 6010</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 100.0                            | 2.6                                    |
| <b>TOTAL</b>          | <b>100.0</b>                     | <b>2.6</b>                             |

| <b>Plot: 6012</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 88.9                             | 0.6                                    |
| <b>TOTAL</b>          | <b>88.9</b>                      | <b>0.6</b>                             |

| <b>Plot: 6013</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 88.9                             | 0.5                                    |
| <b>TOTAL</b>          | <b>88.9</b>                      | <b>0.5</b>                             |

|                                     |                                  |                                        |
|-------------------------------------|----------------------------------|----------------------------------------|
| <b>Plot: 6014</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| softwood                            |                                  |                                        |
| <i>Pinus banksiana</i>              | 588.9                            | 3.9                                    |
| <b>TOTAL</b>                        | <b>588.9</b>                     | <b>3.9</b>                             |
| <b>Plot: 6015</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| softwood                            |                                  |                                        |
| <i>unknown dead tree - softwood</i> | 22.2                             | 0.2                                    |
| <b>TOTAL</b>                        | <b>22.2</b>                      | <b>0.2</b>                             |
| <b>Plot: 6016</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| hardwood                            |                                  |                                        |
| <i>Acer saccharum</i>               | 211.1                            | 0.6                                    |
| <i>Betula alleghaniensis</i>        | 11.1                             | 0.2                                    |
| <i>Ostrya virginiana</i>            | 11.1                             | 0.0                                    |
| <i>Prunus serotina</i>              | 66.7                             | 0.9                                    |
| softwood                            |                                  |                                        |
| <i>Abies balsamea</i>               | 22.2                             | 1.5                                    |
| <i>unknown dead tree - softwood</i> | 11.1                             | 1.4                                    |
| <b>TOTAL</b>                        | <b>333.3</b>                     | <b>4.6</b>                             |
| <b>Plot: 6017</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| hardwood                            |                                  |                                        |
| <i>Acer saccharum</i>               | 111.1                            | 1.6                                    |
| <b>TOTAL</b>                        | <b>111.1</b>                     | <b>1.6</b>                             |
| <b>Plot: 6018</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| hardwood                            |                                  |                                        |
| <i>Acer saccharum</i>               | 77.8                             | 0.5                                    |
| <i>Betula alleghaniensis</i>        | 33.3                             | 0.2                                    |
| <b>TOTAL</b>                        | <b>111.1</b>                     | <b>0.6</b>                             |
| <b>Plot: 6020</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| hardwood                            |                                  |                                        |
| <i>Acer rubrum</i>                  | 44.4                             | 0.1                                    |
| <i>Populus grandidentata</i>        | 44.4                             | 0.1                                    |
| softwood                            |                                  |                                        |
| <i>Pinus resinosa</i>               | 22.2                             | 0.1                                    |
| <i>Pinus strobus</i>                | 22.2                             | 0.1                                    |
| <b>TOTAL</b>                        | <b>133.3</b>                     | <b>0.4</b>                             |
| <b>Plot: 6021</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| hardwood                            |                                  |                                        |
| <i>Acer saccharum</i>               | 55.6                             | 0.8                                    |
| <i>Betula alleghaniensis</i>        | 11.1                             | 0.2                                    |
| <b>TOTAL</b>                        | <b>66.7</b>                      | <b>1.0</b>                             |

|                                     |                                  |                                        |
|-------------------------------------|----------------------------------|----------------------------------------|
| <b>Plot: 6022</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| hardwood                            |                                  |                                        |
| <i>Acer saccharum</i>               | 100.0                            | 0.3                                    |
| <b>TOTAL</b>                        | <b>100.0</b>                     | <b>0.3</b>                             |
| <b>Plot: 6023</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| hardwood                            |                                  |                                        |
| <i>Betula papyrifera</i>            | 44.4                             | 4.1                                    |
| softwood                            |                                  |                                        |
| <i>Abies balsamea</i>               | 22.2                             | 0.7                                    |
| <i>Pinus strobus</i>                | 11.1                             | 0.9                                    |
| <b>TOTAL</b>                        | <b>77.8</b>                      | <b>5.7</b>                             |
| <b>Plot: 6024</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| hardwood                            |                                  |                                        |
| <i>Acer rubrum</i>                  | 11.1                             | 0.0                                    |
| <i>Acer saccharum</i>               | 44.4                             | 0.3                                    |
| <i>Acer sp.</i>                     | 22.2                             | 0.2                                    |
| <i>Betula papyrifera</i>            | 11.1                             | 0.0                                    |
| <i>Fagus grandifolia</i>            | 11.1                             | 1.6                                    |
| <i>Prunus serotina</i>              | 11.1                             | 0.6                                    |
| softwood                            |                                  |                                        |
| <i>Abies balsamea</i>               | 33.3                             | 0.2                                    |
| <i>Tsuga canadensis</i>             | 22.2                             | 4.4                                    |
| <b>TOTAL</b>                        | <b>166.7</b>                     | <b>7.3</b>                             |
| <b>Plot: 6025</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| hardwood                            |                                  |                                        |
| <i>Acer saccharum</i>               | 33.3                             | 0.1                                    |
| <i>Acer spicatum</i>                | 11.1                             | 0.0                                    |
| <i>Fagus grandifolia</i>            | 77.8                             | 0.3                                    |
| <i>unknown dead tree - hardwood</i> | 11.1                             | 0.2                                    |
| <b>TOTAL</b>                        | <b>133.3</b>                     | <b>0.7</b>                             |
| <b>Plot: 6026</b>                   | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
| Species                             |                                  |                                        |
| hardwood                            |                                  |                                        |
| <i>Acer saccharum</i>               | 22.2                             | 0.0                                    |
| softwood                            |                                  |                                        |
| <i>Abies balsamea</i>               | 11.1                             | 0.0                                    |
| <b>TOTAL</b>                        | <b>33.3</b>                      | <b>0.1</b>                             |

| <b>Plot: 6027</b>          | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|----------------------------|----------------------------------|----------------------------------------|
| Species                    |                                  |                                        |
| hardwood                   |                                  |                                        |
| <i>Acer rubrum</i>         | 11.1                             | 0.0                                    |
| <i>Populus tremuloides</i> | 44.4                             | 0.1                                    |
| softwood                   |                                  |                                        |
| <i>Pinus strobus</i>       | 22.2                             | 0.1                                    |
| <b>TOTAL</b>               | <b>77.8</b>                      | <b>0.2</b>                             |

| <b>Plot: 6028</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Betula papyrifera</i>     | 22.2                             | 0.3                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 22.2                             | 0.0                                    |
| <i>Larix laricina</i>        | 55.6                             | 0.1                                    |
| <i>Pinus resinosa</i>        | 33.3                             | 4.1                                    |
| <i>Pinus strobus</i>         | 55.6                             | 0.7                                    |
| <i>Thuja occidentalis</i>    | 44.4                             | 1.0                                    |
| unknown dead tree - softwood | 11.1                             | 0.5                                    |
| <b>TOTAL</b>                 | <b>244.4</b>                     | <b>6.8</b>                             |

| <b>Plot: 6029</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Betula papyrifera</i>  | 22.2                             | 0.5                                    |
| <i>Fraxinus nigra</i>     | 11.1                             | 0.1                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 300.0                            | 4.5                                    |
| <i>Thuja occidentalis</i> | 33.3                             | 0.6                                    |
| <b>TOTAL</b>              | <b>366.7</b>                     | <b>5.7</b>                             |

| <b>Plot: 6030</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 177.8                            | 1.9                                    |
| <b>TOTAL</b>          | <b>177.8</b>                     | <b>1.9</b>                             |

| <b>Plot: 6031</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer pensylvanicum</i> | 11.1                             | 0.0                                    |
| <i>Acer spicatum</i>      | 66.7                             | 0.4                                    |
| <i>Betula papyrifera</i>  | 111.1                            | 4.7                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 100.0                            | 1.7                                    |
| <b>TOTAL</b>              | <b>288.9</b>                     | <b>6.8</b>                             |

| <b>Plot: 6032</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 66.7                             | 0.2                                    |
| softwood              |                                  |                                        |
| <i>Abies balsamea</i> | 11.1                             | 0.0                                    |
| <b>TOTAL</b>          | <b>77.8</b>                      | <b>0.2</b>                             |

| <b>Plot: 6033</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 55.6                             | 3.0                                    |
| <b>TOTAL</b>          | <b>55.6</b>                      | <b>3.0</b>                             |

| <b>Plot: 6034</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer rubrum</i>       | 44.4                             | 0.1                                    |
| <i>Betula papyrifera</i> | 122.2                            | 2.1                                    |
| softwood                 |                                  |                                        |
| <i>Abies balsamea</i>    | 11.1                             | 0.0                                    |
| <i>Pinus resinosa</i>    | 44.4                             | 0.2                                    |
| <i>Pinus strobus</i>     | 288.9                            | 1.8                                    |
| <b>TOTAL</b>             | <b>511.1</b>                     | <b>4.2</b>                             |

| <b>Plot: 6035</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Fagus grandifolia</i> | 22.2                             | 3.1                                    |
| <b>TOTAL</b>             | <b>22.2</b>                      | <b>3.1</b>                             |

| <b>Plot: 6036</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer rubrum</i>        | 11.1                             | 0.1                                    |
| <i>Acer saccharum</i>     | 200.0                            | 1.0                                    |
| <i>Betula papyrifera</i>  | 11.1                             | 0.2                                    |
| softwood                  |                                  |                                        |
| <i>Thuja occidentalis</i> | 22.2                             | 0.2                                    |
| softwood / hardwood       |                                  |                                        |
| unknown dead tree         | 11.1                             | 0.0                                    |
| <b>TOTAL</b>              | <b>255.6</b>                     | <b>1.5</b>                             |

| <b>Plot: 6037</b>          | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|----------------------------|----------------------------------|----------------------------------------|
| Species                    |                                  |                                        |
| hardwood                   |                                  |                                        |
| <i>Acer rubrum</i>         | 55.6                             | 0.1                                    |
| <i>Prunus pensylvanica</i> | 11.1                             | 0.0                                    |
| softwood                   |                                  |                                        |
| <i>Abies balsamea</i>      | 11.1                             | 0.0                                    |
| <b>TOTAL</b>               | <b>77.8</b>                      | <b>0.1</b>                             |

| <b>Plot: 6039</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer pensylvanicum</i> | 77.8                             | 0.1                                    |
| <i>Acer rubrum</i>        | 100.0                            | 0.2                                    |
| <i>Acer saccharum</i>     | 11.1                             | 0.1                                    |
| <i>Fagus grandifolia</i>  | 55.6                             | 3.8                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 22.2                             | 0.7                                    |
| <b>TOTAL</b>              | <b>266.7</b>                     | <b>4.8</b>                             |

| <b>Plot: 6040</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 44.4                             | 3.7                                    |
| softwood              |                                  |                                        |
| <i>Abies balsamea</i> | 11.1                             | 0.0                                    |
| <b>TOTAL</b>          | <b>55.6</b>                      | <b>3.8</b>                             |

| <b>Plot: 6041</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer rubrum</i>        | 11.1                             | 0.0                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 122.2                            | 1.3                                    |
| <i>Thuja occidentalis</i> | 11.1                             | 1.0                                    |
| <i>Tsuga canadensis</i>   | 22.2                             | 0.8                                    |
| <b>TOTAL</b>              | <b>166.7</b>                     | <b>3.1</b>                             |

| <b>Plot: 6042</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer saccharum</i>    | 33.3                             | 0.5                                    |
| <i>Betula papyrifera</i> | 11.1                             | 0.8                                    |
| <b>TOTAL</b>             | <b>44.4</b>                      | <b>1.3</b>                             |

| <b>Plot: 6043</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 33.3                             | 0.1                                    |
| <i>Populus tremuloides</i>   | 66.7                             | 0.2                                    |
| unknown dead tree - hardwood | 44.4                             | 0.1                                    |
| softwood                     |                                  |                                        |
| <i>Pinus resinosa</i>        | 33.3                             | 0.1                                    |
| <i>Pinus strobus</i>         | 11.1                             | 0.0                                    |
| <b>TOTAL</b>                 | <b>188.9</b>                     | <b>0.7</b>                             |

| <b>Plot: 6044</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer rubrum</i>       | 66.7                             | 0.8                                    |
| <i>Acer spicatum</i>     | 11.1                             | 0.1                                    |
| <i>Betula papyrifera</i> | 277.8                            | 4.6                                    |
| softwood                 |                                  |                                        |
| <i>Abies balsamea</i>    | 177.8                            | 1.9                                    |
| <b>TOTAL</b>             | <b>533.3</b>                     | <b>7.4</b>                             |

| <b>Plot: 6045</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 155.6                            | 1.6                                    |
| <b>TOTAL</b>          | <b>155.6</b>                     | <b>1.6</b>                             |

| <b>Plot: 6047</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer pensylvanicum</i> | 11.1                             | 0.2                                    |
| <i>Acer rubrum</i>        | 44.4                             | 0.1                                    |
| <i>Acer saccharum</i>     | 88.9                             | 0.1                                    |
| <i>Betula papyrifera</i>  | 266.7                            | 7.0                                    |
| <i>Fagus grandifolia</i>  | 11.1                             | 0.0                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 55.6                             | 0.3                                    |
| <b>TOTAL</b>              | <b>477.8</b>                     | <b>7.8</b>                             |

| <b>Plot: 6048</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Betula papyrifera</i>     | 33.3                             | 2.9                                    |
| <i>Fraxinus nigra</i>        | 77.8                             | 0.5                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 122.2                            | 1.6                                    |
| <i>Thuja occidentalis</i>    | 188.9                            | 1.5                                    |
| unknown dead tree - softwood | 22.2                             | 1.1                                    |
| <b>TOTAL</b>                 | <b>444.4</b>                     | <b>7.7</b>                             |

| <b>Plot: 6049</b>      | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------|----------------------------------|----------------------------------------|
| Species                |                                  |                                        |
| hardwood               |                                  |                                        |
| <i>Acer saccharum</i>  | 100.0                            | 2.5                                    |
| <i>Ulmus americana</i> | 22.2                             | 0.1                                    |
| <b>TOTAL</b>           | <b>122.2</b>                     | <b>2.6</b>                             |

| <b>Plot: 6051</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 211.1                            | 1.1                                    |
| softwood              |                                  |                                        |
| <i>Abies balsamea</i> | 11.1                             | 0.9                                    |
| <b>TOTAL</b>          | <b>222.2</b>                     | <b>2.0</b>                             |

| <b>Plot: 6053</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer rubrum</i>       | 33.3                             | 0.1                                    |
| <i>Betula papyrifera</i> | 33.3                             | 2.1                                    |
| <i>Fraxinus nigra</i>    | 22.2                             | 0.2                                    |
| softwood                 |                                  |                                        |
| <i>Abies balsamea</i>    | 311.1                            | 0.7                                    |
| <i>Picea mariana</i>     | 11.1                             | 0.0                                    |
| <b>TOTAL</b>             | <b>411.1</b>                     | <b>3.1</b>                             |

| <b>Plot: 6054</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 11.1                             | 0.2                                    |
| <i>Acer saccharum</i>        | 44.4                             | 1.0                                    |
| <i>Acer sp.</i>              | 22.2                             | 0.2                                    |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.2                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 11.1                             | 0.5                                    |
| <i>Thuja occidentalis</i>    | 22.2                             | 0.3                                    |
| <i>Tsuga canadensis</i>      | 11.1                             | 0.1                                    |
| <b>TOTAL</b>                 | <b>133.3</b>                     | <b>2.5</b>                             |

| <b>Plot: 6055</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer rubrum</i>    | 11.1                             | 0.1                                    |
| <i>Acer saccharum</i> | 111.1                            | 0.7                                    |
| softwood              |                                  |                                        |
| <i>Abies balsamea</i> | 11.1                             | 0.1                                    |
| <b>TOTAL</b>          | <b>133.3</b>                     | <b>0.9</b>                             |

| <b>Plot: 6056</b>       | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-------------------------|----------------------------------|----------------------------------------|
| Species                 |                                  |                                        |
| hardwood                |                                  |                                        |
| <i>Acer saccharum</i>   | 33.3                             | 6.7                                    |
| softwood                |                                  |                                        |
| <i>Tsuga canadensis</i> | 11.1                             | 1.4                                    |
| <b>TOTAL</b>            | <b>44.4</b>                      | <b>8.1</b>                             |

| <b>Plot: 6058</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer saccharum</i>        | 55.6                             | 0.5                                    |
| <i>Acer spicatum</i>         | 11.1                             | 0.0                                    |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.2                                    |
| <i>Populus tremuloides</i>   | 44.4                             | 8.1                                    |
| unknown dead tree - hardwood | 11.1                             | 0.0                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 22.2                             | 0.3                                    |
| <i>Thuja occidentalis</i>    | 11.1                             | 7.1                                    |
| <b>TOTAL</b>                 | <b>166.7</b>                     | <b>16.3</b>                            |

| <b>Plot: 6059</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer rubrum</i>       | 77.8                             | 0.7                                    |
| <i>Acer saccharum</i>    | 88.9                             | 0.4                                    |
| <i>Betula papyrifera</i> | 22.2                             | 0.2                                    |
| <i>Fagus grandifolia</i> | 88.9                             | 0.2                                    |
| softwood                 |                                  |                                        |
| <i>Tsuga canadensis</i>  | 11.1                             | 0.0                                    |
| <b>TOTAL</b>             | <b>288.9</b>                     | <b>1.6</b>                             |

| <b>Plot: 6062</b>         | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|---------------------------|----------------------------------|----------------------------------------|
| Species                   |                                  |                                        |
| hardwood                  |                                  |                                        |
| <i>Acer pensylvanicum</i> | 11.1                             | 0.0                                    |
| <i>Acer rubrum</i>        | 11.1                             | 0.0                                    |
| <i>Acer sp.</i>           | 44.4                             | 1.6                                    |
| <i>Acer spicatum</i>      | 11.1                             | 0.0                                    |
| <i>Fagus grandifolia</i>  | 22.2                             | 0.8                                    |
| softwood                  |                                  |                                        |
| <i>Abies balsamea</i>     | 55.6                             | 0.1                                    |
| <i>Thuja occidentalis</i> | 55.6                             | 2.0                                    |
| <i>Tsuga canadensis</i>   | 44.4                             | 6.7                                    |
| <b>TOTAL</b>              | <b>255.6</b>                     | <b>11.4</b>                            |

| <b>Plot: 6063</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 88.9                             | 1.6                                    |
| <i>Betula alleghaniensis</i> | 11.1                             | 2.2                                    |
| <i>Betula papyrifera</i>     | 55.6                             | 1.5                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 77.8                             | 0.3                                    |
| <i>Tsuga canadensis</i>      | 11.1                             | 0.2                                    |
| <b>TOTAL</b>                 | <b>244.4</b>                     | <b>5.8</b>                             |

| <b>Plot: 6064</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer saccharum</i>        | 133.3                            | 0.1                                    |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.8                                    |
| <i>Betula papyrifera</i>     | 33.3                             | 1.0                                    |
| <i>Fagus grandifolia</i>     | 11.1                             | 0.1                                    |
| softwood / hardwood          |                                  |                                        |
| unknown dead tree            | 11.1                             | 2.5                                    |
| <b>TOTAL</b>                 | <b>200.0</b>                     | <b>4.5</b>                             |

| <b>Plot: 6065</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer spicatum</i>         | 44.4                             | 0.1                                    |
| <i>Betula alleghaniensis</i> | 11.1                             | 0.0                                    |
| <i>Betula papyrifera</i>     | 11.1                             | 0.2                                    |
| softwood                     |                                  |                                        |
| <i>Abies balsamea</i>        | 33.3                             | 0.2                                    |
| <i>Picea glauca</i>          | 11.1                             | 1.3                                    |
| <i>Thuja occidentalis</i>    | 55.6                             | 0.6                                    |
| <b>TOTAL</b>                 | <b>166.7</b>                     | <b>2.4</b>                             |

| <b>Plot: 6067</b>        | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|--------------------------|----------------------------------|----------------------------------------|
| Species                  |                                  |                                        |
| hardwood                 |                                  |                                        |
| <i>Acer rubrum</i>       | 22.2                             | 0.0                                    |
| <i>Betula papyrifera</i> | 88.9                             | 1.1                                    |
| softwood                 |                                  |                                        |
| <i>Pinus strobus</i>     | 44.4                             | 0.2                                    |
| <b>TOTAL</b>             | <b>155.6</b>                     | <b>1.4</b>                             |

| <b>Plot: 6068</b>            | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------------|----------------------------------|----------------------------------------|
| Species                      |                                  |                                        |
| hardwood                     |                                  |                                        |
| <i>Acer rubrum</i>           | 44.4                             | 1.0                                    |
| <i>Acer saccharum</i>        | 66.7                             | 0.1                                    |
| <i>Fagus grandifolia</i>     | 11.1                             | 0.0                                    |
| <i>Prunus serotina</i>       | 11.1                             | 0.1                                    |
| unknown dead tree - hardwood | 11.1                             | 0.1                                    |
| softwood                     |                                  |                                        |
| unknown dead tree - softwood | 11.1                             | 0.3                                    |
| <b>TOTAL</b>                 | <b>155.6</b>                     | <b>1.7</b>                             |

| <b>Plot: 6069</b>     | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|-----------------------|----------------------------------|----------------------------------------|
| Species               |                                  |                                        |
| hardwood              |                                  |                                        |
| <i>Acer saccharum</i> | 111.1                            | 2.6                                    |
| <b>TOTAL</b>          | <b>111.1</b>                     | <b>2.6</b>                             |

| <b>Plot: 6070</b>      | Density<br>(individuals<br>/ ha) | Basal<br>Area<br>(m <sup>2</sup> / ha) |
|------------------------|----------------------------------|----------------------------------------|
| Species                |                                  |                                        |
| hardwood               |                                  |                                        |
| <i>Acer rubrum</i>     | 33.3                             | 0.5                                    |
| <i>Acer saccharum</i>  | 11.1                             | 0.0                                    |
| <i>Prunus serotina</i> | 88.9                             | 0.5                                    |
| <b>TOTAL</b>           | <b>133.3</b>                     | <b>1.0</b>                             |

