

Mix A: Low Prairie to Wet meadow (zero to six inch water depth) WRP Mix for use Statewide

Note: Due to unknown and site specific topographic variations, some seeded species may not grow (e.g. water too deep or not deep enough). If the user wishes to add forbs to the mix then contact a biologist for further assistance.

Common Name	Scientific Name	Habit	Succession	Coefficient of Conservatism ¹	PLS Seeds/LB	#PLS/Acre	Seeds/ft ²	% of Mix by weight	Cost/LB of PLS	*Cost/Species	full rate
1 American sloughgrass	<i>Beckmannia syzigachne</i>	Grass	Early	1	1,150,000	0.20	5.25	15.00%	\$20.00	\$3.98	35
1 bluejoint reedgrass	<i>Calamagrostis canadensis</i>	Grass	Mid	5	4,480,000	0.03	3.50	10.00%	\$900.00	\$30.63	35
1 green muhly	<i>Muhlenbergia racemosa</i>	Grass	Mid	4	1,280,000	0.06	1.75	5.00%	\$150.00	\$8.93	35
1 switchgrass	<i>Panicum virgatum</i>	Grass	Mid	5	390,000	0.39	3.50	10.00%	\$10.00	\$3.91	35
1 western wheatgrass	<i>Agropyron smithii</i>	Grass	Mid	4	112,000	1.46	3.75	15.00%	\$10.00	\$14.58	25
1 Canada wild rye	<i>Elymus canadensis</i>	Grass	Early	3	115,000	1.42	3.75	15.00%	\$10.00	\$14.20	25
1 prairie cordgrass	<i>Spartina pectinata</i>	Grass	Mid	5	183,000	0.60	2.50	10.00%	\$120.00	\$71.41	25
1 bottlebrush sedge	<i>Carex hystericina</i>	Sedge	Mid	7	480,000	0.36	4.00	10.00%	\$120.00	\$43.56	40
1 Bebb's sedge	<i>Carex bebbii</i>	Sedge	Late	8	544,000	0.40	5.00	10.00%	\$150.00	\$60.06	50
9 Totals						4.92	33	100.00%		\$251.26	

* All costs are approximate and users are required to contact the seed company for current rates and availability.

¹ Coefficient of Conservatism from USACE ERDC/EL TR-06-5, A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Prairie Potholes, May 2006

Please remember that if you are working "West River" then some of the ecological sites may be drier and this mix may not be appropriate.

Conservatism Guilds	Species	Seed/ft ² % mix
EARLY SUCCESSIONAL (0-3)	2	27%
MID SUCCESSIONAL (4-7)	6	58%
LATE SUCCESSIONAL (8-10)	1	15%
	9	100%

Mix Conservatism
5

Floristic Quality Index
14

Evenness Calculation	
Sum of Squares	0.12
Simpson's Evenness:	0.93

Floristic Quality Index (FQI)	Recommended FQI is at least 20.0
Mix Conservatism (CC)	Recommended Coefficient of Conservatism is at least 3.0
Simpson's Evenness	Recommended Evenness (balance) of the mix is at least 70%
Conservatism Guilds:	
Early Successional	Recommended range of 15-33%
Mid-Successional	Recommended range of 45-65%
Late Successional	Recommended range of 15-33%
PLS Seeds/ft ²	Minimum of 30 seeds/ft ²

Mix A: Low Prairie to Wet meadow (zero to six inch water depth) WRP Mix for use Statewide

Note: Due to unknown and site specific topographic variations, some seeded species may not grow (e.g. water too deep or not deep enough). If the user wishes to add forbs to the mix then contact a biologist for further assistance.

