

# Montana Species Suited to Planting by Ecological Site For Use in Determining Range Seeding Rates and Mixtures

## Range and Pasture Technical Note No. MT-33

*Also reference Montana Plant Materials Technical Note No. 46*

**TABLE 1. Range Seeding Rates and Mixtures for the following MLRAs:**

**DESERTIC BASIN, CENTRAL (MLRA 32XC)  
GLACIATED PLAINS, NORTH (MLRA 52XN)**

**GLACIATED PLAINS, CENTRAL (MLRA 52XC)  
SEDIMENTARY PLAINS, CENTRAL (MLRA 58AC)**

*Recommended Maximum Percent Composition of Species per Rangeland Ecological Site (3 Species Minimum)*

SPECIES	PLS lbs. per Acre for a Full Seeding	Silty/Thin Silty/Silty Steep	Sandy/Thin Sandy/Sandy Steep	Clayey/Thin Clayey/Clayey Steep/Shallow Clay	Shallow/Shallow to Gravel	Sands	Dense Clay/Claypan	Overflow	Riparian Sub-irrigated / Sub-irrigated	<sup>1/</sup> Saline Upland / Saline Lowland	Riparian Meadow / Wet Meadow <sup>2/</sup>	
Alkali sacaton	Refer to Montana Plant Materials Tech Note No. 46.						10			40		
American sloughgrass									10		20	
Basin wildrye		20							50	50	30	
Beardless wildrye									50	25	80	
Big bluegrass		10	10			10						
Blue grama		10	5	10		5	5	10				
Bluebunch wheatgrass		50	25	50		60		10 (CP)				
Bluejoint reedgrass										20		10
Bottlebrush squirreltail								10			10	
Canby bluegrass		10	10			10						
Green needlegrass		20		30				40	40			
Indian ricegrass			20				40					
Little bluestem		25	10			20						
Needleandthread		20	25			20	20					
Nuttall alkaligrass								10			15	
Prairie cordgrass									10	30		20
Prairie junegrass		10	5	10		5						
Prairie sandreed			30			30	40					
Reed canarygrass										20		20
Sandberg's bluegrass		10	5	10		5		10	15			
Slender wheatgrass	10		10		10			10	10	10		

SPECIES													
GRASSES CONTINUED	PLS lbs. per Acre for a Full Seeding	Silty/ Thin Silty/ Silty Steep	Sandy/ Thin Sandy/ Sandy Steep	Clayey/ Thin Clayey/ Clayey Steep/ Shallow Clay	Shallow/ Shallow to Gravel	Sands	Dense Clay/ Claypan	Overflow	Riparian Sub-irrigated / Sub-irrigated	<sup>1/</sup> Saline Upland / Saline Lowland	Riparian Meadow / Wet Meadow <sup>2/</sup>		
Thickspike wheatgrass	Refer to Montana Plant Materials Tech Note No. 46.	20	20	40	25	10	50						
Tufted hairgrass									20				
Western wheatgrass		20	20	40	25	5	50	40	20	30			
<b>FORBS <sup>3/</sup></b>													
American vetch		X <sup>4/</sup>	X	X	X			X	X				
Black sampson		X	X	X	X		X						
Blanketflower		X	X		X								
Dotted gayfeather		X	X	X	X		X						
Lewis flax <sup>5/</sup>		X	X	X	X		X		X				
Maximilian sunflower		X	X		X		X	X					
Prairie coneflower		X	X	X	X				X				
Purple prairieclover		X	X	X	X		X		X				
Scarlet globemallow		X	X	X	X		X	X					
Western yarrow		X	X	X	X		X		X				
<b>SHRUBS <sup>3/</sup></b>	<b>Max. PLS lbs. per Acre for Seeding Mixture</b>												
American plum	Refer to Montana Plant Materials Tech Note No. 46.							X	X				
Buffaloberry								X	X	X			
Chokecherry								X	X				
Creeping juniper		X (TSi)			X								
Cudweed sagewort + <sup>7/</sup>		X	X						X				
Fringed sagewort +		X	X	X	X				X				
Fourwing saltbush <sup>8/</sup>											X		
Golden currant		X (TSi)							X				
Green rabbitbrush +		X	X	X				X					
Green sagewort +		X	X	X									

