	OLD	NEW	6E	7E	ORM	veg	env
Terrestrial System		TE				- upland open, shrub and treed communities; average wetness index typically > 0; plant communities consist mainly of facultative, facultative upland, and upland plant species	- water table rarely above substrate surface; vernal pooling < 20%; substrates of parent mineral material, mineral soil, rock and bedrock; organic material < 40 cm; moisture regime typically < 5; ….'UPLAND'
Natural and Naturalized							
Cliff	CL	CL				- vegetation cover varies from patchy and barren to more closed and treed - tree cover ≤ 60%	- vertical or near-vertical exposed bedrock - > 3 m height; bedrock type important - sharp to variably broken edges, faces and rims; average substrate depth < 15 cm - highly exposed; subject to extremes in temperature and moisture
Open Cliff	CLO	CLO				- tree cover < 25%; shrub cover < 25%	open cliffs tend to be restricted to the bare, lichen covered, variably broken, near-vertical rock faces; open talus slopes tend to have little organic accumulations amongst mainly bare or lichen covered rock surfaces; the open communities are more subject to extremes in temperature and moisture
Calcareous Open Cliff Ecosite	CLO1	CLOC1				- plant cover varies from patchy and barren to continuous herbaceous meadow; vegetation cover depends on how broken the cliff rim and face are;	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); cliff rim and face vary from sharp to highly cracked and broken; open areas often restricted to near vertical, bare rock surfaces; bedrock cover > 50%; substrate restricted to small soil accumulations in cracks, pockets, and ledges
Cliffbrake – Lichen Calcareous Open Cliff Type	CLO1-1	CLOC1-1	X	X			
Bulblet Fern – Herb Robert Calcareous Open Cliff Type	CLO1-2	CLOC1-2	X	X			
Canada Bluegrass Calcareous Open Cliff Type	CLO1-3	CLOC1-3	X	X			
Moist Open Calcareous Cliff Seepage Type	CLO1-4	CLOC1-4	X	X			
Open Calcareous Cliff Rim Type	CLO1-5	CLOC1-5	X	X			
Non-Calcareous Open Cliff Ecosite	CLO2	CLON2				- plant cover varies from patchy and barren to continuous herbaceous meadow; vegetation cover depends on how broken the cliff rim and face are;	- Igneous and metamorphic rocks; low calcareous content; no fizz with acid; lower pH, pH < 7.5; not easily weathered; cliff rim and face vary from sharp to highly cracked and broken; open areas often restricted to near vertical, bare rock surfaces; bedrock cover > 50%; substrate restricted to small soil accumulations in cracks, pockets, and ledges; most exposed to extremes in temperature and moisture
Shrub Cliff	CLS	CTS				- tree cover < 25%; shrub cover > 25%; shrub cover varies from clumped or patchy to continuous	- typically on more heterogenous substrates, where more organics have accumulated in pockets, ledges and cracks
Calcareous Shrub Cliff Ecosite	CLS1	CLSC1				- patchy to continuous cover of shrubs; understorey consists mainly of the species found in Open Calcareous Cliffs	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); cliff rim and face vary from sharp to highly cracked and broken; shrub cover depends on how broken and fractued the cliff rim and face are; substrate restricted to small soil accumulations in cracks, pockets, and ledges; shade may dampen temperature and moisture extremes
Common Juniper Calcareous Shrub Cliff Type	CLS1-1	CLSC1-1	X	X			
Round-leaved Dogwood Calcareous Shrub Cliff Type	CLS1-2	CLSC1-2	X	X			
Non-Calcareous Shrub Cliff Ecosite	CLS2	CLSN2				- patchy to continuous cover of shrubs; understorey consists mainly of the species found in Open Non-Calcareous Cliffs	- Igneous and metamorphic rocks containing > 66% silica; low calcareous content; no fizz with acid; low pH, pH < 7.5; not easily weathered; shrub cover depends on how broken and fractued the cliff rim and face are; substrate restricted to small soil accumulations in cracks, pockets, and ledges; shade may dampen temperature and moisture extremes
Treed Cliff	CLT	CLT				- tree cover > 25%	- typically a narrow community along the cliff rim, when on un-broken cliffs; tree cover increases with brockeness of cliff - increase in heterogeneity and microhabitats

Calcareous Treed Cliff Ecosite		CLT1	CLTC1				- patchy to semi-open treed communities; understorey plant cover patchy to continuous	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); tree cover depends on how broken and fractued the cliff rim and face are; shade may dampen temperature and moisture extremes
	White Cedar Treed Calcareous Cliff Type	CLT1-1	CLTC1-1	X	X			
	Sugar Maple – Ironwood – White Ash Treed Calcareous Cliff Type	CLT1-2	CLTC1-2	X	X			
	White Birch – Aspen Treed Calcareous Cliff Type	CLT1-3	CLTC1-3	X	X			
Non-Calcareous Treed Cliff Ecosite		CLT2	CLTN2				- patchy to semi-open treed communities; understorey plant cover patchy to continuous	- Igneous and metamorphic rocks containing > 66% silica; low calcareous content; no fizz with acid; low pH, pH < 5.5; not easily weathered; tree cover depends on how broken and fractued the cliff rim and face are; shade may dampen temperature and moisture extremes

Talus		TA	TA				- vegetation cover varies from patchy and barren to more closed and treed - tree cover ≤ 60%	- slopes of rock rubble at the base of cliffs - coarse rocky debris > 50% of substrate surface; average substrate depth < 15 cm; substrate consists of localized accumulations of organic matter amongst the coarse fragments; bedrock type important
	Open Talus	TAO	TAO				- tree cover ≤ 25%; shrub cover ≤ 25%	- dominated by bare rock surfaces -- may be a result of recent rock-fall; scattered accumulations of soil in between coarse fragments; extreme conditions inhibit woody species establishment
		Calcareous Open Talus Ecosite	TAO1	TAOC1			- plant cover varies from patchy and barren to continuous herbaceous cover	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); very irregular and unstable surface; open nature maintained by bare rock surfaces cover > 50%; substrate restricted to small organic accumulations amongst coarse fragments
			Dry – Fresh Calcareous Open Talus Type	TAO1-1	TAOC1-1	X	X	
			Fresh – Moist Calcareous Open Talus Type	TAO1-2	TAOC1-2	X	X	
		Non-Calcareous Open Talus Ecosite	TAO2	CTON2			- plant cover varies from patchy and barren to continuous herbaceous meadow; vegetation cover depends on how broken the cliff rim and face are;	- Igneous and metamorphic rocks; low calcareous content; no fizz with acid; lower pH, pH < 7.5; not easily or resistant to weathering; bedrock cover > 50%; substrate restricted to small soil accumulations in cracks, pockets, and ledges; most exposed to extremes in temperature and moisture
	Shrub Talus	TAS	TAS				- tree cover < 25%; shrub cover > 25%; shrub cover varies from clumped or patchy to continuous	- shrub cover usually reflects more substantial soil accumulations among and over the coarse fragments; may also reflect time since disturbance; typically conditions less extreme -- e.g. shade effects on temperature and moisture conditions
		Calcareous Shrub Talus Ecosite	TAS1	TASC1			- patchy to continuous cover of shrubs; understorey consists mainly of the species found in Open Calcareous Talus	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); shrub cover depends on more extensive accumulations of substrate and moss to permit shrub establishment
			Round-leaved Dogwood Calcareous Shrub Talus Type	TAS1-1	TASC1-1	X	X	
			Mountain Maple Calcareous Shrub Talus Type	TAS1-2	TASC1-2	X	X	
		Non-Calcareous Shrub Talus Ecosite	TAS2	TASN1			- patchy to continuous cover of shrubs; understorey consists mainly of the species found in Open Non-Calcareous Talus	- Igneous and metamorphic rocks containing > 66% silica; low calcareous content; no fizz with acid; low pH, pH < 7.5; not easily weathered; shrub cover depends on more extensive accumulations of substrate and moss to permit shrub establishment
	Treed Talus	TAT	TAT				- 25 % < tree cover < 60%	- tree cover usually reflects more substantial soil accumulations among and over the coarse fragments; may also reflect time since disturbance; typically conditions less extreme -- e.g. shade effects on temperature and moisture conditions
		Calcareous Treed Talus Ecosite	TAT1	TATC1			- patchy to semi-open treed communities; understorey plant cover patchy to continuous	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); tree cover increases as depth of moss and solum increases, with weathering and time
			Dry– Fresh Chinquapin Oak Calcareous Treed Talus Type	TAT1-1	TATC1-1		X	
			Dry – Fresh White Cedar Calcareous Treed Talus Type	TAT1-2	TATC1-2	X	X	
			Dry – Fresh White Birch Calcareous Treed Talus Type	TAT1-3	TATC1-3	X	X	
			Fresh – Moist Sugar Maple Calcareous Treed Talus Type	TAT1-4	TATC1-4	X	X	
			Fresh – Moist Basswood – White Ash Calcareous Treed Talus Type	TAT1-5	TATC1-5	X	X	
			Fresh – Moist Hemlock – Sugar Maple Calcareous Treed Talus Type	TAT1-6	TATC1-6	X	X	

Non-Calcareous Treed Talus Ecosite	TAT2	TATN1				- patchy to semi-open treed communities; understorey plant cover patchy to continuous	- Igneous and metamorphic rocks containing > 66% silica; low calcareous content; no fizz with acid; low pH, pH < 5.5; not easily weathered; tree cover increases as depth of moss and solum increases, with weathering and time

Rock Barren	RB	RB				- vegetation cover varies from patchy and barren to more closed and treed	- bedrock controlled topography; surface features of sites range from near level and unfractured, to rolling rock knob and hollow, to rock reef, block and fissure - rock type important; patchy soil development; substrate depth < 15 cm and variable - extremes in moisture and temperatures
Open Rock Barren	RBO	RBO				- tree cover < 25%; shrub cover < 25%	- dominated by bare rock surfaces; scattered accumulations of soil in cracks and pockets; extreme conditions inhibit woody species establishment
Open Alvar Rock Barren Ecosite	ALO	RBOA1				- plant cover varies from patchy and barren to continuous herbaceous meadow	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); level, unfractured limestone (calcareous) bedrock - patchy mosaic of bare rock pavement and shallow substrates over bedrock; substrate depth < 15cm; in open Alvars, bare rock surfaces dominate; seasonal alternation between inundation and drought
Dry Lichen – Moss Open Alvar Pavement Type	ALO1-1	RBOA1-1	X	X			
Dry Annual Open Alvar Pavement Type	ALO1-2	RBOA1-2	X	X			
Dry – Fresh Little Bluestem Open Alvar Meadow Type	ALO1-3	RBOA1-3	X				
Dry – Fresh Poverty Grass Open Alvar Meadow Type	ALO1-4	RBOA1-4	X				
Fresh – Moist Tufted Hairgrass Open Alvar Meadow Type	ALO1-5	RBOA1-5	X				
Calcareous Open Rock Barren Ecosite	RBO1	RBOB1				- plant cover varies from patchy and barren to continuous herbaceous meadow	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); near level to variable calcareous bedrock and rock; typically more fractured and variable than 'Alvars'; absence of 'Alvar' species - patchy mosaic of bare rock pavement and shallow substrates over bedrock; substrate depth < 15cm; bare or lichen covered rock surfaces dominate; subject to extremes in temperature and moisture
Calcareous Open Rock Barren Outcrop Type	RBO1-1	RBOB1-1	X				
Calcareous Open Rock Barren Meadow Type		RBOB1-2					
Non-Calcareous Open Rock Barren Ecosite	RBO3	RBOB2				- plant cover varies from patchy and barren to continuous herbaceous meadow	- Igneous and metamorphic rocks containing > 66% silica; low calcareous content; no fizz with acid; low pH (< 7.5); variable bedrock surface -- rolling rock knob and hollow, rock reef to block and fissure; patchy soil development; substrate depth < 15 cm and variable; extremes in moisture and temperatures
Non-Calcareous Open Rock Barren Outcrop Type	RBO3-1	RBOB2-1	X				
Non-Calcareous Open Rock Barren Meadow Type		RBOB2-2					
Shrub Rock Barren	RBS	RBS				- tree cover < 25%; shrub cover > 25%; shrub cover varies from clumped or scattered to continuous	- shrub cover usually reflects more substantial soil accumulations in cracks and pockets; may also reflect time since disturbance; typically conditions less extreme -- e.g. shade effects may dampen temperature and moisture extremes
Alvar Shrub Rock Barren Ecosite	ALS1	RBSA1				- patchy to continuous cover of shrubs; understorey consists mainly of the species found in Open Alvar Rock Barrens	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); level, unfractured limestone (calcareous) bedrock - patchy mosaic of bare rock pavement and shallow substrates over bedrock; substrate depth < 15cm; - shrub Alvars tend to reflect greater accumulations of soil within the cracks and pockets of the bedrock surfaces; seasonal alternation between inundation and drought; shade effects may dampen temperature and moisture extremes
Common Juniper Shrub Alvar Type	ALS1-1	RBSA1-1	X				
Creeping Juniper - Shrubby Cinquefoil Dwarf Shrub Alvar Type	ALS1-2	RBSA1-2	X				
Scrub Conifer – Dwarf Lake Iris Shrub Alvar Type	ALS1-3	RBSA1-3	X				
Calcareous Shrub Rock Barren Ecosite	RBS1	RBSB1				- patchy to continuous cover of shrubs; understorey consists mainly of the species found in Open Calcareous Rock Barrens	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); near level to variable calcareous bedrock and rock; typically more fractured and variable than 'Alvars'; absence of 'Alvar' species - patchy mosaic of bare rock pavement and shallow substrates over bedrock; substrate depth < 15cm;

Common Juniper Calcareous Shrub Rock Barren Type	RBS1-1	RBSB1-1	X				
Round-leaved Dogwood Calcareous Shrub Rock Barren Type	RBS1-2	RBSB1-2	X				
Non-Calcareous Shrub Rock Barren Ecosite	RBS3	RBSB2				- patchy to continuous cover of shrubs; understorey consists mainly of the species found in Open Non-Calcareous Rock Barrens	- Igneous and metamorphic rocks containing > 66% silica; low calcareous content; no fizz with acid; low pH (< 7.5); variable bedrock surface -- rolling rock knob and hollow, rock reef to block and fissure; patchy soil development; substrate depth < 15 cm and variable; extremes in moisture and temperatures
Blueberry Non-Calcareous Shrub Rock Barren Type	RBS3-1	RBSB2-1	X				
Common Juniper Non-Calcareous Shrub Rock Barren Type	RBS3-2	RBSB2-2	X				
Chokecherry Non-Calcareousl Shrub Rock Barren Type	RBS2-1	RBSB2-3	X				
Treed Rock Barren	RBT	RBT				- tree cover > 25%	- tree cover usually reflects more substantial soil accumulations in cracks and pockets; may also reflect time since disturbance; typically conditions less extreme -- e.g. shade effects on temperature and moisture conditions
Treed Alvar Rock Barren Ecosite	ALT1-1	RBTA1-1				- patchy to semi-open treed communities; understorey plant cover patchy to continuous	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); level, unfractured limestone (calcareous) bedrock - patchy mosaic of bare rock pavement and shallow substrates over bedrock; substrate depth < 15cm; - treed Alvars tend to reflect greater accumulations of soil within the cracks and pockets of the bedrock surfaces; seasonal alternation between inundation and drought; shade effects may dampen temperature and moisture extremes
Chinquapin Oak – Nodding Onion Treed Alvar Type	ALT1-1	RBTA1-1		X			
Shagbark Hickory – Prickly Ash Treed Alvar Type	ALT1-2	RBTA1-2		X			
White Cedar – Jack Pine Treed Alvar Type	ALT1-3	RBTA1-3	X				
Jack Pine – White Cedar – White Spruce Treed Alvar Type	ALT1-4	RBTA1-4	X				
Red Cedar – Early Buttercup Treed Alvar Type	ALT1-5	RBTA1-5	X				
Bur Oak Treed Alvar Type		RBTA1-6	X				
Red Cedar Alvar Woodland Type	CUW2-1	RBTA1-7	X				
Hawthorn Alvar Woodland Type	CUW2-2	RBTA1-8		X			
Calcareous Treed Rock Barren Ecosite	RBT1	RBTB1				- patchy to semi-open treed communities; understorey plant cover patchy to continuous	- sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); near level to variable calcareous bedrock and rock; typically more fractured and variable than 'Alvars'; absence of 'Alvar' species - patchy mosaic of bare rock pavement and shallow substrates over bedrock; substrate depth < 15cm; treed rock barrens typically reflect greater accumulations of soil over the bedrock, or more fracturing of bedrock to allow root penetration
Red Cedar Calcareous Treed Rock Barren Type	RBT1-1	RBTB1-1	X				
Hackberry Calcareous Treed Rock Barren Type	RBT1-2	RBTB1-2	X				
Oak Calcareous Treed Rock Barren Type	RBT1-3	RBTB1-3	X				
Jack Pine Circumneutral Treed Rock Barren Type	RBT2-3	RBTB1-4	X				- from 'circumneutral'
Non-Calcareous Treed Rock Barren Ecosite	RBT3	RBTB2				- patchy to semi-open treed communities; understorey plant cover patchy to continuous	- Igneous and metamorphic rocks containing > 66% silica; low calcareous content; no fizz with acid; low pH (< 7.5); variable bedrock surface -- rolling rock knob and hollow, rock reef to block and fissure; patchy soil development; treed rock barrens typically reflect greater accumulations of soil over the bedrock, or more fracturing of bedrock to allow root penetration; substrate depth < 15 cm and variable; extremes in moisture and temperatures
Pitch Pine Non-Calcareous Treed Rock Barren Type	RBT3-1	RBTB2-1	X				
Jack Pine Non-Calcareous Treed Rock Barren Type	RBT3-2	RBTB2-2	X				

