

THE UNIVERSITY OF CHICAGO

A FLORISTIC STUDY OF THE VEGETATION
OF THE DESPLAINES RIVER VALLEY

A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
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BY
FAITH GAMBLE

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vegetation, but is mainly confined to certain established regions.

Grazing is prohibited in the forest preserves except for the animals used in maintaining the forest preserves. In all the visits made to the region, the writer saw only two instances of grazing, one at River Grove and one at the Tourist Park in Lyons. The unusually wide meander belt of the creek north of Maywood looked as if it might be grazed, but this is private property. The effect of grazing is that it destroys seedling trees and thus can ultimately destroy a forest or prevent the invasion of trees into a meadow.

The vegetation of the part of the Desplaines valley which was studied consists of these groups of associations: The water association, the associations of the lower flood plain, the forests of the middle and upper flood plains, the savannah or low meadow association, the weed associations on eroding banks and filled-in places, the cultivated associations and the sedge association of swampy places.

The water associations are the submerged association, the floating association, and the emergent association. All of them grow in the water all the year except the last which may only have its roots buried in mud during the summer drought. Most of the plants are rooted or attached to the substratum. As light, moreover, is a controlling factor, the submerged plants can grow only where the river is very shallow on account of the great turbidity of the water. Then, too, for the water associations the current is another important factor which

is felt during the whole year, but especially during floods. It necessitates not only firm attachment but the retreat into quiet nooks and abandoned channels. But even here many plants are broken and washed away during floods. But some, especially the plants of the emergent association, escape because of their deep rootstocks. In ponds these associations would play an important part in making soil and filling the pond. They do the same in the Desplaines river, especially in the abandoned channels, but not to so great an extent, for during a flood the river may wash their deposits all away.

The submerged association is not conspicuous here. The best examples are occasional patches in the region of the cemeteries south of Madison Street, on the Riverside bank of the river above the dam and in the abandoned channel just north of Lake Street. Aside from the algal population this association consists of *Elodea canadensis* and several species of *Potamogeton* and *Ceratophyllum demersum*. *Elodea canadensis*, which was found wherever the submerged association appeared, is considered an indicator of silt by R. W. Butcher (6) in his report on the River Itchen.

The floating association was at its best above the dam at Riverside. There where the river is very broad, the whole surface, except for a strip marking the path of the main current through the middle, was green with *Lemna minor* floating upon it. This plant was the most abundant and almost the only plant seen in this association.

The emergent association is of more frequent occurrence than either of the other water associations, which this last association drives out by shading. It is found up and down the part of the river studied in little patches where the water is shallow and the current weak and especially at the mouths of abandoned channels. A good example is found in the abandoned channel north of Lake Street. The two arrowheads *Sagittaria latifolia* and *S. heterophylla* are the most abundant species but, cat-tails, bulrushes, water plantain and swamp dock grow here too.

The second group of associations is found on the lower flood plain which is under water every year and often for considerable periods during the spring, but later the river subsides and soil dries at least on the surface and cracks open. During the flood, too, a deposit of silt is left as the current is retarded, especially by the trees. The lower flood plain is most extensive in its development between the Riverside dam and Salt Creek. It is also well developed southwest of the Riverside railway station, in the bend north of Lyons, just south of the bridge in River Grove and in the big curve south of River Grove. According to the successively shorter periods of being under waters, the lower flood plain can be divided into four zones of vegetation: the amphibious association, the willow association, the river maple association and the ash association.

The amphibious association consists of perennials which can live, as the name of the association implies, under

water or on dry land and ephemerals which spring up after the water subsides. Among the perennials are *Rumex verticillatus* and *Asclepias incarnata*, while the ephemerals include *Acnida tuberculata*, *Ambrosia trifida* and *Bidens comosa*. Another perennial which appears in great numbers, but is usually destroyed each year, is the river maple, which springs up from seeds. One shrub, *Cephalanthus occidentalis*, is associated with the water's edge.

The writer was interested in noting the differences which appeared in different plants in this association. The differences appeared to be due to differences in available water supply due to the variations in the substratum. In the northern part of the region the soil consisted of fine alluvial deposits; north of Lyons it became more sandy and gravelly; while at the tourist park in Lyons there was only a thin layer of soil on the bed rock. As far as the writer could see the differences in vegetation are not a matter of species but of size of the plants. But as the year in which these observations were made was unusually wet, there may be other differences in ordinary years. *Ambrosia trifida*, moreover, did not grow at the water's edge in the tourist park, but was restricted to the region where the soil was three or four inches deep. This restriction may have been due to anchorage for a tall plant as well as to available water supply.

The first tree association is the willow association which may be at the water's edge without any intervening amphibious association. The trees are willows, especially

Salix nigra. The undergrowth consists of ephemerals, for instance *Ambrosia trifida*. Just south of the Madison Street bridge this association is growing under artificial conditions, for naturally the situation, where the willows are, would be an eroding bank as is found just north of the bridge. But the cemetery authorities have driven in many big posts and have thus protected the willows. Along the creek coming into the river from the region of the Oak Park Country Club there is a wilderness of small willow trees. The cause of the unusual development was not recognized by the writer unless it was due to more or less swampy conditions here.

The river maple association comes next, although the river may erode away the bank so that it or the following associations are at the water's edge. *Acer saccharinum*, of course, dominates the vegetation. The undergrowth again contains *Ambrosia trifida*, *Rudbeckia laciniata* and several species of *Bidens*.

