

## CONSERVATION PRACTICE SPECIFICATION

### Range Planting - 550

Range Planting – 550 shall be planned and applied in accordance with the standard detailed in the Field Office Technical Guide (FOTG) - Section IV – Conservation Practices. This document provides additional parameters, recommendations, references, and requirements for developing site-specific plans for this practice.

**1. Refer to [Herbaceous Vegetation Establishment Guide](#) (FOTG, Section I-Reference Subjects) for:**

- Seeding dates (Part 1)
- Seedbed preparation (Part 2)
- Seeding equipment (Part 3)
- Drill Calibration (Part 4)
- Seed requirements (Part 5)
- Seeding depth (Part 6)
- Cover and companion crops (Part 7)
- Management and protection during establishment (Part 8)
- Procedure for stand evaluation (Part 9)

**2. Selecting Species and Varieties**

- a. Determine the Ecological Sites from the soils information located in either the [Web Soil Survey](#) or the county specific Interpretive Table in FOTG – Section II – Soil Information subsection.
- b. Refer to Table 1 of this guide for recommended species and percent minimums and maximums for the Ecological Site(s).
- c. Refer to Herbaceous Vegetation Establishment Guide for approved named varieties and full seeding rates of native grasses, forbs and shrubs. Use named varieties when available.

**3. Planning Considerations**

- a. Where water erosion is a concern, all tillage and seeding operations should be performed across the general slope of the fields where appropriate. When seeding into light textured soils, adequate cover is required to prevent excessive erosion.
- b. For improved germination, scarification of legumes with hard seed coats is recommended. Scarification is especially important with the following species: purple prairie clover, white prairie clover, leadplant and Canada milkvetch.

- c. Slender wheatgrass and Canada Wildrye are short-lived species, but establish rapidly and provide quick cover.

**4. Guidelines for stand evaluation**

- a. Stand must have a minimum density of two rhizomatous grass plants per square foot, or four plants per square foot for bunchgrasses or mixtures of bunch and rhizomatous type grasses; or in the case of grass/legume/forb mixtures, two grass plants and one legume or forb plant per square foot.
- b. See Part 9 of Herbaceous Vegetation Establishment Guide for additional guidance on stand evaluation.

**5. Established stand management**

- a. Refer to Prescribed Grazing-528 Specification for management after establishment. All conservation practices are located in FOTG – Section IV – Conservation Practices.

**6. Documentation**

- a. Use ND-CPA-9 (electronic or hardcopy) to document practice planning and installation. All forms are located in [FOTG – Section IV – Forms](#).

**Ecological Site Description Abbreviations**

Choppy Sands (CS)		Saline Overflow (SOv)		Shallow Marsh (SwM)
Clayey (Cy)		Saline Lowland (SL)		Stony Hills (SH)
Clayey Terrace (CyT)		Saline Subirrigated (SSb)		Subirrigated (Sb)
Claypan (Cp)		Sands (Sa)		Subirrigated Sands SbSa)
Closed Depression (CD)		Sandy (Sy)		Thin Clayey (TCy)
Limy Sands (LSa)		Sandy Claypan (SyCp)		Thin Claypan (TCp)
Limy Subirrigated (LSb)		Sandy Terrace (SyT)		Thin Loamy (TLy)
Limy Backslope (LB)		Savannah (Sv)		Thin sands (TSa)
Linear Meadow (LrM)		Shallow Clayey (SwCy)		Very Shallow (VS)
Loamy (Ly)		Shallow Loamy (SwLy)		Wet Land (WL)
Loamy Overflow (LyOv)		Shallow Sandy (SwSy)		Wet Meadow (WM)
Loamy Terrace (LyT)		Shallow Gravel (SwG)		

**Table 1. Recommended Species by Ecological Site for MLRA 53A&B**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological site description for information on reference plant community composition.