Oak – Red Maple – Pine Non-Calcareous Treed Rock Barren Type	RBT2-1	RBTB2-3	X				- from 'circumneutral'
Red Cedar Non-Calcareous Treed Rock Barren Type	RBT2-2	RBTB2-4	X				- from 'circumneutral'
Crevice and Cave							

Shoreline *(formerly Beach / Bar)*	BB	SH				- vegetation cover varies from patchy and barren to more closed and treed	- sites associated with and adjacent to permanent or ephemeral water; subject to active shoreline processess: ice scour, wave energy, erosion, seepage or sheetflow, and deposition; above high water mark; extremes in disturbance (energy), moisture and temperature; shorelines tend to be narrow and linear communities following the active margins along water bodies
Open Shoreline	BBO	SHO				- tree cover < 25%; shrub cover < 25%	- shoreline processes most severe; most woody species establishment inhibited
Calcareous Rock / Bedrock Open Shoreline Ecosite	BBO2	SHOR1				- plant cover varies from patchy and barren to continuous herbaceous meadow	- sedimentary rock and bedrock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); site ranges from very flat or slightly broken rock and bedrock surfaces, to gravelly, cobbly, and stony shorelines; often has seepage and sheetflow; average substrate depth < 15 cm; exposed rock and bedrock surfaces cover > 50%; above seasonal high-water mark; subject to extremes in disturbance, moisture and temperature
Shrubby Cinquefoil Calcareous Open Bedrock Shoreline Type	BBO2-1	SHOR1-1	X	X			
Non-Calcareous Rock / Bedrock Open Shoreline Ec	BBO2	SHOR2				- plant cover varies from patchy and barren to continuous herbaceous meadow	- Igneous and metamorphic rocks containing > 66% silica; low calcareous content; no fizz with acid; low pH (< 7.5); often steep and irregular rock and bedrock shorelines, and including gravel, cobble and stony substrates; average substrate depth < 15 cm; exposed rock and bedrock surfaces cover > 50%; above seasonal high-water mark; subject to extremes in moisture and temperature
Wormwood Gravel Open Shoreline Type	BBO1-2	SHO2-1	X				- gravel substrates
Mineral Open Shoreline Ecosite	BBO1	SHOM1				- plant cover varies from patchy and barren to continuous herbaceous meadow	- unconsolidated mineral substrates; dominant materials < 2 mm diameter; e.g. sands, loams, silts, and clays
Reed-Canary Grass Mineral Open Shoreline Type	BBO1-3	SHOM1-1	X	X			
Sea Rocket Sand Open Shoreline Type	BBO1-1	SHOM1-2	X	X			- sand substrates
Shrub Shoreline	BBS	SHS				- tree cover < 25%; shrub cover > 25%; shrub cover varies from clumped or patchy to continuous	- shoreline processes less severe; woody species restricted to shrubs
Calcareous Rock / Bedrock Shrub Shoreline Ecosite	BBS2	SHSR1				- patchy to continuous cover of shrubs; understorey consists mainly of the species found in Open Calcareous Bedrock Shorelines	- substrate of sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); often very flat or slightly broken bedrock shorelines, with seepage and sheetflow; average substrate depth < 15 cm; exposed bedrock surfaces cover > 50%; above
Common Juniper - Red Cedar Shingle Shrub Shoreline Type	BBS1-1	SHSR1-1	X				
Willow Gravel Shrub Shoreline Type	BBS1-2	SHSR1-2	X	X			
Non-Calcareous Rock / Bedrock Shrub Shoreline E	BBS2	SHSR2				- patchy to continuous cover of shrubs; understorey consists mainly of the species found in Open Non-Calcareous Bedrock Shorelines	- Igneous and metamorphic rocks containing > 66% silica; low calcareous content; no fizz with acid; low pH (< 7.5); often steep and irregular rock and bedrock shorelines, and including gravel, cobble and stony substrates; average substrate depth < 15 cm; exposed rock and bedrock surfaces cover > 50%; above seasonal high-water mark; subject to extremes in moisture and temperature
Non-Calcareous Rock / Bedrock Shrub Shoreline Type		SHSR2-1					
Mineral Shrub Shoreline Ecosite	BBS1	SHSM1				- patchy to continuous cover of shrubs; understorey consists mainly of the species found in Open Mineral Bedrock Shorelines	- unconsolidated mineral substrates; dominant materials < 2 mm diameter; e.g. sands, loams, silts, and clays
Alder Mineral Shrub Shoreline Type		SHSM1-1					
Red Osier Dogwood Mineral Shrub Shoreline Type		SHSM1-2					
Willow Mineral Shrub Shoreline Type		SHSM1-3					
Treed Shoreline	BBT	SHT				- tree cover > 25%	- active processes least severe; woody species establishment includes shrub and tree species
Calcareous Rock / Bedrock Treed Shoreline Ecosite	BBT2	SHTR1				- patchy to semi-open treed communities; understorey plant cover patchy to continuous, depending on environment and shade	- substrate of sedimentary rock, with high calcareous content; e.g. limestone, dolostone; fizzes with acid; high pH (> 7.5); often very flat or slightly broken bedrock shorelines, with seepage and sheetflow; average substrate depth < 15 cm; exposed bedrock surfaces cover > 50%; above seasonal high-water mark; shade may dampen extremes in moisture and temperature
White Cedar Calcareous Bedrock Treed Shoreline Type		SHTR1-1	X	X			
Red Cedar – Common Juniper Shingle Treed Shoreline Type	BBS1-1	SHTR1-2	X				
Willow Gravel Treed Shoreline Type		SHTR1-3	X	X			

Non-Calcareous Rock / Bedrock Treed Shoreline Ec	BBT2	SHTR2				- patchy to semi-open treed communities; understorey plant cover patchy to continuous, depending on environment and shade	- Igneous and metamorphic rocks containing > 66% silica; low calcareous content; no fizz with acid; low pH (< 7.5); often steep and irregular rock and bedrock shorelines, and including gravel, cobble and stony substrates; average substrate depth < 15 cm; exposed rock and bedrock surfaces cover > 50%; above seasonal high-water mark; subject to extremes in moisture and temperature
Mineral Treed Shoreline Ecosite	BBT1	SHTM1				- patchy to semi-open treed communities; understorey plant cover patchy to continuous, depending on environment and shade	- unconsolidated mineral substrates; dominant materials < 2 mm diameter; e.g. sands, loams, silts, and clays
Cottonwood Mineral Treed Shoreline Type		SHTM1-1		X			

Bluff	BL	BL				- vegetation cover varies from patchy and barren to continuous herbaceous or shrub cover - tree cover < 60%; tree establishment restricted by erosion-related disturbances	- active, steep to near-vertical exposures of unconsolidated mineral material; > 2 m in height; - disturbances from erosion and mass wasting prevail over substrate chemistry (I.e. Calcareous or not); gravity and hydrology controlled by angle of repose - typically restricted to extant or historical lacustrine or riverine shorelines; subject to extremes in moisture and temperature; localized seepage areas often the cause of slope failures
Open Bluff	BLO	BLO				- tree cover < 25%; shrub cover < 25% - common colonizing plants include Field Horsetail, Coltsfoot, Canada Goldenrod, Narrow-leaf Goldenrod	- substrate recently disturbed; subject to ongoing erosional processes - least stable substrates
Calcareous Fine Mineral Open Bluff Ecosite	BLO1	BLOC1				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Calcareous Coarse Mineral Open Bluff Ecosite	BLO1	BLOC2				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Non-Calcareous Fine Mineral Open Bluff Ecosite	BLO1	BLON1				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Non-Calcareous Coarse Mineral Open Bluff Ecosite	BLO1	BLON2				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Shrub Bluff	BLS	BLS				- tree cover < 25%; shrub cover > 25% - Staghorn Sumac common - Field Horsetail, Coltsfoot, Canada Goldenrod, Narrow-leaf Goldenrod	- longer time since disturbance or erosional processes less severe - more stable substrates
Calcareous Fine Mineral Shrub Bluff Ecosite	BLS1	BLSC1				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Calcareous Coarse Mineral Shrub Bluff Ecosite	BLS1	BLSC2				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Non-Calcareous Fine Mineral Shrub Bluff Ecosite	BLS1	BLSN1				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Non-Calcareous Coarse Mineral Shrub Bluff Ecosite	BLS1	BLSN2				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Mineral Shrub Bluff Ecosite	BLS1	BLSM1				- patchy to continuous cover of shrubs; understorey consists mainly of the species found in *Open Fine Loamy Bluffs*	
Staghorn Sumach Mineral Shrub Bluff Type		BLSM1-1					
Willow Mineral Shrub Bluff Type		BLSM1-2					
Serviceberry - Buffaloberry Shrub Bluff Type		BLSM1-3					
Exotic Shrub Bluff Type		BLSM1-4				- including Autumn Olive, Russian Olive,	
Raspberry Low Shrub Bluff Type		BLSM1-5					
Treed Bluff	BLT	BLT				- tree cover > 25%	- longer time since disturbance or erosional processes less severe - more stable substrates with tree regeneration
Calcareous Fine Mineral Treed Bluff Ecosite	BLT1	BLTC1				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Calcareous Coarse Mineral Treed Bluff Ecosite	BLT1	BLTC2				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Non-Calcareous Fine Mineral Treed Bluff Ecosite	BLT1	BLTN1				- plant cover varies from patchy and barren to continuous herbaceous meadow	
Non-Calcareous Coarse Mineral Treed Bluff Ecosite	BLT1	BLTN2				- plant cover varies from patchy and barren to continuous herbaceous meadow	

Mineral Treed Bluff Ecosite	BLT1	BLTM1				- patchy to continuous cover of shrubs; understorey consists mainly of the species found in *Open Fine Loamy Bluffs*	
White Cedar Treed Bluff Type		BLTM1-1					
Manitoba Maple Treed Bluff Type		BLTM1-2					
Mixed Deciduous Treed Bluff Type		BLTM1-3					
Exotic Treed Bluff Type		BLTM1-4				- including Black Locust,	

Sand Barren and Dune	SB / SD	SB				- vegetation cover varies from patchy and barren to more closed and treed	- active and droughty sands, typically formed by extant or historical shoreline and aeolian processes; Sand Dunes restricted to the near-shore areas of the Great Lakes in 6E and 7E - stability of substrate variable; little to no accumulation of organic materials; low nutrient availability - subjected to drought and temperature extremes
Open Sand Barren and Dune	SBO / SDO	SBO				- tree cover < 25%; shrub cover < 25%	
Open Sand Dune Ecosite	SDO1	SBOD1				- vegetation dominated by graminoid species; cover varies from barren and scattered to more continuous cover	- active rolling sand hills formed by shoreline and aeolian processes; restricted to the near-shore areas of the Great Lakes in 6E and 7E - stability of substrate most variable in open areas (i.e., blow-outs); little to no accumulation of organic materials; low nutrient availability
Little Bluestem – Switchgrass – Beachgrass Open Graminoid Sand Dune Type	SDO1-1	SBOD1-1	X	X			
Little Bluestem – Long-leaved Reed Grass – Great Lakes Wheatgrass Open Graminoid Sand Dune Type	SDO1-2	SBOD1-2	X	X			
Beach Grass - Wormwood Open Graminoid Sand Dune Type		SBOD1-3	X	X			
Sand Dropseed - Flat Stemmed Bluegrass Open Graminoid Sand Dune Type		SBOD1-4		X			
Open Sand Barren Ecosite	SBO1	SBOB1				- vegetation dominated by graminoid species; cover varies from barren and scattered to more continuous cover	- active and bare alluvial sands, not associated with other more distinct topographic features (I.e. sand dune) - subject to drought and disturbance (e.g. fire)
Dry Hay Sedge Open Graminoid Sand Barren Type	SBO1-2	SBOB1-1	X		X	Carex siccata	
Dry Slender Wheat-grass Open Graminoid Sand Barren Type	SBO1-3	SBOB1-2	X			Elymus trachycaulus	
Dry Bracken Fern Open Forb Sand Barren Type	SBO1-1	SBOB1-3	X		X	Pteridium aquilinum	
Dry Sand Dropseed Open Sand Barren Type		SBOB1-4	X		X	Sprobolus cryptandrus	
Dry - Fresh Canada Blue Grass - Forb Open Sand Barren Type		SBOB1-5	X		X	Poa compressa	
Hard Fescue Open Graminoid Sand Barren Type		SBOB1-6					
Tall Wormwood Open Sand Barren Type		SBOB1-7	X		X	Artemisia campestris	
Poverty Oat Grass Open Sand Barren Type		SBOB1-8	X		X	Danthonia spicata	
Shrub Sand Barren and Dune	SBS / SDS	SBS				- tree cover < 25%; shrub cover > 25%; shrub cover varies from clumped or patchy to continuous	
Shrub Sand Dune Ecosite	SDS1	SBSD1				- shrub cover varies from barren and scattered to more continuous cover;	- active rolling sand hills formed by shoreline and aeolian processes; restricted to the near-shore areas of the Great Lakes in 6E and 7E - stability of substrate less variable, enough to allow woody species establishment; little to no accumulation of organic materials; low nutrient availability - subjected to drought and temperature extremes
Sand Cherry Shrub Sand Dune Type	SDS1-1	SBSD1-1	X	X		Prunus pumila	
Hop-tree Shrub Sand Dune Type	SDS1-2	SBSD1-2		X		Ptelea trifoliata	
Willow Shrub Sand Dune Type		SBSD1-3	X	X		Salix sp	
Dogwood Shrub Sand Dune Type		SBSD1-4	X	X		Cornus sp	
Common Juniper Shrub Sand Dune Type	SDS1-3	SBSD1-5	X	X		Juniperus communis	
Low-shrub Sand Barren Ecosite		SBSB1				- shrub cover varies from barren and scattered to more continuous cover;	- active and bare alluvial sands, not associated with other more distinct topographic features (I.e. sand dune) - subject to drought and disturbance (e.g. fire)
Sweet-Fern Lowshrub Sand Barren Type		SBSB1-1	X		X	Comptonia peregrina	
Sweet-Fern - New Jersey Tea Sand Barren Type		SBSB1-2	X		X	Comptonia peregrina, Ceanothus herbaceous	
Shrub Sand Barren Ecosite	SBS1	SBSB2				- shrub cover varies from barren and scattered to more continuous cover;	- active and bare alluvial sands, not associated with other more distinct topographic features (I.e. sand dune) - subject to drought and disturbance (e.g. fire)
Treed Sand Barren and Dune	SBT / SDT	SBT				- tree cover > 25%	
Treed Sand Dune Ecosite	SDT1	SBTD1				- tree cover varies from scattered and clumped to more continuous cover;	- active rolling sand hills formed by shoreline and aeolian processes; restricted to the near-shore areas of the Great Lakes in 6E and 7E - stability of substrate most stable, allowing some tree species establishment; little accumulation of organic materials; low nutrient availability - subjected to drought and temperature extremes
Cottonwood Treed Sand Dune Type	SDT1-1	SBTD1-1		X			
Balsam Poplar Treed Sand Dune Type	SDT1-2	SBTD1-2		X			

Red Cedar Treed Sand Dune Type	SDT1-3	SBTD1-3		X			
Treed Sand Barren Ecosite	SBT1	SBTB1				- tree cover varies from scattered and clumped to more continuous cover;	- active and bare alluvial sands, not associated with other more distinct topographic features (I.e. sand dune) - subject to drought and disturbance (e.g. fire)
		SBTB1-1					

Meadow		ME				- tree and shrub cover < 25%; open herbaceous communities; cover varies from scattered and patchy to continuous meadow; natural areas typically have unique floras (e.g. Tallgrass Prairie), areas with a cultural legacy, typically dominated by invasive plant species	- mineral soil > 30 cm deep; shrub and tree establishment inhibited by environment or have been removed by land use practices; areas subjected to natural disturbance (e.g. fire) or recovering from cultural disturbance (e.g. clearing, pasture);
Graminoid Meadow		MEG				- dominated by grass-like species (e.g. grass, sedge);	
Dry - Fresh Calcareous Bedrock Graminoid Meadow Ecosite		MEGR1					
Dry - Fresh Non-Calcareous Bedrock Graminoid Meadow Ec		MEGR2					
Dry - Fresh Graminoid Tallgrass Prairie Ecosite		MEGM1					
Dry Little Bluestem Graminoid Tallgrass Prairie Type		MEGM1-1		X	X		
Dry Big BlUestem Graminoid Tallgrass Prairie Type		MEGM1-2		X	X		
Dry Indian Grass Graminoid Tallgrass Prairie Type		MEGM1-3		X	X		
Dry Mixed Graminoid Tallgrass Trairie Type		MEGM1-4		X	X		
Fresh - Moist Graminoid Tallgrass Prairie Ecosite		MEGM2					
		MEGM2-1		X			
Dry - Fresh Graminoid Meadow Ecosite		MEGM3					
Poverty Oat Grass Graminoid Meadow Type		MEGM3-1	X		X	- Danthonia Spicata	
Canada Blue Grass Graminoid Meadow Type		MEGM3-2	X		X	- Poa compressa	
Sand Dropseed Graminoid Meadow Type		MEGM3-3	X		X	- Sporobolus cryptandrus	
Kentucky Blue Gras Graminoid Meadow Type		MEGM3-4	X		X	- Poa pratensis	
Smooth Brome Graminoid Meadow Type		MEGM3-5	X		X	- Bromus inermis	
Orchard Grass Graminoid Meadow Type		MEGM3-6	X		X	- Dactylis glomerata	
Timothy Graminoid Meadow Type		MEGM3-7	X		X	- Phleum pratense	
Reed Canary Grass Graminoid Meadow Type		MEGM3-8	X		X	- Phalaris arundinacea	
Fresh - Moist Graminoid Meadow Ecosite		MEGM4					
Open Graminoid Meadow Type		MEGM4-1					
Forb Meadow		MEF				- dominated by broadleaf species;	
Dry - Fresh Calcareous Bedrock Forb Meadow Ecosite		MEFR1					
Dry - Fresh Non-Calcareous Bedrock Forb Meadow Ecosite		MEFR2					
Dry - Fresh Forb Meadow Ecosite		MEFM1					
Goldenrod Forb Meadow Type		MEFM1-1					
Aster Forb Meadow Type		MEFM1-2					
Dry - Fresh Forb Tallgrass Prairie Ecosite		MEFM2					
		MEFM2-1					
Fresh - Moist Forb Tallgrass Prairie Ecosite		MEFM3					
Fresh - Moist Forb Meadow Ecosite		MEFM4					
Open Graminoid Meadow Type							

