

## MIDWEST CATTAIL DEEP MARSH

**Site Characteristics:** These wetlands are found in glacial potholes, river valleys, ponds, and on lake plains. This community forms along lake or pond margins, slow-moving ditches, in shallow basins, adjacent to stream or river channels in wet mud, oxbows, and occasionally in river backwaters. They are characterized by continuous inundation (semipermanent) and are considered a deep marsh. Water depth averages 0.3-0.6 m, ranging from several centimeters to more than one meter for a significant part of the growing season. Seasonal flooding during winter and spring or flooding during heavy rains help maintain these marshes by causing water exchange which replenishes freshwater and circulates nutrients and organic debris. Soils which support this community can be mineral or organic but are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Soils are characterized by accumulations of organic matter over deposits of fine silt and clay, or loams, sandy loams, or coarse sand. Lacustrine examples of these marshes typically have a muck-bottom zone bordering the shoreline, where cattails are rooted in the bottom substrate, and a floating mat zone, where the roots grow suspended in a buoyant peaty mat.

**Vegetation Characteristics:** Stands may vary from a mosaic of emergents, submergents, and floating-leaved plants interspersed with areas of open water to dense stands of emergents in response to water depth, water chemistry, and natural forces. This community is dominated (30-80% cover) by perennial, coarse-leaved graminoid vegetation, although substantial areas of open water may occur. The vegetation may be dominated by relatively pure stands of either Common Cattail or Narrowleaf Cattail or both, and many associates could occur. Narrowleaf Cattail can grow in deeper water compared to Common Cattail, although both species reach maximum growth at a water depth of 50 cm. Forb cover is sparse, with 10-25% cover.

**Range:**

**Conservation Status:** G5 – Secure

**Management Considerations:** Many of the presettlement occurrences of this alliance have been drained and converted to cropland or destroyed by siltation, which greatly accelerates the natural successional process from shallow inundation to moist soil. This community may be a semi-natural type resulting from human disturbance to wetlands. Cattail species can colonize areas recently exposed by either natural or human causes. Pure Cattail stands, depending on site conditions, are perceived as degraded examples of this community, with Narrowleaf Cattail thought to be more typical of undisturbed marshes. Narrowleaf Cattail occupies inundated and disturbed grounds and can tolerate deeper water and higher alkalinity levels than Common Cattail. Cattail species are prolific seed producers, spreading rapidly to become the early colonizers of wet mineral soil and will persist under wet conditions. Roots and lower stems are well-adapted to prolonged submergence, but periods of draw-down are required for seed germination to occur. Purple Loosestrife is an aggressive exotic species that threatens this vegetation type in the Midwest. These are important wetland communities for many species of birds and waterfowl.

### Iowa NRCS Plant Community Description

This community description is a compilation of the Community Association and its over-riding Community Alliance descriptions as provided by NatureServe ([www.natureserve.org/explorer](http://www.natureserve.org/explorer)). Where necessary, community descriptions were adapted as recommended by Iowa plant community experts.

