



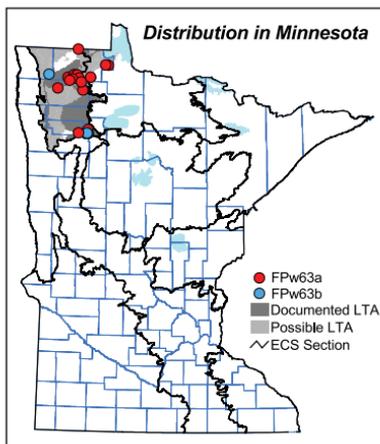
## Northwestern Rich Conifer Swamp

Tamarack- or occasionally black spruce-dominated swamps in peat-filled depressions on glacial lake plains. Typically associated with sandy beach deposits.

### Vegetation Structure & Composition

Description is based on summary of vascular plant data from 28 plots (relevés).

- **Moss layer** is variable, often dominated by brown mosses, with *Sphagnum* usually present.
- **Graminoid layer** has variable cover, with fowl manna grass (*Glyceria striata*) and fringed brome (*Bromus ciliatus*) typically present, and soft-leaved sedge (*Carex disperma*), lake sedge (*C. lacustris*), and bluejoint (*Calamagrostis canadensis*) common.
- **Forb layer** is patchy to interrupted (25–75% cover) and usually includes dwarf raspberry (*Rubus pubescens*), spotted Joe pye weed (*Eupatorium maculatum*), red-stemmed aster (*Aster puniceus*), and sweet-scented bedstraw (*Galium triflorum*), with starflower (*Trientalis borealis*), naked miterwort (*Mitella nuda*), common marsh marigold (*Caltha palustris*), and twinflower (*Linnaea borealis*) common.
- **Low-shrub layer** is dominated by Labrador tea (*Ledum groenlandicum*) or red raspberry (*Rubus idaeus*).
- **Tall-shrub layer** is variable but frequently includes bog birch (*Betula pumila*), red-osier dogwood (*Cornus sericea*), dwarf alder (*Rhamnus alnifolia*), and willows (*Salix* spp.).
- **Understory trees** include tamarack, with black spruce (when black spruce is present in the canopy) and occasionally with black ash and elms.
- **Canopy** is patchy to interrupted (25–75% cover), typically dominated by tamarack and occasionally by black spruce.



### Landscape Setting & Soils

FPw63 occurs in peat-filled depressions, either in association with sandy beach deposits or on glacial lake plains or till plains. Soils are well-decomposed peat over calcareous till or lacustrine sediments. Surface water is circumneutral (pH 7.1–7.8). Water table is near the surface following spring runoff. Hollows are often water filled. FPw63 can occur in large contiguous stands up to several hundred acres in size but often is present in smaller patches mixed with shrub swamps.

### Natural History

FPw63, like northern rich peatland (FPn) classes, occurs on peat substrates and is influenced by mineral-rich groundwater. FPw63 is present far enough west of the northern rich peatlands to fall outside the zone of ideal climatic conditions for peat development and is subjected to severe periodic droughts. These droughts result in drawdown of the water table and subsequent drying and burning or decomposition of peat in many basins in the northwestern region. As a result, FPw63 occurs mainly in basins where inputs of groundwater help to maintain sufficiently saturated conditions for peat development. The groundwater, which is channeled into basins through subterranean sandy deposits (associated with beach ridges) of high hydraulic conductivity, is highly calcareous and maintains the high mineral content and pH characteristic of surface water in FPw63.



### Similar Native Plant Community Classes

#### ● FPn82 Northern Rich Tamarack Swamp (Western Basin)

FPn82 is similar to FPw63 but occurs mainly to the east of FPw63 in the Laurentian Mixed Forest Province, with the ranges of the two classes overlapping along the western edge of the MOP.

FPw63 Indicator Species	(freq%)		FPn82 Indicator Species	(freq%)	
	FPw63	FPn82		FPw63	FPn82
Shrubby cinquefoil ( <i>Potentilla fruticosa</i> )	36	-	Leatherleaf ( <i>Chamaedaphne calyculata</i> )	-	62
Swamp thistle ( <i>Cirsium muticum</i> )	36	-	Red maple (U)	-	51
Starry false Solomon's seal ( <i>Smilacina stellata</i> )	32	-	Stemless lady's slipper ( <i>Cypripedium acaule</i> )	-	38
Wild honeysuckle ( <i>Lonicera dioica</i> )	29	-	Meadow horsetail ( <i>Equisetum pratense</i> )	-	32
Highbush cranberry ( <i>Viburnum trilobum</i> )	25	-	Arrow-leaved tearthumb ( <i>Polygonum sagittatum</i> )	-	30
Fringed brome ( <i>Bromus ciliatus</i> )	61	2	Bog willow ( <i>Salix pedicellaris</i> )	4	53
American elm (U)	39	2	Poor sedge ( <i>Carex paupercula</i> )	4	49
Chokecherry ( <i>Prunus virginiana</i> )	32	4	Wild calla ( <i>Calla palustris</i> )	4	47

#### ● FPs63 Southern Rich Conifer Swamp

FPs63 is similar to FPw63 but occurs to the south in the MIM. The ranges of the two classes possibly overlap along the southern border of the LAP.

