# TORONTO FIELD NATURALISTS' RAVINE SURVEY

STUDY NO. THREE

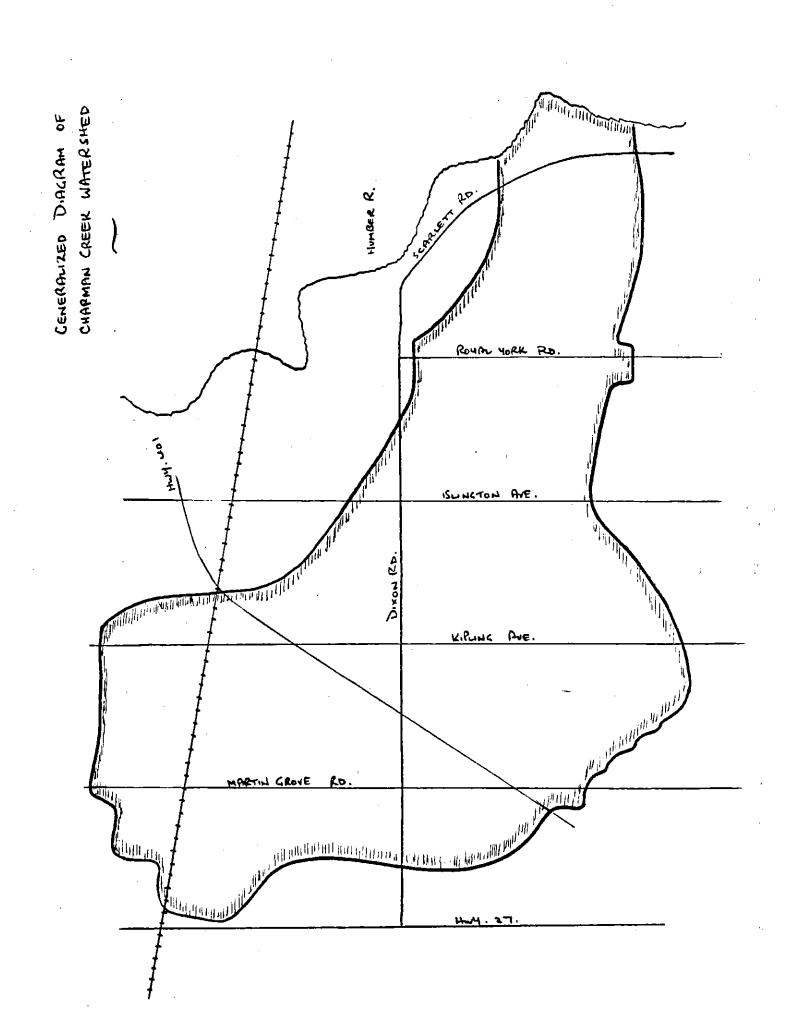
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CHAPMAN CREEK RAVINE, ETOBICOKE

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Prepared by - CLIVE E. and JOY E. GOODWIN

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### THE TORONTO RAVINE SURVEY: AN INTRODUCTION

Urban biology is, unfortunately, a neglected study in our time. Only rarely do professional botanists, ornithologists, or ecologists treat the city as anything other than lost, and yet the urban environment desperately needs the preservation, and often the restoration, of any natural areas that remain within its boundaries. This is a task in which the informed amateur field naturalist can play an important part.

To a considerable degree natural areas still survive within Metro Toronto because of a fortunate natural legacy -- a series of steep-sided, deep ravines running from morth to south across the city into Lake Ontario. To understand this legacy of ravines, it is necessary to go back a long way in time, to the last glacial period in Eastern Canada, about 10,000 years ago. All of Southern Ontario was then covered by ice. Later, as the ice retreated northward, the basic structure of the present surface landscape was left behind, including the numerous ravines which are a unique feature of Metro Toronto.

The first survey in this series, that of Chatsworth Ravine, was printed in October 1973, at the time of the Toronto Field Naturalists' Golden Jubilee. It was well received by the local residents' association and by the City of Toronto Parks Department, which undertook certain remedial work in the ravine, including the planting of more trees. Thus encouraged we have moved on to survey other areas. We believe that basic biological and ecological information on ravines is needed if the case for their preservation in a sound natural state is to be made clear to the public and to political bodies. The survey which follows is another in what we hope will be a continuing series of reports on Metropolitan Toronto's ravines.