4/28/2009

**MIDWEST CATTAIL DEEP MARSH**

SCIENTIFIC NAME	COMMON NAME	STRATA	FUNCTIONAL GROUP	IA CofC	SEEDS/LB	STATE STATUS
<i>Asclepias incarnata</i>	Swamp milkweed	Herbaceous Layer	P-FORB	4	76800	
<i>Carex aquatilis</i>	Water sedge	Herbaceous Layer	P-SEDGE, COOL SEASON	7	795776	
<i>Carex pellita</i>	Woolly sedge	Herbaceous Layer	P-SEDGE, COOL SEASON	4	448000	
<i>Carex rostrata</i>	Northwest Territory sedge	Herbaceous Layer	P-SEDGE, COOL SEASON	8	160000	
<i>Eleocharis</i> spp.	Spikerush	Herbaceous Layer	SEDGE, COOL SEASON			
<i>Epilobium ciliatum</i>	Northern willow herb	Herbaceous Layer	P-FORB	3	960000	
<i>Glyceria</i> spp.	Mannagrass	Herbaceous Layer	P-GRASS, COOL SEASON			
<i>Hibiscus laevis</i>	Halberd-leaved rose mallow	Herbaceous Layer	P-FORB	6	44800	
<i>Impatiens capensis</i>	Spotted touch-me-not	Herbaceous Layer	A-FORB	3	64000	
<i>Juncus</i> spp.	True Rush	Herbaceous Layer	P-SEDGE, COOL SEASON			
<i>Lemna minor</i>	Duckweed	Floating-Leaved	A-FORB	3		
<i>Mentha arvensis</i>	Wild mint	Herbaceous Layer	P-FORB	4	4800000	
<i>Polygonum amphibium</i>	Water smartweed	Herbaceous Layer	P-FORB	3	125000	
<i>Sagittaria latifolia</i>	Common arrowhead	Herbaceous Layer	P-FORB	4	128000	
<i>Schoenoplectus acutus</i>	Hard-stemmed bulrush	Herbaceous Layer	P-SEDGE, COOL SEASON	4	206400	
<i>Schoenoplectus americanus/pungens</i>	Threesquare	Herbaceous Layer	P-SEDGE, COOL SEASON	7	192000	
<i>Scutellaria lateriflora</i>	Mad-dog skullcap	Herbaceous Layer	P-FORB	6	2720000	
<i>Sparganium eurycarpum</i>	Common bur reed	Herbaceous Layer	P-FORB	6	8000	
<i>Thelypteris palustris</i>	Marsh fern	Herbaceous Layer	FERN	6		
<i>Typha angustifolia</i>	Narrow-leaved cattail	Herbaceous Layer, Dominant	P-FORB	1	2267962	
<i>Typha latifolia</i>	Common cattail	Herbaceous Layer, Dominant	P-FORB	1	7559873	
<i>Verbena hastata</i>	Blue vervain	Herbaceous Layer	P-FORB	3	1488000	

