

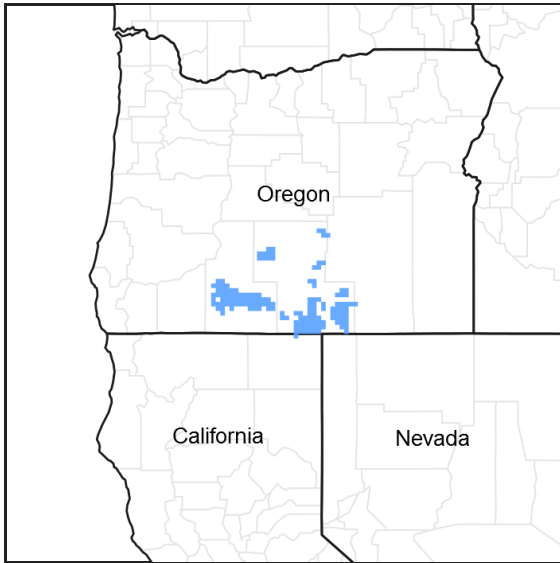
# Ecological site R021XY406OR

## WET MEADOW 14-40 PZ

Accessed: 05/07/2024

### General information

**Provisional.** A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.



**Figure 1. Mapped extent**

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

**Table 1. Dominant plant species**

Tree	Not specified
Shrub	Not specified
Herbaceous	(1) <i>Deschampsia caespitosa</i>

### Physiographic features

This site occurs along perennial streams and in meadows in mountainous areas. Slopes range from 0 to 2%. Elevations range from 4100 to 7000 feet.

**Table 2. Representative physiographic features**

Landforms	(1) Flood plain
Elevation	1,250–2,134 m
Slope	0–2%
Aspect	Aspect is not a significant factor

### Climatic features

The annual precipitation ranges from 14 to 40 inches, most of which occurs in the form of snow during the months of October through June. Spring rains are common. This site receives runoff from snow melt during the spring and early summer and from intense thunder showers throughout the summer. The soil temperature regimes range from mesic to cryic with most areas being frigid or cryic. Temperature extremes range from 90 to -30 degrees F. The frost-free period ranges from 10 to 100 days. The optimum period for plant growth is from May through August.

**Table 3. Representative climatic features**

Frost-free period (average)	100 days
Freeze-free period (average)	150 days
Precipitation total (average)	1,016 mm

## Influencing water features

### Soil features

The soils of this site are deep and poorly or somewhat poorly drained. The soils have a high water table which can range from 6 inches above the soil surface to 36 inches below the surface during December through June. The soils typically have a silty surface and a loamy or clayey subsoil. Erosion hazard by water is slight except along streambanks during the snowmelt or high runoff periods.

**Table 4. Representative soil features**

Surface texture	(1) Silt
Family particle size	(1) Loamy
Drainage class	Somewhat poorly drained to poorly drained
Permeability class	Slow
Soil depth	0 cm
Available water capacity (0-101.6cm)	0 cm
Calcium carbonate equivalent (0-101.6cm)	0%
Electrical conductivity (0-101.6cm)	0 mmhos/cm
Sodium adsorption ratio (0-101.6cm)	0
Soil reaction (1:1 water) (0-101.6cm)	7