Mixed Meadow		MEM				- mix of grass-like and broadleaf species	
Dry - Fresh Calcareous Bedrock Mixed Meadow Ecosite		MEMR1					
Dry - Fresh Non-Calcareous Bedrock Mixed Meadow Ecosite		MEMR2					
Dry - Fresh Mixed Tallgrass Prairie Ecosite		MEMM1					
Fresh - Moist Mixed Tallgrass Prairie Ecosite		MEMM2					
Dry - Fresh Mixed Meadow Ecosite		MEMM3					
Fresh - Moist Mixed Meadow Ecosite		MEMM4					
Thicket		TH				- shrub cover > 25%; tree cover < 25%; shrub cover varies from scattered and patchy to continuous; natural areas typically have unique floras, areas with a cultural legacy, typically dominated by more invasive shrub species	- mineral soil > 30 cm deep; tree establishment inhibited by environment or have been removed by land use practices; areas subjected to natural disturbance (e.g. fire) or recovering from cultural disturbance (e.g. clearing, pasture); often found associated with the drier verges of wetlands
Coniferous Thicket		THC				- coniferous shrub species dominate; coniferous cover >75%	
Dry - Fresh Calcareous Bedrock Coniferous Thicket Ecosite		THCR1					
Dry - Fresh Non-Calcareous Bedrock Coniferous Thicket Ecc		THCR2					
Dry - Fresh Coniferous Regeneration Thicket Ecosite		THCM1					
Dry - Fresh Red Cedar Coniferous Thicket Type		THCM1-1					
Dry - Fresh Native Coniferous Regeneration Thicket Type		THCM1-2					
Fresh - Moist Coniferous Thicket Ecosite		THCM2					
Fresh - Moist White Cedar Coniferous Thickte Type		THCM2-1					
Mixed Thicket		THM				- both coniferous and deciduous shrub species cover > 25%	
Dry - Fresh Calcareous Bedrock Mixed Thicket Ecosite		THMR1					
Dry - Fresh Non-Calcareous Bedrock Mixed Thicket Ecosite		THMR2					
Dry - Fresh Mixed Regeneration Thicket Ecosite		THMM1					
Native Mixed Regeneration Thicket Type		THMM1-1					
Fresh - Moist Mixed Thicket Ecosite		THMM2					

Deciduous Thicket		THD				- deciduous shrub species dominate; deciduous cover > 75%	
Dry - Fresh Calcareous Bedrock Deciduous Thicket Ecosite		THDR1					
Dry - Fresh Non-Calcareous Bedrock Deciduous Thicket Eco		THDR2					
Dry Lowshrub Tallgrass Thicket Ecosite		THDM1					
New Jersey Tea Lowshrub Tallgrass Thicket Type		THDM1-1	X	X	X		
Dry - Fresh Deciduous Shrub Thicket Ecosite		THDM2					
Sumach Deciduous Shrub Thicket Type	CUT1-1	THDM2-1	X	X	X		
Serviceberry Deciduous Shrub Thicket Type	CUT1-2	THDM2-2	X	X			
Chokecherry Deciduous Shrub Thicket Type	CUT1-3	THDM2-3	X	X			
Gray Dogwood Deciduous Shrub Thicket Type	CUT1-4	THDM2-4	X	X	X		
Round-leaved Dogwood Deciduous Shrub Thicket Type		THDM2-5			X		
Buckthorn Deciduous Shrub Thicket Type		THDM2-6			X		
Prickly Ash Deciduous Shrub Thicket Type		THDM2-7					
Raspberry Deciduous Shrub Thicket Type	CUT1-5	THDM2-8	X	X	X		
Poison Ivy Deciduous Shrub Thicket Type	CUT1-6	THDM2-9	X	X	X		
Apple Deciduous Shrub Thicket Type		THDM2-10					
Hawthorn Deciduous Shrub Thicket Type		THDM2-11			X		
Dry - Fresh Deciduous Hedgerow Thicket Ecosite		THDM3					
Buckthorn Deciduous Hedgerow Thicket Type		THDM3-1	X	X			
Native Shrub Deciduous Hedgerow Thicket Type		THDM3-2	X	X			
Dry - Fresh Deciduous Regeneration Thicket Ecosite		THDM4				- regenerating tree species;	
Native Deciduous Regeneration Thicket Type		THDM4-1					
Fresh - Moist Deciduous Thicket Ecosite		THDM5					
Gray Dogwood Deciduous Thicket Type	CUT1-4	THDM5-1	X	X			
Poison Ivy Deciduous Thicket Type	CUT1-6	THDM5-2	X	X			

Savanna		SV				- 25% < tree cover < 35%; semi-open treed communities; natural areas typically have unique floras (e.g. Tallgrass Savanna), areas with a cultural legacy, typically dominated by more invasive herbaceous, shrub, and tree species; tree cover typically scattered or clumped	- mineral soil > 15 cm deep; areas with intermediate levels of environmental limitations (e.g. fire, drought), intensity of cultural disturbances, or time since last disturbance;
Coniferous Savanna		SVC				- coniferous tree species dominate; coniferous cover >75%	
Dry - Fresh Calcareous Bedrock Coniferous Savanna Ecosite		SVCR1					
Dry - Fresh Non-Calcareous Bedrock Coniferous Savanna Ec		SVCR2					
Dry - Fresh Cedar Coniferous Savanna Ecosite		SVCM1					
White Cedar Coniferous Savanna Type	CUS1-2	SVCM1-1	X				
White Pine Coniferous Savanna Type		SVCM1-2					
Mixed Savanna		SVM				- both coniferous and deciduous tree species cover > 25%	
Dry - Fresh Calcareous Bedrock Mixed Savanna Ecosite		SVMR1					
Dry - Fresh Non-Calcareous Bedrock Mixed Savanna Ecosite		SVMR2					
Dry - Fresh Tallgrass Mixed Savanna Ecosite		SVMM1					
Dry Black Oak – Pine Tallgrass Savanna Type	TPS1-2	SVMM1-2	X	X	X		
Dry - Fresh Mixed Savanna Ecosite		SVMM2					
Dry - Fresh Hawthorn - White Cedar Mixed Savanna Type		SVMM2-1					
Fresh - Moist Mixed Savanna Ecosite		SVMM3					
White Cedar – Green Ash Mixed Savanna Type	CUS1-2	SVMM3-1	X				
Deciduous Savanna		SVD				- deciduous tree species dominate; deciduous tree cover > 75%	
Dry - Fresh Calcareous Bedrock Deciduous Savanna Ecosite		SVDR1					
Dry - Fresh Non-Calcareous Bedrock Deciduous Savanna Ec		SVDR2					
Dry - Fresh Tallgrass Bedrock Deciduous Savanna Ecosite		SVDM1					
Dry Black Oak Tallgrass Savanna Type	TPS1-1	SVDM1-1		X	X		
Fresh - Moist Tallgrass Deciduous Savanna Ecosite		SVDM2					
Fresh – Moist Pin Oak – Bur Oak Tallgrass Savanna Type	TPS2-1	SVDM2-1		X			
Dry - Fresh Deciduous Savanna Ecosite		SVDM3					
Dry Red Oak Deciduous Savanna Type	CUS1-3	SVDM3-1		X			
Dry - Fresh White Oak Deciduous Savanna Type		SVDM3-2					
Dry - Fresh Bur Oak Deciduous Savanna Type		SVDM3-3					
Hawthorn Deciduous Savanna Type	CUS1-1	SVDM3-4	X	X	X	- Crataegus macracantha (Large-thorned Hawthorn), Crataegus pedicellata (Pedicelled Hawthorn), Crataegus prinlei (Pringle's Hawthorn)	
White Birch / Poplar Deciduous Savanna Type		SVDM3-5					
Fresh - Moist Deciduous Savanna Ecosite		SVDM4					
Fresh - Moist Willow Decidous Savanna Type		SVDM4-1					

Woodland		WO				- 35% < tree cover < 60%; semi-closed treed communities; natural areas typically have unique floras (e.g. Tallgrass Woodland), areas with a cultural legacy, typically dominated by more invasive herbaceous, shrub, and tree species; tree cover more closed and shaded	- mineral soil > 15 cm deep; areas with intermediate levels of environmental limitations (e.g. fire, drought), intensity of cultural disturbances, or time since last disturbance;
Coniferous Woodland		WOC				- coniferous tree species dominate; coniferous cover >75%	
Dry - Fresh Calcareous Bedrock Coniferous Woodland Ecosi		WOCR1					
Dry - Fresh Non-Calcareous Bedrock Coniferous Woodland E		WOCR2					
Dry - Fresh Coniferous Woodland Ecosite		WOCM1					
Dry - Fresh Red Cedar Coniferous Woodland Type	CUW1-1	WOCM1-1	X	X			
Dry - Fresh White Cedar Coniferous Woodland Type		WOCM1-2					
Dry - Fresh White Pine Coniferous Woodland Type		WOCM1-3					
Fresh - Moist Coniferous Woodland Ecosite		WOCM2					
Mixed Woodland		WOM				- both coniferous and deciduous tree species cover > 25%	
Dry - Fresh Calcareous Bedrock Mixed Woodland Ecosite		WOMR1					
Dry - Fresh Non-Calcareous Bedrock Mixed Woodland Ecosi		WOMR2					
Dry Pine - Oak Tallgrass Deciduous Woodland Ecosite		WOMM1					
Dry White Pine - Oak Tallgrass Mixed Woodland Type		WOMM1-1		X	X	- White Pine with Red Oak, Black Oak, White Oak in variable mixtures	
Dry Red Pine - Oak Tallgrass Mixed Woodland Type		WOMM1-2	X		X	- Red Pine with Red Oak, Black Oak, White Oak in variable mixtures	
Dry Pine - Hardwood Tallgrass Deciduous Woodland Ecosite		WOMM2					
Dry White Pine - White Birch Tallgrass Mixed Woodland Type		WOMM2-1		X	X		
Dry Red Pine - Large-toothed Aspen Tallgrass Mixed Woodland Type		WOMM2-2	X		X		
Dry - Fresh Mixed Woodland Ecosite		WOMM3					
Dry - Fresh Hawthorn - White Cedar Mixed Woodland Type		WOMM3-1					
Fresh - Moist Mixed Woodland Ecosite		WOMM4					
Fresh - Moist White Cedar - Hardwood Mixed Woodland Type		WOMM4-1					

Deciduous Woodland		WOD				- deciduous tree species dominate; deciduous cover > 75%	
Dry - Fresh Calcareous Bedrock Deciduous Woodland Ecosit		WODR1					
Dry - Fresh Non-Calcareous Bedrock Deciduous Woodland E		WODR2					
Dry - Fresh Oak Tallgrass Deciduous Woodland Ecosite		WODM1					
Dry Black Oak – White Oak Tallgrass Woodland Type	TPW1-1	WODM1-1		X			
Dry Bur Oak – Shagbark Hickory Tallgrass Woodland Type	TPW1-2	WODM1-2	X				
Dry Hardwood Deciduous Tallgrass Woodland Ecosite		WODM2					
Dry White Birsh - Trembling Aspen Deciduous Tallgrass Woodland Type		WODM2-1		X	X	- Black Oak, White Oak, and Red Oak, in variable mixtures	
Dry - Fresh Oak Deciduous Woodland Ecosite		WODM3					
Dry Red Oak Woodland Type	CUW1-2	WODM3-1	X	X			
Dry Black Oak Woodland Type		WODM3-2					
Dry White Oak Woodland Type		WODM3-3					
Dry - Fresh Deciduous Woodland Ecosite		WODM4					
Hawthorn / Apple Deciduous Woodland Type		WODM4-1					
White Ash Deciduous Woodland Type		WODM4-2					
Sugar Maple Deciduous Woodland Type		WODM4-3					
Dry - Fresh Black Walnut Deciduous Woodland Type		WODM4-4					
Fresh - Moist Tallgrass Deciduous Woodland Ecosi	TPW2	WODM6					
Fresh – Moist Oak Tallgrass Woodland Type	TPW2-1	WODM6-1		X		- Black Oak, White Oak, and Red Oak, in variable mixtures	
Fresh - Moist Deciduous Woodland Ecosite		WODM5					
Fresh - Moist Poplar Deciduous Woodland Type		WODM5-1					
Fresh - Moist Elm Deciduous Woodland Type		WODM5-2					
Fresh - Moist Manitoba Maple Deciduous Woodland Type		WODM5-3					
Fresh - Moist Hawthorn / Apple Deciduous Woodland Type		WODM5-4					

Forest		FO	FO				- tree cover > 60%	- site conditions and substrate types variable
	Coniferous Forest	FOC	FOC				- conifer tree species > 75% of canopy cover	
	Dry Pine Calcareous Shallow Coniferous Forest Ecc	FOC1	FOCS1					
	Dry Jack Pine Calcareous Bedrock Coniferous Forest Type	FOC1-1	FOCS1-1	X				
	Dry White Pine - Red Pine Calcareous Bedrock Coniferous Forest Type	FOC1-2	FOCS1-2	X				
	Dry Pine Non-Calcareous Shallow Coniferous Fores	FOC1	FOCS2				- Jack Pine, White Pine or Red Pine separately dominant or in variable mixtures - Oak species, White Cedar, White Birch, and to a lesser extent Hemlock, Balsam Fir and Red Maple associates - Low Sweet Blueberry, Common Juniper, Wintergreen, Buffalo Berry, Serviceberry spp. and Sweet Fern - Bracken Fern, Gaywings, Bristle-leaved Sedge, Large-leaved Aster and Hairy Goldenrod	- dry (θ,0) to fresh (1,2) soil moisture regimes - occurs on droughty shallow soils over bedrock, rock, sands and coarse loams with rapid (2) to moderately well (4) soil drainage - conditions are extreme enough to limit the growth of other species - upper to middle slope (1,2,3) and tableland (7) topographic positions
	Dry Jack Pine Non-Calcareous Bedrock Coniferous Forest Type	FOC1-1	FOCS2-1	X			- Jack Pine dominant - White Pine, Red Pine, Oak species and Red Maple more common associates	- xeric and moderately dry (θ,0) soil moisture regimes - typically on shallow soils over either non-calcareous, basic or calcareous bedrock; most extreme sites
	Dry White Pine - Red Pine Non-Calcareous Bedrock Coniferous Forest Type	FOC1-1	FOCS2-2	X			- White Pine or Red Pine separately dominant or in variable mixtures	- sands, coarse loams and shallow soils over non-calcareous, basic or calcareous bedrock, or rock; less extreme sites
	Dry Pitch Pine Non-Calcareous Bedrock Coniferous Forest Type		FOCS2-3	X			- Pitch Pine dominant, with White Pine, and Red Oak as associates	- xeric to dry soil moisture regimes - exclusive to the non-calcareous rock outcroppings associated with the Frontenac Axis in Frotenac County
	Dry Cedar Calcareous Shallow Coniferous Forest E	FOC2	FOCS3				- Red Cedar or White Cedar separately dominant - often represents second growth arising on heavily managed, grazed or disturbed sites - canopy cover varies from patchy to closed conditions - Serviceberry spp., Bush Honeysuckle and Low Sweet Blueberry - Bracken Fern, Wild Sarsaparilla and Canada Bluegrass	- dry (θ,0) to fresh (1,2) soil moisture regimes - on shallow soils over bedrock, rock, sands and loams with rapid (2) drainage; more common on calcareous substrates and bedrock - upper to middle slope (1,2,3) and tableland (7) topographic positions
	Dry White Cedar Calcareous Bedrock Coniferous Forest Type	FOC2-2	FOCS3-1	X		X	- White Cedar dominant, or shares dominance with White Spruce or Balsam Fir	
	Dry Red Cedar Calcareous Bedrock Coniferous Forest Type	FOC2-1	FOCS3-2	X			- Red Cedar dominant - Red Oak, White Oak, Chinquapin Oak, Dwarf Chinquapin Oak, Black Oak, White Pine, Red Pine, Black Walnut, Ironwood, Hackberry and Hickory associates - Canada Blue Grass, Switch Grass, Poverty Oat Grass, St. John's-wort, Hawkweeds, Goldenrods and Asters - typically invading cleared areas, such as abandoned fields and pastures, or on extreme sites with shallow or no soil over bedrock (see Treed Rock Barren)	- dry (θ,0) to fresh (1,2) soil moisture regimes - on shallow soils over bedrock, rock, sands and loams with rapid (2) drainage; more common on calcareous substrates and bedrock - upper to middle slope (1,2,3) and tableland (7) topographic positions
	Dry – Fresh Pine Coniferous Forest Ecosite	FOC1	FOCM1					
	Dry – Fresh White Pine – Red Pine Coniferous Forest Type	FOC1-2	FOCM1-2	X	X	X		
	Dry – Fresh Cedar Coniferous Forest Ecosite	FOC2	FOCM2					
	Dry – Fresh Red Cedar Coniferous Forest Type	FOC2-1	FOCM2-1	X	X			- are these calcareous ????
	Dry – Fresh White Cedar Coniferous Forest Type	FOC2-2	FOCM2-2	X	X			

