



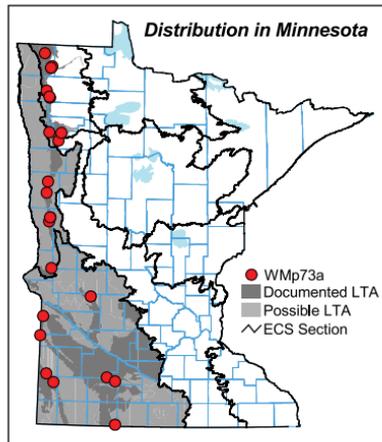
## Prairie Wet Meadow/Carr

Open wetlands dominated by a dense cover of graminoids. Present in small, shallow depressions in the western and southern parts of the state.

### Vegetation Structure & Composition

Description is based on summary of vegetation data from 26 plots (relevés).

- **Graminoid** cover is interrupted to continuous (50–100%); dominant species typically include narrow reedgrass (*Calamagrostis stricta*), prairie cordgrass (*Spartina pectinata*), Sartwell's sedge (*Carex sartwellii*), and woolly sedge (*C. pellita*). Tussock sedge (*C. stricta*) is occasionally dominant. Other common graminoids are Baltic rush (*Juncus arcticus*), bluejoint (*Calamagrostis canadensis*), and Buxbaum's sedge (*Carex buxbaumii*).
- **Forb** cover is variable but normally less than 50%; the most important species are eastern panicled aster (*Aster lanceolatus*), water smartweed (*Polygonum amphibium*), and giant, sawtooth, or Nuttall's sunflower (*Helianthus giganteus*, *H. grosseserratus*, or *H. nuttallii*). Rough bugleweed (*Lycopus asper*), cut-leaved bugleweed (*Lycopus americanus*), swamp milkweed (*Asclepias incarnata*), common mint (*Mentha arvensis*), spotted water hemlock (*Cicuta maculata*), and spotted Joe pye weed (*Eupatorium maculatum*) are frequently present.
- **Shrub** cover is typically sparse (< 5%). Slender willow (*Salix petiolaris*) is the most common shrub, and pussy willow (*Salix discolor*) is sometimes present. In the prolonged absence of fire, shrub cover increases.
- **Note:** WMp73 has become uncommon across much of its range as a result of invasion by non-native species, especially reed canary grass (*Phalaris arundinacea*). Invasion by non-natives results from alterations in wetland hydrology, commonly from ditching, drain tiling, and impoundments, from heavy grazing, and from nutrient-rich and silt-laden runoff from agricultural fields. Wet meadow communities that have been overrun by reed canary grass are not considered native plant communities.



### Landscape Setting & Soils

WMp73 occurs most commonly on ground moraines and in the interbeach zone of Glacial Lake Agassiz, usually in broad, shallow drainageways and shallow swales within regions of subdued topography. These settings do not receive large quantities of surface runoff from surrounding areas and are at least somewhat open to down-gradient drainage. Groundwater inputs appear to be more important than surface water inputs. Substrates are usually mineral soils, but WMp73 also occurs on shallow muck soils. The mineral soils have various textures, from loamy sand to clay loam. All documented occurrences of WMp73 are on calcareous Des Moines Lobe drift.

### Natural History

WMp73 is inundated during spring snowmelt and after heavy rains, but water depths are shallow and flooding is short-lived. Consequently, anaerobic conditions within the plant rooting zone are brief. The water table remains close to the surface for much of the growing season but drops somewhat by late summer in most years. Except during periods of protracted drought, soils remain moist within the rooting depth of most plants. Peat does not form in WMp73, because organic matter is oxidized during the long periods of the growing season when the water table is below the soil surface. Fires from surrounding upland prairies may burn through WMp73, except when flooded. Under dry



conditions these fires can consume any organic matter that has accumulated at the soil surface. Fire is probably the principal cause of scarcity of shrubs in WMP73.