# Percent Cover of Shrub Species

## Plot: 6001

| Species                     | Percent cover in shrub circles |   |   |   |   |   | mean percent cover |
|-----------------------------|--------------------------------|---|---|---|---|---|--------------------|
|                             | 1                              | 2 | 3 | 4 | 5 | 6 |                    |
| Amelanchier sp. Group 3     | 1                              |   |   |   |   |   | 0.17               |
| Malus sp.                   |                                |   |   |   | 1 |   | 0.17               |
| Rubus idaeus ssp. strigosus | 1                              |   |   |   |   |   | 0.17               |

Number of Shrub Circles Not Sampled in Plot 6001: 0

## Plot: 6002

| Species                 | Percent cover in shrub circles |   |   |   |   |   | mean percent cover |
|-------------------------|--------------------------------|---|---|---|---|---|--------------------|
|                         | 1                              | 2 | 3 | 4 | 5 | 6 |                    |
| Amelanchier sp.         |                                |   |   | 1 |   |   | 0.17               |
| Amelanchier sp. Group 3 | 1                              |   |   |   |   |   | 0.17               |
| Vaccinium angustifolium | 70                             | 1 | 1 |   |   | 1 | 12.17              |
| Vaccinium ovalifolium   | 4                              | 1 |   |   |   | 1 | 1.00               |

Number of Shrub Circles Not Sampled in Plot 6002: 0

## Plot: 6004

| Species                 | Percent cover in shrub circles |    |    |   |    |    | mean percent cover |
|-------------------------|--------------------------------|----|----|---|----|----|--------------------|
|                         | 1                              | 2  | 3  | 4 | 5  | 6  |                    |
| Gaylussacia baccata     |                                |    | 5  |   |    |    | 0.83               |
| Vaccinium angustifolium | 80                             | 65 | 60 | 7 | 40 | 35 | 47.83              |
| Vaccinium myrtilloides  | 8                              | 4  |    |   | 3  |    | 2.50               |

Number of Shrub Circles Not Sampled in Plot 6004: 0

## Plot: 6005

| Species                         | Percent cover in shrub circles |   |   |   |   |   | mean percent cover |
|---------------------------------|--------------------------------|---|---|---|---|---|--------------------|
|                                 | 1                              | 2 | 3 | 4 | 5 | 6 |                    |
| Lonicera canadensis             |                                |   | 3 |   |   | 2 | 0.83               |
| Ribes cynosbati                 |                                |   | 1 |   |   |   | 0.17               |
| Sambucus racemosa var. racemosa |                                |   |   |   | 3 | 1 | 0.67               |

Number of Shrub Circles Not Sampled in Plot 6005: 0

## Plot: 6006

| Species                         | Percent cover in shrub circles |   |   |   |   |   | mean percent cover |
|---------------------------------|--------------------------------|---|---|---|---|---|--------------------|
|                                 | 1                              | 2 | 3 | 4 | 5 | 6 |                    |
| Sambucus racemosa var. racemosa |                                |   |   |   | 1 |   | 0.17               |

Number of Shrub Circles Not Sampled in Plot 6006: 0

## Plot: 6007

| Species                         | Percent cover in shrub circles |   |   |   |   |   | mean percent cover |
|---------------------------------|--------------------------------|---|---|---|---|---|--------------------|
|                                 | 1                              | 2 | 3 | 4 | 5 | 6 |                    |
| Amelanchier sp. Group 3         |                                |   |   | 1 |   |   | 0.17               |
| Lonicera canadensis             |                                | 1 | 2 | 1 |   |   | 0.67               |
| Sambucus racemosa var. racemosa | 2                              | 1 | 1 |   | 2 | 1 | 1.17               |

Number of Shrub Circles Not Sampled in Plot 6007: 0

| <b>Plot: 6008</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Sambucus racemosa var. racemosa                     | 3                                     | 1        | 1        | 1        | 1        | 1        | 1.33                      |
| Number of Shrub Circles Not Sampled in Plot 6008: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6009</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 2                             |                                       |          | 3        |          |          |          | 0.50                      |
| Cornus alternifolia                                 |                                       | 2        |          |          |          |          | 0.33                      |
| Lonicera canadensis                                 |                                       | 2        |          |          | 2        |          | 0.67                      |
| Ribes triste                                        |                                       |          | 75       |          |          |          | 12.50                     |
| Rubus hispidus                                      |                                       |          |          |          | 2        | 2        | 0.67                      |
| Rubus idaeus ssp. strigosus                         |                                       | 3        |          |          | 1        |          | 0.67                      |
| Sambucus racemosa var. racemosa                     |                                       | 15       |          |          | 1        | 1        | 2.83                      |
| Number of Shrub Circles Not Sampled in Plot 6009: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6010</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 3                             | 2                                     |          |          |          |          |          | 0.33                      |
| Rubus idaeus ssp. strigosus                         |                                       |          | 22       |          |          |          | 3.67                      |
| Sambucus racemosa var. racemosa                     | 2                                     | 3        |          | 4        | 1        | 15       | 4.17                      |
| Taxus canadensis                                    | 45                                    |          |          |          |          | 35       | 13.33                     |
| Number of Shrub Circles Not Sampled in Plot 6010: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6013</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 3                             | 1                                     | 1        |          |          |          |          | 0.33                      |
| Rubus canadensis                                    | 2                                     |          | 6        |          |          | 5        | 2.17                      |
| Rubus idaeus ssp. strigosus                         | 9                                     | 2        | 7        | 8        | 70       | 90       | 31.00                     |
| Sambucus racemosa var. racemosa                     | 1                                     |          | 1        | 1        | 3        |          | 1.00                      |
| Number of Shrub Circles Not Sampled in Plot 6013: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6014</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 2                             |                                       |          |          |          | 1        |          | 0.17                      |
| Gaylussacia baccata                                 | 80                                    | 25       | 85       | 85       | 45       | 45       | 60.83                     |
| Vaccinium angustifolium                             | 55                                    | 80       | 45       | 45       | 25       | 20       | 45.00                     |
| Vaccinium myrtilloides                              |                                       |          |          | 5        | 5        |          | 1.67                      |
| Number of Shrub Circles Not Sampled in Plot 6014: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6015</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Vaccinium angustifolium                             | 50                                    | 80       | 20       | 3        | 60       | 30       | 40.50                     |
| Vaccinium myrtilloides                              | 10                                    | 5        | 5        |          | 10       | 1        | 5.17                      |
| Number of Shrub Circles Not Sampled in Plot 6015: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6017</b>                                   |                                |          |          |          |          |          |                      |
|-----------------------------------------------------|--------------------------------|----------|----------|----------|----------|----------|----------------------|
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Ribes lacustre                                      |                                |          |          | 8        |          |          | 1.33                 |
| Sambucus racemosa var. racemosa                     | 10                             | 8        | 5        | 4        |          |          | 4.50                 |
| Number of Shrub Circles Not Sampled in Plot 6017: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6020</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Amelanchier sp. Group 2                             |                                | 1        |          |          |          |          | 0.17                 |
| Vaccinium angustifolium                             | 1                              | 65       | 45       | 15       | 85       | 30       | 40.17                |
| Number of Shrub Circles Not Sampled in Plot 6020: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6021</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Amelanchier sp. Group 2                             |                                |          |          |          |          | 25       | 4.17                 |
| Cornus alternifolia                                 |                                |          | 1        |          |          |          | 0.17                 |
| Rubus idaeus ssp. strigosus                         |                                |          | 20       | 10       | 12       | 7        | 8.17                 |
| Sambucus racemosa var. racemosa                     |                                |          |          | 1        |          | 2        | 0.50                 |
| Number of Shrub Circles Not Sampled in Plot 6021: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6022</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Amelanchier sp. Group 2                             |                                |          | 1        |          |          |          | 0.17                 |
| Cornus alternifolia                                 |                                | 2        |          |          |          |          | 0.33                 |
| Lonicera canadensis                                 |                                | 3        |          |          |          | 2        | 0.83                 |
| Ribes hudsonianum                                   |                                | 4        |          |          |          |          | 0.67                 |
| Taxus canadensis                                    |                                |          |          |          |          | 4        | 0.67                 |
| Number of Shrub Circles Not Sampled in Plot 6022: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6023</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Amelanchier sp. Group 2                             |                                |          |          | 1        |          |          | 0.17                 |
| Amelanchier sp. Group 3                             |                                | 2        |          |          | 3        | 5        | 1.67                 |
| Diervilla lonicera                                  | 1                              |          |          |          |          | 2        | 0.50                 |
| Vaccinium angustifolium                             | 2                              |          | 1        | 20       | 2        | 15       | 6.67                 |
| Vaccinium myrtilloides                              |                                |          | 1        |          | 4        | 8        | 2.17                 |
| Number of Shrub Circles Not Sampled in Plot 6023: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6024</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Amelanchier sp. Group 2                             |                                | 1        |          |          |          |          | 0.17                 |
| Number of Shrub Circles Not Sampled in Plot 6024: 0 |                                |          |          |          |          |          |                      |

| <b>Plot: 6025</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 3                             |                                       |          |          | 2        |          |          | 0.33                      |
| Rubus allegheniensis                                |                                       |          |          | 2        |          |          | 0.33                      |
| Number of Shrub Circles Not Sampled in Plot 6025: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6026</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Sambucus racemosa var. racemosa                     |                                       |          |          | 1        | 1        |          | 0.33                      |
| Number of Shrub Circles Not Sampled in Plot 6026: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6027</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 3                             | 4                                     | 1        | 1        | 1        |          |          | 1.17                      |
| Diervilla lonicera                                  |                                       |          |          | 1        |          | 1        | 0.33                      |
| Vaccinium angustifolium                             | 45                                    | 40       | 4        | 80       |          | 85       | 42.33                     |
| Vaccinium myrtilloides                              | 10                                    |          | 2        |          |          | 5        | 2.83                      |
| Number of Shrub Circles Not Sampled in Plot 6027: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6028</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 2                             |                                       |          | 1        |          |          | 1        | 0.33                      |
| Andromeda polifolia var. glaucophylla               |                                       |          |          |          | 15       |          | 2.50                      |
| Diervilla lonicera                                  |                                       |          |          |          | 1        |          | 0.17                      |
| Gaylussacia baccata                                 |                                       | 35       | 18       |          |          | 4        | 9.50                      |
| Kalmia polifolia                                    |                                       |          |          |          | 10       | 5        | 2.50                      |
| Ledum groenlandicum                                 |                                       |          | 20       | 30       | 35       | 10       | 15.83                     |
| Myrica gale                                         |                                       |          |          |          | 40       | 3        | 7.17                      |
| Nemopanthus mucronatus                              |                                       |          |          | 5        | 10       | 2        | 2.83                      |
| Rhamnus alnifolia                                   |                                       |          |          |          | 3        | 3        | 1.00                      |
| Shepherdia canadensis                               |                                       |          |          | 3        | 40       | 30       | 12.17                     |
| Vaccinium angustifolium                             | 2                                     | 15       | 65       | 5        | 7        | 3        | 16.17                     |
| Vaccinium myrtilloides                              | 10                                    | 30       | 30       | 30       |          | 3        | 17.17                     |
| Number of Shrub Circles Not Sampled in Plot 6028: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6029</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Alnus incana ssp. rugosa                            |                                       |          |          |          | 1        | 40       | 6.83                      |
| Cornus sericea ssp. sericea                         |                                       |          |          |          | 1        | 15       | 2.67                      |
| Lonicera canadensis                                 | 2                                     | 20       | 15       | 15       | 2        | 2        | 9.33                      |
| Ribes lacustre                                      | 1                                     | 4        | 4        |          |          |          | 1.50                      |
| Ribes triste                                        | 1                                     |          |          | 1        |          | 1        | 0.50                      |
| Rubus idaeus ssp. strigosus                         |                                       |          |          | 1        |          | 5        | 1.00                      |
| Rubus pubescens                                     | 1                                     | 35       | 20       | 30       | 2        | 50       | 23.00                     |
| Number of Shrub Circles Not Sampled in Plot 6029: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6030</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Lonicera canadensis                                 |                                       |          |          |          |          | 1        | 0.17                      |
| Sambucus racemosa var. racemosa                     |                                       |          |          | 1        |          |          | 0.17                      |
| Number of Shrub Circles Not Sampled in Plot 6030: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6031</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 2                             |                                       |          |          |          | 1        |          | 0.17                      |
| Amelanchier sp. Group 3                             |                                       | 1        | 1        |          |          |          | 0.33                      |
| Diervilla lonicera                                  |                                       |          |          |          | 1        |          | 0.17                      |
| Ledum groenlandicum                                 |                                       |          |          |          |          | 1        | 0.17                      |
| Vaccinium angustifolium                             |                                       | 1        | 1        | 1        | 20       | 4        | 4.50                      |
| Number of Shrub Circles Not Sampled in Plot 6031: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6033</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Sambucus nigra ssp. canadensis                      | 5                                     | 35       | 5        | 5        | 30       | 20       | 16.67                     |
| Number of Shrub Circles Not Sampled in Plot 6033: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6034</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Alnus incana ssp. rugosa                            |                                       |          |          |          | 20       |          | 3.33                      |
| Ribes glandulosum                                   |                                       |          |          |          |          | 1        | 0.17                      |
| Rubus idaeus ssp. strigosus                         |                                       |          |          |          | 2        | 8        | 1.67                      |
| Vaccinium angustifolium                             | 8                                     | 8        | 5        | 3        | 2        | 1        | 4.50                      |
| Vaccinium myrtilloides                              | 20                                    | 4        | 5        | 2        | 4        | 6        | 6.83                      |
| Number of Shrub Circles Not Sampled in Plot 6034: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6035</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Lonicera canadensis                                 | 10                                    | 7        |          |          |          |          | 2.83                      |
| Sambucus nigra ssp. canadensis                      |                                       |          |          |          | 1        | 1        | 0.33                      |
| Number of Shrub Circles Not Sampled in Plot 6035: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6036</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Lonicera canadensis                                 | 4                                     |          | 1        |          |          |          | 0.83                      |
| Number of Shrub Circles Not Sampled in Plot 6036: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6037</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Vaccinium membranaceum                              |                                       |          |          |          | 1        |          | 0.17                      |
| Number of Shrub Circles Not Sampled in Plot 6037: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6039</b>                                   |                                |          |          |          |          |          |                      |
|-----------------------------------------------------|--------------------------------|----------|----------|----------|----------|----------|----------------------|
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Lonicera canadensis                                 |                                |          |          |          | 1        |          | 0.17                 |
| Vaccinium ovalifolium                               |                                |          | 1        |          |          |          | 0.17                 |
| Number of Shrub Circles Not Sampled in Plot 6039: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6040</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Rubus canadensis                                    |                                |          |          |          | 1        |          | 0.17                 |
| Number of Shrub Circles Not Sampled in Plot 6040: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6041</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Lonicera canadensis                                 | 2                              | 2        |          | 15       |          | 3        | 3.67                 |
| Rubus idaeus ssp. strigosus                         |                                |          |          |          |          | 1        | 0.17                 |
| Vaccinium membranaceum                              | 1                              |          |          |          |          |          | 0.17                 |
| Number of Shrub Circles Not Sampled in Plot 6041: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6042</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Sambucus nigra ssp. canadensis                      | 3                              | 2        | 1        | 2        |          |          | 1.33                 |
| Number of Shrub Circles Not Sampled in Plot 6042: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6043</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Diervilla lonicera                                  |                                |          |          | 20       |          | 3        | 3.83                 |
| Vaccinium angustifolium                             |                                | 1        | 95       | 15       | 5        | 10       | 21.00                |
| Vaccinium myrtilloides                              |                                | 1        | 3        | 1        | 1        | 1        | 1.17                 |
| Number of Shrub Circles Not Sampled in Plot 6043: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6044</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Vaccinium angustifolium                             |                                |          | 1        |          |          |          | 0.17                 |
| Vaccinium membranaceum                              |                                |          |          | 1        |          |          | 0.17                 |
| Vaccinium myrtilloides                              |                                |          |          |          |          | 10       | 1.67                 |
| Number of Shrub Circles Not Sampled in Plot 6044: 0 |                                |          |          |          |          |          |                      |
| <b>Plot: 6045</b>                                   |                                |          |          |          |          |          |                      |
|                                                     | Percent cover in shrub circles |          |          |          |          |          | mean                 |
| <b>Species</b>                                      | <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Lonicera canadensis                                 | 1                              |          |          |          |          |          | 0.17                 |
| Ribes cynosbati                                     |                                |          | 4        |          |          |          | 0.67                 |
| Rubus idaeus ssp. strigosus                         | 2                              |          |          |          |          |          | 0.33                 |
| Number of Shrub Circles Not Sampled in Plot 6045: 0 |                                |          |          |          |          |          |                      |

| <b>Plot: 6047</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 2                             |                                       |          |          | 1        |          |          | 0.17                      |
| Vaccinium angustifolium                             |                                       |          |          | 5        | 5        | 1        | 1.83                      |
| Vaccinium myrtilloides                              |                                       |          |          |          | 1        |          | 0.17                      |
| Number of Shrub Circles Not Sampled in Plot 6047: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6048</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Alnus incana ssp. rugosa                            |                                       |          | 5        |          | 10       |          | 2.50                      |
| Amelanchier sp. Group 2                             |                                       |          |          |          |          | 1        | 0.17                      |
| Ledum groenlandicum                                 |                                       |          | 7        |          | 5        |          | 2.00                      |
| Ribes triste                                        |                                       |          | 1        |          |          |          | 0.17                      |
| Taxus canadensis                                    |                                       | 3        |          |          |          |          | 0.50                      |
| Number of Shrub Circles Not Sampled in Plot 6048: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6049</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 3                             |                                       |          |          |          |          | 1        | 0.17                      |
| Lonicera canadensis                                 |                                       |          |          |          |          | 1        | 0.17                      |
| Sambucus racemosa var. racemosa                     | 1                                     |          | 1        |          |          | 5        | 1.17                      |
| Number of Shrub Circles Not Sampled in Plot 6049: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6051</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Ribes sp.                                           | 2                                     | 1        |          |          |          |          | 0.50                      |
| Number of Shrub Circles Not Sampled in Plot 6051: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6053</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 2                             |                                       |          | 1        |          | 1        |          | 0.33                      |
| Gaylussacia baccata                                 |                                       |          |          |          |          | 5        | 0.83                      |
| Myrica gale                                         |                                       |          |          |          | 1        |          | 0.17                      |
| Rhamnus alnifolia                                   |                                       |          |          |          | 75       |          | 12.50                     |
| Rubus idaeus ssp. strigosus                         | 25                                    |          |          |          |          |          | 4.17                      |
| Toxicodendron rydbergii                             | 25                                    |          |          |          | 50       |          | 12.50                     |
| Vaccinium angustifolium                             |                                       |          |          | 20       | 4        | 10       | 5.67                      |
| Vaccinium myrtilloides                              |                                       |          |          | 5        |          | 1        | 1.00                      |
| Number of Shrub Circles Not Sampled in Plot 6053: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6054</b>                                   |                                       |          |          |          |          |          |                      |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|----------------------|
|                                                     | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean</b>          |
| <b>Species</b>                                      | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Lonicera canadensis                                 |                                       | 4        |          |          |          |          | 0.67                 |
| Rubus pubescens                                     | 10                                    | 1        |          |          |          |          | 1.83                 |
| Taxus canadensis                                    |                                       |          | 15       | 60       | 5        | 50       | 21.67                |
| Number of Shrub Circles Not Sampled in Plot 6054: 0 |                                       |          |          |          |          |          |                      |

| <b>Plot: 6055</b>                                   |                                       |          |          |          |          |          |                      |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|----------------------|
|                                                     | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean</b>          |
| <b>Species</b>                                      | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Amelanchier sp. Group 2                             |                                       |          |          |          |          | 1        | 0.17                 |
| Rubus idaeus ssp. strigosus                         | 30                                    | 25       |          |          |          | 10       | 10.83                |
| Number of Shrub Circles Not Sampled in Plot 6055: 0 |                                       |          |          |          |          |          |                      |

| <b>Plot: 6056</b>                                   |                                       |          |          |          |          |          |                      |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|----------------------|
|                                                     | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean</b>          |
| <b>Species</b>                                      | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Rubus idaeus ssp. strigosus                         |                                       |          | 2        |          |          |          | 0.33                 |
| Sambucus racemosa var. racemosa                     | 1                                     |          | 1        |          |          |          | 0.33                 |
| Number of Shrub Circles Not Sampled in Plot 6056: 0 |                                       |          |          |          |          |          |                      |

| <b>Plot: 6058</b>                                   |                                       |          |          |          |          |          |                      |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|----------------------|
|                                                     | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean</b>          |
| <b>Species</b>                                      | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Alnus incana ssp. rugosa                            | 1                                     |          |          |          |          |          | 0.17                 |
| Corylus cornuta                                     |                                       |          | 5        |          | 1        |          | 1.00                 |
| Lonicera canadensis                                 |                                       | 5        |          | 1        | 30       | 20       | 9.33                 |
| Ribes cynosbati                                     |                                       | 15       |          |          |          |          | 2.50                 |
| Rubus parviflorus                                   |                                       |          |          |          | 30       |          | 5.00                 |
| Rubus pubescens                                     |                                       | 50       |          | 50       | 45       | 50       | 32.50                |
| Number of Shrub Circles Not Sampled in Plot 6058: 0 |                                       |          |          |          |          |          |                      |

| <b>Plot: 6059</b>                                   |                                       |          |          |          |          |          |                      |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|----------------------|
|                                                     | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean</b>          |
| <b>Species</b>                                      | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Amelanchier sp. Group 3                             |                                       |          |          |          | 1        |          | 0.17                 |
| Number of Shrub Circles Not Sampled in Plot 6059: 0 |                                       |          |          |          |          |          |                      |

