

Ecological site R023XY501OR SHALLOW LOAM 16-25 PZ

Accessed: 12/18/2025

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.

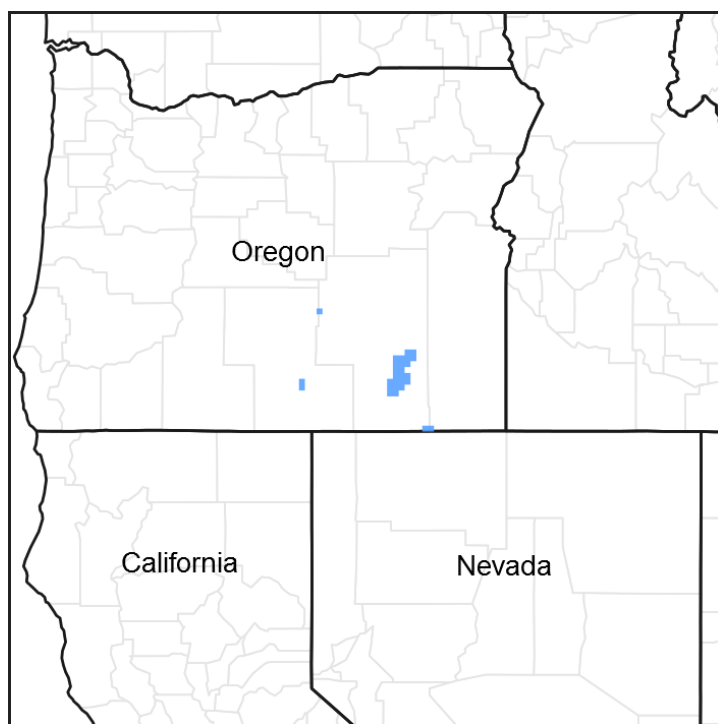


Figure 1. Mapped extent

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

R023XY507OR	CLAYPAN 16-25 PZ Claypan 16-25' PZ
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Similar sites

R023XY318OR	LOAMY 12-16 PZ Loamy 12-16" PZ (lower precip.)
R023XY502OR	LOAMY 25-35 PZ Loamy 25-35" Pz (higher precip.)

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on plateaus, ridgetops, and shoulders in mountainous areas. Slopes range from 3 to 30%. Elevation ranges from 6500 to 7900 feet.

Table 2. Representative physiographic features

Landforms	(1) Mountain (2) Plateau (3) Ridge
Elevation	6,500–7,900 ft
Slope	3–30%
Aspect	Aspect is not a significant factor

Climatic features

Annual precipitation is 16 to 25 inches most of which occurs as snow during December to March. Spring rains are common. The soil temperature regime is cryic. Mean air temperatures range from 40 to 43 degrees F. The frost-free period is 30 to 60 days. The period of optimum growth is from late may to late July.

Table 3. Representative climatic features

Frost-free period (average)	60 days
Freeze-free period (average)	0 days
Precipitation total (average)	25 in

Influencing water features

Soil features

The soils in this site are typically moderately deep and well drained. Depth to bed rock is from 20 to 40 inches. The soils surface textures range from very cobbly loams to very stony clay loams. The subsurface soil textures range from very gravelly loams to gravelly loams. Permeabilty is moderate. The available water holding capacity is about 4 inches for the profile.