Common Name	Scientific Name	Habit	Succession	Coefficient of Conservatism ¹	PLS Seeds/LB	#PLS/Acre	Seeds/ft ²	% of Mix by weight	Cost/LB of PLS	*Cost/Species	full rate
1 American sloughgrass	<i>Beckmannia syzigachne</i>	Grass	Early	1	1,150,000	0.20	5.25	15.00%	\$20.00	\$3.98	35
1 bluejoint reedgrass	<i>Calamagrostis canadensis</i>	Grass	Mid	5	4,480,000	0.03	3.50	10.00%	\$900.00	\$30.63	35
1 Prairie wedgegrass	<i>Sphenopholis obtusata</i>	Grass	Early	7	200,000	0.38	1.75	5.00%	\$150.00	\$57.17	35
1 switchgrass	<i>Panicum virgatum</i>	Grass	Mid	5	390,000	0.39	3.50	10.00%	\$10.00	\$3.91	35
1 western wheatgrass	<i>Agropyron smithii</i>	Grass	Mid	4	112,000	1.46	3.75	15.00%	\$10.00	\$14.58	25
1 Canada wild rye	<i>Elymus canadensis</i>	Grass	Early	3	115,000	1.42	3.75	15.00%	\$10.00	\$14.20	25
1 prairie cordgrass	<i>Spartina pectinata</i>	Grass	Mid	5	183,000	0.60	2.50	10.00%	\$120.00	\$71.41	25
1 bottlebrush sedge	<i>Carex hystericina</i>	Sedge	Mid	7	480,000	0.36	4.00	10.00%	\$120.00	\$43.56	40
1 Bebb's sedge	<i>Carex bebbii</i>	Sedge	Late	8	544,000	0.40	5.00	10.00%	\$150.00	\$60.06	50
9 Totals						5.24	33	100.00%		\$299.50	

* All costs are approximate and users are required to contact the seed company for current rates and availability.

¹ Coefficient of Conservatism from USACE ERDC/EL TR-06-5, A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Prairie Potholes, May 2006
Please remember that if you are working "West River" then some of the ecological sites may be drier and this mix may not be appropriate.

Conservatism Guilds	Species	Seed/ft ² % mix
EARLY SUCCESSIONAL (0-3)	2	27%
MID SUCCESSIONAL (4-7)	6	58%
LATE SUCCESSIONAL (8-10)	1	15%
	9	100%

Mix Conservatism
5

Floristic Quality Index
15

Evenness Calculation	
Sum of Squares	0.12
Simpson's Evenness:	0.93

Floristic Quality Index (FQI)	Recommended FQI is at least 20.0
Mix Conservatism (CC)	Recommended Coefficient of Conservatism is at least 3.0
Simpson's Evenness	Recommended Evenness (balance) of the mix is at least 70%
Conservatism Guilds:	
Early Successional	Recommended range of 15-33%
Mid-Successional	Recommended range of 45-65%
Late Successional	Recommended range of 15-33%
PLS Seeds/ft ²	Minimum of 30 seeds/ft ²

Mix A: Low Prairie to Wet meadow (zero to six inch water depth) WRP Mix for use Statewide

Note: Due to unknown and site specific topographic variations, some seeded species may not grow (e.g. water too deep or not deep enough). If the user wishes to add forbs to the mix then contact a biologist for further assistance.

Common Name	Scientific Name	Habit	Succession	Coefficient of Conservatism ¹	PLS Seeds/LB	#PLS/Acre	Seeds/ft ²	% of Mix by weight	Cost/LB of PLS	*Cost/Species	full rate
1 American sloughgrass	<i>Beckmannia syzigachne</i>	Grass	Early	1	1,150,000	0.20	5.25	15.00%	\$20.00	\$3.98	35
1 bluejoint reedgrass	<i>Calamagrostis canadensis</i>	Grass	Mid	5	4,480,000	0.03	3.50	10.00%	\$900.00	\$30.63	35
1 green muhly	<i>Muhlenbergia racemosa</i>	Grass	Mid	4	1,280,000	0.06	1.75	5.00%	\$150.00	\$8.93	35
1 switchgrass	<i>Panicum virgatum</i>	Grass	Mid	5	390,000	0.39	3.50	10.00%	\$10.00	\$3.91	35
1 western wheatgrass	<i>Agropyron smithii</i>	Grass	Mid	4	112,000	1.46	3.75	15.00%	\$10.00	\$14.58	25
1 Canada wild rye	<i>Elymus canadensis</i>	Grass	Early	3	115,000	1.42	3.75	15.00%	\$10.00	\$14.20	25
1 prairie cordgrass	<i>Spartina pectinata</i>	Grass	Mid	5	183,000	0.71	3.00	12.00%	\$120.00	\$85.69	25
1 fox sedge	<i>Carex vulpinoidea</i>	Sedge	Early	2	1,600,000	0.04	1.50	3.00%	\$180.00	\$7.35	50
1 Bebb's sedge	<i>Carex bebbii</i>	Sedge	Late	8	544,000	0.60	7.50	15.00%	\$150.00	\$90.08	50
9 Totals						4.92	34	100.00%		\$259.36	

* All costs are approximate and users are required to contact the seed company for current rates and availability.