The ash association is in the zone of transition from the lower flood plain to the middle flood plain. Here the white ash, *Fraxinus americana* is the dominant plant. Associated with it is the cottonwood, *Populus deltoides*. The summer shade plants, such as *Chaerophyllum procumbens* and *Cryptotaenia canadensis* begin to make their appearance. One shrub, *Sambucus canadensis*, comes in sparingly. The spring flora also begins to come in; for instance, *Ranunculus abortivus*, *R. septentrionalis* and *Dentaria laciniata*.

The middle flood plain is flooded only at extreme

high water and some years escapes entirely. It has been built up above the lower flood plain by the deposition of silt. Since floods affect it less than the former associations, there is a chance for more accumulation of humus which also raises the level of its floor. The association here is the best developed of all the associations both with reference to the frequency and the number of species found in it. The tree population is various: *Juglans cinerea*, *J. Nigra*, *Carya ovata*, *C. cordiformis*, *Quercus macrocarpa*, *Q. rubra*, *Ulmus americana*, *Celtis occidentalis*, *Pyrus ioensis*, *Crataegus punctata* and *C. mollis*. Many shrubs appear here: *Ribes oxyacanthoides*, *Zanthoxylum americanum*, *Staphylea trifolia*, *Cornus paniculata*, and *Sambucus canadensis*. Vines, such as: *Smilax herbacea*, *Menispermum canadense*, *Rhus Toxicodendron*, *Psedera quinquefolia* and *Vitis vulpina*, are abundant. *Claytonia virginica*, *Ranunculus septentrionalis*, *Dentaria laciniata*, *Cardamine Douglasii*, *Geranium maculatum*, *Viola cucullata*, and *Phlox divaricata* are conspicuous early in the season. Later the shade plants, such as *Hystrix patula*, *Laportea canadense*, *Polygonum virginianum*, *Amphicarpus monoica*, *Impatiens biflora*, *Circea lutetiana*, *Sanicula marilandica*, *Chaerophyllum procumbens*, *Osmorhiza longistylis*, *Cryptotaenia canadensis*, *Zizia aurea*, *Heracleum lanatum*, *Hydrophyllum macrophyllum*, *Veronica virginica*, *Galium Aparine*, *Campanula americana*, *Eupatorium purpureum* and *Cacalia atriplicifolia*, are plentiful. In more open places grow *Dactylis glomerata*, *Poa pratensis*, *Apocynum androsaemifolium*, *Teucrium canadense*, *Stachys palustris*, *Monarda fistulosa*,

Pentstemon laevigatus, *Solidago canadensis*, *Aster Drummondii*, *A. tradescanti*, *Erigeron philadelphicus* and *E. annuus*. Not only are there many different kinds of plants here, but the growth is rank, making progress through the middle flood plain very difficult at times.

The upper flood plain extends to the top of the bluff. This zone is practically never flooded. The accumulations of humus may be considerable unless the slope is steep. In this zone two associations are found, the climax forest association with sugar maple as the distinctive tree and the upland oak hickory forest. Where the slope has become gradual the climax forest association is at its best. But when the slope is still abrupt the forest of the middle flood plain reaches nearly to the top of the bluff where it is met by the upland oak-hickory forest. Thus the climax forest association has not been reached. This condition is true especially on the west side of the river where the slope is usually abrupt. On the east side, an example of the climax forest association can be found in Thatcher's Woods, in the forest preserve just south of River Grove and between Madison Street and the Chicago and Northwestern Railway. The upland oak hickory forest borders the river valley almost everywhere, but only a very narrow fringe comes within the limits set in this paper.

Besides *Acer saccharum* in the climax forest association the trees are *Tilia americana*, *Quercus rubra* and *Q. macrocarpa*. Where the shade is dense the undergrowth is

practically the same as in the middle flood plain association. But in the forest preserve south of River Grove the stand is more open and there the undergrowth resembles that of the upland forest.

Compared with the other forests of the river, the upland forest is the most xerophytic, especially in the part which was studied for this paper, for it is at the top of the bluff where the soil is well drained and also the plants are more exposed to the drying effect of the wind than in any of the others. Its tree population consists of *Quercus alba*, *Quercus ellipsoidalis*, besides the two oaks in the former associations, *Juglans nigra*, *Carya ovata*, *Fraxinus americana*, *Crataegus punctata*, *C. mollis*, *Prunus virginiana*. Among the shrubs are *Ptelea trifoliata* and *Rhus glabra*. Many of the shade plants are the same as in the two previous associations. Other plants which come in are *Viola pubescens*, *Zizia aurea*, *Taenidia integrifolia*, *Prunella vulgaris* and *Heliopsis scabra*.
Wafer ash (*helianthoides*)

As the river moves its curves progressively southward these associations move too. Where the river builds new flood plains the plants of the lower flood plain invade and retard the current during floods causing the deposition of silt until the flood plain is raised so that the plants of the middle flood plain forest association can grow. These in turn cause the deposition of more silt and also accumulate some humus so that the floor is again raised. Then the climax forest association invades and stays until disturbed. Around the rim the climax of the flood plain meets the climax for

the upland of this region.