#### NOTE OF ACKNOWLEDGEMENT

The Toronto Field Naturalists' Club appreciates the permission of the North Rosedale Ratepayers' Association to include this study of the Park Drive Ravine in its series of ravine surveys. A study which the authors originally prepared for the North Rosedale Ratepayers' Association. Close cooperation between the Club and local residents' associations is one of the most effective ways of preserving Toronto's ravines in a sound ecological state, both now and in the future.

Stewart Hilts,

Department of Geography University of Western Ontario.

#### TORONTO FIELD NATURALISTS' CLUB

#### RAVINE SURVEY

#### STUDY #3 - CHAPMAN CREEK RAVINE

Prepared by Clive E. and Joy E. Goodwin

#### FOREWORD

Travel up the west bank of the Humber River from its mouth and you will find the river floodplain is bounded by high banks for most of its early course. You will pass Dundas St. before you encounter much in the way of streams entering the river from the west, and tributaries are few until the river divides at Thistletown. What streams there are seem on the whole inconsequential things, extending wooded fingers a short way from the floodplain, but not greatly disrupting the orderly distribution of Etobicoke housing and roads. The Borough lacks the network of deep ravines which enriches the City of Toronto to the east.

One small but happy exception to these rather loose generalizations is Chapman Valley. There is nothing quite like Chapman Valley anywhere else in Etobicoke, and even after three years' study it still surprises: a little like finding an exquisite little work of art on the shelves of a supermarket. Not that it imposes its quality upon the passing traveller. In its early course its main function seems to be as an irritant to the developers of the area, and lower down it never seems quite certain whether it is a park or an annoying interruption between Dixon Rd. and The Westway. Its crossing of Royal York Rd. is without charm and it scurries beneath Scarlett Rd. apologetically.

This report will concern itself mainly with that section between Royal York and Scarlett Roads, and there a happy combination of enlightened ownership and circumstance have preserved a natural environment of quite remarkable richness and diversity. To many who read this the lists of birds and plants will understandably be no more than just lists, although perhaps the shear numbers themselves will still tell a story. If the facts fail to convey quality then they will have failed, because Chapman Creek Ravine has quality - a quality that is increasingly rare and increasingly sought after in an urbanizing, structured world. And, at the risk of being hackneyed, it is also fragile. Deceptively so, for it has taken much abuse and use, and both continue. Subtly it is deteriorating, but a little care can preserve it. We hope this report might encourage that care.

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## ACKNOWLEDGEMENTS

We would like to thank Mrs. Mary Smith, who contributed many ideas and prepared a map of the Creek watershed. Dr. Frank Brereton contributed useful information and Alderman Stewart East helped with suggestions, maps and encouragement.

The winter bird observations owe much to our assocates on the Weston area Christmas Bird Census, Mr. Arnold Dawe and Mr. Doug. Corbridge.

We are grateful to the Toronto Field Naturalists' Club and particularly Mr. Jack Cranmer-Byng for providing a vehicle for this study. Without them it would have been a solo effort, if indeed it had been done!

C.E.G., J.E.G.

#### LOCATION AND DESCRIPTION OF AREA

The watercourse here called Chapman Creek was formerly known as Sturgeon Creek, and we first find it running between cement walls at the corner of Dixon Rd. and Islington Ave. From there it runs south and east, to join the Humber River about half a mile north of Eglinton Ave. Through most of this distance the Creek flows through the shallow grassed valley which forms Sun Row, Emery Circle and Valleyfield Parks. It drains an extensive area extending north to Rexdale Blvd. and west to Highway 27 - probably in excess of 1800 acres in all.

East of Royal York Rd. the pattern of graded and grassed floodplain at first continues in Westonwood Park, and for a distance the Creek has been channelled and contained by gabions. It is then crossed by a foot bridge and the path linking Leggett Ave. and Westmount Park Rd., and quickly enters a steep-sided valley that continues to Scarlett Rd., a distance of about a mile in all. The eastern section of some 10 acres forms Chapman Valley Park, with the intervening area of about 20 acres privately owned by adjacent residences. East of Scarlett Rd. the valley rapidly widens to the Humber River floodplain.

