

**Animal Enhancement Activity – ANM 23 – Multi-species native perennials for biomass/wildlife habitat**



**Enhancement Description**

This enhancement consists of establishing native perennial vegetation for biomass production and wildlife habitat.

**Land Use Applicability**

Cropland, Pastureland, Rangeland

**Benefits**

Establishing multi-species native perennial vegetation and managing for both biomass and wildlife can provide natural resource and financial benefits.

**Conditions Where Enhancement Applies**

This enhancement applies to all crop, pasture, or range land use acres.

**Criteria**

1. Native perennial species shall be selected and planted based on site adaptability, value for biomass, and for wildlife benefits as determined by the state.
2. Biomass fields shall be managed for species of conservation concern as identified by the state and the State Wildlife Action Plans.
3. Develop a management plan, covering the length of the contract at a minimum, which minimizes impacts on wildlife species, especially grassland nesting birds for this enhancement activity. Management actions and their impact on affected wildlife species shall be addressed.
4. After establishment, the field shall be protected from grazing and disturbance during the primary nesting and fawning season as defined by the state. Further, harvesting of biomass must be in accordance with the written management plan. Partial removal in late summer/early fall to allow for re-growth for winter cover where winter conditions interfere with late season harvest should be addressed in the management plan.

**Adoption Requirements**

This enhancement is considered adopted when acres with established multi-species native perennials are being managed in accordance with the developed management plan for the species of concern.

**Documentation Requirements**

1. Copy of the management plan,



United States Department of Agriculture  
Natural Resources Conservation Service

2013 Ranking Period 1

2. Written description of the actions taken,
3. Receipts related to the a multi-species native perennial establishment,
4. Dates of establishment, and
5. A map or aerial photograph delineating the location of the established vegetation.

### **References**

USDA-NRCS. 2010. National Biology Handbook. Washington, DC.

<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17723.wba>

USDA-NRCS. 2006. National Biology Manual. Title 190, Washington, DC.

<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17895.wba>

ANIMAL ENHANCEMENT ACTIVITY

**ANM23 – OR      Multi-species Native Perennials for  
Biomass/Wildlife Habitat**

**Criteria**

- Biomass fields should be managed for species of conservation concern in the appropriate ecoregion as identified in the Oregon Conservation Strategy (ODFW 2006).
- Primary nesting and fawning period is March 1 - July 15.

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.

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.

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## References

*Oregon – Washington Guide for Conservation Seedlings 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>

Oregon Department of Fish and Wildlife. 2006.  
Oregon Conservation Strategy. Salem, OR.  
<http://www.dfw.state.or.us/conservationstrategy/>

## MLRA A2 – Willamette Valley

| <b>Drilled Seeding Mix</b>   |                              |                        |
|--|------------------------------|------------------------|
| for  |                              |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>western Oregon – MLRA A2 – Upland Prairie |                              |                        |
|  |                              |                        |
|  | Species                      | PLS lbs/acre<br>in Mix |
|  | California oatgrass          | 2.40                   |
|  | blue wildrye                 | 1.50                   |
|  | Roemer's fescue              | 1.20                   |
|  | slender rush*                | 0.01                   |
| *  | prairie Junegrass*           | 0.05                   |
|  | Pine (Rough) bluegrass       | 0.10                   |
|  | western yarrow*              | 0.40                   |
|  | farewell to spring*          | 0.15                   |
| *  | common woolly sunflower*     | 0.26                   |
|  | American bird's-foot trefoil | 0.50                   |
| *  | common madia                 | 0.30                   |
|  | slender cinquefoil*          | 0.26                   |
|  | lance selfheal               | 0.50                   |
|  | rose checkermallow           | 0.25                   |
|  | Idaho blue-eyed grass        | 0.20                   |
|  | western Canada goldenrod*    | 0.04                   |
| Approximate cost: \$350 – \$450 per acre for seed  |                              |                        |
| Seeding Dates: September 1 – November 15 (when<br>soil is dry enough to support equipment)   |                              |                        |

| <b>Drilled Seeding Mix</b>   |                             |                        |
|--|-----------------------------|------------------------|
| for  |                             |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>western Oregon – MLRA A2 – Wet Prairie                                      |                             |                        |
|  |                             |                        |
|  | Species                     | PLS lbs/acre<br>in Mix |
|  | spike bentgrass             | 0.50                   |
|  | dense sedge                 | 0.15                   |
| *  | one-sided sedge             | 0.14                   |
|  | California oatgrass         | 2.50                   |
|  | tufted hairgrass            | 0.10                   |
| *  | slender hairgrass           | 0.02                   |
|  | meadow barley               | 0.20                   |
| *  | slender rush                | 0.01                   |
|  | Camas, common               | 0.30                   |
|  | Downingia                   | 0.10                   |
|  | Dense-spike primrose        | 0.10                   |
|  | common woolly sunflower     | 0.26                   |
|  | Puget Sound gumweed         | 0.80                   |
|  | clustered tarweed           | 0.15                   |
|  | narrow-leaf miner's lettuce | 0.30                   |
|  | fragrant popcornflower      | 0.10                   |
|  | slender cinquefoil          | 0.22                   |
|  | lance selfheal              | 0.40                   |
|  | straightbeak buttercup      | 0.20                   |
|  | blue-eyed grass             | 0.30                   |
|  | Hall's aster                | 0.06                   |
| Approximate cost: \$400 – \$500 per acre for seed  |                             |                        |
| Seeding Dates: September 1 – November 15 (when<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                             |                        |