Sometimes instead of a forest a meadow or savannah develops on the lower and middle flood plains. The cause of such a procedure is not fully understood. Illinois, of course, is in the region of transition from deciduous forest to prairie. In some places *Crataegus mollis* is invading the meadow as in Thatcher's Woods just south of Chicago Avenue and in the meadow north of Lake Street on the west side of the river. The latter judging from appearances did not come into existence naturally, but only after the removal of the trees. The meadow, however, in the unusually wide meander belt of the creek north of Maywood appears to be a natural one and is not being invaded by trees, but some grazing may occur here. Whether the meadow in the tourist camp at Lyons is of natural origin is hard to tell, for an amusement park formerly was located there. The region is being invaded by trees, but not in a natural fashion, for here the forest preserve authorities have done more work of reforestation than in any other portion of the region studied. The trees which have been planted here are *Ulmus americana* and *Acer negundo*. The other vegetation consists mainly of grasses with some sedges. Among the grasses the most important is *Poa pratensis*. At the time the tourist camp was visited *Allium cernuum* was especially conspicuous while at the creek north of Maywood *Radicula obtusa* and *Anthenis Cotula* were in abundance. In the meadow north of Lake Street *Convolvulus sepium* and *C. arvensis* were plen-

tiful. The meadow in Thatcher's Woods, however, is too much trampled by picnickers to have anything stand out except the clumps of *Crategus*.

When the river flows against a bank, the soil is eroded and leaves the bank bare of plants. Sometimes the portion affected is only a few feet at the bottom of the bank, but at other times the whole bank is laid bare as it is on the east side just north of the Madison Street bridge and again in the big curve north of Maywood. As the river changes its course and ceases to erode the bank such plants as *Rhus glabra*, *Rosa humilis*, *Vitis vulpina* and *Poa pratensis* creep in until the steep slope becomes more gentle through slumping and more stabilized because of the plants. Then other plants invade.

Another association is also due to disturbance but not of natural origin. Where man has filled in for railroads, roads, sites for factories, playgrounds, or has simply made a dumping ground of the place the disturbed part is bare at first. Then weeds or ruderals appear. Among these are *Oryzopsis glomerata*, *Poa pratensis*, *Erigeron philadelphicus*, *E. annuus* and *Cirsium arvense*.

Some portions of the region are under cultivation. Under the cultivated regions the writer included golf courses, parks, cemeteries, flower gardens and hay fields. No attempt was made to identify the species here. In the golf courses, parks and cemeteries many of the natural trees had been left, although others had also been planted.

The last association of the region is the sedge association which appeared in the swampy region of abandoned

channels. The association was dominated by such sedges as *Carex tribuloides* and *C. cristata*. Other plants are *Asclepias incarnata* and *Lycopus virginicus*.

The ravines are not written up as separate associations in this paper for in this region they are so shallow and broad that they can be considered as about like small rivers, altho the associations are telescoped. Extreme shade plants like *Arisaea Dracontium*, *Polygonum virginianum* and *Impatiens biflora capensis* grow in the dense shade of the middle of the ravine.

The associations of the region then may be summed up thus:

Water Associations:

Submerged association. (1)

Floating association. (2)

Emergent association. (3)

Lower flood plain associations:

Amphibious association. (4)

Willow association. (5)

River Maple Association. (6)

Ash association. (7)

Middle flood plain association. (8)

Upper flood plain associations:

Climax forest association. (9)

Upland oak-hickory association. (10)

Meadow or savannah association. (11)

Associations where the original vegetation has been disturbed:

Association on a bank which has been eroded. (12)

Weed association on land filled in. (13)

Association on land which has been filled in
very recently. (14)

Cultivated associations. (15)

Sedge association. (16)

The numbers following the names of the associations are the same that are used on the maps for these particular associations and also in the charts which are in the next part of this paper.

Of the seventy-nine families represented in this region, only eleven had ten or more species here. They are as follows:

<u>Family</u>	<u>No. of species found</u>	<u>No. of species abundant</u>
Graminae	18	3
Cyperaceae	15	2
Liliaceae	16	3
Polygonaceae	10	2
Urticaceae	10	3
Cruciferae	16	2
Rosaceae	21	4
Leguminosae	14	1
Umbelliferae	13	7
Labiatae	15	5
Compositae	51	15

While the conspicuous flora of the Desplaines valley in this region is forest, only three of the families men-

APPENDIX I.

List of plants identified in the meander belt of the Desplaines River from Franklin Park to below Lyons. Annotations have been made as to the plant associations, centers of range, and abundance.

N.B. The numbers under associations refer to the plant associations as numbered on page 30. The letters under center of range refer to the centers as explained in footnotes to Chart 1, page 33.

APPENDIX I
LIST OF PLANTS

Plants	Belongs to Associations	Center of Range	Found on 2 continents	Abund- ant
Polypodiaceae Sensitive Fern <i>Onoclea sensibilis</i> (L.)	8-9	H		
Equisetaceae Scouring rush <i>Equisetum hyemale</i> L.	12-13	W-A		
Typhaceae <i>Typha latifolia</i> L.	3-16	W-A	X	
Sparganiaceae Bur reed <i>Sparganium americanum</i> var. <i>androcladum</i> (Engelm.) Fern and Eam.	3	E		
Najadaceae pondweeds <i>Potamogeton americanus</i> C. & S. <i>P. zosteriformis</i> <i>P. zosterifolius</i> Schum. <i>P. foliosus</i> Raf. <i>P. pectinatus</i> L.	2 1 1 1	W-A W-A W-A W-A	X X X	
Alismaceae <i>Sagittaria latifolia</i> Wild. <i>S. heterophylla</i> Pursh. <i>A. Plantago-aquatica</i> L.	3 3 3	W-A E W-A	X X X	X
Hydrocharitaceae waterweed <i>Elodea canadensis</i> Mich.	1	W-A	X	X
Gramineae				

46.

