# Appendix E
# Natural Resources

# Appendix E-1
# Correspondence

AKRF

***Environmental and Planning Consultants***

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February 9, 2012

Ms. Jean Peitrusiak
NYSDEC
Natural Heritage Program
Information Services
625 Broadway – 5th Floor
Albany, NY 12233-4757

Re: EPT Concord – NHP Database Search Request

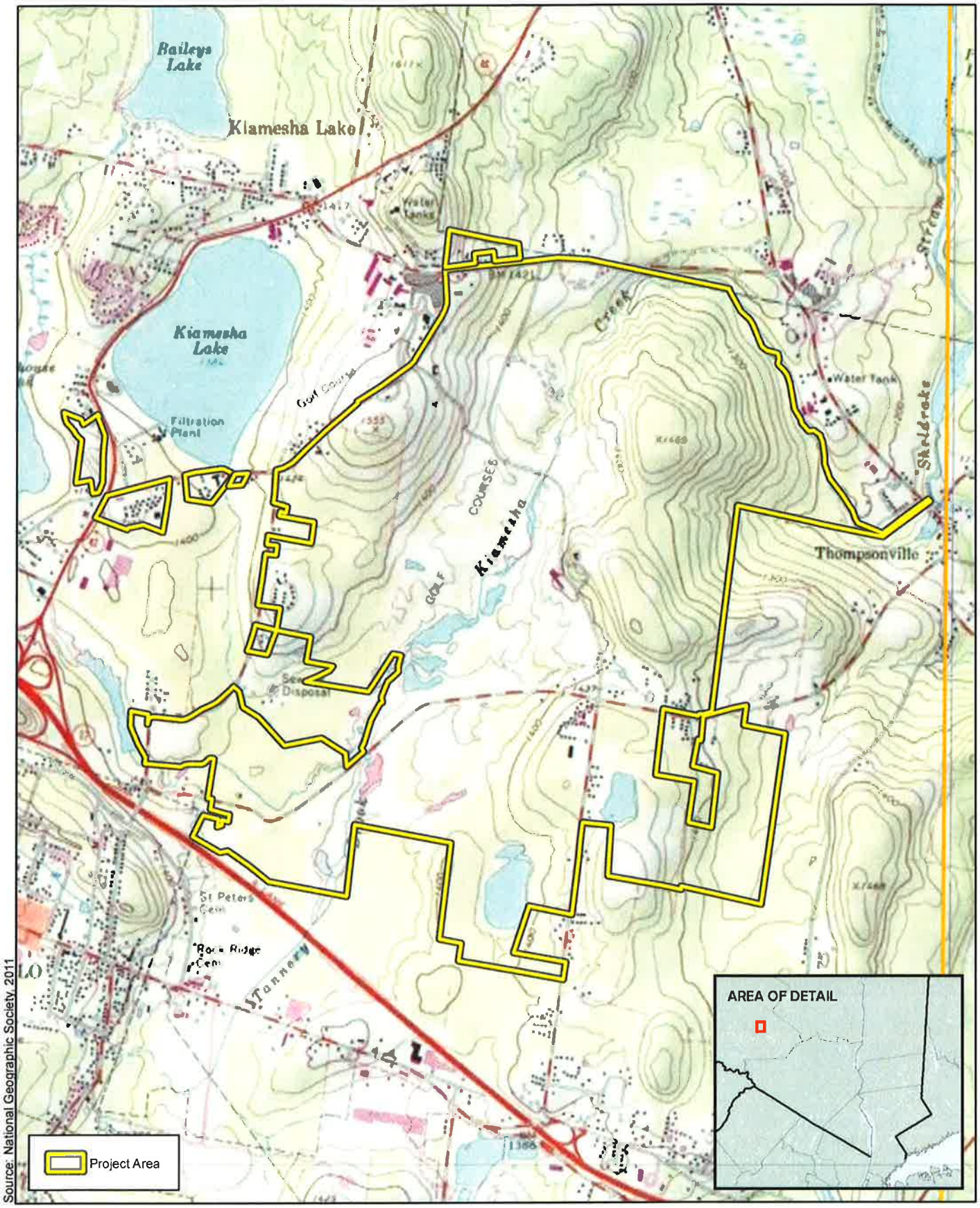
Dear Information Services/Ms. Peitrusiak:

I am writing to request a search of your Natural Heritage Program files for any records of endangered, threatened or special concern plant or animal species or significant habitats in the vicinity of a proposed development project located in The Town of Thompson, Sullivan County, NY. As shown on the attached map, the site encompasses approximately 1,538 acres bounded north of NYS Route 17 south of County Road 109, east of Concord Road and west of Heiden Road (within the Monticello USGS Quad).

If you have any questions, please don't hesitate to call. Thank you for your time in providing us with this information.

Sincerely,

Chris Robbins
Technical Director




Approximate coordinates of
Project Site:
41° 40' 0" N, 73° 39' 0" W

Feet
0 1,500 3,000

**USGS 7.5 Minute Topographic Map - Monticello Quad**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**Division of Fish, Wildlife & Marine Resources**
625 Broadway, 5th Floor, Albany, New York 12233-4757
**Phone:** (518) 402-8935 • **Fax:** (518) 402-8925
**Website:** www.dec.ny.gov

Joe Martens
Commissioner

March 3, 2012

Chris Robbins
AKRF Environmntl and Plan. Consultants
34 South Broadway, Suite 401
White Plains, NY 10601

Dear Mr. Robbins:

In response to your recent request, we have reviewed the New York Natural Heritage Program database, with respect to an Environmental Assessment for the proposed Development Project – 1,538 Acres, EPT Concord – area as indicated on the map you provided, located in the Town of Thompson, Sullivan County.

We have no records of rare or state listed animals or plants, significant natural communities or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Jean Pietrusiak

Jean Pietrusiak, Information Services
NYS Department Environmental Conservation

Enc.

# 146

cc: Region 3

# Appendix E-2
# Vegetation of the Concord Site

## From 2006 CALP DGEIS

## Vegetation of The Concord Resort

Vegetation communities at the site were mapped using field observations, collection of field data, and remote sensed data (aerial photographs and topographic surveys). The observed plant communities were identified according to the ecological community classification that is used by the New York Natural Heritage Program (NYNHP) of the New York State Department of Environmental Conservation (NY DEC) (Reschke, 1990; Edinger et al., 2002). A vegetation and wildlife community (ecological community) is "a variable assemblage of interacting plant and animal populations that share a common environment" (Edinger et al. 2002). Thirteen communities, eight upland communities and 5 wetland communities, were identified on the approximately 1,700-acre property. Descriptions of the communities are presented below and their locations are shown on a site plan entitled *Vegetation Analysis and Mapping* (Figure 1), prepared by William Kenny Associates LLC, dated February 16, 2006. The observed vegetation is tabulated (Attachment A)[1].

The vegetation mapping identifies the primary vegetative assemblages on The Concord Resort parcel. Inclusions, or ecosystems dominated by vegetative species different from the following community descriptors, may exist with each of the mapped upland areas. Due to the detailed wetland delineation and functional assessment, wetland communities were evaluated on a smaller scale than upland areas. The smallest upland community is approximately 10-acres in size, versus 2-acres for the smallest wetland community.

The identified communities are common to the region and the state according to the New York State Natural Heritage Program (NYNHP). The symbol, size, name and state and global rarity rank of each community is provided in Table 1. The NYNHP global and state ranks, which carry no legal weight, are believed by the NYNHP to accurately reflect the relative rarity of each community. The global rank reflects the rarity of the community throughout its natural range and the state rank refers only to occurrences within New York State. A rank of "1" is for the rarest of species, those generally vulnerable to extinction or extirpation. A rank of "4" is for species that are apparently secure throughout their range or in New York and a rank of "5" is for species demonstrably secure throughout its range or in New York.

