

Excerpts from October 12, 2009 Preliminary Wetland Mitigation Plan (pages 5-7)

Moses Creek Mitigation Site

Vegetation Community Results

Vegetation data was collected using a meander survey to characterize the vegetation communities and gather a plant species list, both within the project and at the reference site, from August 25 through August 28, 2008. Vegetation communities were differentiated by dominant species. Community boundaries were mapped and digitized onto aerial photography using GIS technology.

All species identified within the communities were noted, and general descriptions on dominant species and community integrity were taken. Metrics analyzed within each plant community included plant species richness and percent of exotic species. Plant species richness is the number of species identified within each community. The percent of exotic species was calculated within each community by dividing the number of exotic species into the total number of species and multiplying by 100.

Project Site

A total of 14 different stands from 9 distinct communities were identified within the Project (see On-Site Plant Communities, Appendix A). Plant communities identified within the Project included: 1) Northern-Mesic/Dry-Mesic Forest, 2) Glossy Buckthorn Woodland, 3) Savanna/Prairie Restoration, 4) Drained Muck Field/Old Field, 5) Wet Meadow, 6) Forested/Drained Wet Meadow, 7) Wooded Wetland, 8) Wet-Mesic Forest, and 9) Forested Wet Depression/Ephemeral Pond. A summary of each stand is provided below.

Community 1 is a northern-mesic/dry-mesic forest. It is the matrix community of Schmeekle Reserve. A total of 68 species were identified within this community, 21% of which are exotic. Dominant tree species include red maple (*Acer rubrum*), paper birch (*Betula papyrifera*), quaking aspen (*Populus tremuloides*), Hill's oak (*Quercus ellipsoidalis*), northern red oak (*Quercus rubra*), and jack pine (*Pinus banksiana*). Other dominant species include swamp dewberry (*Rubus hispidus*), American starflower (*Trientalis borealis*), Pennsylvania sedge (*Carex pennsylvanica*), and **glossy buckthorn**. Although this community has a high amount of exotic species, its ecological integrity level was considered moderate due to its species richness and structural diversity.

Community 2A is woodland stand dominated by glossy buckthorn that is located in the northeast portion of the project. A total of 14 species were identified within this community, 9% of which are exotic. Tree species such as wild black cherry (*Prunus serotina*) and quaking aspen (*Populus tremuloides*) cover approximately 60% of this stand. Black cherry is also a major component of the shrub layer, but glossy buckthorn is the most widespread shrub, having an areal coverage of approximately 75%. **Glossy buckthorn** seedlings also dominate the herbaceous layer, with an estimated areal coverage of 100%. This community was considered ecologically degraded due to the prevalence of glossy buckthorn within it.

Community 2B is a woodland stand dominated by glossy buckthorn that is located in the central portion of the project area. A total of 25 species were identified within this community, 16% of which are exotic. Tree species such as quaking aspen and paper birch cover approximately 60% of the stand. **Glossy buckthorn** is the dominant plant in the shrub and herbaceous layers, with areal coverages of 80% and 100%, respectively. This community was considered ecologically degraded due to the prevalence of glossy buckthorn.

Community 3 is a small savanna/ prairie restoration located in the north-central portion of the project area. A total of 29 species were identified within this community, 17% of which are exotic. This community is dominated by native prairie grasses such as big blue-stem and yellow Indian grass (*Sorghastrum nutans*); as well as woodland species such as Pennsylvania sedge and bracken fern (*Pteridium aquilinum*). Dominant trees include Hill's oak and northern red oak, while northern dewberry is the most common shrub. This community's ecological community integrity level was considered moderate, as it is relatively free of exotic species and has a diverse plant community.

Community 4 is an old field community with drained muck soil that is located in the northeast portion of the project. A total of 52 species were identified within this community, 35% of which are exotic. This community is dominated by **Canada thistle** (*Cirsium arvense*), **Morrow's honeysuckle** (*Lonicera morrowii*), **reed canary grass**, Kentucky blue grass, and common goldenrod. This community was considered ecologically degraded due to the amount of exotic species and the prevalence of Canada thistle, Morrow's honeysuckle, reed canary grass, and Kentucky blue grass.

Community 5 is a wet meadow located in the northeast portion of the project area. A total of 16 species were identified within this community, 13% of which are exotic. Dominant species include blue-joint grass, common tussock sedge (*Carex stricta*), wool-grass (*Scirpus cyperinus*), and steeplebush (*Spiraea tomentosa*). This community's ecological community integrity level was considered moderate, as it is relatively free of exotic species.

Community 6A is a drained wet meadow with a canopy cover of quaking aspen and paper birch that covers approximately 40% of the area. A total of 16 species were identified within this community, 6% of which are exotic. This community is located in the northeast portion of the project area. **Glossy buckthorn** is the dominant shrub, with an areal coverage of approximately 50%. The most common herbaceous species is interrupted fern (*Osmunda claytonia*). This community was considered ecologically degraded due to the prevalence of glossy buckthorn.

Community 6B is a drained wet meadow with a canopy cover of quaking aspen (approximately 10% areal cover) located in the central portion of the project. A total of 22 species were identified within this community, 23% of which are exotic. **Glossy buckthorn** is the dominant shrub and reed canary grass is dominant in the herbaceous layer. This community was considered ecologically degraded due to the amount of exotic species and the prevalence of glossy buckthorn and reed canary grass.

Community 7 is a small wooded wetland located in the east-central portion of the project area. A total of 16 species were identified within this community, 13% of which are exotic. Quaking aspen and paper birch were the dominant trees, with an estimated canopy cover of 50%. The shrub layer is dominated by **glossy buckthorn**, with an estimated areal coverage of 50%. Dominant herbaceous plants include, common lake sedge (*Carex lacustris*), interrupted fern (*Osmunda claytoniana*), and **reed canary grass**. This community was considered ecologically degraded due to the prevalence of glossy buckthorn and reed canary grass.

Community 8A is a wet-mesic forest located in the central portion of the project area. A total of 30 species were identified within this community, 7% of which are exotic. Dominant tree species include red maple and eastern white pine (*Pinus strobus*). The shrub layer is dominated by glossy buckthorn and the herbaceous layer is dominated by reed canary grass. Many wet meadow species, such as rattlesnake grass (*Glyceria canadensis*), steeplebush, arrow-leaved tear-thum (*Polygonum sagittatum*), common rush (*Juncus effusus*), and wool-grass were observed within 13A, suggesting that it had a wetter hydrologic regime at one time. Although this community includes a high amount of **glossy buckthorn** and **reed canary grass**, its ecological integrity level was considered moderate due to its species richness and structural diversity.