	<i>Fall panicum</i>			
	<i>Panicum dichotomiflorum</i> Michx.	16	S	x
	<i>barnyard grass</i>			
	<i>Echinochloa crusgalli</i> (L.)	6	W-A	x
	<i>nimblewill</i>			
	<i>Muhlenbergia Schreberi</i>	12-13	SE	
	J. F. Gmel.			
A	<i>Timothy</i>			
A	<i>Phleum pratense</i> L.	10-11	W-A	x
	<i>Thin grass</i>			
	<i>Agrostis perennans</i>	11	E	
	(Walt.) Tuckerm.			
	<i>spectabilis</i>			
	<i>Eragrostis pilosa</i> (L.) Beauv.	13	S	
A	<i>orchard grass</i>			
A	<i>Dactylis glomerata</i> L.	8-10-13	W-A	x x
A	<i>Poa pratensis</i> L.	7-8-10-11-13-16	W-A	x x
	<i>striata</i>			
	<i>Glyceria nervata</i> (Willd.)	11	W-A	
A	<i>Festuca ovina</i> L.	6	H	x
	<i>F. obtusa</i>			
	<i>F. nutans</i> Spreng.	8	SE	
	<i>pubescens</i>			
	<i>Bromus purgans</i> L.	9	W	
A	<i>Agropyron repens</i> (L.)	13	W-A	x
A	<i>Hordeum jubatum</i> L.	11	NW	
	<i>Elymus virginicus</i> L.	8	SE	
	<i>E. canadensis</i> L.	10	W	
	<i>E. villosus</i>			
	<i>E. striatus</i> Willd.	8	W	
	<i>Hystrix patula</i> Moench.	8-9	E	x
	<i>Elymus hystrix</i>			
	Cyperaceae			
	<i>Field nut sedge</i>			
	<i>Cyperus esculentus</i> L.	16	SE	x
	<i>needle spike rush</i>			
	<i>Eleocharis acicularis</i> (L.) R&S	3	W-A	x
	<i>Scirpus americanus</i> Pers.	3	W-A	x
	<i>soft stem rush</i>			
	<i>S. validus</i>	but not in IL	Vahl.	W-A
	<i>S. atrovirens</i>	Muhl.	16	H
	<i>S. pendulosus</i>			
	<i>S. liliaceus</i>	Michx.	11-16	W-A
	<i>nodding bulrush</i>			x

<i>Carex tribuloides</i> Wahlenb.	16	W	X
<i>C. cephalophora</i> Kuhl.	9	H	
<i>C. cristata</i> Schwein.	16	NW	X
<i>C. vulpinoidea</i> Michx.	16	H	
<i>C. conjuncta</i> Bot.	16	H	
<i>C. Davisii</i> Schwein.	16	X	
<i>C. grisea</i> Wahlenb.	9	E	
<i>C. Grayii</i> Carey	16	E	
<i>C. intumescens</i> Rudge threatened in IL	16	H	

Araceae

<i>Arisaema triphyllum</i> (L.) Schott.	8	E
<i>Arisaema Dracontium</i> (L.) Schott.	8	SE
<i>Symplocarpus foetidus</i> (L.) Nutt.	6	E

Lemnaceae

<i>Lemna minor</i> L.	2	W-A	X	X
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Commelinaceae

<i>Tradescantia reflexa</i> Raf.	8	S
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Juncaceae

<i>Juncus tenuis</i> Willd.	11	W-A
<i>Juncus balticus</i> var. ^{lake shore rush} <i>littoralis</i>	3	W-A

Liliaceae

<i>Uvularia grandiflora</i> Sm.	8	H
<i>Allium tricoccum</i> Ait.	8-9	E
<i>A. cernuum</i> Roth.	9-10-11	NW
<i>A. canadense</i> L.	8-9	S
<i>A. Hemerocallis fulva</i> L.	13	E

Liliaceae (cont.)

	<i>Lilium canadense</i> L. <i>michiganense</i>	11	E	
	<i>Erythronium albidum</i> Nutt.	8-9	H	x
	<i>Canassia esculenta</i> (Ker.) Robinson <i>scilloides</i>	8-9	SW	
A	<i>Asparagus officinalis</i> L.	13	E	x
	<i>Smilacina racemosa</i> (L.) Desf.	8-9	W	
	<i>Smilacina stellata</i> (L.) Desf.	8-9	W-A	x
	<i>Polygonatum commutatum</i> (R.&S.) Dietr.	8-9	W	
	<i>Trillium recurvatum</i> Beck.	8-9	H	
	<i>Smilax herbacea</i> L. S. <i>lasioneura</i> not in Cook Co.	8-9	H	
	<i>S. ecirrhata</i> (Engelm.) Wats.	8-9	SE	
	<i>S. hispida</i> Muhl.	8-9	H	

Dioscoreaceae

	<i>Dioscorea villosa</i> L.	8	S	
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Iridaceae

	<i>Iris versicolor</i> L. <i>virginica shrevei</i>	16	E	
	<i>Sisyrinchium augustifolium</i> Mill.	8	W	

Salicaceae

	<i>Salix nigra</i> Marsh.	5	S	x
	<i>Salix longifolia</i> Muhl. <i>interior</i>	5	W	
	<i>Salix discolor</i> Muhl.	8	N	
A	<i>Populus alba</i> L.	6-7	E	x
	<i>P. tremuloides</i> Michx.	8	N	
	<i>P. deltoides</i> Marsh.	7-8	N	x

Juglandaceae

	<i>Juglans cinerea</i> L. <i>bitternut</i>	8	H	x
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Juglandaceae (cont.)