The vegetation mapping revealed that the majority of ecosystems on The Concord Resort parcel are relatively common throughout New York State and the world. Correspondence with United States Fish and Wildlife in December 2004 documented that no federally or state listed rare or endangered vegetative species exist on the subject parcel.

[1] LA Group completed site fieldwork to generate this list and contributed to portions of community descriptions.

*Table 1: Vegetation Communities*

| SYM. | SIZE (AC) | NAME | Global Ranking | State Ranking |
|---|---|---|---|---|
| U1 | 365 | HEMLOCK-NORTHERN HARDWOOD FOREST | G4, G5 | S4 |
| U2 | 357 | BEECH MAPLE MESIC FOREST | G4 | S4 |
| U3 | 154 | SUCCESSIONAL NORTHERN HARDWOODS | G5 | S5 |
| U4 | 9 | SUCCESSIONAL OLD FIELD | G4 | S4 |
| U5 | 402 | MOWED LAWN/MOWED LAWN WITH TREES | G5 | S5 |
| U6 | 111 | PAVEMENT & URBAN STRUCTURE | G5 | S5 |
| U7 | 5 | ROCK QUARRY | G5 | S5 |
| U8 | 8 | SUCCESSIONAL SHRUBLAND | G4 | S4 |
| W1 | 164 | FORESTED HEMLOCK WETLANDS | G4, G5 | S4 |
| W2 | 111 | FORESTED RED MAPLE WETLANDS | G5 | S4, S5 |
| W3 | 6 | SEDGE MEADOW WETLANDS | G5 | S4 |
| W4 | 3 | SCRUB-SHRUB WETLANDS | G5 | S5 |
|  | 40 | LACUSTRINE FRINGE WETLANDS/PONDS |  |  |

U1 - Hemlock–northern hardwood forest. This is the ecological community that occupies more area than any other community on the project site. These forested areas are variable in composition, and hemlock can range from 20% to nearly 100% of the tree canopy cover. Trees that may be co-dominant with hemlock include sugar maple, white pine, beech, and red maple. Black cherry, black birch, yellow birch, red spruce, and white ash may be locally common, but are not usually among the dominant species. The shrub layer is mostly occupied by saplings of the canopy trees, but may include rosebay rhododendron, witch-hazel, mountain laurel, winterberry, northern blackberry, and red raspberry. Where the conifers are most dense, the ground layer is very sparse; in places with more deciduous trees, this layer may include common wood sorrel, hay-scented fern, spinulose wood fern, common wood fern, New York fern, Christmas fern, gold thread, mountain aster, white wood aster, and clubmosses (*Lycopodium* spp.).

U2 - Beech–maple mesic forest. This community, in general, is floristically similar to the preceding, but hemlock constitutes less than 20% of the canopy coverage, or is totally absent. Sugar maple is a dominant tree, usually with some beech, and other trees such as red maple, white pine, black cherry, black birch, basswood, white ash, and red oak. There are inclusions within the forest where white pine dominates the canopy, such as in the western portion of the property, but these areas are small, typically less than 0.5-acres in size. Witch hazel is a common shrub in some places, but usually that layer is rather open. The herbaceous layer is generally dominated by ferns: Christmas fern, hay-scented fern, common wood fern, and New York fern.

U3 - Successional northern hardwoods. In a few places, there are patches of young forest with trees such as quaking aspen, bigtooth aspen, white pine, black cherry, gray birch, red maple, and red cedar. There may also be some tall shrubs like staghorn sumac.

U4 - Successional old field. In some areas on the property, upland meadows exist in areas that have been cleared and plowed for farming or development and then abandoned. Forbs and grasses dominate the groundcover in these areas, in addition to characteristic

herbs such as goldenrods, milkweed, asters, and Queen Anne's lace. Scattered shrubs are also present and comprised of species such as raspberry and cedar.

U5 - Mowed lawn/Mowed lawn with trees. Due to the golf course, mowed lawn and mowed lawn with trees[2] comprise a large portion of the subject parcel. On the golf course, mowed areas exist to the banks of Kiamesha Creek.

