

## **Animal Enhancement Activity – ANM 21 - Prairie restoration for grazing and wildlife habitat**



### **Enhancement Description**

This activity consists of restoring/renovating prairie habitat by establishing native vegetation and managing the restored plant community.

### **Land Use Applicability**

Cropland, pastureland and rangeland

### **Benefits**

Establishing and managing native prairie vegetation will provide food, cover, and nesting habitat for adapted species, especially grassland nesting birds.

### **Criteria**

The resulting plant community will consist of at least 10 species of native perennial grasses and at least six species of native forbs. In areas where seed availability or seed cost is an issue, the NRCS State Office can modify the seeding combinations to meet local conditions. Species appropriate fungal and microbial inoculants will be used during establishment where appropriate. Additional planting conditions may be specified if an ecological site description has been developed for the area.

After establishment, the field will be protected from grazing and disturbance during the primary nesting and fawning season as defined by the NRCS State Office. A grazing management plan will be prepared, documented, and followed. Grazing intensity outside of the nesting season will never exceed “moderately” grazed as defined by the NRCS State Office. Rest or rotation intervals will also be documented.

### **Documentation Requirements**

Following implementation of this activity, the landowner must document the restoration of native vegetation by providing a brief written description of the actions taken; providing receipts and dates; documenting the area (acres) restored, grazing management plan, and delineating the location of the restored prairie on a map or aerial photograph.

**ANIMAL ENHANCEMENT ACTIVITY**

**ANM21 – OR Prairie Restoration for Grazing and Wildlife Habitat**

Species composition will be based on pure live seed in the specified mixture.

The criteria and references listed here are to be used in Oregon and are in addition to those listed on the national activity sheet.

**Criteria for Prairie Restoration for Grazing and Wildlife Habitat**

1. Proper grazing management is critical to maintenance of native seedings. The grazing management plan for areas seeded to native species will include:
  - A deferment from spring grazing (until after seed set) at least one year out of three years.
  - Minimum stubble heights will be 4-6 inches in all years.
  - No nitrogen fertilizer applications are allowed.
2. Adapted species, seeding rates, and seeding dates for use in Oregon are in tables at the end of this document. These seeding recommendations assume that the seedbed is clean, firm, and weed-free and that the seeding is performed with a drill. Drilled seed will be placed 1/8 – 1/4 inch deep. Broadcast seedings will require twice as much seed. Species with small seeds (indicated by \* in the tables) will be broadcast seeded. Seeding rates for these small seeded species reflect this seeding method (are already doubled).
3. Weeds will be spot treated. Mechanical weed treatment is preferred to avoid detrimental impacts from chemicals on seeded perennial forbs or shrubs.
4. Eastern Oregon seed mixes assume that the site is less than 12% slope, moderately deep to deep soils with a loam or silt loam surface texture. Other site conditions such as shallow depth, swale or draw landscape position will require modified seed mixes. Contact Bob Gillaspay, State Rangeland Management Specialist for NRCS-OR for further guidance.

**References**

*Oregon – Washington Guide for Conservation Seedings and Plantings*, 2000, USDA-NRCS

Plant Fact Sheets and Guides - <http://plant-materials.nrcs.usda.gov/intranet/pfs.htm>

USDA NRCS. 2009. Ecological Site Descriptions for Oregon.  
<http://esis.sc.egov.usda.gov/Welcome/pgESDWelcome.aspx>

Native Seed Network 2009.  
<http://www.nativeseednetwork.org/index>

## MLRA A2 – Willamette Valley

<b>Drilled Seeding Mix</b>		
for		
CSP Enhancement ANM21 – Prairie Restoration Seeding		
western Oregon – MLRA A2 – Upland Prairie		
	Species	PLS lbs/acre in Mix
	<a href="#">Brome, California</a>	1.2
	<a href="#">Oatgrass, California</a>	1.6
	<a href="#">Blue Wildrye</a>	1.2
	<a href="#">Fescue, Roemers</a>	1.0
*	<a href="#">Junegrass, Prairie</a>	0.2
	<a href="#">Gumweed, Puget Sound</a>	0.4
	<a href="#">Lupine, bigleaf</a>	0.4
	<a href="#">Lupine, riverbank</a>	0.4
*	<a href="#">Cinquefoil, slender</a>	0.3
	<a href="#">Selfheal, lance</a>	0.2
*	<a href="#">Western Yarrow</a>	0.5
Approximate cost: \$250 – \$350 per acre for seed		
Seeding Dates: January 1 – February 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.		