This report concerns itself principally with that section of the valley east of the foot bridge and mainly west of Scarlett Rd., an area of some 30 acres. It divides into two logical sections, reflecting the ownership of the land. Immediately west of Scarlett Rd. the creek runs beside the precipitous north bank of the ravine, with a band of shrubs and small trees bordering it to the south. There then is a strip of relatively flat, mown grassland, and to the south again the wooded bank forming the other boundary of Chapman Valley Park. The grassed parkland ends as the stream crosses the floodplain to the south side, the first of four loops the creek makes from one side to the other of the ravine. Now the stream runs through scrub and open woodland, in places cutting a steep sided channel of its own, in others bounded by marshy areas, as springs work downward through the wooded sides of the narrow valley. This section is privately owned but the landowners generously allow public access, and a narrow dirt track follows the course of the stream, crossing and recrossing its meanders. The valley opens out again just east of the Mildred Ave. foot bridge, and the footpath continues west to enter Westonwood Park. Gardens follow the crest of the land along both sides of the ravine.

#### access

It is rather difficult to enter the valley from Scarlett Rd. at the time of writing, due to construction at that point. Access from the east end is from Chapman Rd. at the corner where it turns west towards Royal York Rd.; and from the west from Royal York Rd. itself through Westonwood Park, and from the Mildred Ave. foot bridge. There are other less satisfactory access points from Alma and Crane Avenues on the north and Chapman Rd. towards the east end. Passage along the valley is not always easy, as the stream crossings present obstacles which vary in their challenge with the season and the timing of the last rain. In spring the paths are often muddy and the clay banks slick. None of these minor hazards deter the agile, but they do reduce the amount of casual traffic the valley receives.

#### NATURAL FEATURES

We have described a narrow wooded valley, and the appendices list an exceptional diversity of plants and animals. To record 168 species of plants and 106 of birds in such a small area is a clear indication of quality: indeed, Chapman Valley has proven to be the richest area of those so far surveyed in the Toronto Field Naturalists' ravine survey. And there is no doubt that a more expert botanist or a more industrious ornithologist could readily add to either list: there are some rather obvious omissions that more prolonged search surely would eliminate. We had planned to continue with statistics and technical details on such matters as soil formation and water quality, but these details will not give the reader a better sense of the area, and perhaps in this sense they are incidental to its quality.

Rather, we will try to picture some of the things the visitor might encounter through the seasons, and in this way try to capture some of the things that make the valley special.

In winter it is a sheltered place, with banks of dead leaves that manage to escape the snow and boggy patches that never fully freeze. Neighbouring homes have bird feeders, and the valley forms a haven for winter birds. Juncos and tree sparrows feed on the dead asters and goldenrods, winter finches chatter in the evergreens, and woodpeckers and chickadees work over the dead trees. We have never seen any fish in the creek, but the valley still often harbours a kingfisher, and an owl may roost in the bank of tall white pine.

Spring brings breakup, and for a short while the stream becomes a torrent, overflowing its banks and inundating some marshy areas that remain wet until fall. The stream carries silt and sand with it, and at the first bends east of the foot bridge sandy shallows have built up. Further east and the stream in places rushes through a small gorge, with precipitous banks of shale and sandstone and a rocky bed rich in fossils. The clayey path becomes trampled and muddy, but off to the side spring wildflowers grace thedead leaves under the trees: spring beauty and trout lily, toothwort and violets. By May the cherries are in bloom and the woods ring with the songs of warblers and sparrows moving north, resting and feeding in the shelter the valley provides.

Summer is a time of dense growth and the heavy shrub cover becomes almost jungle-like. Indigo Buntings sing from the tops of the trees as the resident birds have nesting well advanced. Tufted vetch sprawls purple blossoms over the more open areas, and a pair of kestrels nest in a tree hole and feed their young on grasshoppers. The creek is at its lowest, and the oily slick that sometimes appears on the water collects in the shallows.

By early fall flocks of robins begin to converge on the ravine to feed on the hawthorns and cherries. The late flowers - asters and goldenrod appear in the openings as the return warbler flights begin to move through the taller trees; and the birds move down to catch flies over the stream. The maples that dominate the hardwoods of the valley sides turn golden, and the sumac in the shrub layers glows scarlet.

