Ecological site R010XB035OR
JD Shallow North 9-12 PZ

Accessed: 05/11/2025

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.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on northerly exposures of low elevation canyon side slopes. Slopes range from 12 to 90%. Elevation varies from 1300 to 3000 feet.

Table 2. Representative physiographic features

Landforms	(1) Hill (2) Mountain (3) Plateau
Flooding frequency	None
Ponding frequency	None
Elevation	1,300–3,000 ft
Slope	12–90%
Water table depth	72 in
Aspect	N

Climatic features

Elevation and aspect affect precipitation and the relative effectiveness of the precipitation and temperatures. Temperature changes can occur rapidly. In addition, the topography also results in localized cold air drainages, along with occassional cold air entrapment and inversions in the valleys.

Table 3. Representative climatic features

Frost-free period (average)	140 days
Freeze-free period (average)	180 days
Precipitation total (average)	12 in

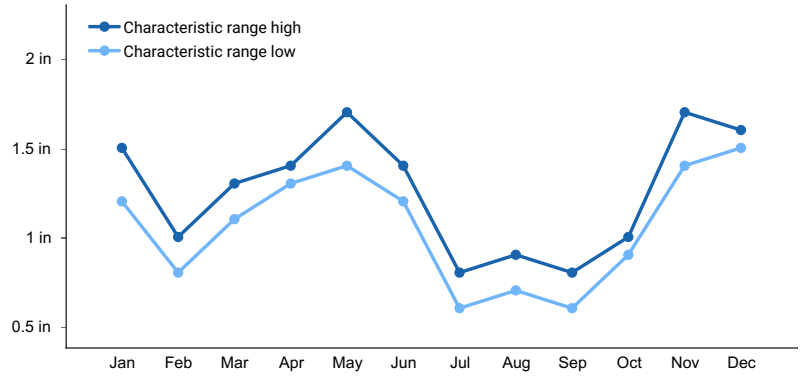


Figure 1. Monthly precipitation range

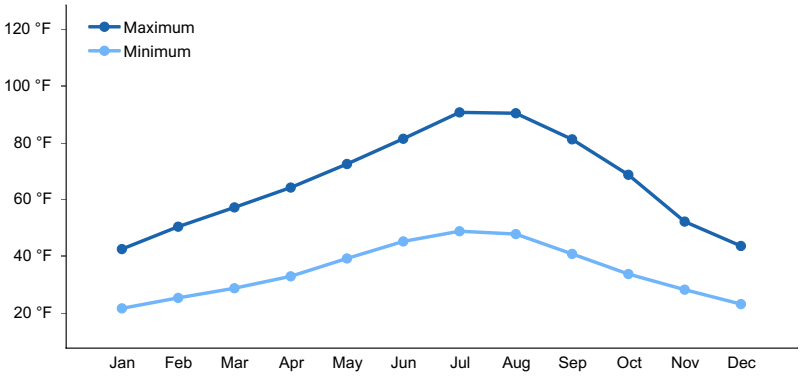


Figure 2. Monthly average minimum and maximum temperature

Influencing water features

Soil features

Soils on this site are typically shallow. The surface is predominantly loamy. These soils are well drained.