Fresh - Moist Hemlock Coniferous Forest Ecosite	FOC3	FOCM3				- Hemlock dominated - White Pine, Balsam Fir and White Cedar and, to a lesser extent, Yellow Birch, Sugar Maple, Green Ash and White Birch associates - shrub and herb richness increase on moist sites; fern rich - Wood Ferns, Bluebead Lily, Starflower, Goldthread and Foamflower	- moist (4,5,6) to fresh (2,3) soil moisture regimes - sands, coarse loams and fine loams; typically have finer silt and clay components - well (3) to imperfect (5) soil drainage - middle to lower slopes (3,4,5), seepage areas, bottomlands (5,6) and tablelands with high water table and complex microtopography (8)
Fresh – Moist Hemlock Coniferous Forest Type	FOC3-1	FOCM3-1	X	X	X	- Hemlock dominant; White Cedar < 25% of canopy cover	
Fresh - Moist Hemlock - White Pine Coniferous Forest Type		FOCM3-2	X				

Fresh – Moist White Cedar Coniferous Forest Ecosi	FOC4	FOCM4				- White Cedar dominant - Balsam Fir, Hemlock and, to a lesser extent, White Pine, Yellow Birch, Sugar Maple, Green Ash and White Birch associates - shrub and herb cover and species richness low; fern rich - Sensitive Fern, Marsh Fern, Spotted Touch-me-not and Cinnamon Fern	- moist (4,5,6) to fresh (2,3) soil moisture regimes - moderately well (4) to poor (6) soil drainage - typically on basic or calcareous substrates and bedrock; moist yet well drained - middle to lower slopes (3,4,5), seepage areas and bottomlands (5,6)
Fresh – Moist White Cedar Coniferous Forest Type	FOC4-1	FOCM4-1	X	X	X	- dominated entirely by White Cedar	
Fresh – Moist White Cedar – Hemlock Coniferous Forest Type	FOC4-2	FOCM4-2	X		X	- White Cedar dominant (> 25% of canopy cover), with Hemlock	
Fresh – Moist White Cedar – Balsam Fir Coniferous Forest Type	FOC4-3	FOCM4-3	X			- White Cedar dominant (> 25% of canopy cover), with Balsam Fir	
Fresh - Moist White Cedar - White Pine Coniferous Forest Type		FOCM4-4	X				
Naturalized Coniferous Hedge-row Ecosite		FOCM5					
Naturalized Coniferous Plantation		FOCM6					
Dry - Fresh White Pine Naturalized Coniferous Plantation Type		FOCM6-1					
Dry - Fresh Red Pine Naturalized Coniferous Plantation Type		FOCM6-2					
Dry - Fresh Scotch Pine Naturalized Coniferous Plantation Type		FOCM6-3					
Mixed Forest	FOM	FOM				- conifer tree species > 25% and deciduous tree species > 25% of canopy cover	
Dry Oak - Pine Calcareous Shallow Mixed Forest E	FOM1	FOMR1				- Red Oak, White Oak, Chinquapin Oak, Pitch Pine, White Pine and Red Pine in variable mixtures - canopy typically open in nature - Low Sweet Blueberry, Buffalo Berry and Common Juniper - Bracken Fern	- dry (θ,0) to moderately fresh (1) soil moisture regimes - shallow soils over bedrock, rock, sands and coarse loams - rapid (2) to well (3) soil drainage - droughty conditions and shallow soils play important roles - upper to middle slope (1,2,3) and tableland (7) topographic positions
Dry Red Oak - Pine Calcareous Bedrock Mixed Forest Type	FOM1-1	FOMR1-1					
Dry Oak - Pine Non-Calcareous Shallow Mixed For	FOM1	FOMR2				- Red Oak, White Oak, Chinquapin Oak, Pitch Pine, White Pine and Red Pine in variable mixtures - canopy typically open in nature - Low Sweet Blueberry, Buffalo Berry and Common Juniper - Bracken Fern	- dry (θ,0) to moderately fresh (1) soil moisture regimes - shallow soils over bedrock, rock, sands and coarse loams - rapid (2) to well (3) soil drainage - droughty conditions and shallow soils play important roles - upper to middle slope (1,2,3) and tableland (7) topographic positions
Dry Pitch Pine – Oak Non-Calcareous Bedrock Mixed Forest Type	FOM1-1	FOMR2-1	X			- Pitch Pine, Red Oak and, to a lesser extent, White Oak in variable mixtures - Common Hair Grass, Panic Grass and Bracken Fern	- restricted to the shallow substrates and bare rock surfaces associated with rock outcrops (knobs and ridges) on the Canadian Shield (Frontenac County)
Dry Oak – Pine Mixed Forest Ecosite	FOM1	FOMM1					
Dry Chinquapin Oak – Pine Mixed Forest Type	FOM1-2	FOMM1-1		X		- Chinquapin Oak with Red Pine and White Pine - Prickly Ash and Fragrant Sumac - Bracken Fern	- on droughty, well drained sands or shallow soils over calcareous, basic or non-calcareous bedrock
Dry – Fresh White Pine – Hardwood Mixed Forest	FOM2	FOMM2				- White Pine with Sugar Maple, Red Oak and, to a lesser extent, White Oak; dominant species varies - Red Maple, Basswood, White Ash and Ironwood associates - Serviceberry, Wintergreen, Downy Arrow-wood, Low Sweet Blueberry and Partridgeberry	- dry (θ,0) to fresh (1,2,3) soil moisture regimes - on sands, coarse loams and shallow soils over bedrock or rock - upper to middle slope (1,2,3) and tableland (7) topographic positions
Dry – Fresh White Pine – Oak Mixed Forest Type	FOM2-1	FOMM2-1	X	X	X	- includes White Pine with Red Oak , White Oak, and Black Oak	

Dry – Fresh White Pine – Sugar Maple Mixed Forest Type	FOM2-2	FOMM2-2	X	X	X	- White Pine with Sugar Maple and Red Maple	
Dry - Fresh White Pine - Hardwood Mixed Forest Type		FOMM2-3	X		X	- White Pine with White Elm, Ash, Black Cherry associates	
Dry-Fresh White Pine - Early Successional Forest Type		FOMM2-4	X		X	- White Pine with White Birch, Trembling Aspen, Red Maple and Black Cherry	

Dry – Fresh Hardwood – Hemlock Mixed Forest Ec	FOM3	FOMM3				- Hemlock with Sugar Maple, Red Maple or Red Oak; dominant species varies - shrub and herb cover and species richness low	- on moderately dry (0) to fresh (1,2,) soil moisture regimes - sands and coarse loams and, to a lesser extent, shallow substrates over bedrock and rock; soils have finer silt and clay components - typically found on slopes with adequate moisture yet good drainage
Dry – Fresh Hardwood – Hemlock Mixed Forest Type	FOM3-1	FOMM3-1	X	X	X	- Hemlock with Red Oak, Red Maple, White Birch, and White Pine - Sugar Maple < 25% of the canopy cover	- common where bedrock is relatively close to the surface (30 cm < depth to bedrock < 100 cm)
Dry – Fresh Sugar Maple – Hemlock Mixed Forest Type	FOM3-2	FOMM3-2	X	X	X	- Hemlock with Sugar Maple; Sugar Maple > 25% of canopy cover - White Ash, Basswood and Red Maple associates	- typically on deeper sands and loams with finer silt and clay components; often along slopes of incised river valleys
Dry - Fresh Hemlock - White Pine Mixed Forest Type		FOMM3-3			X	- Hemlock with White Pine, Sugar Maple, Red Maple, White Birch, Beech associates	
Dry – Fresh White Cedar Mixed Forest Ecosite	FOM4	FOMM4				- White Cedar with White Birch, Largetooth Aspen, Trembling Aspen, Sugar Maple and White Ash; dominant species varies - often represents second growth arising on heavily managed, grazed or disturbed sites - low shrub and herb cover	- moderately dry (0) to fresh (1,2) soil moisture regimes - sands, loams and shallow substrates over bedrock; common on basic and calcareous substrates and bedrock
Dry – Fresh White Cedar – White Birch Mixed Forest Type	FOM4-1	FOMM4-1	X	X	X		
Dry – Fresh White Cedar – Poplar Mixed Forest Type	FOM4-2	FOMM4-2	X	X	X		
Dry - Fresh White Cedar - Hardwood Mixed Forest Type		FOMM4-3			X	- White Cedar with White Birch, Largetooth Aspen, Trembling Aspen, White Elm, Sugar Maple and White Ash; dominant species varies	
Dry – Fresh White Birch – Poplar – Conifer Mixed	FOM5	FOMM5				- White Birch, Trembling Aspen and Largetooth Aspen with Balsam Fir, White Pine and White Spruce - typically a young (early successional) forest following a disturbance	- moderately dry (0) to fresh (1,2,3) soil moisture regimes - sands and loams - suggests recent disturbance or management on the site
Dry – Fresh White Birch Mixed Forest Type	FOM5-1	FOMM5-1	X	X	X	- White Pine, White Cedar	
Dry – Fresh Poplar Mixed Forest Type	FOM5-2	FOMM5-2	X	X	X	- Trembling Aspen or Large-toothed Aspen with White Pine, Red Pine, White Cedar, in variable mixtures; includes regenerating plantations (e.g. with Scotch Pine)	
Fresh – Moist Hemlock - Hardwood Mixed Forest E	FOM6	FOMM6					- moist (4,5,6) to very fresh (3) moisture regimes - sands and loams, less commonly on clays - well (3) to very poor (7) soil drainage - middle to lower slopes (3,4,5), seepage areas and bottomland (6) topographic positions
Fresh – Moist Sugar Maple – Hemlock Mixed Forest Type	FOM6-1	FOMM6-1	X	X	X	- Hemlock with Sugar Maple; Sugar Maple > 25% of canopy cover - White Birch, Ash species, Beech and Yellow Birch associates	- typically on the fresher end of the moisture regime gradient - middle to lower slopes (3,4,5) and tablelands or bottomlands with complex microtopography (8)
Fresh – Moist Hemlock – Hardwood Mixed Forest Type	FOM6-2	FOMM6-2	X	X	X	- Hemlock with Yellow Birch, Red Maple, Black Ash and White Cedar associates; Sugar Maple ≤ 25% of canopy cover - Starflower, Oak Fern, Bluebead Lily and Goldthread	- typically on the moist end of the moisture regime gradient - lower slopes (4,5), seepage areas and bottomlands (6,8)
Fresh – Moist White Cedar – Hardwood Mixed For	FOM7	FOMM7				- White Cedar with Red Maple, Yellow Birch, Ash spp. and White Birch associates - Spinulose Wood Fern, Marginal Wood Fern, Wild Sarsaparilla and Jack-in-the-pulpit	- moist (4,5) to very fresh (3) moisture regimes - sands and loams, less commonly on clays - well (3) to very poor (7) soil drainage - middle to lower slopes (3,4,5), seepage areas and bottomland (6) topographic positions
Fresh – Moist White Cedar – Sugar Maple Mixed Forest Type	FOM7-1	FOMM7-1	X	X	X	- White Cedar with Sugar Maple - White Ash and Yellow Birch associates	- typically on the fresher end of the moisture regime gradient - especially found along the Niagara Escarpment and on steeper river valley slopes
Fresh – Moist White Cedar – Hardwood Mixed Forest Type	FOM7-2	FOMM7-2	X	X	X	- White Cedar with Black Ash, Trembling Aspen, White Birch, Yellow Birch and Red Maple	- typically on the moist end of the moisture regime gradient

Fresh – Moist Poplar – White Birch Mixed Forest E	FOM8	FOMM8				- Trembling Aspen, Largetooth Aspen and White Birch dominant - Balsam Fir, Hemlock and Black Spruce associates - Bluebead Lily, Starflower and Goldthread - typically a young (early successional) forest following a disturbance	- moist (4,5,6) to very fresh (3) moisture regimes - soil textures variable - lower slopes (4,5), seepage areas and bottomland (6) topographic positions
Fresh – Moist Poplar Mixed Forest Type	FOM8-1	FOMM8-1	X	X	X		
Fresh – Moist White Birch Mixed Forest Type	FOM8-2	FOMM8-2	X	X	X	- White Birch with Hemlock, White Pine, Cedar associates	
Fresh – Moist White Pine – Hardwood Mixed Forest Ecosite		FOMM9					
Fresh – Moist White Pine – Sugar Maple Mixed Forest Type		FOMM9-1	X	X	X		
Fresh – Moist White Pine – Hardwood Mixed Forest Type		FOMM9-2	X	X	X		

Fresh - Moist Spruce / Fir - Hardwood Mixed Forest Ecosite		FOMM10					
Fresh - Moist Balsam Fir - Hardwood Mixed Forest Type		FOMM10-1				- Trembling Aspen, White Birch associates	
Fresh - Moist White Spruce - Hardwood Mixed Forest Type		FOMM10-2				- Trembling Aspen , White Birch associates	
Deciduous Forest	FOD	FOD				- deciduous tree species > 75% of canopy cover	
Dry - Fresh Sugar Maple - Hardwood Calcareous S	FOD5	FODR1					
Dry - Fresh Sugar Maple - Hardwood Calcareous Shallow Deciduous Forest Type		FODR1-1					- Niagara Escarpment
Dry - Fresh Oak - Hardwood Non-Calcareous Shall	FOD2	FODR2					
Dry - Fresh Oak - Hardwood Non-Calcareous Shallow Deciduous Forest Type		FODR2-1					
Dry – Fresh Oak Deciduous Forest Ecosite	FOD1	FODM				- Red Oak, White Oak and Black Oak separately dominant or in variable mixtures - Red Maple, White Pine and Black Cherry are common associates - Bracken Fern - canopy cover variable; often relatively open (60 to 80% canopy closure)	- moderately dry (0) to fresh (1,2) moisture regimes - shallow soils over bedrock, rock, sands and coarse loams; absence of finer silts and clays; rapid (2) drainage; absence of gley; mottles > 60 cm in depth; subject to droughty conditions - typically on upper to middle slope (1,2,3) or tableland (7) topographic positions - site subject to some extremes in conditions or disturbance (e.g., fire, historical land use)
Dry – Fresh Red Oak Deciduous Forest Type	FOD1-1	FODM1-1	X	X	X	- Red Oak dominant - Bracken Fern, Lowbush Blueberry, Wintergreen and Starflower	
Dry – Fresh White Oak Deciduous Forest Type	FOD1-2	FODM1-2	X	X	X	- White Oak dominant - Bracken Fern, Lowbush Blueberry, Wintergreen and Starflower	
Dry – Fresh Black Oak Deciduous Forest Type	FOD1-3	FODM1-3		X	X	- Black Oak dominant - Bracken Fern	
Dry – Fresh Mixed Oak Deciduous Forest Type	FOD1-4	FODM1-4		X	X	- more than two Oak species dominant - Red Oak >> White Oak > Black Oak - Bracken Fern	
Dry – Fresh Oak – Maple – Hickory Deciduous For	FOD2	FODM2				- Oak species dominant (Red Oak >> White Oak) with Red Maple, Hickory, Sugar Maple, White Ash, Beech, Basswood, Ironwood and Black Cherry; Sugar Maple ≤ 25% canopy cover - presence of Trilliums, Hepaticas, Bellwort, Jack -in -the -pulpit and Zigzag Goldenrod - represents a transition from dry to fresher sites	- moderately dry (0) to fresh (1,2) moisture regimes - sands and coarse loams with silt and clay components, along with fine loams and clays; moderate drainage; absence of gley; mottles > 60 cm in depth; less droughty conditions prevail - typically on upper to middle slope (1,2,3) or tableland (7) topographic positions - prevailing conditions limiting yet not extreme
Dry – Fresh Oak – Red Maple Deciduous Forest Type	FOD2-1	FODM2-1	X	X	X	- Red Oak >> White Oak - either Oak or Red Maple can dominate	
Dry – Fresh Oak – Hickory Deciduous Forest Type	FOD2-2	FODM2-2	X	X		- Red Oak >> White Oak > Bitternut Hickory > Shagbark Hickory - either Oak or Hickory can dominate	
Dry – Fresh Hickory Deciduous Forest Type	FOD2-3	FODM2-3	X	X		- Bitternut Hickory > Shagbark Hickory	
Dry – Fresh Oak – Hardwood Deciduous Forest Type	FOD2-4	FODM2-4	X	X	X	- Oak dominant with Sugar Maple, White Ash, Beech, Basswood, Ironwood and Black Cherry associates; Sugar Maple ≤ 25% canopy cover - if Sugar Maple is close to, or in equal proportions to, Oak (> 25%) see Dry – Fresh Sugar Maple – Oak Deciduous Forest Type	