- <i>J. nigra</i> L.	8-10	S	x
- <i>Garya ovata</i> (Mill.) Koch.	8-10	SE	x
- <i>C. cordiformis</i> (Wang.) Koch.	8	SE	x

Betulaceae

<i>Corylus americana</i> Walt.	8	N	
- <i>Ostrya virginiana</i> (Mill.) Koch. ^{hop hornbeam}	10	H	
- <i>Carpinus caroliniana</i> Walt. ^{American hornbeam}	8	S	

Fagaceae

- <i>Quercus alba</i> L.	10	S	x
- <i>Q. macrocarpa</i> Michx.	8-9-10	H	x
- <i>Q. rubra</i> L.	8-9-10	E	x
- <i>Q. ellipsoidalis</i> E. J. Hill	10	H	x

Urticaceae

<i>Ulmus fulva</i> Michx. ^{rubra}	8	H	
<i>U. americana</i> L.	8	H	x
<i>Celtis occidentalis</i> L. ^{hackberry}	8	H	x
A <i>Cannabis sativa</i> L.	13	H	x
<i>Humulus Lupulus</i> L. ^{American hops}	13	W	x
<i>Morus rubra</i> L. ^{red mulberry}	8	S	
<i>Laportea canadensis</i> (L.) Gaud.	8-9	E	
<i>Pilea pumila</i> (L.) Gray	9	SE	
<i>Boehmeria cylindrica</i> (L.) Sw. ^{false nettle}	8	SE	
<i>Parietaria pensylvanica</i> Muhl. ^{peilitory}	4	SW	

Aristolochiaceae

<i>Acorum canadense</i> L.	8-9	H	
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Polygonaceae

A *Rumex crispus* L. 6-7-8-9 W-A X
10-12-13

<i>R. altissimus</i> Wood. <i>R. verticillatus</i> L.	4 3-4	W S	X
<i>Polygonum exsertum</i> Small.	4	N	
<i>P. aviculare</i> L.	13	W-A	X
<i>P. lapathifolium</i> L.	4-11	W-A	X
<i>P. pennsylvanicum</i> L.	4-5-6	SE	
<i>P. acre</i> H.B.K.	4-11	W-A	
<i>P. orientale</i> L.	13	E	X
<i>P. Persicaria</i> L.	8-9	W-A	X
<i>P. virginianum</i> L.	8-9	X	X
<i>P. scandens</i> L.	6-7-8	W	

Chenopodiaceae

<i>Chenopodium hybridum</i> L. <i>maple-leaved goosefoot</i>	7-8-13	W-A	X
A <i>C. album</i> L.	6-7-13	W-A	X
A <i>Atriplex patula</i> L.	6-7-13	W-A	X

Amaranthaceae

<i>Amaranthus tuberculatus</i>	4-5	H	X
A <i>Acnida tuberculata</i> Moq.	6-7-13	W-A	X

Nyctaginaceae

<i>Allenia nyctaginea</i>			
A <i>Oxybaphus nyctagineus</i> (Michx.) Sweet.	13	W	

Carophyllaceae

A <i>Arenaria lateriflora</i> L.	8	W-A	X
A <i>Stellaria longifloia</i> (L.) Muhl.	8	W	X
A <i>S. media</i> (L.) Cyrill.	8	W-A	X

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Carophyllaceae (cont.)

A <i>Lychnis alba</i> Mill.	13	E	X
/ <i>Silene stellata</i> (L.) Ait.f.	8-9-10	S	
A <i>Saponaria officinalis</i> L.	13	W-A	X

Portulacaceae

/ <i>Claytonia virginica</i> L.	8-9-10	H	X
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Ceratophyllaceae

<i>Ceratophyllum demersum</i> L. <i>hornwort</i>	1	W-A	X
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Ranunculaceae

<i>Ranunculus abortivus</i> L.	6-7-8	N	X
/ <i>R. fascicularis</i> MUHL.	10	SW	
<i>R. septentrionalis</i> Poir.	6-7-8	H	X
/ <i>Thalictrum dioicum</i> L.	8-9-10	N	
/ <i>Anemonella thalictroides</i> (L.) Spach.	10	H	
<i>Anemone virginiana</i> L.	8-9	N	
<i>A. canadense</i> L.	8	N	
<i>Isopyrum biternatum</i> (Raf.) T.&G.	8	S	

Menispermaceae

<i>Menispermum canadense</i> L.	8-9	H	X
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Berberidaceae

<i>Polygonatum peltatum</i> L.	8-9	X	
<i>Caulophyllum thalictroides</i> (L.) Michx.	8	H	