| <b>Plot: 6062</b>                                   |                                       |          |          |          |          |          |                      |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|----------------------|
|                                                     | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean</b>          |
| <b>Species</b>                                      | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>percent cover</b> |
| Lonicera canadensis                                 |                                       | 1        | 4        | 4        | 3        |          | 2.00                 |
| Rubus pubescens                                     |                                       | 2        | 10       |          |          |          | 2.00                 |
| Vaccinium angustifolium                             |                                       |          |          | 3        |          |          | 0.50                 |
| Vaccinium ovalifolium                               |                                       |          |          | 1        |          | 1        | 0.33                 |
| Number of Shrub Circles Not Sampled in Plot 6062: 0 |                                       |          |          |          |          |          |                      |

| <b>Plot: 6063</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 3                             |                                       |          | 1        |          |          |          | 0.17                      |
| Lonicera canadensis                                 |                                       |          |          |          |          | 1        | 0.17                      |
| Vaccinium angustifolium                             | 3                                     | 1        | 1        | 1        |          |          | 1.00                      |
| Vaccinium membranaceum                              | 3                                     |          |          |          |          |          | 0.50                      |
| Vaccinium ovalifolium                               |                                       |          |          |          |          | 12       | 2.00                      |
| Number of Shrub Circles Not Sampled in Plot 6063: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6064</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 2                             | 1                                     |          |          |          |          |          | 0.17                      |
| Amelanchier sp. Group 3                             |                                       | 2        |          |          |          |          | 0.33                      |
| Cornus alternifolia                                 | 4                                     |          |          |          |          |          | 0.67                      |
| Lonicera canadensis                                 |                                       |          | 4        | 1        |          | 18       | 3.83                      |
| Number of Shrub Circles Not Sampled in Plot 6064: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6065</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Lonicera canadensis                                 | 25                                    | 2        | 4        | 2        |          | 1        | 5.67                      |
| Ribes cynosbati                                     |                                       |          | 8        |          |          |          | 1.33                      |
| Rubus pubescens                                     |                                       |          | 20       |          |          |          | 3.33                      |
| Number of Shrub Circles Not Sampled in Plot 6065: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6067</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 3                             |                                       | 1        |          |          |          |          | 0.17                      |
| Corylus cornuta                                     |                                       | 1        |          |          |          |          | 0.17                      |
| Gaylussacia baccata                                 |                                       | 4        | 15       |          |          | 1        | 3.33                      |
| Vaccinium angustifolium                             | 30                                    | 30       | 30       | 15       | 5        | 20       | 21.67                     |
| Vaccinium myrtilloides                              |                                       |          |          | 5        |          | 2        | 1.17                      |
| Number of Shrub Circles Not Sampled in Plot 6067: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6068</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Amelanchier sp. Group 2                             |                                       |          | 1        | 1        |          |          | 0.33                      |
| Number of Shrub Circles Not Sampled in Plot 6068: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6069</b>                                   |                                       |          |          |          |          |          |                           |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|---------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                           |
| Lonicera canadensis                                 |                                       |          |          | 5        |          |          | 0.83                      |
| Rubus idaeus ssp. strigosus                         |                                       | 30       | 10       | 60       | 45       |          | 24.17                     |
| Sambucus racemosa var. racemosa                     |                                       |          |          |          | 20       | 10       | 5.00                      |
| Number of Shrub Circles Not Sampled in Plot 6069: 0 |                                       |          |          |          |          |          |                           |

| <b>Plot: 6070</b>                                   |                                       |          |          |          |          |          |                               |
|-----------------------------------------------------|---------------------------------------|----------|----------|----------|----------|----------|-------------------------------|
| <b>Species</b>                                      | <b>Percent cover in shrub circles</b> |          |          |          |          |          | <b>mean<br/>percent cover</b> |
|                                                     | <b>1</b>                              | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |                               |
| Amelanchier sp. Group 2                             |                                       |          |          |          | 1        |          | 0.17                          |
| Lonicera canadensis                                 |                                       |          |          |          | 1        | 1        | 0.33                          |
| Rubus idaeus ssp. strigosus                         |                                       |          |          |          | 1        |          | 0.17                          |
| Number of Shrub Circles Not Sampled in Plot 6070: 0 |                                       |          |          |          |          |          |                               |

# Frequency of Species in Groundlayer Quadrats

## Plot: 6001

| Species                                            | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|----------------------------------------------------|-------------------|-----|-----|------------------------|
|                                                    | 1                 | 2   | 3   |                        |
| <i>Abies balsamea</i>                              | 0.3               | 0.0 | 0.1 | 0.13                   |
| <i>Acer saccharum</i>                              | 0.2               | 0.2 | 0.3 | 0.23                   |
| <i>Arisaema triphyllum</i>                         | 0.2               | 0.1 | 0.0 | 0.10                   |
| <i>Asteraceae</i> fam.                             | 0.3               | 0.2 | 0.1 | 0.20                   |
| <i>Athyrium filix-femina</i>                       | 0.2               | 0.2 | 0.0 | 0.13                   |
| <i>Betula papyrifera</i>                           | 0.0               | 0.1 | 0.0 | 0.03                   |
| <i>Cardamine diphylla</i>                          | 0.1               | 0.3 | 0.0 | 0.13                   |
| <i>Carex arctata</i>                               | 0.5               | 0.1 | 0.1 | 0.23                   |
| <i>Carex brunnescens</i>                           | 0.1               | 0.0 | 0.0 | 0.03                   |
| <i>Carex communis</i>                              | 0.0               | 0.1 | 0.3 | 0.13                   |
| <i>Carex intumescens</i>                           | 0.2               | 0.0 | 0.0 | 0.07                   |
| <i>Carex pedunculata</i>                           | 0.3               | 0.0 | 0.2 | 0.17                   |
| <i>Carex</i> sp.                                   | 0.1               | 0.1 | 0.0 | 0.07                   |
| <i>Dactylis glomerata</i>                          | 0.1               | 0.0 | 0.0 | 0.03                   |
| <i>Dryopteris carthusiana</i>                      | 0.1               | 0.0 | 0.0 | 0.03                   |
| <i>Dryopteris intermedia</i>                       | 0.0               | 0.1 | 0.0 | 0.03                   |
| <i>Equisetum arvense</i>                           | 0.0               | 0.3 | 0.0 | 0.10                   |
| <i>Eurybia macrophylla</i>                         | 0.3               | 0.0 | 0.0 | 0.10                   |
| <i>Fagus grandifolia</i>                           | 0.1               | 0.1 | 0.4 | 0.20                   |
| <i>Galeopsis tetrahit</i>                          | 0.0               | 0.2 | 0.0 | 0.07                   |
| <i>Geum aleppicum</i>                              | 0.0               | 0.1 | 0.1 | 0.07                   |
| <i>Glyceria striata</i>                            | 0.0               | 0.1 | 0.5 | 0.20                   |
| <i>Hieracium aurantiacum</i>                       | 0.1               | 0.3 | 0.1 | 0.17                   |
| <i>Hypericum</i> sp.                               | 0.1               | 0.0 | 0.0 | 0.03                   |
| <i>Maianthemum canadense</i>                       | 0.3               | 0.2 | 0.6 | 0.37                   |
| <i>Maianthemum racemosum</i> ssp. <i>racemosum</i> | 0.1               | 0.1 | 0.0 | 0.07                   |
| <i>Matteuccia struthiopteris</i>                   | 0.2               | 0.1 | 0.4 | 0.23                   |
| <i>Milium effusum</i>                              | 0.0               | 0.1 | 0.0 | 0.03                   |
| <i>Phegopteris connectilis</i>                     | 0.2               | 0.0 | 0.0 | 0.07                   |
| <i>Poaceae</i> fam.                                | 0.1               | 0.1 | 0.0 | 0.07                   |
| <i>Populus tremuloides</i>                         | 0.0               | 0.0 | 0.4 | 0.13                   |
| <i>Prenanthes alba</i>                             | 0.1               | 0.0 | 0.0 | 0.03                   |
| <i>Prunus virginiana</i>                           | 0.0               | 0.1 | 0.2 | 0.10                   |
| <i>Pteridium aquilinum</i>                         | 0.2               | 0.0 | 0.4 | 0.20                   |
| <i>Ranunculus acris</i>                            | 0.2               | 0.0 | 0.3 | 0.17                   |
| <i>Rubus pubescens</i>                             | 0.0               | 0.0 | 0.1 | 0.03                   |
| <i>Solidago flexicaulis</i>                        | 0.0               | 0.1 | 0.0 | 0.03                   |
| <i>Solidago</i> sp.                                | 0.0               | 0.2 | 0.0 | 0.07                   |
| <i>Taraxacum officinale</i>                        | 0.1               | 0.0 | 0.5 | 0.20                   |
| <i>Trientalis borealis</i>                         | 0.0               | 0.0 | 0.1 | 0.03                   |
| <i>Veronica chamaedrys</i>                         | 0.2               | 0.2 | 0.6 | 0.33                   |
| <i>Veronica</i> sp.                                | 0.0               | 0.0 | 0.1 | 0.03                   |
| <i>Viburnum opulus</i> var. <i>americanum</i>      | 0.0               | 0.0 | 0.2 | 0.07                   |
| <i>Viola</i> sp.                                   | 0.4               | 0.1 | 0.0 | 0.17                   |

## Plot: 6002

| Species                        | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|--------------------------------|-------------------|-----|-----|------------------------|
|                                | 1                 | 2   | 3   |                        |
| <i>Abies balsamea</i>          | 0.6               | 0.5 | 0.4 | 0.50                   |
| <i>Acer rubrum</i>             | 0.0               | 0.1 | 0.0 | 0.03                   |
| <i>Amelanchier</i> sp. Group 2 | 0.0               | 0.3 | 0.1 | 0.13                   |
| <i>Aralia nudicaulis</i>       | 0.0               | 0.1 | 0.1 | 0.07                   |
| <i>Clintonia borealis</i>      | 0.5               | 0.9 | 0.4 | 0.60                   |
| <i>Coptis trifolia</i>         | 0.6               | 0.4 | 0.4 | 0.47                   |
| <i>Cornus canadensis</i>       | 0.1               | 0.0 | 0.0 | 0.03                   |
| <i>Cypripedium acaule</i>      | 0.0               | 0.2 | 0.0 | 0.07                   |
| <i>Dryopteris intermedia</i>   | 0.1               | 0.5 | 0.2 | 0.27                   |
| <i>Fagus grandifolia</i>       | 0.0               | 0.1 | 0.0 | 0.03                   |
| <i>Gaultheria procumbens</i>   | 0.4               | 0.7 | 0.2 | 0.43                   |
| <i>Lycopodium annotinum</i>    | 0.2               | 0.2 | 0.6 | 0.33                   |
| <i>Maianthemum canadense</i>   | 0.2               | 0.3 | 0.5 | 0.33                   |
| <i>Oxalis montana</i>          | 0.2               | 0.0 | 0.0 | 0.07                   |
| <i>Picea mariana</i>           | 0.1               | 0.0 | 0.1 | 0.07                   |
| <i>Pteridium aquilinum</i>     | 0.1               | 0.0 | 0.0 | 0.03                   |
| <i>Sorbus americana</i>        | 0.0               | 0.4 | 0.0 | 0.13                   |
| <i>Vaccinium angustifolium</i> | 0.5               | 0.5 | 0.1 | 0.37                   |
| <i>Vaccinium ovalifolium</i>   | 0.2               | 0.3 | 0.0 | 0.17                   |
| <i>Vaccinium</i> sp.           | 0.2               | 0.1 | 0.1 | 0.13                   |

## Plot: 6004

| Species                        | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|--------------------------------|-------------------|-----|-----|------------------------|
|                                | 1                 | 2   | 3   |                        |
| <i>Carex pensylvanica</i>      | 0.0               | 0.4 | 0.0 | 0.13                   |
| <i>Epigaea repens</i>          | 0.0               | 0.0 | 0.2 | 0.07                   |
| <i>Gaultheria procumbens</i>   | 0.9               | 0.6 | 0.8 | 0.77                   |
| <i>Gaylussacia baccata</i>     | 0.0               | 0.2 | 0.2 | 0.13                   |
| <i>Maianthemum canadense</i>   | 0.1               | 0.0 | 0.1 | 0.07                   |
| <i>Melampyrum lineare</i>      | 0.1               | 0.2 | 0.3 | 0.20                   |
| <i>Pteridium aquilinum</i>     | 1.0               | 0.9 | 1.0 | 0.97                   |
| <i>Vaccinium angustifolium</i> | 1.0               | 0.9 | 1.0 | 0.97                   |
| <i>Vaccinium myrtilloides</i>  | 0.3               | 0.1 | 0.5 | 0.30                   |

**Plot: 6005**

| Species                              | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------|
|                                      | 1                 | 2   | 3   |                        |
| Acer saccharum                       | 0.3               | 0.1 | 0.3 | 0.23                   |
| Allium tricoccum                     | 1.0               | 0.9 | 0.8 | 0.90                   |
| Arctium minus                        | 0.0               | 0.2 | 0.0 | 0.07                   |
| Arisaema triphyllum                  | 0.0               | 0.0 | 0.1 | 0.03                   |
| Athyrium filix-femina                | 0.0               | 0.0 | 0.2 | 0.07                   |
| Botrychium sp.                       | 0.0               | 0.1 | 0.0 | 0.03                   |
| Botrychium virginianum               | 0.1               | 0.0 | 0.2 | 0.10                   |
| Cardamine diphylla                   | 0.0               | 0.0 | 0.1 | 0.03                   |
| Carex sp.                            | 0.0               | 0.1 | 0.0 | 0.03                   |
| Caulophyllum thalictroides           | 0.1               | 0.0 | 0.1 | 0.07                   |
| Dryopteris carthusiana               | 0.1               | 0.1 | 0.0 | 0.07                   |
| Dryopteris intermedia                | 0.3               | 0.1 | 0.1 | 0.17                   |
| Galeopsis tetrahit                   | 0.0               | 0.2 | 0.3 | 0.17                   |
| Galium triflorum                     | 0.0               | 0.0 | 0.2 | 0.07                   |
| Impatiens capensis                   | 0.0               | 0.2 | 0.0 | 0.07                   |
| Maianthemum racemosum ssp. racemosum | 0.0               | 0.1 | 0.1 | 0.07                   |
| Melica smithii                       | 0.0               | 0.1 | 0.2 | 0.10                   |
| Milium effusum                       | 0.9               | 0.5 | 0.4 | 0.60                   |
| Osmorhiza sp.                        | 1.0               | 1.0 | 1.0 | 1.00                   |
| Poaceae fam.                         | 0.0               | 0.0 | 0.2 | 0.07                   |
| Polygonatum pubescens                | 0.0               | 0.1 | 0.2 | 0.10                   |
| Rubus idaeus ssp. strigosus          | 0.0               | 0.0 | 0.1 | 0.03                   |
| Sambucus racemosa var. racemosa      | 0.0               | 0.0 | 0.2 | 0.07                   |
| Sanguinaria canadensis               | 0.0               | 0.2 | 0.0 | 0.07                   |
| Streptopus lanceolatus var. roseus   | 0.1               | 0.1 | 0.6 | 0.27                   |
| Trillium grandiflorum                | 0.1               | 0.0 | 0.1 | 0.07                   |
| Viola sp.                            | 1.0               | 1.0 | 1.0 | 1.00                   |

**Plot: 6006**

| Species                            | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|------------------------------------|-------------------|-----|-----|------------------------|
|                                    | 1                 | 2   | 3   |                        |
| Acer saccharum                     | 0.2               | 0.1 | 0.2 | 0.17                   |
| Carex leptoneura                   | 0.2               | 0.2 | 0.1 | 0.17                   |
| Cinna latifolia                    | 0.0               | 0.0 | 0.1 | 0.03                   |
| Dryopteris intermedia              | 0.2               | 0.0 | 0.0 | 0.07                   |
| Fagus grandifolia                  | 0.0               | 0.0 | 0.3 | 0.10                   |
| Monotropa uniflora                 | 0.2               | 0.0 | 0.0 | 0.07                   |
| Polygonatum pubescens              | 0.0               | 0.1 | 0.1 | 0.07                   |
| Streptopus lanceolatus var. roseus | 0.0               | 0.0 | 0.1 | 0.03                   |

**Plot: 6007**

| Species                              | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------|
|                                      | 1                 | 2   | 3   |                        |
| Abies balsamea                       | 0.1               | 0.0 | 0.0 | 0.03                   |
| Acer saccharum                       | 0.0               | 0.2 | 0.2 | 0.13                   |
| Aralia nudicaulis                    | 0.0               | 0.7 | 0.0 | 0.23                   |
| Carex arctata                        | 0.2               | 0.0 | 0.0 | 0.07                   |
| Carex communis                       | 0.1               | 0.0 | 0.0 | 0.03                   |
| Carex pensylvanica                   | 0.1               | 0.1 | 0.0 | 0.07                   |
| Carex sp.                            | 0.5               | 0.1 | 0.1 | 0.23                   |
| Dryopteris carthusiana               | 0.0               | 0.2 | 0.2 | 0.13                   |
| Dryopteris intermedia                | 0.4               | 0.3 | 0.2 | 0.30                   |
| Gymnocarpium dryopteris              | 0.0               | 0.0 | 0.1 | 0.03                   |
| Maianthemum canadense                | 0.3               | 0.0 | 0.1 | 0.13                   |
| Maianthemum racemosum ssp. racemosum | 0.1               | 0.0 | 0.0 | 0.03                   |
| Maianthemum stellatum                | 0.1               | 0.1 | 0.0 | 0.07                   |
| Milium effusum                       | 0.5               | 0.0 | 0.0 | 0.17                   |
| Myosotis sp.                         | 0.7               | 0.5 | 0.0 | 0.40                   |
| Osmorhiza sp.                        | 0.3               | 0.0 | 0.2 | 0.17                   |
| Polygonatum pubescens                | 0.1               | 0.0 | 0.1 | 0.07                   |
| Sambucus nigra ssp. canadensis       | 0.3               | 0.0 | 0.1 | 0.13                   |
| Streptopus lanceolatus var. roseus   | 0.0               | 0.2 | 0.2 | 0.13                   |
| Viola sp.                            | 0.5               | 0.4 | 0.0 | 0.30                   |

**Plot: 6008**

| Species                            | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|------------------------------------|-------------------|-----|-----|------------------------|
|                                    | 1                 | 2   | 3   |                        |
| Acer saccharum                     | 1.0               | 1.0 | 1.0 | 1.00                   |
| Actaea sp.                         | 0.0               | 0.0 | 0.1 | 0.03                   |
| Aralia nudicaulis                  | 0.0               | 0.0 | 0.1 | 0.03                   |
| Carex arctata                      | 0.0               | 0.0 | 0.1 | 0.03                   |
| Carex intumescens                  | 0.1               | 0.0 | 0.1 | 0.07                   |
| Carex leptoneura                   | 0.1               | 0.1 | 0.1 | 0.10                   |
| Dryopteris intermedia              | 0.0               | 0.2 | 0.0 | 0.07                   |
| Galium triflorum                   | 0.0               | 0.1 | 0.0 | 0.03                   |
| Gymnocarpium dryopteris            | 0.2               | 0.0 | 0.0 | 0.07                   |
| Maianthemum canadense              | 0.2               | 0.0 | 0.0 | 0.07                   |
| Melica smithii                     | 0.0               | 0.1 | 0.0 | 0.03                   |
| Milium effusum                     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Osmorhiza sp.                      | 0.1               | 0.3 | 0.3 | 0.23                   |
| Ostrya virginiana                  | 0.1               | 0.0 | 0.1 | 0.07                   |
| Polygonatum pubescens              | 0.1               | 0.1 | 0.3 | 0.17                   |
| Prunus virginiana                  | 0.1               | 0.0 | 0.1 | 0.07                   |
| Sambucus racemosa var. racemosa    | 0.1               | 0.2 | 0.0 | 0.10                   |
| Streptopus lanceolatus var. roseus | 0.2               | 0.1 | 0.1 | 0.13                   |
| Viola sp.                          | 0.4               | 0.0 | 0.2 | 0.20                   |

**Plot: 6009**

| Species                            | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|------------------------------------|-------------------|-----|-----|------------------------|
|                                    | 1                 | 2   | 3   |                        |
| Acer saccharum                     | 0.2               | 0.4 | 0.2 | 0.27                   |
| Acer spicatum                      | 0.0               | 0.0 | 0.2 | 0.07                   |
| Aralia nudicaulis                  | 0.0               | 0.0 | 0.2 | 0.07                   |
| Arisaema triphyllum                | 0.0               | 0.1 | 0.1 | 0.07                   |
| Asteraceae fam.                    | 0.1               | 0.1 | 0.0 | 0.07                   |
| Athyrium filix-femina              | 0.3               | 0.2 | 0.1 | 0.20                   |
| Carex intumescens                  | 0.1               | 0.0 | 0.0 | 0.03                   |
| Carex pedunculata                  | 0.2               | 0.0 | 0.4 | 0.20                   |
| Carex sp.                          | 0.1               | 0.0 | 0.0 | 0.03                   |
| Cinna latifolia                    | 0.1               | 0.0 | 0.0 | 0.03                   |
| Clintonia borealis                 | 0.0               | 0.0 | 0.3 | 0.10                   |
| Cornus alternifolia                | 0.1               | 0.1 | 0.2 | 0.13                   |
| Dicentra cucullaria                | 0.0               | 0.1 | 0.0 | 0.03                   |
| Dryopteris carthusiana             | 0.1               | 0.0 | 0.1 | 0.07                   |
| Dryopteris intermedia              | 0.4               | 0.4 | 0.3 | 0.37                   |
| Epilobium sp.                      | 0.1               | 0.2 | 0.0 | 0.10                   |
| Equisetum pratense                 | 0.0               | 0.0 | 0.1 | 0.03                   |
| Equisetum scirpoides               | 0.0               | 0.0 | 0.2 | 0.07                   |
| Fagus grandifolia                  | 0.2               | 0.0 | 0.0 | 0.07                   |
| Galeopsis tetrahit                 | 0.1               | 0.0 | 0.0 | 0.03                   |
| Galium aparine                     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Geranium robertianum               | 0.4               | 0.2 | 0.0 | 0.20                   |
| Geum aleppicum                     | 0.7               | 0.1 | 0.0 | 0.27                   |
| Geum canadense                     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Glyceria striata                   | 0.2               | 0.1 | 0.0 | 0.10                   |
| Gymnocarpium dryopteris            | 0.0               | 0.2 | 0.3 | 0.17                   |
| Impatiens sp.                      | 0.4               | 0.5 | 0.1 | 0.33                   |
| Lonicera canadensis                | 0.0               | 0.2 | 0.0 | 0.07                   |
| Maianthemum canadense              | 0.1               | 0.0 | 0.6 | 0.23                   |
| Matteuccia struthiopteris          | 0.0               | 0.3 | 0.0 | 0.10                   |
| Milium effusum                     | 0.2               | 0.0 | 0.0 | 0.07                   |
| Osmorhiza claytonii                | 0.1               | 0.0 | 0.0 | 0.03                   |
| Oxalis montana                     | 0.0               | 0.0 | 0.4 | 0.13                   |
| Poaceae fam.                       | 0.0               | 0.1 | 0.0 | 0.03                   |
| Polygonatum pubescens              | 0.1               | 0.0 | 0.0 | 0.03                   |
| Ranunculus recurvatus              | 0.1               | 0.1 | 0.0 | 0.07                   |
| Ribes triste                       | 0.0               | 0.0 | 0.1 | 0.03                   |
| Rubus hispidus                     | 0.2               | 0.3 | 0.5 | 0.33                   |
| Rubus idaeus ssp. strigosus        | 0.5               | 0.0 | 0.0 | 0.17                   |
| Sambucus racemosa var. racemosa    | 0.2               | 0.0 | 0.0 | 0.07                   |
| Streptopus lanceolatus var. roseus | 0.1               | 0.2 | 0.1 | 0.13                   |
| Trientalis borealis                | 0.0               | 0.0 | 0.2 | 0.07                   |
| Trillium cernuum                   | 0.1               | 0.1 | 0.0 | 0.07                   |
| Viola sp.                          | 0.6               | 0.2 | 0.0 | 0.27                   |