Dry – Fresh Poplar – White Birch Deciduous Forest	FOD3	FODM3				- Trembling Aspen, Largetooth Aspen or White Birch dominant - often represents second growth arising on heavily managed, grazed or disturbed sites (e.g., cutting, clearing)	- moderately dry (0) to fresh (1,2,3) soil moisture regimes - shallow substrates over bedrock, rock, sands and coarse loams - upper to middle slope (1,2,3) or tableland (7) topographic positions
Dry – Fresh Poplar Deciduous Forest Type	FOD3-1	FODM3-1	X	X	X	- Trembling Aspen, Largetooth Aspen dominant separately or in variable mixtures - Sugar Maple, Red Maple, Red Oak, Black Cherry, White Elm	
Dry – Fresh White Birch Deciduous Forest Type	FOD3-2	FODM3-2	X		X	- White Birch dominant - Trembling Aspen and Largetooth Aspen are common associates - typically represents an early successional stage with high shrub and herb cover and species richness	- occurs mainly on the fresh (1,2,3) soil moisture regimes
Dry – Fresh Upland Deciduous Forest Ecosite	FOD4	FODM4				- tree species associations that are either relatively uncommon or a result of disturbance or management - Sugar Maple absent or less than 10% of canopy cover	- moderately dry (0) to fresh (1,2,3) moisture regimes - sands and loams - well (3) to moderately well (4) drained soils - upper to middle slopes (2,3,4) or tableland (7) topographic positions
Dry – Fresh Beech Deciduous Forest Type	FOD4-1	FODM4-1	X	X	X	- Beech dominant	
Dry - Fresh White Ash - Hardwood Deciduous Forest Type		FODM4-2	X	X	X		
Dry – Fresh Hackberry Deciduous Forest Type	FOD4-3	FODM4-3		X		- Hackberry dominant or in association with Red Oak, Basswood, Chinquapin Oak, White Ash and Green Ash - Long -styled Sweet -cicely, Herb Robert, Jumpseed	
Dry - Fresh Ironwood Deciduous Forest Type		FODM4-4					
Dry - Fresh Manitoba Maple Deciduous Forest Type		FODM4-5					
Dry - Fresh Norway Maple Deciduous Forest Type		FODM4-6					
Dry - Fresh Red Maple Deciduous Forest Type		FODM4-7					
Dry - Fresh Black Cherry Deciduous Forest Type		FODM4-8					
Dry - Fresh Basswood Deciduous Forest Type		FODM4-9					
Dry - Fresh Hawthorn - Apple Deciduous Forest Type		FODM4-10					
Dry - Fresh Black Locust Deciduous Forest Type		FODM4-11					
Dry - Fresh Exotic Deciduous Forest Type		FODM4-12				- Siberian Elm, Tree of Heaven, Mulberry, Buckthorn	
Dry – Fresh Sugar Maple Deciduous Forest Ecosite	FOD5	FODM5				- Sugar Maple with Beech, Red Oak, White Oak, Ironwood, Basswood, Black Cherry, Bitternut Hickory, Shagbark Hickory, White Ash, Red Maple, White Birch, Trembling Aspen and Largetooth Aspen; dominant species may vary - heavily managed, grazed or disturbed sites tend to be relatively lacking in shrub and understorey vegetation - Alternate -leaved Dogwood, Raspberry and Red Elderberry - Trillium spp., Wild Sarsaparilla, Blue Cohosh, Jack -in -the -pulpit and Wild Leek	- moderately dry (0) to fresh (1,2,3) soil moisture regimes - shallow soils over bedrock, rock, sands and loams - rapid (2) to well (3) drained sites - typically on upper to middle slopes (1,2,3) or tablelands (7) with suitable drainage
Dry – Fresh Sugar Maple Deciduous Forest Type	FOD5-1	FODM5-1	X	X	X	- almost entirely dominated by Sugar Maple	
Dry – Fresh Sugar Maple – Beech Deciduous Forest Type	FOD5-2	FODM5-2	X	X	X		
Dry – Fresh Sugar Maple – Oak Deciduous Forest Type	FOD5-3	FODM5-3	X	X	X	- Sugar Maple with Red Oak >> White Oak	
Dry – Fresh Sugar Maple – Ironwood Deciduous Forest Type	FOD5-4	FODM5-4	X	X		- common on managed (e.g., cutting) or historically grazed sites	
Dry – Fresh Sugar Maple – Hickory Deciduous Forest Type	FOD5-5	FODM5-5	X	X	X	- Sugar Maple with Bitternut Hickory >> Shagbark Hickory	- coarse and fine loams with a silt and clay content

Dry – Fresh Sugar Maple – Basswood Deciduous Forest Type	FOD5-6	FODM5-6	X	X	x		
Dry – Fresh Sugar Maple – Black Cherry Deciduous Forest Type	FOD5-7	FODM5-7	X	X			
Dry – Fresh Sugar Maple – White Ash Deciduous Forest Type	FOD5-8	FODM5-8	X	X	x		
Dry – Fresh Sugar Maple – Red Maple Deciduous Forest Type	FOD5-9	FODM5-9	X	X	x		
Dry – Fresh Sugar Maple – White Birch – Poplar Deciduous Forest Type	FOD5-10	FODM5-10	X	X	x		
Dry – Fresh Sugar Maple – Hardwood Deciduous Forest Type	FOD5-9	FODM5-9	X	X	x	- may include Hawthorn, Apple, Norway Maple…	

Fresh – Moist Sugar Maple Deciduous Forest Ecosi	FOD6	FODM6				- Sugar Maple with Green Ash, Black Ash, Red Maple, White Elm, Yellow Birch, Basswood and Beech associates; dominant species varies - Sassafras, Hackberry and, to a lesser extent, Sycamore, Tulip Tree and Pignut Hickory are Carolinian associates found in Site Region 7E - Spicebush and Blue Beech - mixture of terrestrial and wetland species - Sensitive Fern, Spotted Touch -me -not, Ostrich Fern, Fowl Manna Grass, Skunk Cabbage, Marsh Fern, along with Trilliums and Jack -in -the -pulpit	- moist (4,5,6) to fresh (2,3) moisture regimes - imperfect (5) to poor (6) soil drainage - sands, loams, rarely on clays; soils may be peaty phase mineral (accumulations of organic material 20 to 40 cm) - middle to lower slopes (3,4,5), bottomlands (5,6) and poorly drained tablelands with complex microtopography (8) - represents the wetland (swamp) – terrestrial transitional
Fresh – Moist Sugar Maple – Lowland Ash Deciduous Forest Type	FOD6-1	FODM6-1	X	X		- Sugar Maple with Green Ash, Black Ash - most common, widespread type	- occurs on a variety of different types of sites
Fresh – Moist Sugar Maple – Black Maple Deciduous Forest Type	FOD6-2	FODM6-2	X	X			- moist yet well drained sites; often along floodplains
Fresh – Moist Sugar Maple –Yellow Birch Deciduous Forest Type	FOD6-3	FODM6-3	X		X	- often associated with coniferous species; Hemlock, Balsam Fir or White Cedar may be associate	- moist yet well drained sites; most common on lower slopes and sites with complex microtopography
Fresh – Moist Sugar Maple – White Elm Deciduous Forest Type	FOD6-4	FODM6-4	X	X			- moist yet well drained sites; often along floodplains
Fresh – Moist Sugar Maple – Hardwood Deciduous Forest Type	FOD6-5	FODM6-5	X	X	X	- other more uncommon associations with Sugar Maple on moist soils may include Beech, Basswood, Oak, Hickory, Red Maple and others like White Birch,	- moist yet well drained sites; site typically dries by mid - to late summer; often a site with complex microtopography or along floodplains
Fresh – Moist Lowland Deciduous Forest Ecosite	FOD7	FODM7				- White Elm, Willows, Black Walnut, Black Maple, Basswood, Green Ash and Black Ash dominate separately or in variable mixtures - Red Maple, White Birch, Hackberry, Sycamore and Sugar Maple associates - typically more open canopies – may be < 60% tree cover - Blue Beech, Alternate -leaved Dogwood and Prickly Gooseberry - greater presence of vines; Virginia Creeper, Poison Ivy and Wild Grape - mixture of herbaceous species common to wet sites, such as Sensitive Fern, Foam Flower and Spotted Touch -me -not along with common upland species such as Wild Leek, Blue Cohosh and Jack -in -the -pulpit	- moist (4,5,6) to fresh (2,3) moisture regimes - coarse and fine loams and occasionally sands and clays; all soils have finer silt and clay components - well (3) to poor (6) soil drainage - lower slopes (4,5) with seepage and bottomlands (5,6), especially floodplains - typically in rich areas where deposition due to flooding occurs yet drying occurs by mid - to late summer
Fresh – Moist White Elm Lowland Deciduous Forest Type	FOD7-1	FODM7-1	X	X	X		
Fresh – Moist Green Ash - Hardwood Lowland Deciduous Forest Type	FOD7-2	FODM7-2	X	X	X	- Green Ash dominates, with Birch, Hickory, and Oak species, along with Red Maple, Basswood, White Elm, and Black Ash	
Fresh – Moist Willow Lowland Deciduous Forest Type	FOD7-3	FODM7-3	X	X		- often resulting from cultural influences (i.e., historical clearing and planting, shoreline disturbances)	- typically associated with riparian zones and terraces; stream and river banks and floodplains
Fresh – Moist Black Walnut Lowland Deciduous Forest Type	FOD7-4	FODM7-4		X			- typically associated with riparian zones and terraces; stream and river banks and floodplains
Fresh – Moist Black Maple Lowland Deciduous Forest Type	FOD7-5	FODM7-5		X			- typically associated with riparian zones and terraces; stream and river banks and floodplains
Fresh - Moist Black Ash - Hardwood Lowland Deciduous Forest Type		FODM7-6					
Fresh - Moist Manitoba Maple Lowland Deciduous Forest Type		FODM7-7			X		
Fresh - Moist Norway Maple Lowland Deciduous Forest Type		FODM7-8					
Fresh - Moist Exotic Lowland Deciduous Forest Type		FODM7-9					

Fresh – Moist Poplar – Sassafras Sucessional Deci	FOD8	FODM8				- sites dominated by Trembling Aspen, Largetooth Aspen or Sassafras - typically represents a young (i.e., early successional) forest that has followed a major disturbance - canopy is patchy or relatively open in nature (70 to 85%) - high shrub and herb cover and species richness	- moist (4,5,6) to fresh (2,3) moisture regimes - sand, coarse and fine loams and occasionally clay - soil drainage ranges from well (3) to imperfect (5) and occasionally on poor (6) - found on a variety of topographic positions
Fresh – Moist Poplar Deciduous Forest Type	FOD8-1	FODM8-1	X	X	x	- Trembling Aspen, Large-toothed Aspen, Balsam Poplar with White Elm	
Fresh – Moist Sassafras Deciduous Forest Type	FOD8-2	FODM8-2		X			
Fresh - Moist Cottonwood Deciduous Forest Type		FODM8-3					
Fresh – Moist Oak – Maple – Hickory Deciduous F	FOD9	FODM9				- Red Oak, White Oak, Bur Oak, Sugar Maple, Red Maple, Shagbark Hickory and Bitternut Hickory dominate separately or in variable mixtures - represents the forest–swamp (terrestrial–wetland) interface - almost exclusive to Site Region 7E - mixture of terrestrial and wetland species characteristic; Trilliums, Violets, Jack-in-the-pulpit and Wild Geranium with Marsh Fern, Sensitive Fern and Spotted Touch-me-not - higher abundance and diversity of sedges and ferns	- moist (4,5,6) to fresh (2,3) moisture regimes - loams and clays - imperfect (5) to poor (6,7) drainage - lower slopes (4,5), seepage areas, bottomlands (5,6) and tablelands with poor drainage and complex microtopography (8)
Fresh – Moist Oak – Sugar Maple Deciduous Forest Type	FOD9-1	FODM9-1		X		- Red Oak >> White Oak with Sugar Maple - White Avens, Wild Geranium, Trilliums and Spotted Touch - me -not	- moist to fresh clays >> loams and sands - lower topographic positions or tablelands with complex microtopography
Fresh – Moist Oak – Maple Deciduous Forest Type	FOD9-2	FODM9-2		X		- Red Oak >> White Oak with Red Maple, Silver Maple and Swamp Maple (Acer freemanii) - has greater proportion of wetland species - Swamp Fern, Sensitive Fern and Wild Blue -flag	- moist sands, loams and clays - lower topographic positions or on tablelands with complex microtopography
Fresh – Moist Bur Oak Deciduous Forest Type	FOD9-3	FODM9-3		X		- Bur Oak with White Elm, Green Ash and Basswood - Sensitive Fern	- moist sands and coarse loams - lower valley slopes and bottomlands

	Fresh – Moist Shagbark Hickory Deciduous Forest Type	FOD9-4	FODM9-4		X		- Shagbark Hickory with Red Maple, White Ash and Green Ash - Blue Beech and Running Strawberry Bush - Wild Geranium, White Avens, Jack -in -the -pulpit and Violets	- moist clays >> fine loams - lower topographic positions and bottomlands - absence of really wet species suggests a drying of soil during the season
	Fresh – Moist Bitternut Hickory Deciduous Forest Type	FOD9-5	FODM9-5		X		- Bitternut Hickory with Green Ash, White Elm, Sugar Maple and Red Maple - Spotted Touch -me -not, Sensitive Fern, White Avens and May Apple	- moist loams with silt and clay content - lower topographic positions and bottomlands - absence of really wet species suggests a drying of soil during the season
	Fresh - Moist Oak - Hardwood Deciduous Forest Type		FODM9-6				- Beech, White Birch, Yellow Birch	
	Fresh - Moist Carolinian Deciduous Forest Ecosite		FODM10				- White and Green Ash, Beech, Basswood, with Hackberry, Tulip Tree, Sasafras, Hickory, Black Walnut, Red Maple, Sugar Maple - represents the forest–swamp (terrestrial–wetland) interface - exclusive to Site Region 7E	- moist (4,5,6) to fresh (2,3) moisture regimes - sands or sandy loam sites - imperfect (5) to poor (6,7) drainage - lower slopes (4,5), seepage areas, bottomlands (5,6) and tablelands with poor drainage and complex microtopography (8)
	Fresh - Moist Sugar Maple / Beech Carolinian Deciduous Forest Type		FODM10-1				- Sugar Maple and / or Beech, Basswood with carolinian hardwoods - Tulip Tree, Sasafras, Hackberry,	- typically associated with the sand spits along the Great Lakes shoreline
	Fresh - Moist Oak Carolinian Deciduous Forest Type		FODM10-2				- Red Oak, White Oak, Bur Oak, Basswood with carolinian hardwoods - Tulip Tree, Sasafras, Hackberry	- typically associated with the sand spits along the Great Lakes shoreline
	Naturalized Deciduous Hedge-row Ecosite		FODM11					
	Naturalized Deciduous Plantation Ecosite		FODM12					
Cultural								
	Agriculture		AG					
	Open Agriculture		OAG					
	Annual Row Crops		OAGM1					
	Coarse Mineral Annual Row Crop Type							very gravelly, gravelly and sandy substrates;
	Medium Mineral Annual Row Crop Type							loamy subsstrates
	Fine Mineral Annual Row Crop Type							clayey and very fine clayey substrates
	Organic Annual Row Crop Type							organic substrates (Of, Om, Oh)
	Perennial Cover Crops		OAGM2					
	Coarse Mineral Perennial Cover Type							very gravelly, gravelly and sandy substrates;
	Medium Mineral Perennial Cover Type							loamy subsstrates
	Fine Mineral Perennial Cover Type							clayey and very fine clayey substrates
	Organic Perennial Cover Type							organic substrates (Of, Om, Oh)
	Specialty Crops		OAGM3					
	Coarse Mineral Specialty Crop Type							very gravelly, gravelly and sandy substrates;
	Medium Mineral Specialty Crop Type							loamy subsstrates
	Fine Mineral Specialty Crop Type							clayey and very fine clayey substrates
	Organic Specialty Crop Type							organic substrates (Of, Om, Oh)
	Open Pasture		OAGM4					
	Coarse Mineral Open Pasture Type							very gravelly, gravelly and sandy substrates;
	Medium Mineral Open Pasture Type							loamy subsstrates
	Fine Mineral Open Pasture Type							clayey and very fine clayey substrates
	Organic Open Pasture Type							organic substrates (Of, Om, Oh)
	Shrub Agriculture		SAG					
	Vineyard		SAGM1					
	Coarse Mineral Vineyard Type							very gravelly, gravelly and sandy substrates;
	Medium Mineral Vineyard Type							loamy subsstrates
	Fine Mineral Vineyard Type							clayey and very fine clayey substrates
	Organic Vineyard Type							organic substrates (Of, Om, Oh)

Orchard		SAGM2					
Coarse Mineral Orchard Type							very gravelly, gravelly and sandy substrates;
Medium Mineral Orchard Type							loamy subsstrates
Fine Mineral Orchard Type							clayey and very fine clayey substrates
Organic Orchard Type							organic substrates (Of, Om, Oh)
Berry		SAGM3					
Coarse Mineral Berry Type							very gravelly, gravelly and sandy substrates;
Medium Mineral Berry Type							loamy subsstrates
Fine Mineral Berry Type							clayey and very fine clayey substrates
Organic Berry Type							organic substrates (Of, Om, Oh)