Community 8B is a wet-mesic forest located in the north-central portion of the project. A total of 17 species were identified within this community, 6% of which are exotic. It is dominated by red maple in the tree canopy and American starflower in the herbaceous layer. This community's ecological community integrity level was considered moderate, as it is relatively free of exotic species.

Community 8C is a wet-mesic forest located in the central portion of the project area. A total of 25 species were identified within this community, 12% of which are exotic. This community is dominated by red maple with scattered clusters of jack pine, white pine, and quaking aspen. The most abundant shrub is wild black cherry (*Prunus serotina*), while the herbaceous layer is sparsely populated. This community's ecological community integrity level was considered moderate, as it is relatively free of exotic species and has a diverse plant community.

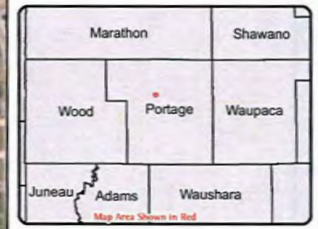
Community 8D is a wet-mesic forest located in the northwest portion of the project area. A total of 25 species were identified within this community, 16% of which are exotic. This community is dominated by red maple in the tree canopy, and by blue-joint grass and reed canary grass in the herbaceous layer. Although this community has a high amount of reed canary grass, its ecological integrity level was considered moderate due to its species richness and structural diversity.

Community 9 is a small forested wet depression located in the northern portion of the project area. A total of 16 species were identified within this community, 13% of which are exotic. Dominant species includes quill sedge (*Carex tenera*), reed canary grass, wild black cherry, and swamp dewberry (*Rubus hispidus*). This community was considered ecologically degraded due to the prevalence of reed canary grass.



- Community Type**
- 1 = Northern Mesic / Dry Mesic Forest
 - 2 = Glossy Buckthorn Woods
 - 3 = Savannah / Prairie Restoration
 - 4 = Drained Muck Field / Old Field
 - 5 = Wet Meadow
 - 6 = Forested, Drained Wet Meadow
 - 7 = Wooded Wetland
 - 8 = Wet Mesic Forest
 - 9 = Forested Wet Depression

On-Site Plant Communities Moses Creek



Location
Section 28, Township 24 North, Range 08 East,
City of Stevens Point, Portage County, WI

0 200 400 Feet

Project Information
NRC Project Number #: 008-0099-01
Modified October 12, 2009

Legend

- Approximate Project Boundary
- Private Property
- Section Line
- DNR 24k Hydrography**
- ~ Perennial Stream
- - - Intermittent Stream
- Waterbody

Map Sources include USGS, NOAA, © 2005, © 2007, © 2008, © 2009

NRC
Natural Resources Consulting, Inc.

209 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53527-0128
phone: 608-839-1998
fax: 608-839-1995
www.nrcdf.com

The information presented in this map document is advisory and is intended for reference purposes only.

Moses Creek Wetland Mitigation Site

Community 1: Northern Mesic/ Dry-Mesic Forest

Scientific Name ^{1,2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Acer negundo</i>	box elder	FACW-	X	Tree	0	0
<i>Acer rubrum</i>	red maple	FAC	X	Tree	3	3
<i>Actaea rubra</i>	red baneberry	NI	X	Forb	7	7
AGROSTIS GIGANTEA	redtop	NI		Grass		0
<i>Amelanchier laevis</i>	Allegheny serviceberry	NI	X	Shrub	6	6
<i>Anemone quinquefolia</i>	wood anemone	FAC*	X	Forb	6	6
<i>Aralia nudicaulis</i>	wild sarsaparilla	FACU	X	Forb	6	6
<i>Asclepias syriaca</i>	common milkweed	UPL	X	Forb	1	1
<i>Aster lanceolatus</i>	white panicle aster	[FACW]	X	Forb	4	4
<i>Aster macrophyllus</i>	big-leaved aster	[UPL]	X	Forb	4	4
<i>Aster umbellatus</i>	flat-top aster	FACW	X	Forb	6	6
<i>Athyrium filix-femina</i>	common lady fern	FAC	X	Fern	5	5
BERBERIS THUNBERGII	Japanese barberry	FACU-		Shrub		0
<i>Betula papyrifera</i>	paper birch	FACU+	X	Tree	3	3
BROMUS INERMIS	smooth brome	UPL		Grass		0
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5	5
<i>Carex gracillima</i>	graceful sedge	FACU*	X	Sedge	5	5
<i>Carex pensylvanica</i>	Pennsylvania sedge	[UPL]	X	Sedge	3	3
<i>Carex tenera</i>	quill sedge	FAC+	X	Sedge	4	4
<i>Carpinus caroliniana</i>	ironwood	FAC	X	Tree	6	6
CENTAUREA BIEBERSTEINII	spotted knapweed	UPL		Forb		0
CIRSIIUM ARVENSE	Canada thistle	FACU		Forb		0
<i>Cornus racemosa</i>	gray dogwood	FACW-	X	Shrub	2	2
<i>Corylus americana</i>	American hazelnut	FACU-	X	Shrub	5	5
DACTYLIS GLOMERATA	orchard grass	FACU		Grass		0
<i>Danthonia spicata</i>	poverty danthonia	NI	X	Grass	4	4
<i>Erechtites hieracifolia</i>	fireweed	FACU	X	Forb	2	2
<i>Euthamia graminifolia</i>	grass-leaved goldenrod	FAC	X	Forb	4	4
<i>Hackelia virginiana</i>	beggar's-lice	FAC-	X	Forb	3	3

