

Appendix M



USFWS

Fen and flooded meadow habitat on the refuge

Vegetation Classification Systems and Their Relationship to Refuge Habitat Type

Vegetation Classification Systems and Relationship to Refuge Habitat Type

CCPTYPE	UVM - NVC Common Name ¹	NVC Association ²	NVC # ³	NWI ⁴	ME NAP ⁵	ME rarity rank ⁶	NHNB ⁷	NH rarity rank ⁸	SAF TYPE ⁹
Boreal Fen & Bog	Circumneutral patterned fen	Dasiphora fruticosa spp. Floribunda / Carex lasiocarpa / Campylyium stellatum shrub herbaceous vegetation	CEGL006525	PSS1, PSS3, PSS4	Shrubby cinquefoil-sedge circumneutral fen; Northern white cedar woodland fen	S2; S4	Circumneutral-calcareous flark; Northern white cedar circumneutral string	S1; S1	
	Leatherleaf poor fen	Chamaedaphne calyculata / Eriophorum virginicum / Sphagnum rubellum Dwarf-shrubland	CEGL006513	PFO4	Leatherleaf boggy fen	S4	Leather-leaf-sheep laurel dwarf shrub bog	S1S3	
	Medium shrub fen	Rhododendron canadense - Chamaedaphne calyculata - Myrica gale Dwarf-shrubland (variant)	CEGL006514var		Sheep laurel dwarf shrub bog	S4	Leather-leaf-black spruce bog	S3	
	Sub-boreal Dwarf-shrub Fen	Rhododendron canadense - Chamaedaphne calyculata - Myrica gale Dwarf-shrubland	CEGL006514		Sheep laurel dwarf shrub bog	S4	Leather-leaf-black spruce bog	S3	
	Spruce - Fir Swamp	Picea rubens- Abies balsamea / Gaultheria hispidula / Sphagnum spp. Forest	CEGL006312		Spruce-fir-cinnamon fern forest	S4	Red spruce swamp; Seasonally flooded boreal swamp (??)	S3; SU	33 Red spruce-balsam fir
	Black Spruce - larch swamp	Picea mariana - (Larix laricina) / Ledum groenlandicum / Sphagnum spp. Forest	CEGL005271		Spruce-larch wooded bog	S4	Black spruce-larch swamp	S3	12 Black spruce-sphagnum; 13 Black spruce-tamarack; 38 Tamarack

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Boreal Fen & Bog (cont'd)	Black spruce wooded Bog	<i>Picea mariana</i> / <i>Ledum groenlandicum</i> / <i>Carex trisperma</i> / <i>Sphagnum</i> spp. Forest	CEGL002485		Spruce-larch wooded bog	S4	Black spruce-larch swamp	S3	12 Black spruce-sphagnum; 13 Black spruce-tamarack
Fen & Flooded Meadow	Few seeded sedge-leatherleaf fen	<i>Carex limosa</i> - <i>Rhynchospora alba</i> / <i>Cladopodiella</i> saturated herbaceous vegetation	CEGL006522	PEM1	Low sedge-buckbean fen lawn	S3	Large cranberry-short sedge moss lawn	S3	
	Cattail marsh	<i>Typha</i> (<i>angustifolia</i> , <i>latifolia</i>) - (<i>Scirpus</i> spp.) Eastern Herbaceous Vegetation	CEGL006153	PSS1, PSS3	Cattail marsh	S5	Cattail marsh	S4	
	Eastern Tussock Sedge Meadow	<i>Carex stricta</i> - <i>Carex vesicaria</i> Seasonally Flooded Herbaceous Vegetation	CEGL006412		Tussock sedge meadow	S4	Tal I graminoid emergent marsh	S4	
	Medium fen	<i>Myrica gale</i> - <i>Chamaedaphne calyculata</i> / (<i>Carex lasiocarpa</i> , <i>Carex utriculata</i>) - <i>Utricularia</i> spp. Shrub Herbaceous Vegetation	CEGL006302		Mixed tall sedge fen	S4	Hairy-fruited sedge-sweetgale fen	S3	
	Medium fen - wet phase	<i>Myrica gale</i> - <i>Chamaedaphne calyculata</i> / (<i>Carex lasiocarpa</i> , <i>Carex utriculata</i>) - <i>Utricularia</i> spp. Shrub Herbaceous Vegetation	CEGL006302var		Mixed tall sedge fen	S4	Hairy-fruited sedge-sweetgale fen	S3	

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Fen & Flooded Meadow (cont'd)	Seasonally flooded mixed graminoid meadow	Calamagrostis canadensis - Scirpus cyperinus - Dulichium arundinaceum Herbaceous Vegetation	CEGL006519		Mixed graminoid-shrub marsh	S5	Mixed tall graminoid-shrub-shrub marsh; Oxbow marsh	S4S5; S3	
	Spikerush shallow emergent marsh	Eleocharis palustris shallow emergent marsh			N/A		Short graminoid-forb emergent marsh/mud flat	S4	