Gradually the leaves fall, the grass dries sear, the last warblers depart, and winter returns.

Such is Chapman Valley. Because these things are there they form part of the visitor's experience, although he or she may not recognize them for what they are, or indeed may not even consciously notice them at all. They are part of an experience of naturalness, that comes from all the components we have described, and many others, experienced together.

And indeed all these things are interrelated, and that is the first key to understanding the ravine. The woodpeckers and the falcons are there because the dead trees are there. Mallards and leopard frogs both depend on the wetlands produced by the spring flood. The spring wildflowers are there because the tree cover is there. The fall birds linger because the hawthorns, sumacs and cherries yield fruit, and the juncos and tree sparrows survive the winter because the rich herbaceous layer has seeds for them to eat. The whole is a dynamic, constantly changing living community.

Because the ravine is quite short there is the danger of assuming it is rather uniform. But in fact the diversity we have described reflects much subtle variation: the south bank of the ravine, which is heavily shaded and faces north, is moist and cold and shelters plants such as the ferns which need these conditions. The north bank with its southern exposure is warmer and dryer, and even the composition of its trees is different. From point to point variations in the gradient of the slopes, their exposure, the degree of moisture, and the amounts of sunlight which reaches the ground, all are reflected in variations in the plant life present, which in turn influences the kinds of animals that use that section and the uses they make of it. And all have been influenced further by the varying amounts of disturbance each has received from mankind to produce a complex, varied but interrelated whole. How much disturbance can the components stand before the whole begins to deteriorate? Our inability to answer that question fully counsels the caution in management which we will urge in the next section.

## THE VALLEY AND MAN

Chapman Valley is a natural valley in an urban area, and mankind's influence is everywhere. This is the second key to understanding, and any planning for the valley must recognize that influence and plan with it and for it.

In spite of its natural quality the valley is much changed from what it must have been before Etobicoke became part of a city. A trunk sewer runs its length, its presence often revealed only by periodic gratings, but also reflected in the shrub belt along the path indicating an earlier disturbance in the tree cover. The sewer line does no harm, and indeed at this point has contributed to some of the diversity of the valley plant life.

The neighbouring gardens have many influences; some positive, others less so. Bird feeders encourage birds but support a high population of squirrels, discarded garden rubbish looks untidy but gives cover to wrens and sparrows, the normal activities of suburban home life create disturbances, but the homes shield the valley from more casual disturbance. One or two householders invite erosion by raking and burning leaves.

There are more serious impacts. Two properties adjacent to the footpath have removed the natural vegetation, and one has undertaken construction on the narrow flood plain. Obviously such approaches wholly destroy the qualities we have discussed. Sometimes - and at some cost - land so cleared can be landscaped to be aesthetically pleasing but the natural qualities are lost, and as soon as this approach is implemented by a number of landowners the loss of quality becomes clearer to everyone.

Public ownership is no guarantee of good stewartship. The perceptive reader will have noted that the richest areas are privately owned, and major parts of the public parkland have been pressed into the conventional and familiar open grassland moulds as far as the uneven terrain will allow. Chapman Park is very significantly less rich and diverse than the area to the west, and Westonwood Park has little of natural value. Whatever recreational needs these areas fill, they provide them at the cost of natural communities.

There is no doubt that the natural areas of valley themselves have significant recreational value. Children play in them, and adults use them for walking and sitting, as well as more individual pursuits such as birdwatching and photography. The importance of such uses must be emphasized: recreational walking is one of the most popular outdoor activites in Canada today, and the rich diversity of the valley gives the walker everchanging vistas and constant interest. For children the area provides a host of important educational experiences and an unparalleled adventure playground.

Yet it receives little in the way of active management - in the areas we are discussing not even the grass is mown, and in fact there is little grass to mow. On the whole it is just left alone. Nature areas do not usually need continuous, active manipulation and indeed such manipulation often destroys them: the more one changes, the more has to be changed. In a time of tight budgets land with such undemanding needs should be attractive for more than its appearance!