<i>Hamamelis virginiana</i>	American witch-hazel	FACU	X	Shrub	7	7
<i>LINARIA VULGARIS</i>	butter-and-eggs	[UPL]		Forb		0
<i>LONICERA MORROWII</i>	Morrow's honeysuckle	NI		Shrub		0
<i>Maianthemum canadense</i>	wild lily-of-the-valley	FAC	X	Forb	5	5
<i>Mitchella repens</i>	partridgeberry	FACU+	X	Evergreen Ally	6	6
<i>Muhlenbergia glomerata</i>	marsh wild-Timothy	FACW+	X	Grass	9	9
<i>Muhlenbergia mexicana</i>	leafy satin grass	FACW	X	Grass	4	4
<i>Onoclea sensibilis</i>	sensitive fern	FACW	X	Fern	5	5
<i>Osmorhiza claytonii</i>	bland sweet cicely	FACU-	X	Forb	5	5
<i>Osmunda regalis</i>	royal fern	OBL	X	Fern	7	7
<i>Panicum capillare</i>	witch grass	FAC	X	Grass	1	1
<i>Parthenocissus quinquefolia</i>	Virginia creeper	FAC-	X	Woody Vine	5	5
<i>PHALARIS ARUNDINACEA</i>	reed canary grass	FACW+		Grass		0
<i>PHLEUM PRATENSE</i>	timothy	FACU		Grass		0
<i>Pinus banksiana</i>	jack pine	FACU	X	Tree	5	5
<i>Pinus strobus</i>	eastern white pine	FACU	X	Tree	5	5
<i>POLYGONUM PERSICARIA</i>	spotted lady's-thumb	FACW		Forb		0
<i>Populus tremuloides</i>	quaking aspen	FAC	X	Tree	2	2
<i>Prunus pensylvanica</i>	pin cherry	FACU-*	X	Tree	4	4
<i>Prunus serotina</i>	wild black cherry	FACU	X	Tree	3	3
<i>Pteridium aquilinum</i>	bracken fern	FACU	X	Fern	2	2
<i>Quercus alba</i>	white oak	FACU	X	Tree	7	7
<i>Quercus ellipsoidalis</i>	Hill's oak	NI	X	Tree	5	5
<i>Quercus macrocarpa</i>	bur oak	FAC-	X	Tree	5	5
<i>Quercus rubra</i>	northern red oak	FACU	X	Tree	5	5
<i>RHAMNUS FRANGULA</i>	glossy buckthorn	FAC+		Shrub		0
<i>Rhus glabra</i>	smooth sumac	[UPL]	X	Shrub	2	2
<i>Ribes cynosbati</i>	dogberry	[UPL]	X	Shrub	3	3
<i>Rubus flagellaris</i>	northern dewberry	FACU-	X	Shrub	3	3
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4	4
<i>Rubus idaeus var. strigosus</i>	American red raspberry	FACW-	X	Shrub	3	3
<i>RUMEX ACETOSELLA</i>	common sheep sorrel	FAC		Forb		0
<i>Smilax ecirrhata</i>	upright carrion-flower	NI	X	Forb	5	5
<i>Solidago gigantea</i>	giant goldenrod	FACW	X	Forb	3	3

<i>Solidago hispida</i> var. <i>hispida</i>	hairy goldenrod	NI	X	Forb	6	6
<i>Spiraea tomentosa</i>	steepleshub	FACW	X	Shrub	6	6
<i>Trientalis borealis</i>	American starflower	FAC+	X	Forb	7	7
<i>Uvularia sessilifolia</i>	sessile bellwort	FAC-	X	Forb	6	6
<i>Vaccinium angustifolium</i>	early low blueberry	FACU	X	Shrub	4	4

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	55	4.4	32.8
All Species	68	3.6	29.5

7.416198487

8.246211251

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 2B: Glossy Buckthorn Woods

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Acer negundo</i>	box elder	FACW-	X	Tree	0	0
<i>Acer rubrum</i>	red maple	FAC	X	Tree	3	3
AGROSTIS GIGANTEA	redtop	NI		Grass		0
<i>Aster lanceolatus</i>	white panicle aster	[FACW]	X	Forb	4	4
<i>Aster umbellatus</i>	flat-top aster	FACW	X	Forb	6	6
<i>Betula papyrifera</i>	paper birch	FACU+	X	Tree	3	3
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5	5
<i>Carex tenera</i>	quill sedge	FAC+	X	Sedge	4	4
<i>Corylus cornuta subsp. cornuta</i>	beaked hazelnut	UPL	X	Shrub	5	5
<i>Laportea canadensis</i>	Canadian wood-nettle	FACW	X	Forb	4	4
LINARIA VULGARIS	butter-and-eggs	[UPL]		Forb		0
<i>Lycopus uniflorus</i>	northern water-horehound	OBL	X	Forb	4	4
<i>Muhlenbergia mexicana</i>	leafy satin grass	FACW	X	Grass	4	4
<i>Onoclea sensibilis</i>	sensitive fern	FACW	X	Fern	5	5
<i>Osmorhiza claytonii</i>	bland sweet cicely	FACU-	X	Forb	5	5
PHALARIS ARUNDINACEA	reed canary grass	FACW+		Grass		0
<i>Pinus banksiana</i>	jack pine	FACU	X	Tree	5	5
<i>Polygonum sagittatum</i>	arrow-leaved tear-thumb	OBL	X	Forb	6	6
<i>Populus tremuloides</i>	quaking aspen	FAC	X	Tree	2	2
<i>Prunus serotina</i>	wild black cherry	FACU	X	Tree	3	3
<i>Quercus rubra</i>	northern red oak	FACU	X	Tree	5	5
RHAMNUS FRANGULA	glossy buckthorn	FAC+		Shrub		0
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4	4
<i>Trientalis borealis</i>	American starflower	FAC+	X	Forb	7	7
<i>Urtica dioica</i>	stinging nettle	FAC+	X	Forb	1	1

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	21	4.0	18.5
All Species	25	3.4	17.0

4.582575695

5

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 3: Savanna/ Prairie Restoration

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
AGROSTIS GIGANTEA	redtop	NI		Grass		0
Andropogon gerardii	big blue-stem	FAC-	X	Grass	4	4
Asclepias syriaca	common milkweed	UPL	X	Forb	1	1
Aster lateriflorus	calico aster	FACW-	X	Forb	3	3
Aster umbellatus	flat-top aster	FACW	X	Forb	6	6
Calamagrostis canadensis	blue-joint grass	OBL	X	Grass	5	5
Carex pensylvanica	Pennsylvania sedge	[UPL]	X	Sedge	3	3
Carex tenera	quill sedge	FAC+	X	Sedge	4	4
Comptonia peregrina	sweet-fern		X	Shrub	4	4
Danthonia spicata	poverty danthonia		X	Grass	4	4
Erechtites hieracifolia	fireweed	FACU	X	Forb	2	2
LINARIA VULGARIS	butter-and-eggs	[UPL]		Forb		0
Lycopus uniflorus	northern water-horehound	OBL	X	Forb	4	4
Muhlenbergia glomerata	marsh wild-Timothy	FACW+	X	Grass	9	9
Osmunda claytoniana	interrupted fern	FAC+	X	Fern	6	6
PHALARIS ARUNDINACEA	reed canary grass	FACW+		Grass		0
POA PRATENSIS	Kentucky bluegrass	FAC-		Grass		0
Potentilla simplex	common cinquefoil	FACU-	X	Forb	2	2
Prunus serotina	wild black cherry	FACU	X	Tree	3	3
Pteridium aquilinum	bracken fern	FACU	X	Fern	2	2
Quercus ellipsoidalis	Hill's oak		X	Tree	5	5
Quercus rubra	northern red oak	FACU	X	Tree	5	5
Rubus flagellaris	northern dewberry	FACU-	X	Shrub	3	3
Rubus idaeus var. strigosus	American red raspberry	FACW-	X	Shrub	3	3
Solidago canadensis	common goldenrod	FACU	X	Forb	1	1
Sorghastrum nutans	yellow Indian grass	FACU+	X	Grass	5	5
Spiraea tomentosa	steeplebush	FACW	X	Shrub	6	6
Urtica dioica	stinging nettle	FAC+	X	Forb	1	1
VERBASCUM THAPSUS	common mullein	[UPL]		Forb		0