1 Coefficient of Conservatism from USACE ERDC/EL TR-06-5, A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Prairie Potholes, May 2006

Please remember that if you are working "West River" then some of the ecological sites may be drier and this mix may not be appropriate.

Conservatism Guilds	Species	Seed/ft ² % mix
EARLY SUCCESSIONAL (0-3)	3	31%
MID SUCCESSIONAL (4-7)	5	46%
LATE SUCCESSIONAL (8-10)	1	22%
	9	100%

Mix Conservatism
4

Floristic Quality Index
12

Evenness Calculation	
Sum of Squares	0.13
Simpson's Evenness:	0.87

Floristic Quality Index (FQI)	Recommended FQI is at least 20.0
Mix Conservatism (CC)	Recommended Coefficient of Conservatism is at least 3.0
Simpson's Evenness	Recommended Evenness (balance) of the mix is at least 70%
Conservatism Guilds:	
Early Successional	Recommended range of 15-33%
Mid-Successional	Recommended range of 45-65%
Late Successional	Recommended range of 15-33%
PLS Seeds/ft ²	Minimum of 30 seeds/ft ²

Mix A: Low Prairie to Wet meadow (zero to six inch water depth) WRP Mix for use Statewide

Note: Due to unknown and site specific topographic variations, some seeded species may not grow (e.g. water too deep or not deep enough). If the user wishes to add forbs to the mix then contact a biologist for further assistance.

Common Name	Scientific Name	Habit	Succession	Coefficient of Conservatism ¹	PLS Seeds/LB	#PLS/Acre	Seeds/ft ²	% of Mix by weight	Cost/LB of PLS	*Cost/Species	full rate
1 American sloughgrass	<i>Beckmannia syzigachne</i>	Grass	Early	1	1,150,000	0.20	5.25	15.00%	\$20.00	\$3.98	35
1 bluejoint reedgrass	<i>Calamagrostis canadensis</i>	Grass	Mid	5	4,480,000	0.03	3.50	10.00%	\$900.00	\$30.63	35
1 green muhly	<i>Muhlenbergia racemosa</i>	Grass	Mid	4	1,280,000	0.06	1.75	5.00%	\$150.00	\$8.93	35
1 switchgrass	<i>Panicum virgatum</i>	Grass	Mid	5	390,000	0.39	3.50	10.00%	\$10.00	\$3.91	35
1 western wheatgrass	<i>Agropyron smithii</i>	Grass	Mid	4	112,000	1.46	3.75	15.00%	\$10.00	\$14.58	25
1 Canada wild rye	<i>Elymus canadensis</i>	Grass	Early	3	115,000	1.42	3.75	15.00%	\$10.00	\$14.20	25
1 prairie cordgrass	<i>Spartina pectinata</i>	Grass	Mid	5	183,000	0.60	2.50	10.00%	\$120.00	\$71.41	25
1 bottlebrush sedge	<i>Carex hystericina</i>	Sedge	Mid	7	480,000	0.36	4.00	10.00%	\$120.00	\$43.56	40
1 bristly sedge	<i>Carex comosa</i>	Sedge	Late	10	480,000	0.45	5.00	10.00%	\$150.00	\$68.06	50
9 Totals						4.97	33	100.00%		\$259.27	

* All costs are approximate and users are required to contact the seed company for current rates and availability.

¹ Coefficient of Conservatism from USACE ERDC/EL TR-06-5, A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Prairie Potholes, May 2006
Please remember that if you are working "West River" then some of the ecological sites may be drier and this mix may not be appropriate.