<b>Drilled Seeding Mix</b>		
for		
CSP Enhancement ANM21 – Prairie Restoration Seeding		
western Oregon – MLRA A2 – Wet Prairie		
	Species	PLS lbs/acre in Mix
	<a href="#">Barley, Meadow</a>	0.5
	<a href="#">Oatgrass, California</a>	1.2
*	<a href="#">Tufted Hairgrass</a>	0.9
	<a href="#">Spike Bentgrass</a>	0.4
	<a href="#">Gumweed, Puget Sound</a>	1.0
*	<a href="#">Cinquefoil, slender</a>	0.5
	<a href="#">Selfheal, lance</a>	0.5
*	<a href="#">Compassplant, California</a>	1.0
Approximate cost: \$250 – \$350 per acre for seed		
Seeding Dates: September 1 – October 15 or early spring (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.		

## MLRA B7 – Columbia Basin

<b>Drilled Seeding Mix</b>		
for		
CSP Enhancement ANM21 – Prairie Restoration Seeding		
eastern Oregon – MLRA B7 – 8-10" PZ		
	Species	PLS lbs/acre in Mix
	<a href="#">Wheatgrass, Bluebunch (beardless)</a>	5.0
	<a href="#">Bluegrass, Sandberg</a>	1.0
*	<a href="#">Western Yarrow</a>	0.3
*	<a href="#">Basin Big Sagebrush</a>	0.2
Approximate cost: \$100 – \$200 per acre for seed		
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.		

## MLRA B8 – Columbia Plateau

<b>Drilled Seeding Mix</b>		
for		
CSP Enhancement ANM21 – Prairie Restoration Seeding		
eastern Oregon – MLRA B8 – 10-12" PZ		
Species	PLS lbs/acre in Mix	
Wheatgrass, Bluebunch (beardless)	5.5	
Fescue, Idaho	0.3	
Bluegrass, Sandberg	0.2	
Balsamroot, Arrowleaf	0.4	
Silky Lupine	1.75	
Parsnipflower Buckwheat	0.2	
* Wyoming Big Sagebrush	0.2	
Approximate cost: \$300 – \$400 per acre for seed		
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.		

<b>Drilled Seeding Mix</b>		
for		
CSP Enhancement ANM21 – Prairie Restoration Seeding		
eastern Oregon – MLRA B8 – 12-14" PZ		
Species	PLS lbs/acre in Mix	
Wheatgrass, Bluebunch (beardless)	2.1	
Fescue, Idaho	3.0	
* Prairie Junegrass	0.4	
Bluegrass, Sandberg	0.2	
Balsamroot, Arrowleaf	0.2	
Milkvetch, Basalt	0.1	
Flax, Lewis	0.1	
Biscuitroot	0.2	
* Western Yarrow	0.1	
* Basin Big Sagebrush	0.1	
Approximate cost: \$150 – \$250 per acre for seed		
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.		

## MLRA B9 – Palouse Prairie

<b>Drilled Seeding Mix</b>		
for		
CSP Enhancement ANM21 – Prairie Restoration Seeding		
eastern Oregon – MLRA B9 – 14-17" PZ		
Species	PLS lbs/acre in Mix	
Wheatgrass, Bluebunch (beardless)	1.0	
Fescue, Idaho	4.5	
* Prairie Junegrass	0.1	
Bluegrass, Sandberg	0.1	
Silky Lupine	0.7	
Biscuitroot	0.2	
* Western Yarrow	0.25	
Approximate cost: \$150 – \$250 per acre for seed		
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.		

<b>Drilled Seeding Mix</b>		
for		
CSP Enhancement ANM21 – Prairie Restoration Seeding		
eastern Oregon – MLRA B9 – 17-22" PZ		
Species	PLS lbs/acre in Mix	
Wheatgrass, Bluebunch (beardless)	1.0	
Fescue, Idaho	4.5	
* Prairie Junegrass	0.1	
Bluegrass, Sandberg	0.1	
Silky Lupine	0.7	
Parsnipflower Buckwheat	0.1	
Biscuitroot	0.1	
* Western Yarrow	0.1	
Rose, Woods	0.2	
Snowberry, common	0.2	
Approximate cost: \$200 – \$300 per acre for seed		
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.		

## MLRA B10A – Blue Mountain Foothills : Pumice Region

<b>Drilled Seeding Mix</b>	
for	
CSP Enhancement ANM21 – Prairie Restoration Seeding	
eastern Oregon – MLRA B10A – 10-12" PZ	
Species	PLS lbs/acre in Mix
Wheatgrass, Bluebunch (bearded)	2.5
Fescue, Idaho	1.5
Bluegrass, Sandberg	0.5
Balsamroot, Arrowleaf	0.2
Milkvetch, Basalt	0.1
Biscuitroot	0.2
Parsnipflower Buckwheat	0.1
* Basin Big Sagebrush	0.3
Antelope Bitterbrush	3.5
Approximate cost: \$300 – \$400 per acre for seed	
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.	