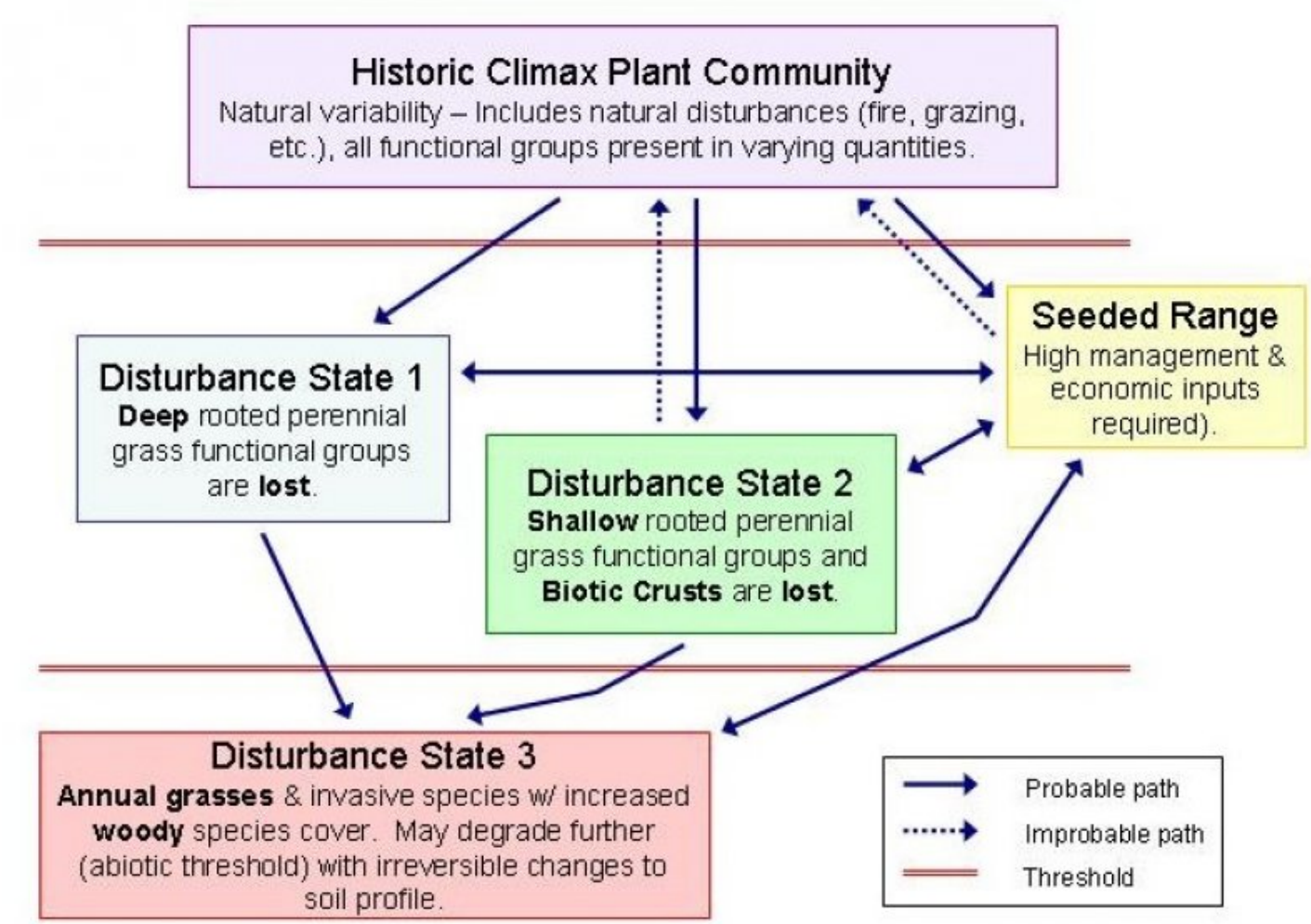
Table 4. Representative soil features

Surface texture	(1) Cobbly loam (2) Very cobbly coarse sandy loam (3) Very stony loamy coarse sand
Family particle size	(1) Loamy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Slow to rapid
Soil depth	5–19 in
Available water capacity (0-40in)	0.15–1.94 in
Calcium carbonate equivalent (0-40in)	0%
Electrical conductivity (0-40in)	0 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	6.6–8.4

Ecological dynamics

This site occurs on hills, mountains and plateaus. Grasses with few forbs and shrubs dominate this plant community. Idaho fescue increases on due north steep slopes. Bluebunch wheatgrass increases on east and northwest slopes. Sandberg bluegrass increases as soil depth decreases. The interpretive plant community for this site is the Historic Climax Plant Community (HCPC).

State and transition model



GENERAL MODEL FOR COOL-SEASON BUNCHGRASS RANGELANDS

State 1
HCPC: PSSPS/FEID/POSE

Community 1.1
HCPC: PSSPS/FEID/POSE

This site is characterized by a domiance of Bluebunch wheatgrass. Forbs and shrubs make up a smaller portion of the climax community.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	540	720	900
Shrub/Vine	30	40	50
Forb	30	40	50
Total	**600**	**800**	**1000**

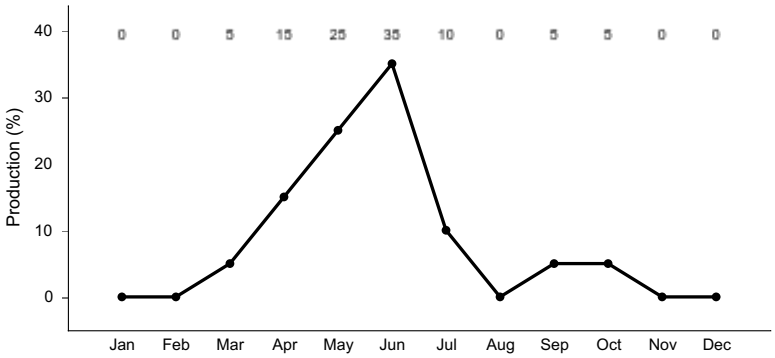


Figure 4. Plant community growth curve (percent production by month). OR4221, B10 JD Shallow North 9-12. JD Shallow North 9-12 RPC (Bluebunch wheatgrass/Idaho Fescue/Sandberg bluegrass).

State 2
State B: Disturbance (POSE/BRTE-Eroded)

Community 2.1
State B: Disturbance (POSE/BRTE-Eroded)

This site is dominated by Sandberg bluegrass. It has been invaded by Cheatgrass. The percent of bare ground has increased.