## Similar Native Plant Community Classes

### • WMs83 Southern Seepage Meadow/Carr

WMs83 is similar to WMP73 but occurs in areas of groundwater seepage along streams and drainage ways, on sloping terraces, and at bases of slopes. WMP73, by contrast, occurs in small basins isolated from lateral water flow. Shrubs are normally more abundant in WMs83. The ranges of the two classes overlap in the RRV, CGP, LAP, and MIM.

WMP73 Indicator Species		(freq%)	WMs83 Indicator Species		(freq%)
	WMP73	WMs83		WMP73	WMs83
Silverweed ( <i>Potentilla anserina</i> )	33	-	Great water dock ( <i>Rumex orbiculatus</i> )	-	59
Flattened spikerush ( <i>Eleocharis compressa</i> )	25	2	Broad-leaved cattail ( <i>Typha latifolia</i> )	-	36
Foxtail barley ( <i>Hordeum jubatum</i> )	25	2	Lake sedge ( <i>Carex lacustris</i> )	-	33
Baltic rush ( <i>Juncus arcticus</i> )	63	5	Northern marsh fern ( <i>Thelypteris palustris</i> )	-	30
Clasping dogbane ( <i>Apocynum sibiricum</i> )	38	5	Marsh skullcap ( <i>Scutellaria galericulata</i> )	-	27
Prairie loosestrife ( <i>Lysimachia quadriflora</i> )	42	6	Swamp thistle ( <i>Cirsium muticum</i> )	-	25
Narrow reedgrass ( <i>Calamagrostis stricta</i> )	88	16	Touch-me-not ( <i>Impatiens</i> spp.)	4	42
Prairie cordgrass ( <i>Spartina pectinata</i> )	83	17	Common boneset ( <i>Eupatorium perfoliatum</i> )	8	50

### • WMs92 Southern Basin Wet Meadow/Carr

WMs92 can be similar to WMP73 but generally has water-table levels in the rooting zone for longer periods in the summer compared to WMP73. WMs92 is more likely to have lake sedge (*Carex lacustris*), slough sedge (*C. atherodes*), and whitetop (*Scolochloa festucacea*). The ranges of the two classes overlap in the LAP, RRV, and CGP.

WMP73 Indicator Species		(freq%)	WMs92 Indicator Species		(freq%)
	WMP73	WMs92		WMP73	WMs92
Prairie loosestrife ( <i>Lysimachia quadriflora</i> )	42	-	Whitetop ( <i>Scolochloa festucacea</i> )	-	43
Dark green or Pale bulrush*	38	-	Lake sedge ( <i>Carex lacustris</i> )	-	29
Silverweed ( <i>Potentilla anserina</i> )	33	-	Marsh skullcap ( <i>Scutellaria galericulata</i> )	-	25
Buxbaum's sedge ( <i>Carex buxbaumii</i> )	33	-	Lesser-duckweed ( <i>Lemna minor</i> )	-	21
Grass-leaved goldenrod ( <i>Euthamia graminifolia</i> )	29	-	Beaked sedge ( <i>Carex utriculata</i> )	-	21
Sartwell's sedge ( <i>Carex sartwellii</i> )	71	4	Slough sedge ( <i>Carex atherodes</i> )	8	93
Narrow reedgrass ( <i>Calamagrostis stricta</i> )	88	7	Water parsnip ( <i>Sium suave</i> )	8	32
Woolly sedge ( <i>Carex pellita</i> )	71	7	Cattails ( <i>Typha</i> spp.)	13	43

\*Dark green or Pale bulrush (*Scirpus atrovirens* or *S. pallidus*)

### • OPp91 Prairie Rich Fen

OPp91 is somewhat similar to WMP73 but occurs in settings—such as gentle slopes on glacial lakes plains and broad glacial drainageways—where lateral groundwater flow maintains high water tables throughout the growing season, saturating soils and causing buildup of peat. By contrast, in WMP73 the water table falls in mid to late summer, so peat accumulation is limited, and the community typically occurs on mineral soil. OPp91 is characterized by abundant fine-leaved sedges such as fen wiregrass sedge (*Carex lasiocarpa*), while broad-leaved sedges and grasses, notably prairie cordgrass and narrow reedgrass, are common in WMP73. The ranges of the two classes overlap in the LAP, CGP, and MIM.