SPECIES	Max. PLS lbs. per Acre for Seeding Mixture	Silty/Thin Silty/Silty Steep	Sandy/Thin Sandy/Sandy Steep	Clayey/Thin Clayey/Clayey Steep/Shallow Clay	Shallow/Shallow to Gravel	Sands	Dense Clay/Claypan	Overflow	Riparian Sub-irrigated / Sub-irrigated	<sup>1/</sup> Saline Upland / Saline Lowland	Riparian Meadow / Wet Meadow <sup>2/</sup>
SHRUBS CONTINUED <sup>3/</sup>	Refer to Montana Plant Materials Tech Note No. 46.			X			X			X	
Nuttall saltbush				X			X			X	
Prairie , Woods rose		X	X	X	X	X		X	X		
Rubber rabbitbrush		X		X				X			
Silver sagebrush +		X		X				X			
Silverberry								X	X		
Skunkbush sumac		X	X			X		X			
Western serviceberry								X			
Western snowberry		X	X			X		X	X		
Willow									X		
Winterfat		X	X	X				X			
Wyoming big sage +		X	X	X	X	X		X			
Yucca			X		X	X					

<sup>1/</sup> Saline Lowland sites are generally not suited for range seedings except to reclaim sites that were previously farmed. Due to the high limitations for seeding success these sites may be planted with only one species such as beardless wildrye.

<sup>2/</sup> Sedges (Carex species) are the dominant plants found on Riparian/Wet Meadow sites. These are generally not recommended to be seeded, but can be purchased as transplants.

<sup>3/</sup> The percent composition of forbs and shrubs should be determined from FOTG Section IIE8, Technical Ecological Site Descriptions, and on purpose and objectives of seeding. Individual species percentages should generally not exceed 5 to 10 percent of the total seed mixture.

<sup>4/</sup> X = Species are native to this site. X ( ) = Species are native only to ecological site listed in ( ).

<sup>5/</sup> Lewis flax has very aggressive seedling vigor. It is recommended to include it in a seeding mixture at not greater than 0.15 pounds PLS per acre.

<sup>6/</sup> \*\*NA – These shrubs are not recommended for direct seeding, use transplants only.

<sup>7/</sup> + These species require light for germination, and should be broadcast seeded for best success. The given seeding rates are drilled rates; double the rate for broadcast seedings.

<sup>8/</sup> Rates given for four-wing saltbush are for de-winged seed.

**TABLE 2. Range Seeding Rates and Mixtures for the following MLRAs:**

**GLACIATED PLAINS, EAST (MLRA 53AE)  
SOFT SHALE PLAINS, EAST (MLRA 54XE)**

**SEDIMENTARY PLAINS, EAST (MLRA 58AE)  
PIERRE SHALE PLAINS-N PART, EAST (MLRA 60BE)**

*Recommended Maximum Percent Composition of Species per Rangeland Ecological Site (3 Species Minimum)*

SPECIES	PLS lbs. per Acre for a Full Seeding	Silty/Thin Silty/Steep	Sandy/Thin Sandy/Steep	Clayey/Thin Clayey/Clayey Steep/Shallow Clay	Shallow/Shallow to Gravel	Sands	Dense Clay/Claypan	Overflow	Riparian Sub-irrigated / Sub-irrigated	<sup>1/</sup> Saline Upland / Saline Lowland	Riparian Meadow / Wet Meadow <sup>2/</sup>	
Alkali sacaton	Refer to Montana Plant Materials Tech Note No. 46.						10			30		
American sloughgrass									10		20	
Basin wildrye								25	15			
Beardless wildrye								25	15	80		
Big bluegrass								10	10			
Big bluestem		15	15				25		40	10		
Blue grama		10	10	10		10	10	10				
Bluebunch wheatgrass		20	15			40						
Bluejoint reedgrass									20		10	
Bottlebrush squirreltail								10			10	
Canby bluegrass		10	5	5		10	10	10	10		5	
Green needlegrass		30		30				20	20	10		
Indian ricegrass			20				20					
Little bluestem		20	25	25		30	40					
Needleandthread		15	20			10	15					
Nuttall alkaligrass											15	
Prairie cordgrass									10	25		10
Prairie junegrass		10	5	5		10	10					
Prairie sandreed			35			15	30		10			
Reed canarygrass										10		20
Sand bluestem			25				25					
Sandberg's bluegrass		10	5	5		10	10	10				
Sideoats grama		20	15	10		20	15					
Slender wheatgrass	10		10				10	10	15	20		
Switchgrass								10	25			