U6 – Pavement and urban structure. Pavement and urban structure exist throughout the subject parcel. In some areas, the urban structure is viable and actively used, while in others; the structures are abandoned and dilapidated.

U7 – Rock quarry. An inactive rock quarry exists in the southwestern portion of the site. Depressions occur in the rock outcrop where material has been removed. Successional shrub areas occur in areas with suitable soil to the north and south of the mined areas.

U8 - Successional shrubland. Successional shrubland exists in areas that have been cleared for development or farming and left fallow. Per the definition, this community has 50% cover of shrubs. Shrubland areas exist in areas throughout the project and are comprised of such species as staghorn sumac, raspberry, dogwoods, hawthorne, cedar, multiflora rose and viburnums.

W1 – Forested hemlock wetlands. Eastern hemlock dominated forested wetlands are present throughout the site. In general, these wetlands are found flanking a watercourse within the base of a stream valley, though overflow from the adjacent watercourse is not driving the hydrology in these systems: groundwater is. The dense and persistent canopy cover within the hemlock wetlands limits the extent and diversity of vegetation in the remainder of the forest strata, with little to no groundcover or shrub layer being the most common condition. The characteristic understory shrub within the hemlock forest is a native rhododendron: Rosebay rhododendron. The Rosebay is present in areas with canopy gaps, and comprise such dense thickets that passage is impossible except on hand and foot. As described above, in those areas where the canopy is transitioning from red maple to Eastern hemlock dominated, the hemlock may share a co-dominant position with the red maple. There are a few locations on site where a canopy comprised of red maple, white pine and Eastern hemlock is observed. One of the most visible qualities within a forested hemlock wetland is the homogeneity of the system. Generally, there is a limited diversity of vegetation, and these systems may occupy a large amount of land area. For example, while the Eastern hemlock dominated slope wetlands onsite are noted in nine wetland groups, compared to 26 slope red maple wetlands, the land area occupied by the hemlock slope wetlands occupies 82 acres of land, compared with 77 acres of the red maple.

[2] Mowed lawn and mowed lawn with trees are distinguished from each other by the presence of greater than 30% tree cover. These communities have been grouped for this report, as collectively, tree cover in the lawn areas likely exceeds the 30% threshold, though in some areas, the golf course fairways, for example, tree cover is less than 30%.

As described above, these systems are found most often in sloped wetland regimes, where groundwater controls the hydrology and water flow is parallel to the slope vector. As such, the ground surface within these sloped wetlands is pitched towards the adjacent watercourse or riverine system. The characteristic topography within the larger sloped systems is the "pit and mound" topography previously described. However, the pit and mound topography observed within the hemlock system is more deeply defined, with, in areas, an approximate three-foot difference between the elevations in the pits versus the elevation in the mounds. These areas are also identified for the shallow depth to bedrock, with a scant amount organic material (fibric and hemic) comprising the interface between the forest floor and the underlying bedrock. Additionally, compared to the red maple dominated wetland systems, the slopes within the slope wetland class with hemlock dominance are generally shallower than that of the red maple dominated slope systems.

W2 – Forested red maple wetlands. Red maple dominated forested wetlands are present throughout the project site, and are the most represented wetland type onsite, with 23 of the 70 evaluated wetlands systems comprised of a red maple slope system. This wetland ecosystem may be found occupying broad areas with shallow slopes, at the heads of subwatersheds or bordering small feeder streams to Kiamesha Creek, bordering larger stream systems, and in isolated, depressional areas, although the dominant HGM class of this wetland on-site is the slope. The red maple wetlands, in general, display a mature canopy, and may contain scattered individuals of yellow birch, white pine or Eastern hemlock in the canopy layer. In some wetland systems, white pine may be a co-dominant canopy tree with red maple, while in others Eastern hemlock may occupy a co-dominant position. The transitions between a red maple dominated wetland system and an Eastern hemlock dominated wetland system are the areas where the red maple shares a co-dominant position with the hemlock. In contrast, as white pine is not a true wetland species, it is typically found in a co-dominant or sub-dominant position within the vegetative assemblage of the wetland (it may, however, dominate the shrub layer). As well, in some areas of the property, particularly in the northeastern portion of the site, American beech displays a strong subdominant, and in one area co-dominant, position with the red maple canopy. The shrub layer within the red maple wetlands is variable: it can be absent, moderately dense, or thick depending upon location on the property. Shrub species are generally comprised of highbush blueberry, white pine, arrowwood, iron wood, winterberry, American beech, yellow birch, and gray birch. Groundcover displays a similar variability, depending upon location, and it is comprised of species such as cinnamon fern, sensitive fern, and sphagnum moss.