The direct stresses on the area are of use and misuse. We have found children cutting down trees and digging up flowers. We once encountered a father standing in carpet slippers on a rock in the middle of the creek resolutely helping his small daughter take her bicycle across one of the loops of the stream. Other children manage to negotiate their bikes without assistance, but at a cost to both the bikes and the terrain. Littering is frequent, and the creek itself brings more trash. The paths particularly in spring, become trampled and wet and surrounding vegetation is damaged. Many side paths exist, and in a small valley these can quickly stress the vegetation. For all these pressures, to our eyes the most natural section of the valley has not deteriorated noticeably during the

period of our study, although it is likely close to the limits of casual abuse that it can stand.

In considering the stream it is necessary to look further afield, into the watershed. We have not had the water analyzed, although it usually seems clear. However, there are some 24 outfalls along the stream's open course, and the extensive pollutants of stormwater runoff may be expected. More serious is the oily slick that sometimes appears on the water and appears to be of industrial origin. The silt burden in storm periods seems quite high, and new construction continues in the watershed without any attempt to curb silting.

A more immediate problem is the construction that has occurred a little above the flood plain just north of Westonwood Park. Not surprisingly these homes have apparently experienced some flooding during the peak flood period, and the straightening of the stream's course with gabion channelling has been the expectable result. Realignment of the stream at this point will now stress it lower down near the first bend, where increased erosion, silting and flooding can be expected. It is too early to assess the effects this will have, but hopefully the area will be able to absorb this change without the need for further stream modification.

### THE FUTURE OF THE VALLEY

Natural areas are scarce in the older sections of Etobicoke. Aside from Metropolitan Toronto parklands along the Humber River, there are no extensive tracts of natural park in the huge area east of Highway 27 and south of Highway 401. What natural areas do exist are associated with stream valleys, and in most cases the bottomland is graded and grassed to form the traditional recreational park. Hence Chapman Valley is one of a kind, and it should be managed from that perspective.

The threats it faces are of four kinds: the first, and most potentially serious, is the possibility of massive manipulation by landowners either public or private, to use the valley for some purpose. The action on the properties adjacent to Mildred Ave. are examples of such manipulation; but the management used in Chapman Park would be almost as damaging if applied to the private lands to the west.

The second threat is overuse. We believe that much increase in the present low-intensity use could start a progressive erosion in quality from which there is no return. Because the valley's relative inaccessibility influences its use, well-meaning attempts to improve accessibility could, unless well planned, lead to this erosion. In considering this aspect, thought must be given not only to the uses which are desired, but uses which would be hard to control given certain kinds of development. Construction of a cycle path could also invite use by motorcycles, for example. This element of misuse is the third threat. It exists already and is perhaps the most difficult to cope with.

The last threat comes from the creek, and the forces that might impinge on it elsewhere in its watershed. Silt from construction operations upstream

might not only impair the water quality, but might influence the flow of the stream; the recent channelling might have other impacts on stream flow, and so on.

Our recommendations follow from these considerations:

- 1. Landowners be encouraged to maintain the valley in its natural condition. Elsewhere we suggested the use of easements; recognizing the novelty of this technique in Canada, the present approach of applying development control regulations should achieve the results. However, on the one hand the purpose of the regulations should be made clear to landowners. On the other, the intent of the regulations should be adhered to in this case: undesirable changes in the valley should be stopped, but innocuous changes elsewhere allowed.
- 2. When additional valley land is acquired for park purposes, the valley should be left in its natural state. We would repeat that the management of Chapman Valley Park is not a suitable model for this purpose. There are many areas in Etobicoke managed in the manner of this Park; there are not many Chapman Valleys.
  - 3. Provision for improved access, if attempted at all, should be confined to widely spaced stepping stones in the creek and boardwalking in the wetter areas. Bridges and more elaborate paths will simply encourage heavier use of inappropriate kinds.
  - 4. No measures for improved access should be undertaken at all without careful review of:
    - the impacts on drainage in the wet areas resulting from springs along the hillsides
    - the hillsides
    - the implications for erosion along the steeper banks
  - 5. The design of any access should continue to discourage the use of bicycles. It is true that the valley forms a link in a series of linear valley parks in Etobicoke, and such linear parks are often ideal for cycle trails. In the present case, however, the valley is too narrow and steep in places to permit a cycle path without interfering with its present use by pedestrians, and such a path would also encourage mini-bikes and other forms of misuse.
  - 6. Dead trees should be allowed to stand wherever possible, and left to decay once they have fallen. Dead trees are important elements in the living natural community.