SPECIES													
GRASSES CONTINUED	PLS lbs. per Acre for a Full Seeding	Silty/ Thin Silty/ Silty Steep	Sandy/ Thin Sandy/ Sandy Steep	Clayey/ Thin Clayey/ Clayey Steep/ Shallow Clay	Shallow/ Shallow to Gravel	Sands	Dense Clay/ Claypan	Overflow	Riparian Sub-irrigated / Sub-irrigated	<sup>1/</sup> Saline Upland / Saline Lowland	Riparian Meadow / Wet Meadow <sup>2/</sup>		
Thickspike wheatgrass	Refer to Montana Plant Materials Tech Note No. 46.	30	10	25	20	5	20						
Tufted hairgrass								20	20				
Western wheatgrass		30	10	25	20	5	50	30	20	30			
<b>FORBS <sup>3/</sup></b>													
American vetch			X <sup>4/</sup>	X	X	X	X	X	X	X			
Black sampson			X	X	X	X	X	X					
Blanketflower			X	X	X	X	X						
Dotted gayfeather			X	X	X	X	X	X	X				
Lewis flax <sup>5/</sup>			X	X	X	X	X		X				
Maximilian sunflower			X	X	X	X	X	X					
Prairie coneflower			X	X	X	X	X		X				
Purple prairieclover			X	X	X	X	X		X				
Scarlet globemallow			X	X	X	X	X	X					
Western yarrow		X	X	X	X	X		X					
<b>SHRUBS <sup>3/</sup></b>	<b>Max. PLS lbs. per Acre for Seeding Mixture</b>												
American plum	Refer to Montana Plant Materials Tech Note No. 46.							x					
Chokecherry		X	X (TSy)					X					
Creeping juniper		X (TSi)	X	X (TCy)	X								
Cudweed sagewort + <sup>7/</sup>		X	X										
Fringed sagewort +		X	X	X	X			X					
Fourwing saltbush <sup>8/</sup>								X			X		
Golden currant		X							X	x (RSb)			
Green or rubber rabbitbrush +		X(TSi)	X	X	X (Sw)			X					
Green sagewort +		X		X			X						

SPECIES	Max. PLS lbs. per Acre for Seeding Mixture	Silty/ Thin Silty/ Silty Steep	Sandy/ Thin Sandy/ Sandy Steep	Clayey/ Thin Clayey/ Clayey Steep/ Shallow Clay	Shallow/ Shallow to Gravel	Sands	Dense Clay/ Claypan	Overflow	Riparian Sub-irrigated / Sub-irrigated	<sup>1/</sup> Saline Upland / Saline Lowland	Riparian Meadow / Wet Meadow <sup>2/</sup>
<b>SHRUBS</b> <sup>3/</sup> CONTINUED											
Nuttall saltbush	Refer to Montana Plant Materials Tech Note No. 46.	X (TSi)		X			X			X	
Prairie or Woods rose		X	X	X	X	X		Woods	Woods		
Redosier dogwood									X		
Rocky Mountain juniper		X	X (TSy)	X (SwC,TCy)	X						
Silverberry									X		
Silver buffaloberry		X	X (TSy)					X	X	X (SL)	
Silver sagebrush +		X	X	X	X (Sw)	X	X	X		X	
Skunkbush sumac		X (TSi)	X			X	X				
Western serviceberry								X			
Western snowberry		X	X			X (Sw)			X		
Willow									X		
Winterfat		X	X (TSy)	X	X (Sw)		X			X (SU)	
Wyoming big sagebrush +		X	X	X	X		X				
Yucca			X			X	X				

<sup>1/</sup> Saline Lowland sites are generally not suited for range seedings except to reclaim sites that were previously farmed. Due to the high limitations for seeding success these sites may be planted with only two species such as beardless wildrye and slender wheatgrass.

<sup>2/</sup> Sedges (Carex species) are the dominant plants found on Riparian/Wet Meadow sites. These are generally not recommended to be seeded, but can be purchased as transplants.

<sup>3/</sup> The percent composition of forbs and shrubs should be determined from FOTG Section IIE8, Technical Ecological Site Descriptions, and on purpose and objectives of seeding. Individual species percentages should generally not exceed 5 to 10 percent of the total seed mixture.

<sup>4/</sup> X = Species are native to this site. X ( ) = Species are native only to ecological site listed in ( ).

<sup>5/</sup> Lewis flax has very aggressive seedling vigor. It is recommended to include it in a seeding mixture at not greater than 0.15 pounds PLS per acre.

<sup>6/</sup> \*\*NA – These shrubs are not recommended for direct seeding, use transplants only.

<sup>7/</sup> + These species require light for germination, and should be broadcast seeded for best success. The given seeding rates are drilled rates; double the rate for broadcast seedings.