W3 - Sedge meadow wetlands. Wet meadow ecosystems are located on the subject parcel, and cover a limited land area. These meadows are dominated by herbaceous vegetation such as tussock sedge, soft rush, wool grass, various goldenrods, narrow-leaved cattail, sensitive fern, and purple loosestrife. The meadow wetlands transition to forested wetland systems or riverine ecosystems.

W4 – Scrub-shrub wetlands. Successional scrub/shrub wetlands are located on the subject parcel. Some of these areas appear to have been used at one time as a borrow pit, and had since been abandoned. This area is occupied in wetter areas by narrow-leaved

cattail, sphagnum moss, common reed, wool grass and sensitive fern, while in the drier portions of the wetland shrub species such as highbush blueberry and sapling gray birch dominate. Forested upland typically surrounds these systems.

## References Cited

Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2002. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's *Ecological Communities of New York State.* (Draft for review). New York Natural Heritage Program, NYS Department of Environmental Conservation. Albany, New York. 136 pp + xv.

Reschke, C. 1990. Ecological Communities of New York State. New York Natural Heritage Program, NYS Department of Environmental Conservation. Latham, New York. 96 pp + xi.

## *Vegetation of the Concord Resort Site*

| *SPECIES* | *COMMON NAME* |
|---|---|
| **Trees** | |
| *Abies balsamea* | *balsam fir* |
| *Acer rubrum* | *red maple* |
| *Acer saccharinum* | *silver maple* |
| *Acer saccharum* | *sugar maple* |
| *Betula alleghaniensis* | *yellow birch* |
| *Betula lenta* | *black birch* |
| *Betula papyrifera* | *paper birch* |
| *Betula populifolia* | *gray birch* |
| *Carya ovata* | *shagbark hickory* |
| *Castanea dentata* | *American chestnut* |
| *Fagus grandifolia* | *American beech* |
| *Fraxinus americana* | *white ash* |
| *Fraxinus pennsylvanica* | *green ash* |
| *Juniperus virginiana* | *red cedar* |
| *Malus sylvestris* | *apple* |
| *Ostrya virginiana* | *hop hornbeam* |
| *Picea abies* | *Norway spruce* |
| *Picea rubens* | *red spruce* |
| *Pinus nigra* | *Austrian pine* |
| *Pinus strobus* | *white pine* |
| *Pinus sylvestris* | *Scotch pine* |
| *Populus grandidentata* | *bigtooth aspen* |
| *Populus tremuloides* | *trembling aspen* |
| *Prunus serotina* | *black cherry* |
| *Quercus palustris* | *pin oak* |
| *Quercus rubra* | *red oak* |
| *Quercus velutina* | *black oak* |
| *Robinia pseudo-acacia* | *black locust* |
| *Salix babylonica* | *weeping willow* |
| *Salix nigra* | *black willow* |
| *Tilia americana* | *basswood* |
| *Tsuga canadensis* | *hemlock* |

