



Frazier-Freeland Preserve Floristic Quality Assessment Results

A Floristic Quality Assessment of Frazier-Freeland Preserve was conducted by Liana May during the summer of 2014.

Floristic quality assessments (FQAs) are a useful tool to measure a plant community's conservation value. To perform an FQA, all vascular plant species in a community are quantified and an index representing the rarity of these species is summed to give a ranking that can be compared across different ecosystem types. This information can then be used to identify high-quality species and groupings of species in order to prioritize conservation and management efforts. At Frazier-Freeland Preserve the total number of species and native species are:

Native Species	Total Species
160	219

The coefficient of conservation (C) is a value between 0 and 10 assigned to each species, representing the species likelihood to occur in an unaltered, pre-European settlement landscape in the state of Michigan (Herman et al 2001). A C-value of 0 is assigned to species with low fidelity to their natural habitat and the ability to persist in numerous habitat conditions. A C-value of 10 is assigned to invasive species, also called adventives. At Frazier-Freeland Preserve the mean C-values are:

Native Mean C	Mean C w/ Adventives
3.7	2.7

The coefficient of wetness (W) is assigned to each species depending on their probability to occur in wetlands, where species with a W-value of -5 are obligatory wetland species, and those with a W-value of +5 are upland species. At Frazier-Freeland Preserve the mean coefficients of wetness are:

Native Mean W	Mean W w/ Adventives
-0.6	0.3

FQIs less than 20 have minimal significance, while FQIs greater than 35 represent areas of conservation importance and are floristically significant on a statewide level. Areas with FQIs greater than 50 are extremely rare and represent areas of significant native biodiversity (Herman et al 2001). At Frazier-Freeland Preserve the FQI's are:

Native FQI	FQI w/ Adventives
46.8	31.6

May, L. 2014. Floristic Quality Assessment and Habitat Mapping of Frazier-Freeland Preserve.

Herman, K. D., L. A. Masters, M. R. Penskar, A. A. Reznicek, G. S. Wilhelm, W. W. Brodovich, and K. P. Gardiner. 2001. Floristic Quality Assessment with Wetland Categories and Examples of Computer Applications for the State of Michigan – Revised, 2nd Edition. Michigan Department of Natural Resources, Wildlife, Natural Heritage Program. Lansing, MI. 19 pp. + Appendices.



Frazier-Freeland Preserve

High Quality Plant Species

This list represents the most ecologically significant and high quality plants found at the Frazier-Freeland Preserve during a 2014 Floristic Quality Assessment conducted by Liana May. These plants are the highest quality species found on the property and therefore may be rare, difficult to find, or not be blooming depending on the season.

Please remember to practice Leave No Trace techniques; picking flowers may not seem like a big deal, but it means others won't have a chance to enjoy them. With thousands of people visiting Conservancy properties, the less impact we each make, the longer we will enjoy what we have. If you are interested in conducting a scientific study on the property please contact the Conservancy for written permission.

C	Scientific Name	Common Name
7	<i>Actaea pachypoda</i>	Dolls-eyes
7	<i>Betula alleghaniensis</i>	Yellow birch
7	<i>Equisetum fluviatile</i>	Water horsetail
7	<i>Geum rivale</i>	Purple avens
8	<i>Carex lasiocarpa</i>	Sedge
8	<i>Glyceria Canadensis</i>	Rattlesnake grass
8	<i>Pyrola asarifolia</i>	Pink pyrola
8	<i>Rhamnus alnifolia</i>	Alder-leaved buckthorn
8	<i>Salix serissima</i>	Autumn willow
9	<i>Cypripedium reginae</i>	Showy or queens lady-slipper
10	<i>Carex prasina</i>	Sedge
10	<i>Epifagus virginiana</i>	Beech-drops
10	<i>Veronica beccabunga var. americana</i>	American brooklime

To see pictures or learn more about the plants listed above please visit the Michigan Natural Features Inventory website at <http://mnfi.anr.msu.edu/data/specialplants.cfm> or consult Newcomb's Wildflower Guide by Lawrence Newcomb.