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	24	3.8	18.6
All Species	29	3.1	16.9

4.898979486
5.385164807

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 4: Old Field (Drained Muck Farm)

Scientific Name ^{1,2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Acer negundo</i>	box elder	FACW-	X	Tree	0	0
<i>Achillea millefolium</i>	common yarrow	FACU	X	Forb	1	1
<i>AGROSTIS GIGANTEA</i>	redtop	NI		Grass		0
<i>Ambrosia artemisiifolia</i>	common ragweed	FACU	X	Forb	0	0
<i>Asclepias syriaca</i>	common milkweed	UPL	X	Forb	1	1
<i>Aster lanceolatus</i>	white panicle aster	[FACW]	X	Forb	4	4
<i>Aster lateriflorus</i>	calico aster	FACW-	X	Forb	3	3
<i>Aster novae-angliae</i>	New England aster	FACW	X	Forb	3	3
<i>Aster umbellatus</i>	flat-top aster	FACW	X	Forb	6	6
<i>Athyrium filix-femina</i>	common lady fern	FAC	X	Fern	5	5
<i>BERTEROA INCANA</i>	hoary madwort			Forb		0
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5	5
<i>CANNABIS SATIVA</i>	marijuana	FAC		Forb		0
<i>Carex tenera</i>	quill sedge	FAC+	X	Sedge	4	4
<i>CENTAUREA BIEBERSTEINII</i>	spotted knapweed	UPL		Forb		0
<i>CIRSIIUM ARVENSE</i>	Canada thistle	FACU		Forb		0
<i>CIRSIIUM VULGARE</i>	bull thistle	FACU-		Forb		0
<i>CONVOLVULUS ARVENSIS</i>	field bindweed	[UPL]		Herb. Vine		0
<i>Cornus racemosa</i>	gray dogwood	FACW-	X	Shrub	2	2
<i>DIANTHUS ARMERIA</i>	Deptford pink			Forb		0
<i>ELYTRIGIA REPENS</i>	quackgrass	FACU		Grass		0
<i>Erigeron strigosus</i>	daisy fleabane	FAC-	X	Forb	2	2
<i>Euthamia graminifolia</i>	grass-leaved goldenrod	FAC	X	Forb	4	4
<i>Fragaria virginiana</i>	wild strawberry	FAC-	X	Forb	1	1
<i>Hackelia virginiana</i>	beggar's-lice	FAC-	X	Forb	3	3
<i>Juncus effusus</i>	common rush	OBL	X	Rush	4	4
<i>Juncus tenuis</i>	path rush	FAC	X	Rush	1	1
<i>LEUCANTHEMUM VULGARE</i>	common daisy			Forb		0
<i>LONICERA MORROWII</i>	Morrow's honeysuckle	NI		Shrub		0
<i>PHALARIS ARUNDINACEA</i>	reed canary grass	FACW+		Grass		0

<i>PHLEUM PRATENSE</i>	timothy	FACU		Grass		0
<i>Pinus banksiana</i>	jack pine	FACU	X	Tree	5	5
<i>Pinus strobus</i>	eastern white pine	FACU	X	Tree	5	5
<i>PLANTAGO MAJOR</i>	plantain	FAC+		Forb		0
<i>Poa palustris</i>	marsh bluegrass	FACW+	X	Grass	5	5
POA PRATENSIS	Kentucky bluegrass	FAC-		Grass		0
<i>Polygonum sagittatum</i>	arrow-leaved tear-thumb	OBL	X	Forb	6	6
<i>Populus tremuloides</i>	quaking aspen	FAC	X	Tree	2	2
<i>Potentilla simplex</i>	common cinquefoil	FACU-	X	Forb	2	2
<i>Quercus rubra</i>	northern red oak	FACU	X	Tree	5	5
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4	4
<i>Rubus idaeus var. strigosus</i>	American red raspberry	FACW-	X	Shrub	3	3
<i>Rudbeckia hirta</i>	black-eyed Susan	FACU	X	Forb	4	4
<i>RUMEX CRISPUS</i>	curly dock	FAC+		Forb		0
<i>Scirpus cyperinus</i>	wool-grass	OBL	X	Sedge	4	4
<i>SETARIA VIRIDIS</i>	green foxtail			Grass		0
<i>Solidago canadensis</i>	common goldenrod	FACU	X	Forb	1	1
<i>Solidago gigantea</i>	giant goldenrod	FACW	X	Forb	3	3
<i>Spiraea tomentosa</i>	steplebush	FACW	X	Shrub	6	6
<i>TRIFOLIUM REPENS</i>	white clover	FACU+		Forb		0
<i>Urtica dioica</i>	stinging nettle	FAC+	X	Forb	1	1
<i>Vicia americana</i>	American vetch	NI	X	Forb	4	4

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	34	3.2	18.7
All Species	52	2.1	15.1

5.830951895

7.211102551

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 5: Wet Meadow

Scientific Name ^{1,2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Aronia melanocarpa</i>	black chokeberry	FACW-	X	Shrub	7	7
<i>Aster umbellatus</i>	flat-top aster	FACW	X	Forb	6	6
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5	5
<i>Carex stricta</i>	common tussock sedge	OBL	X	Sedge	7	7
<i>Carex tenera</i>	quill sedge	FAC+	X	Sedge	4	4
<i>Erechtites hieracifolia</i>	fireweed	FACU	X	Forb	2	2
<i>Glyceria canadensis</i>	rattlesnake grass	OBL	X	Grass	7	7
<i>Onoclea sensibilis</i>	sensitive fern	FACW	X	Fern	5	5
<i>PHALARIS ARUNDINACEA</i>	reed canary grass	FACW+		Grass		0
<i>Polygonum sagittatum</i>	arrow-leaved tear-thumb	OBL	X	Forb	6	6
<i>Populus tremuloides</i>	quaking aspen	FAC	X	Tree	2	2
<i>RHAMNUS FRANGULA</i>	glossy buckthorn	FAC+		Shrub		0
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4	4
<i>Scirpus cyperinus</i>	wool-grass	OBL	X	Sedge	4	4
<i>Spiraea tomentosa</i>	steplebush	FACW	X	Shrub	6	6
<i>Thelypteris palustris var. pubescens</i>	marsh fern	FACW+	X	Fern	7	7