## MLRA B7 – Columbia Basin

| <b>Drilled Seeding Mix</b>   |                        |
|--|------------------------|
| for  |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B7 – 8-10" PZ   |                        |
|  |                        |
| Species  | PLS lbs/acre<br>in Mix |
| Wheatgrass, Bluebunch<br>(beardless)   | 5.0                    |
| Bluegrass, Sandberg  | 1.0                    |
| * Western Yarrow   | 0.3                    |
| * Basin Big Sagebrush  | 0.2                    |
| Approximate cost: \$100 – \$200 per acre for seed  |                        |
| Seeding Dates: November 15 – December 15 (when<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                        |

## MLRA B8 – Columbia Plateau

| <b>Drilled Seeding Mix</b>   |                        |
|--|------------------------|
| for  |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B8 – 10-12" PZ  |                        |
| Species  | PLS lbs/acre<br>in Mix |
| Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                        |

| <b>Drilled Seeding Mix</b>   |                        |
|--|------------------------|
| for  |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B8 – 12-14" PZ  |                        |
| Species  | PLS lbs/acre<br>in Mix |
| Wheatgrass, Bluebunch<br>(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  | 0.2                    |
| Approximate cost: \$150 – \$250 per acre for seed  |                        |
| Seeding Dates: November 15 – December 15 (when<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                        |

## MLRA B9 – Palouse Prairie

| <b>Drilled Seeding Mix</b>   |                                      |                        |
|--|--------------------------------------|------------------------|
| for  |                                      |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B9 – 14-17" PZ  |                                      |                        |
|  |                                      |                        |
|  | Species                              | PLS lbs/acre<br>in Mix |
|  | Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                                      |                        |

| <b>Drilled Seeding Mix</b>   |                                      |                        |
|--|--------------------------------------|------------------------|
| for  |                                      |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B9 – 17-22" PZ  |                                      |                        |
|  |                                      |                        |
|  | Species                              | PLS lbs/acre<br>in Mix |
|  | Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                                      |                        |

## MLRA B10A – Blue Mountain Foothills : Pumice Region

| <b>Drilled Seeding Mix</b>   |                        |
|--|------------------------|
| for  |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B10A – 10-12" PZ                                      |                        |
| Species  | PLS lbs/acre<br>in Mix |
| Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                        |

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

| <b>Drilled Seeding Mix</b>   |                                    |                        |
|--|------------------------------------|------------------------|
| for  |                                    |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B10B – 9-12” PZ                                       |                                    |                        |
|  |                                    |                        |
|  | Species                            | PLS lbs/acre<br>in Mix |
|  | Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                                    |                        |

| <b>Drilled Seeding Mix</b>   |                                    |                        |
|--|------------------------------------|------------------------|
| for  |                                    |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B10B – 12-16” PZ                                      |                                    |                        |
|  |                                    |                        |
|  | Species                            | PLS lbs/acre<br>in Mix |
|  | Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                                    |                        |

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

| <b>Drilled Seeding Mix</b>   |                        |
|--|------------------------|
| for  |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B10C – 9-12" PZ                                       |                        |
|  |                        |
| Species  | PLS lbs/acre<br>in Mix |
| Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                        |
| <b>Drilled Seeding Mix</b>   |                        |
| for  |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B10C – 12-16" PZ                                      |                        |
|  |                        |
| Species  | PLS lbs/acre<br>in Mix |
| Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                        |

## MLRA B11 – Snake River Plains

| <b>Drilled Seeding Mix</b>   |                                      |                        |
|--|--------------------------------------|------------------------|
| for  |                                      |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA B11 – 8-11” PZ  |                                      |                        |
|  | Species                              | PLS lbs/acre<br>in Mix |
|  | Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                                      |                        |

## MLRA D21 – Klamath Valleys and Basins

| <b>Drilled Seeding Mix</b>   |                                    |                        |
|--|------------------------------------|------------------------|
| for  |                                    |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA D21 – 10-14” PZ                                       |                                    |                        |
|  | Species                            | PLS lbs/acre<br>in Mix |
|  | Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                                    |                        |

| <b>Drilled Seeding Mix</b>   |                                    |                        |
|--|------------------------------------|------------------------|
| for  |                                    |                        |
| CSP Enhancement ANM23 – Multi-species<br>Native Perennials for Biomass/Wildlife Habitat<br>eastern Oregon – MLRA D21 – 14-18” PZ                                       |                                    |                        |
|  | Species                            | PLS lbs/acre<br>in Mix |
|  | Wheatgrass, Bluebunch<br>(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<br>soil is dry enough to support equipment and<br>temperatures are cool enough (less than 40°F) for<br>dormant seeding. |                                    |                        |