FPw63 Indicator Species	(freq%)		FPs63 Indicator Species	(freq%)	
	FPw63	FPs63		FPw63	FPs63
Shrubby cinquefoil ( <i>Potentilla fruticosa</i> )	36	-	Wild grape ( <i>Vitis riparia</i> )	-	41
Arrow-leaved sweet coltsfoot ( <i>Petasites sagittatus</i> )	21	-	Clearweed ( <i>Pilea</i> spp.)	-	37
Drooping woodred ( <i>Cinna latifolia</i> )	21	-	Red maple (U)	-	33
Lingonberry ( <i>Vaccinium vitis-idaea</i> )	18	-	Bristly sedge ( <i>Carex comosa</i> )	-	33
Common reed grass ( <i>Phragmites australis</i> )	18	-	Red elm (U)	-	26
Swamp fly honeysuckle ( <i>Lonicera oblongifolia</i> )	57	7	Big-leaf white or Northern white violet*	4	37
Bebb's willow ( <i>Salix bebbiana</i> )	39	7	Bur marigold and Beggarticks ( <i>Bidens</i> spp.)	4	37
Bog goldenrod ( <i>Solidago uliginosa</i> )	46	15	Swamp saxifrage ( <i>Saxifraga pensylvanica</i> )	4	37

\*Big-leaf white violet or Northern white violet (*Viola blanda* or *V. macloskeyi*)

#### ● FPn71 Northern Rich Spruce Swamp (Water Track)

FPn71 is similar to occurrences of FPw63 dominated by black spruce, but FPn71 is present mainly to the east of FPw63 in the Laurentian Mixed Forest Province, with the ranges of the two classes overlapping only along the western border of the MOP.

FPw63 Indicator Species	(freq%)		FPn71 Indicator Species	(freq%)	
	FPw63	FPn71		FPw63	FPn71
Showy lady's slipper ( <i>Cypripedium reginae</i> )	44	-	Round-leaved sundew ( <i>Drosera rotundifolia</i> )	-	54
Bluejoint ( <i>Calamagrostis canadensis</i> )	41	-	Leatherleaf ( <i>Chamaedaphne calyculata</i> )	-	46
American elm (U)	37	-	Bog laurel ( <i>Kalmia polifolia</i> )	-	31
Swamp thistle ( <i>Cirsium muticum</i> )	37	-	Stemless lady's slipper ( <i>Cypripedium acaule</i> )	-	31
Wild sarsaparilla ( <i>Aralia nudicaulis</i> )	37	-	Small round-leaved orchis ( <i>Orchis rotundifolia</i> )	-	23
Chokecherry ( <i>Prunus virginiana</i> )	33	-	White cedar (C)	4	38
Shrubby cinquefoil ( <i>Potentilla fruticosa</i> )	33	-	Bog rosemary ( <i>Andromeda glaucophylla</i> )	7	69
Starry false Solomon's seal ( <i>Smilacina stellata</i> )	33	-	Pitcher plant ( <i>Sarracenia purpurea</i> )	7	69

### Native Plant Community Types in Class

#### ● FPw63a Tamarack - Black Spruce Swamp (Aspen Parkland)

Canopy is dominated by tamarack or black spruce. Typically present at bases of beach ridges on somewhat drier sites than FPw63b, the other type in this class, and usually not associated with obvious groundwater seepage zones. Species that differentiate FPw63a from FPw63b include red raspberry, mountain fly honeysuckle (*Lonicera villosa*), juneberries (*Amelanchier* spp.), crested fern (*Dryopteris cristata*), alpine enchanter's nightshade (*Circaea alpina*), spinulose shield fern (*Dryopteris carthusiana*), and touch-me-nots (*Impatiens* spp.). Description is based on summary of vegetation data from 17 plots.

#### ● FPw63b Tamarack Seepage Swamp (Aspen Parkland)

Canopy is dominated by tamarack, frequently with black spruce. Associated with obvious groundwater seepage areas; pools or rivulets are usually present. FPw63b is wetter than FPw63a and often has species characteristic of rich fens, such as cattails (*Typha* spp.), fen wiregrass sedge (*Carex lasiocarpa*), buckbean (*Menyanthes trifoliata*), and northern bedstraw (*Galium boreale*); or of extremely rich fens, including sterile sedge (*Carex sterilis*), marsh grass-of-Parnassus (*Parnassia palustris*), and shrubby cinquefoil (*Potentilla fruticosa*). Most of the data for FPw63b are from the Gully Fen area in Polk County. Description is based on summary of vegetation data from 11 plots.



