USDA Natural Resources
Conservation Service

Ecological site R021XY314OR
DRY MEADOW 14-30 PZ

Accessed: 05/13/2024

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.

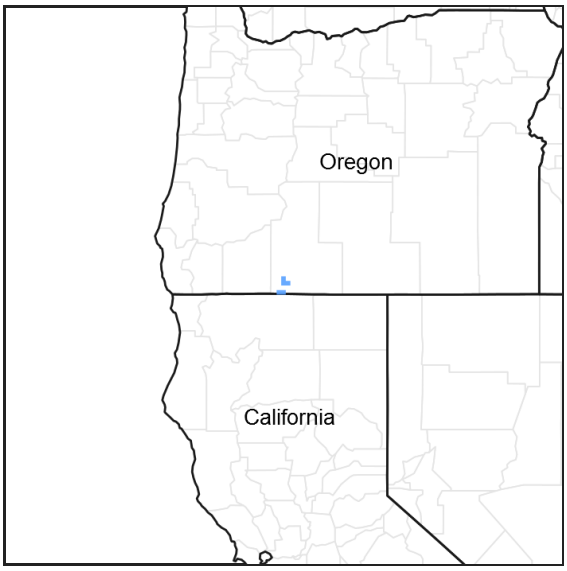


Figure 1. Mapped extent

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.

Associated sites

R021XY214OR	**CLAYPAN 14-18 PZ** Claypan 14-18" PZ

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs in upland drainageways, on gently sloping fans below seepage areas, and in drainage basins including depressional areas on plateaus. Slopes range from 0 to 3%. Elevations typically range from 3800 to 5500 feet.

Table 2. Representative physiographic features

Landforms	(1) Drainageway (2) Depression (3) Fan
Elevation	1,158–1,676 m
Slope	0–3%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation is typically 16 to 30 inches or more. It occurs mainly between the months of October and June in form of rain and snow. The soil temperature regime is frigid. The average annual air temperature about 44 degrees F. The frost free period is less than 100 days. The optimum period for plant growth is from April through July.

Table 3. Representative climatic features

Frost-free period (average)	100 days
Freeze-free period (average)	0 days
Precipitation total (average)	762 mm

Influencing water features

Soil features

The soils of this site are moderately deep, and clayey textured. They are moderately well drained but have seasonally high watertables and possible flooding (or super saturated soils) for brief periods during high runoff. They are genreally formed in alluvium. Permeability is very slow and the available water holding capapcity is 2 to 6 inches for the profile. The potential for water erosion is slight.