**Plot: 6010**

| Species                              | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------|
|                                      | 1                 | 2   | 3   |                        |
| Acer saccharum                       | 0.1               | 0.7 | 0.2 | 0.33                   |
| Adiantum pedatum                     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Arisaema triphyllum                  | 0.1               | 0.2 | 0.0 | 0.10                   |
| Carex deweyana                       | 0.2               | 0.0 | 0.1 | 0.10                   |
| Carex laxiflora                      | 0.0               | 0.0 | 0.1 | 0.03                   |
| Carex sp.                            | 0.0               | 0.1 | 0.1 | 0.07                   |
| Caulophyllum thalictroides           | 0.0               | 0.1 | 0.0 | 0.03                   |
| Dryopteris intermedia                | 0.4               | 0.5 | 0.4 | 0.43                   |
| Galeopsis tetrahit                   | 0.9               | 0.5 | 0.0 | 0.47                   |
| Galium triflorum                     | 0.3               | 0.7 | 0.0 | 0.33                   |
| Geum sp.                             | 0.0               | 0.1 | 0.0 | 0.03                   |
| Lycopodium annotinum                 | 0.0               | 0.0 | 0.1 | 0.03                   |
| Maianthemum canadense                | 0.1               | 0.4 | 0.1 | 0.20                   |
| Maianthemum racemosum ssp. racemosum | 0.1               | 0.0 | 0.0 | 0.03                   |
| Milium effusum                       | 1.0               | 1.0 | 0.9 | 0.97                   |
| Osmorhiza sp.                        | 1.0               | 1.0 | 0.9 | 0.97                   |
| Polygonatum pubescens                | 0.0               | 0.2 | 0.1 | 0.10                   |
| Sambucus racemosa var. racemosa      | 0.2               | 0.2 | 0.2 | 0.20                   |
| Streptopus lanceolatus var. roseus   | 0.0               | 0.3 | 0.0 | 0.10                   |
| Taxus canadensis                     | 0.5               | 0.4 | 0.3 | 0.40                   |
| Trillium cernuum                     | 0.0               | 0.1 | 0.0 | 0.03                   |
| Viola sp.                            | 1.0               | 1.0 | 1.0 | 1.00                   |

**Plot: 6012**

| Species               | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|-----------------------|-------------------|-----|-----|------------------------|
|                       | 1                 | 2   | 3   |                        |
| Acer saccharum        | 0.0               | 0.1 | 0.0 | 0.03                   |
| Carex leptoneura      | 0.1               | 0.0 | 0.0 | 0.03                   |
| Carex pedunculata     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Dryopteris intermedia | 0.2               | 0.4 | 0.1 | 0.23                   |
| Fagus grandifolia     | 0.6               | 0.6 | 0.8 | 0.67                   |
| Goodyera oblongifolia | 0.1               | 0.0 | 0.0 | 0.03                   |
| Huperzia lucidula     | 0.7               | 1.0 | 0.9 | 0.87                   |
| Lonicera canadensis   | 0.0               | 0.0 | 0.1 | 0.03                   |
| Maianthemum canadense | 0.0               | 0.1 | 0.2 | 0.10                   |
| Prunus serotina       | 0.0               | 0.0 | 0.2 | 0.07                   |
| Trientalis borealis   | 0.1               | 0.4 | 0.2 | 0.23                   |

**Plot: 6013**

| Species                         | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|---------------------------------|-------------------|-----|-----|------------------------------|
|                                 | 1                 | 2   | 3   |                              |
| Acer rubrum                     | 0.2               | 0.1 | 0.0 | 0.10                         |
| Acer saccharum                  | 0.8               | 1.0 | 0.6 | 0.80                         |
| Aralia nudicaulis               | 0.2               | 0.0 | 0.0 | 0.07                         |
| Carex canescens                 | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex deweyana                  | 0.0               | 0.1 | 0.0 | 0.03                         |
| Carex intumescens               | 0.7               | 0.4 | 0.3 | 0.47                         |
| Carex sp.                       | 0.4               | 0.2 | 0.4 | 0.33                         |
| Cinna latifolia                 | 0.2               | 0.2 | 0.1 | 0.17                         |
| Corylus cornuta                 | 0.1               | 0.0 | 0.0 | 0.03                         |
| Dryopteris intermedia           | 0.1               | 0.3 | 0.4 | 0.27                         |
| Galeopsis tetrahit              | 0.1               | 0.1 | 0.1 | 0.10                         |
| Galium triflorum                | 0.2               | 0.3 | 0.7 | 0.40                         |
| Hypericum perforatum            | 0.2               | 0.0 | 0.0 | 0.07                         |
| Osmorhiza sp.                   | 0.0               | 0.1 | 0.1 | 0.07                         |
| Polygonatum pubescens           | 0.2               | 0.0 | 0.2 | 0.13                         |
| Polygonum cilinode              | 0.2               | 0.1 | 0.0 | 0.10                         |
| Prunus serotina                 | 0.0               | 0.1 | 0.0 | 0.03                         |
| Prunus virginiana               | 0.1               | 0.0 | 0.0 | 0.03                         |
| Rubus canadensis                | 0.3               | 0.1 | 0.0 | 0.13                         |
| Rubus idaeus ssp. strigosus     | 0.8               | 0.9 | 1.0 | 0.90                         |
| Sambucus racemosa var. racemosa | 0.0               | 0.1 | 0.1 | 0.07                         |
| Sanguinaria canadensis          | 0.1               | 0.2 | 0.0 | 0.10                         |
| Ulmus americana                 | 0.0               | 0.0 | 0.1 | 0.03                         |
| Veronica officinalis            | 0.1               | 0.0 | 0.0 | 0.03                         |
| Viola sp.                       | 0.4               | 0.7 | 1.0 | 0.70                         |

**Plot: 6014**

| Species                 | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-------------------------|-------------------|-----|-----|------------------------------|
|                         | 1                 | 2   | 3   |                              |
| Carex sp.               | 0.1               | 0.0 | 0.1 | 0.07                         |
| Cypripedium acaule      | 0.0               | 0.3 | 0.0 | 0.10                         |
| Deschampsia flexuosa    | 0.0               | 0.0 | 0.5 | 0.17                         |
| Epigaea repens          | 0.1               | 0.1 | 0.3 | 0.17                         |
| Gaultheria procumbens   | 0.1               | 0.5 | 0.0 | 0.20                         |
| Gaylussacia baccata     | 1.0               | 1.0 | 0.9 | 0.97                         |
| Hieracium sp.           | 0.0               | 0.0 | 0.1 | 0.03                         |
| Maianthemum canadense   | 0.1               | 0.0 | 0.9 | 0.33                         |
| Melampyrum lineare      | 0.5               | 0.1 | 0.1 | 0.23                         |
| Pteridium aquilinum     | 0.5               | 0.8 | 0.8 | 0.70                         |
| Vaccinium angustifolium | 1.0               | 1.0 | 1.0 | 1.00                         |
| Vaccinium myrtilloides  | 0.5               | 0.2 | 0.0 | 0.23                         |

**Plot: 6015**

| Species                 | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-------------------------|-------------------|-----|-----|------------------------------|
|                         | 1                 | 2   | 3   |                              |
| Acer rubrum             | 0.0               | 0.0 | 0.1 | 0.03                         |
| Epigaea repens          | 0.1               | 0.0 | 0.0 | 0.03                         |
| Gaultheria procumbens   | 1.0               | 1.0 | 0.4 | 0.80                         |
| Melampyrum lineare      | 0.4               | 0.0 | 0.1 | 0.17                         |
| Pinus banksiana         | 0.0               | 0.1 | 0.0 | 0.03                         |
| Pinus resinosa          | 0.1               | 0.0 | 0.0 | 0.03                         |
| Pinus strobus           | 0.4               | 0.1 | 0.0 | 0.17                         |
| Pteridium aquilinum     | 0.9               | 1.0 | 1.0 | 0.97                         |
| Vaccinium angustifolium | 1.0               | 0.8 | 0.7 | 0.83                         |
| Vaccinium myrtilloides  | 0.5               | 0.1 | 0.0 | 0.20                         |

**Plot: 6016**

| Species                            | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|------------------------------------|-------------------|-----|-----|------------------------------|
|                                    | 1                 | 2   | 3   |                              |
| Acer saccharum                     | 0.5               | 0.2 | 0.2 | 0.30                         |
| Carex communis                     | 0.1               | 0.1 | 0.0 | 0.07                         |
| Carex debilis                      | 0.0               | 0.1 | 0.1 | 0.07                         |
| Carex pedunculata                  | 0.1               | 0.0 | 0.0 | 0.03                         |
| Dryopteris intermedia              | 0.0               | 0.1 | 0.0 | 0.03                         |
| Fagus grandifolia                  | 0.0               | 0.0 | 0.1 | 0.03                         |
| Galium triflorum                   | 0.0               | 0.0 | 0.1 | 0.03                         |
| Huperzia lucidula                  | 0.2               | 0.0 | 0.0 | 0.07                         |
| Maianthemum canadense              | 0.6               | 0.2 | 0.3 | 0.37                         |
| Osmorhiza sp.                      | 0.0               | 0.1 | 0.0 | 0.03                         |
| Polygonatum pubescens              | 0.1               | 0.0 | 0.1 | 0.07                         |
| Streptopus lanceolatus var. roseus | 0.4               | 0.2 | 0.3 | 0.30                         |
| Trientalis borealis                | 0.0               | 0.0 | 0.1 | 0.03                         |
| Viola sp.                          | 0.0               | 0.0 | 0.1 | 0.03                         |

**Plot: 6017**

| Species                                     | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|---------------------------------------------|-------------------|-----|-----|------------------------------|
|                                             | 1                 | 2   | 3   |                              |
| <i>Adiantum pedatum</i>                     | 0.1               | 0.1 | 0.1 | 0.10                         |
| <i>Allium tricoccum</i>                     | 0.8               | 0.6 | 1.0 | 0.80                         |
| <i>Aralia nudicaulis</i>                    | 0.0               | 0.0 | 0.3 | 0.10                         |
| <i>Arisaema triphyllum</i>                  | 0.0               | 0.1 | 0.1 | 0.07                         |
| <i>Botrychium virginianum</i>               | 0.2               | 0.0 | 0.0 | 0.07                         |
| <i>Carex intumescens</i>                    | 0.1               | 0.0 | 0.0 | 0.03                         |
| <i>Carex plantaginea</i>                    | 0.0               | 0.1 | 0.0 | 0.03                         |
| <i>Carex</i> sp.                            | 0.3               | 0.0 | 0.1 | 0.13                         |
| <i>Caulophyllum thalictroides</i>           | 0.1               | 0.2 | 0.5 | 0.27                         |
| <i>Dryopteris carthusiana</i>               | 0.2               | 0.1 | 0.1 | 0.13                         |
| <i>Dryopteris goldiana</i>                  | 0.1               | 0.0 | 0.0 | 0.03                         |
| <i>Dryopteris intermedia</i>                | 0.2               | 0.2 | 0.1 | 0.17                         |
| <i>Galeopsis tetrahit</i>                   | 0.4               | 0.6 | 0.1 | 0.37                         |
| <i>Galium triflorum</i>                     | 0.1               | 0.0 | 0.1 | 0.07                         |
| <i>Geum</i> sp.                             | 0.1               | 0.0 | 0.0 | 0.03                         |
| <i>Maianthemum canadense</i>                | 0.0               | 0.1 | 0.0 | 0.03                         |
| <i>Maianthemum racemosum</i> ssp. racemosum | 0.1               | 0.0 | 0.2 | 0.10                         |
| <i>Matteuccia struthiopteris</i>            | 0.0               | 0.4 | 0.4 | 0.27                         |
| <i>Milium effusum</i>                       | 0.2               | 0.0 | 0.3 | 0.17                         |
| <i>Osmorhiza</i> sp.                        | 0.8               | 0.2 | 0.1 | 0.37                         |
| <i>Phegopteris connectilis</i>              | 0.0               | 0.0 | 0.1 | 0.03                         |
| <i>Polygonatum pubescens</i>                | 0.1               | 0.0 | 0.2 | 0.10                         |
| <i>Ribes cynosbati</i>                      | 0.1               | 0.1 | 0.1 | 0.10                         |
| <i>Sambucus racemosa</i> var. racemosa      | 0.0               | 0.0 | 0.1 | 0.03                         |
| <i>Streptopus lanceolatus</i> var. roseus   | 0.1               | 0.0 | 0.0 | 0.03                         |
| <i>Trillium cernuum</i>                     | 0.2               | 0.3 | 0.1 | 0.20                         |
| <i>Viola</i> sp.                            | 1.0               | 1.0 | 1.0 | 1.00                         |

**Plot: 6018**

| Species                                   | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-------------------------------------------|-------------------|-----|-----|------------------------------|
|                                           | 1                 | 2   | 3   |                              |
| <i>Abies balsamea</i>                     | 0.1               | 0.0 | 0.0 | 0.03                         |
| <i>Acer pensylvanicum</i>                 | 0.3               | 0.4 | 0.6 | 0.43                         |
| <i>Acer saccharum</i>                     | 0.6               | 0.1 | 0.0 | 0.23                         |
| <i>Athyrium filix-femina</i>              | 0.3               | 0.1 | 0.0 | 0.13                         |
| <i>Dryopteris intermedia</i>              | 0.6               | 0.7 | 1.0 | 0.77                         |
| <i>Fagus grandifolia</i>                  | 0.1               | 0.6 | 0.7 | 0.47                         |
| <i>Gymnocarpium dryopteris</i>            | 0.0               | 0.1 | 0.0 | 0.03                         |
| <i>Huperzia lucidula</i>                  | 0.2               | 0.3 | 0.3 | 0.27                         |
| <i>Lonicera canadensis</i>                | 0.0               | 0.1 | 0.0 | 0.03                         |
| <i>Maianthemum canadense</i>              | 0.3               | 0.3 | 0.2 | 0.27                         |
| <i>Polygonatum pubescens</i>              | 0.1               | 0.0 | 0.0 | 0.03                         |
| <i>Populus grandidentata</i>              | 0.1               | 0.0 | 0.0 | 0.03                         |
| <i>Sambucus</i> sp.                       | 0.0               | 0.0 | 0.1 | 0.03                         |
| <i>Streptopus lanceolatus</i> var. roseus | 0.0               | 0.4 | 0.2 | 0.20                         |
| <i>Trientalis borealis</i>                | 0.0               | 0.1 | 0.0 | 0.03                         |

**Plot: 6020**

| Species                        | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|--------------------------------|-------------------|-----|-----|------------------------------|
|                                | 1                 | 2   | 3   |                              |
| <i>Abies balsamea</i>          | 0.1               | 0.0 | 0.0 | 0.03                         |
| <i>Acer rubrum</i>             | 0.0               | 0.1 | 0.3 | 0.13                         |
| <i>Amelanchier</i> sp. Group 2 | 0.1               | 0.0 | 0.0 | 0.03                         |
| <i>Amelanchier</i> sp. Group 3 | 0.0               | 0.0 | 0.1 | 0.03                         |
| <i>Chimaphila umbellata</i>    | 0.0               | 0.0 | 0.2 | 0.07                         |
| <i>Deschampsia flexuosa</i>    | 0.3               | 0.6 | 0.1 | 0.33                         |
| <i>Epigaea repens</i>          | 0.0               | 0.1 | 0.0 | 0.03                         |
| <i>Gaultheria procumbens</i>   | 0.8               | 1.0 | 0.8 | 0.87                         |
| <i>Lycopodium digitatum</i>    | 0.0               | 0.1 | 0.0 | 0.03                         |
| <i>Maianthemum canadense</i>   | 0.0               | 0.0 | 0.5 | 0.17                         |
| <i>Melampyrum lineare</i>      | 0.1               | 0.2 | 0.0 | 0.10                         |
| <i>Pinus strobus</i>           | 0.2               | 0.3 | 0.7 | 0.40                         |
| <i>Poaceae</i> fam.            | 0.1               | 0.1 | 0.0 | 0.07                         |
| <i>Populus grandidentata</i>   | 0.0               | 0.0 | 0.1 | 0.03                         |
| <i>Pteridium aquilinum</i>     | 0.8               | 0.8 | 0.9 | 0.83                         |
| <i>Vaccinium angustifolium</i> | 0.5               | 0.9 | 0.9 | 0.77                         |
| <i>Vaccinium myrtilloides</i>  | 0.2               | 0.1 | 0.3 | 0.20                         |

**Plot: 6021**

| Species                              | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------------|
|                                      | 1                 | 2   | 3   |                              |
| Abies balsamea                       | 0.0               | 0.1 | 0.0 | 0.03                         |
| Acer saccharum                       | 0.2               | 0.1 | 0.0 | 0.10                         |
| Allium tricoccum                     | 0.0               | 0.2 | 0.1 | 0.10                         |
| Amelanchier sp. Group 2              | 0.0               | 0.1 | 0.1 | 0.07                         |
| Aralia nudicaulis                    | 0.0               | 0.0 | 0.3 | 0.10                         |
| Asteraceae fam.                      | 0.0               | 0.0 | 0.1 | 0.03                         |
| Athyrium filix-femina                | 0.0               | 0.2 | 0.3 | 0.17                         |
| Betula alleghaniensis                | 0.1               | 0.1 | 0.0 | 0.07                         |
| Betula papyrifera                    | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex arctata                        | 0.4               | 0.0 | 0.1 | 0.17                         |
| Carex intumescens                    | 0.1               | 0.0 | 0.0 | 0.03                         |
| Carex sp.                            | 0.0               | 0.4 | 0.3 | 0.23                         |
| Circaea lutetiana ssp. canadensis    | 0.0               | 0.4 | 0.0 | 0.13                         |
| Cirsium palustre                     | 0.0               | 0.3 | 0.7 | 0.33                         |
| Clematis virginiana                  | 0.0               | 0.0 | 0.2 | 0.07                         |
| Clintonia borealis                   | 0.1               | 0.1 | 0.0 | 0.07                         |
| Dryopteris intermedia                | 0.7               | 0.5 | 0.4 | 0.53                         |
| Epilobium ciliatum                   | 0.0               | 0.0 | 0.1 | 0.03                         |
| Equisetum palustre                   | 0.0               | 0.4 | 0.2 | 0.20                         |
| Eupatorium maculatum                 | 0.0               | 0.3 | 0.4 | 0.23                         |
| Fagus grandifolia                    | 0.4               | 0.0 | 0.1 | 0.17                         |
| Galeopsis tetrahit                   | 0.2               | 0.1 | 0.0 | 0.10                         |
| Galium triflorum                     | 0.0               | 0.2 | 0.2 | 0.13                         |
| Geum macrophyllum                    | 0.0               | 0.0 | 0.2 | 0.07                         |
| Geum sp.                             | 0.0               | 0.4 | 0.3 | 0.23                         |
| Glyceria striata                     | 0.0               | 0.2 | 0.2 | 0.13                         |
| Gymnocarpium dryopteris              | 0.0               | 0.3 | 0.1 | 0.13                         |
| Hieracium aurantiacum                | 0.0               | 0.0 | 0.2 | 0.07                         |
| Huperzia lucidula                    | 0.3               | 0.0 | 0.0 | 0.10                         |
| Juncus effusus                       | 0.0               | 0.0 | 0.1 | 0.03                         |
| Maianthemum canadense                | 0.3               | 0.2 | 0.4 | 0.30                         |
| Maianthemum racemosum ssp. racemosum | 0.1               | 0.0 | 0.4 | 0.17                         |
| Matteuccia struthiopteris            | 0.0               | 0.4 | 0.5 | 0.30                         |
| Milium effusum                       | 0.1               | 0.1 | 0.0 | 0.07                         |
| Onoclea sensibilis                   | 0.0               | 0.1 | 0.0 | 0.03                         |
| Poaceae fam.                         | 0.2               | 0.0 | 0.1 | 0.10                         |
| Polygonatum pubescens                | 0.0               | 0.0 | 0.1 | 0.03                         |
| Polystichum braunii                  | 0.0               | 0.0 | 0.1 | 0.03                         |
| Prenanthes alba                      | 0.0               | 0.0 | 0.3 | 0.10                         |
| Prunus serotina                      | 0.1               | 0.0 | 0.0 | 0.03                         |
| Ranunculus recurvatus                | 0.0               | 0.2 | 0.2 | 0.13                         |
| Ribes triste                         | 0.0               | 0.1 | 0.0 | 0.03                         |
| Rubus idaeus ssp. strigosus          | 0.0               | 0.6 | 0.4 | 0.33                         |
| Rubus pubescens                      | 0.0               | 0.0 | 0.1 | 0.03                         |
| Rumex obtusifolius                   | 0.0               | 0.1 | 0.0 | 0.03                         |
| Sambucus racemosa var. racemosa      | 0.0               | 0.2 | 0.0 | 0.07                         |
| Scirpus cyperinus                    | 0.0               | 0.2 | 0.3 | 0.17                         |
| Solidago sp.                         | 0.0               | 0.1 | 0.2 | 0.10                         |
| Streptopus lanceolatus var. roseus   | 0.2               | 0.0 | 0.0 | 0.07                         |
| Symphotrichum puniceum               | 0.0               | 0.1 | 0.4 | 0.17                         |
| Viola sp.                            | 0.0               | 0.3 | 0.1 | 0.13                         |