Species/Ecological Site	SwM /WL	WM	Sb	LSb	LyOv	SL	CD	Sy	Sa	CS/ TSa	Cy	Ly	TLy	Cp & TCp	SwG &VS	SyCp	SwLy	SyT
<b>Grasses 1/</b>																		
American managrass	5-20																	
American sloughgrass	5-10	5-10					5-10											
Big bluestem			5-30	5-30	5-30			5-10			5-10	5-20						5-15
Bluebunch wheatgrass																		
Blue grama			5-10	5-10	5-10			5-10	5-10	5-20	5-10	5-10	5-10	5-20	5-20	5-10	5-20	5-10
Buffalograss														5-20		5-10		
Canada wildrye		5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-20	5-20	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10
Fowl bluegrass		5-20					5-10											
Green needlegrass			5-20	5-10	5-20			5-20	5-10		5-30	5-30	5-20	5-20	5-10	5-20	5-10	5-20
Indiangrass			5-10	5-10	5-10													
Indian ricegrass																		
Little bluestem			5-20	5-30	5-20			5-10	5-20	5-30	5-10	5-10	5-30	5-10	5-30	5-20	5-30	5-20
Needleandthread					5-10			5-10	5-20	5-20	5-10	5-10	5-10	5-20	5-20	5-20	5-20	5-20
Northern reedgrass		5-30																
Nuttall alkaligrass						5-10	5-20											
Porcupinegrass			5-20	5-20	5-10			5-20	5-10		5-10	5-10	5-20					5-10
Prairie cordgrass	5-30	5-30	5-10	5-10		5-20	5-10											
Prairie dropseed			5-10	5-10	5-10							5-10						
Prairie junegrass			5-10	5-10	5-10			5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10
Prairie sandreed								5-20	5-30	5-30			5-10		5-10	5-30	5-10	5-30

**Table 1. Recommended Species by Ecological Site for MLRA 53A&B**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological site description for information on reference plant community composition.

Species/Ecological Site	SwM /WL	WM	Sb	LSb	LyOv	SL	CD	Sy	Sa	CS/ TSa	Cy	Ly	TLy	Cp & TCp	SwG &VS	SyCp	SwLy	SyT
Sand bluestem								5-20	5-30	5-30					5-10	5-20		5-30
Sand dropseed								5-10	5-10	5-10					5-10	5-10		5-10
Sideoats grama			5-20	5-20	5-20			5-10	5-20	5-20	5-20	5-20	5-20	5-10	5-20	5-20	5-20	5-15
Slender wheatgrass	5-10		5-10	5-10	5-10	5-20	5-20	5-10	5-10		5-10	5-10	5-10	5-20	5-20	5-20	5-10	5-10
Switchgrass		5-10	5-20	5-20	5-10	5-10	5-10	5-10			5-10	5-10		5-10				5-15
Western wheatgrass		5-20	5-20	5-20	5-20	5-40	5-30	5-30	5-10	5-10	5-20	5-20	5-20	5-30	5-20	5-30	5-20	5-15
Whitetop	5-30																	
Slough sedge	5-30																	
<b>Forbs <u>2/</u></b>																		
American vetch			*	*	*			*	*		*	*	*			*		
Black-eyed susan 3/		*	*	*	*			*	*	*	*	*	*		*			
Blanketflower								*			*	*	*	*	*	*		
Blue aster			*	*	*			*				*						
Blue vervain		*	*															
Butterfly milkweed					*			*	*									
Canada milkvetch			*	*	*			*	*	*	*	*		*				
Canada tickclover			*	*	*													
Cudweed sagewort 3/					*			*	*	*		*		*				
Culver's root			*	*	*													
Cup plant		*	*		*													
Dotted gayfeather								*	*	*	*	*	*	*	*		*	

**Table 1. Recommended Species by Ecological Site for MLRA 53A&B**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological site description for information on reference plant community composition.