| *SPECIES* | *COMMON NAME* |
|---|---|
| **Shrubs and Vines** | |
| *Acer pensylvanicum* | *striped maple* |
| *Alnus incana ssp. rugosa* | *speckled alder* |
| *Amelanchier sp.* | *shadbush* |
| *Berberis thunbergii* | *Japanese barberry* |
| *Cornus amomum* | *silky dogwood* |
| *Cornus florida* | *flowering dogwood* |
| *Euonymus alata* | *winged spindle-tree* |
| *Forsythia sp.* | *forsythia* |
| *Hamamelis virginiana* | *witch hazel* |
| *Ilex montana* | *mountain winterberry* |
| *Ilex verticillata* | *winterberry* |
| *Kalmia angustifolia* | *sheep laurel* |
| *Kalmia latifolia* | *mountain laurel* |
| *Lonicera tatarica* | *tartarian honeysuckle* |
| *Rhododendron maximum* | *rosebay* |
| *Rhus hirta* | *staghorn sumac* |
| *Rubus allegheniensis* | *northern blackberry* |
| *Rubus hispidus* | *running blackberry* |
| *Rubus idaeus* | *red raspberry* |
| *Rubus occidentalis* | *black raspberry* |
| *Salix bebbiana* | *beaked willow* |
| *Spiraea alba* | *meadow-sweet* |
| *Spiraea tomentosa* | *hardhack* |
| *Taxus sp.* | *yew* |
| *Vaccinium angustifolium* | *lowbush blueberry* |
| *Vaccinium corymbosum* | *highbush blueberry* |
| *Vaccinium pallidum* | *low bilberry* |
| *Viburnum lentago* | *nanny-berry* |
| *Viburnum dentatum var. lucidum* | *arrowwood* |
| *Vitis aestivalis* | *summer grape* |

| *SPECIES* | *COMMON NAME* |
|---|---|
| **Herbaceous Plants, Low Woody Plants** | |
| *Agropyron repens* | *quackgrass* |
| *Agrostis gigantea* | *redtop* |
| *Alliaria petiolata* | *garlic mustard* |
| *Asclepias syriaca* | *common milkweed* |
| *Aster acuminatus* | *mountain aster* |
| *Aster divaricatus* | *white wood aster* |
| *Aster ericoides* | *heath aster* |
| *Aster lateriflorus* | *calico aster* |
| *Aster puniceus* | *purple-stemmed aster* |
| *Aster umbellatus* | *flat-top white aster* |
| *Bidens cernua* | *bur-marigold* |
| *Bidens frondosa* | *beggar-ticks* |
| *Brassica nigra* | *black mustard* |
| *Bromus inermis* | *smooth brome* |
| *Calamagrostis canadensis* | *bluejoint grass* |
| *Capsella bursa-pastoris* | *shepherd's-purse* |
| *Cardamine diphylla* | *two-leaved toothwort* |
| *Carex intumescens* | *sedge* |
| *Carex lurida* | *sedge* |
| *Carex scoparia* | *sedge* |
| *Carex stricta* | *tussock-sedge* |
| *Carex swanii* | *sedge* |
| *Carex vulpinoidea* | *sedge* |
| *Centaurea maculosa* | *bushy knapweed* |
| *Chrysosplenium americanum* | *golden saxifrage* |
| *Cinna latifolia* | *drooping woodreed* |
| *Cirsium sp.* | *thistle* |
| *Coptis trifolia* | *gold thread* |
| *Dactylis glomerata* | *orchard grass* |
| *Danthonia compressa* | *northern oatgrass* |
| *Danthonia spicata* | *poverty-grass* |
| *Daucus carota* | *Queen Anne's lace* |
| *Dennstaedtia punctilobula* | *hay-scented fern* |
| *Dipsacus fullonum* | *common teasel* |