**Plot: 6022**

| Species                              | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------------|
|                                      | 1                 | 2   | 3   |                              |
| Acer saccharum                       | 0.1               | 0.1 | 0.0 | 0.07                         |
| Amelanchier sp. Group 2              | 0.0               | 0.0 | 0.1 | 0.03                         |
| Amelanchier sp. Group 3              | 0.0               | 0.1 | 0.0 | 0.03                         |
| Arisaema triphyllum                  | 0.1               | 0.0 | 0.0 | 0.03                         |
| Caltha palustris                     | 0.1               | 0.0 | 0.0 | 0.03                         |
| Cardamine diphylla                   | 0.1               | 0.0 | 0.0 | 0.03                         |
| Carex intumescens                    | 0.1               | 0.0 | 0.0 | 0.03                         |
| Carex sp.                            | 0.1               | 0.0 | 0.0 | 0.03                         |
| Clintonia borealis                   | 0.4               | 0.3 | 0.0 | 0.23                         |
| Dryopteris intermedia                | 0.8               | 0.7 | 0.7 | 0.73                         |
| Equisetum sylvaticum                 | 0.1               | 0.0 | 0.0 | 0.03                         |
| Fagus grandifolia                    | 0.4               | 0.6 | 0.9 | 0.63                         |
| Galium triflorum                     | 0.2               | 0.0 | 0.0 | 0.07                         |
| Impatiens sp.                        | 0.1               | 0.0 | 0.0 | 0.03                         |
| Lonicera canadensis                  | 0.1               | 0.0 | 0.0 | 0.03                         |
| Maianthemum canadense                | 0.3               | 0.7 | 0.5 | 0.50                         |
| Maianthemum racemosum ssp. racemosum | 0.2               | 0.0 | 0.0 | 0.07                         |
| Oxalis montana                       | 0.6               | 0.2 | 0.0 | 0.27                         |
| Poaceae fam.                         | 0.1               | 0.0 | 0.0 | 0.03                         |
| Prunus serotina                      | 0.0               | 0.0 | 0.2 | 0.07                         |
| Rubus pubescens                      | 0.1               | 0.0 | 0.0 | 0.03                         |
| Rubus sp.                            | 0.0               | 0.0 | 0.1 | 0.03                         |
| Streptopus lanceolatus var. roseus   | 0.0               | 0.1 | 0.3 | 0.13                         |
| Trientalis borealis                  | 0.4               | 0.7 | 0.0 | 0.37                         |
| Viola sp.                            | 0.3               | 0.0 | 0.0 | 0.10                         |

**Plot: 6023**

| Species                     | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-----------------------------|-------------------|-----|-----|------------------------------|
|                             | 1                 | 2   | 3   |                              |
| Abies balsamea              | 0.4               | 0.1 | 0.1 | 0.20                         |
| Acer rubrum                 | 0.1               | 0.2 | 0.2 | 0.17                         |
| Amelanchier sp. Group 2     | 0.3               | 0.0 | 0.2 | 0.17                         |
| Amelanchier sp. Group 3     | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex sp.                   | 0.0               | 0.0 | 0.2 | 0.07                         |
| Cornus canadensis           | 0.5               | 0.2 | 0.4 | 0.37                         |
| Danthonia spicata           | 0.0               | 0.1 | 0.0 | 0.03                         |
| Deschampsia flexuosa        | 0.1               | 0.6 | 0.1 | 0.27                         |
| Gaultheria procumbens       | 0.4               | 0.4 | 0.6 | 0.47                         |
| Hieracium sp.               | 0.0               | 0.0 | 0.1 | 0.03                         |
| Maianthemum canadense       | 0.1               | 0.1 | 0.0 | 0.07                         |
| Picea glauca                | 0.0               | 0.0 | 0.1 | 0.03                         |
| Populus tremuloides         | 0.5               | 0.0 | 0.1 | 0.20                         |
| Pteridium aquilinum         | 1.0               | 1.0 | 1.0 | 1.00                         |
| Rubus idaeus ssp. strigosus | 0.0               | 0.0 | 0.1 | 0.03                         |
| Rumex acetosella            | 0.0               | 0.1 | 0.0 | 0.03                         |
| Trientalis borealis         | 0.2               | 0.1 | 0.1 | 0.13                         |
| Vaccinium angustifolium     | 0.2               | 0.3 | 0.8 | 0.43                         |
| Vaccinium myrtilloides      | 0.1               | 0.0 | 0.1 | 0.07                         |
| Veronica officinalis        | 0.0               | 0.0 | 0.1 | 0.03                         |

**Plot: 6024**

| Species                            | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|------------------------------------|-------------------|-----|-----|------------------------|
|                                    | 1                 | 2   | 3   |                        |
| Acer rubrum                        | 0.0               | 0.1 | 0.0 | 0.03                   |
| Acer saccharum                     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Amelanchier sp. Group 3            | 0.1               | 0.0 | 0.0 | 0.03                   |
| Aralia nudicaulis                  | 0.0               | 0.0 | 0.4 | 0.13                   |
| Carex sp.                          | 0.2               | 0.0 | 0.0 | 0.07                   |
| Coptis trifolia                    | 0.5               | 0.5 | 0.0 | 0.33                   |
| Cornus canadensis                  | 0.1               | 0.0 | 0.0 | 0.03                   |
| Dryopteris intermedia              | 0.8               | 1.0 | 0.8 | 0.87                   |
| Fagus grandifolia                  | 0.4               | 0.5 | 0.1 | 0.33                   |
| Huperzia lucidula                  | 0.5               | 0.8 | 0.9 | 0.73                   |
| Lycopodium obscurum                | 0.0               | 0.1 | 0.0 | 0.03                   |
| Maianthemum canadense              | 1.0               | 1.0 | 0.3 | 0.77                   |
| Mitchella repens                   | 0.1               | 0.1 | 0.0 | 0.07                   |
| Oxalis montana                     | 0.7               | 1.0 | 0.6 | 0.77                   |
| Pteridium aquilinum                | 0.1               | 0.0 | 0.0 | 0.03                   |
| Streptopus lanceolatus var. roseus | 0.0               | 0.2 | 0.1 | 0.10                   |
| Trientalis borealis                | 0.6               | 0.6 | 0.3 | 0.50                   |

**Plot: 6025**

| Species                            | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|------------------------------------|-------------------|-----|-----|------------------------|
|                                    | 1                 | 2   | 3   |                        |
| Acer saccharum                     | 0.0               | 0.2 | 0.2 | 0.13                   |
| Amelanchier sp. Group 3            | 0.0               | 0.0 | 0.1 | 0.03                   |
| Dryopteris intermedia              | 0.3               | 0.4 | 0.4 | 0.37                   |
| Fagus grandifolia                  | 0.1               | 0.1 | 0.1 | 0.10                   |
| Huperzia lucidula                  | 0.0               | 0.2 | 0.4 | 0.20                   |
| Lycopodium dendroideum             | 0.0               | 0.0 | 0.2 | 0.07                   |
| Maianthemum canadense              | 0.0               | 0.0 | 0.7 | 0.23                   |
| Mitchella repens                   | 0.0               | 0.0 | 0.1 | 0.03                   |
| Oxalis montana                     | 0.0               | 0.0 | 0.1 | 0.03                   |
| Rubus allegheniensis               | 0.0               | 0.1 | 0.0 | 0.03                   |
| Streptopus lanceolatus var. roseus | 0.2               | 0.2 | 0.0 | 0.13                   |
| Trientalis borealis                | 0.0               | 0.3 | 0.2 | 0.17                   |

**Plot: 6026**

| Species                              | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------|
|                                      | 1                 | 2   | 3   |                        |
| Acer saccharum                       | 0.0               | 0.3 | 0.0 | 0.10                   |
| Adiantum pedatum                     | 0.1               | 0.2 | 0.1 | 0.13                   |
| Allium tricoccum                     | 0.0               | 0.3 | 0.3 | 0.20                   |
| Arisaema triphyllum                  | 0.0               | 0.0 | 0.1 | 0.03                   |
| Athyrium filix-femina                | 0.2               | 0.0 | 0.0 | 0.07                   |
| Cardamine diphylla                   | 0.0               | 0.2 | 0.1 | 0.10                   |
| Carex intumescens                    | 0.0               | 0.1 | 0.0 | 0.03                   |
| Carex leptoneura                     | 0.0               | 0.1 | 0.3 | 0.13                   |
| Carex sp.                            | 0.1               | 0.2 | 0.0 | 0.10                   |
| Caulophyllum thalictroides           | 0.2               | 0.2 | 0.4 | 0.27                   |
| Dryopteris intermedia                | 0.5               | 0.3 | 0.7 | 0.50                   |
| Galeopsis tetrahit                   | 1.0               | 0.5 | 0.0 | 0.50                   |
| Galium triflorum                     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Geum sp.                             | 0.0               | 0.1 | 0.0 | 0.03                   |
| Maianthemum canadense                | 0.2               | 0.1 | 0.0 | 0.10                   |
| Maianthemum racemosum ssp. racemosum | 0.3               | 0.0 | 0.2 | 0.17                   |
| Melica smithii                       | 0.1               | 0.2 | 0.0 | 0.10                   |
| Milium effusum                       | 0.0               | 0.1 | 0.0 | 0.03                   |
| Osmorhiza sp.                        | 0.3               | 0.1 | 0.0 | 0.13                   |
| Poaceae fam.                         | 0.1               | 0.2 | 0.0 | 0.10                   |
| Populus tremuloides                  | 0.2               | 0.0 | 0.0 | 0.07                   |
| Ribes hirtellum                      | 0.0               | 0.0 | 0.1 | 0.03                   |
| Sambucus racemosa var. racemosa      | 0.0               | 0.0 | 0.1 | 0.03                   |
| Sanguinaria canadensis               | 0.0               | 0.1 | 0.0 | 0.03                   |
| Streptopus lanceolatus var. roseus   | 0.3               | 0.2 | 0.1 | 0.20                   |
| Trillium cernuum                     | 0.1               | 0.1 | 0.0 | 0.07                   |
| Viola sp.                            | 1.0               | 1.0 | 0.4 | 0.80                   |

**Plot: 6027**

| Species                   | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|---------------------------|-------------------|-----|-----|------------------------|
|                           | 1                 | 2   | 3   |                        |
| Acer rubrum               | 0.1               | 0.0 | 0.0 | 0.03                   |
| Amelanchier sp. Group 2   | 0.1               | 0.1 | 0.0 | 0.07                   |
| Apocynum androsaemifolium | 0.0               | 0.1 | 0.4 | 0.17                   |
| Carex sp.                 | 0.0               | 0.0 | 0.1 | 0.03                   |
| Danthonia spicata         | 0.0               | 0.3 | 0.4 | 0.23                   |
| Deschampsia flexuosa      | 0.7               | 0.3 | 0.7 | 0.57                   |
| Epigaea repens            | 0.2               | 0.0 | 0.0 | 0.07                   |
| Gaultheria procumbens     | 0.3               | 0.4 | 0.3 | 0.33                   |
| Pinus strobus             | 0.0               | 0.1 | 0.0 | 0.03                   |
| Pteridium aquilinum       | 0.1               | 0.8 | 1.0 | 0.63                   |
| Rumex acetosella          | 0.0               | 0.0 | 0.2 | 0.07                   |
| Salix sp.                 | 0.0               | 0.1 | 0.1 | 0.07                   |
| Vaccinium angustifolium   | 0.9               | 0.8 | 0.6 | 0.77                   |
| Vaccinium myrtilloides    | 0.0               | 0.1 | 0.0 | 0.03                   |

**Plot: 6028**

| Species                                  | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|------------------------------------------|-------------------|-----|-----|------------------------------|
|                                          | 1                 | 2   | 3   |                              |
| Abies balsamea                           | 0.1               | 0.0 | 0.0 | 0.03                         |
| Acer rubrum                              | 0.2               | 0.0 | 0.1 | 0.10                         |
| Amelanchier sp. Group 2                  | 0.1               | 0.1 | 0.0 | 0.07                         |
| Amelanchier sp. Group 3                  | 0.0               | 0.3 | 0.0 | 0.10                         |
| Andromeda polifolia var.<br>glaucophylla | 0.0               | 0.0 | 0.6 | 0.20                         |
| Carex oligosperma                        | 0.0               | 0.0 | 0.6 | 0.20                         |
| Carex sp.                                | 0.0               | 0.0 | 0.7 | 0.23                         |
| Carex trisperma                          | 0.0               | 0.2 | 0.0 | 0.07                         |
| Coptis trifolia                          | 0.0               | 0.2 | 0.0 | 0.07                         |
| Cornus canadensis                        | 0.0               | 0.4 | 0.0 | 0.13                         |
| Epigaea repens                           | 0.1               | 0.1 | 0.0 | 0.07                         |
| Gaultheria procumbens                    | 1.0               | 0.8 | 0.2 | 0.67                         |
| Gaylussacia baccata                      | 0.1               | 0.4 | 0.0 | 0.17                         |
| Kalmia polifolia                         | 0.0               | 0.1 | 0.9 | 0.33                         |
| Larix laricina                           | 0.0               | 0.0 | 0.2 | 0.07                         |
| Ledum groenlandicum                      | 0.3               | 0.9 | 0.5 | 0.57                         |
| Melampyrum lineare                       | 0.2               | 0.0 | 0.0 | 0.07                         |
| Myrica gale                              | 0.0               | 0.0 | 0.3 | 0.10                         |
| Nemopanthus mucronatus                   | 0.1               | 0.8 | 0.5 | 0.47                         |
| Picea mariana                            | 0.1               | 0.0 | 0.3 | 0.13                         |
| Pteridium aquilinum                      | 0.8               | 0.2 | 0.0 | 0.33                         |
| Rhamnus alnifolia                        | 0.0               | 0.1 | 0.8 | 0.30                         |
| Sarracenia purpurea                      | 0.0               | 0.0 | 0.1 | 0.03                         |
| Shepherdia canadensis                    | 0.0               | 0.3 | 1.0 | 0.43                         |
| Thuja occidentalis                       | 0.0               | 0.0 | 0.2 | 0.07                         |
| Trientalis borealis                      | 0.0               | 0.3 | 0.8 | 0.37                         |
| Vaccinium angustifolium                  | 0.9               | 0.9 | 0.5 | 0.77                         |
| Vaccinium myrtilloides                   | 0.9               | 0.5 | 0.0 | 0.47                         |
| Vaccinium oxycoccos                      | 0.0               | 0.0 | 0.8 | 0.27                         |

**Plot: 6029**

| Species                            | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|------------------------------------|-------------------|-----|-----|------------------------------|
|                                    | 1                 | 2   | 3   |                              |
| Abies balsamea                     | 0.0               | 0.3 | 0.1 | 0.13                         |
| Acer rubrum                        | 0.0               | 0.1 | 0.0 | 0.03                         |
| Acer saccharum                     | 0.2               | 0.2 | 0.0 | 0.13                         |
| Acer spicatum                      | 0.7               | 0.5 | 0.3 | 0.50                         |
| Alnus incana ssp. rugosa           | 0.0               | 0.0 | 0.1 | 0.03                         |
| Aralia nudicaulis                  | 0.6               | 0.3 | 0.4 | 0.43                         |
| Arisaema triphyllum                | 0.0               | 0.1 | 0.0 | 0.03                         |
| Asteraceae fam.                    | 0.0               | 0.0 | 0.1 | 0.03                         |
| Botrychium virginianum             | 0.2               | 0.0 | 0.1 | 0.10                         |
| Caltha palustris                   | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex communis                     | 0.1               | 0.0 | 0.1 | 0.07                         |
| Carex intumescens                  | 0.0               | 0.0 | 0.2 | 0.07                         |
| Carex pedunculata                  | 0.6               | 0.7 | 0.8 | 0.70                         |
| Carex sp.                          | 0.1               | 0.0 | 0.5 | 0.20                         |
| Circaea alpina                     | 0.1               | 0.0 | 0.0 | 0.03                         |
| Cirsium sp.                        | 0.0               | 0.0 | 0.1 | 0.03                         |
| Clematis virginiana                | 0.0               | 0.0 | 0.4 | 0.13                         |
| Clintonia borealis                 | 0.3               | 0.6 | 0.4 | 0.43                         |
| Coptis trifolia                    | 0.6               | 0.7 | 0.8 | 0.70                         |
| Cornus canadensis                  | 0.3               | 0.3 | 0.1 | 0.23                         |
| Dryopteris carthusiana             | 0.0               | 0.1 | 0.0 | 0.03                         |
| Dryopteris intermedia              | 0.4               | 0.2 | 0.4 | 0.33                         |
| Epipactis helleborine              | 0.0               | 0.1 | 0.0 | 0.03                         |
| Eupatorium maculatum               | 0.0               | 0.0 | 0.5 | 0.17                         |
| Fagus grandifolia                  | 0.1               | 0.0 | 0.0 | 0.03                         |
| Galium triflorum                   | 0.3               | 0.4 | 0.6 | 0.43                         |
| Gaultheria hispidula               | 0.0               | 0.0 | 0.1 | 0.03                         |
| Glyceria canadensis                | 0.0               | 0.0 | 0.4 | 0.13                         |
| Goodyera oblongifolia              | 0.3               | 0.2 | 0.0 | 0.17                         |
| Gymnocarpium dryopteris            | 0.4               | 0.3 | 0.5 | 0.40                         |
| Huperzia lucidula                  | 0.1               | 0.2 | 0.2 | 0.17                         |
| Linnaea borealis                   | 0.0               | 0.0 | 0.2 | 0.07                         |
| Lonicera canadensis                | 0.2               | 0.2 | 0.2 | 0.20                         |
| Lonicera hirsuta                   | 0.0               | 0.0 | 0.1 | 0.03                         |
| Lonicera oblongifolia              | 0.0               | 0.1 | 0.0 | 0.03                         |
| Lycopodium annotinum               | 0.0               | 0.2 | 0.0 | 0.07                         |
| Lycopus uniflorus                  | 0.0               | 0.0 | 0.2 | 0.07                         |
| Maianthemum canadense              | 0.9               | 0.4 | 0.4 | 0.57                         |
| Mitella nuda                       | 0.8               | 0.6 | 0.8 | 0.73                         |
| Osmorhiza sp.                      | 0.1               | 0.0 | 0.0 | 0.03                         |
| Oxalis montana                     | 1.0               | 1.0 | 0.5 | 0.83                         |
| Phegopteris connectilis            | 0.0               | 0.1 | 0.0 | 0.03                         |
| Poaceae fam.                       | 0.0               | 0.0 | 0.4 | 0.13                         |
| Ribes triste                       | 0.1               | 0.1 | 0.0 | 0.07                         |
| Rubus idaeus ssp. strigosus        | 0.1               | 0.0 | 0.1 | 0.07                         |
| Rubus pubescens                    | 1.0               | 0.6 | 0.8 | 0.80                         |
| Streptopus lanceolatus var. roseus | 0.2               | 0.1 | 0.0 | 0.10                         |
| Symphyotrichum lateriflorum        | 0.1               | 0.0 | 0.4 | 0.17                         |
| Thelypteris palustris              | 0.2               | 0.0 | 0.1 | 0.10                         |
| Thuja occidentalis                 | 0.0               | 0.2 | 0.3 | 0.17                         |
| Trientalis borealis                | 0.9               | 0.4 | 0.2 | 0.50                         |
| Vaccinium membranaceum             | 0.0               | 0.0 | 0.1 | 0.03                         |
| Viola sp.                          | 0.5               | 0.0 | 0.5 | 0.33                         |

**Plot: 6030**

| Species                              | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------|
|                                      | 1                 | 2   | 3   |                        |
| Acer saccharum                       | 0.2               | 0.1 | 0.0 | 0.10                   |
| Carex arctata                        | 0.2               | 0.0 | 0.0 | 0.07                   |
| Carex communis                       | 0.1               | 0.1 | 0.0 | 0.07                   |
| Carex intumescens                    | 0.2               | 0.0 | 0.0 | 0.07                   |
| Carex sp.                            | 0.3               | 0.0 | 0.2 | 0.17                   |
| Cinna latifolia                      | 0.1               | 0.0 | 0.0 | 0.03                   |
| Dryopteris carthusiana               | 0.0               | 0.0 | 0.1 | 0.03                   |
| Dryopteris intermedia                | 0.4               | 0.2 | 0.5 | 0.37                   |
| Huperzia lucidula                    | 0.0               | 0.0 | 0.1 | 0.03                   |
| Maianthemum canadense                | 0.0               | 0.1 | 0.1 | 0.07                   |
| Maianthemum racemosum ssp. racemosum | 0.1               | 0.0 | 0.0 | 0.03                   |
| Polygonatum pubescens                | 0.0               | 0.2 | 0.0 | 0.07                   |
| Prunus serotina                      | 0.0               | 0.0 | 0.4 | 0.13                   |
| Streptopus lanceolatus var. roseus   | 0.1               | 0.0 | 0.1 | 0.07                   |
| Trientalis borealis                  | 0.0               | 0.3 | 0.2 | 0.17                   |
| Viola sp.                            | 0.4               | 0.1 | 0.5 | 0.33                   |