Fraizer-Freeland FQA - All Communities

Fraizer-Freeland Preserve (all communities)

10/21/14

Fraizer-Freeland Preserve

Northport

Leelanau

MI

USA

FQA DB Region:

Michigan

FQA DB Publication Year:

2014

FQA DB Description:

Reznicek, A.A., M.R. Penskar, B.S. Walters, and B.S. Slaughter. 2014. Michigan Floristic Quality Assessment Database. Herbarium, University of Michigan, Ann Arbor, MI and Michigan Natural Features Inventory, Michigan State University, Lansing, MI. <http://michiganflora.net>

Practitioner:

Liana May

Latitude:

Longitude:

Weather Notes:

Duration Notes:

Growing season 2014

Community Type Notes:

All communities present

Other Notes:

Private/Public:

Public

Conservatism-Based Metrics:

Total Mean C:	2.7
Native Mean C:	3.7
Total FQI:	40
Native FQI:	46.8
Adjusted FQI:	31.6
% C value 0:	29.7
% C value 1-3:	34.7
% C value 4-6:	29.7
% C value 7-10:	5.9
Native Tree Mean C:	3.9
Native Shrub Mean C:	3.5
Native Herbaceous Mean C:	3.7

Species Richness:

Total Species:	219	
Native Species:	160	73.10%
Non-native Species:	59	26.90%

Species Wetness:

Mean Wetness:	0.3
Native Mean Wetness:	-0.6

Physiognomy Metrics:

Tree:	25	11.40%
Shrub:	28	12.80%
Vine:	6	2.70%
Forb:	104	47.50%
Grass:	16	7.30%
Sedge:	28	12.80%
Rush:	0	0%
Fern:	12	5.50%
Bryophyte:	0	0%

Duration Metrics:

Annual:	10	4.60%
Perennial:	201	91.80%
Biennial:	8	3.70%
Native Annual:	4	1.80%
Native Perennial:	155	70.80%
Native Biennial:	1	0.50%

Species:

Scientific Name	Family	Acronym	Native?	C	W	Physiognomy	Duration	Common Name
Acer rubrum	Sapindaceae	ACERUB	native	1	0	tree	perennial	red maple
Acer saccharum	Sapindaceae	ACESAU	native	5	3	tree	perennial	sugar maple
Achillea millefolium	Asteraceae	ACHMIL	native	1	3	forb	perennial	yarrow
Actaea pachypoda	Ranunculaceae	ACTPAC	native	7	5	forb	perennial	dolls-eyes
Agrimonia gryposepala	Rosaceae	AGRGRY	native	2	3	forb	perennial	tall agrimony
Agrostis gigantea	Poaceae	AGRIGIG	non-native	0	-3	grass	perennial	redtop
Allium tricoccum	Alliaceae	ALLTRI	native	5	3	forb	perennial	wild leek
Ambrosia artemisiifolia	Asteraceae	AMBART	native	0	3	forb	annual	common ragweed
Amelanchier interior	Rosaceae	AMEINT	native	4	5	shrub	perennial	serviceberry
Amelanchier laevis	Rosaceae	AMELAE	native	4	5	tree	perennial	smooth shadbush
Anemone canadensis	Ranunculaceae	ANECAN	native	4	-3	forb	perennial	canada anemone
Antennaria howellii	Asteraceae	ANTHOW	native	2	5	forb	perennial	small pussytoes
Apocynum androsaemifolium	Apocynaceae	APOAND	native	3	5	forb	perennial	spreading dogbane
Arabidopsis thaliana	Brassicaceae	ARATHA	non-native	0	5	forb	annual	mouse-ear cress
Arisaema triphyllum	Araceae	ARITRI	native	5	0	forb	perennial	jack-in-the-pulpit
Asclepias incarnata	Apocynaceae	ASCINC	native	6	-5	forb	perennial	swamp milkweed
Asclepias syriaca	Apocynaceae	ASCSYR	native	1	5	forb	perennial	common milkweed
Asparagus officinalis	Asparagaceae	ASPOFF	non-native	0	3	forb	perennial	garden asparagus
Athyrium filix-femina	Athyriaceae	ATHFIL	native	4	0	fern	perennial	lady fern
Barbarea vulgaris	Brassicaceae	BARVUL	non-native	0	0	forb	biennial	yellow rocket
Berberis thunbergii	Berberidaceae	BERTHU	non-native	0	3	shrub	perennial	japanese barberry
Berteroa incana	Brassicaceae	BERINC	non-native	0	5	forb	annual	hoary alyssum
Betula alleghaniensis	Betulaceae	BETALL	native	7	0	tree	perennial	yellow birch
Betula papyrifera	Betulaceae	BETPAP	native	2	3	tree	perennial	paper birch