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	14	5.1	19.2
All Species	16	4.5	18.0

3.741657387

4

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 6A: Forested, Drained Wet Meadow

Scientific Name ^{1,2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Acer rubrum</i>	red maple	FAC	X	Tree	3	3
<i>Aster umbellatus</i>	flat-top aster	FACW	X	Forb	6	6
<i>Athyrium filix-femina</i>	common lady fern	FAC	X	Fern	5	5
<i>Betula papyrifera</i>	paper birch	FACU+	X	Tree	3	3
<i>Carex lacustris</i>	common lake sedge	OBL	X	Sedge	6	6
<i>Carex tenera</i>	quill sedge	FAC+	X	Sedge	4	4
<i>Ilex verticillata</i>	common winterberry	FACW+	X	Shrub	7	7
<i>Onoclea sensibilis</i>	sensitive fern	FACW	X	Fern	5	5
<i>Osmorhiza claytonii</i>	bland sweet cicely	FACU-	X	Forb	5	5
<i>Osmunda regalis</i>	royal fern	OBL	X	Fern	7	7
<i>Pinus banksiana</i>	jack pine	FACU	X	Tree	5	5
<i>Populus tremuloides</i>	quaking aspen	FAC	X	Tree	2	2
RHAMNUS FRANGULA	glossy buckthorn	FAC+		Shrub		0
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4	4
<i>Rubus idaeus var. strigosus</i>	American red raspberry	FACW-	X	Shrub	3	3
<i>Scirpus cyperinus</i>	wool-grass	OBL	X	Sedge	4	4
<i>Spiraea tomentosa</i>	steepleshub	FACW	X	Shrub	6	6
<i>Verbena hastata</i>	blue vervain	FACW+	X	Forb	3	3

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	17	4.6	18.9
All Species	18	18.0	76.4

4.12310563

4.24264069

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 6B: Forested, Drained Wet Meadow

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5	5
<i>Aster umbellatus</i>	flat-top aster	FACW	X	Forb	6	6
<i>Carex stricta</i>	common tussock sedge	OBL	X	Sedge	7	7
<i>Carex tenera</i>	quill sedge	FAC+	X	Sedge	4	4
CONVOLVULUS ARVENSIS	field bindweed	[UPL]		Herb. Vine		0
<i>Euthamia graminifolia</i>	grass-leaved goldenrod	FAC	X	Forb	4	4
<i>Iris versicolor</i>	northern blue flag	OBL	X	Forb	5	5
<i>Juncus tenuis</i>	path rush	FAC	X	Rush	1	1
LINARIA VULGARIS	butter-and-eggs	[UPL]		Forb		0
<i>Muhlenbergia mexicana</i>	leafy satin grass	FACW	X	Grass	4	4
PHALARIS ARUNDINACEA	reed canary grass	FACW+		Grass		0
<i>Polygonum sagittatum</i>	arrow-leaved tear-thumb	OBL	X	Forb	6	6
Populus tremuloides	quaking aspen	FAC	X	Tree	2	2
<i>Potentilla simplex</i>	common cinquefoil	FACU-	X	Forb	2	2
<i>Prunella vulgaris</i>	self-heal	FAC	X	Forb	1	1
RHAMNUS FRANGULA	glossy buckthorn	FAC+		Shrub		0
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4	4
RUMEX ACETOSELLA	common sheep sorrel	FAC		Forb		0
<i>Scirpus cyperinus</i>	wool-grass	OBL	X	Sedge	4	4
<i>Solidago canadensis</i>	common goldenrod	FACU	X	Forb	1	1
<i>Spiraea tomentosa</i>	steeplebush	FACW	X	Shrub	6	6
<i>Thelypteris palustris var. pubescens</i>	marsh fern	FACW+	X	Fern	7	7

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
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Native	17	4.1	16.7	4.1231056
All Species	22	3.1	14.7	4.6904158

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 7: Wooded Wetland

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Acer rubrum</i>	red maple	FAC	X	Tree	3	3
<i>Aster lanceolatus</i>	white panicle aster	[FACW]	X	Forb	4	4
<i>Aster umbellatus</i>	flat-top aster	FACW	X	Forb	6	6
<i>Athyrium filix-femina</i>	common lady fern	FAC	X	Fern	5	5
<i>Betula papyrifera</i>	paper birch	FACU+	X	Tree	3	3
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5	5
<i>Carex lacustris</i>	common lake sedge	OBL	X	Sedge	6	6
<i>Carex tenera</i>	quill sedge	FAC+	X	Sedge	4	4
<i>Onoclea sensibilis</i>	sensitive fern	FACW	X	Fern	5	5
<i>Osmunda claytoniana</i>	interrupted fern	FAC+	X	Fern	6	6
PHALARIS ARUNDINACEA	reed canary grass	FACW+		Grass		0
<i>Populus tremuloides</i>	quaking aspen	FAC	X	Tree	2	2
RHAMNUS FRANGULA	glossy buckthorn	FAC+		Shrub		0
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4	4
<i>Solidago gigantea</i>	giant goldenrod	FACW	X	Forb	3	3
<i>Spiraea tomentosa</i>	steepleshub	FACW	X	Shrub	6	6

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	14	4.4	16.6
All Species	16	3.9	15.5

3.741657387

4

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 7A: Glossy Buckthorn Woods

Scientific Name ^{1,2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Acer rubrum</i>	red maple	FAC	X	Tree	3	3
<i>Athyrium filix-femina</i>	common lady fern	FAC	X	Fern	5	5
<i>Betula papyrifera</i>	paper birch	FACU+	X	Tree	3	3
<i>Carex tenera</i>	quill sedge	FAC+	X	Sedge	4	4
<i>Onoclea sensibilis</i>	sensitive fern	FACW	X	Fern	5	5
<i>Osmunda regalis</i>	royal fern	OBL	X	Fern	7	7
<i>Pinus banksiana</i>	jack pine	FACU	X	Tree	5	5
<i>Populus tremuloides</i>	quaking aspen	FAC	X	Tree	2	2
<i>Potentilla simplex</i>	common cinquefoil	FACU-	X	Forb	2	2
<i>Prunus serotina</i>	wild black cherry	FACU	X	Tree	3	3
<i>Quercus rubra</i>	northern red oak	FACU	X	Tree	5	5
RHAMNUS FRANGULA	glossy buckthorn	FAC+		Shrub		0
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4	4
<i>Rubus idaeus var. strigosus</i>	American red raspberry	FACW-	X	Shrub	3	3