Species/Ecological Site	SwM /WL	WM	Sb	LSb	LyOv	SL	CD	Sy	Sa	CS/ TSa	Cy	Ly	TLy	Cp & TCp	SwG &VS	SyCp	SwLy	SyT
False boneset		*	*	*														
False sunflower																		
Fragrant giant hyssop					*			*			*	*						
Golden Alexander		*	*		*													
Goldenrod																		
Canada								*			*	*						
Missouri								*	*	*	*	*	*		*		*	*
Stiff								*	*	*								*
Illinois bundleflower		*	*		*			*			*	*						
Heath aster			*	*	*			*			*	*						
Hoary vervain					*			*	*			*						
Ironweed		*	*	*	*							*						
Joe Pye weed		*	*	*														
Lewis flax			*	*				*	*		*	*	*					
Maximillian sunflower		*	*	*	*			*	*		*	*						
New England aster		*	*		*													
Partridge pea								*				*						
Plains Coreopsis		*	*	*	*			*			*	*						
Prairie coneflower 3/								*	*	*	*	*	*	*	*	*	*	*
Praire onion								*	*		*	*	*					
Purple coneflower									*	*		*	*		*	*	*	

**Table 1. Recommended Species by Ecological Site for MLRA 53A&B**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological site description for information on reference plant community composition.

Species/Ecological Site	SwM /WL	WM	Sb	LSb	LyOv	SL	CD	Sy	Sa	CS/ TSa	Cy	Ly	TLy	Cp & TCp	SwG &VS	SyCp	SwLy	SyT
Purple meadow rue		*	*	*														
Purple prairieclover					*			*	*	*	*	*	*	*	*	*	*	
Scarlet globemallow											*	*	*	*	*		*	
Shell-leaf penstemon								*	*	*								
Silvery lupine											*	*	*					
Stiff sunflower 3/			*	*	*			*	*	*	*	*	*	*	*	*	*	
Swamp milkweed	*	*																
Thickspike gayfeather																		
Western yarrow 3/			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
White prairieclover			*	*	*			*			*	*	*	*	*			
Wild bergamot			*		*			*				*						
<b>Shrubs 2/</b>																		
Buffaloberry					*	*							*				*	
Chokecherry					*							*						
False indigo	*																	
Fourwing Saltbush																		
Gardner saltbush																		
Juneberry					*							*	*					
Leadplant					*			*	*	*	*	*	*		*	*		
Prairie rose			*	*				*	*	*	*	*	*	*	*	*	*	
Western snowberry			*	*	*			*	*		*	*	*		*			

**Table 1. Recommended Species by Ecological Site for MLRA 53A&B**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological site description for information on reference plant community composition.

Species/Ecological Site	SwM/WL	WM	Sb	LSb	LyOv	SL	CD	Sy	Sa	CS/TSa	Cy	Ly	TLy	Cp & TCp	SwG & VS	SyCp	SwLy	SyT
Winterfat																		
WY big sagebrush																		

1/ Minimum of four grass species including at least one warm and/or cool season species.

2/ Forbs and shrubs will be limited to a maximum of 25% of the total mixture. Except those species noted in footnote #3, individual forb and shrub species will be limited to 4% of the mixture.

3/ These species will be limited to no more than 2% of the mixture.

**Table 1. Recommended Species by Ecological Site for MLRA 54 &58C**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological or range site description for information on reference plant community composition.