Conservatism Guilds	Species	Seed/ft ² % mix
EARLY SUCCESSIONAL (0-3)	2	27%
MID SUCCESSIONAL (4-7)	6	58%
LATE SUCCESSIONAL (8-10)	1	15%
	9	100%

Mix Conservatism
5

Floristic Quality Index
15

Evenness Calculation	
Sum of Squares	0.12
Simpson's Evenness:	0.93

Floristic Quality Index (FQI)	Recommended FQI is at least 20.0
Mix Conservatism (CC)	Recommended Coefficient of Conservatism is at least 3.0
Simpson's Evenness	Recommended Evenness (balance) of the mix is at least 70%
Conservatism Guilds:	
Early Successional	Recommended range of 15-33%
Mid-Successional	Recommended range of 45-65%
Late Successional	Recommended range of 15-33%
PLS Seeds/ft ²	Minimum of 30 seeds/ft ²

Mix B: Wet meadow to Semipermanent (two inches to three feet water depth) WRP Mix for use Statewide

Note: Due to unknown and site specific topographic variations, some seeded species may not grow (e.g. water too deep or not deep enough). If the user wishes to add forbs to the mix then contact a biologist for further assistance.

Common Name	Scientific Name	Habit	Succession	Coefficient of Conservatism ¹	PLS Seeds/LB	#PLS/Acre	Seeds/ft ²	% of Mix by weight	Cost/LB of PLS	*Cost/Species	full rate
1 common burreed	<i>Sparganium eurycarpum</i>	Forb	Mid	4	8,000	2.72	0.50	2.00%	\$90.00	\$245.03	25
1 American sloughgrass	<i>Beckmannia syzigachne</i>	Grass	Early	1	1,150,000	0.10	2.75	11.00%	\$20.00	\$2.08	25
1 American mannagrass	<i>Glyceria grandis (G maxima)</i>	Grass	Mid	4	1,200,000	0.16	4.50	10.00%	\$75.00	\$12.25	45
1 fowl mannagrass	<i>Glyceria striata</i>	Grass	Mid	6	1,440,000	0.21	7.00	14.00%	\$375.00	\$79.41	50
1 prairie cordgrass	<i>Spartina pectinata</i>	Grass	Mid	5	183,000	0.60	2.50	10.00%	\$120.00	\$71.41	25
1 inland rush	<i>Juncus interior</i>	Rush	Mid	5	2,800,000	0.05	3.00	6.00%	\$225.00	\$10.50	50
1 Torrey's rush	<i>Juncus torreyi</i>	Rush	Early	2	1,600,000	0.05	2.00	4.00%	\$300.00	\$16.34	50
1 hardstem bulrush	<i>Schoenoplectus (Scirpus) acutus</i>	Sedge	Mid	5	320,000	0.54	4.00	10.00%	\$375.00	\$204.19	40
1 river bulrush	<i>Schoenoplectus (Scirpus) fluviatilis</i>	Sedge	Early	2	68,800	1.74	2.75	11.00%	\$90.00	\$156.70	25
1 softstem bulrush	<i>Schoenoplectus tabernaemontani(Scirpus validus)</i>	Sedge	Early	3	496,000	0.07	0.80	2.00%	\$180.00	\$12.65	40
1 Bicknell's sedge	<i>Carex bicknellii</i>	Sedge	Late	10	272,000	0.45	2.80	7.00%	\$150.00	\$67.26	40
1 Bebb's sedge	<i>Carex bebbii</i>	Sedge	Late	8	544,000	0.28	3.50	7.00%	\$150.00	\$42.04	50
1 woolly sedge	<i>Carex lanuginosa</i>	Sedge	Mid	4	1,200,000	0.04	1.00	2.00%	\$960.00	\$34.85	50
1 bottlebrush sedge	<i>Carex hystericina</i>	Sedge	Mid	7	480,000	0.07	0.80	2.00%	\$120.00	\$8.71	40
1 fox sedge	<i>Carex vulpinoidea</i>	Sedge	Early	2	1,600,000	0.03	1.00	2.00%	\$180.00	\$4.90	50
15 Totals						7.12	39	100.00%		\$968.31	

* All costs are approximate and users are required to contact the seed company for current rates and availability.