Appendix A

Fraizer-Freeland FQA - All Communities

Botrychium matricariifolium	Ophioglossaceae	BOTMAT	native	5	3	fern	perennial	daisy-leaved moonwort
Bromus inermis	Poaceae	BROINE	non-native	0	5	grass	perennial	smooth brome
Caltha palustris	Ranunculaceae	CALPAR	native	6	-5	forb	perennial	marsh-marigold
Cardamine diphylla; dentaria d.	Brassicaceae	CARDIP	native	5	3	forb	perennial	two-leaved toothwort
Carex arctata	Cyperaceae	CXARTT	native	3	5	sedge	perennial	sedge
Carex aurea	Cyperaceae	CXAURE	native	3	-3	sedge	perennial	sedge
Carex bebbii	Cyperaceae	CXBEBB	native	4	-5	sedge	perennial	sedge
Carex crinita	Cyperaceae	CXCRIN	native	4	-5	sedge	perennial	sedge
Carex cristatella	Cyperaceae	CXCRIS	native	3	-3	sedge	perennial	sedge
Carex flava	Cyperaceae	CXFLAV	native	4	-5	sedge	perennial	sedge
Carex gracillima	Cyperaceae	CXGRAA	native	4	3	sedge	perennial	sedge
Carex granularis	Cyperaceae	CXGRAN	native	2	-3	sedge	perennial	sedge
Carex hystericina	Cyperaceae	CXHYST	native	2	-5	sedge	perennial	sedge
Carex interior	Cyperaceae	CXINTE	native	3	-5	sedge	perennial	sedge
Carex intumescens	Cyperaceae	CXINTU	native	3	-3	sedge	perennial	sedge
Carex lasiocarpa	Cyperaceae	CXLASI	native	8	-5	sedge	perennial	sedge
Carex leptalea	Cyperaceae	CXLEPA	native	5	-5	sedge	perennial	sedge
Carex leptoneuria	Cyperaceae	CXLEPO	native	3	0	sedge	perennial	sedge
Carex pensylvanica	Cyperaceae	CXPENS	native	4	5	sedge	perennial	sedge
Carex prasina	Cyperaceae	CXPRAS	native	10	-5	sedge	perennial	sedge
Carex retrorsa	Cyperaceae	CXRETS	native	3	-5	sedge	perennial	sedge
Carex rosea; c. convoluta	Cyperaceae	CXROSE	native	2	5	sedge	perennial	curly-styled wood sedge
Carex scabrata	Cyperaceae	CXSCAB	native	4	-5	sedge	perennial	sedge
Carex scoparia	Cyperaceae	CXSCOP	native	4	-3	sedge	perennial	sedge
Carex stipata	Cyperaceae	CXSTIP	native	1	-5	sedge	perennial	sedge
Carex swanii	Cyperaceae	CXSWAN	native	4	3	sedge	perennial	sedge
Carex tribuloides	Cyperaceae	CXTRIB	native	3	-3	sedge	perennial	sedge
Carex vulpinoidea	Cyperaceae	CXVULP	native	1	-5	sedge	perennial	sedge
Celastrus scandens	Celastraceae	CELSCA	native	3	3	vine	perennial	american bittersweet
Centaurea stoebe; c. maculosa	Asteraceae	CENSTO	non-native	0	5	forb	biennial	spotted knapweed
Cerastium fontanum	Caryophyllaceae	CERFON	non-native	0	3	forb	perennial	mouse-ear chickweed
Cerastium semidecandrum	Caryophyllaceae	CERSEM	non-native	0	5	forb	annual	small mouse-ear chickweed
Cichorium intybus	Asteraceae	CICINT	non-native	0	3	forb	perennial	chicory
Circaea canadensis; c. lutetiana	Onagraceae	CIRCAN	native	2	3	forb	perennial	enchanters-nightshade
Cirsium arvense	Asteraceae	CIRARV	non-native	0	3	forb	perennial	canada thistle
Cirsium vulgare	Asteraceae	CIRVUL	non-native	0	3	forb	biennial	bull thistle
Clematis virginiana	Ranunculaceae	CLEVIR	native	4	0	vine	perennial	virgins bower
Clinopodium vulgare	Lamiaceae	CLIVUL	native	3	5	forb	perennial	wild-basil
Convallaria majalis	Convallariaceae	CONMAJ	non-native	0	5	forb	perennial	lily-of-the-valley
Cornus alternifolia	Cornaceae	CORALT	native	5	3	tree	perennial	alternate-leaved dogwood
Cornus amomum	Cornaceae	CORAMO	native	2	-3	shrub	perennial	silky dogwood
Cornus sericea; c. stolonifera	Cornaceae	CORSER	native	2	-3	shrub	perennial	red-osier
Cypripedium reginae	Orchidaceae	CYPREG	native	9	-3	forb	perennial	showy or queens lady-slipper
Dactylis glomerata	Poaceae	DACGLO	non-native	0	3	grass	perennial	orchard grass
Danthonia spicata	Poaceae	DANSPI	native	4	5	grass	perennial	poverty grass; oatgrass