Species/Ecological Site	Sw M (WL)	W M	Sb	LyO v	SL	CD	Sy	Sa	CS (Tsa)	Cy	Ly	TLy	Cp& TCp	SwG &VS	SyCp	LSa	Sw Ly	SwSy	Sw Cy	LyT	SyT	CyT	LB
<b>Grasses 1/</b>																							
American managrass	5-20																						
American sloughgrass	5-10	5-10				5-10																	
Big bluestem			5-30	5-30			5-10			5-10	5-20									5-15	5-10		
Bluebunch wheatgrass														5-20									
Blue grama			5-10	5-10			5-10	5-10	5-20	5-20	5-10	5-10	5-30	5-20	5-10	5-10	5-20	5-20	5-10	5-10	5-15	5-10	5-15
Buffalograss										5-10	5-10	5-10	5-30		5-10								
Canada wildrye		5-10	5-10	5-10	5-10	5-10	5-10	5-20	5-20	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-20		5-10	5-10		5-10
Fowl bluegrass		5-20				5-10																	
Green needlegrass			5-20	5-20			5-20	5-10		5-30	5-30	5-20	5-20	5-10	5-20	5-10	5-10	5-10	5-20	5-20	5-20	5-30	5-20
Indiangrass																							
Indian ricegrass									5-10					5-10									
Little bluestem			5-20	5-20			5-10	5-20	5-30	5-10	5-10	5-30	5-10	5-30	5-20	5-30	5-30	5-30	5-20		5-10	5-10	5-20
Needleandthread				5-10			5-10	5-20	5-20	5-10	5-10	5-10	5-20	5-20	5-20	5-20	5-20	5-20	5-20	5-10	5-10	5-10	5-20
Northern reedgrass		5-30																					
Nuttall alkaligrass					5-10	5-20																	
Porcupinegrass			5-20	5-10			5-10			5-10	5-10	5-20								5-20	5-10	5-10	
Prairie cordgrass	5-30	5-30	5-10		5-20	5-10																	
Prairie dropseed			5-10	5-10																			
Prairie junegrass			5-10	5-10			5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-15
Prairie sandreed							5-20	5-30	5-30			5-10		5-10	5-30	5-30	5-10	5-30			5-30		5-10
Sand bluestem							5-20	5-30	5-30					5-10	5-20	5-30		5-30			5-30		
Sand dropseed							5-10	5-10	5-10					5-10	5-10	5-10		5-10			5-10		
Sideoats grama			5-20	5-20			5-10	5-20	5-20	5-20	5-20	5-20	5-10	5-20	5-20	5-20	5-20	5-20	5-20	5-20	5-10	5-20	5-20

**Table 1. Recommended Species by Ecological Site for MLRA 54 &58C**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological or range site description for information on reference plant community composition.

Species/Ecological Site	Sw M (WL)	W M	Sb	LyO v	SL	CD	Sy	Sa	CS (Tsa)	Cy	Ly	TLy	Cp& TCp	SwG &VS	SyCp	LSa	Sw Ly	SwSy	Sw Cy	LyT	SyT	CyT	LB
Slender wheatgrass	5-10	5-10	5-10	5-10	5-20	5-20	5-10	5-10		5-10	5-10	5-10	5-20	5-20	5-20	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10
Switchgrass		5-10	5-20	5-10	5-10		5-10				5-10									5-10	5-10	5-10	
Western wheatgrass		5-30	5-20	5-20	5-40	5-30	5-30	5-10	5-10	5-20	5-20	5-20	5-30	5-20	5-30	5-20	5-20	5-10	5-30	5-30	5-20	5-30	5-30
Whitetop	5-20																						
Slough sedge	5-30																						
<b>Forbs 2/</b>																							
American vetch			*	*			*	*		*	*	*			*								
Black-eyed susan 3/		*	*	*			*	*						*									
Blanketflower							*			*	*	*	*	*	*			*	*				
Blue aster			*	*			*				*												
Blue vervain		*	*																				
Butterfly milkweed				*			*	*															
Canada milkvetch			*	*						*	*									*	*	*	
Canada tickclover			*	*																			
Cudweed sagewort 3/			*	*			*	*		*	*		*		*					*	*	*	*
Culver's root			*	*																			
Cup plant																							
Dotted gayfeather							*	*	*	*	*	*		*	*		*	*	*	*	*	*	*
False boneset		*	*																				
False sunflower																							
Fragrant giant hyssop																							
Golden Alexander		*	*	*																			
Goldenrod																							
Canada							*			*	*												

**Table 1. Recommended Species by Ecological Site for MLRA 54 &58C**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological or range site description for information on reference plant community composition.