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SCIENTIFIC NAME	COMMON NAME	SEEDS PER LB	SEEDS PER FT <sup>2</sup>	% OF MIX	COST PER LB	COST PER FT <sup>2</sup>	LBS PER ACRE	CC	FUNCTIONAL GROUP
<i>Alisma subcordatum</i>	Water plantain	825,000	1.55	3.9%		\$0.0000	0.08	3	P-FORB
<i>Amorpha fruticosa</i>	Indigo bush, false indigo	59,200	0.31	0.8%		\$0.0000	0.23	5	SUB-SHRUB, LEGUME
<i>Asclepias incarnata</i>	Swamp milkweed	76,800	0.25	0.6%		\$0.0000	0.14	4	P-FORB
<i>Bidens cernua</i>	Nodding bur marigold	336,000	1.30	3.3%		\$0.0000	0.17	2	A-FORB
<i>Bidens frondosa</i>	Beggar-ticks	80,000	0.30	0.8%		\$0.0000	0.16	3	A-FORB
<i>Calamagrostis canadensis</i>	Bluejoint	4,480,000	1.07	2.7%		\$0.0000	0.01	5	P-GRASS, COOL SEASON
<i>Carex atherodes</i>	Hairy-leaved lake sedge	464,000	0.40	1.0%		\$0.0000	0.04	8	P-SEDEGE, COOL SEASON
<i>Carex comosa</i>	Bristly sedge	480,000	1.00	2.5%		\$0.0000	0.09	6	P-SEDEGE, COOL SEASON
<i>Carex hystericina</i>	Porcupine sedge	480,000	1.00	2.5%		\$0.0000	0.09	5	P-SEDEGE, COOL SEASON
<i>Carex lacustris</i>	Common lake sedge	512,000	0.25	0.6%		\$0.0000	0.02	7	P-SEDEGE, COOL SEASON
<i>Carex lupulina</i>	Common hop sedge	52,800	0.15	0.4%		\$0.0000	0.12	6	P-SEDEGE, COOL SEASON
<i>Carex pellita</i>	Woolly sedge	448,000	0.25	0.6%		\$0.0000	0.02	4	P-SEDEGE, COOL SEASON
<i>Carex scoparia</i>	Lance-fruited oval sedge	1,344,000	1.00	2.5%		\$0.0000	0.03	5	P-SEDEGE, COOL SEASON
<i>Carex stipata</i>	Common fox sedge	544,000	1.00	2.5%		\$0.0000	0.08	5	P-SEDEGE, COOL SEASON
<i>Carex stricta</i>	Common tussock sedge	848,000	0.25	0.6%		\$0.0000	0.01	6	P-SEDEGE, COOL SEASON
<i>Carex tribuloides</i>	Awl-fruited oval sedge	1,920,000	1.00	2.5%		\$0.0000	0.02	3	P-SEDEGE, COOL SEASON
<i>Carex trichocarpa</i>	Hairy-fruited lake sedge	288,000	0.17	0.4%		\$0.0000	0.03	8	P-SEDEGE, COOL SEASON
<i>Carex vesicaria</i>	Tufted lake sedge	192,000	0.20	0.5%		\$0.0000	0.05	7	P-SEDEGE, COOL SEASON
<i>Carex vulpinoidea</i>	Brown fox sedge	1,600,000	1.00	2.5%		\$0.0000	0.03	3	P-SEDEGE, COOL SEASON
<i>Eleocharis acicularis</i>	Needle spikerush	1,120,000	1.00	2.5%		\$0.0000	0.04	3	P-SEDEGE, COOL SEASON
<i>Eleocharis obtusa</i>	Blunt spikerush	1,600,000	1.00	2.5%		\$0.0000	0.03	3	A-SEDEGE, COOL SEASON
<b>Eleocharis palustris</b>	<b>Marsh spikerush</b>	816,000	0.75	1.9%		\$0.0000	0.04	6	P-SEDEGE, COOL SEASON
<i>Epilobium ciliatum</i>	Northern willow herb	960,000	1.55	3.9%		\$0.0000	0.07	3	P-FORB
<i>Eupatorium perfoliatum</i>	Boneset	2,560,000	1.55	3.9%		\$0.0000	0.03	6	P-FORB
<i>Glyceria grandis</i>	American manna grass	1,280,000	1.00	2.5%		\$0.0000	0.03	6	P-GRASS, COOL SEASON
<i>Glyceria striata</i>	Fowl manna grass	2,560,000	1.00	2.5%		\$0.0000	0.02	5	P-GRASS, COOL SEASON
<i>Helenium autumnale</i>	Sneezeweed	2,080,000	1.55	3.9%		\$0.0000	0.03	4	P-FORB
<i>Impatiens capensis</i>	Spotted touch-me-not	64,000	0.04	0.1%		\$0.0000	0.03	3	A-FORB
<i>Iris shrevei</i>	Blue flag	16,000	0.07	0.2%		\$0.0000	0.19	6	P-FORB
<b>Juncus arcticus littoralis</b>	<b>Bog rush</b>	3,000,000	1.00	2.5%		\$0.0000	0.01	6	P-SEDEGE, COOL SEASON
<b>Juncus dudleyi</b>	<b>Dudley's rush</b>	51,200,000	1.00	2.5%		\$0.0000	0.00	2	P-SEDEGE, COOL SEASON
<b>Juncus nodosus</b>	<b>Joint rush</b>	29,616,000	1.00	2.5%		\$0.0000	0.00	4	P-SEDEGE, COOL SEASON
<b>Juncus torreyi</b>	<b>Torrey's rush</b>	25,600,000	1.00	2.5%		\$0.0000	0.00	3	P-SEDEGE, COOL SEASON
<b>Leersia oryzoides</b>	<b>Rice cut-grass</b>	544,000	1.00	2.5%		\$0.0000	0.08	2	P-GRASS, COOL SEASON
<i>Lycopus americanus</i>	Water horehound	2,080,000	1.55	3.9%		\$0.0000	0.03	4	P-FORB
<i>Mentha arvensis</i>	Wild mint	4,800,000	1.55	3.9%		\$0.0000	0.01	4	P-FORB
<i>Mimulus ringens</i>	Monkey flower	36,800,000	1.55	3.9%		\$0.0000	0.00	3	P-FORB
<i>Pedicularis lanceolata</i>	Swamp lousewort	704,000	1.55	3.9%		\$0.0000	0.10	7	P-FORB, HEMIPARASITE
<i>Penthorum sedoides</i>	Ditch stonecrop	20,800,000	1.55	3.9%		\$0.0000	0.00	3	P-FORB
<b>Polygonum pensylvanicum laevigatum</b>	<b>Pinkweed</b>	208,000	1.00	2.5%		\$0.0000	0.21	0	A-FORB
<i>Polygonum punctatum</i>	Water smartweed	124,800	0.20	0.5%		\$0.0000	0.07	4	A-FORB
<b>Pontederia cordata</b>	<b>Pickereel-weed</b>	4,992	0.03	0.1%		\$0.0000	0.26	7	P-FORB
<i>Rumex orbiculatus</i>	Great water dock	240,000	1.20	3.0%		\$0.0000	0.22	7	P-FORB
<b>Sagittaria latifolia</b>	<b>Common arrowhead</b>	128,000	0.38	1.0%		\$0.0000	0.13	4	P-FORB
<b>Schoenoplectus acutus</b>	<b>Hard-stemmed bulrush</b>	206,400	0.40	1.0%		\$0.0000	0.08	4	P-SEDEGE, COOL SEASON
<b>Schoenoplectus fluviatilis</b>	<b>River bulrush</b>	68,800	0.11	0.3%		\$0.0000	0.07	5	P-SEDEGE, COOL SEASON
<b>Schoenoplectus tabernaemontani</b>	<b>Soft-stemmed bulrush</b>	496,000	1.00	2.5%		\$0.0000	0.09	3	P-SEDEGE, COOL SEASON
<i>Scutellaria lateriflora</i>	Mad-dog skullcap	2,720,000	0.90	2.3%		\$0.0000	0.01	6	P-FORB
<b>Sparganium eurycarpum</b>	<b>Common bur reed</b>	8,000	0.07	0.2%		\$0.0000	0.38	6	P-FORB
				0.0%		#DIV/0!	#DIV/0!		
<b>Graminoid Species</b>	<b>27</b>	<b>Vine Species</b>	<b>0</b>	<b>PLS Seeds/ft<sup>2</sup></b>	<b>40.0</b>	<b>Cost/ft<sup>2</sup></b>	<b>\$0.00</b>	<b>Floristic Quality Index</b>	<b>32.0</b>
<b>Forbs &amp; Sub-shrubs</b>	<b>22</b>	<b>Tree Species</b>	<b>0</b>	<b>PLS lbs/acre*</b>	<b>3.7</b>	<b>Cost/acre</b>	<b>\$0</b>	<b>Mix Conservatism</b>	<b>4.6</b>
<b>Shrub Species</b>	<b>0</b>	<b>Total Species</b>	<b>49</b>			<b>Cost/lb</b>	<b>\$0.00</b>	<b>Simpson's Evenness</b>	<b>72%</b>
<b>Forb &amp; Sub-shrub Seed/ft<sup>2</sup></b>	<b>20.00</b>	<b>Graminoid Seed/ft<sup>2</sup></b>	<b>20.00</b>	<b>Shrub Seed/ft<sup>2</sup></b>	<b>0.00</b>	<b>Vine Seed/ft<sup>2</sup></b>	<b>0.00</b>	<b>Tree Seed/ft<sup>2</sup></b>	<b>0.00</b>