<sup>8/</sup> Rates given for four-wing saltbush are for de-winged seed.

**TABLE 3. Range Seeding Rates and Mixtures for the following MLRAs:**

**NORTHERN ROCKY MOUNTAIN VALLEYS, SOUTH (MLRA 44XS)**

**NORTHERN ROCKY MOUNTAIN FOOTHILLS, SOUTH (MLRA 46XS)**

**NORTHERN ROCKY MOUNTAIN VALLEYS, CENTRAL (MLRA 44XC)**

**NORTHERN ROCKY MOUNTAIN FOOTHILLS, CENTRAL (MLRA 46XC)**

*Recommended Maximum Percent Composition of Species per Rangeland Ecological Site (3 Species Minimum)*

SPECIES	PLS lbs. per Acre for a Full Seeding	Silty/ Silty Steep/ Thin Hilly	Silty Limy/ Silty Stony/ Silty Droughty	Sandy / Thin Sandy / Sandy Steep	Clayey/ Thin Clayey/ Clayey Steep Shallow Clay	Shallow / Shallow to Gravel	Sands	Overflow	Riparian Sub-irrigated / Sub-irrigated	<sup>1/</sup> Saline Upland / Saline Lowland	Riparian Meadow / Wet Meadow <sup>2/</sup>	
Alkali sacaton	Refer to Montana Plant Materials Tech Note No. 46.									50		
American sloughgrass											30	
Basin wildrye		20							40	20	30	
Beardless wildrye										15	80	
Big bluegrass		15	10			10	10		20	20		
Bluebunch wheatgrass		60	70		45	60	70	20				
Canby bluegrass		10	10			10	10		10			
Green needlegrass		20	10		10	20			20			
Idaho fescue		10	10									
Indian ricegrass					20		15	20				
Mountain brome		15	15		15							
Needleandthread		15	20		20		20	10				
Prairie cordgrass										10		20
Prairie junegrass		10	10		10	10	10					
Prairie sandreed					25			60				
Reed canarygrass									20	20		40
Rough fescue <sup>4/</sup>		20	20		20		20	10				
Sandberg's bluegrass		10	10		10	10	10					
Slender wheatgrass		10				10	10		20	20	20	
Thickspike wheatgrass		15	15		20		20	20				
Tufted hairgrass								20	30			
Western wheatgrass	15	15			20	20		30		20		
<b>FORBS <sup>3/</sup></b>												
American vetch		X <sup>5/</sup>	X	X	X	X	X	X				
Black sampson		X	X	X	X	X	X					

SPECIES	PLS lbs. per Acre for a Full Seeding	Silty/ Silty Steep/ Thin Hilly	Silty Limy/ Silty Stony/ Silty Droughty	Sandy / Thin Sandy / Sandy Steep	Clayey/ Thin Clayey/ Clayey Steep Shallow	Shallow / Shallow to Gravel	Sands	Overflow	Riparian Sub-irrigated / Sub-irrigated	<sup>1/</sup> Saline Upland / Saline Lowland	Riparian Meadow / Wet Meadow <sup>2/</sup>
<b>FORBS <sup>3/</sup> CONTINUED</b>											
Blanketflower	Refer to Montana Plant Materials Tech Note No. 46.	X	X	X	X	X	X				
Dotted gayfeather		X	X	X	X	X	X				
Lewis flax <sup>6/</sup>		X	X	X	X	X	X	X			
Maximilian sunflower		X	X	X	X	X	X				
Prairie coneflower		X	X	X	X	X	X	X			
Purple prairieclover		X	X	X	X	X	X	X			
Scarlet globemallow		X	X	X	X	X	X				
Smooth aster		X	X	X	X	X	X	X			
Sulfur flower buckwheat		X	X	X	X	X	X				
Western yarrow		X	X	X	X	X	X	X			
<b>SHRUBS <sup>3/</sup></b>	<b>Max. PLS lbs. per Acre for Seeding Mixture</b>										
Antelope bitterbrush	Refer to Montana Plant Materials Tech Note No. 46.	X	X			X					
Chokecherry		X			X			X			
Cinquefoil, shrubby		X			X	X		X	X		
Fringed sagewort + <sup>8/</sup>		X	X	X	X	X					
Golden currant		X (Tsi)	X	X				X			
Green or rubber rabbitbrush +		X	X		X						
Green sagewort +		X	X	X	X	X	X				
Mountain mahogany		X	X			X					
Nuttall saltbush						X	X			X	
Redosier dogwood								X	X		
Rocky Mountain juniper		X	X	X			X				
Silver sagebrush +		X	X	X	X	X	X		X		
Skunkbush sumac		X	X	X	X	X	X				