Papaveraceae

<i>Sanguinaria canadensis</i> L.	8	H	
A <i>Papaver Rhoeas</i> L.	13	E	X

Fumariaceae

Dicentra Cucullaria (L.) Bernh. 8 E

Cruciferae

Lepidium virginicum L. 11-13 S X

A *Capsella bursa-pastoris* (L.) Medic. 13 W-A X

A *Brassica kaber* arvensis (L.) Kuntze. 13 W-A X

A *B. campestris* L. 13 W X

A *Sisymbrium officinale* (L.) Scop. 13 W-A X

A *S. altissimum* L. 13 W-A X

A *Erysimum cheiranthoides* L. 4 W X

A *Rorippa Radicula* sylvestris (L.) Druce. 6 E X

prob. Barbarea vulgaris
R. obtusa (Nutt.) Greene 11 W

marsh cress
R. palustris (L.) Moensch. 6-7 W-A X

Iodanthus pinnatifidus (Michx.) Steud. 8 SW

Dentaria laciniata Muhl. 7-8 SE X

Cardamine Douglasii (Torr.) Brit. 8 N X

Arabis dentata T. & G. toothed 8 H

A. laevigatus (Muhl.) Poir. 8 E

A. canadensis L. sickle pod 8 S

Crassulaceae

A *Sedum purpureum* Tausch. 13 E X

ditch stonecrop
Penthorum sedoides L. 16 SE

Saxifragaceae

Heuchera richardsonii
H. hispida Purch. 10 NW

Ribes missouriense
R. gracile Michx. 10 N

<i>Ribes oxyacanthoides</i> L. <i>hirtellum</i>	8-9	N	x
<i>R. floridum</i> L'Her. <i>americanum</i>	8	N	
Hamamelidaceae			
<i>Hamamelis virginiana</i> L.	8	SE	
Rosaceae			
<i>Physocarpus opulifolius</i> var. <i>intermedius</i> (Rydb.) Rob. <i>ninebark</i>	9-10	W	
<i>Pyrus ioensis</i> (Wood) Bailey <i>interior?</i>	8	S	x
<i>Amelanchier oblongifolia</i> (T.&G.) Roem.	10	SE	
<i>Crataegus Crus-galli</i> L.	8	E	
<i>C. punctata</i> var. <i>rubra</i> Ait.	8-10	H	x
<i>C. mollis</i> (T.&G.) Scheele.	8-10-11	W	x
<i>C. macracantha</i> Lodd.	8	N	
<i>Fragaria virginiana</i> Duchesne.	10	E	
<i>Potentilla monspeliensis</i> L. <i>norvegica?</i>	10-13	W-A	x
<i>P. canadensis</i> L. <i>P. simplex</i> <i>not in NL</i>	10	S	
<i>Geum canadense</i> Jacq.	8	E	
<i>G. virginianum</i> L. <i>not in Cock Co.</i>	8	NE	
<i>Rubus occidentalis</i> L.	10	E	
<i>R. alleghaniensis</i> Port.	8-10	NE	
<i>Agrimonia gryposepala</i> Walir.	8	W	
<i>Rosa blanda</i> Ait.	8	N	
<i>R. Hixii</i> Marsh. <i>R. palustris</i> , <i>not in NL</i> <i>R. carolina</i> , or <i>R. setigera</i>	12-15	E	
<i>Prunus serotina</i> Ehrh.	9	S	
<i>P. virginiana</i> L.	10	S	x
<i>P. cerasus</i> L.	8	E	
<i>P. americana</i> Marsh.	8	N	

Leguminosae

<i>Gymnocladus dioica</i> (L.) Koch.	8	H	
A <i>Trifolium pratense</i> L.	10	W-A	X
A <i>T. repens</i> L.	10	W-A	X
A <i>T. hybridum</i> L.	11	W	
A <i>T. procumbens</i> L.	10	W-A	X
A <i>Melilotus officinalis</i> (L.) Lam.	13	W-A	X
A <i>M. alba</i> Desr.	12-13	W-A	X
A <i>Medicago lupulina</i> L.	11	W-A	X
A <i>Robinia Pseudo-Acacia</i> L. ^{black locust}	9	S	X
<i>Astragalus canadensis</i> L.	8	N	
<i>Desmodium glutinosum</i> <i>grandiflorum</i> (Walt.) DC	8	H	
<i>Vicia americana</i> Muhl.	8	W	
<i>Lathyrus venosus</i> Muhl.	8	H	
<i>Amphicarpa Monoica</i> (L.) Ell. ^{bracteata}	8	H	X

Oxalidaceae

<i>Oxalis corniculata</i> L. ^{europaea}	8-11-12	W	X
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Geraniaceae

<i>Geranium maculatum</i> L.	8-9	H	X
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Rutaceae

X <i>Zanthoxylum americanum</i> Mill. Prickly ash	8	N	X
/ <i>Ptelea trifoliata</i> L. Wafer ash	10	SW	X

Euphorbiaceae

<i>Acalypha virginica</i> L. ^{rhamboidea}	8-13	SE	
A <i>Euphorbia dentata</i> Michx. <i>E. corollata</i> (L.) E.M.	10	SW	
	13	SE	

Lemnaceae

Floerkea proserpinacoides Willd. 6 N

Anacardiaceae

/ <i>Rhus glabra</i> L.	10-12	SE	x
/ <i>R. Toxicodendron</i> L.	8-9-10	W	x

Celastraceae

/ <i>Euonymus atropurpureus</i> Jacq.	8	H	
<i>E. obovatus</i> Nutt.	8-9	NE	
/ <i>Celastrus scandens</i> L.	10	H	x

Staphyleaceae

<i>Staphylea trifolia</i> L.	8-9	N	x
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Aceraceae

<i>Acer saccharum</i> Marsh.	9	H	x
<i>A. saccharinum</i> L.	6	S	x
<i>A. negundo</i> L.	6-7	SW	

Balsaminaceae

<i>Impatiens pallida</i> Nutt.	8	N	
<i>I. capensis</i> <i>I. biflora</i> Walt.	8	N	x

Vitaceae

<i>Pseuderis quinquefolia</i> (L.) Greene	8	SW	x
<i>Vitis aestivalis</i> Michx.	8	S	
<i>V. vulpina</i> L.	8-12	W	x