Plantation		SAGM4					
Coarse Mineral Shrub Plantation Type							very gravelly, gravelly and sandy substrates;
Medium Mineral Shrub Plantation Type							loamy subsstrates
Fine Mineral Shrub Plantation Type							clayey and very fine clayey substrates
Organic Shrub Plantation Type							organic substrates (Of, Om, Oh)
Nursery		SAGM5					
Coarse Mineral Nursery Type							very gravelly, gravelly and sandy substrates;
Medium Mineral Nursery Type							loamy subsstrates
Fine Mineral Nursery Type							clayey and very fine clayey substrates
Organic Nursery Type							organic substrates (Of, Om, Oh)
Shrub Pasture		SAGM6					
Coarse Mineral Shrub Pasture Type							very gravelly, gravelly and sandy substrates;
Medium Mineral Shrub Pasture Type							loamy subsstrates
Fine Mineral Shrub Pasture Type							clayey and very fine clayey substrates
Organic Shrub Pasture Type							organic substrates (Of, Om, Oh)
Treed Agriculture		TAG					
Coniferous Plantation		TAGM1					
Coarse Mineral Coniferous Plantation Type							very gravelly, gravelly and sandy substrates;
Medium Mineral Coniferous Plantation Type							loamy subsstrates
Fine Mineral Coniferous Plantation Type							clayey and very fine clayey substrates
Organic Coniferous Plantation Type							organic substrates (Of, Om, Oh)
Mixed Plantation		TAGM2					
Coarse Mineral Mixed Plantation Type							very gravelly, gravelly and sandy substrates;
Medium Mineral Mixed Plantation Type							loamy subsstrates
Fine Mineral Mixed Plantation Type							clayey and very fine clayey substrates
Organic Mixed Plantation Type							organic substrates (Of, Om, Oh)
Deciduous Plantation		TAGM3					
Coarse Mineral Deciduous Plantation Type							very gravelly, gravelly and sandy substrates;
Medium Mineral Deciduous Plantation Type							loamy subsstrates
Fine Mineral Deciduous Plantation Type							clayey and very fine clayey substrates
Organic Deciduous Plantation Type							organic substrates (Of, Om, Oh)
Treed Pasture		TAGM4					
Coarse Mineral Treed Pasture Type							very gravelly, gravelly and sandy substrates;
Medium Mineral Treed Pasture Type							loamy subsstrates
Fine Mineral Treed Pasture Type							clayey and very fine clayey substrates
Organic Treed Pasture Type							organic substrates (Of, Om, Oh)
Fencerow		TAGM5					
Coarse Mineral Fencerow Type							very gravelly, gravelly and sandy substrates;
Medium Mineral Fencerow Type							loamy subsstrates
Fine Mineral Fencerow Type							clayey and very fine clayey substrates
Organic Fencerow Type							organic substrates (Of, Om, Oh)
Agricultural Infrastructure		IAG					
Agricultural Buildings		IAGM1					
Agricultural Waste Management		IAGM2					

Constructed		CV					
Green Lands		CGL					parks, picnic areas, tent camping, playing fields, common gardens, golf courses, playgrounds, arboreta, cemetaries
Golf Course		CGL_1					
Parkland		CGL_2					
Recreational		CGL_4					

Transportation and Utilities		CVI					roads, highways, rights of way / verges, towers / poles; pipelines, petroleum storage, sewage treatment, airports, railways; harbours, docklands, marinas
Transportation		CVI_1					
highways, roads, railways, parking, airports,							
Disposal and Recycle		CVI_2					
Sewage and Water Treatment		CVI_3					
Power Generation		CVI_4					
Residential		CVR					
Low Density Residential		CVR_1					
High Density Residential		CVR_2					
Single Family Residential		CVR_3					
Rural Property		CVR_4					
Trailer Park		CVR_5					
Commercial and Institutional		CVC					
Business Sector		CVC_1					
Light Industry		CVC_2					
Heavy Industry		CVC_3					
car assembly plants, oil and gas,							
Extraction		CVC_4					
pits, quarries, oil and gas							
Education		CVS_1					schools, universities,
Health		CVS_2					hospitals, clinics,

Wetland System		WE				- open, shrub and treed communities; average wetness index typically > 0; plant communities consist mainly of facultative, facultative upland, and upland plant species; consult the Ontario Wetland Evaluation System (OWES) for up to date wetland plant species indicators	- water table seasonally or permanently at, near, or above substrate surface; flooded bedrock or hydric mineral or organic (organic > 40cm) substrates; standing water, pools or vernal pooling > 20% of ground coverage; wetland plant indicator species (OWES) cover > 50%; mean wetness score of a site for native species => 0; moisture regime typically < 5;
Swamp	SW	SW				- tree or shrub cover > 25% - dominated by hydrophytic shrub and tree species	- variable flooding regimes - water depth < 2 m - standing water or vernal pooling > 20% of ground coverage
Coniferous Swamp	SWC	SWC				- tree cover > 25%; trees > 5 m in height - conifer tree species > 75% of canopy cover - typically has a more northern compliment of species, including Bunchberry, Dwarf Raspberry, Wintergreen, Starflower, Goldthread, Canada Mayflower, Naked Mitrewort, Dewdrop, Bluebead Lily and Horsetails - richer coniferous swamps, especially on organic substrates, may have Fly Honeysuckle, Swamp Red Currant, Mountain Maple, Cinnamon Fern and Royal Fern	
Calcareous Rock / Bedrock Coniferous Swamp Ecosite		SWCR1					
White Cedar Calcareous Rock / Bedrock Coniferous Swamp Type		SWCR1-1					
Non-Calcareous Rock / Bedrock Coniferous Swamp Ecosite		SWCR2					
		SWCR2-1					
White Cedar Mineral Coniferous Swamp Ecosite	SWC1	SWCM1				- White Cedar with Balsam Fir, Hemlock, White Spruce and, to a lesser extent, White Birch, Yellow Birch, White Pine, Black Ash and Red Maple; dominant species may vary	- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
White Cedar Mineral Coniferous Swamp Type	SWC1-1	SWCM1-1	X		X	- almost entirely dominated by White Cedar - understorey very shaded, having few species and little cover	
White Cedar – Conifer Mineral Coniferous Swamp Type	SWC1-2	SWCM1-2	X		X	- White Cedar with Balsam Fir, Hemlock, Tamarack, White Spruce and White Pine - understorey cover and species richness dependant on degree of tree canopy closure and shading	
White Pine – Hemlock Mineral Coniferous Swamp	SWC2	SWCM2				- White Pine or Hemlock with Red Maple, Yellow Birch and White Birch; dominant species may vary	- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer - typically in hummock and hollow, complex microtopography
White Pine Mineral Coniferous Swamp Type	SWC2-1	SWCM2-1	X	X			
Hemlock Mineral Coniferous Swamp Type	SWC2-2	SWCM2-2	X	X	X		
White Cedar Organic Coniferous Swamp Ecosite	SWC3	SWCO1				- White Cedar with Tamarack, Balsam Fir, Black Spruce, Hemlock, White Spruce and, to a lesser extent, White Pine, Yellow Birch and White Birch	- organic substrates – Of, Om, Oh (OIP 1985)
White Cedar Organic Coniferous Swamp Type	SWC3-1	SWCO1-1	X	X	X	- almost entirely dominated by White Cedar	
White Cedar – Conifer Organic Coniferous Swamp Type	SWC3-2	SWCO1-2	X	X	X	- White Cedar with Tamarack, Balsam Fir, Black Spruce, Hemlock, White Spruce and, to a lesser extent, White Pine, Yellow Birch and White Birch; dominant species will vary	
Tamarack – Black Spruce Organic Coniferous Swa	SWC4	SWCO2				- Tamarack and Black Spruce dominant or in variable mixtures - typically found associated with or ringing Bogs and Fens - if associated with Bogs or Fens, species may include Leatherleaf, Bog Rosemary, Small Cranberry, Highbush Blueberry, Pitcher Plant, Sundews and Cotton -grass	- organic substrates – Of, Om, Oh (OIP 1985)
Tamarack – Black Spruce Organic Coniferous Swamp Type	SWC4-1	SWCO2-1	X	X			
Tamarack Organic Coniferous Swamp Type	SWC4-2	SWCO2-2	X	X	X		

Black Spruce Organic Coniferous Swamp Type	SWC4-3	SWCO2-3	X		X		
Balsam Fir Coiferous Swamp Type		SWCO2-4			X	- Balsam Fir with Tamarack, Black Spruce, White Pine, White Cedar, in variable mixtures	
Hemlock Organic Coniferous Swamp Ecosite		SWCO3					- organic substrates – Of, Om, Oh (OIP 1985)
Hemlock Organic Coniferous Swamp Type		SWCO3-1	X	X	X		

Mixed Swamp	SWM	SWM				- tree cover > 25%; trees > 5 m in height - deciduous tree species > 25% and coniferous tree species > 25% of canopy cover - vegetation is a mixture of typical conifer swamp and deciduous swamp species; Bunchberry, Starflower, Goldthread, Bluebead Lily, Naked Mitrewort along with Bedstraws, Fowl Manna Grass, Spotted Touch -me -not, Skunk Cabbage, Marsh Marigold and Sedges - typically fern rich; Sensitive Fern, Cinnamon Fern, Royal Fern, Marsh Fern and Ostrich Fern	
Calcareous Rock / Bedrock Mixed Swamp		SWMR1					
White Cedar – Hardwood Calcareous Rock / Bedrock Mixed Swamp Type		SWMR1-1					
Non-Calcareous Rock / Bedrock Mixed Swamp		SWMR2					
		SWMR2-1					
White Cedar Mineral Mixed Swamp Ecosite	SWM1-1	SWMM1				- White Cedar with White Birch, Yellow Birch, Green Ash, Black Ash, Trembling Aspen, Balsam Fir, Red Maple, Balsam Poplar and White Elm; dominant species will vary	- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
White Cedar – Hardwood Mineral Mixed Swamp Type	SWM1-1	SWMM1-1	X	X	X		
Maple Mineral Mixed Swamp Ecosite	SWM2	SWMM2				- Red Maple or Swamp Maple (Acer freemanii) with Hemlock, Balsam Fir, White Pine, Tamarack, White Birch, Yellow Birch, Balsam Poplar and Trembling Aspen; dominant species will vary	- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
Red Maple – Conifer Mineral Mixed Swamp Type	SWM2-1	SWMM2-1	X	X	X	- Red Maple with Hemlock, White Cedar, White Birch, Yellow Birch, Black Ash, Trembling Aspen, and Tamarack	
Swamp Maple – Conifer Mineral Mixed Swamp Type	SWM2-2	SWMM2-2	X	X			
Birch – Poplar Mineral Mixed Swamp Ecosite	SWM3	SWMM3				- White Birch, Yellow Birch, Trembling Aspen, Balsam Poplar with Hemlock, Balsam Fir and White Pine; hardwood dominated mixed-woods	- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
Yellow Birch – Conifer Mineral Mixed Swamp Type	SWM3-1	SWMM3-1	X	X			
Poplar – Conifer Mineral Mixed Swamp Type	SWM3-2	SWMM3-2	X	X		- Trembling Aspen, Balsam Poplar with White Cedar	
Ash Mineral Mixed Swamp Ecosite		SWMM4					
Green Ash - Hemlock Mineral Mixed Swamp Type		SWMM4-1			X	- Green Ash	
Black Ash - Conifer Mineral Mixed Swamp Type		SWMM4-2	X		X	- Black Ash with White Cedar, Balsam Fir, White Birch, Yellow Birch, Red Maple, and White Elm	
Conifer - Hardwood Mineral Mixed Swamp Ecosite		SWMM5				- Hemlock, Balsam Fir and White Pine, with White Birch, Yellow Birch, Trembling Aspen, Balsam Poplar with; conifer dominated mixed-woods	- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
Balsam Fir - Hardwood Mineral Mixed Swamp Type		SWMM5-1					
Tamarack - Hardwood Mineral Mixed Swamp Type		SWMM5-2			X	- Tamarack with White Elm, Balsam Poplar, White Birch, White Cedar, Trembling Aspen, Red Maple	
White Cedar Organic Mixed Swamp Ecosite	SWM4-1	SWMO1				- White Cedar with Black Ash, Yellow Birch, White Birch, Red Maple, Hemlock and Balsam Fir	- organic substrates – Of, Om, Oh (OIP 1985)
White Cedar – Hardwood Organic Mixed Swamp Type	SWM4-1	SWMO1-1	X	X	X	- White Cedar with Green Ash, Black Ash, Yellow Birch, White Birch, Red Maple, Swamp Maple, Silver Maple, Trembling Aspen, White Elm, Hemlock, Tamarack, and Balsam Fir	- typically in lower slope positions (4, 5), seepage zones, and lowland areas with teluric water (I.e. moving and oxygenated water);

Maple Organic Mixed Swamp Ecosite	SWM5	SWMO2				- Red Maple, Swamp Maple (Acer freemanii) with Hemlock, Balsam Fir, White Pine and Tamarack	- organic substrates – Of, Om, Oh (OIP 1985)
Red Maple – Conifer Organic Mixed Swamp Type	SWM5-1	SWMO2-1	X	X	X	- Red Maple with Hemlock, White Cedar, White Pine	
Swamp Maple – Conifer Organic Mixed Swamp Type	SWM5-2	SWMO2-2	X		X	- Swamp Maple with Red Maple, Hemlock	
Birch – Poplar Organic Mixed Swamp Ecosite	SWM6	SWMO3				- Yellow Birch, White Birch, Trembling Aspen, Balsam Poplar with Hemlock, Balsam Fir, White Pine and Tamarack	- organic substrates – Of, Om, Oh (OIP 1985)
Yellow Birch – Conifer Organic Mixed Swamp Type	SWM6-1	SWMO3-1	X	X	X	- Yellow Birch with Hemlock, White Cedar, Black Ash, Tamarack, Balsam Fir, White Elm	
Poplar – Conifer Organic Mixed Swamp Type	SWM6-2	SWMO3-2	X	X	X	- Trembling Aspen, Balsam Poplar with White Cedar, Tamarack, White Birch	
White Birch - Conifer Organic Mixed Swamp Type		SWMO3-3			X	- White Birch with Balsam Fir, White Cedar	
Conifer - Hardwood Organic Mixed Swamp Ecosite		SWMO4				- Balsam Fir, Black Spruce, Hemlock, White Pine, with Yellow Birch, White Birch, Trembling Aspen, Balsam Poplar	- organic substrates – Of, Om, Oh (OIP 1985)
Balsam Fir - Hardwood Organic Mixed Swamp Type		SWMO4-1			X		
Hemlock - Hardwood Organic Mixed Swamp Type		SWMO4-2			X	- Hemlock with Yellow Birch, Red Maple, White Cedar, Black Ash	
Deciduous Swamp	SWD	SWD				- tree cover > 25%; trees > 5 m in height - deciduous tree species > 75% of canopy cover - common species include Fowl Manna Grass, Spotted Touch -me -not, Bugleweed, Skunk Cabbage, Marsh Marigold, Bedstraws and Stinging Nettles - typically fern and sedge rich	
Calcareous Rock / Bedrock Deciduous Swamp		SWDR1					
		SWDR1-1					
Non-Calcareous Rock / Bedrock Mixed Swamp		SWDR2					
		SWDR2-1					
Oak Mineral Deciduous Swamp Ecosite	SWD1	SWDM1				- Swamp White Oak, Bur Oak, Pin Oak, Shumard's Oak with Shagbark Hickory, Green Ash, Red Maple, Swamp Maple, White Elm, Big Shellbark Hickory and Bitternut Hickory	- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
Swamp White Oak Mineral Deciduous Swamp Type	SWD1-1	SWDM1-1	X	X			
Bur Oak Mineral Deciduous Swamp Type	SWD1-2	SWDM1-2	X	X			
Pin Oak Mineral Deciduous Swamp Type	SWD1-3	SWDM1-3		X			
Shumard's Oak Mineral Deciduous Swamp Type	SWD1-4	SWDM1-4		X			
Ash Mineral Deciduous Swamp Ecosite	SWD2	SWDM2				- Black Ash, Green Ash with Red Maple, White Elm, Swamp Maple and Silver Maple	- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
Black Ash Mineral Deciduous Swamp Type	SWD2-1	SWDM2-1	X	X	X		
Green Ash Mineral Deciduous Swamp Type	SWD2-2	SWDM2-2	X	X	X		
Maple Mineral Deciduous Swamp Ecosite	SWD3	SWDM3					
Red Maple Mineral Deciduous Swamp Type	SWD3-1	SWDM3-1	X	X	X		
Silver Maple Mineral Deciduous Swamp Type	SWD3-2	SWDM3-2	X	X	X		
Swamp Maple Mineral Deciduous Swamp Type	SWD3-3	SWDM3-3	X	X	X		
Manitoba Maple Mineral Deciduous Swamp Type	SWD3-4	SWDM3-4	X	X	X		
Mineral Deciduous Swamp Ecosite	SWD4	SWDM4				- less common associations of Willow, White Elm, White Birch, Aspen and Yellow Birch	- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer - common on floodplains
Willow Mineral Deciduous Swamp Type		SWDM4-1			X	- Black Willow, Reddish Willow, Peach-leaved Willow with White Elm, Green Ash, Manitoba Maple, Rembling Aspen	
White Elm Mineral Deciduous Swamp Type	SWD4-2	SWDM4-2	X	X	X		
White Birch – Poplar Mineral Deciduous Swamp Type	SWD4-3	SWDM4-3	X	X			