**Plot: 6031**

| Species                 | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|-------------------------|-------------------|-----|-----|------------------------|
|                         | 1                 | 2   | 3   |                        |
| Abies balsamea          | 0.8               | 0.6 | 0.7 | 0.70                   |
| Acer pensylvanicum      | 0.1               | 0.0 | 0.0 | 0.03                   |
| Acer spicatum           | 0.3               | 0.1 | 0.0 | 0.13                   |
| Aralia nudicaulis       | 0.4               | 0.0 | 0.0 | 0.13                   |
| Chimaphila umbellata    | 0.3               | 0.0 | 0.0 | 0.10                   |
| Coptis trifolia         | 0.2               | 0.0 | 0.0 | 0.07                   |
| Cornus canadensis       | 0.0               | 0.3 | 0.1 | 0.13                   |
| Diervilla lonicera      | 0.0               | 0.0 | 0.2 | 0.07                   |
| Gaultheria procumbens   | 0.2               | 0.4 | 0.9 | 0.50                   |
| Gaylussacia baccata     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Linnaea borealis        | 0.0               | 0.0 | 0.1 | 0.03                   |
| Lycopodium annotinum    | 0.0               | 0.0 | 0.1 | 0.03                   |
| Lycopodium clavatum     | 0.1               | 0.0 | 0.4 | 0.17                   |
| Maianthemum canadense   | 0.5               | 0.3 | 0.3 | 0.37                   |
| Pteridium aquilinum     | 0.5               | 0.9 | 0.9 | 0.77                   |
| Trientalis borealis     | 0.7               | 0.9 | 0.7 | 0.77                   |
| Vaccinium angustifolium | 0.3               | 0.4 | 0.1 | 0.27                   |

**Plot: 6032**

| Species                            | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|------------------------------------|-------------------|-----|-----|------------------------|
|                                    | 1                 | 2   | 3   |                        |
| Abies balsamea                     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Acer pensylvanicum                 | 0.0               | 0.0 | 0.1 | 0.03                   |
| Acer saccharum                     | 0.2               | 0.0 | 0.4 | 0.20                   |
| Dryopteris carthusiana             | 0.0               | 0.3 | 0.0 | 0.10                   |
| Dryopteris intermedia              | 0.7               | 0.4 | 0.5 | 0.53                   |
| Fagus grandifolia                  | 0.2               | 0.6 | 0.7 | 0.50                   |
| Huperzia lucidula                  | 0.8               | 0.8 | 0.2 | 0.60                   |
| Lycopodium dendroideum             | 0.1               | 0.0 | 0.0 | 0.03                   |
| Streptopus lanceolatus var. roseus | 0.0               | 0.1 | 0.0 | 0.03                   |
| Trientalis borealis                | 0.6               | 0.3 | 0.0 | 0.30                   |

**Plot: 6033**

| Species                              | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------|
|                                      | 1                 | 2   | 3   |                        |
| Acer saccharum                       | 0.0               | 0.2 | 0.0 | 0.07                   |
| Actaea pachypoda                     | 0.0               | 0.0 | 0.2 | 0.07                   |
| Allium tricoccum                     | 0.5               | 0.2 | 0.3 | 0.33                   |
| Carex sp.                            | 0.0               | 0.0 | 0.1 | 0.03                   |
| Dryopteris intermedia                | 0.1               | 0.2 | 0.3 | 0.20                   |
| Galeopsis tetrahit                   | 0.3               | 0.5 | 0.2 | 0.33                   |
| Galium triflorum                     | 0.0               | 0.2 | 0.3 | 0.17                   |
| Geranium robertianum                 | 0.6               | 0.9 | 0.7 | 0.73                   |
| Maianthemum racemosum ssp. racemosum | 0.1               | 0.1 | 0.1 | 0.10                   |
| Melica smithii                       | 0.6               | 0.2 | 0.1 | 0.30                   |
| Milium effusum                       | 0.1               | 0.5 | 0.7 | 0.43                   |
| Osmorhiza sp.                        | 1.0               | 0.9 | 1.0 | 0.97                   |
| Polygonatum pubescens                | 0.1               | 0.1 | 0.0 | 0.07                   |
| Ranunculus abortivus                 | 0.0               | 0.0 | 0.1 | 0.03                   |
| Sambucus nigra ssp. canadensis       | 0.0               | 0.2 | 0.0 | 0.07                   |
| Viola canadensis                     | 1.0               | 1.0 | 0.9 | 0.97                   |

**Plot: 6034**

| Species                     | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|-----------------------------|-------------------|-----|-----|------------------------|
|                             | 1                 | 2   | 3   |                        |
| Acer spicatum               | 0.0               | 0.1 | 0.0 | 0.03                   |
| Apocynum androsaemifolium   | 0.0               | 0.0 | 0.1 | 0.03                   |
| Athyrium filix-femina       | 0.0               | 0.0 | 0.2 | 0.07                   |
| Betula papyrifera           | 0.0               | 0.0 | 0.2 | 0.07                   |
| Calamagrostis canadensis    | 0.0               | 0.0 | 0.1 | 0.03                   |
| Carex intumescens           | 0.0               | 0.0 | 0.2 | 0.07                   |
| Carex pedunculata           | 0.0               | 0.0 | 0.1 | 0.03                   |
| Cornus canadensis           | 0.0               | 0.0 | 0.2 | 0.07                   |
| Epigaea repens              | 0.0               | 0.1 | 0.4 | 0.17                   |
| Equisetum pratense          | 0.0               | 0.0 | 0.3 | 0.10                   |
| Fragaria virginiana         | 0.0               | 0.0 | 0.2 | 0.07                   |
| Gaultheria procumbens       | 1.0               | 1.0 | 0.6 | 0.87                   |
| Gaylussacia baccata         | 0.0               | 0.4 | 0.0 | 0.13                   |
| Goodyera oblongifolia       | 0.0               | 0.1 | 0.0 | 0.03                   |
| Maianthemum canadense       | 1.0               | 0.6 | 0.0 | 0.53                   |
| Melampyrum lineare          | 0.1               | 0.2 | 0.0 | 0.10                   |
| Phegopteris connectilis     | 0.0               | 0.0 | 0.2 | 0.07                   |
| Pinus strobus               | 0.0               | 0.1 | 0.0 | 0.03                   |
| Pteridium aquilinum         | 1.0               | 0.9 | 0.3 | 0.73                   |
| Pyrola elliptica            | 0.0               | 0.0 | 0.2 | 0.07                   |
| Quercus rubra               | 0.0               | 0.5 | 0.0 | 0.17                   |
| Ribes glandulosum           | 0.0               | 0.0 | 0.2 | 0.07                   |
| Rubus idaeus ssp. strigosus | 0.0               | 0.0 | 0.3 | 0.10                   |
| Trientalis borealis         | 0.0               | 0.2 | 0.3 | 0.17                   |
| Vaccinium angustifolium     | 0.6               | 0.9 | 0.5 | 0.67                   |
| Vaccinium myrtilloides      | 0.8               | 0.2 | 0.4 | 0.47                   |

**Plot: 6035**

| Species                            | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|------------------------------------|-------------------|-----|-----|------------------------|
|                                    | 1                 | 2   | 3   |                        |
| Abies balsamea                     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Acer saccharum                     | 0.5               | 1.0 | 0.3 | 0.60                   |
| Actaea sp.                         | 0.1               | 0.0 | 0.0 | 0.03                   |
| Carex sp.                          | 0.2               | 0.0 | 0.0 | 0.07                   |
| Dryopteris intermedia              | 0.3               | 0.1 | 0.4 | 0.27                   |
| Equisetum scirpoides               | 0.4               | 0.0 | 0.0 | 0.13                   |
| Fagus grandifolia                  | 0.2               | 0.1 | 0.0 | 0.10                   |
| Gymnocarpium dryopteris            | 0.0               | 0.0 | 0.2 | 0.07                   |
| Lonicera canadensis                | 0.4               | 0.0 | 0.0 | 0.13                   |
| Melica smithii                     | 0.0               | 0.1 | 0.1 | 0.07                   |
| Milium effusum                     | 0.0               | 0.0 | 0.2 | 0.07                   |
| Osmorhiza sp.                      | 0.0               | 0.0 | 0.4 | 0.13                   |
| Poaceae fam.                       | 0.1               | 0.0 | 0.0 | 0.03                   |
| Polygonatum pubescens              | 0.0               | 0.1 | 0.0 | 0.03                   |
| Rubus idaeus ssp. strigosus        | 0.0               | 0.0 | 0.1 | 0.03                   |
| Streptopus lanceolatus var. roseus | 0.1               | 0.5 | 0.9 | 0.50                   |
| Taxus canadensis                   | 0.1               | 0.0 | 0.0 | 0.03                   |
| Trientalis borealis                | 0.3               | 0.0 | 0.0 | 0.10                   |
| Viola sp.                          | 0.0               | 0.0 | 0.1 | 0.03                   |

**Plot: 6036**

| Species                              | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------|
|                                      | 1                 | 2   | 3   |                        |
| Abies balsamea                       | 0.1               | 0.1 | 0.0 | 0.07                   |
| Acer saccharum                       | 0.2               | 0.0 | 0.2 | 0.13                   |
| Aralia nudicaulis                    | 0.0               | 0.2 | 0.0 | 0.07                   |
| Athyrium filix-femina                | 0.6               | 0.1 | 0.0 | 0.23                   |
| Betula alleghaniensis                | 0.0               | 0.1 | 0.0 | 0.03                   |
| Carex sp.                            | 0.0               | 0.1 | 0.0 | 0.03                   |
| Clintonia borealis                   | 0.3               | 0.2 | 0.0 | 0.17                   |
| Coptis trifolia                      | 0.1               | 0.1 | 0.0 | 0.07                   |
| Dryopteris carthusiana               | 0.0               | 0.1 | 0.0 | 0.03                   |
| Dryopteris intermedia                | 0.0               | 0.2 | 0.5 | 0.23                   |
| Fagus grandifolia                    | 0.1               | 0.0 | 0.0 | 0.03                   |
| Geum aleppicum                       | 0.1               | 0.0 | 0.0 | 0.03                   |
| Huperzia lucidula                    | 0.0               | 0.1 | 0.0 | 0.03                   |
| Lycopodium annotinum                 | 0.0               | 0.0 | 0.6 | 0.20                   |
| Lycopodium clavatum                  | 0.5               | 0.0 | 0.0 | 0.17                   |
| Lycopodium dendroideum               | 0.0               | 0.0 | 0.3 | 0.10                   |
| Maianthemum canadense                | 0.9               | 0.3 | 0.6 | 0.60                   |
| Maianthemum racemosum ssp. racemosum | 0.0               | 0.0 | 0.1 | 0.03                   |
| Osmorhiza sp.                        | 0.1               | 0.0 | 0.0 | 0.03                   |
| Oxalis montana                       | 0.2               | 0.1 | 0.0 | 0.10                   |
| Poaceae fam.                         | 0.1               | 0.0 | 0.0 | 0.03                   |
| Polygonatum pubescens                | 0.1               | 0.0 | 0.2 | 0.10                   |
| Taraxacum officinale                 | 0.1               | 0.0 | 0.0 | 0.03                   |
| Thuja occidentalis                   | 0.1               | 0.1 | 0.0 | 0.07                   |
| Trientalis borealis                  | 0.1               | 0.2 | 0.1 | 0.13                   |
| Tsuga canadensis                     | 0.2               | 0.0 | 0.0 | 0.07                   |
| Viola sp.                            | 0.0               | 0.0 | 0.2 | 0.07                   |

**Plot: 6037**

| Species                            | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|------------------------------------|-------------------|-----|-----|------------------------|
|                                    | 1                 | 2   | 3   |                        |
| Abies balsamea                     | 0.0               | 0.1 | 0.2 | 0.10                   |
| Acer rubrum                        | 0.2               | 0.2 | 0.1 | 0.17                   |
| Acer saccharum                     | 0.0               | 0.4 | 0.1 | 0.17                   |
| Aralia nudicaulis                  | 0.1               | 0.0 | 0.0 | 0.03                   |
| Betula alleghaniensis              | 0.0               | 0.1 | 0.0 | 0.03                   |
| Betula papyrifera                  | 0.0               | 0.0 | 0.1 | 0.03                   |
| Carex sp.                          | 0.1               | 0.0 | 0.0 | 0.03                   |
| Clintonia borealis                 | 0.3               | 0.1 | 0.2 | 0.20                   |
| Coptis trifolia                    | 0.2               | 0.1 | 0.0 | 0.10                   |
| Dryopteris intermedia              | 0.8               | 0.6 | 0.5 | 0.63                   |
| Fagus grandifolia                  | 0.0               | 0.0 | 0.1 | 0.03                   |
| Huperzia lucidula                  | 0.3               | 0.1 | 0.8 | 0.40                   |
| Maianthemum canadense              | 0.8               | 0.2 | 0.7 | 0.57                   |
| Oxalis montana                     | 0.0               | 0.0 | 0.3 | 0.10                   |
| Picea glauca                       | 0.0               | 0.3 | 0.0 | 0.10                   |
| Pinus strobus                      | 0.0               | 0.0 | 0.1 | 0.03                   |
| Pteridium aquilinum                | 0.0               | 0.1 | 0.0 | 0.03                   |
| Rubus allegheniensis               | 0.0               | 0.1 | 0.0 | 0.03                   |
| Streptopus lanceolatus var. roseus | 0.2               | 0.0 | 0.0 | 0.07                   |
| Trientalis borealis                | 0.0               | 0.6 | 0.0 | 0.20                   |
| Tsuga canadensis                   | 0.0               | 0.0 | 0.1 | 0.03                   |
| Viola sp.                          | 0.0               | 0.1 | 0.0 | 0.03                   |

**Plot: 6039**

| Species                 | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|-------------------------|-------------------|-----|-----|------------------------|
|                         | 1                 | 2   | 3   |                        |
| Acer pensylvanicum      | 0.0               | 0.0 | 0.1 | 0.03                   |
| Acer rubrum             | 0.0               | 0.0 | 0.1 | 0.03                   |
| Acer saccharum          | 0.2               | 0.0 | 0.0 | 0.07                   |
| Amelanchier sp. Group 2 | 0.0               | 0.0 | 0.1 | 0.03                   |
| Carex scabrata          | 0.1               | 0.0 | 0.1 | 0.07                   |
| Carex sp.               | 0.1               | 0.0 | 0.0 | 0.03                   |
| Coptis trifolia         | 0.1               | 0.0 | 0.0 | 0.03                   |
| Dryopteris intermedia   | 0.3               | 0.8 | 0.8 | 0.63                   |
| Fagus grandifolia       | 0.3               | 0.1 | 0.0 | 0.13                   |
| Huperzia lucidula       | 0.0               | 0.3 | 0.9 | 0.40                   |
| Maianthemum canadense   | 0.6               | 0.4 | 0.2 | 0.40                   |
| Mitchella repens        | 0.3               | 0.1 | 0.0 | 0.13                   |
| Monotropa uniflora      | 0.1               | 0.0 | 0.0 | 0.03                   |
| Oxalis montana          | 0.0               | 0.3 | 1.0 | 0.43                   |
| Trientalis borealis     | 0.1               | 0.1 | 0.6 | 0.27                   |
| Tsuga canadensis        | 0.1               | 0.0 | 0.1 | 0.07                   |
| Vaccinium ovalifolium   | 0.1               | 0.0 | 0.0 | 0.03                   |

**Plot: 6040**

| Species                              | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------------|
|                                      | 1                 | 2   | 3   |                              |
| Acer rubrum                          | 0.0               | 0.1 | 0.5 | 0.20                         |
| Acer saccharum                       | 0.9               | 0.2 | 0.2 | 0.43                         |
| Amelanchier sp. Group 2              | 0.0               | 0.0 | 0.1 | 0.03                         |
| Aralia nudicaulis                    | 0.0               | 0.0 | 0.1 | 0.03                         |
| Betula papyrifera                    | 0.1               | 0.0 | 0.0 | 0.03                         |
| Carex arctata                        | 0.0               | 0.1 | 0.0 | 0.03                         |
| Carex intumescens                    | 0.1               | 0.0 | 0.0 | 0.03                         |
| Carex sp.                            | 0.1               | 0.0 | 0.0 | 0.03                         |
| Dryopteris intermedia                | 0.2               | 0.0 | 0.2 | 0.13                         |
| Fagus grandifolia                    | 0.0               | 0.2 | 0.0 | 0.07                         |
| Galeopsis tetrahit                   | 0.1               | 0.0 | 0.0 | 0.03                         |
| Huperzia lucidula                    | 0.0               | 0.0 | 0.2 | 0.07                         |
| Maianthemum racemosum ssp. racemosum | 0.1               | 0.2 | 0.0 | 0.10                         |
| Osmorhiza sp.                        | 0.1               | 0.0 | 0.0 | 0.03                         |
| Polygonatum pubescens                | 0.6               | 0.3 | 0.2 | 0.37                         |
| Prunus serotina                      | 0.0               | 0.0 | 0.4 | 0.13                         |
| Sambucus racemosa var. racemosa      | 0.0               | 0.1 | 0.0 | 0.03                         |
| Streptopus lanceolatus var. roseus   | 0.0               | 0.2 | 0.0 | 0.07                         |
| Trientalis borealis                  | 0.3               | 1.0 | 1.0 | 0.77                         |
| Viola sp.                            | 0.0               | 0.2 | 0.0 | 0.07                         |

**Plot: 6041**

| Species                            | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|------------------------------------|-------------------|-----|-----|------------------------------|
|                                    | 1                 | 2   | 3   |                              |
| Abies balsamea                     | 0.3               | 0.3 | 0.0 | 0.20                         |
| Acer pensylvanicum                 | 0.1               | 0.4 | 0.7 | 0.40                         |
| Acer rubrum                        | 0.1               | 0.0 | 0.0 | 0.03                         |
| Acer saccharum                     | 0.1               | 0.0 | 0.8 | 0.30                         |
| Acer spicatum                      | 0.1               | 0.0 | 0.0 | 0.03                         |
| Alnus incana ssp. rugosa           | 0.1               | 0.0 | 0.0 | 0.03                         |
| Carex pedunculata                  | 0.2               | 0.0 | 0.0 | 0.07                         |
| Carex sp.                          | 0.1               | 0.0 | 0.0 | 0.03                         |
| Carex trisperma                    | 0.4               | 0.0 | 0.0 | 0.13                         |
| Clintonia borealis                 | 0.6               | 0.5 | 0.0 | 0.37                         |
| Coptis trifolia                    | 0.5               | 0.4 | 0.0 | 0.30                         |
| Cornus canadensis                  | 0.3               | 0.0 | 0.0 | 0.10                         |
| Dryopteris carthusiana             | 0.0               | 0.2 | 0.0 | 0.07                         |
| Dryopteris intermedia              | 0.2               | 0.2 | 0.5 | 0.30                         |
| Fagus grandifolia                  | 0.0               | 0.5 | 0.3 | 0.27                         |
| Gaultheria hispidula               | 0.1               | 0.0 | 0.0 | 0.03                         |
| Huperzia lucidula                  | 0.0               | 0.1 | 0.0 | 0.03                         |
| Lonicera canadensis                | 0.1               | 0.0 | 0.1 | 0.07                         |
| Lycopodium annotinum               | 0.0               | 0.1 | 0.0 | 0.03                         |
| Maianthemum canadense              | 0.3               | 0.9 | 0.0 | 0.40                         |
| Mitchella repens                   | 0.2               | 0.4 | 0.0 | 0.20                         |
| Osmunda cinnamomea                 | 0.3               | 0.0 | 0.0 | 0.10                         |
| Phegopteris connectilis            | 0.1               | 0.2 | 0.0 | 0.10                         |
| Polygonatum pubescens              | 0.0               | 0.0 | 0.1 | 0.03                         |
| Rubus pubescens                    | 0.1               | 0.0 | 0.0 | 0.03                         |
| Streptopus lanceolatus var. roseus | 0.0               | 0.0 | 0.1 | 0.03                         |
| Thuja occidentalis                 | 0.4               | 0.0 | 0.0 | 0.13                         |
| Trientalis borealis                | 0.4               | 0.3 | 0.0 | 0.23                         |
| Tsuga canadensis                   | 0.3               | 0.0 | 0.0 | 0.10                         |
| Vaccinium membranaceum             | 0.1               | 0.0 | 0.0 | 0.03                         |

**Plot: 6042**

| Species                              | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------------|
|                                      | 1                 | 2   | 3   |                              |
| Acer saccharum                       | 0.4               | 0.7 | 0.2 | 0.43                         |
| Cardamine diphylla                   | 0.2               | 0.1 | 0.1 | 0.13                         |
| Carex arctata                        | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex leptoneura                     | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex rosea                          | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex sp.                            | 0.0               | 0.0 | 0.1 | 0.03                         |
| Caulophyllum thalictroides           | 0.0               | 0.1 | 0.0 | 0.03                         |
| Clintonia borealis                   | 0.0               | 0.0 | 0.1 | 0.03                         |
| Dryopteris carthusiana               | 0.2               | 0.0 | 0.5 | 0.23                         |
| Dryopteris intermedia                | 0.4               | 0.1 | 0.0 | 0.17                         |
| Fagus grandifolia                    | 0.0               | 0.2 | 0.1 | 0.10                         |
| Galeopsis tetrahit                   | 0.0               | 0.2 | 0.0 | 0.07                         |
| Galium triflorum                     | 0.2               | 0.0 | 0.0 | 0.07                         |
| Glyceria striata                     | 0.0               | 0.0 | 0.1 | 0.03                         |
| Gymnocarpium dryopteris              | 0.0               | 0.0 | 0.2 | 0.07                         |
| Maianthemum canadense                | 0.0               | 0.2 | 0.3 | 0.17                         |
| Maianthemum racemosum ssp. racemosum | 0.0               | 0.0 | 0.3 | 0.10                         |
| Matteuccia struthiopteris            | 0.0               | 0.0 | 0.3 | 0.10                         |
| Melica smithii                       | 0.6               | 0.1 | 0.0 | 0.23                         |
| Milium effusum                       | 0.2               | 0.1 | 0.1 | 0.13                         |
| Myosotis sp.                         | 0.1               | 0.0 | 0.0 | 0.03                         |
| Osmorhiza sp.                        | 0.9               | 0.6 | 0.0 | 0.50                         |
| Poaceae fam.                         | 0.3               | 0.2 | 0.1 | 0.20                         |
| Polygonatum pubescens                | 0.0               | 0.0 | 0.2 | 0.07                         |
| Sambucus nigra ssp. canadensis       | 0.1               | 0.0 | 0.0 | 0.03                         |
| Streptopus lanceolatus var. roseus   | 0.5               | 0.5 | 0.5 | 0.50                         |
| Viola sp.                            | 1.0               | 0.7 | 0.0 | 0.57                         |