\* PLS seeding rate must be converted to a bulk seeding rate

MIDWEST CATTAIL DEEP MARSH

If cell is in red criteria not met. If cell is in orange recommendation not met.	
<b>Percent of Mix</b>	Exceeded the 20% of mix maximum for seeds/ft2
<b>Number of Graminoid Species</b>	Minimum of 10 graminoid species not met
<b>Number of Forbs &amp; Sub-shrubs</b>	Minimum of 20 forb and sub-shrub species not met
<b>Total Number of Species</b>	Minimum of 30 species not met
<b>PLS Seeds/ft2</b>	Minimum of 40 seeds/ft <sup>2</sup> not met
<b>Graminoid Seed/ft<sup>2</sup></b>	Minimum 20 seeds/ft <sup>2</sup> of graminoids not met
<b>Forb &amp; Sub-shrub Seed/ft<sup>2</sup></b>	Minimum 20 seeds/ft <sup>2</sup> of forbs and sub-shrubs not met
<b>Floristic Quality Index (FQI)</b>	Floristic quality index is below the required 20.0 minimum.
<b>Mix Conservatism (CC)</b>	Coefficient of Conservatism is below the required 3.0 minimum.
<b>Simpson's Evenness</b>	Evenness (balance) of the mix is below the recommended 70%
<b>Conservatism Guilds:</b>	
Early Successional	Does not fall within the recommended range of 15-33%
Mid-Successional	Does not fall within the recommended range of 45-65%
Late Successional	Does not fall within the recommended range of 15-33%