Table 6. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	190	380	570
Forb	6	12	18
Shrub/Vine	4	8	12
Total	**200**	**400**	**600**

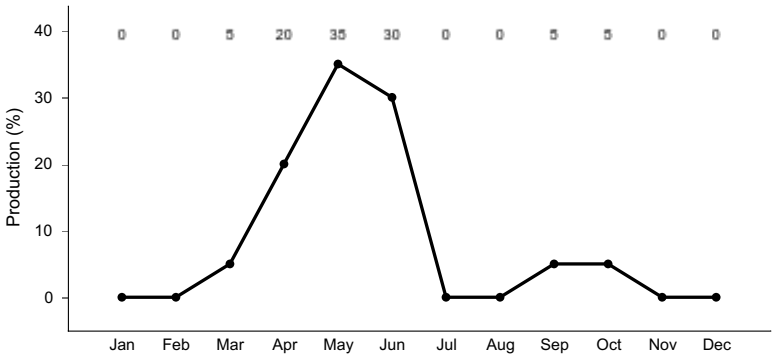


Figure 6. Plant community growth curve (percent production by month). OR4222, B10 JD Shallow North B. Disturbance (POSE/BRTE/Eroded).

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1				25–80	
	Sandberg bluegrass	POSE	*Poa secunda*	16–64	–
2				550–900	
	bluebunch wheatgrass	PSSPS	*Pseudoroegneria spicata ssp. spicata*	320–480	–
	Idaho fescue	FEID	*Festuca idahoensis*	240–400	–
	Thurber's needlegrass	ACTH7	*Achnatherum thurberianum*	8–40	–
Forb					
3				25–60	
	common yarrow	ACMI2	*Achillea millefolium*	8–15	–
	pussytoes	ANTEN	*Antennaria*	8–15	–
	milkvetch	ASTRA	*Astragalus*	8–15	–
	fleabane	ERIGE2	*Erigeron*	8–15	–
	buckwheat	ERIOG	*Eriogonum*	8–15	–
	phlox	PHLOX	*Phlox*	8–15	–
Shrub/Vine					
4				25–60	
	basin big sagebrush	ARTRT	*Artemisia tridentata ssp. tridentata*	10–20	–
	rubber rabbitbrush	ERNA10	*Ericameria nauseosa*	8–15	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	5–10	–

Table 8. Community 2.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1				300–380	
	Sandberg bluegrass	POSE	*Poa secunda*	200–240	–
	cheatgrass	BRTE	*Bromus tectorum*	150–180	–
2				20–50	
	bluebunch wheatgrass	PSSPS	*Pseudoroegneria spicata ssp. spicata*	15–45	–
Forb					
3				10–50	
Shrub/Vine					
4				10–40	
	basin big sagebrush	ARTRT	*Artemisia tridentata ssp. tridentata*	8–15	–
	rubber rabbitbrush	ERNA10	*Ericameria nauseosa*	8–15	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	8–15	–

Animal community

Grazing Livestock- Grazing is suitable for this site as long as management objectives include the improvement or maintenance of this site. It is easy to overuse this site and cause a shift in vegetation this is difficult to change. This site has the potential to produce a large amount of high quality forage. Management should be aimed at harvesting the forage as quickly as possible, letting the site recover from the grazing event prior to fall dormancy. Initial

stocking rate will be based on forage preference ratings.
Wildlife- The main wildlife species of concern on this site are large herbivores. These are mule deer and elk. These wildlife species can possibly overuse this site before the time cattle or sheep are planned to be grazed. Being an open grassland, this site is home to a variety of small herbivores, birds and their associated predators. This site is mainly a foraging area for the larger wildlife. No threatened or endangered wildlife species rely on this site for any of their habitat requirements.

Hydrological functions

The site has a high potential in low seral condition to produce significant run-off to receiving waters. The hydrology of this site is characterized by high intensity thunderstorms during the summer months and by low intensity frontal storms during the winter.

Recreational uses

None

Wood products

No wood products are associated with this site.

Other information

Increase in western juniper and the subsequent competition for moisture will lead to a reduction of available forage. Overgrazing can easily reduce ground cover and accelerate soil loss. Imporoving infiltration and permeability, and reducing runoff should be the immediate goal of juniper control.

Type locality

Location 1: Grant County, OR	
Township/Range/Section	TT12 S RR26 E S18
General legal description	SE 1/4 Sec. 18 T12 S R26 E WM. South of Hwy 26 Sheep Rock Unit, Joh Day Fossil Beds National Monument (90% SI).

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 and Bruce Frannsen
Contact for lead author	State Rangeland Management Specialist for NRCS - Oregon
Date	08/06/2012
Approved by	Bob Gillaspy
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None to some on steeper slopes, significant sheet & rill erosion hazard

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

3. **Number and height of erosional pedestals or terracettes:** None to some on steeper slopes, significant sheet & rill erosion hazard

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 5-15%

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** None, moderate 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):** Slightly to moderately resistant to erosion: aggregate stability = 2-5

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Shallow t very shallow cobbly loamy coarse sand, very cobbly coarse sandy loam, very stony or very cobbly 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 to significant ground cover (60-70%) and gentle to extremely steep slopes (12-90%) 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

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: Bluebunch wheatgrass > Idaho fescue > other grasses > Basin big sagebrush > 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: 1000, Normal: 800, Unfavorable: 600 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:** 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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