WMP73 Indicator Species		(freq%)	OPp91 Indicator Species		(freq%)
	WMP73	OPp91		WMP73	OPp91
Dark green or Pale bulrush*	38	-	Lead-colored sedge ( <i>Carex livida</i> )	-	39
Golden alexanders ( <i>Zizia aurea</i> )	17	-	Autumn willow ( <i>Salix serissima</i> )	-	33
Prairie loosestrife ( <i>Lysimachia quadriflora</i> )	42	2	Marsh St. John's wort ( <i>Triadenum fraseri</i> )	-	31
Prairie cordgrass ( <i>Spartina pectinata</i> )	83	7	Marsh cinquefoil ( <i>Potentilla palustris</i> )	-	27
Golden or False golden ragwort**	17	2	Labrador bedstraw ( <i>Galium labradoricum</i> )	-	26
Woolly sedge ( <i>Carex pellita</i> )	71	10	Fen wiregrass sedge ( <i>Carex lasiocarpa</i> )	4	90
Tall meadow-rue ( <i>Thalictrum dasycarpum</i> )	21	3	Sage-leaved willow ( <i>Salix candida</i> )	4	46
Marsh vetchling ( <i>Lathyrus palustris</i> )	42	9	Tall cottongrass ( <i>Eriophorum polystachion</i> )	4	44

\*Dark green or Pale bulrush (*Scirpus atrovirens* or *S. pallidus*) \*\*Golden or False golden ragwort (*Senecio aureus* or *S. pseudoaureus*)

### • WPs54 Southern Wet Prairie

WPs54 is very similar to WMP73; both communities are often characterized by abundant prairie cordgrass and woolly sedge (*Carex pellita*). The two classes are nearly indistinguishable in topographic character, but WMP73 is subject to shallow flooding and soil saturation for longer periods than WPs54. Upland prairie grasses such as big bluestem (*Andropogon gerardii*) and Indian grass (*Sorghastrum nutans*) are common in



WPs54 but rare in Wmp73. By contrast, narrow reedgrass and Sartwell's sedge (*Carex sartwellii*) are common in Wmp73 but much less abundant in WPs54. The ranges of the two classes overlap in the CGP.

Wmp73 Indicator Species	(freq%)	
	Wmp73	WPs54
Rough bugleweed ( <i>Lycopus asper</i> )	67	18
Spotted Joe pye weed ( <i>Eupatorium maculatum</i> )	67	14
Sartwell's sedge ( <i>Carex sartwellii</i> )	89	16
Water smartweed ( <i>Polygonum amphibium</i> )	78	12
Dark green or Pale bulrush*	89	12
Red-stalked spikerush ( <i>Eleocharis palustris</i> )	44	4
Linear-leaved, Marsh, or Downy willow-herb**	56	4
Common mint ( <i>Mentha arvensis</i> )	56	-

WPs54 Indicator Species	(freq%)	
	Wmp73	WPs54
Big bluestem ( <i>Andropogon gerardii</i> )	-	80
Heath aster ( <i>Aster ericoides</i> )	-	67
Great blazing star ( <i>Liatris pycnostachya</i> )	-	53
Indian grass ( <i>Sorghastrum nutans</i> )	-	51
Switchgrass ( <i>Panicum virgatum</i> )	-	47
Northern plains blazing star ( <i>Liatris ligulistylis</i> )	-	41
Stiff goldenrod ( <i>Solidago rigida</i> )	-	35
Prairie phlox ( <i>Phlox pilosa</i> )	-	33

\*Dark green or Pale bulrush (*Scirpus atrovirens* or *S. pallidus*) \*\*Linear-leaved, Marsh, or Downy willow-herb (*Epilobium leptophyllum*, *E. palustre*, or *E. strictum*)

## • WPN53 Northern Wet Prairie

WPN53 and Wmp73 are nearly indistinguishable in topographic character, but the vegetation indicates that periods of shallow flooding and soil saturation are less frequent and briefer in WPN53 than in Wmp73. Prairie cordgrass (*Spartina pectinata*) and narrow reedgrass (*Calamagrostis stricta*) are major species in both, but woolly sedge (*Carex pellita*) and Sartwell's sedge (*Carex sartwellii*), which are major species in Wmp73, are minor components of WPN53. Several prairie grasses common in WPN53, such as big bluestem (*Andropogon gerardii*), mat muhly grass (*Muhlenbergia richardsonis*), and prairie dropseed (*Sporobolus heterolepis*), are rare in Wmp73, and forb diversity is lower in Wmp73. The ranges of the two classes overlap in the RRV and LAP.