Species/Ecological Site	Sw M (WL)	W M	Sb	LyO v	SL	CD	Sy	Sa	CS (Tsa)	Cy	Ly	TLy	Cp& TCp	SwG &VS	SyCp	LSa	Sw Ly	SwSy	Sw Cy	LyT	SyT	CyT	LB
Missouri							*	*	*	*	*	*		*		*	*	*	*	*	*	*	*
Stiff							*	*	*							*		*			*		
Illinois bundleflower																							
Heath aster			*	*			*				*	*											
Hoary vervain				*			*	*			*												
Ironweed		*	*	*							*												
Joe Pye weed		*	*																				
Lewis flax			*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Maximillian sunflower		*	*	*							*									*	*	*	
New England aster																							
Partridge pea							*				*												
Plains Coreopsis		*	*	*																			
Prairie coneflower 3/								*	*	*	*	*	*	*	*		*	*	*	*	*	*	*
Praire onion							*	*		*	*	*											
Purple coneflower							*	*	*		*	*		*	*		*	*	*	*			*
Purple meadow rue		*	*																				
Purple prairieclover			*	*			*	*	*	*	*	*		*	*		*	*	*	*	*	*	*
Scarlet globemallow										*	*	*	*	*			*		*	*		*	*
Shell-leaf penstemon							*	*	*						*						*		
Silvery lupine							*			*	*	*											
Stiff sunflower 3/			*	*			*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	
Swamp milkweed	*	*																					
Thickspike gayfeather																							
Western yarrow 3/			*	*	*	*		*	*	*	*	*	*	*	*		*	*	*	*	*	*	*

**Table 1. Recommended Species by Ecological Site for MLRA 54 &58C**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological or range site description for information on reference plant community composition.

Species/Ecological Site	Sw M (WL)	W M	Sb	LyO v	SL	CD	Sy	Sa	CS (Tsa)	Cy	Ly	TLy	Cp& TCp	SwG &VS	SyCp	LSa	Sw Ly	SwSy	Sw Cy	LyT	SyT	CyT	LB
White prairieclover			*	*			*			*	*	*					*			*	*	*	
Wild bergamot			*	*							*									*	*	*	
<b>Shrubs 2/</b>																							
Buffaloberry				*	*							*					*			*	*	*	
Chokecherry				*							*									*	*	*	
False indigo	*																						
Fourwing Saltbush					*								*						*				
Gardner saltbush					*								*										
Juneberry				*							*	*											
Leadplant				*			*	*	*		*				*					*	*	*	
Prairie rose			*				*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*
Western snowberry			*	*			*	*		*	*									*	*	*	
Winterfat										*	*	*	*				*		*	*		*	
WY big sagebrush										*							*	*	*				

1/ Minimum of four grass species including at least one warm and/or cool season species.

2/ Forbs and shrubs will be limited to a maximum of 25% or the total mixture. Except those species noted in footnote #3, individual forb and shrub species will be limited to 4% of the mixture.

3/ These species will be limited to no more than 2% of the mixture.

**Table 1. Recommended Species by Ecological Site for MLRA 56 and 55A&B**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological or range site description for information on reference plant community composition.