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	13	3.9	14.1
All Species	14	3.6	13.6

3.605551275

3.741657387

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 8A: Wet Mesic Forest

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Acer rubrum</i>	red maple	FAC	X	Tree	3	3
<i>Actaea rubra</i>	red baneberry	NI	X	Forb	7	7
<i>Aster lanceolatus</i>	white panicle aster	[FACW]	X	Forb	4	4
<i>Athyrium filix-femina</i>	common lady fern	FAC	X	Fern	5	5
<i>Betula papyrifera</i>	paper birch	FACU+	X	Tree	3	3
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5	5
<i>Carex intumescens</i>	greater bladder sedge	FACW+	X	Sedge	5	5
<i>Carex lacustris</i>	common lake sedge	OBL	X	Sedge	6	6
<i>Carex pensylvanica</i>	Pennsylvania sedge	[UPL]	X	Sedge	3	3
<i>Carex tenera</i>	quill sedge	FAC+	X	Sedge	4	4
<i>Erechtites hieracifolia</i>	fireweed	FACU	X	Forb	2	2
<i>Glyceria canadensis</i>	rattlesnake grass	OBL	X	Grass	7	7
<i>Impatiens capensis</i>	orange jewelweed	FACW	X	Forb	2	2
<i>Juncus effusus</i>	common rush	OBL	X	Rush	4	4
<i>Lycopus uniflorus</i>	northern water-horehound	OBL	X	Forb	4	4
<i>Onoclea sensibilis</i>	sensitive fern	FACW	X	Fern	5	5
<i>Osmorhiza claytonii</i>	bland sweet cicely	FACU-	X	Forb	5	5
<i>Osmunda regalis</i>	royal fern	OBL	X	Fern	7	7
<i>Oxalis stricta</i>	common yellow oxalis	FACU	X	Forb	0	0
PHALARIS ARUNDINACEA	reed canary grass	FACW+		Grass		0
<i>Pinus strobus</i>	eastern white pine	FACU	X	Tree	5	5
<i>Polygonum sagittatum</i>	arrow-leaved tear-thumb	OBL	X	Forb	6	6
<i>Populus tremuloides</i>	quaking aspen	FAC	X	Tree	2	2
<i>Prunus serotina</i>	wild black cherry	FACU	X	Tree	3	3
<i>Quercus rubra</i>	northern red oak	FACU	X	Tree	5	5
RHAMNUS FRANGULA	glossy buckthorn	FAC+		Shrub		0
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4	4
<i>Scirpus cyperinus</i>	wool-grass	OBL	X	Sedge	4	4
<i>Solidago gigantea</i>	giant goldenrod	FACW	X	Forb	3	3
<i>Spiraea tomentosa</i>	steeplebush	FACW	X	Shrub	6	6

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	28	4.3	22.5
All Species	30	4.0	21.7

5.291502622

5.477225575

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 8B: Wet Mesic Forest

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Acer rubrum</i>	red maple	FAC	X	Tree	3	3
<i>Anemone quinquefolia</i>	wood anemone	FAC*	X	Forb	6	6
<i>Betula papyrifera</i>	paper birch	FACU+	X	Tree	3	3
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5	5
<i>Carex intumescens</i>	greater bladder sedge	FACW+	X	Sedge	5	5
<i>Glyceria canadensis</i>	rattlesnake grass	OBL	X	Grass	7	7
<i>Ilex verticillata</i>	common winterberry	FACW+	X	Shrub	7	7
<i>Maianthemum canadense</i>	wild lily-of-the-valley	FAC	X	Forb	5	5
<i>Osmunda claytoniana</i>	interrupted fern	FAC+	X	Fern	6	6
<i>Osmunda regalis</i>	royal fern	OBL	X	Fern	7	7
<i>Pinus banksiana</i>	jack pine	FACU	X	Tree	5	5
<i>Pinus strobus</i>	eastern white pine	FACU	X	Tree	5	5
<i>Populus tremuloides</i>	quaking aspen	FAC	X	Tree	2	2
<i>Quercus rubra</i>	northern red oak	FACU	X	Tree	5	5
RHAMNUS FRANGULA	glossy buckthorn	FAC+		Shrub		0
<i>Solidago gigantea</i>	giant goldenrod	FACW	X	Forb	3	3
<i>Trientalis borealis</i>	American starflower	FAC+	X	Forb	7	7

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	16	5.1	20.3
All Species	17	4.8	19.6

4
4.123105626

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 8C: Wet Mesic Forest

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Acer rubrum</i>	red maple	FAC	X	Tree	3	3
<i>Actaea rubra</i>	red baneberry		X	Forb	7	7
<i>Anemone quinquefolia</i>	wood anemone	FAC*	X	Forb	6	6
<i>Asclepias syriaca</i>	common milkweed	UPL	X	Forb	1	1
<i>Aster umbellatus</i>	flat-top aster	FACW	X	Forb	6	6
<i>Athyrium filix-femina</i>	common lady fern	FAC	X	Fern	5	5
BERBERIS THUNBERGII	Japanese barberry	FACU-		Shrub		0
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5	5
<i>Carex intumescens</i>	greater bladder sedge	FACW+	X	Sedge	5	5
<i>Corylus cornuta subsp. cornuta</i>	beaked hazelnut	UPL	X	Shrub	5	5
<i>Glyceria striata</i>	owl meadow grass	OBL	X	Grass	4	4
<i>Leersia oryzoides</i>	rice cut grass	OBL	X	Grass	3	3
<i>Maianthemum canadense</i>	wild lily-of-the-valley	FAC	X	Forb	5	5
<i>Mitchella repens</i>	partridgeberry	FACU+	X	Evergreen Ally	6	6
<i>Onoclea sensibilis</i>	sensitive fern	FACW	X	Fern	5	5
<i>Osmorhiza claytonii</i>	bland sweet cicely	FACU-	X	Forb	5	5
PHALARIS ARUNDINACEA	reed canary grass	FACW+		Grass		0
<i>Pinus banksiana</i>	jack pine	FACU	X	Tree	5	5
<i>Pinus strobus</i>	eastern white pine	FACU	X	Tree	5	5
<i>Populus tremuloides</i>	quaking aspen	FAC	X	Tree	2	2
<i>Prunus serotina</i>	wild black cherry	FACU	X	Tree	3	3
RHAMNUS FRANGULA	glossy buckthorn	FAC+		Shrub		0
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4	4
<i>Spiraea alba</i>	white meadowsweet	FACW+	X	Shrub	4	4
<i>Spiraea tomentosa</i>	steepleshub	FACW	X	Shrub	6	6