Yellow Birch Mineral Deciduous Swamp Type	SWD4-4	SWDM4-4	X	X	X	- Yellow Birch with Red Maple	
Poplar Mineral Deciduous Swamp Type	SWD4-5	SWDM4-5			X	- Balsam Poplar, Trembling Aspen with White Birch, Green Ash, White Elm	
White Birch - Cottonwood Deciduous Swamp Type		SWDM4-6			X	- Cottonwood or Birch with	
Ash Organic Deciduous Swamp Ecosite	SWD5	SWDO1				- Black Ash	- organic substrates – Of, Om, Oh (OIP 1985)
Black Ash Organic Deciduous Swamp Type	SWD5-1	SWDO1-1	X	X	X	- Black Ash with White Birch, Trembling Aspen	
Green Ash Organic Deciduous Swamp Type		SWDO1-2			X		
Maple Organic Deciduous Swamp Ecosite	SWD6	SWDO2					- organic substrates – Of, Om, Oh (OIP 1985)
Red Maple Organic Deciduous Swamp Type	SWD6-1	SWDO2-1	X	X	X		
Silver Maple Organic Deciduous Swamp Type	SWD6-2	SWDO2-2	X	X	X		
Swamp Maple Organic Deciduous Swamp Type	SWD6-3	SWDO2-3	X	X	X		

Organic Deciduous Swamp Ecosite	AWD7	SWDO3				- White Birch, Yellow Birch, Trembling Aspen and Balsam Poplar	- organic substrates – Of, Om, Oh (OIP 1985)
White Birch – Poplar Organic Deciduous Swamp Type	SWD7-1	SWDO3-1	X	X	X		
Yellow Birch Organic Deciduous Swamp Type	SWD7-2	SWDO3-2	X	X	X		
Trembling Aspen Organic Deciduous Swamp Type		SWDO3-3	X		X	- Trembling Aspen with White Birch, Balsam Poplar	
White Elm Organic Deciduous Swamp Type		SWDO3-4			X		
Thicket Swamp	SWT	SWT					
Calcareous Rock / Bedrock Deciduous Thicket Swa	SWT1	SWTR1					
		SWTR1-1					
Non-Calcareous Rock / Bedrock Deciduous Thicket	SWT1	SWTR2					
		SWTR2-1					
Alder Mineral Deciduous Thicket Swamp Ecosite	SWT2	SWTM1					- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
Speckled Alder Mineral Deciduous Thicket Swamp Type	SWT2-1	SWTM1-1	X	X	X	- Alnus incana	
European Alder		SWTM1-2			X	- Alnus glutinosa	
Dogwood Mineral Deciduous Thicket Swamp Ecosi	SWT2	SWTM2					- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
Red-osier Dogwood Mineral Deciduous Thicket Swamp Type	SWT2-5	SWTM2-1	X	X	X	- Cornus stolonifera	
Silky Dogwood Mineral Deciduous Thicket Swamp Type	SWT2-8	SWTM2-2		X	X	- Cornus amomum	
Gray Dogwood Mineral Deciduous Thicket Swamp Type	SWT2-9	SWTM2-3		X	X	- Cornus foemina	
Willow Mineral Deciduous Thicket Swamp Ecosite	SWT2	SWTM3					- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
Missouri Willow Mineral Deciduous Thicket Swamp Type	SWT2-2	SWTM3-1	X	X	X	- Salix eriocephala	
Bebb's Willow Mineral Deciduous Thicket Swamp Type		SWTM3-2	X	X	X	- Salix bebbiana	
Slender Willow Mineral Deciduous Thicket Swamp Type		SWTM3-3	X		X	- Salix petiolaris	
Shining Willow Mineral Deciduous Thicket Swamp Type		SWTM3-4	X		X	- Salix lucida	
Pussy Willow Mineral Deciduous Thicket Swamp Type		SWTM3-5	X		X	- Salix discolor	
Mixed Willow Mineral Deciduous Thicket Swamp Type		SWTM3-6	X		X		
Maple Mineral Deciduous Thicket Swamp Ecosite	SWT2	SWTM4					- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
Mountain Maple Mineral Deciduous Thicket Swamp Type	SWT2-3	SWTM4-1	X	X	X		
Mineral Deciduous Thicket Swamp Ecosite	SWT2	SWTM5					- mineral and peaty phase mineral (organic accumulations 20 to 40 cm) substrates - areas where flooding duration is short – substrate aerated by early to mid -summer
Buttonbush Mineral Deciduous Thicket Swamp Type	SWT2-4	SWTM5-1		X			
Ninebark Mineral Deciduous Thicket Swamp Type	SWT2-7	SWTM5-2		X			
Nannyberry Mineral Deciduous Thicket Swamp Type	SWT2-10	SWTM5-3		X	X		
Southern Arrow-wood Mineral Deciduous Thicket Swamp Type	SWT2-11	SWTM5-4		X			
Paw-paw Mineral Deciduous Thicket Swamp Type	SWT2-12	SWTM5-5		X			
Winterberry Mineral Deciduous Thicket Swamp Type		SWTM5-6			X		
Meadowsweet Mineral Deciduous Thicket Swamp Type	SWT2-6	SWTM5-7	X	X	X		

Non-native Mineral Deciduous Thicket Swamp Type	SWT2-13	SWTM5-8					
Alder Organic Deciduous Thicket Swamp Ecosite	SWT3	SWTO1					- organic substrates – Of, Om, Oh (OIP 1985)
Speckled Alder Organic Deciduous Thicket Swamp Type	SWT3-1	SWTO1-1	X	X	x	- Alnus incana	

Willow Organic Deciduous Thicket Swamp Ecosite	SWT3	SWTO2					- organic substrates – Of, Om, Oh (OIP 1985)
Missouri Willow Organic Deciduous Thicket Swamp Type		SWTO2-1	X		X	- Salix eriocephala	
Bebb's Willow Organic Deciduous Thicket Swamp Type		SWTO2-2	X		X	- Salix bebbiana	
Slender Willow Organic Deciduous Thicket Swamp Type		SWTO2-3	X		X	- Salix petiolaris	
Shining Willow Organic Deciduous Thicket Swamp Type		SWTO2-4	X		X	- Salix lucida	
Pussy Willow Organic Deciduous Thicket Swamp Type		SWTO2-5	X		X	- Salix discolor	
Mixed Willow Organic Deciduous Thicket Swamp Type		SWTO2-6	X		X		
Maple Organic Deciduous Thicket Swamp Ecosite	SWT3	SWTO3					- organic substrates – Of, Om, Oh (OIP 1985)
Mountain Maple Organic Deciduous Thicket Swamp Type	SWT3-3	SWTO3-1	X	X	X		
Dogwood Organic Deciduous Thicket Swamp Ecos	SWT3	SWTO4					- organic substrates – Of, Om, Oh (OIP 1985)
Red-osier Organic Deciduous Thicket Swamp Type	SWT3-5	SWTO4-1	X	X	X		
Gray Dogwood Organic Deciduous Thicket Swamp Type	SWT3-10	SWTO4-2		X			
Silky Dogwood Organic Deciduous Thicket Swamp Type		SWTO4-3			X		
Organic Deciduous Thicket Swamp Ecosite	SWT3	SWTO5					- organic substrates – Of, Om, Oh (OIP 1985)
Buttonbush Organic Deciduous Thicket Swamp Type	SWT3-4	SWTO5-1	X	X	X		
Sweet Gale Organic Deciduous Thicket Swamp Type	SWT3-6	SWTO5-2	X	X			
Winterberry Organic Deciduous Thicket Swamp Type	SWT3-7	SWTO5-3	X		X		
Mountain Holly Organic Deciduous Thicket Swamp Type	SWT3-8	SWTO5-4	X				
Fen Birch Organic Deciduous Thicket Swamp Type	SWT3-9	SWTO5-5	X				
Spicebush Organic Deciduous Thicket Swamp Type	SWT3-11	SWTO5-6		X			
Nannyberry Organic Deciduous Thicket Swamp Type	SWT3-12	SWTO5-7		X			
Poison Sumac Organic Deciduous Thicket Swamp Type	SWT3-13	SWTO5-8		X			
Huckleberry Organic Deciduous Thicket Swamp Type	SWT3-14	SWTO5-9		X			
Spirea Organic Deciduous Thicket Swamp Type		SWTO5-10					
Meadowsweet Organic Deciduous Thicket Swamp Type		SWTO5-11			X		
Fen	FE	FE				- tree cover (trees > 2m high) ≤ 25% - sedges, grasses and low (< 2 m) shrubs dominate	- substrate organic; > 40 cm of brown moss or sedge peat (if substrate not organic - go to Great Lakes Coastal Meadow Marshes or Mineral Fen Meadow Marshes) - rarely flooded, always saturated - pH is slightly alkaline to mildly non-calcareous - minerotrophic peatland
Open Fen	FEO	FEO				- tree cover ≤ 10%; shrub cover ≤ 25%	
Graminoid Open Fen Ecosite		FEOG1					- organic substrates – Of, Om, Oh (OIP 1985)
Twig-rush Open Fen Type	FEO1-1	FEOG1-1	X	X			
Slender Sedge Open Fen Type	FEO1-2	FEOG1-2	X		X	- Slender Sedge (Carex lasiocarpa)	
Low Sedge – Clubrush Open Fen Type	FEO1-3	FEOG1-3	X				
Beaked Sedge Open Fen Type	FEO1-5	FEOG1-4	X		X	- Beaked Sedge (Carex utriculata)	
Water Sedge Open Fen Type		FEOG1-5	X		X	- Water Sedge (Carex aquatilis)	

Narrow Reed Grass Open Fen Type		FEOG1-6	X		X	- Narrow Reed Grass (Calamagrostis stricta ssp. Inespansa)	
Porcupine Sedge Open Fen Type		FEOG1-7	X		X	- Porcupine Sedge (Cares hystericina)	
Schweinitz's Sedge Open Fen Type		FEOG1-8	X		X	- Schweinitz's Sedge (Carex schweinitzii)	
Inland Sedge Open Fen Type		FEOG1-9	X		X	- Inland Sedge (Carex interior) with Tussock Sedge, Fowl Manna Grass, Rice Cut Grass	
Water Horsetail Open Fen Type		FEOG1-10	X		X	- Water Horsetail (Equisetum fluviatile) with Porcupine Sedge, Red-sheathed Bulrush	
Mixed Open Fen Ecosite	FEO1	FEOM1					- organic substrates – Of, Om, Oh (OIP 1985)
Bog Buckbean – Sedge Mixed Open Fen Type	FEO1-4	FEOM1-1	X				

Shrub Fen	FES	FES				- tree cover ≤ 10%; shrub cover > 25%	
Deciduous Shrub Fen Ecosite	FES1	FESD1					- organic substrates – Of, Om, Oh (OIP 1985)
Sweet Gale Shrub Fen Type	FES1-1	FESD1-1	X				
Fen Birch Shrub Fen Type	FES1-2	FESD1-2	X			- Fen Birch (Betula pumila)	
Shrubby Cinquefoil Shrub Fen Type	FES1-3	FESD1-3	X				
Leatherleaf – Forb Shrub Fen Type	FES1-4	FESD1-4	X				
Velvet-leaf Blueberry Shrub Fen Type	FES1-5	FESD1-5	X				
Mountain Holly Shrub Fen Type	FES1-6	FESD1-6	X				
Chokeberry Shrub Fen Type	FES1-7	FESD1-7	X				
Highbush Blueberry-Leatherleaf-Chokeberry Shrub Fen Type	FES1-8	FESD1-8	X	X			
Water-willow Shrub Fen Type	FES1-8	FESD1-9	X	X	X	- Decodon verticillatus	
Coniferous Shrub Fen Ecosite	FES2-9	FESC1					- organic substrates – Of, Om, Oh (OIP 1985)
Low White Cedar Shrub Fen Type	FES2-9	FESC1-1	X				
Mixed Shrub Fen Ecosite		FESM1					- organic substrates – Of, Om, Oh (OIP 1985)
		FRESM1-1					
Treed Fen	FET	FET				- 10% < tree cover K1023 25%	
Coniferous Treed Fen Ecosite	FET1	FETC1					- organic substrates – Of, Om, Oh (OIP 1985)
Tamarack Treed Fen Type	FET1-1	FETC1-1	X	X	X		
Tamarack – White Cedar Treed Fen Type	FET1-2	FETC1-2	X				
Mixed Treed Fen Ecosite		FETM1					- organic substrates – Of, Om, Oh (OIP 1985)
Tamarack - Hardwood Mixed Fen Type	FET1-1	FETM1-1	X	X	X		
Bog	BO	BO				- tree cover (trees > 2m high) ≤ 25%	- substrate organic; > 40 cm of Sphagnum peat; rarely flooded; always saturated - pH is moderate to highly non-calcareous (< 4.2) - ombrotrophic peatland
Open Bog	BOO	BOO				- tree cover ≤ 10%; shrub cover ≤ 25%	
Graminoid Open Bog Ecosite	BOO1	BOOG1				- ground cover dominated by Sphagnum spp. and sedges (e.g., Carex oligosperma)	- organic substrates – Of, Om, Oh (OIP 1985)
Few-seeded Sedge Open Bog Type	BOO1-1	BOOG1-1	X				
Cotton-grass Open Bog Type	BOO1-2	BOOG1-2	X				
Graminoid Open Kettle Bog Ecosite	BOO1	BOOG2				- ground cover dominated by Sphagnum spp. and sedges (e.g., Carex oligosperma)	- organic substrates – Of, Om, Oh (OIP 1985)
Three-way Sedge Open Kettle Bog Type		BOOG2-1	X		X	- Three-way Sedge (Dulichium arundinaceum) with Rattlesnake Manna Grass, Silvery Sedge, Beaked Sedge	
Slender Sedge Open Kettle Bog Type		BOOG2-2	X		X	- Slender Sedge (Carex lasiocarpa) with Narrow Reed Grass, Rattlesnake Manna Grass	
Shrub Bog	BOS	BOS					
Deciduous Shrub Bog Ecosite	BOS1-1	BOSD1				- tree cover ≤ 10%; shrub cover > 25% - continuous Sphagnum spp. Cover	- 10% < tree cover ≤ 25% - continuous Sphagnum spp. Cover
Leatherleaf Shrub Bog Type	BOS1-1	BOSD1-1	X				
Deciduous Shrub Kettle Bog Ecosite	BOS2	BOSD2				- tree cover ≤ 10%; shrub cover > 25% - continuous Sphagnum spp. Cover	- found in kettle depressions
Leatherleaf Shrub Kettle Bog Type	BOS2-1	BOSD2-1		X	X	- Leatherleaf, Winterberry,	
Winterberry Shrub Kettle Bog Type		BOSD2-2	X		X	- Winterberry with Leatherleaf, Speckled Alder, Mountain Holly, Black Huckleberry	
Highbush Blueberry Shrub Kettle Bog Type	BOS2-2	BOSD2-3		X			
Treed Bog	BOT	BOT				- 10% < tree cover ≤ 25% - continuous Sphagnum spp. Cover	
Coniferous Treed Bog Ecosite	BOT1	BOTC1					- organic substrates – Of, Om, Oh (OIP 1985)

	Black Spruce Treed Bog Type	BOT1-1	BOTC1-1	X				
Coniferous Treed Kettle Bog Ecosite		BOT2	BOTC2					- found in kettle depressions
	Tamarack – Leatherleaf Treed Kettle Bog Type	BOT2-1	BOTC2-1	X	X	X	- Tamarack, with Red Maple, Leatherleaf, Labrador-tea, Velvet-leaved Blueberry, Winterberry, Mountain Holly	

Marsh	MA	MA				- tree and shrub cover ≤ 25% - dominated by emergent hydrophytic macrophytes	- variable flooding regimes; - water depth < 2 m
Meadow Marsh	MAM	MAM				- species less tolerant of prolonged flooding; includes Facultative, Facultative Wetland, and Obligate Wetland plants	- flooding seasonal – soils flooded in spring, moist to dry by summer - represents the wetland – terrestrial interface - variable flooding, seepage, and sheetflow over bedrock
Calcareous Bedrock / Rock Meadow Marsh Ecosite	MAM1	MAMR1				- grasses or sedges usually dominant - richer areas dominated by clonal species; wave swept, ice scoured areas are sparsely vegetated	- calcareous, basic or non-calcareous bedrock
		MAMR1-1					
Non-Calcareous Bedrock / Rock Meadow Marsh Ec	MAM1	MAMR2				- grasses or sedges usually dominant - richer areas dominated by clonal species; wave swept, ice scoured areas are sparsely vegetated	
Bedrock / Rock Meadow Marsh Ecosite		MAMR3				- grasses or sedges usually dominant - richer areas dominated by clonal species; wave swept, ice scoured areas are sparsely vegetated	
Reed-canary Grass Bedrock Meadow Marsh Type	MAM1-1	MAMR3-1	X	X			
Red-top Bedrock Meadow Marsh Type	MAM1-2	MAMR3-2	X	X			
Forb Bedrock Meadow Marsh Type	MAM1-3	MAMR3-3					
Horsetail Bedrock Meadow Marsh Type	MAM1-4	MAMR3-3	X	X			
Graminoid Mineral Meadow Marsh Ecosite	MAM2	MAMM1				- grasses or sedges usually dominant - richer areas dominated by clonal species; wave swept, ice scoured areas are sparsely vegetated	- mineral substrates (e.g., sand, gravel, cobble) - exposed areas with shoreline energies and disturbance
Canada Blue-joint Graminoid Mineral Meadow Marsh Type	MAM2-1	MAMM1-1	X	X	X	- Canada Blue-joint with Rice Cut Grass, Spotted Joe-pye-weed, Purple-stemmed Aster, Panicled Aster, Reed Canary Grass	
Cattail Graminoid Mineral Meadow Marsh Type		MAMM1-2					
Reed-canary Grass Graminoid Mineral Meadow Marsh Type	MAM2-2	MAMM1-3	X	X	X	- Phalaris arundinacea	
Red-top Graminoid Mineral Meadow Marsh Type	MAM2-3	MAMM1-4	X	X	X	- Agrostis gigantea	
Fowl Manna Grass Graminoid Mineral Meadow Marsh Type	MAM2-4	MAMM1-5	X	X	X	- Glyceria striata	
Tall Manna Grass Graminoid Mineral Meadow Marsh Type		MAMM1-6	X		X	- Glyceria grandis	
Fowl Meadow Grass Graminoid Mineral Meadow Marsh Type		MAMM1-7	X		X	- Poa palustris	
Creeping Bent Grass Graminoid Mineral Meadow Marsh Type		MAMM1-8	X		X	- Agrostis stolonifera	
Narrow-leaved Sedge Graminoid Mineral Meadow Marsh Type	MAM2-5, 6	MAMM1-9	X	X	X	< 5 mm leaf width; Awned Sedge (Carex atherodes), Woolly sedge (Carex pellita), Tussock Sedge (Carex stricta)	
Horsetail Graminoid Mineral Meadow Marsh Type	MAM2-7	MAMM1-10	X	X	X	- Field Horsetail (Equisetum arvense), Variegated Horsetail (Equisetum variegatum)	
Prairie Slough Grass Graminoid Mineral Meadow Marsh Type	MAM2-8	MAMM1-11	X	X			
Common Reed Graminoid Mineral Meadow Marsh Type		MAMM1-12					
Rush Graminoid Mineral Meadow Marsh Type		MAMM1-13					
Rice Cut-Grass Graminoid Mineral Meadow Marsh Type		MAMM1-14					
Bulrush Graminoid Mineral Meadow Marsh Type		MAMM1-15					
Mixed Graminoid Graminoid Mineral Meadow Marsh Type		MAMM1-16					
Forb Mineral Meadow Marsh Ecosite	MAM2	MAMM2					- mineral substrates (e.g., sand, gravel, cobble) - exposed areas with shoreline energies and disturbance