Wmp73 Indicator Species	(freq%)	
	Wmp73	WPN53
Red-stalked spikerush ( <i>Eleocharis palustris</i> )	13	-
Hardstem or Slender bulrush*	13	1
Water smartweed ( <i>Polygonum amphibium</i> )	38	4
Common mint ( <i>Mentha arvensis</i> )	44	6
Rough bugleweed ( <i>Lycopus asper</i> )	50	10
Bluejoint ( <i>Calamagrostis canadensis</i> )	44	12
Spotted Joe pye weed ( <i>Eupatorium maculatum</i> )	25	8
Woundwort ( <i>Stachys palustris</i> )	25	11

WPN53 Indicator Species	(freq%)	
	Wmp73	WPN53
Golden or False golden ragwort**	-	49
Heart-leaved alexanders ( <i>Zizia aptera</i> )	-	40
Prairie dropseed ( <i>Sporobolus heterolepis</i> )	-	40
Northern plains blazing star ( <i>Liatris ligulistylis</i> )	-	37
Big bluestem ( <i>Andropogon gerardii</i> )	6	78
Mat muhly grass ( <i>Muhlenbergia richardsonis</i> )	6	67
Tufted hair grass ( <i>Deschampsia cespitosa</i> )	6	62
Heath aster ( <i>Aster ericoides</i> )	6	55

\*Hardstem or Slender bulrush (*Scirpus acutus* or *S. heterochaetus*) \*\*Golden or False golden ragwort (*Senecio aureus* or *S. pseudoreus*)

## Native Plant Community Types in Class

### • Wmp73a Prairie Meadow/Carr

Wmp73a is the only community type recognized in this class at present. Further sampling of Wmp73 may result in division of the class into community types.



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## WMP73 Prairie Wet Meadow/Carr — Species Frequency and Cover