Lakeshore Pine-Hemlock	Hemlock - White Pine - Red Spruce Forest	Pinus strobus - Tsuga canadensis - Picea rubens Forest	CEGL006324		White pine-mixed conifer forest	S4	Hemlock-beech-oak-pine forest	S5	21 Eastern white pine; 22 White pine-hemlock
	Hemlock - hardwoods Forest	Tsuga canadensis - Betula alleghaniensis - Picea rubens/Cornus canadensis Forest	CEGL006129		Hemlock forest	S4	Hemlock-beech-northern hardwood forest	S4	24 Hemlock-yellow birch
	Hemlock Mesic Forest	Tsuga canadensis - Betula alleghaniensis - Picea rubens/Cornus canadensis Forest (variant)	CEGL006129var		Hemlock forest	S4	Hemlock forest	S4	23 Eastern hemlock
	Jack Pine / Blueberry / Feathermoss Forest	Pinus banksiana / Vaccinium spp. / Pleurozium schreberi Forest	CEGL002441		Jack pine forest; Jack pine woodland	S4; S3	Jack pine rocky ridge woodland	S1	1 Jack pine-balsam fir-black spruce; 1 Jack pine-sheep laurel
	Red Pine - White Pine Forest	Pinus strobus - Pinus resinosa / Cornus canadensis Forest	CEGL006253		Red pine-white pine forest	S4	Red pine-white pine-balsam fir forest	S3	15 Red pine

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Lakeshore Pine-Hemlock (cont'd)	Aspen-fir woodland	Picea rubens - Betula spp. - Acer rubrum Forest (vzriant)	CEGL006505var		?		N/A		
	Red Spruce - Hardwoods Forest	Picea rubens- Betula alleghaniensis/ Dryopteris campyloptera forest	CEGL006267		Spruce-northern hardwoods forest	S4	Northern hardwood-spruce-fir forest; Hemlock-spruce-northern hardwoods forest	S4; S3S4	30 Red spruce-yellow birch; 31 Red spruce-sugar maple-beech
	Successional Spruce - Fir Forest	Picea rubens - Betula spp. - Acer rubrum Forest	CEGL006505		Spruce-fir-broom-moss forest	S4	N/A		35 Paper birch-red spruce-balsam fir
Northern Hardwood	Early successional aspen-birch forest/woodland	Populus (tremuloides, grandidentata) - Betula (populifolia, papyrifera) Woodland	CEGL006303		Aspen-birch woodland/forest complex	S5	N/A		16 Aspen; 18 Paper birch
	Red maple-yellow birch early successional woodland	Populus (tremuloides, grandidentata) - Betula (populifolia, papyrifera) Woodland (variant)	CEGL006303var		Aspen-birch woodland/forest complex	S5	N/A		16 Aspen; 18 Paper birch; 17 Pin cherry
	Paper birch talus woodland	Quercus rubra - Betula alleghaniensis / Polypodium virginianum Woodland	CEGL006320		Birch-oak talus woodland	S3	Red oak-black birch wooded talus	S3S4	18 Paper birch
	Semi-rich northern hardwood forest	Acer saccharum - (Fraxinus americana) / Arisaema triphyllum forest	CEGL006211		Beech-birch-maple forest	S4	Semi-rich mesic sugar maple forest	S3S4	27 Sugar maple; 60 Beech-sugar maple

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Northern Hardwood (cont'd)	Northern hardwood forest	Acer saccharum-Betula alleghaniensis-Fagus grandifolia/Viburnum alnifolium Forest	CEGL006252		Beech-birch-maple forest	S4	Sugar maple-beech-yellow birch forest	S5	25 Sugar maple-beech-yellow birch
Northern White Cedar	Northern White-cedar - balsam fir peatland swamp	Thuja occidentalis / Sphagnum (girensohnii, warnstorffii) Forest (variant)	CEGL006007var	PFO4	Northern white cedar swamp	S4	Northern white cedar-balsam fir swamp	S2	37 Northern white cedar
	Northern White-cedar - Black Ash swamp	Thuja occidentalis-Acer rubrum/Cornus sericea Forest	CEGL006199		Northern white cedar woodland fen?	S4	Northern hardwood-black ash-conifer swamp?	S2	37 Northern white cedar
	Northern white-cedar - boreal conifer mesic forest	Thuja occidentalis / Abies balsamea - Acer spicatum forest	CEGL002449		N/A		Northern white cedar forest/woodland	S1	37 Northern white cedar
	Northern white-cedar peatland swamp	Thuja occidentalis / Sphagnum (girensohnii, warnstorffii) Forest	CEGL006007		Northern white cedar swamp	S4	Acidic northern white cedar swamp	S1	37 Northern white cedar
	Northern White-cedar Seepage Forest	Thuja occidentalis / Tiarella cordifolia Forest	CEGL006175		Cedar-spruce seepage forest	S4	Northern white cedar seepage forest	S2	37 Northern white cedar
	Northern White-cedar Wooded Fen	Thuja occidentalis - Abies balsamea / Alnus incana / Carex trisperma Woodland	CEGL006507		Northern white cedar woodland fen	S4	Northern white cedar-balsam fir swamp	S2	37 Northern white cedar