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	22	4.5	21.3
All Species	25	4.0	20.0

4.69041576

5

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community 8D: Wet Mesic Forest

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
Acer rubrum	red maple	FAC	X	Tree	3	3
<i>Anemone quinquefolia</i>	wood anemone	FAC*	X	Forb	6	6
<i>Aster umbellatus</i>	flat-top aster	FACW	X	Forb	6	6
<i>BERBERIS THUNBERGII</i>	Japanese barberry	FACU-		Shrub		0
Calamagrostis canadensis	blue-joint grass	OBL	X	Grass	5	5
<i>Carex intumescens</i>	greater bladder sedge	FACW+	X	Sedge	5	5
<i>Carex pensylvanica</i>	Pennsylvania sedge	[UPL]	X	Sedge	3	3
<i>Corylus cornuta subsp. cornuta</i>	beaked hazelnut	UPL	X	Shrub	5	5
<i>Crataegus spp</i>						
<i>Danthonia spicata</i>	poverty danthonia		X	Grass	4	4
<i>Erechtites hieracifolia</i>	fireweed	FACU	X	Forb	2	2
<i>Maianthemum canadense</i>	wild lily-of-the-valley	FAC	X	Forb	5	5
<i>Mitchella repens</i>	partridgeberry	FACU+	X	Evergreen Ally	6	6
<i>Osmunda claytoniana</i>	interrupted fern	FAC+	X	Fern	6	6
<i>Osmunda regalis</i>	royal fern	OBL	X	Fern	7	7
<i>Panicum capillare</i>	witch grass	FAC	X	Grass	1	1
PHALARIS ARUNDINACEA	reed canary grass	FACW+		Grass		0
<i>PLANTAGO MAJOR</i>	plantain	FAC+		Forb		0
<i>Prunus serotina</i>	wild black cherry	FACU	X	Tree	3	3
<i>Pteridium aquilinum</i>	bracken fern	FACU	X	Fern	2	2
<i>RHAMNUS FRANGULA</i>	glossy buckthorn	FAC+		Shrub	5	5
<i>Smilax ecirrhata</i>	upright carrion-flower		X	Forb	4	4
<i>Spiraea alba</i>	white meadowsweet	FACW+	X	Shrub	7	7
<i>Trientalis borealis</i>	American starflower	FAC+	X	Forb		0
<i>TRIFOLIUM REPENS</i>	white clover	FACU+		Forb	6	6
<i>Uvularia sessilifolia</i>	sessile bellwort	FAC-	X	Forb	4	4
<i>Vaccinium angustifolium</i>	early low blueberry	FACU	X	Shrub		

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	21	4.5	20.7
All Species	25	3.8	19.0

4.582575695

5

Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape

Moses Creek Wetland Mitigation Site

Community 9: Forested Wet Depression

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³	All species C value
<i>Actaea rubra</i>	red baneberry		X	Forb	7	7
<i>Carex intumescens</i>	greater bladder sedge	FACW+	X	Sedge	5	5
Carex tenera	quill sedge	FAC+	X	Sedge	4	4
<i>Danthonia spicata</i>	poverty danthonia		X	Grass	4	4
<i>Erechtites hieracifolia</i>	fireweed	FACU	X	Forb	2	2
<i>HYPERICUM PERFORATUM</i>	St. John's-wort	[UPL]		Forb		0
<i>Maianthemum canadense</i>	wild lily-of-the-valley	FAC	X	Forb	5	5
<i>Mitchella repens</i>	partridgeberry	FACU+	X	Evergreen Ally	6	6
<i>Panicum capillare</i>	witch grass	FAC	X	Grass	1	1
PHALARIS ARUNDINACEA	reed canary grass	FACW+		Grass		0
<i>Pinus strobus</i>	eastern white pine	FACU	X	Tree	5	5
Prunus serotina	wild black cherry	FACU	X	Tree	3	3
<i>Quercus rubra</i>	northern red oak	FACU	X	Tree	5	5
Rubus hispidus	swamp dewberry	FACW	X	Shrub	4	4
<i>Trientalis borealis</i>	American starflower	FAC+	X	Forb	7	7
<i>Vaccinium angustifolium</i>	early low blueberry	FACU	X	Shrub	4	4

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	14	4.4	16.6
All Species	16	3.9	15.5

3.741657387

4

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community R1: Wet Meadow

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³
<i>Alisma triviale</i>	northern water-plantain		X	Aquatic	4
<i>Alnus incana</i> subsp. <i>rugosa</i>	swamp alder	OBL	X	Tree/Shrub	4
<i>Aronia melanocarpa</i>	black chokeberry	FACW-	X	Shrub	7
<i>Aster borealis</i>	northern bog aster	OBL	X	Forb	10
<i>Betula papyrifera</i>	paper birch	FACU+	X	Tree	3
<i>Betula pumila</i>	swamp birch	OBL	X	Shrub	7
<i>Bidens coronatus</i>	tall swamp marigold	OBL	X	Forb	7
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5
<i>Campanula aparinoides</i>	marsh bellflower	OBL	X	Forb	7
<i>Carex lacustris</i>	common lake sedge	OBL	X	Sedge	6
<i>Carex stricta</i>	common tussock sedge	OBL	X	Sedge	7
<i>Carex trisperma</i>	three-seeded sedge	OBL	X	Sedge	9
<i>Comarum palustre</i>	marsh cinquefoil	OBL	X	Shrub	8
<i>Eleocharis ovata</i>	oval spike-rush	OBL	X	Sedge	8
<i>Ilex verticillata</i>	common winterberry	FACW+	X	Shrub	7
<i>Iris versicolor</i>	northern blue flag	OBL	X	Forb	5
<i>Juncus</i> spp					
<i>Larix laricina</i>	tamarack	FACW	X	Tree	8
<i>Lycopus uniflorus</i>	northern water-horehound	OBL	X	Forb	4
<i>Muhlenbergia mexicana</i>	leafy satin grass	FACW	X	Grass	4
<i>Pinus banksiana</i>	jack pine	FACU	X	Tree	5
<i>Polygonum pensylvanicum</i>	pinkweed	FACW+	X	Forb	1
<i>Polygonum sagittatum</i>	arrow-leaved tear-thumb	OBL	X	Forb	6
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4
<i>Salix lucida</i>	shining willow	FACW+	X	Tree	5
<i>Salix petiolaris</i>	slender willow	FACW+	X	Shrub	6
<i>Solidago uliginosa</i>	northern bog goldenrod	OBL	X	Forb	8
<i>Sphagnum</i> spp					