| | |
|---|---|
| *Dryopteris carthusiana* | *spinulose wood fern* |
| *Dryopteris cristata* | *crested wood fern* |
| *Dryopteris intermedia* | *common wood fern* |
| *Dryopteris marginalis* | *marginal wood fern* |
| *Dryopteris x boottii* | *Boott's fern* |
| *Dulichium arundinaceum* | *three-way sedge* |
| *Echinochloa crus-galli* | *barnyard grass* |
| *Epilobium coloratum* | *willow-herb* |
| *Eupatorium rugosum* | *white snakeroot* |
| *Euthamia graminifolia* | *bush goldenrod* |
| *Festuca arundinacea* | *tall fescue* |
| *Galium sp.* | *bedstraw* |
| *Geum sp.* | *avens* |
| *Glyceria canadensis* | *rattlesnake grass* |
| *Glyceria grandis* | *reed meadowgrass* |
| *Glyceria striata* | *fowl manna-grass* |
| *Hieracium sp.* | *hawkweed* |
| *Hydrocotyle americana* | *pennywort* |
| *Hypericum sp.* | *St. John's-wort* |
| *Impatiens sp.* | *touch-me-not* |
| *Iris versicolor* | *blue flag* |
| *Juncus articulatus* | *jointed rush* |
| *Juncus effusus* | *soft rush* |
| *Juncus tenuis* | *path-rush* |
| *Lemna minor* | *lesser duckweed* |
| *Leontodon hispidus* | *big hawkbit* |
| *Leucanthemum vulgare* | *ox-eye daisy* |
| *Lotus corniculata* | *bird's-foot trefoil* |
| *Lycopodium annotinum* | *bristly clubmoss* |
| *Lycopodium clavatum* | *staghorn clubmoss* |
| *Lycopodium digitatum* | *running-pine* |
| *Lycopodium obscurum* | *ground pine* |
| *Lycopus sp.* | *water-horehound* |
| *Lysimachia ciliata* | *fringed loosestrife* |
| *Lythrum salicaria* | *purple loosestrife* |
| *Mitchella repens* | *partridge-berry* |
| *Nuphar variegata* | *common yellow cow-lily* |
| *Oenothera biennis* | *evening primrose* |

| | |
|---|---|
| *Onoclea sensibilis* | *sensitive fern* |
| *Osmunda cinnamomea* | *cinnamon fern* |
| *Osmunda claytoniana* | *interrupted fern* |
| *Osmunda regalis* | *royal fern* |
| *Oxalis montana* | *common wood sorrel* |
| *Panicum clandestinum* | *deer-tongue grass* |
| *Panicum sp.* | *panic grass* |
| *Phleum pratense* | *Timothy* |
| *Phragmites australis* | *reed grass* |
| *Pilea pumila* | *clearweed* |
| *Plantago major* | *common plantain* |
| *Polygonum cilinode* | *fringed bindweed* |
| *Polygonum pensylvanicum* | *pinkweed* |
| *Polygonum sagittatum* | *tearthumb* |
| *Polystichum acrostichoides* | *Christmas fern* |
| *Potentilla simplex* | *old-field cinquefoil* |
| *Pteridium aquilinum* | *bracken* |
| *Rorippa nasturtium-aquaticum* | *watercress* |
| *Rubus pubescens* | *dwarf raspberry* |
| *Rumex crispus* | *curly dock* |
| *Rumex obtusifolius* | *bitter dock* |
| *Sagittariasp.* | *arrowhead* |
| *Scirpus atrovirens* | *bulrush* |
| *Scirpus cyperinus* | *wool-grass* |
| *Solidago canadensis* | *common goldenrod* |
| *Solidago nemoralis* | *rough goldenrod* |
| *Solidago rugosa ssp. rugosa* | *tall hairy goldenrod* |
| *Taraxacum sp.* | *dandelion* |
| *Thelypteris noveboracensis* | *New York fern* |
| *Thelypteris palustris* | *marsh fern* |
| *Tiarella cordifolia* | *foamflower* |
| *Trientalis borealis* | *starflower* |
| *Trifolium arvense* | *rabbit's-foot clover* |
| *Trifolium repens* | *white clover* |
| *Verbascum thapsus* | *mullein* |
| *Verbena hastata* | *blue vervain* |
| *Veronica officinalis* | *speedwell* |
| *Viola sp.* | *violet* |

| *Species* | *Common Name* |
|---|---|
| **Mosses and Liverworts** | |
| *Bazzania trilobata* | |
| *Climacium dendroides* | *tree-moss* |
| *Mnium sp.* | |
| *Pleurozium schreberi* | |
| *Polytrichum commune* | *common hair-cap moss* |
| *Sphagnum spp.* | *peat mosses* |
| *Thuidium sp.* | |