Species/Ecological Site	SwM (WL)	WM	Sb	LSb	LyOv	SL	CD	Sy	Sa	CS (TSa)	Cy	Ly	TLy	CP & TCp	SwG & VS	SyCp	SbSa	Sw Cy
<b>Grasses 1/</b>																		
American managrass	5-20																	
American sloughgrass	5-10	5-10					5-10											
Big bluestem			5-30	5-30	5-30			5-20			5-10	5-20					5-30	
Bluebunch wheatgrass																		
Blue grama				5-10	5-10			5-10	5-10	5-20	5-10	5-10	5-10	5-20	5-20	5-10	5-20	5-10
Buffalograss														5-20		5-11		
Canada wildrye		5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-20	5-20	5-10	5-10	5-10	5-10	5-10	5-10	5-10	
Fowl bluegrass		5-20					5-10											
Green needlegrass			5-20	5-10	5-20			5-20	5-10		5-30	5-30	5-20	5-20	5-10	5-20		5-20
Indiangrass			5-25	5-20	5-20							5-10						
Indian ricegrass																		
Little bluestem			5-20	5-30	5-20			5-10	5-20	5-30	5-10	5-10	5-30	5-10	5-30	5-20	5-20	5-20
Needleandthread					5-10			5-10	5-20	5-20	5-10	5-10	5-10	5-20	5-20	5-20	5-10	5-20
Northern reedgrass		5-30																
Nuttall alkaligrass						5-10	5-20											
Porcupinegrass			5-20	5-20	5-10			5-20	5-10		5-10	5-10	5-20				5-20	
Prairie cordgrass	5-30	5-30	5-10	5-10		5-20	5-10											
Prairie dropseed			5-10	5-10	5-10							5-10	5-10				5-10	
Prairie junegrass			5-10	5-10	5-10			5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10
Prairie sandreed								5-20	5-30	5-30			5-10		5-10	5-30	5-10	
Sand bluestem								5-20	5-30	5-30					5-10	5-20	5-10	
Sand dropseed								5-10	5-10	5-10			5-10		5-10	5-10	5-10	
Sideoats grama			5-20	5-20	5-20			5-10	5-20	5-20	5-20	5-20	5-20	5-10	5-20	5-20	5-20	5-20

**Table 1. Recommended Species by Ecological Site for MLRA 56 and 55A&B**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological or range site description for information on reference plant community composition.

Species/Ecological Site	SwM (WL)	WM	Sb	LSb	LyOv	SL	CD	Sy	Sa	CS (TSa)	Cy	Ly	TLy	CP & TCp	SwG & VS	SyCp	SbSa	Sw Cy
Slender wheatgrass	5-10		5-10	5-10	5-10	5-20	5-20	5-10	5-10		5-10	5-10	5-10	5-20	5-20	5-20	5-10	5-10
Switchgrass		5-10	5-20	5-20	5-20	5-10	5-10	5-10			5-20	5-20		5-10			5-20	
Western wheatgrass		5-20	5-20	5-20	5-20	5-40	5-30	5-30	5-10	5-10	5-20	5-20	5-20	5-30	5-20	5-30	5-10	5-20
Whitetop 2/	5-30																	
Slough sedge	5-30																	
<b>Forbs 2/</b>																		
American vetch			*	*	*			*	*		*	*	*			*	*	
Black-eyed susan 3/		*	*	*	*			*	*	*	*	*	*		*		*	
Blanketflower								*			*	*	*	*	*	*		*
Blue aster			*	*	*			*				*					*	
Blue vervain		*	*															
Butterfly milkweed					*			*	*									
Canada milkvetch			*	*	*			*	*	*	*	*		*				
Canada tickclover			*	*	*												*	
Cudweed sagewort 3/					*			*	*	*		*		*			*	
Culver's root			*	*	*												*	
Cup plant		*	*		*													
Dotted gayfeather								*	*	*	*	*	*	*	*			*
False boneset		*	*	*													*	
False sunflower			*		*													
Fragrant giant hyssop					*			*			*	*						
Golden Alexander		*	*		*													
Goldenrod																		
Canada								*			*	*						

**Table 1. Recommended Species by Ecological Site for MLRA 56 and 55A&B**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological or range site description for information on reference plant community composition.