<i>Spiraea alba</i>	white meadowsweet	FACW+	X	Shrub	4
<i>Spiraea tomentosa</i>	steeplesh	FACW	X	Shrub	6
<i>Thelypteris palustris var. pubescens</i>	marsh fern	FACW+	X	Fern	7
<i>Triadenum fraseri</i>	bog St. John's-wort	OBL	X	Forb	8
<i>Vaccinium macrocarpon</i>	cranberry	OBL	X	Shrub	9

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	31	6.1	33.9

5.567764363

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community R2: Wet Meadow

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³
<i>Alnus incana</i> subsp. <i>rugosa</i>	swamp alder	OBL	X	Tree/Shrub	4
<i>Aster borealis</i>	northern bog aster	OBL	X	Forb	10
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5
<i>Campanula aparinoides</i>	marsh bellflower	OBL	X	Forb	7
<i>Carex lacustris</i>	common lake sedge	OBL	X	Sedge	6
<i>Carex stricta</i>	common tussock sedge	OBL	X	Sedge	7
<i>Cicuta bulbifera</i>	bulblet water-hemlock	OBL	X	Forb	7
<i>Epilobium ciliatum</i>	American willow-herb	FACU	X	Forb	3
<i>Iris versicolor</i>	northern blue flag	OBL	X	Forb	5
<i>Polygonum sagittatum</i>	arrow-leaved tear-thumb	OBL	X	Forb	6
<i>Rubus idaeus</i> var. <i>strigosus</i>	American red raspberry	FACW-	X	Shrub	3
<i>Salix lucida</i>	shining willow	FACW+	X	Tree	5
<i>Salix petiolaris</i>	slender willow	FACW+	X	Shrub	6
<i>Scirpus cyperinus</i>	wool-grass	OBL	X	Sedge	4
<i>Solidago uliginosa</i>	northern bog goldenrod	OBL	X	Forb	8
<i>Sphagnum</i> spp					
<i>Spiraea alba</i>	white meadowsweet	FACW+	X	Shrub	4
<i>Spiraea tomentosa</i>	steepleshub	FACW	X	Shrub	6
<i>Stachys palustris</i>	marsh hedge-nettle	OBL	X	Forb	5
<i>Thelypteris palustris</i> var. <i>pubescens</i>	marsh fern	FACW+	X	Fern	7

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	19	5.7	24.8
			4.358898944

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.

Moses Creek Wetland Mitigation Site

Community R3: Shrub-carr/ Alder Thicket

Scientific Name ^{1, 2}	Common Name	Region 3 Wetland Coefficient	Native	Physiognomy	Coefficient of Conservatism ³
<i>Acer rubrum</i>	red maple	FAC	X	Tree	3
<i>Alnus incana</i> subsp. <i>rugosa</i>	swamp alder	OBL	X	Tree/Shrub	4
<i>Asclepias syriaca</i>	common milkweed	UPL	X	Forb	1
<i>Aster borealis</i>	northern bog aster	OBL	X	Forb	10
<i>Betula papyrifera</i>	paper birch	FACU+	X	Tree	3
<i>Betula pumila</i>	swamp birch	OBL	X	Shrub	7
<i>Calamagrostis canadensis</i>	blue-joint grass	OBL	X	Grass	5
<i>Calla palustris</i>	wild calla	OBL	X	Aquatic	9
<i>Campanula rotundifolia</i>	bluebell	FAC-	X	Forb	5
<i>Carex intumescens</i>	greater bladder sedge	FACW+	X	Sedge	5
<i>Carex lacustris</i>	common lake sedge	OBL	X	Sedge	6
<i>Carex stricta</i>	common tussock sedge	OBL	X	Sedge	7
<i>Cicuta bulbifera</i>	bulblet water-hemlock	OBL	X	Forb	7
<i>Comarum palustre</i>	marsh cinquefoil	OBL	X	Shrub	8
<i>Eupatorium maculatum</i>	spotted Joe-Pye-weed	OBL	X	Forb	4
<i>Euthamia graminifolia</i>	grass-leaved goldenrod	FAC	X	Forb	4
<i>Glyceria canadensis</i>	rattlesnake grass	OBL	X	Grass	7
<i>Impatiens capensis</i>	orange jewelweed	FACW	X	Forb	2
<i>Iris versicolor</i>	northern blue flag	OBL	X	Forb	5
<i>Larix laricina</i>	tamarack	FACW	X	Tree	8
<i>Lycopus uniflorus</i>	northern water-horehound	OBL	X	Forb	4
<i>Onoclea sensibilis</i>	sensitive fern	FACW	X	Fern	5
<i>Osmunda claytoniana</i>	interrupted fern	FAC+	X	Fern	6
<i>Osmunda regalis</i>	royal fern	OBL	X	Fern	7
<i>Pinus strobus</i>	eastern white pine	FACU	X	Tree	5
<i>Polygonum sagittatum</i>	arrow-leaved tear-thumb	OBL	X	Forb	6
<i>Rubus hispidus</i>	swamp dewberry	FACW	X	Shrub	4
<i>Salix petiolaris</i>	slender willow	FACW+	X	Shrub	6

<i>Scirpus cyperinus</i>	wool-grass	OBL	X	Sedge	4
<i>Scutellaria lateriflora</i>	mad-dog skullcap	OBL	X	Forb	5
<i>Solidago gigantea</i>	giant goldenrod	FACW	X	Forb	3
<i>Spiraea alba</i>	white meadowsweet	FACW+	X	Shrub	4
<i>Spiraea tomentosa</i>	steeplebush	FACW	X	Shrub	6
<i>Thelypteris palustris var. pubescens</i>	marsh fern	FACW+	X	Fern	7
<i>Triadenum fraseri</i>	bog St. John's-wort	OBL	X	Forb	8

¹ All capital letters denotes a non-native species

² Bold indicates dominant species

FQI Calculations	Species Richness	Mean C Value	FQI
Native	35	5.4	32.1

5.916079783

³ Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.