## Ecological dynamics

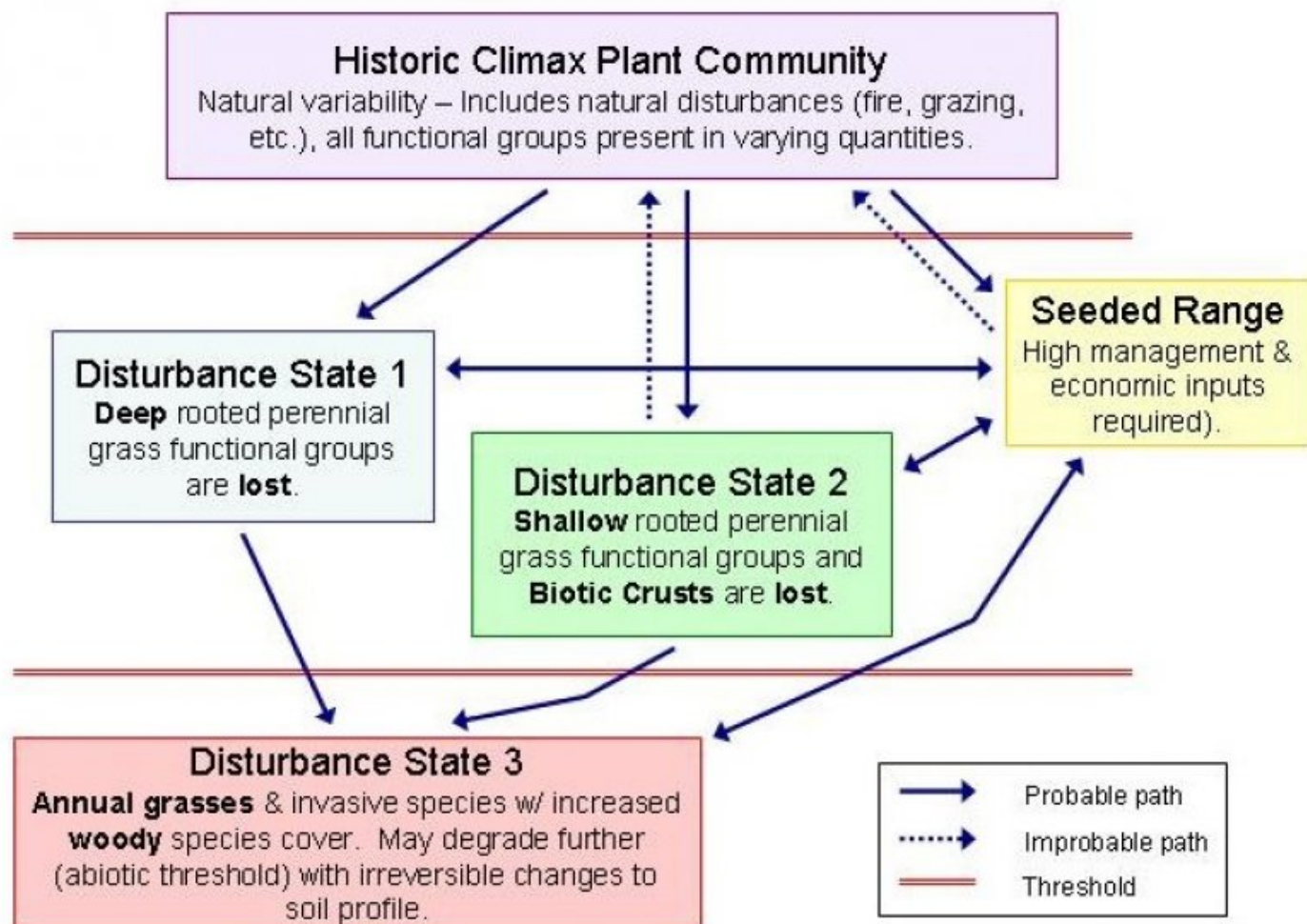
Tufted hairgrass dominates this site. On soils having a mesic soil temperature regime, northern mangrass, baltic rush and Nebraska sedge are subordinate to tufted hairgrass and are aggregated in colonies only in wetter depressions. Orange arnica, silverweed and small bedstraw are typical forbs of more mesic sites. On the drier precipitation range of this site Nevada bluegrass, creeping wildrye, western yarrow and rose pussytoes are subordinate to tufted hairgrass.

Sierra Lodgepole Pine will invade this site. A fire return interval of 10 to 20 years will effectively keep this site dominated by herbaceous plants.

If the condition of this site deteriorates as a result of overgrazing, tufted hairgrass decreases and becomes co-dominant with other grasses, sedges and forbs. Baltic rush, sedges or reedgrass become more dominant, with large colonies of arnica, and silverweed occurring on the more mesic sites. With overgrazing on soils having a

mesic soil temperature regime, Nebraska sedge is capable of becoming dominant. On the drier precipitation range of this site, prairie junegrass and oatgrass along with yarrow, aster, cinquefoil and buttercups increase. With lowering of the water table Kentucky bluegrass can become naturalized and become co-dominant with mat muhly. Severe stream entrenchment may change the stand composition to upland species such as big sagebrush, green rabbitbrush and annual weeds. Foxtail barley, squirreltail, lupine, dock and thistle are likely to invade.

## State and transition model



## GENERAL MODEL FOR COOL-SEASON BUNCHGRASS RANGELANDS

### State 1

HPCPC, DECA18-CANE2

### Community 1.1

#### Representative Plant Community

The potential native plant community is dominated by tufted hairgrass. Forbs are common, and aspen and willow may occur. Vegetation composition is approximately 85% grasses, 10% forbs, and 5% shrubs.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	1429	2382	2858
Forb	168	280	336
Shrub/Vine	84	112	112
Tree	–	28	56
<b>Total</b>	<b>1681</b>	<b>2802</b>	<b>3362</b>

Figure 4. Plant community growth curve (percent production by month).  
OR5556, D21 Mid Elev., NA, Meadow. HCPC Growth Curve.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	0	10	30	40	15	5	0	0	0

