



Northern Bulrush-Spikerush Marsh

Emergent marsh communities, typically dominated by bulrushes or spikerushes. Present mainly along lakeshores and stream borders.

Vegetation Structure & Composition

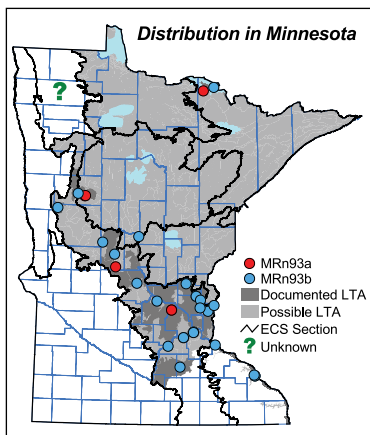
Description is based on summary of field survey records and vascular plant data from 34 plots (relevés).

- **Floating-leaved and submergent aquatic plant** cover is variable, frequently with water smartweed (*Polygonum amphibium* var. *stipulaceum*) and duckweed (*Lemna* spp.) and infrequently with greater duckweed (*Spirodela polyrrhiza*) and pondweed (*Potamogeton* spp.).

- **Graminoid** cover is variable, often consisting of dense, clonal, single-species patches interspersed with areas of open water. Community most often is dominated by bulrushes, including soft stem bulrush (*Scirpus validus*) and river bulrush (*S. fluviatilis*), or by red-stalked spikerush (*Eleocharis palustris*), with lesser amounts of rice cut grass (*Leersia oryzoides*).

- **Forb** cover is variable. Typical species include broad-leaved arrowhead (*Sagittaria latifolia*) and bur reeds (*Sparganium* spp.).

- **Shrubs** are absent.



Landscape Setting & Soils

MRn93 occurs in shallow water (typically 20–40in [50–100cm] deep) along wave-washed and protected lakeshores and along stream borders. Substrates are usually mineral soil, sometimes held together by mats of plant roots. MRn93 appears to occur on permanently flooded sites but may be intermittently exposed during periods of low water.

Natural History

MRn93 develops in settings where standing water is present most of the year, providing conditions favorable to hydrophytic plants. The community is most common along shorelines where exposure to waves hinders accumulation of peat and formation of floating mats. Variation in vegetation composition within the class is likely due to variation in water level, substrate, and exposure to wave action.

Similar Native Plant Community Classes

• MRn83 Northern Mixed Cattail Marsh

MRn83 is similar to MRn93 but occurs in shallow water on softer substrates more protected from wave action. MRn83 is dominated by cattails (*Typha* spp.), with abundant sedges (*Carex* spp.) and forbs such as marsh cinquefoil (*Potentilla palustris*), northern bugleweed (*Lycopus uniflorus*), and tufted loosestrife (*Lysimachia thyrsiflora*). MRn93 is dominated by bulrushes (*Scirpus* spp.) and submergent aquatic species such as pondweeds and water milfoil (*Myriophyllum* spp.).



MRn93 Indicator Species	(freq%)	
	MRn93	MRn83
False nettle (<i>Boehmeria cylindrica</i>)	18	-
Northern manna grass (<i>Glyceria borealis</i>)	15	-
Common water plantain (<i>Alisma triviale</i>)	26	4
Three-way sedge (<i>Dulichium arundinaceum</i>)	18	4
Rice cut grass (<i>Leersia oryzoides</i>)	71	21
River bulrush (<i>Scirpus fluviatilis</i>)	41	13
Nodding smartweed (<i>Polygonum lapathifolium</i>)	24	8
Water smartweed (<i>Polygonum amphibium</i>)	68	29

MRn83 Indicator Species	(freq%)	
	MRn93	MRn83
Marsh cinquefoil (<i>Potentilla palustris</i>)	-	13
Cyperus sedge (<i>Carex pseudocyperus</i>)	-	13
Linear-leaved, Marsh, or Downy willow-herb*	3	21
Common bladderwort (<i>Utricularia vulgaris</i>)	9	42
Great water dock (<i>Rumex orbiculatus</i>)	12	42
Marsh bellflower (<i>Campanula aparinoides</i>)	12	38
Lake sedge (<i>Carex lacustris</i>)	18	50
Tufted loosestrife (<i>Lysimachia thyrsiflora</i>)	21	50

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

• MRp93 Prairie Bulrush - Arrowhead Marsh

MRp93 is similar to MRn93 but by convention the range of MRp93 is limited to the Prairie Parkland Province, and the range of MRn93 is limited to the Eastern Broadleaf Forest and Laurentian Mixed Forest provinces. There are too few detailed records available to identify species differences between the two classes. Collection of additional data and further analysis may result in revision of the floristic and geographic relationships between the two classes.

• MRu94 Lake Superior Coastal Marsh

MRu94 is similar to MRn93 but is restricted to estuaries and embayments near the mouths of rivers flowing into Lake Superior, where seiches cause regular fluctuations in water level. MRu94 generally has higher species diversity than MRn93.

Native Plant Community Types in Class

Very little data are available for MRn93, but field observations indicate that the class can be divided into two community types based on dominant species.