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Recently Harvested	Recently disturbed	Recently disturbed			N/A		N/A		
Residential & Fields	Residential	residential			N/A		N/A		
Shrub-Scrub Wetland	(Speckled, Green) Alder Shrubland	Alnus incana - Cornus sericea / Clematis virginiana Shrubland	CEGL006062	PSS1, PSS3	Dogwood-willow shoreline thicket	S2	Alder alluvial shrubland; Alder-dogwood-arrowwood alluvial thicket	S4; S4	
	Speckled Alder Swamp	Alnus incana Swamp Shrubland	CEGL002381		Alder shrub thicket	S5	Alder alluvial shrubland	S3	
	Speckled alder peatland lagg	Alnus incana - Nemopanthus mucronatus / Sphagnum spp. Shrubland	CEGL006158		Mountain holly-alder woodland fen	S4	Highbush blueberry-mountain holly wooded fen; Speckled alder wooded fen	S3S4; S3S4	
	Sweetgale mixed shrub thicket	Myrica gale - Spirea alba - Chamaedaphne saturated shrubland	CEGL006512		Sweetgale mixed shrub fen	S4	Highbush blueberry-sweetgale-meadowsweet shrub thicket; Sweet gale-meadowsweet-tussock sedge fen	S4; S4	

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Spruce-Fir	Black Spruce - Red Spruce Forest	Picea mariana - Picea rubens / Pleurozium schreberi Forest	CEGL006361		Black spruce woodland; Spruce-fir-cinnamon fern forest	S3; S4	Montane black spruce-red spruce forest???	S1	12 Black spruce-dwarf shrub; 12 Black spruce-feather moss; 33 Red spruce-balsam fir
	Lowland spruce-fir Forest	Picea rubens - Abies balsamea - Betula papyrifera Forest	CEGL006273		Spruce-fir- broom-moss forest	S4	Lowland spruce-fir forest	S3	32 Red spruce; 33 Red spruce-balsam fir
	Red spruce rocky summit	Picea rubens - Abies balsamea - Betula papyrifera Forest	CEGL006273var		Spruce-fir- broom-moss forest	S4	Lowland spruce-fir forest	S3	32 Red spruce; 33 Red spruce-balsam fir
Water	water	water							
Wooded Floodplain	Red maple-balsam fir Floodplain Forest	Acer rubrum- (Abies balsamea)- Viburnum nudum var. cassinoides floodplain forest	CEGL006501	PFO1, PFO4	Red maple-sensitive fern swamp	S4	Balsam fir floodplain/ silt plain	S2	108 Red maple
	Black ash - mixed hardwoods swamp	Fraxinus nigra - mixed hardwoods - conifers / Cornus sericea / Carex spp. Forest	CEGL002105	?			Northern hardwood-black ash-conifer swamp?	S2	

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Wooded Floodplain (cont'd)	Red Maple - Tussock Sedge floodplain woodland	Acer rubrum / Carex stricta - Onoclea sensibilis Woodland	CEGL006119		Red maple-sensitive fern swamp	S4	Seasonally flooded red maple swamp	S4S5	108 Red maple
	Red Maple Floodplain Forest	Acer rubrum - Prunus serotina / Cornus amomum Floodplain Forest	CEGL006503		Red maple-sensitive fern swamp	S4	Red maple floodplain forest	S2S3	108 Red maple
	Red Maple-black ash swamp	Acer rubrum - Fraxinus spp. - Betula papyrifera/Cornus canadensis Forest	CEGL002071		?		?	S2	108 Red maple
	White spruce-balsam fir berm woodland	Acer rubrum- (Abies balsamea)- Virurnum nudum var. cassinoidees floodplain forest (variant)	CEGL006501 var		Red maple-sensitive fern swamp	S4	Balsam fir floodplain/ silt plain	S2	

EXPLANATION:

- 1 National Vegetation Classification System categories/associations as mapped by University of Vermont
- 2 National Vegetation Classification System Association
- 3 National Vegetation Classification System Association Number
- 4 USFWS National Wetland Inventory classification (see Cowardin, et. al. 1979, reprinted 1992 "Classification of Wetlands and Deepwater Habitats of the United States")
- 5 Maine Natural Areas Program
- 6 Maine Natural Heritage Inventory Rarity Rank
- 7 New Hampshire Natural Heritage Bureau
- 8 New Hampshire Natural Heritage Inventory Rarity Rank
- 9 Society of American Foresters Forest Types