**FPw63 Northwestern Rich Conifer Swamp — Species Frequency & Cover**

	freq%	cover		freq%	cover		
<b>Forbs, Ferns &amp; Fern Allies</b>							
Dwarf raspberry ( <i>Rubus pubescens</i> )	100	•••	Soft-leaved sedge ( <i>Carex disperma</i> )	46	••		
Sweet-scented bedstraw ( <i>Galium triflorum</i> )	75	••	Bluejoint ( <i>Calamagrostis canadensis</i> )	39	••		
Spotted Joe pye weed ( <i>Eupatorium maculatum</i> )	75	••	Lake sedge ( <i>Carex lacustris</i> )	39	•••		
Red-stemmed aster ( <i>Aster puniceus</i> )	75	•	Bristle-stalked sedge ( <i>Carex leptalea</i> )	36	••		
Starflower ( <i>Trientalis borealis</i> )	64	••	Interior sedge ( <i>Carex interior</i> )	36	••		
Naked miterwort ( <i>Mitella nuda</i> )	64	••	<b>Woody Vines</b>				
Twinflower ( <i>Linnaea borealis</i> )	61	••	Wild honeysuckle ( <i>Lonicera dioica</i> )	29	•		
Common marsh marigold ( <i>Caltha palustris</i> )	57	••	<b>Low Shrubs</b>				
Three-leaved false Solomon's seal ( <i>Smilacina trifolia</i> )	54	••	Labrador tea ( <i>Ledum groenlandicum</i> )	68	••		
Canada mayflower ( <i>Maianthemum canadense</i> )	54	••	Red raspberry ( <i>Rubus idaeus</i> )	54	••		
Bunchberry ( <i>Cornus canadensis</i> )	50	•••	Small cranberry ( <i>Vaccinium oxycoccos</i> )	43	••		
Northern marsh fern ( <i>Thelypteris palustris</i> )	50	••	Poison ivy ( <i>Toxicodendron rydbergii</i> )	32	•		
Bog goldenrod ( <i>Solidago uliginosa</i> )	46	••	<b>Tall Shrubs</b>				
Water horsetail ( <i>Equisetum fluviatile</i> )	46	••	Red-osier dogwood ( <i>Cornus sericea</i> )	89	•••		
Common strawberry ( <i>Fragaria virginiana</i> )	46	••	Bog birch ( <i>Betula pumila</i> )	89	••		
Labrador bedstraw ( <i>Galium labradoricum</i> )	46	••	Dwarf alder ( <i>Rhamnus alnifolia</i> )	86	•		
Showy lady's slipper ( <i>Cypripedium reginae</i> )	43	••	Swamp fly honeysuckle ( <i>Lonicera oblongifolia</i> )	57	••		
Marsh bellflower ( <i>Campanula aparimoides</i> )	43	••	Pussy willow ( <i>Salix discolor</i> )	50	••		
Bog aster ( <i>Aster borealis</i> )	39	••	Mountain fly honeysuckle ( <i>Lonicera villosa</i> )	46	••		
Wild sarsaparilla ( <i>Aralia nudicaulis</i> )	36	••	Bebb's willow ( <i>Salix bebbiana</i> )	39	••		
Linear-leaved, Marsh, or Downy willow-herb*	36	••	Juneberries ( <i>Amelanchier</i> spp.)	39	••		
Swamp thistle ( <i>Cirsium muticum</i> )	36	••	Shrubby cinquefoil ( <i>Potentilla fruticosa</i> )	36	••		
Tufted loosestrife ( <i>Lysimachia thysiflora</i> )	36	••	Swamp gooseberry ( <i>Ribes hirtellum</i> )	36	••		
Crested fern ( <i>Dryopteris cristata</i> )	32	••	Sage-leaved willow ( <i>Salix candida</i> )	32	••		
Alpine enchanter's nightshade ( <i>Circaea alpina</i> )	32	••	Chokecherry ( <i>Prunus virginiana</i> )	32	••		
Starry false Solomon's seal ( <i>Smilacina stellata</i> )	29	••	<b>Trees</b>				
Flat-topped aster ( <i>Aster umbellatus</i> )	29	••	Canopy freq% cover		Understory freq% cover		
Broad-leaved cattail ( <i>Typha latifolia</i> )	29	••	Tamarack	93	••••	54	•••
Tall meadow-rue ( <i>Thalictrum dasycarpum</i> )	29	••	Black spruce	46	•••	50	••
One-sided pyrola ( <i>Pyrola secunda</i> )	29	••	Black ash	18	••	29	••
Pink shinleaf ( <i>Pyrola asarifolia</i> )	29	••	Paper birch	7	••	29	••
<b>Grasses &amp; Sedges</b>							
Fowl manna grass ( <i>Glyceria striata</i> )	71	••••	American elm	4	••	39	••
Fringed brome ( <i>Bromus ciliatus</i> )	61	•••	Balsam fir	4	••	14	••
			Balsam poplar	4	••	18	••

\*Linear-leaved, Marsh, or Downy willow-herb (*Epilobium leptophyllum*, *E. palustre*, or *E. strictum*)