Tiliaceae

<i>Tilia americana</i> L.	8-9	H	x
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Malvaceae

<i>Abutilon Theophrasti</i> Medic	4-11	W-A	x
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Violaceae

<i>Viola cucullata</i> Ait.	7-8	N	x
<i>V. sororia</i> Willd.	8-11	N	
<i>V. incognita</i> Brainerd.	8	N	
<i>V. pubescens</i> Ait.	8-9-10	H	x
<i>V. scabriuscula</i> Schwein.	8	H	

Lythraceae

<i>Lythrum alatum</i> Pursh.	11	W	
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Onagraceae

<i>Oenothera muricata</i> L.	11-12-13	E	
<i>Gaura biennis</i> L.	10-11	H	
<i>Circaeaa lutetiana</i> L.	8-9	H	x

Umbelliferae

<i>Sanicula marilandica</i> L.	8-9-10	W	x
<i>Chaerophyllum procumbens</i> (L.) Grantz	7-8	S	x
<i>Osmorhiza longistylis</i> (Forr.) D. C.	8-9	NE	x
<i>Cicuta maculata</i> L.	4	H	
<i>Sium cicutaeefolium</i> Shrenk	4	W	
<i>Cryptotaenia canadensis</i> (L.) DC	7-8-9-10	H	x
<i>Zizia aurea</i> (L.) Koch.	8-10	H	x
<i>Taenidia integriflora</i> (L.) Drude	10	NE	x
<i>Eulophus americanus</i> Nutt.	10	SW	
<i>Thaspium aureum</i> Nutt.	8	H	
<i>Heracleum lanatum</i> Michx.	8-9	W	
<i>Angelica atropurpurea</i> L.	4-11	NE	
<i>Daucus Carota</i> L.	8	W-A	x

Cornaceae

Cornus paniculata (L'Her.) 8-9 S X

Primulaceae

Lysimachia nummularia L. 6-7-8 S X

Steironema ciliatum (L.) Raf. 7-8-11 W X X

✓ *Dodecatheon media* L. 10 S

Oleaceae

✓ *Fraxinus americana* L. 7-10 H X

F. pennsylvanica Marsh. 7 S

F. nigra Marsh. 7 N

Apocynaceae

✓ *Apocynum androsaemifolium* L. 8-9-10 W X

Asclepiadaceae

Asclepias incarnata L. 4-17 W X

A. syriaca L. 8-11-12 W

A. verticillata L. 11 SW

Convolvulaceae

Convolvulus sepium L. 6-8-11 W-A X

✓ *A. arvensis* L. 11-16 W-A X

Cuscuta Gronovii Willd. 6-7-8 W X

Polemoniaceae

✓ *Phlox divaricata* L. 8-9-10 E X

Hydrophyllaceae

Hydrophyllum macrophyllum Nutt. ^{virginianum} 8 SE X

Ellisia Nyctelea L. 8 NW

Soraginaceae

Mertensia virginica (L.) Link. 7-8 H

Verbenaceae

<i>Verbena urticaefolia</i> L.	6-16	S	
<i>V. augustifolia</i> Michx.	13	S	
<i>V. hastata</i> L.	16	W	
<i>Lippia Lanceolata</i> Michx.	4-6-16	SW	

Labiatae

<i>Teucrium canadense</i> L.	8-11	S	x
<i>Scutellaria lateriflora</i> L.	7-8	W	
<i>Agastache nepetoides</i> (L.) Kuntze	8-9	H	
<i>A. scrophulariifolia</i> Willd.	8	E	
- <i>Nepeta cataria</i> L.	10	H	
- <i>Nepeta Hederacea</i> (L.) Trev.	10	W-A	x
- <i>Prunella vulgaris</i> L.	10	W-A	x
<i>Phyostegia virginiana</i> (L.) Benth.	7-8	S	
<i>Leonurus Cardiaca</i> L.	8	W-A	x
<i>Stachys tenuifolia</i> Willd.	7-8	SE	
<i>S. palustris</i> L.	8	W-A	x
<i>Monarda fistulosa</i> L.	8-11	S	x
<i>Pycnanthemum flexuosum</i> (Walt.) B.S.P.	11	S	
<i>Lycopus virginicus</i> L.	16	E	x
<i>L. americanus</i> Muhl.	16	W-A	

Solanaceae

- <i>Solanum Dulcamara</i> L.	10-15	W-A	x
- <i>S. nigrum</i> L.	13	W-A	x
<i>Physalis heterophylla</i> Nees.	8	W	

Scrophulariaceae

<i>Mullein</i>				
A <i>Verbascum Thapsus</i>	12	W-A	x	
<i>moth mullein</i>	10	W-A	x	
A <i>V. Blattaria L.</i>				
<i>anceps</i>				
<i>Scrophularia leporella Bick.</i>	8	H		
<i>S. marilandica L.</i>	8	E		
<i>eastern; prob. P. digitalis</i>	8	SE	x	
<i>Penstemon laevigatus Ait.</i>				
<i>Mimulus ringens L.</i>	6-7	H		
<i>Veronicastrum virginicum</i>	8-9-10	W	x	
<i>Veronica virginica L.</i>				
<i>American brooklime</i>				
<i>V. americana Schwein</i> <u>Endangered</u>	8	W not mapped for Cook Co		
<i>Seymeria macrophylla Nutt.</i>	7	SW may be <i>V. scutellata</i>		

Bignoniaceae

A <i>Catalpa bignonioides Walt.</i>	13	S		
<i>Southern IL, escaped in Cook Co</i>				