- 7. The natural flow of the stream should not be further interfered with.
- 8. The possibility of sediment traps should be considered for new construction in the watershed.
- 9. The source of the present oily discharge should be traced and the discharge stopped if at all possible.
- 10. More complete biological studies are needed if any development is to occur. The inventory material we have outlined is broadly adequate to indicate overall quality but not sufficient to support detailed planning. Small mammal populations and the stream fauna in particular should be studied.

Toronto

December 1975

#### CHAPMAN VALLEY RAVINE

#### NOTES ON ANIMALS OTHER THAN BIRDS

#### MAMMALS

- Raccoon (Procyon lotor) Sighted occasionally, and probably common
- Striped Skunk (Mephitis mephitis) We have not seen this animal, but have smelt them in the neighbourhood.
- Groundhog (Marmota monax) Recorded at the south-east end.
- Eastern Chipmunk (Tamias striatus) Recorded along the south side of the ravine.
- Red Squirrel (Tamiasciurus hudsonicus) We have no actual record noted for the valley, although we have recorded the species at our home one-quarter mile north.
- Eastern Gray Squirrel (Sciurus carolinensis) Common.
- Eastern Cottontail (Sylvilagus floridanus) Sighted occasionally, and probably common.

#### REPTILES AND AMPHIBIANS

- Garter Snake (Thamnophis sirtalis) One sighting
- Little Brown Snake (Storeris dekayi) We have no actual record for the valley, but several at our home.
- American Toad (Bufo americanus) Recorded in wet areas.
- Leopard Frog (Rana pipiens) Recorded in wet areas.
- Observations on all these groups have been purely incidental to our work on birds and plants. A systematic search should yield small mammals and other amphibians.

# List of Birds Recorded in Chapman Valley Ravine - 1973-75 And Christmas Censuses - 1966-74

## (continued)

- \* Red-winged Blackbird
- \* Northern Oriole
- \* Common Grackle
- \* Brown-headed Cowbird Rusty Blackbird Scarlet Tanager
- \* Cardinal
- \* Rose-breasted Grosbeak
- \* Indigo Bunting
  Evening Grosbeak
  Purple Finch
  Pine Grosbeak
- \* American Goldfinch

Pine Siskin Common Redpoll White-winged Crossbill Rufous-sided Towhee Savannah Sparrow Slate-coloured Junco Tree Sparrow

- \* Chipping Sparrow
  White-crowned Sparrow
  White-throated Sparrow
  Fox Sparrow
- \* Song Sparrow Snow Bunting
- + Flying over
- \* Recorded during the breeding season

### AND CHRISTMAS CENSUSES - 1966-74

# Nomenclature follows the A.O.U. Check List (5th Edition, 1957) and its Supplements)

- + Great Blue Heron
- + Canada Goose Mallard
- + Turkey Vulture
- + Sharp-shinned Hawk Red-tailed Hawk
- + Broad-winged Hawk
- \* Kestrel
- \* Ring-necked Pheasant Killdeer
- + Herring Gull
- + Ring-billed Gull
- \* Rock Dove
- \* Mourning Dove
- + Common Nighthawk
- + Chimney Swift
- \* Ruby=throated Hummingbird
- \* Belted Kingfisher
- \* Yellow-shafted Flicker Yellow-bellied Sapsucker
- Hairy Woodpecker

  \* Downy Woodpecker
  Black-backed Three-toed Woodpecker
  Pileated Woodpecker
  Eastern Kingbird
- \* Great Crested Flycatcher
  Eastern Phoebe
  Yellow-bellied Flycatcher
- \* Least Flycatcher
- \* Eastern Wood Pewee Olive-sided Flycatcher
- + Tree Swallow
- + Bank Swallow
- + Rough-winged Swallow
- + Barn Swallow
- + Purple Martin
- \* Blue Jay
- \* Common Črow
- \* Black-capped Chickadee
   White-breasted Nuthatch