Daucus carota	Apiaceae	DAUCAR	non-native	0	5	forb	biennial	queen-annes-lace
Dianthus armeria	Caryophyllaceae	DIARM	non-native	0	5	forb	annual	deptford pink
Dichanthelium implicatum; panicum i.	Poaceae	DICIMP	native	3	0	grass	perennial	panic grass
Digitaria cognata; leptoloma c.	Poaceae	DIGCOG	native	3	5	grass	perennial	fall witch grass
Dryopteris carthusiana	Dryopteridaceae	DRYCAR	native	5	-3	fern	perennial	spinulose woodfern
Dryopteris cristata	Dryopteridaceae	DRYCRI	native	6	-5	fern	perennial	crested shield fern
Dryopteris intermedia	Dryopteridaceae	DRYINT	native	5	0	fern	perennial	evergreen woodfern
Elaeagnus umbellata	Elaeagnaceae	ELAUMB	non-native	0	3	shrub	perennial	autumn-olive
Eleocharis erythropoda	Cyperaceae	ELEERY	native	4	-5	sedge	perennial	spike-rush
Elymus repens; agropyron r.	Poaceae	ELYREP	non-native	0	3	grass	perennial	quack grass
Epifagus virginiana	Orobanchaceae	EPIVIR	native	10	5	forb	annual	beech-drops
Epilobium ciliatum	Onagraceae	EPICIL	native	3	-3	forb	perennial	willow-herb
Epilobium coloratum	Onagraceae	EPICOL	native	3	-5	forb	perennial	cinnamon willow-herb
Epilobium hirsutum	Onagraceae	EPIHIR	non-native	0	-3	forb	perennial	great hairy willow-herb
Epilobium parviflorum	Onagraceae	EPIPAR	non-native	0	-5	forb	perennial	willow-herb
Epipactis helleborine	Orchidaceae	EPIHEL	non-native	0	0	forb	perennial	helleborine
Equisetum arvense	Equisetaceae	EQUARV	native	0	0	fern	perennial	common horsetail
Equisetum fluviatile	Equisetaceae	EQUFLU	native	7	-5	fern	perennial	water horsetail
Erigeron philadelphicus	Asteraceae	ERIPHI	native	2	0	forb	perennial	philadelphia fleabane
Erigeron strigosus	Asteraceae	ERISTR	native	4	3	forb	perennial	daisy fleabane
Erythronium americanum	Liliaceae	ERYAME	native	5	5	forb	perennial	yellow trout lily
Eupatorium perfoliatum	Asteraceae	EUPPER	native	4	-3	forb	perennial	boneset
Euphorbia virgata; e. esula	Euphorbiaceae	EUPVIR	non-native	0	5	forb	perennial	leafy spurge
Euthamia graminifolia	Asteraceae	EUTGRA	native	3	0	forb	perennial	grass-leaved goldenrod
Fagus grandifolia	Fagaceae	FAGGRA	native	6	3	tree	perennial	american beech
Fragaria virginiana	Rosaceae	FRAVIR	native	2	3	forb	perennial	wild strawberry
Fraxinus americana	Oleaceae	FRAAME	native	5	3	tree	perennial	white ash
Fraxinus nigra	Oleaceae	FRAFIG	native	6	-3	tree	perennial	black ash
Fraxinus pennsylvanica	Oleaceae	FRAPEN	native	2	-3	tree	perennial	red ash
Galium palustre	Rubiaceae	GALPAL	native	3	-5	forb	perennial	marsh bedstraw
Gaultheria procumbens	Ericaceae	GAUPRO	native	5	3	shrub	perennial	wintergreen
Geranium robertianum	Geraniaceae	GERROB	native	3	3	forb	annual	herb robert
Geum aleppicum	Rosaceae	GEUALE	native	3	0	forb	perennial	yellow avens
Geum canadense	Rosaceae	GEUCAN	native	1	0	forb	perennial	white avens
Geum rivale	Rosaceae	GEURIV	native	7	-5	forb	perennial	purple avens
Glyceria canadensis	Poaceae	GLYCAN	native	8	-5	grass	perennial	rattlesnake grass
Glyceria striata	Poaceae	GLYSTR	native	4	-5	grass	perennial	fowl manna grass
Helianthus tuberosus	Asteraceae	HELTUB	native	6	0	forb	perennial	jerusalem-artichoke
Hieracium aurantiacum	Asteraceae	HIEAUR	non-native	0	5	forb	perennial	orange hawkweed
Hieracium caespitosum	Asteraceae	HIECAE	non-native	0	5	forb	perennial	king devil
Hypericum perforatum	Hypericaceae	HYPPER	non-native	0	5	forb	perennial	common st. johns-wort
Hypochaeris radicata	Asteraceae	HYPRAD	non-native	0	3	forb	perennial	cats-ear
Impatiens capensis	Balsaminaceae	IMPCAP	native	2	-3	forb	annual	spotted touch-me-not
Juncus articulatus	Juncaceae	JUNART	native	3	-5	forb	perennial	jointed rush