	freq %	cover		freq %	cover
<b>Forbs, Ferns &amp; Fern Allies</b>					
Eastern panicled aster ( <i>Aster lanceolatus</i> )	69	•••	Marsh bellflower ( <i>Campanula aparinoides</i> )	12	•••
Rough bugleweed ( <i>Lycopus asper</i> )	58	••	Seaside arrowgrass ( <i>Triglochin maritima</i> )	12	•••
Swamp milkweed ( <i>Asclepias incarnata</i> )	54	••	Water parsnip ( <i>Sium suave</i> )	12	••
Water smartweed ( <i>Polygonum amphibium</i> )	54	••	Common false Solomon's seal ( <i>Smilacina racemosa</i> )	8	••
Common mint ( <i>Mentha arvensis</i> )	46	••	Common boneset ( <i>Eupatorium perfoliatum</i> )	8	••
Spotted water hembok ( <i>Cicuta maculata</i> )	42	••	Riddell's goldenrod ( <i>Solidago riddellii</i> )	8	••
Giant, Sawtooth, or Nuttall's sunflower*	42	••	Geamander ( <i>Teucrium canadense</i> )	8	••
Cut-leaved bugleweed ( <i>Lycopus americanus</i> )	42	••	<b>Grasses &amp; Sedges</b>		
Spotted Joe pye weed ( <i>Eupatorium maculatum</i> )	38	••	Prairie cordgrass ( <i>Spartina pectinata</i> )	85	•••
Marsh veitchling ( <i>Lathyrus palustris</i> )	38	••	Narrow reedgrass ( <i>Calamagrostis stricta</i> )	81	•••
Stemless blue violets**	38	••	Woolly sedge ( <i>Carex pellita</i> )	69	•••
Prairie loosestrife ( <i>Lysimachia quadriflora</i> )	38	••	Sartwell's sedge ( <i>Carex sartwellii</i> )	69	•••
Clasping dogbane ( <i>Apocynum sibiricum</i> )	38	••	Baltic rush ( <i>Juncus arcticus</i> )	62	•••
Grass-leaved goldenrod ( <i>Euthamia graminifolia</i> )	31	••	Bluejoint ( <i>Calamagrostis canadensis</i> )	46	•••
Silverweed ( <i>Potentilla anserina</i> )	31	••••	Dark green or Pale bulrush ( <i>Scirpus atrovirens</i> or <i>S. pallidus</i> )	35	••
Linear-leaved Marsh, or Downy willow-herb***	27	••	Buxbaum's sedge ( <i>Carex buxbaumii</i> )	35	••
Canada goldenrod ( <i>Solidago canadensis</i> )	23	••	Flattened spikerush ( <i>Eleocharis compressa</i> )	31	••
Giant goldenrod ( <i>Solidago gigantea</i> )	23	••	Foxtail barley ( <i>Hordeum jubatum</i> )	23	•••
Swamp loosewort ( <i>Pedicularis lanceolata</i> )	19	••	Red-stalked spikerush ( <i>Eleocharis palustris</i> )	23	•••
Woundwort ( <i>Stachys palustris</i> )	19	••	Clustered mully grass ( <i>Muhlenbergia glomerata</i> )	19	••
Tall meadow-rue ( <i>Thalictrum dasycarpum</i> )	19	••	Tussock sedge ( <i>Carex stricta</i> )	19	••••
Bog aster ( <i>Aster borealis</i> )	19	••••	Rigid sedge ( <i>Carex tetanica</i> )	15	••
Autumn sneezeweed ( <i>Helenium autumnale</i> )	19	••	Fowl manna grass ( <i>Glyceria striata</i> )	15	••
Virginia mountain mint ( <i>Pycnanthemum virginianum</i> )	15	••	Very slender sedge ( <i>Carex praegracilis</i> )	12	••••
Golden or False golden ragwort ( <i>Senecio aureus</i> or <i>S. pseudoaureus</i> )	15	••	Sweet grass ( <i>Hierochloa odorata</i> )	12	••
Field horsetail ( <i>Equisetum arvense</i> )	15	•••	Slough sedge ( <i>Carex attherodes</i> )	12	•••
Red-stemmed aster ( <i>Aster pulchreus</i> )	15	••	Emory's sedge ( <i>Carex emoryi</i> )	8	••••
Golden alexanders ( <i>Zizia aurea</i> )	15	••	Hayden's sedge ( <i>Carex haydenii</i> )	8	••••
Kalm's lobelia ( <i>Lobelia kalmii</i> )	12	••	<b>Shrubs</b>		
Vainy pea ( <i>Lathyrus venosus</i> )	12	••	Slender willow ( <i>Salix petiolaris</i> )	31	•••
Northern bugleweed ( <i>Lycopus uniflorus</i> )	12	••	Pussy willow ( <i>Salix discolor</i> )	19	••
Tufted loosestrife ( <i>Lysimachia thysiflora</i> )	12	••	Meadowsweet ( <i>Spiraea alba</i> )	12	••
Maximilian's sunflower ( <i>Helianthus maximiliani</i> )	12	••	Sandarbar willow ( <i>Salix exigua</i> )	12	••
Flat-topped aster ( <i>Aster umbellatus</i> )	12	••	Bebb's willow ( <i>Salix bebbiana</i> )	12	••
			Red-osier dogwood ( <i>Cornus sericea</i> )	12	••

\*Giant, Sawtooth, or Nuttall's sunflower (*Helianthus giganteus*, *H. grosseserratus*, or *H. nuttallii*) \*\*Stemless blue violets (*Viola nephrophylla* and similar *Viola* spp.)  
\*\*\*Linear-leaved, Marsh, or Downy willow-herb (*Epilobium leptophyllum*, *E. palustre*, or *E. strictum*)