Plantaginaceae

<i>Plantago Rugellii Done</i>	6-7-8-13	H		
<i>P. lanceolata</i>	13	W-A	x	

Rubiaceae

<i>Galium Aparine L.</i>	8	H	x	x
<i>northern bog beardstraw</i>				
<i>Galium labradoricum Wiegand.</i>	7-16	NE		
<i>partridge berry</i>	8	SE		
<i>Kitchella repens L.</i>				
<i>Cephalanthus occidentalis L.</i>	4-6-16	SW		x

Caprifoliaceae

A <i>Lonicera Tatarica L.</i>	10	E	x	
<i>reticulata</i> <i>Grape honeysuckle</i>	8	H		
<i>Lonicera Sullivantii Gray.</i>				
<i>Snowberry</i>				
<i>Syphoricarpos racemosus var.</i>	8	W-A		
<i>laevigatus Fernald.</i>				
<i>Triosteum aurantiacum Bick.</i>	9	E		

Caprifoliaceae (cont.)

<i>Viburnum Opulus</i> var. americanum (Mill.) Ait.	8	W-A	X
v. pubescens (Ait.) Pursh.	8	N	
Arrowswood	8	E	
v. dentatum L.	8	N	
Nannyberry	8		
v. Lentago L.	8	SW	
Black haw	8		
v. prunifolium L.	8		

Valerianaceae

Sambucus canadensis L.	7-8	H	X
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Cucurbitaceae

Wild cucumber	6-7-8	W
Echinocystis lobata (Michx.) T&G		

Campanulaceae

Campanula americana L.	8-9	H	X
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Lobeliaceae

Lobelia siphilitica L.	8	H
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Compositae

Vernonia fasciculata Michx.	11	W
Eupatorium purpureum L.	8-9	H
E. altissimum L.	10	SW
E. perfoliatum L.	16	H
E. rugosum Reich.	9-10	E
E. urticaefolium Reich.	10	S
Solidago rugosa Mill.	8-8-10-11	NE
S. canadensis L.	11	W
S. rigida L.	16	EW
S. sempervirens (L.) Salisb.	8-9-12	S
Aster Shortii Lindl.	8-10	SW
Aster Drummondii Lindl.		

Compositae

	<i>A. ericoides</i> var. <i>villosus</i> T.&G.	10	SE		
	<i>A. multiflorus</i> Ait.	11	W		
	<i>A. Tradescanti</i> L.	8-9-11	E	x-	
	<i>Erigeron philadelphicus</i> L.	8-11-13	W	x	
	<i>E. annuus</i> (L.) Pers.	8-11-13	W	x	x
	<i>E. canadensis</i> L.	13	W-A		
	<i>Antennaria neglecta</i> Greene	8-10	E		
	<i>Silphium terebinthinaceum</i> Jacq.	11	E		
	<i>S. perfoliatum</i> L.	8-9-10	S		
	<i>Ambrosia trifida</i> L.	4-5-6-7	H	x	
	<i>A. artemisiifolia</i> L.	13	W	x	
	<i>Xanthium canadense</i> Mill. cocklebur	4-13	N		
	<i>Heliopsis scabra</i> Dunal.	10	W		x
	<i>Rudbeckia hirta</i> L.	10	W		
	<i>R. laciniata</i> L.	5-6-7	W	x	
	<i>Helianthus tuberosus</i> L.	7-8	H		
	<i>Actinomeris alternifolia</i> (L.) DC	9	S		
	<i>Coreopsis palmata</i> Nutt.	4-3	W		
	<i>Bidens frondosa</i> L.	6-7	W	x	x
	<i>B. vulgaris</i> Greene.	6-7	W		x
	<i>B. comosa</i> (Gray) Wiegand.	4-5-6	W		
	<i>B. cernua</i> L.	4-5-6	W-A	x	
	<i>B. involucrata</i> (Nutt.) Brit.	4-18	SW		
	<i>Helenium autumnale</i> L.	11-18	W-A		
A	<i>Achillea millefolium</i> L.	8-10-11-13	S	x	

	<i>Mayweed</i> <i>Anthemis</i> <i>Cotula</i> L.	11	W-A	x
A	<i>Chrysanthemum</i> <i>Leucanthemum</i> L.	13	W-A	x
A	<i>Common wood</i> <i>Artemisia</i> <i>biennis</i> Willd.	13	W	
	<i>Cacalia</i> <i>triplicifolia</i> L.	8	S	x
	<i>Golden ragwort</i> <i>Senecio</i> <i>aureus</i> L.	16	E	
A	<i>Arctium</i> <i>minus</i> Bernh.	13	H	x
	<i>Cirsium</i> <i>discolor</i> Muhl.	13	E	
	<i>C. altissimum</i> (L.) Spreng.	8	S	
A	<i>C. arvense</i> (L.) Scop.	11-13	E	x
A	<i>Giant beard</i> <i>Tragopogon</i> <i>pratensis</i> L.	10	H	x
A	<i>Taraxacum</i> <i>officinale</i> Weber	8-10-12- 13	W-A	x
	<i>Sow thistle</i> <i>Sonchus</i> <i>asper</i> (L.) Hill.	13	W-A	x
A	<i>Prickly</i> <i>Lactuca</i> <i>scariola</i> L.	13	W-A	x
/	<i>L. villosa</i> Jacc.	10-13	SE	
	<i>L. spicata</i> (Lam.) Hitchc.	7-8	N	