Fraizer-Freeland FQA - All Communities

Juncus dudleyi	Juncaceae	JUNDUD	native	1	-3	forb	perennial	dudleys rush
Juncus effusus	Juncaceae	JUNEFF	native	3	-5	forb	perennial	soft-stemmed rush
Juncus nodosus	Juncaceae	JUNNOD	native	5	-5	forb	perennial	joint rush
Juncus torreyi	Juncaceae	JUNTOR	native	4	-3	forb	perennial	torreys rush
Juniperus communis	Cupressaceae	JUNCOI	native	4	3	shrub	perennial	common or ground juniper
Lapsana communis	Asteraceae	LAPCOM	non-native	0	3	forb	annual	nipplewort
Lathyrus latifolius	Fabaceae	LATLAT	non-native	0	5	vine	perennial	everlasting pea
Lepidium campestre	Brassicaceae	LEPCAM	non-native	0	5	forb	biennial	field cress
Leucanthemum vulgare; chrysanthemum leucanthemum	Asteraceae	LEUVUL	non-native	0	5	forb	perennial	ox-eye daisy
Lycopus americanus	Lamiaceae	LYCAME	native	2	-5	forb	perennial	common water horehound
Lycopus uniflorus	Lamiaceae	LYCUNI	native	2	-5	forb	perennial	northern bugle weed
Maianthemum canadense	Convallariaceae	MAICAN	native	4	3	forb	perennial	canada mayflower
Maianthemum racemosum; smilacina r.	Convallariaceae	MAIRAC	native	5	3	forb	perennial	false spikenard
Maianthemum stellatum; smilacina s.	Convallariaceae	MAISTE	native	5	0	forb	perennial	starry false solomon-seal
Malus pumila	Rosaceae	MALPUM	non-native	0	5	tree	perennial	apple
Matteuccia struthiopteris	Onocleaceae	MATSTR	native	3	0	fern	perennial	ostrich fern
Mentha canadensis; m. arvensis	Lamiaceae	MENCAS	native	3	-3	forb	perennial	wild mint
Mitchella repens	Rubiaceae	MITREP	native	5	3	forb	perennial	partridge-berry
Myosotis laxa	Boraginaceae	MYOLAX	native	6	-5	forb	perennial	small forget-me-not
Myosotis sylvatica	Boraginaceae	MYOSYL	non-native	0	5	forb	perennial	garden forget-me-not
Nasturtium microphyllum; n. officinale	Brassicaceae	NASMIC	non-native	0	-5	forb	perennial	watercress
Oenothera biennis	Onagraceae	OENBIE	native	2	3	forb	biennial	common evening-primrose
Onoclea sensibilis	Onocleaceae	ONOSEN	native	2	-3	fern	perennial	sensitive fern
Osmunda regalis	Osmundaceae	OSMREG	native	5	-5	fern	perennial	royal fern
Ostrya virginiana	Betulaceae	OSTVIR	native	5	3	tree	perennial	ironwood; hop-hornbeam
Oxalis dillenii; o. stricta	Oxalidaceae	OXADIL	native	0	3	forb	perennial	common yellow wood-sorrel
Parthenocissus quinquefolia	Vitaceae	PARQUI	native	5	3	vine	perennial	virginia creeper
Phalaris arundinacea	Poaceae	PHAARU	native	0	-3	grass	perennial	reed canary grass