Evenness Calculation	
Sum of Squares	0.03
Simpson's Evenness:	0.72

Conservatism Guilds	Species	Seed/ft <sup>2</sup> % mix
EARLY SUCCESSIONAL (0-3)	16	42.1%
MID SUCCESSIONAL (4-7)	31	56.5%
LATE SUCCESSIONAL (8-10)	2	1.4%
	49	100.0%

Functional Group	Seed/ft <sup>2</sup> % mix	Species
A-FORB	7.1%	5
A-GRASS, COOL SEASON	0.0%	0
A-GRASS, WARM SEASON	0.0%	0
A-SEDGE, COOL SEASON	2.5%	1
A-SEDGE, WARM SEASON	0.0%	0
B-FORB	0.0%	0
FERN	0.0%	0
HEMIPARASITE	3.9%	1
H-VINE	0.0%	0
LEGUME	0.8%	1
PARASITIC	0.0%	0
P-FORB	42.1%	16
P-GRASS, COOL SEASON	10.2%	4
P-GRASS, WARM SEASON	0.0%	0
P-SEDGE, COOL SEASON	37.3%	22
P-SEDGE, WARM SEASON	0.0%	0
SHRUB	0.0%	0
SUB-SHRUB	0.8%	1
TREE	0.0%	0
W-VINE	0.0%	0
<b>Number of Functional Groups</b>	<b>8</b>	

# Seeding Plan

Page 1 of 2

Name \_\_\_\_\_  
Prepared by \_\_\_\_\_  
Type of Seeding: **MIDWEST CATTAIL DEEP MARSH** Acres \_\_\_\_\_

Date \_\_\_\_\_  
Tract No. \_\_\_\_\_  
Field No. \_\_\_\_\_  
Contract No. \_\_\_\_\_

## Seeding Mix Summary

Graminoids	Scientific Name	Common Name	Seeds/Ft2	PLS Lbs / Total PLS	
				Acres	lb
1	<i>Calamagrostis canadensis</i>	Bluejoint	1.07	0.01	
2	<i>Carex atherodes</i>	Hairy-leaved lake sedge	0.40	0.04	
3	<i>Carex comosa</i>	Bristly sedge	1.00	0.09	
4	<i>Carex hystericina</i>	Porcupine sedge	1.00	0.09	
5	<i>Carex lacustris</i>	Common lake sedge	0.25	0.02	
6	<i>Carex lupulina</i>	Common hop sedge	0.15	0.12	
7	<i>Carex pellita</i>	Wooly sedge	0.25	0.02	
8	<i>Carex scoparia</i>	Lance-fruited oval sedge	1.00	0.03	
9	<i>Carex stipata</i>	Common fox sedge	1.00	0.08	
10	<i>Carex stricta</i>	Common tussock sedge	0.25	0.01	
11	<i>Carex tribuloides</i>	Awl-fruited oval sedge	1.00	0.02	
12	<i>Carex trichocarpa</i>	Hairy-fruited lake sedge	0.17	0.03	
13	<i>Carex vesicaria</i>	Tufted lake sedge	0.20	0.05	
14	<i>Carex vulpinoidea</i>	Brown fox sedge	1.00	0.03	
15	<i>Eleocharis acicularis</i>	Needle spikerush	1.00	0.04	
16	<i>Eleocharis obtusa</i>	Blunt spikerush	1.00	0.03	
17	<b>Eleocharis palustris</b>	<b>Marsh spikerush</b>	0.75	0.04	
18	<i>Glyceria grandis</i>	American manna grass	1.00	0.03	
19	<i>Glyceria striata</i>	Fowl manna grass	1.00	0.02	
20	<b>Juncus arcticus littoralis</b>	<b>Bog rush</b>	1.00	0.01	
21	<b>Juncus dudleyi</b>	<b>Dudley's rush</b>	1.00	0.001	
22	<b>Juncus nodosus</b>	<b>Joint rush</b>	1.00	0.001	
23	<b>Juncus torreyi</b>	<b>Torrey's rush</b>	1.00	0.002	
24	<b>Leersia oryzoides</b>	<b>Rice cut-grass</b>	1.00	0.08	
25	<b>Schoenoplectus acutus</b>	<b>Hard-stemmed bulrush</b>	0.40	0.08	
26	<b>Schoenoplectus fluviatilis</b>	<b>River bulrush</b>	0.11	0.07	
27	<b>Schoenoplectus tabernaemontani</b>	<b>Soft-stemmed bulrush</b>	1.00	0.09	
<b>SUBTOTAL GRAMINOIDS</b>			<b>20.00</b>	<b>1.14</b>	