- \* Red-breasted Nuthatch Brown Creeper
- \* House Wren Winter Wren
- Gray Catbird
- \* Brown Thrasher
- \* Robin
- \* Wood Thrush
  Hermit Thrush
  Swainson's Thrush
  Veery
  Blue-gray Gnatcatcher
  Golden-crowned Kinglet
  Ruby-crowned Kinglet
- \* Cedar Waxwing
- \* Starling
  - Solitary Vireo

Perula Warbler

- \* Red-eyed Vireo
  Yellow-throated Vireo
  Warbling Vireo
  Black-and-white Warbler
  Orange-crowned Warbler
  Tennessee Warbler
  Nashville Warbler
- \* Yellow Warbler
  Magnolia Warbler
  Black-throated Blue Warbler
  Black-throated Green Warbler
  Yellow-rumped Warbler
  Blackburnian Warbler
  Chestnut-sided Warbler
  Bay-breasted Warbler
  Blackpoll Warbler
  - Ovenbird
    Yellowthroat
    Wilson's Warbler
    Canada Warbler

American Redstart

\* House Sparrow

# (Nomenclature after Gleason & Cronquist - Manual of the Vascular Plants of Eastern North America)

Equisetum arvense Dryopteris spinulosa Dryopteris marginalis Crystopteris bulbifera Onacles sensibilis Pinus strobus Tsuga canadensis Typha latifolia Alisma plantago-aquatica Poa annua Dactylis glomerata Phleum pratense Arisacma triphyllum Erythronium americanum Lilium superbum Smilacina racemosa Smilacina stellata Maianthemum canadense Convallaria majalis Polygonatum sp. Trillium grandiflorum Smilax rotundifolia Epipactis helleborine Populus detoides Populus balsamifera Ostrya virginiana Betula lutea Carpinus caroliniana Fagus grandifolia Quercus alba Pilea pumila Laportea canadensis Rumex crispus Polygonum persicaria Polygonum punctatum Polygonum amphibium Polygonum pensylvanicum Polygonum erectum Polygonum aviculare Claytonia virginica Stellaria aquatica

Silene cucubalus

- Common Horsetail - Spinulose Wood-fern - Marginal Shield Fern - Bulbet bladder-fern - Sensitive fern - White Pine - Eastern Hemlock - Common Cat-tail - Water Plantain - Annual Bluegrass - Orchard Grass - Timothy - Jack-in-the-Pulpit - Trout Lily - Turk's cap Lily - Spikenard - Star-flowered False Solomon's Seal Canada MayflowerLily of the ValleySolomon's Seal - White Trillium - Greenbriar - Helloborine - Common Cottonwood - Balsam Poplar - Ironwood - Yellow Birch - Blue Beech - Beech - White Oak - Clearweed - Wood Nettle - Curled Dock - Lady's Thumb - Water Smartweed - Water Smartweed - Erect Knotweed - Prostrate Knotweed - Narrow-leaved Spring Beauty

- Chickweed

- Bladder Campion

#### (continued)

Actaea alba Ranunculus abortivus Ranunculus acris Ranunculus recurvatus Ranunculus septentrionalis Thalictrum dioicum Anemone virginiana Anemone canadensis Podophyllum peltatum Berberis sp. Chelidonium majus Sanguinaris canadensis Brassica kaber Lepidium densiflorum Dentaria diphylla Hesperis matronalis Sisymbrium altissimum Penthorum sedoides Tiarella cordifolia Mitella diphylla Hamamelis virginiana Fragaria virginiana Fragaria vesca Potentilla norvegica Potentilla simplex Potentilla recta Geum canadensis Geum aleppicum Rubus alleghensis Rubus strigosus Rubus odoratus Agrimonia gypsosepala Prunus virginia Prunus serotina Prunus pensylvanica Pyrus coronaria Sorbus aucuparia Crataegus sp.

Trifolium pratense

Trifolium hybridum

Medicago lupulina

Amphiocarpa bracteata

Trifolium repens

Melilotus alba

Vicia cracca

Oxalis sp.