Phleum pratense	Poaceae	PHLPRU	non-native	0	3	grass	perennial	timothy
Picea abies	Pinaceae	PICABI	non-native	0	5	tree	perennial	norway spruce
Picea glauca	Pinaceae	PICGLA	native	3	3	tree	perennial	white spruce
Pinus resinosa	Pinaceae	PINRES	native	6	3	tree	perennial	red pine
Pinus strobus	Pinaceae	PINSTR	native	3	3	tree	perennial	white pine
Pinus sylvestris	Pinaceae	PINSYL	non-native	0	3	tree	perennial	scotch pine
Plantago lanceolata	Plantaginaceae	PLALAN	non-native	0	3	forb	perennial	english plantain
Poa compressa	Poaceae	POACOM	non-native	0	3	grass	perennial	canada bluegrass
Poa nemoralis	Poaceae	POANEM	non-native	0	3	grass	perennial	bluegrass
Poa palustris	Poaceae	POAPAS	native	3	-3	grass	perennial	fowl meadow grass
Poa pratensis	Poaceae	POAPRA	non-native	0	3	grass	perennial	kentucky bluegrass
Populus balsamifera	Salicaceae	POPBAL	native	2	-3	tree	perennial	balsam poplar
Populus grandidentata	Salicaceae	POPGRA	native	4	3	tree	perennial	big-tooth aspen
Populus tremuloides	Salicaceae	POPTRE	native	1	0	tree	perennial	quaking aspen
Potentilla anserina	Rosaceae	POTANS	native	5	-3	forb	perennial	silverweed
Potentilla recta	Rosaceae	POTREC	non-native	0	5	forb	perennial	rough-fruited cinquefoil
Prunella vulgaris	Lamiaceae	PRUVUL	native	0	0	forb	perennial	self-heal
Prunus mahaleb	Rosaceae	PRUMAH	non-native	0	5	tree	perennial	perfumed cherry
Prunus virginiana	Rosaceae	PRUVIR	native	2	3	shrub	perennial	choke cherry
Pteridium aquilinum	Dennstaedtiaceae	PTEAQU	native	0	3	fern	perennial	bracken fern
Pyrola asarifolia	Ericaceae	PYRASU	native	8	-3	forb	perennial	pink pyrola
Pyrola elliptica	Ericaceae	PYRELL	native	6	3	forb	perennial	large-leaved shinleaf
Ranunculus acris	Ranunculaceae	RANACR	non-native	0	0	forb	perennial	tall or common buttercup
Rhamnus alnifolia	Rhamnaceae	RHAALN	native	8	-5	shrub	perennial	alder-leaved buckthorn
Rhus typhina	Anacardiaceae	RHUTYP	native	2	3	shrub	perennial	staghorn sumac
Ribes cynosbati	Grossulariaceae	RIBCYN	native	4	3	shrub	perennial	prickly or wild gooseberry
Ribes triste	Grossulariaceae	RIBTRI	native	6	-5	shrub	perennial	swamp red currant
Rosa canina	Rosaceae	ROSCAN	non-native	0	5	shrub	perennial	dog rose
Rosa multiflora	Rosaceae	ROSMUL	non-native	0	3	shrub	perennial	multiflora rose
Rosa palustris	Rosaceae	ROSPAL	native	5	-5	shrub	perennial	swamp rose
Rubus allegheniensis	Rosaceae	RUBALL	native	1	3	shrub	perennial	common blackberry