## MLRA B10B – Blue Mountain Foothills : John Day Region

<b>Drilled Seeding Mix</b>	
for	
CSP Enhancement ANM21 – Prairie Restoration Seeding	
eastern Oregon – MLRA B10B – 9-12" PZ	
Species	PLS lbs/acre in Mix
Wheatgrass, Bluebunch (bearded)	5.0
Needlegrass, Thurbers	0.5
Bluegrass, Sandberg	0.25
* Western Yarrow	0.2
* Wyoming Big Sagebrush	0.2
Approximate cost: \$100 – \$200 per acre for seed	
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.	

<b>Drilled Seeding Mix</b>	
for	
CSP Enhancement ANM21 – Prairie Restoration Seeding	
eastern Oregon – MLRA B10B – 12-16" PZ	
Species	PLS lbs/acre in Mix
Wheatgrass, Bluebunch (bearded)	4.5
Fescue, Idaho	0.5
Needlegrass, Thurbers	0.5
* Prairie Junegrass	0.2
Bluegrass, Sandberg	0.1
Silky Lupine	2.0
Balsamroot, Arrowleaf	0.5
* Basin Big Sagebrush	0.2
Approximate cost: \$300 – \$400 per acre for seed	
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.	

## MLRA B10C – Blue Mountain Foothills : Snake River Drainage Region

<b>Drilled Seeding Mix</b>	
for	
CSP Enhancement ANM21 – Prairie Restoration Seeding	
eastern Oregon – MLRA B10C – 9-12" PZ	
Species	PLS lbs/acre in Mix
Wheatgrass, Bluebunch (bearded)	3.0
Needlegrass, Thurbers	1.75
Bluegrass, Sandberg	0.2
Silky Lupine	1.5
Balsamroot, Arrowleaf	0.8
Biscuitroot	0.4
Parsnipflower Buckwheat	0.2
* Wyoming Big Sagebrush	0.4
Antelope Bitterbrush	1.6
Approximate cost: \$450 – \$550 per acre for seed	
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.	

<b>Drilled Seeding Mix</b>	
for	
CSP Enhancement ANM21 – Prairie Restoration Seeding	
eastern Oregon – MLRA B10C – 12-16" PZ	
Species	PLS lbs/acre in Mix
Wheatgrass, Bluebunch (bearded)	0.7
Fescue, Idaho	3.0
Needlegrass, Thurbers	0.7
* Prairie Junegrass	0.2
Bluegrass, Sandberg	0.1
Silky Lupine	0.75
Balsamroot, Arrowleaf	0.3
Biscuitroot	0.2
Parsnipflower Buckwheat	0.1
* Western Yarrow	0.2
* Basin Big Sagebrush	0.2
* Mountain Big Sagebrush	0.4
Approximate cost: \$350 – \$450 per acre for seed	
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.	

## MLRA B11 – Snake River Plains

<b>Drilled Seeding Mix</b>	
for	
CSP Enhancement ANM21 – Prairie Restoration Seeding	
eastern Oregon – MLRA B11 – 8-11" PZ	
Species	PLS lbs/acre in Mix
Wheatgrass, Bluebunch (beardless)	3.0
Needlegrass, Thurbers	2.5
Bluegrass, Sandberg	0.2
Balsamroot, Arrowleaf	0.5
* Wyoming Big Sagebrush	0.25
Spiny Hopsage	0.5
Approximate cost: \$200 – \$300 per acre for seed	
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.	

## MLRA D21 – Klamath Valleys and Basins

<b>Drilled Seeding Mix</b>	
for	
CSP Enhancement ANM21 – Prairie Restoration Seeding	
eastern Oregon – MLRA D21 – 10-14" PZ	
Species	PLS lbs/acre in Mix
Wheatgrass, Bluebunch (bearded)	4.0
Fescue, Idaho	1.0
Needlegrass, Thurbers	0.33
Bluegrass, Sandberg	0.2
Silky Lupine	1.33
Parsnipflower Buckwheat	0.1
* Wyoming Big Sagebrush	0.2
Antelope Bitterbrush	3.25
Approximate cost: \$300 – \$400 per acre for seed	
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.	

<b>Drilled Seeding Mix</b>	
for	
CSP Enhancement ANM21 – Prairie Restoration Seeding	
eastern Oregon – MLRA D21 – 14-18" PZ	
Species	PLS lbs/acre in Mix
Wheatgrass, Bluebunch (bearded)	1.0
Fescue, Idaho	3.0
Needlegrass, Thurbers	0.4
Bluegrass, Sandberg	0.2
Silky Lupine	1.3
Biscuitroot	0.4
Antelope Bitterbrush	6.0
* Mountain Big Sagebrush	0.33
Approximate cost: \$450 – \$550 per acre for seed	
Seeding Dates: November 15 – December 15 (when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.	