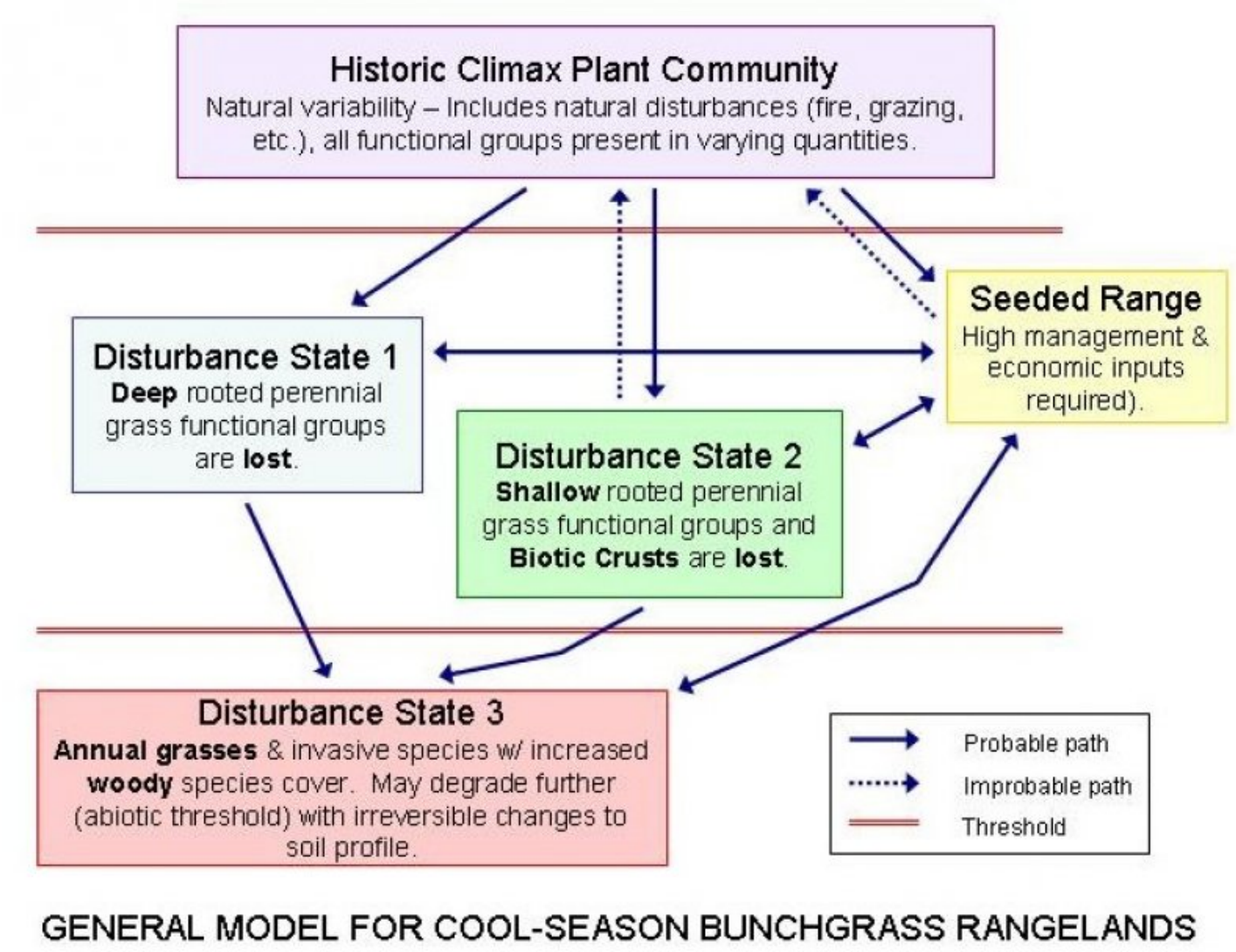
Table 4. Representative soil features

Surface texture	(1) Clay
Drainage class	Moderately well drained
Permeability class	Very slow
Available water capacity (0-101.6cm)	5.08–15.24 cm

Ecological dynamics

The site will vary some in composition, depending on the degree of wetness. Wet areas may include more occurrences of wetland species such as sedge and rush. The dry margins of this site may contain greater amounts of Canby bluegrass and Idaho fescue, or possibly low sagebrush.
When this site deteriorates due to poor grazing practices, the Nevada bluegrass is replaced by weedy forbs such as willoweed and tarweed. Squirreltail, annual brome and medusa-head wildrye invade the site and silver sagebrush increases to full dominance of the stand. Much of the soil surface becomes bare that was formerly protected by bluegrass cover.

State and transition model



State 1
HCPC, POSE/ARCA13

Community 1.1
HCPC, POSE/ARCA13

The potential native plant community is dominated by Nevada bluegrass and silver sagebrush. Slender wheatgrass is commonly present but less abundant, along with minor amounts of bentgrass, muhly, sedge and rush. A variety of forbs are present but all are minor in the composition, such as agoseris, buttercup, checkermallow, owlclover, yarrow, yampa, cinguefoil, brodiea, pearlyeverlasting, and clover. Except for an occasional rose, rabbitbrush or low sagebrush, the primary shrub characterizing this site is silver sagebrush.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	942	1161	1381
Shrub/Vine	173	220	267
Forb	16	47	78
Total	**1131**	**1428**	**1726**