- White Baneberry Small-flowered Buttercup - Meadow Buttercup - Hooked Buttercup - Marsh Buttercup - Early Meadow-Rue - Thimbleweed - Canada Aneomone - May Apple - Barberry - Greater Celandine - Bloodroot - Charlock - Peppergrass - Toothwort - Dame's Rocket - Tumbling Mustard - Ditch Stonecrop FoamflowerMitrewort - Witch Hazel - Field Strawberry - Woodland Strawberry - Norway Cinquefoil - Rough fruited Cinquefoil - Canada Avens - Yellow Avens Blackberry - Raspberry Purple-flowering Raspberry Agrimony - Choke-cherry - Black Cherry - Pin Cherry - Wild Crabapple - Mountain Ash - Hawthorns - Red Clover - White Clover - Alsike Clover - White Sweet Clover - Black Medick

Hog PeanutTufted Vetch

- Yellow Wood Sorrel

### (continued)

Geranium maculatum Geranium robertianum

Rhus typhina Rhus radicans Acer saccharum Acer negundo Impatiens biflora

Vitis sp.

Parthenocissus quinquefolia

Tilia americana

Hypericum perforatum

Viola sp.

Viola pubescens Epilobium hirsutum Circaea quadrisulcata Sanicula marilandica Cicuta maculata Osmorhiza claytoni Daucus carota

Angelica atropurpurea Pastinaca sativa Cornus alternifolia Cornus stolonifera Lysimachia ciliata Fraxinus pensylvanica var. subintegerrima

Fraxinus nigra Fraxinus americana Asclepias syriaca Phlox divaricata

Hydrophyllum virginianum

Echium vulgare Myosotis laxa Verbena hastata Verbena urticifolia Glecoma hederacea Prunella vulgaris Leonurus cardiaca Lycopus americanus Solanum dulcamara Verbascum thapsus Chelone glabra

Veronica officinalis Epifagus virginiana Plantago major

Phryma leptostachya

Wild Geranium Herb Robert Stagshorn Sumac

Poison Ivy Sugar Maple

Manitoba Maple

Spotted Jewelweed

Wild Grape

Virgima Creeper

Basswood

Common St. John's Wort

Wood Violet

Downy Yellow Violet - ' Hairy Willow-herb

Enchanter's Nightshade

Black Snakeroot - Water Hemlock - Sweet Cicely - Queen Anne's Lace

- Angelica - Wild Parsnip

- Alternate leaved Dogwood

Red-osier Dogwood - Fringed Loosestrife

Green Ash - Black Ash White Ash - Common Milkweed - Wild Phlox

Virginia Waterleaf

Viper's Bugloss Small flowered Forget-me-not

Blue Vervain

- Nettle leaved Vervain

- Ground Ivy Self-heal - Motherwort

- Water Horehound

- Bittersweet Nightshade - Great Mullien

Turtlehead

Common Speedwell

- Beech drops

Common Plaintain

Lopseed

## (continued)

Galium triflorum Sambucus rubens Lonicera tartarica Viburnum trilobum Echinocystis lobata Bidens vulgate Bidens frondosa Ambrosia artemisiifolia Xanthium strumarium Achillea millefolium Matricaria matricarioides Tussilago farfara Erigeron annuus Erigeron philadelphicus Inula helenium Eupatorium maculatum Eupatorium rugosum Arctium lappa Cirsium vulgare Cirsium arvense Prenanthes altissima Hieracium pratense Taraxacum officinale Sonchus arvensis Cichorium intybus Tragopogon pratensis Tragopogon dubius Chrysanthemum leucanthemum Solidago canadensis Solidago flexicaulis Aster macrophyllus Aster novae-angliae Aster ericoides

Aster cordifolius

Sweet Scented Bedstraw Red-berried Elder Tartarian Honeysuckle - Highbush Cranberry Viburnum Wild Cucumber Beggar's-ticks Beggar's-ticks - Common Ragweed - Cocklebur Yarrow - Pineapple Weed Coltsfoot Annual Daisy Fleabane Philadelphia Fleabane Elecampane Joe Pye-weed White Snakeroot - Great Burdock - Bull Thistle Canada Thistle - White Lettuce Yellow Hawkweed Common Dandelion - Perennial Sow thistle - Chickory Common Goatsbeard Lemon-yellow Goatsbeard Ox-eye Daisy - Camada Goldenrod Zigzag Goldenrod - Large leaved Aster

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New England AsterWhite Wreath Aster

Heart leaved Aster