## Additional community tables

Table 6. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Kg/Hectare)	Foliar Cover (%)
<b>Grass/Grasslike</b>					
1	<b>Moderately deep rooted perennial grasses</b>			1401–1821	
2	<b>Moderately deep rooted perennial grasses</b>			392–644	
	Nebraska sedge	CANE2	<i>Carex nebrascensis</i>	140–224	–
	small floating mannagrass	GLBO	<i>Glyceria borealis</i>	84–140	–
	reedgrass	CALAM	<i>Calamagrostis</i>	84–140	–
5	<b>Perennial grasses</b>			56–560	
	American sloughgrass	BESY	<i>Beckmannia syzigachne</i>	0–56	–
	sedge	CAREX	<i>Carex</i>	0–56	–
	oatgrass	DANTH	<i>Danthonia</i>	0–56	–
	slender wheatgrass	ELTR7	<i>Elymus trachycaulus</i>	0–56	–
	meadow barley	HOBR2	<i>Hordeum brachyantherum</i>	0–56	–
	prairie Junegrass	KOMA	<i>Koeleria macrantha</i>	0–56	–
	beardless wildrye	LETR5	<i>Leymus triticoides</i>	0–56	–
<b>Forb</b>					
7	<b>perennial forbs</b>			84–168	
	buttercup	RANUN	<i>Ranunculus</i>	28–56	–
	western aster	SYAS3	<i>Symphyotrichum ascendens</i>	28–56	–
	clover	TRIFO	<i>Trifolium</i>	28–56	–
9	<b>Other perennial forbs</b>			28–224	
	common yarrow	ACMI2	<i>Achillea millefolium</i>	0–28	–
	rosy pussytoes	ANRO2	<i>Antennaria rosea</i>	0–28	–
	foothill arnica	ARFU3	<i>Arnica fulgens</i>	0–28	–
	strawberry	FRAGA	<i>Fragaria</i>	0–28	–
	threepetal bedstraw	GATR2	<i>Galium trifidum</i>	0–28	–
	iris	IRIS	<i>Iris</i>	0–28	–
	primrose monkeyflower	MIPR	<i>Mimulus primuloides</i>	0–28	–
	cinquefoil	POTEN	<i>Potentilla</i>	0–28	–
	ragwort	SENEC	<i>Senecio</i>	0–28	–
<b>Shrub/Vine</b>					
15	<b>Deciduous Shrubs</b>			56–140	
	silver sagebrush	ARCA13	<i>Artemisia cana</i>	0–56	–
	wax currant	RICE	<i>Ribes cereum</i>	0–56	–
	willow	SALIX	<i>Salix</i>	0–56	–
<b>Tree</b>					
18	<b>Deciduous Trees</b>			0–56	
	quaking aspen	POTR5	<i>Populus tremuloides</i>	0–56	–

## Animal community

This site is an important source of insects and tender shoots for young sage grouse. Mule deer will forage on this site through spring, and summer.

## Hydrological functions

The soils are in hydrologic group D.

## Recreational uses

This is an ecologically sensitive site due to its wet nature. Vehicular recreation should be avoided. This site will attract many species of wildlife and provide scenic vistas.

## Other products

This site is suitable for cattle and sheep grazing use in mid-summer and fall under a planned grazing system that allows for use to be postponed until the soils are firm enough to prevent trampling damage and soil compaction.

## Other information

The soils in this site typically express hydric soil characteristics.

## Contributors

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## Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	Jeff Repp
Contact for lead author	Oregon NRCS State Rangeland Management Specialist
Date	09/05/2012
Approved by	Bob Gillaspay
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

## Indicators

1. **Number and extent of rills:** None, slight sheet & rill erosion hazard
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2. **Presence of water flow patterns:** None to few near streambanks
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3. **Number and height of erosional pedestals or terracettes:** None
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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not**

bare ground): 0-5%

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5. **Number of gullies and erosion associated with gullies:** None

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6. **Extent of wind scoured, blowouts and/or depositional areas:** None, slight wind erosion hazard

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7. **Amount of litter movement (describe size and distance expected to travel):** Fine - limited movement

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8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Significantly resistant to erosion: aggregate stability = 4-6

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Deep, somewhat poorly or poorly drained loams, silt loams, or silty clay loams: Moderate OM (1-4%)

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** High amount of vegetative cover (80-90%) and nearly level slopes (0-2%) effectively limit rainfall impact and overland flow (high water table ranges from 6" to 36"); infiltration is moderate

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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

Dominant: Tufted hairgrass > Nebraska sedge > other grasses & grasslikes > other dominant grasses & grasslikes > other forbs > dominant forbs > other shrubs

Sub-dominant:

Other:

Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Normal decadence and mortality expected

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14. **Average percent litter cover (%) and depth ( in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Favorable: 3000, Normal: 2500, Unfavorable: 1500 lbs/acre/year at high RSI (HCPC)
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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:** Desirable grass functional groups can be replaced with Baltic rush, sedges, or Canary reedgrass. Cheatgrass and Medusahead invade sites that have lost deep rooted perennial grass functional groups.
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17. **Perennial plant reproductive capability:** All species should be capable of reproducing annually
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