Species/Ecological Site	SwM (WL)	WM	Sb	LSb	LyOv	SL	CD	Sy	Sa	CS (TSa)	Cy	Ly	TLy	CP & TCp	SwG & VS	SyCp	SbSa	Sw Cy
Missouri								*	*	*	*	*	*		*			*
Stiff								*	*	*							*	
Illinois bundleflower		*	*		*			*			*	*						
Heath aster			*	*	*			*			*	*						
Hoary vervain					*			*	*			*					*	
Ironweed		*	*	*	*							*						
Joe Pye weed		*	*	*														
Lewis flax			*	*	*			*	*		*	*	*				*	
Maximillian sunflower		*	*	*	*			*	*		*	*		*			*	
New England aster		*	*		*													
Partridge pea								*				*						
Plains Coreopsis		*	*	*	*			*			*	*						
Prairie coneflower 3/								*	*	*	*	*	*	*	*	*	*	*
Praire onion								*	*		*	*	*				*	
Purple coneflower									*	*		*	*		*	*		*
Purple meadow rue		*	*	*														
Purple prairieclover					*			*	*	*	*	*	*	*	*	*	*	*
Scarlet globemallow											*	*	*	*	*			*
Shell-leaf penstemon								*	*	*							*	
Silvery lupine																		
Stiff sunflower 3/			*	*	*			*	*	*	*	*	*	*	*	*	*	*
Swamp milkweed	*	*																
Thickspike gayfeather			*															
Western yarrow 3/			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

**Table 1. Recommended Species by Ecological Site for MLRA 56 and 55A&B**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological or range site description for information on reference plant community composition.

Species/Ecological Site	SwM (WL)	WM	Sb	LSb	LyOv	SL	CD	Sy	Sa	CS (TSa)	Cy	Ly	TLy	CP & TCp	SwG & VS	SyCp	SbSa	Sw Cy
White prairieclover			*	*	*			*			*	*	*	*	*			
Wild bergamot			*		*			*				*						
<b>Shrubs 2/</b>																		
Buffaloberry						*												
Chokecherry					*							*						
False indigo	*	*																
Fourwing Saltbush																		
Gardner saltbush																		
Juneberry					*							*	*					
Leadplant					*			*	*	*	*	*	*		*	*	*	
Prairie rose			*	*				*	*	*	*	*	*	*	*	*	*	*
Western snowberry			*	*	*			*	*		*	*	*		*		*	
Winterfat																		
WY big sagebrush																		

1/ Minimum of four grass species including at least one warm and/or cool season species.

2/ Forbs and shrubs will be limited to a maximum of 25% or the total mixture. Except those species noted in footnote #3, individual forb and shrub species will be limited to 4% of the mixture.

3/ These species will be limited to no more than 2% of the mixture.

**Table 1. Recommended Species by Ecological Site for MLRA 58D**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological site description for information on reference plant community composition.

Species/Ecological Site	CS, Sa	Cy, Ly	CyOv, Sov	Cp	CD <sup>3</sup>	LyOv, LyT	SL	Sy, SyCp	SyT	Sw Cy	SwLy, Tly	TSy, SwSy	SH	TCp	VSw	WL <sup>2/</sup>	WM <sup>2/</sup>
<b>Grasses 1/</b>																	
American sloughgrass					5-10												5-20
big bluestem		5-10				5-35		5-15	5-15		5-10	5-10	5-25				
blue grama	5-10	5-10	5-10	5-20		5-10		5-10	5-10	5-15	5-10	5-10	5-10	5-25	5-20		
Northern reedgrass																5-35	5-15
buffalograss		5-10	5-10	5-10		5-10				5-10	5-10			5-10	5-10		
Canada wildrye			5-10			5-10			5-10				5-10				
fowl bluegrass					5-10											5-10	5-10
green needlegrass		5-30	5-30	5-10		5-30		5-10	5-15	5-35	5-15	5-10	5-20	5-10			
Indiangrass									5-10								
little bluestem	5-15	5-10		5-10		5-10		5-15	5-10	5-15	5-15	5-25	5-35		5-20		
needleandthread	5-30	5-15		5-20		5-15		5-30	5-25	5-10	5-20	5-25	5-15	5-10	5-35		
Nuttall's alkaligrass			5-20		5-30		5-35										
porcupine grass	5-10	5-10				5-10		5-10	5-10		5-10		5-10				
prairie cordgrass							5-25									20-70	10-50
prairie dropseed											5-10		5-10				
prairie junegrass	5-10	5-10	5-10	5-10		5-10		5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10		
prairie sandreed		5-10		5-10		5-15		5-30	5-35		5-10	5-35					
sand bluestem	5-40							5-10				5-10					
sand dropseed	5-10			5-10				5-10	5-10			5-10		5-10	5-10		
sideoats grama		5-10				5-10				5-10	5-10	5-10	5-15		5-15		
slender wheatgrass		5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10		5-10		5-10	5-10	5-10	5-10	
slough sedge																5-25	5-15
switchgrass			5-10			5-15	5-10	5-10	5-15							5-10	5-10