**Plot: 6043**

| Species                 | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-------------------------|-------------------|-----|-----|------------------------------|
|                         | 1                 | 2   | 3   |                              |
| Amelanchier sp. Group 3 | 0.1               | 0.0 | 0.1 | 0.07                         |
| Danthonia spicata       | 0.0               | 0.0 | 0.2 | 0.07                         |
| Deschampsia flexuosa    | 0.3               | 0.8 | 1.0 | 0.70                         |
| Diervilla lonicera      | 0.1               | 0.5 | 0.4 | 0.33                         |
| Gaultheria procumbens   | 0.4               | 0.8 | 0.4 | 0.53                         |
| Juniperus communis      | 0.0               | 0.1 | 0.0 | 0.03                         |
| Lycopodium clavatum     | 0.0               | 0.1 | 0.0 | 0.03                         |
| Maianthemum canadense   | 0.0               | 0.0 | 0.1 | 0.03                         |
| Melampyrum lineare      | 0.0               | 0.2 | 0.4 | 0.20                         |
| Pinus strobus           | 0.0               | 0.0 | 0.1 | 0.03                         |
| Populus tremuloides     | 0.0               | 0.1 | 0.0 | 0.03                         |
| Pteridium aquilinum     | 0.7               | 1.0 | 1.0 | 0.90                         |
| Rumex acetosella        | 0.0               | 0.0 | 0.1 | 0.03                         |
| Vaccinium angustifolium | 0.5               | 0.8 | 0.7 | 0.67                         |
| Vaccinium myrtilloides  | 0.2               | 0.0 | 0.0 | 0.07                         |

**Plot: 6044**

| Species                 | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-------------------------|-------------------|-----|-----|------------------------------|
|                         | 1                 | 2   | 3   |                              |
| Abies balsamea          | 0.5               | 0.2 | 0.5 | 0.40                         |
| Epigaea repens          | 0.0               | 0.0 | 0.2 | 0.07                         |
| Goodyera pubescens      | 0.0               | 0.1 | 0.0 | 0.03                         |
| Maianthemum canadense   | 0.0               | 0.1 | 0.0 | 0.03                         |
| Picea mariana           | 0.0               | 0.0 | 0.1 | 0.03                         |
| Pteridium aquilinum     | 0.1               | 0.0 | 0.7 | 0.27                         |
| Vaccinium angustifolium | 0.0               | 0.0 | 0.1 | 0.03                         |
| Vaccinium myrtilloides  | 0.0               | 0.0 | 0.4 | 0.13                         |

**Plot: 6045**

| Species                              | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------------|
|                                      | 1                 | 2   | 3   |                              |
| Abies balsamea                       | 0.0               | 0.0 | 0.1 | 0.03                         |
| Acer saccharum                       | 0.0               | 0.2 | 0.2 | 0.13                         |
| Aralia nudicaulis                    | 0.1               | 0.0 | 0.2 | 0.10                         |
| Athyrium filix-femina                | 0.0               | 0.0 | 0.1 | 0.03                         |
| Botrychium virginianum               | 0.0               | 0.1 | 0.0 | 0.03                         |
| Carex arctata                        | 0.0               | 0.1 | 0.1 | 0.07                         |
| Carex intumescens                    | 0.0               | 0.6 | 0.4 | 0.33                         |
| Carex laxiflora                      | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex sp.                            | 0.8               | 0.9 | 0.3 | 0.67                         |
| Cinna latifolia                      | 0.0               | 0.1 | 0.1 | 0.07                         |
| Dryopteris intermedia                | 0.7               | 0.4 | 0.3 | 0.47                         |
| Fagus grandifolia                    | 0.1               | 0.0 | 0.0 | 0.03                         |
| Lonicera canadensis                  | 0.0               | 0.0 | 0.1 | 0.03                         |
| Maianthemum canadense                | 0.7               | 0.9 | 0.8 | 0.80                         |
| Maianthemum racemosum ssp. racemosum | 0.1               | 0.0 | 0.1 | 0.07                         |
| Milium effusum                       | 0.1               | 0.0 | 0.3 | 0.13                         |
| Mitchella repens                     | 0.3               | 0.0 | 0.0 | 0.10                         |
| Oryzopsis asperifolia                | 0.0               | 0.1 | 0.0 | 0.03                         |
| Osmunda claytoniana                  | 0.1               | 0.0 | 0.0 | 0.03                         |
| Polygonatum pubescens                | 0.2               | 0.2 | 0.1 | 0.17                         |
| Prunus serotina                      | 0.0               | 0.0 | 0.2 | 0.07                         |
| Sambucus racemosa var. racemosa      | 0.1               | 0.2 | 0.1 | 0.13                         |
| Streptopus lanceolatus var. roseus   | 0.1               | 0.4 | 0.1 | 0.20                         |
| Trientalis borealis                  | 0.1               | 0.3 | 0.0 | 0.13                         |
| Viola sp.                            | 0.3               | 1.0 | 1.0 | 0.77                         |

**Plot: 6047**

| Species                 | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|-------------------------|-------------------|-----|-----|------------------------|
|                         | 1                 | 2   | 3   |                        |
| Abies balsamea          | 0.0               | 0.1 | 0.1 | 0.07                   |
| Acer pensylvanicum      | 0.8               | 0.4 | 0.0 | 0.40                   |
| Acer saccharum          | 0.5               | 0.2 | 0.0 | 0.23                   |
| Amelanchier sp. Group 3 | 0.0               | 0.1 | 0.0 | 0.03                   |
| Aralia nudicaulis       | 0.1               | 0.0 | 0.0 | 0.03                   |
| Chimaphila umbellata    | 0.0               | 0.2 | 0.0 | 0.07                   |
| Dryopteris intermedia   | 0.1               | 0.0 | 0.0 | 0.03                   |
| Fagus grandifolia       | 0.1               | 0.2 | 0.1 | 0.13                   |
| Gaultheria procumbens   | 0.0               | 0.1 | 0.6 | 0.23                   |
| Goodyera pubescens      | 0.1               | 0.2 | 0.0 | 0.10                   |
| Lycopodium annotinum    | 0.4               | 0.3 | 0.0 | 0.23                   |
| Lycopodium clavatum     | 0.0               | 0.8 | 0.3 | 0.37                   |
| Maianthemum canadense   | 0.5               | 0.8 | 0.0 | 0.43                   |
| Monotropa uniflora      | 0.2               | 0.0 | 0.0 | 0.07                   |
| Pteridium aquilinum     | 0.0               | 0.9 | 0.9 | 0.60                   |
| Trientalis borealis     | 0.8               | 0.4 | 0.9 | 0.70                   |
| Vaccinium angustifolium | 0.0               | 0.2 | 0.4 | 0.20                   |

**Plot: 6048**

| Species                     | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|-----------------------------|-------------------|-----|-----|------------------------|
|                             | 1                 | 2   | 3   |                        |
| Abies balsamea              | 0.4               | 0.2 | 0.6 | 0.40                   |
| Acer rubrum                 | 0.0               | 0.2 | 0.0 | 0.07                   |
| Carex sp.                   | 0.0               | 0.2 | 0.5 | 0.23                   |
| Carex trisperma             | 0.0               | 0.0 | 0.3 | 0.10                   |
| Coptis trifolia             | 0.0               | 0.2 | 0.2 | 0.13                   |
| Cornus canadensis           | 0.0               | 0.2 | 0.2 | 0.13                   |
| Glyceria striata            | 0.0               | 0.1 | 0.0 | 0.03                   |
| Goodyera oblongifolia       | 0.1               | 0.0 | 0.1 | 0.07                   |
| Ilex verticillata           | 0.0               | 0.1 | 0.1 | 0.07                   |
| Linnaea borealis            | 0.2               | 0.0 | 0.1 | 0.10                   |
| Maianthemum canadense       | 0.0               | 0.2 | 0.2 | 0.13                   |
| Rubus pubescens             | 0.0               | 0.1 | 0.2 | 0.10                   |
| Symphyotrichum lateriflorum | 0.0               | 0.1 | 0.0 | 0.03                   |
| Taxus canadensis            | 0.1               | 0.0 | 0.0 | 0.03                   |
| Thuja occidentalis          | 0.1               | 0.4 | 0.4 | 0.30                   |
| Trientalis borealis         | 0.4               | 0.1 | 0.4 | 0.30                   |
| Vaccinium angustifolium     | 0.0               | 0.0 | 0.1 | 0.03                   |

**Plot: 6049**

| Species                            | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|------------------------------------|-------------------|-----|-----|------------------------|
|                                    | 1                 | 2   | 3   |                        |
| Acer saccharum                     | 0.3               | 0.3 | 0.3 | 0.30                   |
| Adiantum pedatum                   | 0.1               | 0.0 | 0.0 | 0.03                   |
| Botrychium virginianum             | 0.1               | 0.0 | 0.0 | 0.03                   |
| Carex communis                     | 0.0               | 0.1 | 0.0 | 0.03                   |
| Carex intumescens                  | 0.1               | 0.0 | 0.0 | 0.03                   |
| Carex sp.                          | 0.0               | 0.2 | 0.1 | 0.10                   |
| Dryopteris intermedia              | 0.1               | 0.6 | 0.6 | 0.43                   |
| Equisetum arvense                  | 0.0               | 0.2 | 0.0 | 0.07                   |
| Galeopsis tetrahit                 | 0.1               | 0.3 | 0.0 | 0.13                   |
| Geum sp.                           | 0.0               | 0.1 | 0.0 | 0.03                   |
| Gymnocarpium dryopteris            | 0.0               | 0.0 | 0.2 | 0.07                   |
| Impatiens capensis                 | 0.0               | 0.1 | 0.0 | 0.03                   |
| Milium effusum                     | 0.0               | 0.1 | 0.0 | 0.03                   |
| Onoclea sensibilis                 | 0.0               | 0.1 | 0.0 | 0.03                   |
| Osmorhiza sp.                      | 0.5               | 0.4 | 0.0 | 0.30                   |
| Polygonatum pubescens              | 0.0               | 0.1 | 0.1 | 0.07                   |
| Ranunculus recurvatus              | 0.0               | 0.1 | 0.0 | 0.03                   |
| Rubus sp.                          | 0.1               | 0.0 | 0.0 | 0.03                   |
| Sambucus racemosa var. racemosa    | 0.0               | 0.1 | 0.0 | 0.03                   |
| Streptopus lanceolatus var. roseus | 0.0               | 0.0 | 0.1 | 0.03                   |
| Viola sp.                          | 0.9               | 0.8 | 0.7 | 0.80                   |

**Plot: 6051**

| Species                              | Quadrat Frequency |     |     | Mean Quadrat Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------|
|                                      | 1                 | 2   | 3   |                        |
| Abies balsamea                       | 0.0               | 0.0 | 0.1 | 0.03                   |
| Acer saccharum                       | 0.3               | 0.0 | 0.1 | 0.13                   |
| Actaea pachypoda                     | 0.0               | 0.1 | 0.0 | 0.03                   |
| Actaea sp.                           | 0.1               | 0.0 | 0.0 | 0.03                   |
| Aralia nudicaulis                    | 0.1               | 0.6 | 0.3 | 0.33                   |
| Athyrium filix-femina                | 0.1               | 0.0 | 0.0 | 0.03                   |
| Carex deweyana                       | 0.0               | 0.0 | 0.1 | 0.03                   |
| Carex leptoneura                     | 0.0               | 0.0 | 0.1 | 0.03                   |
| Carex pedunculata                    | 0.0               | 0.0 | 0.2 | 0.07                   |
| Dryopteris intermedia                | 0.1               | 0.7 | 0.1 | 0.30                   |
| Equisetum pratense                   | 0.0               | 0.0 | 0.2 | 0.07                   |
| Galium triflorum                     | 0.1               | 0.0 | 0.0 | 0.03                   |
| Hepatica nobilis var. obtusa         | 0.5               | 0.2 | 0.0 | 0.23                   |
| Maianthemum canadense                | 0.0               | 0.2 | 0.1 | 0.10                   |
| Maianthemum racemosum ssp. racemosum | 0.0               | 0.2 | 0.6 | 0.27                   |
| Milium effusum                       | 0.0               | 0.1 | 0.0 | 0.03                   |
| Osmorhiza claytonii                  | 1.0               | 0.9 | 0.9 | 0.93                   |
| Picea glauca                         | 0.0               | 0.0 | 0.1 | 0.03                   |
| Poaceae fam.                         | 0.1               | 0.3 | 0.0 | 0.13                   |
| Polygonatum pubescens                | 0.1               | 0.1 | 0.3 | 0.17                   |
| Prunus serotina                      | 0.1               | 0.0 | 0.0 | 0.03                   |
| Ranunculus abortivus                 | 0.0               | 0.0 | 0.1 | 0.03                   |
| Sambucus racemosa var. racemosa      | 0.0               | 0.2 | 0.0 | 0.07                   |
| Streptopus lanceolatus var. roseus   | 0.2               | 0.4 | 0.4 | 0.33                   |
| Trientalis borealis                  | 0.0               | 0.1 | 0.0 | 0.03                   |
| Viola sp.                            | 1.0               | 0.4 | 0.4 | 0.60                   |

**Plot: 6053**

| Species                              | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------------|
|                                      | 1                 | 2   | 3   |                              |
| Abies balsamea                       | 0.3               | 0.3 | 0.2 | 0.27                         |
| Acer saccharum                       | 0.3               | 0.0 | 0.0 | 0.10                         |
| Aralia nudicaulis                    | 0.3               | 0.1 | 0.3 | 0.23                         |
| Arisaema triphyllum                  | 0.3               | 0.0 | 0.0 | 0.10                         |
| Asteraceae fam.                      | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex sp.                            | 0.0               | 0.0 | 0.1 | 0.03                         |
| Dryopteris intermedia                | 0.2               | 0.0 | 0.0 | 0.07                         |
| Gaultheria procumbens                | 0.0               | 0.1 | 0.2 | 0.10                         |
| Linnaea borealis                     | 0.3               | 0.0 | 0.0 | 0.10                         |
| Maianthemum canadense                | 0.2               | 0.8 | 0.4 | 0.47                         |
| Maianthemum racemosum ssp. racemosum | 0.3               | 0.0 | 0.1 | 0.13                         |
| Picea mariana                        | 0.1               | 0.0 | 0.0 | 0.03                         |
| Populus tremuloides                  | 0.0               | 0.0 | 0.2 | 0.07                         |
| Prunus virginiana                    | 0.2               | 0.0 | 0.0 | 0.07                         |
| Pteridium aquilinum                  | 0.0               | 0.3 | 0.2 | 0.17                         |
| Rhamnus alnifolia                    | 0.0               | 0.0 | 0.2 | 0.07                         |
| Toxicodendron rydbergii              | 0.0               | 0.0 | 0.4 | 0.13                         |
| Trientalis borealis                  | 0.1               | 0.3 | 0.0 | 0.13                         |
| Vaccinium angustifolium              | 0.0               | 0.3 | 0.2 | 0.17                         |
| Vaccinium myrtilloides               | 0.0               | 0.3 | 0.1 | 0.13                         |

**Plot: 6054**

| Species                   | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|---------------------------|-------------------|-----|-----|------------------------------|
|                           | 1                 | 2   | 3   |                              |
| Abies balsamea            | 0.0               | 0.2 | 0.1 | 0.10                         |
| Acer pensylvanicum        | 0.2               | 0.4 | 0.0 | 0.21                         |
| Acer saccharum            | 0.3               | 0.1 | 0.0 | 0.14                         |
| Aralia nudicaulis         | 0.2               | 0.0 | 0.3 | 0.17                         |
| Athyrium filix-femina     | 0.4               | 0.0 | 0.0 | 0.15                         |
| Caltha palustris          | 0.1               | 0.0 | 0.0 | 0.04                         |
| Cardamine diphylla        | 0.1               | 0.0 | 0.0 | 0.04                         |
| Carex pedunculata         | 0.3               | 0.0 | 0.0 | 0.11                         |
| Clintonia borealis        | 0.7               | 0.2 | 0.0 | 0.29                         |
| Dryopteris intermedia     | 0.8               | 0.4 | 0.7 | 0.63                         |
| Equisetum sylvaticum      | 0.1               | 0.0 | 0.0 | 0.04                         |
| Gymnocarpium dryopteris   | 0.8               | 0.0 | 0.0 | 0.26                         |
| Huperzia lucidula         | 0.2               | 0.6 | 0.5 | 0.44                         |
| Lonicera canadensis       | 0.4               | 0.0 | 0.0 | 0.15                         |
| Lycopodium dendroideum    | 0.0               | 0.1 | 0.0 | 0.03                         |
| Maianthemum canadense     | 0.0               | 0.1 | 0.2 | 0.10                         |
| Matteuccia struthiopteris | 0.4               | 0.0 | 0.0 | 0.15                         |
| Mitchella repens          | 0.0               | 0.2 | 0.4 | 0.20                         |
| Mitella nuda              | 0.1               | 0.0 | 0.0 | 0.04                         |
| Monotropa hypopithys      | 0.1               | 0.0 | 0.0 | 0.04                         |
| Oxalis montana            | 0.9               | 0.1 | 0.2 | 0.40                         |
| Phegopteris connectilis   | 0.4               | 0.0 | 0.0 | 0.15                         |
| Ribes triste              | 0.1               | 0.0 | 0.0 | 0.04                         |
| Rubus pubescens           | 0.4               | 0.0 | 0.0 | 0.15                         |
| Taxus canadensis          | 0.0               | 0.9 | 0.8 | 0.57                         |
| Thuja occidentalis        | 0.2               | 0.0 | 0.0 | 0.07                         |
| Trientalis borealis       | 0.4               | 0.2 | 0.0 | 0.21                         |

**Plot: 6055**

| Species                     | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-----------------------------|-------------------|-----|-----|------------------------------|
|                             | 1                 | 2   | 3   |                              |
| Abies balsamea              | 0.2               | 0.0 | 0.2 | 0.13                         |
| Acer rubrum                 | 0.0               | 0.0 | 0.1 | 0.03                         |
| Acer saccharum              | 0.2               | 0.2 | 0.5 | 0.30                         |
| Amelanchier sp. Group 2     | 0.1               | 0.0 | 0.1 | 0.07                         |
| Aralia nudicaulis           | 0.0               | 0.2 | 0.0 | 0.07                         |
| Carex arctata               | 0.0               | 0.1 | 0.1 | 0.07                         |
| Carex brunnescens           | 0.0               | 0.2 | 0.2 | 0.13                         |
| Carex intumescens           | 0.2               | 0.0 | 0.0 | 0.07                         |
| Carex laxiflora             | 0.0               | 0.1 | 0.0 | 0.03                         |
| Carex pensylvanica          | 0.0               | 0.1 | 0.0 | 0.03                         |
| Carex sp.                   | 0.2               | 0.2 | 0.2 | 0.20                         |
| Cinna latifolia             | 0.0               | 0.0 | 0.8 | 0.27                         |
| Dryopteris intermedia       | 0.5               | 0.7 | 0.2 | 0.47                         |
| Fagus grandifolia           | 0.0               | 0.1 | 0.0 | 0.03                         |
| Lonicera canadensis         | 0.0               | 0.3 | 0.0 | 0.10                         |
| Maianthemum canadense       | 0.4               | 0.1 | 0.1 | 0.20                         |
| Milium effusum              | 0.0               | 0.1 | 0.1 | 0.07                         |
| Mitchella repens            | 0.1               | 0.0 | 0.0 | 0.03                         |
| Poaceae fam.                | 0.1               | 0.0 | 0.0 | 0.03                         |
| Prunus serotina             | 0.0               | 0.1 | 0.2 | 0.10                         |
| Rubus idaeus ssp. strigosus | 0.1               | 0.1 | 0.5 | 0.23                         |
| Trientalis borealis         | 0.2               | 0.0 | 0.0 | 0.07                         |

**Plot: 6056**

| Species                              | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------------|
|                                      | 1                 | 2   | 3   |                              |
| Acer saccharum                       | 0.7               | 1.0 | 0.9 | 0.87                         |
| Actaea sp.                           | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex intumescens                    | 0.0               | 0.0 | 0.1 | 0.03                         |
| Cinna latifolia                      | 0.0               | 0.1 | 0.1 | 0.07                         |
| Dryopteris intermedia                | 0.2               | 0.2 | 0.1 | 0.17                         |
| Fagus grandifolia                    | 0.7               | 0.1 | 0.4 | 0.40                         |
| Galium triflorum                     | 0.1               | 0.0 | 0.0 | 0.03                         |
| Maianthemum canadense                | 0.5               | 0.5 | 0.5 | 0.50                         |
| Maianthemum racemosum ssp. racemosum | 0.2               | 0.0 | 0.0 | 0.07                         |
| Oxalis montana                       | 0.1               | 0.0 | 0.0 | 0.03                         |
| Polygonatum pubescens                | 0.2               | 0.3 | 0.2 | 0.23                         |
| Streptopus lanceolatus var. roseus   | 0.6               | 0.6 | 0.0 | 0.40                         |
| Trientalis borealis                  | 0.5               | 0.6 | 0.3 | 0.47                         |
| Viola sp.                            | 0.1               | 0.0 | 0.0 | 0.03                         |