Rubus hispidus	Rosaceae	RUBHIS	native	4	-3	shrub	perennial	swamp dewberry
Rubus pubescens	Rosaceae	RUBPUB	native	4	-3	shrub	perennial	dwarf raspberry
Rubus strigosus	Rosaceae	RUBSTR	native	2	0	shrub	perennial	wild red raspberry
Rudbeckia hirta	Asteraceae	RUDHIR	native	1	3	forb	perennial	black-eyed susan
Rumex acetosella	Polygonaceae	RUMACL	non-native	0	3	forb	perennial	sheep sorrel
Rumex crispus	Polygonaceae	RUMCRI	non-native	0	0	forb	perennial	curly dock
Salix bebbiana	Salicaceae	SALBEB	native	1	-3	shrub	perennial	bebbs willow
Salix discolor	Salicaceae	SALDIS	native	1	-3	shrub	perennial	pussey willow
Salix eriocephala	Salicaceae	SALERI	native	2	-3	shrub	perennial	willow
Salix petiolaris	Salicaceae	SALPET	native	1	-3	shrub	perennial	slender willow
Salix serissima	Salicaceae	SALSES	native	8	-5	shrub	perennial	autumn willow
Sambucus canadensis	Adoxaceae	SAMCAN	native	3	-3	shrub	perennial	elderberry
Schedonorus pratensis; festuca p.	Poaceae	SCHPRA	non-native	0	3	grass	perennial	meadow fescue
Scirpus atrovirens	Cyperaceae	SCIATV	native	3	-5	sedge	perennial	bulrush
Scirpus cyperinus	Cyperaceae	SCICYP	native	5	-5	sedge	perennial	wool-grass
Scirpus pendulus	Cyperaceae	SCIPEN	native	3	-5	sedge	perennial	bulrush
Silene vulgaris	Caryophyllaceae	SILVUL	non-native	0	5	forb	perennial	bladder campion
Solanum dulcamara	Solanaceae	SOLDUL	non-native	0	0	vine	perennial	bittersweet nightshade
Solidago altissima	Asteraceae	SOLALT	native	1	3	forb	perennial	tall goldenrod
Solidago caesia	Asteraceae	SOLCAE	native	6	3	forb	perennial	bluestem goldenrod
Solidago gigantea	Asteraceae	SOLGIG	native	3	-3	forb	perennial	late goldenrod
Solidago hispida	Asteraceae	SOLHIS	native	3	5	forb	perennial	hairy goldenrod
Solidago rugosa	Asteraceae	SOLRUG	native	3	0	forb	perennial	rough-leaved goldenrod
Symphotrichum lanceolatum; aster l.	Asteraceae	SYMLAN	native	2	-3	forb	perennial	panicked aster
Symphotrichum lateriflorum; aster l.	Asteraceae	SYMLAT	native	2	0	forb	perennial	calico aster
Symphotrichum puniceum; aster p.	Asteraceae	SYMPUN	native	5	-5	forb	perennial	swamp aster
Taraxacum officinale	Asteraceae	TAROFF	non-native	0	3	forb	perennial	common dandelion
Thelypteris palustris	Thelypteridaceae	THEPAL	native	2	-3	fern	perennial	marsh fern
Thuja occidentalis	Cupressaceae	THUOCC	native	4	-3	tree	perennial	arbor vitae
Tilia americana	Malvaceae	TILAME	native	5	3	tree	perennial	basswood