SPECIES	Max. PLS lbs. per Acre for Seeding Mixture	Silty/ Silty Steep/ Thin Hilly	Silty Limy/ Silty Stony/ Silty Droughty	Sandy / Thin Sandy / Sandy Steep	Clayey/ Thin Clayey/ Clayey Steep Shallow	Shallow / Shallow to Gravel	Sands	Overflow	Riparian Sub-irrigated / Sub-irrigated	<sup>1/</sup> Saline Upland / Saline Lowland	Riparian Meadow / Wet Meadow <sup>2/</sup>
Western serviceberry	Refer to Montana Plant Materials Tech Note No. 46.	X						X			
Western snowberry		X	X	X	X	X (Sw)		X			
Willow									X		
Winterfat		X	X	X	X	X	X				
Woods rose		X	X	X	X	X	X	X			
Wyoming or mountain big sagebrush +		X	X	X	X	X					
Yucca		X	X	X			X				

- <sup>1/</sup> Saline Lowland sites are generally not suited for range seedings except to reclaim sites that were previously farmed. Due to the high limitations for seeding success these sites may be planted with only two species such as beardless wildrye and slender wheatgrass.
- <sup>2/</sup> Sedges (Carex species) are the dominant plants found on Riparian/Wet Meadow sites. These are generally not recommended to be seeded, but can be purchased as transplants.
- <sup>3/</sup> The percent composition of forbs and shrubs should be determined from FOTG Section IIE8, Technical Ecological Site Descriptions, and on purpose and objectives of seeding. Individual species percentages should generally not exceed 5 to 10 percent of the total seed mixture.
- <sup>4/</sup> Rough fescue occurs only occasionally in this area, and should only be seeded in localized areas where it occurs naturally.
- <sup>5/</sup> X = Species are native to this site. X ( ) = Species are native only to ecological site listed in ( ).
- <sup>6/</sup> Lewis flax has very aggressive seedling vigor. It is recommended to include it in a seeding mixture at not greater than 0.15 pounds PLS per acre.
- <sup>7/</sup> \*\*NA – These shrubs are not recommended for direct seeding, use transplants only.
- <sup>8/</sup> + These species require light for germination, and should be broadcast seeded for best success. The given seeding rates are drilled rates; double the rate for broadcast seedlings.

**TABLE 4. Range Seeding Rates and Mixtures for the following MLRAs:**

**NORTHERN ROCKY MOUNTAIN VALLEYS, WEST (MLRA 44XW)**

**NORTHERN ROCKY MOUNTAIN FOOTHILLS, NORTH (MLRA 46XN)**

*Recommended Maximum Percent Composition of Species per Rangeland Ecological Site (3 Species Minimum)*

SPECIES	PLS lbs. per Acre for a Full Seeding	Silty / Thin Silty/ Silty Steep	Sandy/ Thin Sandy/ Sandy Steep	Clayey/ Thin Clayey/ Clayey Steep/ Shallow Clay	Shallow / Shallow to Gravel	Sands	Dense Clay / Claypan	Overflow	Riparian Sub-irrigated / Sub-irrigated	<sup>1/</sup> Saline Upland / Saline Lowland	Riparian Meadow / Wet Meadow <sup>2/</sup>	
Alkali sacaton	Refer to Montana Plant Materials Tech Note No. 46.									30		
American sloughgrass									10		30	
Basin wildrye		20 (Si) <sup>4/</sup>							40	20	80	
Beardless wildrye											80	
Big bluegrass		10 (Si)	10						20			
Bluebunch wheatgrass		60	50	60	80	80	80	30				
Canby bluegrass		10	10	10	10	10	10					
Green needlegrass		10	10		20			20	20			
Idaho fescue		10	10				10					
Indian ricegrass				20								
Mountain brome		10 (Si)	10									
Needleandthread		10		20			20					
Prairie cordgrass										20	20	20
Prairie junegrass		5	10		5	5						
Prairie sandreed		5		20								
Reed canarygrass										25		40
Rough fescue		60	70	10	10	20	10					
Sandberg's bluegrass		10	10	10	10	10	10					
Slender wheatgrass		10	10						20	20	20	
Thickspike wheatgrass		5		10			10					
Tufted hairgrass								20	20			
Western wheatgrass	5	5		10	10	10	20	20		20		
<b>FORBS <sup>3/</sup></b>												
American vetch		X <sup>4/</sup>	X	X	X	X	X	X				
Black sampson		X	X	X	X	X	X					