¹ Coefficient of Conservatism from USACE ERDC/EL TR-06-5, A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Prairie Potholes, May 2006
Please remember that if you are working "West River" then some of the ecological sites may be drier and this mix may not be appropriate.

Conservatism Guilds	Species	Seed/ft ² % mix
EARLY SUCCESSIONAL (0-3)	5	24%
MID SUCCESSIONAL (4-7)	8	60%
LATE SUCCESSIONAL (8-10)	2	16%
	<u>15</u>	<u>100%</u>

Mix Conservatism
5

Floristic Quality Index
18

Evenness Calculation	
Sum of Squares	0.09
Simpson's Evenness:	0.73

Floristic Quality Index (FQI)	Recommended FQI is at least 20.0
Mix Conservatism (CC)	Recommended Coefficient of Conservatism is at least 3.0
Simpson's Evenness	Recommended evenness (balance) of the mix is at least 70%
Conservatism Guilds:	
Early Successional	Recommended range of 15-33%
Mid-Successional	Recommended range of 45-65%
Late Successional	Recommended range of 15-33%
PLS Seeds/ft ²	Minimum of 30 seeds/ft ²

Mix B: Wet meadow to Semipermanent (two inches to three feet water depth) WRP Mix for use Statewide

Note: Due to unknown and site specific topographic variations, some seeded species may not grow (e.g. water too deep or not deep enough). If the user wishes to add forbs to the mix then contact a biologist for further assistance.

Common Name	Scientific Name	Habit	Succession	Coefficient of Conservatism ¹	PLS Seeds/LB	#PLS/Acre	Seeds/ft ²	% of Mix by weight	Cost/LB of PLS	*Cost/Species	full rate
1 common burreed	<i>Sparganium eurycarpum</i>	Forb	Mid	4	8,000	2.72	0.50	2.00%	\$90.00	\$245.03	25
1 American sloughgrass	<i>Beckmannia syzigachne</i>	Grass	Early	1	1,150,000	0.10	2.75	11.00%	\$20.00	\$2.08	25
1 American mannagrass	<i>Glyceria grandis (G maxima)</i>	Grass	Mid	4	1,200,000	0.16	4.50	10.00%	\$75.00	\$12.25	45
1 fowl mannagrass	<i>Glyceria striata</i>	Grass	Mid	6	1,440,000	0.21	7.00	14.00%	\$375.00	\$79.41	50
1 prairie cordgrass	<i>Spartina pectinata</i>	Grass	Mid	5	183,000	0.60	2.50	10.00%	\$120.00	\$71.41	25
1 Dudley rush	<i>Juncus dudleyi</i>	Rush	Mid	4	2,800,000	0.03	2.00	4.00%	\$225.00	\$7.00	50
1 Torrey's rush	<i>Juncus torreyi</i>	Rush	Early	2	1,600,000	0.05	2.00	4.00%	\$300.00	\$16.34	50
1 hardstem bulrush	<i>Schoenoplectus (Scirpus) acutus</i>	Sedge	Mid	5	320,000	0.54	4.00	10.00%	\$375.00	\$204.19	40
1 river bulrush	<i>Schoenoplectus (Scirpus) fluviatilis</i>	Sedge	Early	2	68,800	1.74	2.75	11.00%	\$90.00	\$156.70	25
	<i>Schoenoplectus</i>										
1 softstem bulrush	<i>tabernaemontani(Scirpus validus)</i>	Sedge	Early	3	496,000	0.07	0.80	2.00%	\$180.00	\$12.65	40
1 Bicknell's sedge	<i>Carex bicknellii</i>	Sedge	Late	10	272,000	0.45	2.80	7.00%	\$150.00	\$67.26	40
1 Bebb's sedge	<i>Carex bebbii</i>	Sedge	Late	8	544,000	0.28	3.50	7.00%	\$150.00	\$42.04	50
1 bristly sedge	<i>Carex comosa</i>	Sedge	Late	10	480,000	0.18	2.00	4.00%	\$150.00	\$27.23	50
1 bottlebrush sedge	<i>Carex hystericina</i>	Sedge	Mid	7	480,000	0.07	0.80	2.00%	\$120.00	\$8.71	40
1 fox sedge	<i>Carex vulpinoidea</i>	Sedge	Early	2	1,600,000	0.03	1.00	2.00%	\$180.00	\$4.90	50
15 Totals						7.25	39	100.00%		\$957.19	

* All costs are approximate and users are required to contact the seed company for current rates and availability.

