

BULRUSH – CATTAIL – BUR-REED SHALLOW MARSH

Site Characteristics: This community is found in basin-like depressions, backwater areas of floodplains, and shallow margins of lakes or ponds. Soils are shallow to deep, very poorly drained, consisting of peats, mucks, or mineral materials, often found in alluvium. These shallow marshes have soils that are saturated to inundated by standing water up to 15 cm in depth throughout much of the growing season. Depending on the local topographic context, the type may or may not be extensive.

Vegetation Characteristics: The vegetation is characterized by emergent graminoids and forbs in shallow marshes, with varying zones dominated by tall emergents 1-2 m tall to those with hydrophytic annual and perennial forbs <1 m tall. In the tall emergent zone, Softstem Bulrush, River Bulrush, Hardstem Bulrush, Narrow-leaved Cattail, and Broadleaf Cattail may dominate, mixed with a variety of other herbaceous species, such as Rice Cutgrass, Marsh Spikerush, True Rush species, and Bur-reed species. The hydrophytic annual and perennial forb zone is dominated by Water Plantains, Common Arrowhead, Common Bur-reed, Pickerel-weed, along with Water Hyssop and Duck Salad. Occasional floating-leaved aquatics are sometimes present, including Mosquito Fern, Duckweed species, Greater Duckweed, and Common Bladderwort. This is a very broadly defined type that intergrades between wet meadows and deep marshes.

Range:

Conservation Status: G4 - Apparently Secure

Management Considerations:

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). Where necessary, community descriptions were adapted as recommended by Iowa plant community experts.

4/28/2009

MARSH, BULRUSH - CATTAIL - BUR-REED SHALLOW

SCIENTIFIC NAME	COMMON NAME	STRATA	FUNCTIONAL GROUP	IA CofC	SEEDS/LB	STATE STATUS
<i>Alisma subcordatum</i>	Water plantain	Herbaceous Layer, Dominant	P-FORB	3	825000	
<i>Azolla mexicana</i>	Mosquito fern	Floating-Leaved	FERN	9		
<i>Bacopa rotundifolia</i>	Water hyssop	Herbaceous Layer, Dominant	P-FORB	6	4000000	
<i>Carex comosa</i>	Bristly sedge	Herbaceous Layer	P-SEDGE, COOL SEASON	6	480000	
<i>Eleocharis palustris</i>	Marsh spikerush	Herbaceous Layer, Dominant	P-SEDGE, COOL SEASON	6	816000	
<i>Heteranthera limosa</i>	Duck salad	Herbaceous Layer, Dominant	P-FORB	10		SC
<i>Juncus spp.</i>	True Rush	Herbaceous Layer, Dominant	P-SEDGE, COOL SEASON			
<i>Leersia oryzoides</i>	Rice cut-grass	Herbaceous Layer, Dominant	P-GRASS, COOL SEASON	2	544000	
<i>Lemna spp.</i>	Duckweed	Floating-Leaved	P-FORB			
<i>Polygonum amphibium emersum</i>	Water smartweed	Herbaceous Layer	P-FORB	3	125000	
<i>Polygonum lapathifolium</i>	Curttop lady's thumb	Herbaceous Layer	A-FORB	0	251996	
<i>Polygonum pennsylvanicum</i>	Pinkweed	Herbaceous Layer	A-FORB	0	208000	
<i>Pontederia cordata</i>	Pickerel-weed	Herbaceous Layer, Dominant	P-FORB	7	4992	
<i>Rumex orbiculatus</i>	Great water dock	Herbaceous Layer	P-FORB	7	240000	
<i>Sagittaria latifolia</i>	Common arrowhead	Herbaceous Layer, Dominant	P-FORB	4	128000	
<i>Schoenoplectus acutus</i>	Hard-stemmed bulrush	Herbaceous Layer, Dominant	P-SEDGE, COOL SEASON	4	206400	
<i>Schoenoplectus fluviatilis</i>	River bulrush	Herbaceous Layer, Dominant	P-SEDGE, COOL SEASON	5	68800	
<i>Schoenoplectus tabernaemontani</i>	Soft-stemmed bulrush	Herbaceous Layer, Dominant	P-SEDGE, COOL SEASON	3	496000	
<i>Scirpus or Schoenoplectus spp.</i>	Bulrush	Herbaceous Layer	P-SEDGE, COOL SEASON			
<i>Sparganium eurycarpum</i>	Common bur reed	Herbaceous Layer, Dominant	P-FORB	6	8000	
<i>Sparganium spp.</i>	Bur-reeds	Herbaceous Layer, Dominant	P-FORB			
<i>Spirodela polyrrhiza</i>	Greater duckweed	Floating-Leaved	A-FORB	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	

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BULRUSH-CATTAIL-BUR-REED SHALLOW MARSH