• MRn93a Bulrush Marsh (Northern)

Emergent marshes typically dominated by bulrushes (*Scirpus* spp.).

• MRn93b Spikerush - Bur Reed Marsh (Northern)

Emergent marshes dominated by spikerushes (*Eleocharis* spp.) or bur reeds (*Sparganium* spp.).



photo by K. A. Rusterholz, MN DNR

Itasca County, MN



MRn93 Northern Bulrush-Spikerush Marsh – Species Frequency & Cover

		freq %	cover			freq %	cover
Grasses & Sedges				Emergent Forbs			
Rice cut grass (<i>Leersia oryzoides</i>)	65	•••		Broad-leaved arrowhead (<i>Sagittaria latifolia</i>)	68	•••	
Soft stem bulrush (<i>Scirpus validus</i>)	38	•••		Bur marigold and Beggaricks (<i>Bidens</i> spp.)	59	•••	
River bulrush (<i>Scirpus fluvialis</i>)	38	••••		Giant bur reed (<i>Spartanium eurycarpum</i>)	47	••••	
Red-stalked spikerush (<i>Eleocharis palustris</i>)	32	•••		Bulb-bearing water hemlock (<i>Cicuta bulbifera</i>)	35	•	
Tall manna grass (<i>Glyceria grandis</i>)	26	•••		Water parsnip (<i>Sium suave</i>)	29	•	
Lake sedge (<i>Carex lasiocarpa</i>)	24	•••		Clearweed (<i>Pilea</i> spp.)	26	••	
Common reed grass (<i>Phragmites australis</i>)	18	•••		Three-cleft or small bedstraw (<i>Galium trifidum</i> or <i>G. tinctorium</i>)	26	••	
Three-way sedge (<i>Dulichium arundinaceum</i>)	18	•••		Marsh skullcap (<i>Scutellaria galericulata</i>)	26	••	
Bristly sedge (<i>Carex comosa</i>)	18	•		Tufted loosestrife (<i>Lythymachia thyrsiflora</i>)	26	••	
Bluejoint (<i>Calamagrostis canadensis</i>)	18	••		Common water plantain (<i>Alisma triviale</i>)	26	••	
Northern manna grass (<i>Glyceria borealis</i>)	15	•		Nodding smartweed (<i>Polygonum lapathifolium</i>)	24	••	
Fen wiregrass sedge (<i>Carex lasiocarpa</i>)	12	•		Northern bugleweed (<i>Lycopus uniflorus</i>)	24	••	
Woolgrass (<i>Scirpus cyperinus</i>)	12	•		Sweet flag (<i>Acorus calamus</i>)	21	••••	
Beaked sedge (<i>Carex utriculata</i>)	12	•••		Common mint (<i>Mentha arvensis</i>)	21	•	
Floating-Leaved & Submergent Forbs				Cut-leaved bugleweed (<i>Lycopus americanus</i>)	18	•	
Water smartweed (<i>Polygonum amphibum</i>)	65	••		Dotted smartweed (<i>Polygonum punctatum</i>)	18	•	
Lesser-duckweed (<i>Lemna minor</i>)	56	•••		Broad-leaved cattail (<i>Typha latifolia</i>)	15	•	
Greater-duckweed (<i>Spirodela polyrhiza</i>)	18	•		Arrow-leaved toothumb (<i>Polygonum sagittatum</i>)	15	•	
Common white water-lily (<i>Nymphaea odorata</i>)	15	•••		False nettle (<i>Boehmeria cylindrica</i>)	15	••	
Common coontail (<i>Ceratophyllum demersum</i>)	12	•		Great water dock (<i>Rumex orbiculatus</i>)	15	•	
Northern water milfoil (<i>Myriophyllum sibiricum</i>)	12	•		Golden dock (<i>Rumex maritimus</i>)	15	•	
Flat-stemmed pondweed (<i>Potamogeton zosterifolius</i>)	12	•		Mad dog skullcap (<i>Scutellaria lateriflora</i>)	12	•	
Star-duckweed (<i>Lemna trisculata</i>)	12	••		Swamp milkweed (<i>Asclepias incarnata</i>)	12	•	
Flexuous naiad (<i>Najas flexilis</i>)	12	•		Bulrush (<i>Scirpus acutus</i> or <i>S. heterochaetus</i>)	12	•••	
Floating pondweed (<i>Potamogeton natans</i>)	9	•		Icelandic yellow cress (<i>Rorippa palustris</i>)	12	•	
Common bladderwort (<i>Utricularia vulgaris</i>)	9	•		Labrador bedstraw (<i>Galium labradoricum</i>)	12	•	
Straight-leaved pondweed (<i>Potamogeton strictifolius</i>)	9	•		Touch-me-not (<i>Impatiens</i> spp.)	12	•	
Spiny coontail (<i>Ceratophyllum echinatum</i>)	9	•		Northern blue flag (<i>Iris versicolor</i>)	9	•	
Watershield (<i>Brasenia schreberi</i>)	6	••		Marsh bellflower (<i>Campanula aparinoides</i>)	9	•	
Unbranched bur reed (<i>Sparganium emersum</i>)	6	••••		Pennsylvania smartweed (<i>Polygonum pennsylvanicum</i>)	9	•	