¹ Coefficient of Conservatism from USACE ERDC/EL TR-06-5, A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Prairie Potholes, May 2006
Please remember that if you are working "West River" then some of the ecological sites may be drier and this mix may not be appropriate.

Conservatism Guilds	Species	Seed/ft ² % mix
EARLY SUCCESSIONAL (0-3)	5	24%
MID SUCCESSIONAL (4-7)	7	55%
LATE SUCCESSIONAL (8-10)	3	21%
	15	100%

Mix Conservatism
5

Floristic Quality Index
19

Evenness Calculation	
Sum of Squares	0.09
Simpson's Evenness:	0.74

Floristic Quality Index (FQI)	Recommended FQI is at least 20.0
Mix Conservatism (CC)	Recommended Coefficient of Conservatism is at least 3.0
Simpson's Evenness	Recommended evenness (balance) of the mix is at least 70%
Conservatism Guilds:	
Early Successional	Recommended range of 15-33%
Mid-Successional	Recommended range of 45-65%
Late Successional	Recommended range of 15-33%
PLS Seeds/ft ²	Minimum of 30 seeds/ft ²

BSSE Seeding Recommendations - Uplands and USFWS easement

email Connie Mueller (connie_mueller@fws.gov) for modification approvals			USFWS Recommended			USFWS /
Note	Seed Species	Scientific Name	PLS lbs/ac Full Rate	PLS lbs/ac Needed	% of mixture PLS	PLS lbs
1	False Sunflower	Heliopsis helianthoides				0
	Illinois bundleflower	Desmanthus illinoensis	18.15	0.36	2	20.69
	Leadplant	Amorpha canescens	6.53	0.13	2	20.69
	Maximilian sunflower	Helianthus maximiliani	4.36	0.09	2	7.44
	Prairie coneflower	Ratibida columnifera	1.48	0.03	2	4.97
2	Purple coneflower	echinacea purpurea				0
	Purple prairie clover	Dalea purpurea	3.76	0.15	4	1.69
	Big bluestem	Andropogon gerardii	7.43	1.49	20	5.18
	Blue grama	Bouteloua gracilis	2.23	0.12	5	8.57
	Green needlegrass	Nassella viridula	7.26	0.73	10	84.7
	Indiangrass	Sorghastrum nutans	6.77	0.66	10	6.61
	Little bluestem	Schizachyrium scoparium	4.57	0.46	10	41.38
	Sideoats grama	Bouteloua cutipendula	7.26	0.73	10	38.59
	Switchgrass	Panicum virgatum	4.47	0.45	10	26.05
	Western wheatgrass	Pascopyrum smithii	9.72	0.97	10	41.38
3, 4	Black samson		9.08	0.09	1	25.48
1	Stiff sunflower		12.81	0.26	2	55.4

4/28/

Notes

- 1 Stiff sunflower can be dropped to 0.5% of the mix and false sunflower to 1.5% if rates are more favorable
- 2 Purple Coneflower is not an acceptable substitution for Black Samson or Stiff Sunflower (as per USFWS)
- 3 Black samson is an outstanding plant for butterflies - it's rate can be modified a bit but USFWS requires some in their mix

Black samson can be dropped to 0.25% of the mix and remained 0.75 USFWS approved pollinator friendly plants that can be used/mix
 4 (asclepias speciosa), wild bergamot (monarda fistulosa), dotted gayfeather (liatrus punctata), and rough gayfeather (liatrus aspera)

its

Approved Modified Quote (Millborn)	
Full Seeing Rate PLS	% of mixture PLS
0	0
20	2.80%
20	2.40%
6.5	1.40%
5	1.30%
	0.00%
2	1.70%
15	0.80%
5	3.60%
8	18.70%
3	7.30%
8	10%
8	9%
6	9.10%
9	10.60%
6	13.30%
12	8.10%
16 quote: \$112.00/acre	

ed include: Showy Milkwee