Table 4. Representative soil features

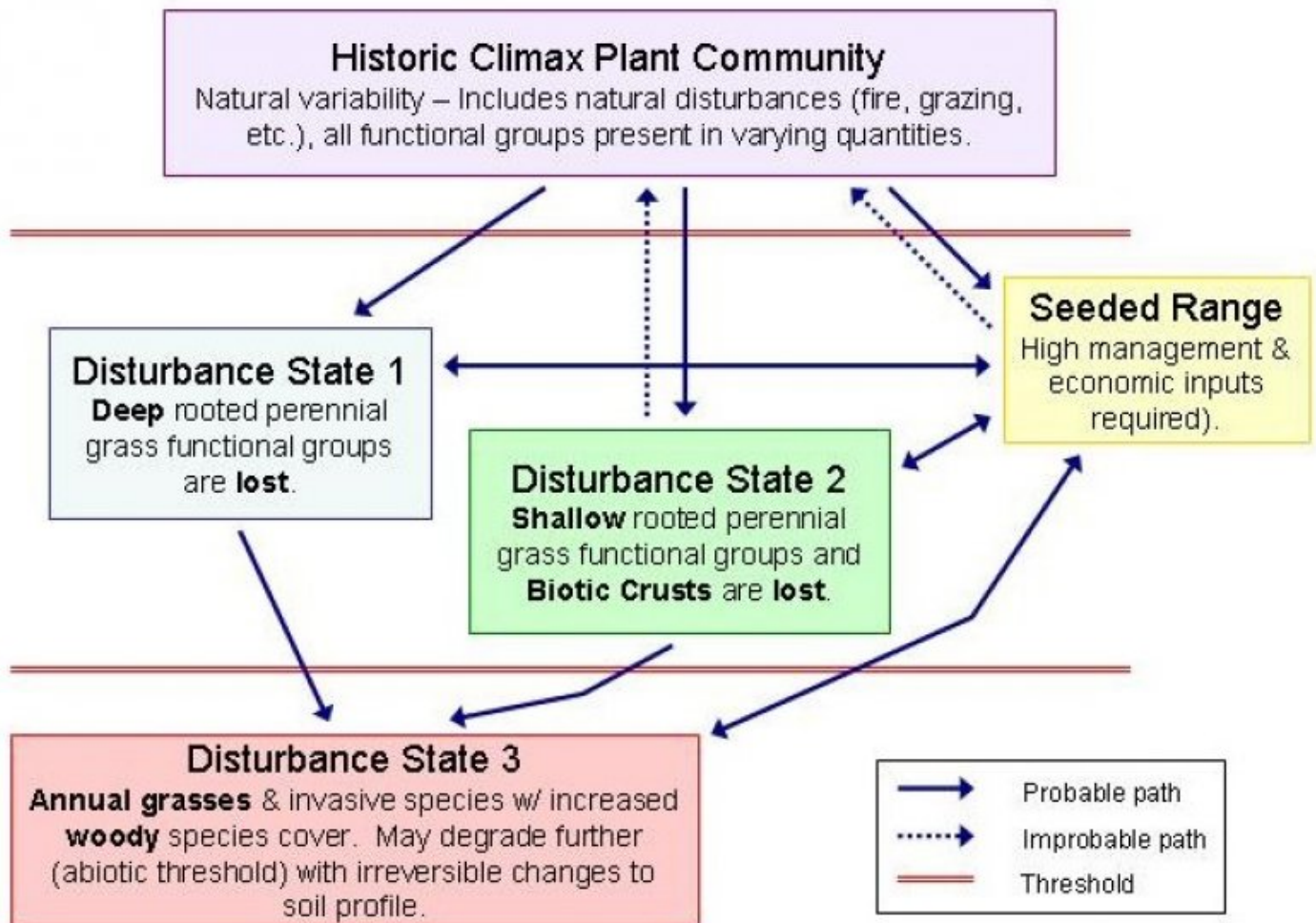
Surface texture	(1) Very cobbly loam (2) Very stony clay loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderate

Ecological dynamics

Range in Characteristics:
Deeper soils support higher canopy cover of sagebrush and Idaho fescue. Sheep fescue increases on shallower sites. Needlegrasses increasse on coarser textured soils.

Response to Disturbance:
As the site deteriorates big sagebrush strongly increases, along with rabbitbrush, Sandberg bluegrass, mountain brome and bottlebrush squirreltail.

State and transition model



GENERAL MODEL FOR COOL-SEASON BUNCHGRASS RANGELANDS

State 1

Historic Climax Plant Community

Community 1.1

Historic Climax Plant Community

The potential native community is dominated by Idaho fescue and mountain bg sagebrush. Sheep fescue and western needlegrass are also present in the stand. Vegetative composition is about 75 percent grasses, 10 percent forbs, and 15 percent shrubs.

Additional community tables

Animal community

Livestock Grazing:

This site is suitable for grazing use in tyhe summer and fall under a planned grazing system.

Wildlife:

This site provides forage for mule deer and pronghorn antelope. Most wildlife species can

be found using the site during spring, summer and early fall.

Hydrological functions

The soils of this site have moderate infiltration rates and slow to rapid runoff potential. The hydrologic soil group is B.

Other information

Suitability for seeding is fair because of the short growing season and the surface rock fragments. Surface rock fragments may increase to the point where seeding suitability becomes poor.

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)	Bob Gillaspy
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Date	11/29/2016
Approved by	Bob Gillaspy
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None.

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2. **Presence of water flow patterns:** None.
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3. **Number and height of erosional pedestals or terracettes:** None to very few terracettes.
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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 5-15%
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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):** Litter size is Small/Fine. Litter movement is limited, minimal, and short, associated with water flow patterns following extremely high intensity storms. Litter also may be moved during intense wind storms.
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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):** Site is Moderately resistant to erosion. Stability class (Herrick et al. 2001) anticipated to be 3-6 at surface under perennial vegetation. Stability class at surface in the interspaces is anticipated to be less than or equal to that under perennial vegetation.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface layer structure is moderate thin platy. The A horizon has a dry color of 3 and is 35 inches thick. The Soil Organic Matter (SOM) content is moderate (3 to 8%).
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Plant foliar cover and basal

cover with small gaps between plants should reduce raindrop impact and slow overland flow, providing increased time for infiltration to occur. High herbaceous vegetation on this site will retain more water from precipitation. Significant ground cover (50-70%) and gentle to moderate slopes (3-30%) moderately limit rainfall impact and overland flow.

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: Deep rooted bunchgrasses

Sub-dominant: Evergreen shrub

Other: Perennial forbs => other perennial grasses

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Grasses will nearly always show some mortality and decadence. Normal decadence and mortality expected on other plants.
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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):** Low 800 lbs/acre, Representative Value 1200 lbs/acre, High 1600 lbs/acre
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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: This site is highly resistant and resilient to invasive species. Any invasive species will only occupy the site for a short time without repeated disturbance.

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