SCIENTIFIC NAME	COMMON NAME	SEEDS PER LB	SEEDS PER FT ²	% OF MIX	COST PER LB	COST PER FT ²	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
Eleocharis palustris	Marsh spikerush	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
Juncus arcticus littoralis	Bog rush	3,000,000	1.00	2.5%		\$0.0000	0.01	6	P-SEDEGE, COOL SEASON
Juncus dudleyi	Dudley's rush	51,200,000	1.00	2.5%		\$0.0000	0.00	2	P-SEDEGE, COOL SEASON
Juncus nodosus	Joint rush	29,616,000	1.00	2.5%		\$0.0000	0.00	4	P-SEDEGE, COOL SEASON
Juncus torreyi	Torrey's rush	25,600,000	1.00	2.5%		\$0.0000	0.00	3	P-SEDEGE, COOL SEASON
Leersia oryzoides	Rice cut-grass	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
Polygonum pensylvanicum laevigatum	Pinkweed	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
Pontederia cordata	Pickereel-weed	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
Sagittaria latifolia	Common arrowhead	128,000	0.38	1.0%		\$0.0000	0.13	4	P-FORB
Schoenoplectus acutus	Hard-stemmed bulrush	206,400	0.40	1.0%		\$0.0000	0.08	4	P-SEDEGE, COOL SEASON
Schoenoplectus fluviatilis	River bulrush	68,800	0.11	0.3%		\$0.0000	0.07	5	P-SEDEGE, COOL SEASON
Schoenoplectus tabernaemontani	Soft-stemmed bulrush	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
Sparganium eurycarpum	Common bur reed	8,000	0.07	0.2%		\$0.0000	0.38	6	P-FORB
				0.0%		#DIV/0!	#DIV/0!		
Graminoid Species	27	Vine Species	0	PLS Seeds/ft²	40.0	Cost/ft²	\$0.00	Floristic Quality Index	32.0
Forbs & Sub-shrubs	22	Tree Species	0	PLS lbs/acre*	3.7	Cost/acre	\$0	Mix Conservatism	4.6
Shrub Species	0	Total Species	49			Cost/lb	\$0.00	Simpson's Evenness	72%
Forb & Sub-shrub Seed/ft²	20.00	Graminoid Seed/ft²	20.00	Shrub Seed/ft²	0.00	Vine Seed/ft²	0.00	Tree Seed/ft²	0.00

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

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If cell is in red criteria not met. If cell is in orange recommendation not met.	
Percent of Mix	Exceeded the 20% of mix maximum for seeds/ft2
Number of Graminoid Species	Minimum of 10 graminoid species not met
Number of Forbs & Sub-shrubs	Minimum of 20 forb and sub-shrub species not met
Total Number of Species	Minimum of 30 species not met
PLS Seeds/ft2	Minimum of 40 seeds/ft ² not met
Graminoid Seed/ft²	Minimum 20 seeds/ft ² of graminoids not met
Forb & Sub-shrub Seed/ft²	Minimum 20 seeds/ft ² of forbs and sub-shrubs not met
Floristic Quality Index (FQI)	Floristic quality index is below the required 20.0 minimum.
Mix Conservatism (CC)	Coefficient of Conservatism is below the required 3.0 minimum.
Simpson's Evenness	Evenness (balance) of the mix is below the recommended 70%
Conservatism Guilds:	
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 ² % 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 ² % 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
Number of Functional Groups	8	

Seeding Plan

Name _____
Prepared by _____

Date _____
Tract No. _____
Field No. _____
Contract No. _____

Type of Seeding: **BULRUSH-CATTAIL-BUR-REED SHALLOW MARSH** Acres

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	Eleocharis palustris	Marsh spikerush	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	Juncus arcticus littoralis	Bog rush	1.00	0.01	
21	Juncus dudleyi	Dudley's rush	1.00	0.001	
22	Juncus nodosus	Joint rush	1.00	0.001	
23	Juncus torreyi	Torrey's rush	1.00	0.002	
24	Leersia oryzoides	Rice cut-grass	1.00	0.08	
25	Schoenoplectus acutus	Hard-stemmed bulrush	0.40	0.08	
26	Schoenoplectus fluviatilis	River bulrush	0.11	0.07	
27	Schoenoplectus tabernaemontani	Soft-stemmed bulrush	1.00	0.09	
SUBTOTAL GRAMINOIDS			20.00	1.14	

Forbs/Legumes	Scientific Name	Common Name	Seeds/Ft2	PLS Lbs / Total PLS	
				Acres	lb
1	Alisma subcordatum	Water plantain	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 stoncrop	1.55	0.003	
16	Polygonum pensylvanicum laevigatum	Pinkweed	1.00	0.21	
17	<i>Polygonum punctatum</i>	Water smartweed	0.20	0.07	
18	Pontederia cordata	Pickereel-weed	0.03	0.26	
19	<i>Rumex orbiculatus</i>	Great water dock	1.20	0.22	
20	Sagittaria latifolia	Common arrowhead	0.38	0.13	
21	<i>Scutellaria lateriflora</i>	Mad-dog skullcap	0.90	0.01	
22	Sparganium eurycarpum	Common bur reed	0.07	0.38	
SUBTOTAL FORBS			20.00	2.56	

* Required dominant and co-dominant species in bold

TOTAL	40.00	3.70
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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 _____ according to the above requirements.
 _____ (Date)

 (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.