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 (%)
Grass/Grasslike					
2	**Sub-dominant deep rooted perennial grasses**			126–298	
	slender wheatgrass	ELTR7	*Elymus trachycaulus*	31–78	–
	sedge	CAREX	*Carex*	16–47	–
	common spikerush	ELPA3	*Eleocharis palustris*	16–47	–
	Idaho fescue	FEID	*Festuca idahoensis*	16–31	–
	meadow barley	HOBR2	*Hordeum brachyantherum*	16–31	–
	timothy	PHPR3	*Phleum pratense*	16–31	–
3	**Dominant shallow rooted perennial grasses**			785–1020	
	Sandberg bluegrass	POSE	*Poa secunda*	785–1020	–
4	**Sub-dominant shallow rooted perennial grasses**			31–63	
	upland bentgrass	AGPE	*Agrostis perennans*	16–31	–
	mat muhly	MURI	*Muhlenbergia richardsonis*	16–31	–
Forb					
9	**Other perennial forbs**			16–78	
	common yarrow	ACMI2	*Achillea millefolium*	0–6	–
	giant hyssop	AGAST	*Agastache*	0–6	–
	agoseris	AGOSE	*Agoseris*	0–6	–
	western pearly everlasting	ANMA	*Anaphalis margaritacea*	0–6	–
	brodiaea	BRODI	*Brodiaea*	0–6	–
	iris	IRIS	*Iris*	0–6	–
	lupine	LUPIN	*Lupinus*	0–6	–
	owl's-clover	ORTHO	*Orthocarpus*	0–6	–
	Gardner's yampah	PEGA3	*Perideridia gairdneri*	0–6	–
	beardtongue	PENST	*Penstemon*	0–6	–
	cinquefoil	POTEN	*Potentilla*	0–6	–
	buttercup	RANUN	*Ranunculus*	0–6	–
	curly dock	RUCR	*Rumex crispus*	0–6	–
	Oregon checkerbloom	SIOR	*Sidalcea oregana*	0–6	–
	common dandelion	TAOF	*Taraxacum officinale*	0–6	–
	clover	TRIFO	*Trifolium*	0–6	–
Shrub/Vine					
11	**Dominant evergreen shrubs**			157–235	
	silver sagebrush	ARCA13	*Artemisia cana*	157–235	–
14	**Sub-dominant deciduous (or 1/2 shrubs) shrubs**			16–31	
	green rabbitbrush	ERTE18	*Ericameria teretifolia*	16–31	–

Animal community

Livestock grazing- This site is suitable for grazing after soils dry enough in the late spring to reduce trampling damage or mechanical damage to the soils. Key species for cattle use are Nevada bluegrass and slender wheatgrass. Excessive use and annual early use on wet soils are primary factors in deterioration of this site, increasing weed encroachment and reducing forage production.
Wildlife- This site is important in late spring, summer, and fall for deer and antelope where grass, forbs and shrubs are important food sources.

Hydrological functions

The soils of this site have low infiltration rates and very low runoff potential.

Recreational uses

Hunting and sight seeing.

Wood products

None

Other information

For range seedings: choices are not determined or tested by may include pubescent wheatgrass, smooth brome, and/or tall wheatgrass (all non-natives), or Nevada bluegrass (native).

Type locality

Location 1: Klamath County, OR	
Township/Range/Section	T38S R13E S4
General legal description	Goodlow Mtn. Natural Area (SE corner): T38S, R13E, Sec 4 (SE of SW- high condition)
Location 2: Klamath County, OR	
General legal description	South of Boyle Reservoir near Chicken Hills west of Klamath River road

Contributors

BLM ESI Team
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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 Gillaspy
Approval date	

Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None, slight sheet & rill erosion hazard

2. **Presence of water flow patterns:** None

3. **Number and height of erosional pedestals or terracettes:** None

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 10-40%

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

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

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

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

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Moderately deep or deep, well drained (with seasonably high water table) loams and clay loams: Low OM (1-2%)

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Moderate vegetative cover (45-55%), high cover of litter (to 60%), and moderate to very steep slopes (30-70%) effectively to moderately limit rainfall impact and overland flow: infiltration is very slow

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

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: Sandberg bluegrass > Silver sagebrush > Slender wheatgrass > other grasses > 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: 1600, Normal: 1400, Unfavorable: 1200 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:** Perennial brush species (Silver sagebrush) and weedy forbs (willowweed and tarweed) will increase with deterioration of plant community. Cheatgrass and Medusahead invade sites that have lost deep rooted perennial grass funtional groups.

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17. **Perennial plant reproductive capability:** All species should be capable of reproducing annually

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