**Plot: 6058**

| Species                     | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-----------------------------|-------------------|-----|-----|------------------------------|
|                             | 1                 | 2   | 3   |                              |
| Abies balsamea              | 0.2               | 0.0 | 0.1 | 0.10                         |
| Acer saccharum              | 0.2               | 0.4 | 0.0 | 0.20                         |
| Acer spicatum               | 0.4               | 0.3 | 0.9 | 0.53                         |
| Actaea sp.                  | 0.0               | 0.1 | 0.0 | 0.03                         |
| Aralia nudicaulis           | 0.3               | 0.7 | 0.4 | 0.47                         |
| Caltha palustris            | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex pedunculata           | 0.7               | 0.6 | 0.1 | 0.47                         |
| Carex sp.                   | 0.0               | 0.0 | 0.1 | 0.03                         |
| Cinna latifolia             | 0.0               | 0.0 | 0.1 | 0.03                         |
| Clintonia borealis          | 0.0               | 0.1 | 0.0 | 0.03                         |
| Coptis trifolia             | 0.0               | 0.1 | 0.0 | 0.03                         |
| Cornus alternifolia         | 0.0               | 0.1 | 0.0 | 0.03                         |
| Dryopteris intermedia       | 0.2               | 0.3 | 0.5 | 0.33                         |
| Epilobium ciliatum          | 0.0               | 0.0 | 0.1 | 0.03                         |
| Epipactis helleborine       | 0.3               | 0.2 | 0.2 | 0.23                         |
| Equisetum scirpoides        | 0.1               | 0.4 | 0.0 | 0.17                         |
| Galium triflorum            | 0.0               | 0.1 | 0.0 | 0.03                         |
| Gymnocarpium dryopteris     | 0.0               | 0.3 | 0.5 | 0.27                         |
| Impatiens sp.               | 0.0               | 0.0 | 0.7 | 0.23                         |
| Lonicera canadensis         | 0.0               | 0.2 | 0.2 | 0.13                         |
| Maianthemum canadense       | 0.0               | 0.5 | 0.0 | 0.17                         |
| Mitella nuda                | 0.2               | 0.3 | 0.0 | 0.17                         |
| Oxalis montana              | 0.0               | 0.2 | 0.1 | 0.10                         |
| Phegopteris connectilis     | 0.0               | 0.0 | 0.1 | 0.03                         |
| Populus balsamifera         | 0.2               | 0.0 | 0.0 | 0.07                         |
| Prunus virginiana           | 0.0               | 0.1 | 0.0 | 0.03                         |
| Ribes lacustre              | 0.1               | 0.2 | 0.0 | 0.10                         |
| Ribes triste                | 0.0               | 0.1 | 0.1 | 0.07                         |
| Rubus idaeus ssp. strigosus | 0.0               | 0.0 | 0.1 | 0.03                         |
| Rubus parviflorus           | 0.1               | 0.2 | 0.0 | 0.10                         |
| Rubus pubescens             | 0.4               | 0.9 | 0.5 | 0.60                         |
| Trientalis borealis         | 0.1               | 0.9 | 0.0 | 0.33                         |

**Plot: 6059**

| Species                | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|------------------------|-------------------|-----|-----|------------------------------|
|                        | 1                 | 2   | 3   |                              |
| Abies balsamea         | 0.1               | 0.1 | 0.2 | 0.13                         |
| Acer pensylvanicum     | 0.0               | 0.1 | 0.1 | 0.07                         |
| Acer saccharum         | 0.0               | 0.0 | 0.1 | 0.03                         |
| Dryopteris intermedia  | 0.2               | 0.2 | 0.1 | 0.17                         |
| Fagus grandifolia      | 0.0               | 0.3 | 0.1 | 0.13                         |
| Huperzia lucidula      | 0.2               | 0.6 | 0.0 | 0.27                         |
| Lycopodium dendroideum | 0.3               | 0.0 | 0.2 | 0.17                         |
| Lycopodium obscurum    | 0.0               | 0.0 | 0.5 | 0.17                         |
| Maianthemum canadense  | 0.3               | 0.0 | 0.0 | 0.10                         |
| Mitchella repens       | 0.0               | 0.2 | 0.0 | 0.07                         |
| Trientalis borealis    | 0.2               | 0.0 | 0.0 | 0.07                         |

**Plot: 6062**

| Species                            | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|------------------------------------|-------------------|-----|-----|------------------------------|
|                                    | 1                 | 2   | 3   |                              |
| Abies balsamea                     | 0.1               | 0.1 | 0.1 | 0.10                         |
| Acer pensylvanicum                 | 0.1               | 0.0 | 0.3 | 0.13                         |
| Acer saccharum                     | 0.5               | 0.1 | 0.2 | 0.27                         |
| Acer spicatum                      | 0.1               | 0.0 | 0.0 | 0.03                         |
| Aralia nudicaulis                  | 0.2               | 0.0 | 0.2 | 0.13                         |
| Carex pedunculata                  | 0.1               | 0.3 | 0.0 | 0.13                         |
| Clintonia borealis                 | 0.1               | 0.1 | 0.4 | 0.20                         |
| Coptis trifolia                    | 0.0               | 0.1 | 0.4 | 0.17                         |
| Cornus canadensis                  | 0.0               | 0.0 | 0.1 | 0.03                         |
| Dryopteris intermedia              | 0.4               | 0.5 | 0.6 | 0.50                         |
| Equisetum sylvaticum               | 0.0               | 0.0 | 0.1 | 0.03                         |
| Fagus grandifolia                  | 0.0               | 0.0 | 0.2 | 0.07                         |
| Galium triflorum                   | 0.3               | 0.0 | 0.0 | 0.10                         |
| Gymnocarpium dryopteris            | 0.2               | 0.4 | 0.0 | 0.20                         |
| Huperzia lucidula                  | 0.1               | 0.0 | 0.4 | 0.17                         |
| Lonicera canadensis                | 0.1               | 0.1 | 0.2 | 0.13                         |
| Lycopodium annotinum               | 0.0               | 0.0 | 0.6 | 0.20                         |
| Maianthemum canadense              | 0.4               | 0.3 | 0.8 | 0.50                         |
| Matteuccia struthiopteris          | 0.3               | 0.0 | 0.0 | 0.10                         |
| Mitchella repens                   | 0.2               | 0.0 | 0.6 | 0.27                         |
| Mitella nuda                       | 0.1               | 0.1 | 0.0 | 0.07                         |
| Onoclea sensibilis                 | 0.2               | 0.0 | 0.0 | 0.07                         |
| Oxalis montana                     | 0.2               | 0.3 | 0.9 | 0.47                         |
| Picea glauca                       | 0.0               | 0.0 | 0.2 | 0.07                         |
| Ranunculus recurvatus              | 0.1               | 0.0 | 0.0 | 0.03                         |
| Ribes triste                       | 0.2               | 0.0 | 0.0 | 0.07                         |
| Rubus pubescens                    | 0.3               | 0.0 | 0.0 | 0.10                         |
| Streptopus lanceolatus var. roseus | 0.3               | 0.2 | 0.4 | 0.30                         |
| Thuja occidentalis                 | 0.1               | 0.0 | 0.0 | 0.03                         |
| Trientalis borealis                | 0.0               | 0.0 | 0.5 | 0.17                         |
| Trillium sp.                       | 0.1               | 0.0 | 0.0 | 0.03                         |
| Tsuga canadensis                   | 0.0               | 0.0 | 0.2 | 0.07                         |
| Vaccinium membranaceum             | 0.0               | 0.1 | 0.0 | 0.03                         |
| Vaccinium ovalifolium              | 0.0               | 0.0 | 0.3 | 0.10                         |
| Viola sp.                          | 0.2               | 0.0 | 0.0 | 0.07                         |

**Plot: 6063**

| Species                 | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-------------------------|-------------------|-----|-----|------------------------------|
|                         | 1                 | 2   | 3   |                              |
| Abies balsamea          | 0.3               | 0.6 | 0.2 | 0.37                         |
| Acer rubrum             | 0.1               | 0.0 | 0.0 | 0.03                         |
| Amelanchier sp. Group 2 | 0.0               | 0.1 | 0.0 | 0.03                         |
| Aralia nudicaulis       | 0.2               | 0.0 | 0.0 | 0.07                         |
| Clintonia borealis      | 0.0               | 0.1 | 0.0 | 0.03                         |
| Coptis trifolia         | 0.3               | 0.6 | 0.0 | 0.30                         |
| Dryopteris intermedia   | 0.3               | 0.2 | 0.1 | 0.20                         |
| Gaultheria procumbens   | 0.1               | 0.0 | 0.0 | 0.03                         |
| Huperzia lucidula       | 0.1               | 0.0 | 0.0 | 0.03                         |
| Impatiens sp.           | 0.0               | 0.0 | 0.2 | 0.07                         |
| Lycopodium annotinum    | 0.3               | 0.0 | 0.2 | 0.17                         |
| Maianthemum canadense   | 0.6               | 0.8 | 0.4 | 0.60                         |
| Oxalis montana          | 0.0               | 0.1 | 0.0 | 0.03                         |
| Pteridium aquilinum     | 0.3               | 0.1 | 0.0 | 0.13                         |
| Trientalis borealis     | 0.5               | 0.4 | 0.0 | 0.30                         |
| Tsuga canadensis        | 0.0               | 0.1 | 0.4 | 0.17                         |
| Vaccinium membranaceum  | 0.0               | 0.3 | 0.0 | 0.10                         |
| Vaccinium ovalifolium   | 0.0               | 0.0 | 0.2 | 0.07                         |

**Plot: 6064**

| Species                              | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|--------------------------------------|-------------------|-----|-----|------------------------------|
|                                      | 1                 | 2   | 3   |                              |
| Abies balsamea                       | 0.1               | 0.0 | 0.1 | 0.07                         |
| Acer pensylvanicum                   | 0.2               | 0.0 | 0.0 | 0.07                         |
| Acer saccharum                       | 0.9               | 0.3 | 0.3 | 0.50                         |
| Actaea sp.                           | 0.3               | 0.1 | 0.0 | 0.13                         |
| Allium tricoccum                     | 0.0               | 0.0 | 0.1 | 0.03                         |
| Aralia nudicaulis                    | 0.6               | 0.0 | 0.0 | 0.20                         |
| Arisaema triphyllum                  | 0.0               | 0.0 | 0.1 | 0.03                         |
| Athyrium filix-femina                | 0.0               | 0.2 | 0.3 | 0.17                         |
| Betula papyrifera                    | 0.1               | 0.0 | 0.0 | 0.03                         |
| Caltha palustris                     | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex arctata                        | 0.0               | 0.0 | 0.2 | 0.07                         |
| Carex intumescens                    | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex pedunculata                    | 0.8               | 0.0 | 0.0 | 0.27                         |
| Carex pensylvanica                   | 0.0               | 0.0 | 0.1 | 0.03                         |
| Cinna latifolia                      | 0.1               | 0.0 | 0.1 | 0.07                         |
| Clintonia borealis                   | 0.2               | 0.0 | 0.0 | 0.07                         |
| Cornus alternifolia                  | 0.2               | 0.1 | 0.0 | 0.10                         |
| Corylus cornuta                      | 0.1               | 0.0 | 0.0 | 0.03                         |
| Dryopteris carthusiana               | 0.0               | 0.0 | 0.1 | 0.03                         |
| Dryopteris intermedia                | 0.0               | 0.2 | 0.0 | 0.07                         |
| Equisetum pratense                   | 0.5               | 0.2 | 0.4 | 0.37                         |
| Equisetum scirpoides                 | 0.6               | 0.2 | 0.0 | 0.27                         |
| Fagus grandifolia                    | 0.2               | 0.0 | 0.0 | 0.07                         |
| Fraxinus pennsylvanica               | 0.0               | 0.0 | 0.3 | 0.10                         |
| Galium triflorum                     | 0.1               | 0.0 | 0.0 | 0.03                         |
| Gymnocarpium dryopteris              | 0.0               | 0.1 | 0.2 | 0.10                         |
| Lonicera canadensis                  | 0.0               | 0.0 | 0.1 | 0.03                         |
| Maianthemum canadense                | 1.0               | 0.4 | 0.2 | 0.53                         |
| Maianthemum racemosum ssp. racemosum | 0.0               | 0.1 | 0.0 | 0.03                         |
| Onoclea sensibilis                   | 0.0               | 0.0 | 0.1 | 0.03                         |
| Osmorhiza sp.                        | 0.1               | 0.0 | 0.0 | 0.03                         |
| Phegopteris connectilis              | 0.0               | 0.0 | 0.1 | 0.03                         |
| Polygonatum pubescens                | 0.1               | 0.0 | 0.0 | 0.03                         |
| Pyrola asarifolia                    | 0.7               | 0.0 | 0.0 | 0.23                         |
| Pyrola elliptica                     | 0.3               | 0.1 | 0.0 | 0.13                         |
| Pyrola sp.                           | 0.3               | 0.0 | 0.0 | 0.10                         |
| Ranunculus acris                     | 0.0               | 0.0 | 0.1 | 0.03                         |
| Solidago sp.                         | 0.1               | 0.0 | 0.0 | 0.03                         |
| Streptopus lanceolatus var. roseus   | 1.0               | 0.0 | 0.0 | 0.33                         |
| Trientalis borealis                  | 0.7               | 0.0 | 0.0 | 0.23                         |

**Plot: 6065**

| Species                 | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-------------------------|-------------------|-----|-----|------------------------------|
|                         | 1                 | 2   | 3   |                              |
| Abies balsamea          | 0.1               | 0.1 | 0.0 | 0.07                         |
| Acer pensylvanicum      | 0.3               | 0.0 | 0.2 | 0.17                         |
| Acer saccharum          | 0.1               | 0.2 | 0.2 | 0.17                         |
| Acer spicatum           | 0.4               | 0.2 | 0.1 | 0.23                         |
| Aralia nudicaulis       | 0.3               | 0.0 | 0.1 | 0.13                         |
| Athyrium filix-femina   | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex communis          | 0.2               | 0.3 | 0.1 | 0.20                         |
| Carex intumescens       | 0.1               | 0.0 | 0.0 | 0.03                         |
| Carex pedunculata       | 0.5               | 0.4 | 0.3 | 0.40                         |
| Dryopteris carthusiana  | 0.0               | 0.2 | 0.1 | 0.10                         |
| Dryopteris intermedia   | 0.5               | 0.4 | 0.3 | 0.40                         |
| Fagus grandifolia       | 0.0               | 0.0 | 0.2 | 0.07                         |
| Glyceria striata        | 0.0               | 0.1 | 0.0 | 0.03                         |
| Gymnocarpium dryopteris | 0.0               | 0.1 | 0.0 | 0.03                         |
| Huperzia lucidula       | 0.0               | 0.0 | 0.1 | 0.03                         |
| Lonicera canadensis     | 0.1               | 0.0 | 0.2 | 0.10                         |
| Maianthemum canadense   | 0.3               | 0.0 | 0.6 | 0.30                         |
| Mitchella repens        | 0.0               | 0.0 | 0.2 | 0.07                         |
| Oxalis montana          | 0.0               | 0.0 | 0.3 | 0.10                         |
| Picea glauca            | 0.0               | 0.1 | 0.0 | 0.03                         |
| Rubus pubescens         | 0.2               | 0.0 | 0.0 | 0.07                         |
| Trientalis borealis     | 0.6               | 0.0 | 0.5 | 0.37                         |

**Plot: 6067**

| Species                 | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-------------------------|-------------------|-----|-----|------------------------------|
|                         | 1                 | 2   | 3   |                              |
| Acer rubrum             | 0.1               | 0.0 | 0.0 | 0.03                         |
| Amelanchier sp. Group 2 | 0.4               | 0.2 | 0.0 | 0.20                         |
| Betula papyrifera       | 0.1               | 0.0 | 0.0 | 0.03                         |
| Epigaea repens          | 0.0               | 0.1 | 0.0 | 0.03                         |
| Gaultheria procumbens   | 1.0               | 0.8 | 0.3 | 0.70                         |
| Gaylussacia baccata     | 0.5               | 0.0 | 0.1 | 0.20                         |
| Melampyrum lineare      | 1.0               | 0.1 | 0.9 | 0.67                         |
| Pinus resinosa          | 0.0               | 0.0 | 0.1 | 0.03                         |
| Pinus strobus           | 0.0               | 0.1 | 0.1 | 0.07                         |
| Pteridium aquilinum     | 1.0               | 0.8 | 1.0 | 0.93                         |
| Quercus rubra           | 0.2               | 0.0 | 0.1 | 0.10                         |
| Vaccinium angustifolium | 1.0               | 1.0 | 1.0 | 1.00                         |
| Vaccinium myrtilloides  | 0.3               | 0.2 | 0.1 | 0.20                         |

**Plot: 6068**

| Species                 | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-------------------------|-------------------|-----|-----|------------------------------|
|                         | 1                 | 2   | 3   |                              |
| Abies balsamea          | 0.1               | 0.0 | 0.0 | 0.03                         |
| Acer rubrum             | 0.0               | 0.3 | 0.0 | 0.10                         |
| Acer saccharum          | 0.2               | 0.4 | 0.0 | 0.20                         |
| Amelanchier sp. Group 2 | 0.0               | 0.1 | 0.0 | 0.03                         |
| Carex pedunculata       | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex sp.               | 0.2               | 0.0 | 0.0 | 0.07                         |
| Cornus canadensis       | 0.0               | 0.1 | 0.0 | 0.03                         |
| Dryopteris intermedia   | 0.7               | 0.4 | 0.9 | 0.67                         |
| Fagus grandifolia       | 0.6               | 0.1 | 0.2 | 0.30                         |
| Huperzia lucidula       | 0.1               | 0.4 | 0.1 | 0.20                         |
| Lycopodium dendroideum  | 0.7               | 0.0 | 0.0 | 0.23                         |
| Maianthemum canadense   | 0.9               | 0.1 | 0.2 | 0.40                         |
| Mitchella repens        | 0.3               | 0.1 | 0.2 | 0.20                         |
| Oxalis montana          | 0.2               | 0.6 | 0.2 | 0.33                         |
| Trientalis borealis     | 0.4               | 1.0 | 0.7 | 0.70                         |
| Viburnum lentago        | 0.0               | 0.1 | 0.0 | 0.03                         |

**Plot: 6069**

| Species                            | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|------------------------------------|-------------------|-----|-----|------------------------------|
|                                    | 1                 | 2   | 3   |                              |
| Acer saccharum                     | 0.0               | 0.2 | 0.0 | 0.07                         |
| Actaea pachypoda                   | 0.0               | 0.1 | 0.0 | 0.03                         |
| Allium tricoccum                   | 0.0               | 0.2 | 0.1 | 0.10                         |
| Carex laxiflora                    | 0.0               | 0.0 | 0.1 | 0.03                         |
| Carex sp.                          | 0.0               | 0.0 | 0.1 | 0.03                         |
| Dicentra canadensis                | 0.0               | 0.1 | 0.0 | 0.03                         |
| Dryopteris intermedia              | 0.2               | 0.4 | 0.0 | 0.20                         |
| Galeopsis tetrahit                 | 0.0               | 0.2 | 0.3 | 0.17                         |
| Galium triflorum                   | 0.1               | 0.5 | 0.4 | 0.33                         |
| Geranium robertianum               | 0.0               | 1.0 | 1.0 | 0.67                         |
| Geum aleppicum                     | 0.0               | 0.2 | 0.0 | 0.07                         |
| Huperzia lucidula                  | 0.1               | 0.0 | 0.0 | 0.03                         |
| Hypericum sp.                      | 0.0               | 0.1 | 0.0 | 0.03                         |
| Maianthemum canadense              | 0.6               | 0.0 | 0.0 | 0.20                         |
| Milium effusum                     | 0.7               | 1.0 | 0.7 | 0.80                         |
| Mitella nuda                       | 0.0               | 0.1 | 0.0 | 0.03                         |
| Osmorhiza sp.                      | 0.4               | 0.6 | 0.9 | 0.63                         |
| Ostrya virginiana                  | 0.0               | 0.1 | 0.0 | 0.03                         |
| Poaceae fam.                       | 0.1               | 0.0 | 0.0 | 0.03                         |
| Polygonatum pubescens              | 0.5               | 0.1 | 0.3 | 0.30                         |
| Prunus virginiana                  | 0.1               | 0.0 | 0.0 | 0.03                         |
| Pyrola asarifolia                  | 0.0               | 0.1 | 0.0 | 0.03                         |
| Rubus idaeus ssp. strigosus        | 0.1               | 0.6 | 0.0 | 0.23                         |
| Sambucus racemosa var. racemosa    | 0.2               | 0.0 | 0.0 | 0.07                         |
| Streptopus lanceolatus var. roseus | 0.2               | 0.0 | 0.0 | 0.07                         |
| Trillium sp.                       | 0.0               | 0.1 | 0.1 | 0.07                         |
| Viola sp.                          | 0.7               | 1.0 | 1.0 | 0.90                         |

**Plot: 6070**

| Species                     | Quadrat Frequency |     |     | Mean<br>Quadrat<br>Frequency |
|-----------------------------|-------------------|-----|-----|------------------------------|
|                             | 1                 | 2   | 3   |                              |
| Abies balsamea              | 0.1               | 0.0 | 0.0 | 0.03                         |
| Acer rubrum                 | 0.3               | 0.4 | 0.2 | 0.30                         |
| Acer saccharum              | 0.6               | 0.5 | 0.3 | 0.47                         |
| Amelanchier sp. Group 3     | 0.0               | 0.1 | 0.0 | 0.03                         |
| Aralia nudicaulis           | 0.2               | 0.3 | 0.0 | 0.17                         |
| Coptis trifolia             | 0.1               | 0.0 | 0.0 | 0.03                         |
| Dryopteris intermedia       | 0.4               | 0.5 | 0.2 | 0.37                         |
| Fagus grandifolia           | 0.0               | 0.1 | 0.1 | 0.07                         |
| Lonicera canadensis         | 0.0               | 0.0 | 0.1 | 0.03                         |
| Mitchella repens            | 0.1               | 0.3 | 0.0 | 0.13                         |
| Oxalis montana              | 0.1               | 0.1 | 0.0 | 0.07                         |
| Poaceae fam.                | 0.0               | 0.1 | 0.0 | 0.03                         |
| Rubus idaeus ssp. strigosus | 0.1               | 0.0 | 0.0 | 0.03                         |
| Trientalis borealis         | 0.1               | 0.2 | 0.0 | 0.10                         |

The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

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**National Park Service**  
**U.S. Department of the Interior**



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