Appendix A

Fraizer-Freiland FQA - All Communities

Toxicodendron rydbergii; t. radicans	Anacardiaceae	TOXRYD	native	3	0	shrub	perennial	poison-ivy
Tragopogon dubius	Asteraceae	TRADUB	non-native	0	5	forb	biennial	goats beard
Trifolium aureum	Fabaceae	TRIAUM	non-native	0	5	forb	annual	hop clover
Trifolium pratense	Fabaceae	TRIPRA	non-native	0	3	forb	perennial	red clover
Trillium grandiflorum	Trilliaceae	TRIGRA	native	5	3	forb	perennial	common trillium
Tsuga canadensis	Pinaceae	TSUCAN	native	5	3	tree	perennial	hemlock
Typha latifolia	Typhaceae	TYPLAT	native	1	-5	forb	perennial	broad-leaved cat-tail
Ulmus americana	Ulmaceae	ULMAME	native	1	-3	tree	perennial	american elm
Verbascum thapsus	Scrophulariaceae	VERTHA	non-native	0	5	forb	biennial	common mullein
Verbena hastata	Verbenaceae	VERHAS	native	4	-3	forb	perennial	blue vervain
Veronica beccabunga var. americana	Plantaginaceae	VERBEA	native	10	-5	forb	perennial	american brooklime
Veronica officinalis	Plantaginaceae	VERROF	non-native	0	3	forb	perennial	common speedwell
Veronica serpyllifolia	Plantaginaceae	VERSER	non-native	0	0	forb	perennial	thyme-leaved speedwell
Viburnum acerifolium	Adoxaceae	VIBACE	native	6	5	shrub	perennial	maple-leaved viburnum
Viburnum opulus	Adoxaceae	VIBOPU	non-native	0	-3	shrub	perennial	european highbush-cranberry
Viola labradorica; v. conspersa	Violaceae	VIOLAB	native	3	0	forb	perennial	dog violet
Vitis riparia	Vitaceae	VITRIP	native	3	0	vine	perennial	river-bank grape