<b>SPECIES</b>											
<b>FORBS <sup>3/</sup> CONTINUED</b>	<b>PLS lbs. per Acre for a Full Seeding</b>	<b>Silty / Thin Silty/ Silty Steep</b>	<b>Sandy/ Thin Sandy/ Sandy Steep</b>	<b>Clayey/ Thin Clayey/ Clayey Steep/ Shallow Clay</b>	<b>Shallow / Shallow to Gravel</b>	<b>Sands</b>	<b>Dense Clay / Claypan</b>	<b>Overflow</b>	<b>Riparian Sub-irrigated / Sub-irrigated</b>	<b><sup>1/</sup> Saline Upland / Saline Lowland</b>	<b>Riparian Meadow / Wet Meadow <sup>2/</sup></b>
Blanketflower	Refer to Montana Plant Materials Tech Note No. 46.	X	X	X	X	X	X				
Dotted gayfeather		X	X	X	X	X	X	X			
Lewis flax <sup>5/</sup>		X	X	X	X	X	X	X			
Lupine		X	X	X	X	X	X	X			
Maximilian sunflower		X	X	X	X	X	X	X			
Prairie coneflower		X	X	X	X	X	X	X	X		
Purple prairieclover		X	X	X	X	X	X	X	X		
Smooth aster		X	X	X	X	X	X	X	X	X	
Sulfur flower buckwheat		X	X	X	X	X	X	X			
Western yarrow		X	X	X	X	X	X	X	X	X	X
<b>SHRUBS <sup>3/</sup></b>	<b>Max. PLS lbs. per Acre for Seeding Mixture</b>										
Antelope bitterbrush	Refer to Montana Plant Materials Tech Note No. 46.	X				X					
Chokecherry			X					X			
Cinquefoil, shrubby				X	X				X	X	
Fringed sagewort + <sup>2/</sup>		X		X			X	X			
Golden currant									X		
Mountain mahogany							X				
Nuttall saltbush						X					X
Redosier dogwood									X		
Rocky mountain juniper		X					X				
Skunkbush sumac		X		X			X				
Western serviceberry		X	X	X					X		
Western snowberry		X	X	X				X	X		
Willow										X	
Winterfat	X										

<b>SHRUBS <sup>3/</sup></b> <b>CONTINUED</b>	<b>Max. PLS lbs. per Acre for Seeding Mixture</b>	<b>Silty / Thin Silty/ Silty Steep</b>	<b>Sandy/ Thin Sandy/ Sandy Steep</b>	<b>Clayey/ Thin Clayey/ Clayey Steep/ Shallow Clay</b>	<b>Shallow / Shallow to Gravel</b>	<b>Sands</b>	<b>Dense Clay / Claypan</b>	<b>Overflow</b>	<b>Riparian Sub-irrigated / Sub-irrigated</b>	<b><sup>1/</sup> Saline Upland / Saline Lowland</b>	<b>Riparian Meadow / Wet Meadow <sup>2/</sup></b>
Woods rose		X	X	X	X	X	X	X	X		
Wyoming or mountain big sage +		X	X	X	X	X	X				

<sup>1/</sup> Saline Lowland sites are generally not suited for range seedings except to reclaim sites that were previously farmed. Due to the high limitations for seeding success these sites may be planted with only two species such as beardless wildrye and slender wheatgrass.

<sup>2/</sup> Sedges (Carex species) are the dominant plants found on Riparian/Wet Meadow sites. These are generally not recommended to be seeded, but can be purchased as transplants.

<sup>3/</sup> The percent composition of forbs and shrubs should be determined from FOTG Section IIE8, Technical Ecological Site Descriptions, and on purpose and objectives of seeding. Individual species percentages should generally not exceed 5 to 10 percent of the total seed mixture.

<sup>4/</sup> X = Species are native to this site. X ( ) = Species are native only to ecological site listed in ( ).

<sup>5/</sup> Lewis flax has very aggressive seedling vigor. It is recommended to include it in a seeding mixture at not greater than 0.15 pounds PLS per acre.

<sup>6/</sup> \*\*NA – These shrubs are not recommended for direct seeding, use transplants only.

<sup>7/</sup> + These species require light for germination, and should be broadcast seeded for best success. The given seeding rates are drilled rates; double the rate for broadcast seedings.