Jewelweed Forb Mineral Meadow Marsh Type	MAM2-9	MAMM2-1	X	X	X	- Spotted Jewelweed (Impatiens capensis), Pale Jewelweed (Impatiens pallida) with Sensitive Fern, Purple-stemmed Aster, Rice Cut Grass, Panicled Aster, Reed Canary Grass, Wood Nettle, Stinging Nettle	
Panicled Aster Mineral Meadow Marsh Type		MAMM2-2	X		X	- Panicled Aster (Aster lanceolatus) with Purple-stemmed Aster, Spotted Joe-pye-weed, Reed Canary Grass, Red Top	
Purple-stemmed Mineral Meadow Marsh Type		MAMM2-3	X		X	- Purple-stemmed Aster (Aster puniceus)	
Mixed Forb Mineral Meadow Marsh Type	MAM2-10	MAMM2-4	X	X	X	- Canada Anemone (Anemone canadensis), Beggar-ticks (Bidens ssp.), Sensitive Fern, Marsh Marigold, Wood Nettle, Stinging Nettle	
Purple Loosestrife Forb Mineral Meadow Marsh Type		MAMM2-5					
Joe Pye Weed Forb Mineral Meadow Marsh Type		MAMM2-6			X		
Ostrich Fern Forb Mineral Meadow Marsh Type		MAMM2-7			X		
Mixed Mineral Meadow Marsh Ecosite	MAM2	MAMM3					- mineral substrates (e.g., sand, gravel, cobble) - exposed areas with shoreline energies and disturbance

Mixed Mineral Meadow Marsh Type		MAMM3-1						
Great Lakes Coastal Meadow Marsh Ecosite	MAM4	MAMM4						
Graminoid Coastal Meadow Marsh Type	MAM4-1	MAMM4-1	X	X				
Shrubby Cinquefoil Coastal Meadow Marsh Type	MAM4-2	MAMM4-2	X	X				
Nelson's Scouring Rush - Baltic Rush Coastal Meadow Marsh Type		MAMM4-3						
Twig-rush Coastal Meadow Marsh Type		MAMM4-4						
Mineral Fen Meadow Marsh Ecosite	MAM5	MAMM5						
Mineral Fen Meadow Marsh Type	MAM5-1	MAMM5-1	X	X				
Tallgrass Mineral Fen Meadow Marsh Type	MAM5-2	MAMM5-2		X				
Tallgrass Meadow Marsh Ecosite	MAM6-1	MAMM6						
Bluejoint–Prairie Slough Grass Tallgrass Meadow Marsh Type	MAM6-1	MAMM6-1		X				
Bluejoint - Switchgrass Tallgrass Meadow Marsh Type		MAMM6-2						
Graminoid Organic Meadow Marsh Ecosite	MAM3	MAMO1				- grasses and sedges usually dominant - rich areas dominated by clonal species	- organic substrates – Of, Om, Oh (OIP 1985) - sheltered areas - shoreline energies and disturbance low	
Canada Bluejoint Graminoid Organic Meadow Marsh Type	MAM3-1	MAMO1-1	X	X	X			
Cattail Graminoid Organic Meadow Marsh Type		MAMO1-2				- Narrow-leaved Cattail, Broad-leaved Cattail, in variable proportions		
Reed-canary Grass Graminoid Organic Meadow Marsh Type	MAM3-2	MAMO1-3	X	X	X			
Rice Cut-grass Graminoid Organic Meadow Marsh Type	MAM3-3	MAMO1-4	X	X	X			
Fowl Manna Grass Graminoid Organic Meadow Marsh Type	MAM3-4	MAMO1-5	X	X				
Sedge Graminoid Organic Meadow Marsh Type	MAM3-5,6	MAMO1-6	X	X				
Prairie Slough Grass Graminoid Organic Meadow Marsh Type	MAM3-7	MAMO1-7	X	X				
Forb Organic Meadow Marsh Ecosite	MAM3	MAMO2				- broadleaf species dominate; often dominated by clonal species; e.g. Arrow-head, Skunk-cabbage, Impatiens	- organic substrates – Of, Om, Oh (OIP 1985) - sheltered areas - shoreline energies and disturbance low	
Jewelweed Forb Organic Meadow Marsh Type	MAM3-8	MAMO2-1	X	X	X			
Joe Pye Weed Forb Organic Meadow Marsh Type		MAMO2-2						
Mixed Forb Organic Meadow Marsh Type	MAM3-9	MAMO2-3	X	X	X	- Sensitive Fern, Panicled Aster, Purple-stemmed Aster		
Shallow Marsh	MAS	MAS				- species less tolerant of prolonged flooding; species restricted to facultative and obligate wetland plants		
Graminoid Bedrock Shallow Marsh Ecosite	MAS1	MASR1					- calcareous, basic or non-calcareous bedrock	
Graminoid Bedrock Shallow Marsh Type		MASR1-1	X	X				
Forb Bedrock Shallow Marsh Ecosite	MAS1	MASR2					- calcareous, basic or non-calcareous bedrock	
Forb Bedrock Shallow Marsh Type		MASR2-1	X	X				
Graminoid Mineral Shallow Marsh Ecosite	MAS2	MASM1					- mineral substrates (e.g., sand, gravel, cobble) - exposed areas with shoreline energies and disturbance	
Cattail Mineral Shallow Marsh Type	MAS2-1	MASM1-1	X	X	X	- Narrow-leaved Cattail, Broad-leaved Cattail, in variable proportions		
Bulrush Mineral Shallow Marsh Type	MAS2-2	MASM1-2	X	X	X	- Red-sheathed Bulrush (Scirpus mictrocarpus), Hard-stemmed Bulrush (Scirpus acutus), Wool-grass (Scirpus cyperinus) with Reed Canary Grass, Rice Cut Grass		
Soft-stemmed Bulrush Mineral Shallow Marsh Type	MAS2-3	MASM1-3			X			
Narrow-leaved Sedge Mineral Shallow Marsh Type		MASM1-4	X	X	X	- Tussock Sedge (Carex stricta)		
Broad-leaved Sedge Mineral Shallow Marsh Type	MAS2-4	MASM1-5	X	X	X	- Lake Sedge (Carex lacustris), Retorse Sedge (Carex retrorsa)		

Wild-rice Mineral Shallow Marsh Type	MAS2-5	MASM1-6	X	X			
Three-square Mineral Shallow Marsh Type	MAS2-6	MASM1-7	X				
Bur-reed Mineral Shallow Marsh Type	MAS2-7	MASM1-8		X	X		
Canada Blue-joint Graminoid Mineral Shallow Marsh Type		MASM1-9				- Calamagrostis canadensis	
Rice Cut-grass Mineral Shallow Marsh Type	MAS2-8	MASM1-10		X	X	- Leersia oryzoides	
Spide-rush Mineral Shallow Marsh Type		MASM1-11	X		X	- Small's Spike-rush (Eleocharis smallii), Red-stemmed Spike-rush (Eleocharis erythropoda), Blunt Spike-rush (Eleocharis obtusa)	
Common Reed Mineral Shallow Marsh Type		MASM1-12					
Horsetail Mineral Shallow Marsh Type		MASM1-13			X	- Equisetum fluviatile	
Reed Canary Grass Mineral Shallow Marsh Type		MASM1-14					

Giant Manna Grass Mineral Shallow Marsh Type		MASM1-15					
Sweet Flag Mineral Shallow Marsh Type		MASM1-16			x		
Manna Grass Mineral Shallow Marsh Type		MASM1-17			x	- Glyceria striata, Glyceria borealis, Glycderia septentrionalis	
Forb Mineral Shallow Marsh Ecosite	MAS2	MASM2					- mineral substrates (e.g., sand, gravel, cobble) - exposed areas with shoreline energies and disturbance
Forb Mineral Shallow Marsh Type	MAS2-9	MASM2-1	X	X	x	- Water Smartweed (Polygonum amphibium), Water-parsnip (Sium sauve), Water-potato (Alisma plantago-aquatica), Lady's Thumb (Polygonum persicaria), Water-pepper (Polygonum hydropiper), Bitter Nightshade (Solanum dulcamara), Mad-dog Skullcap (Scutellaria lateriflora)	
Beggar-ticks Mineral Shallow Marsh Type		MASM2-2			x	- Tall Beggar-ticks, Nodding Beggar-ticks, Three-parted Beggar-ticks	
Arrow-head Mineral Shallow Marsh Type		MASM2-3			x		
Purple Loosestrife Mineral Shallow Marsh Type		MASM2-4					
Graminoid Organic Shallow Marsh Ecosite	MAS3	MASO1					- organic substrates – Of, Om, Oh (OIP 1985)
Cattail Organic Shallow Marsh Type	MAS3-1	MASO1-1	X	X	x	- Narrow-leaved Cattail, Broad-leaved Cattail, in variable proportions	
Bulrush Organic Shallow Marsh Type	MAS3-2	MASO1-2	X	X	x	- Hard-stemmed Bulrush, Red-sheathed Bulrush, Wool Grass	
Canada Blue-joint Graminoid Organic Shallow Marsh Type		MASO1-3			x	- Calamagrostis canadensis	
Reed Canary Grass Organic Shallow Marsh Type		MASO1-4			x	- Phalaris arundinacea	
Narrow-leaved Sedge Organic Shallow Marsh Type	MAS3-3	MASO1-5	X	X	x	- Tussock Sedge, Three-way Sedge	
Broad-leaved Sedge Organic Shallow Marsh Type	MAS3-4	MASO1-6	X		x	- Cyperus-like Sedge, Retrorse Sedge, Porcupine Sedge, Lake Sedge, Beaked Sedge, Bristly Sedge, Awned Sedge	
Wild-rice Organic Shallow Marsh Type	MAS3-5	MASO1-7	X	X	x	- Zizania palustris	
Spike Rush Organic Shallow Marsh Type	MAS3-6	MASO1-8	X	X	x	- Small's Spike-rush, Red-stemmed Spike-rush	
Bur-reed Organic Shallow Marsh Type	MAS3-7	MASO1-9		X	x	- Giant Bur-reed, Green-fruited Fur-reed	
Rice Cut-grass Organic Shallow Marsh Type	MAS3-8	MASO1-10		X	x		
Rush Grass Organic Shallow Marsh Type	MAS3-9	MASO1-11	X				
Manna Grass Organic Shallow Marsh Type		MASO1-12	X		x	- Northern Manna Grass, Fowl Manna Grass, Eastern Manna Grass	
Foxtail Organic Shallow Marsh Type		MASO1-13			x	- Short-awned Foxtail	
Horsetail Organic Shallow Marsh Type		MASO1-14					
Forb Organic Shallow Marsh Ecosite	MAS3	MASO2					- organic substrates – Of, Om, Oh (OIP 1985)
Mixed Forb Organic Shallow Marsh Type	MAS3-10	MASO2-1	X	X	x	- Deadly Nightshade, Water Arum, False Nettle, Spotted Jewelweed, Northern Willow-herb, Water-hemlock	
Calla Lily Organic Shallow Marsh Type	MAS3-11	MASO2-2	X	X	x		
Water Willow Organic Shallow Marsh Type	MAS3-12	MASO2-3	X	X			
Beggar-ticks Organic Shallow Marsh Type		MASO2-4			x	- Tall Beggar-ticks, Nodding Beggar-ticks, Devil's Beggar-ticks, Three-parted Beggar-ticks	
Water-parsnip Organic Shallow Marsh Type		MASO2-5			x	-	
Smartweed Organic Shallow Marsh Type		MASO2-6			x	- Polygonum ssp	
Arrow-head Organic Shallow Marsh Type		MASO2-7			x		
Purple Loosestrife Organic Shallow Marsh Type		MASO2-8					
Mixed Organic Shallow Marsh Ecosite	MAS3	MASO3					- organic substrates – Of, Om, Oh (OIP 1985)
		MASO3-1					

Aquatic System		AQ					
Open Water	OA	OA					
Open water	OAW	OAW					
Open Aquatic	OAO	OAO					
Shallow Water	SA	SA					
Submerged Shallow Aquatic	SAS	SAS					
Submerged Shallow Aquatic Ecosite	SAS1	SAS_1					
Pondweed Submerged Shallow Aquatic Type	SAS1-1	SAS_1-1	X	X	X	- Leafy Podweed (Potamogeton foliosus), Sago Pondweed (P. pectinatus), Large-leaved Pondweed (P. amplifolius), Flat-stemmed Pondweed (P. zosteriformis)	
Waterweed Submerged Shallow Aquatic Type	SAS1-2	SAS_1-2	X	X	X	- Canada Waterweed (Elodea canadensis), Nuttall's Waterweed (E.nuttalli)	
Stonewort Submerged Shallow Aquatic Type	SAS1-3	SAS_1-3	X	X	X	- Chara ssp	
Water Milfoil Submerged Shallow Aquatic Type	SAS1-4	SAS_1-4	X	X	X	-	
Wild Celery Submerged Shallow Aquatic Type	SAS1-5	SAS_1-5	X	X			
Water Marigold Submerged Shallow Aquatic Type	SAS1-6	SAS_1-6	X	X			
Water Stargrass Submerged Shallow Aquatic Type	SAS1-7	SAS_1-7	X	X			
Coon-tail Submerged Shallow Aquatic Type		SAS_1-8	X		X		
Bushy Naiad Submerged Shallow Aquatic Type		SAS_1-9					
Mixed Shallow Aquatic	SAM	SAM					
Mixed Shallow Aquatic Ecosite	SAM1	SAM_1					
Pickerel-weed Mixed Shallow Aquatic Type	SAM1-1	SAM_1-1	X	X			
Duckweed Mixed Shallow Aquatic Type	SAM1-2	SAM_1-2	X	X			
Watercress Mixed Shallow Aquatic Type	SAM1-3	SAM_1-3	X	X			
Pondweed Mixed Shallow Aquatic Type	SAM1-4	SAM_1-4	X	X			
Bur-reed Mixed Shallow Aquatic Type	SAM1-5	SAM_1-5	X	X			
Bladderwort Mixed Shallow Aquatic Type	SAM1-6	SAM_1-6	X	X			
Water Milfoil Mixed Shallow Aquatic Type	SAM1-7	SAM_1-7	X	X			
Water Lily – Bullhead Lily Mixed Shallow Aquatic Type		SAM_1-8	X		X		
Floating-leaved Shallow Aquatic	SAF	SAF					
Floating-leaved Shallow Aquatic Ecosite	SAF1	SAF_1					
Water Lily – Bullhead Lily Floating-leaved Shallow Aquatic Type	SAF1-1	SAF_1-1	X	X	X		
American Lotus Floating-leaved Shallow Aquatic Type	SAF1-2	SAF_1-2		X			
Duckweed Floating-leaved Shallow Aquatic Type	SAF1-3	SAF_1-3	X	X	X	- Common Duckweed (Lemna minor), Greater Duckweed (Spirodela polyrhiza), Water-meal (Wolffia columbiana, Wolffia borealis)	
Pondweed Floating-leaved Shallow Aquatic Type		SAF_1-4	X		X		

Subterrainean System		SU					
Crevice and Cave		CC					
Crevice		CCR					
Calcareous Crevice Ecosite	CCR1	CCRK1					
Moist Liverwort - Moss - Fern Calcareous Crevice Type	CCR1-1	CCRK1-1	X	X	X		
Non-Calcareous Crevice Ecosite	CCR2	CCRN1					
Cave							
Calcareous Cave Ecosite	CCA1	CCAK1					
			X	X	X		
Non-Calcareous Cave Ecosite	CCA2	CCAN1					
Constructed							
Mine							
Sewer							