Appendix G

USFWS

Fen and flooded meadow habitat on the refuge

Vegetation Classification Systems and Their Relationship to Refuge Habitat Type

Table G.1. Vegetation Classification Systems and Relationship to Refuge Habitat Type

CCP Type	UVM-NVC Common Name[1]	NVC Association[2]	NVC[3]	NWI[4]	ME NAP[5]	ME Rarity Rank[6]	NHNHB[7]	NH Rarity Rank[8]	SAF Type[9]
Boreal Fen & Bog	Circumneutral patterned fen	Dasiphora fruticosa spp. Floribunda/Carex lasiocarpa/Campylium 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	Leatherleaf–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	Leatherleaf–black spruce bog	S3	
	Sub-boreal Dwarf–shrub fen	Rhododendron canadense–Chamaedaphne calyculata–Myrica gale Dwarf–shrubland	CEGL006514		Sheep laurel dwarf shrub bog	S4	Leatherleaf–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

CCP Type	UVM-NVC Common Name[1]	NVC Association[2]	NVC[3]	NWI[4]	ME NAP[5]	ME Rarity Rank[6]	NHNHB[7]	NH Rarity Rank[8]	SAF Type[9]
Boreal Fen & Bog cont.	Black spruce wooded bog	Picea mariana/Ledum groenlandicaum/Carex trisperma/Sphagnum 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	Carex limosa–Rhynchospora alba/Cladopodiella saturated herbaceous vegetation	CEGL006522	PEM1	Low sedge–buck-bean fen lawn	S3	Large cranberry–short sedge moss lawn	S3	
	Cattail marsh	Typha (angustifolia, latifolia)–(Scirpus spp.) Eastern Herbaceous Vegetation	CEGL006153	PSS1, PSS3	Cattail marsh	S5	Cattail marsh	S4	
	Eastern Tussock Sedge Meadow	Carex stricta–Carex vesicaria Seasonally Flooded Herbaceous Vegetation	CEGL006412		Tussock sedge meadow	S4	Tal 1 graminoid emergent marsh	S4	
	Medium fen	Myrica gale–Chamaedaphne calyculata/(Carex lasiocarpa, Carex utriculata)–Utricularia spp. Shrub Herbaceous Vegetation	CEGL006302		Mixed tall sedge fen	S4	Hairy-fruited sedge–sweetgale fen	S3	
	Medium fen–wet phase	Myrica gale –Chamaedaphne calyculata/(Carex lasiocarpa, Carex utriculata)–Utricularia spp. Shrub Herbaceous Vegetation	CEGL006302var		Mixed tall sedge fen	S4	Hairy-fruited sedge–sweetgale fen	S3	
	Seasonally flooded mixed graminoid meadow	Calamagrostis canadensis–Scirpus cyperinus–Dulichium arundinaceum Herbaceous Vegetation	CEGL006519		Mixed graminoid–shrub marsh	S5	Mixed tall graminoid–scrub-shrub marsh; Oxbow marsh	S4S5; S3	

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Fen & Flooded Meadow cont.	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 strobes–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 banksania/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 strobes–Pinus resinosa/Cornus canadensis forest	CEGL006253		Red pine–white pine forest	S4	Red pine–white pine–balsam fir forest	S3	15 Red pine
Mixed Woods (Spruce–fir–hardwoods)	Aspen–fir woodland	Picea rubens–Betula spp.–Acer rubrum forest (variant)	CEGL006506var		?		N/A		
	Red Spruce–Hardwoods forest	Picea rubens–Betula alleghaniensis/Dryopteris camplyoptera 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

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Mixed Woods (Spruce–fir–hardwoods) cont.	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)	CEGL-006303var		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
	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 first peatland swamp	Thuja occidentalis/ Sphagnum (girensohnii, warnstorfii) 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 rujbrum/Cornus sericea Forest	CEGL006199	PFO4/1	Northern white cedar woodland fen?	S4	Northern hardwood–black ash–conifer swamp?	S2	37 Northern white cedar

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Northern White Cedar cont.	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, warnstorfii) 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
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	

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Shrub-Scrub Wetland cont.	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	
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
Open Water and Submerged Aqautic Vegetation	Water[10]	(see footnote)[11]		Aquatic bed					
Wooded Floodplain	Red maple–balsam fir Floodplain forest	Acer rubrum–(Abies balsamea)–Viburnum nudum var. cassinoides floodplain forest	CEGL006501	PFO1PFO4	Red maple–sensitive fern swamp	S4	Balsam fir floodplain/ silt plain	S2	108 Red maple

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Wooded Floodplain cont.	Black ash–mixed hardwoods swamp	Fraxinus nigra–mixed hardwoods–conifers/ Cornus sericea/Carex spp. Forest	CEGL002105		?		Northern hardwood–black ash–conifer swamp?	S2	
	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/Silver Maple–False Nettle Sensitive Fern Floodplain Forest	Acer rubrum–Prunus serotina/Cornus amomum Floodplain Forest	CEGL006503/ CEGL006176		Red maple–sensitive fern swamp/ Silver maple floodplain forest	S4/S3	Red maple floodplain forest/ Silver maple floodplain forest	S2S3/ S2	108 Red Maple/ 62 Silver maple–American Elm
	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. casssinoides floodplain forest (variant)	CEGL006501var		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

10 Floating-Leaved and Submerged Aquatic Vegetation not mapped

11 Likely includes associations in the following NVCS Alliances: White Water-lily–Yellow Pond-lily species, Permanently Flooded Temperate Herbaceous Alliance and Pondweed species–Coontail species–Waterweed species, Permanently Flooded Herbaceous Alliance