Forbs/Legumes	Scientific Name	Common Name	Seeds/Ft2	PLS Lbs / Total PLS	
				Acres	lb
1	<b>Alisma subcordatum</b>	<b>Water plantain</b>	1.55	0.08	
2	<i>Amorpha fruticosa</i>	Indigo bush, false indigo	0.31	0.23	
3	<i>Asclepias incarnata</i>	Swamp milkweed	0.25	0.14	
4	<i>Bidens cernua</i>	Nodding bur marigold	1.30	0.17	
5	<i>Bidens frondosa</i>	Beggar-ticks	0.30	0.16	
6	<i>Epilobium ciliatum</i>	Northern willow herb	1.55	0.07	
7	<i>Eupatorium perfoliatum</i>	Boneset	1.55	0.03	
8	<i>Helenium autumnale</i>	Sneezeweed	1.55	0.03	
9	<i>Impatiens capensis</i>	Spotted touch-me-not	0.04	0.03	
10	<i>Iris shrevei</i>	Blue flag	0.07	0.19	
11	<i>Lycopus americanus</i>	Water horehound	1.55	0.03	
12	<i>Mentha arvensis</i>	Wild mint	1.55	0.01	
13	<i>Mimulus ringens</i>	Monkey flower	1.55	0.002	
14	<i>Pedicularis lanceolata</i>	Swamp lousewort	1.55	0.10	
15	<i>Penthorum sedoides</i>	Ditch stonecrop	1.55	0.003	
16	<b>Polygonum pennsylvanicum laevigatum</b>	<b>Pinkweed</b>	1.00	0.21	
17	<i>Polygonum punctatum</i>	Water smartweed	0.20	0.07	
18	<b>Pontederia cordata</b>	<b>Pickrel-weed</b>	0.03	0.26	
19	<i>Rumex orbiculatus</i>	Great water dock	1.20	0.22	
20	<b>Sagittaria latifolia</b>	<b>Common arrowhead</b>	0.38	0.13	
21	<i>Scutellaria lateriflora</i>	Mad-dog skullcap	0.90	0.01	
22	<b>Sparganium eurycarpum</b>	<b>Common bur reed</b>	0.07	0.38	
<b>SUBTOTAL FORBS</b>			<b>20.00</b>	<b>2.56</b>	

\* Required dominant and co-dominant species in bold

<b>TOTAL</b>	<b>40.00</b>	<b>3.70</b>
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SEEDING MIX FLORISTIC QUALITY VALUES

Average Coefficient of Conservatism	4.6
Floristic Quality Index	32.0

Fertilizer & Lime	General Soil Test	Total Needed lbs
Lime (ECCE) (Actual Lime)	2000	0
Nitrogen	30	0
Phosphate (P205)	30	0
Potash (K20)	40	0

Additional Seeding Criteria: [Do not apply fertilizer. Frost seeding dates Feb. 1st - March 15th.](#)  
[Spring seeding dates are April 15th to July 1st.](#) [Dormant Seeding dates November 15th to freeze up.](#)

Seeding was completed by \_\_\_\_\_ (Date) \_\_\_\_\_ according to the above requirements.

\_\_\_\_\_  
 (Producer's Signature) \_\_\_\_\_ (Date)

Field Office \_\_\_\_\_ Certified by \_\_\_\_\_ (NRCS Representative)

When seeding is completed, return seeding plan to the Natural Resources Conservation Services.  
 For state cost-share projects, attach receipts for seed, fertilizer, lime and mulch.  
 For Federal cost-share, return receipts to Farm Service Agency.