**Table 1. Recommended Species by Ecological Site for MLRA 58D**

Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological site description for information on reference plant community composition.

Species/Ecological Site	CS, Sa	Cy, Ly	CyOv, Sov	Cp	CD <sup>3</sup>	LyOv, LyT	SL	Sy, SyCp	SyT	Sw Cy	SwLy, Tly	TSy, SwSy	SH	TCp	VSw	WL <sup>2/</sup>	WM <sup>2/</sup>
thickspike wheatgrass <sup>4/</sup>	5-10	10-50	10-45	10-50	10-50	10-40	10-50	5-30	5-30	5-45	5-40	5-20	5-15	10-50	5-25		
western wheatgrass	5-10	10-50	10-45	10-50	10-50	10-40	10-50	5-30	5-30	5-45	5-40	5-20	5-15	10-50	5-25	5-10	5-10
whitetop																5-15	5-10
<b>Forbs 2/</b>																	
American vetch		*	*	*		*		*	*	*	*	*		*			
cudweed sagewort <sup>3/</sup>		*	*	*		*		*	*	*	*	*	*	*	*		
dotted gayfeather	*	*				*		*	*	*	*	*	*		*		
false boneset		*	*					*			*		*				
ironweed					*												
Maximilian sunflower			*			*			*								*
New England aster																*	*
plains coreopsis					*		*									*	*
prairie coneflower <sup>3/</sup>	*	*	*	*		*		*	*	*	*	*	*		*		
purple coneflower	*	*				*		*		*	*	*	*		*		
purple prairie clover		*	*	*		*		*	*	*	*	*	*		*		
scarlet globemallow		*		*				*		*	*	*		*	*		
stiff goldenrod		*	*	*		*		*	*								
stiff sunflower	*							*				*					
western yarrow <sup>3/</sup>		*	*	*		*		*	*	*	*	*	*	*			
white prairie clover	*	*	*	*		*		*	*	*	*	*	*		*		
<b>Shrubs 2/</b>																	
buffaloberry		*	*			*											
chokecherry			*			*			*								
currant						*			*								

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Minimum and maximum percentage of species per site (All mixtures must equal 100%). Consult appropriate ecological site description for information on reference plant community composition.

Species/Ecological Site	CS, Sa	Cy, Ly	CyOv, Sov	Cp	CD <sup>3</sup>	LyOv, LyT	SL	Sy, SyCp	SyT	Sw Cy	SwLy, Tly	TSy, SwSy	SH	TCp	VSw	WL <sup>2/</sup>	WM <sup>2/</sup>
false indigo						*										*	*
four-wing saltbush			*	*			*										
fringed sagewort	*	*	*	*		*		*	*	*	*	*	*	*	*		
leadplant	*	*	*			*		*	*		*		*				
prairie rose	*	*	*	*		*		*	*	*	*	*	*		*		
silver sagebrush	*	*	*	*		*		*	*	*	*			*			
western snowberry		*	*	*		*		*	*		*		*				
winterfat		*								*				*			
WY big sagebrush		*	*	*		*		*	*	*	*			*			

1/ Minimum of four grass species including at least one warm and/or cool season species.

2/ Forbs and shrubs will be limited to a maximum of 25% or the total mixture. Except those species noted in footnote #3, individual forb and shrub species will be limited to 4% of the mixture.

3/ These species will be limited to no more than 2% of the mixture.

4/ Thickspike wheatgrass may be substituted if western wheatgrass is unavailable