

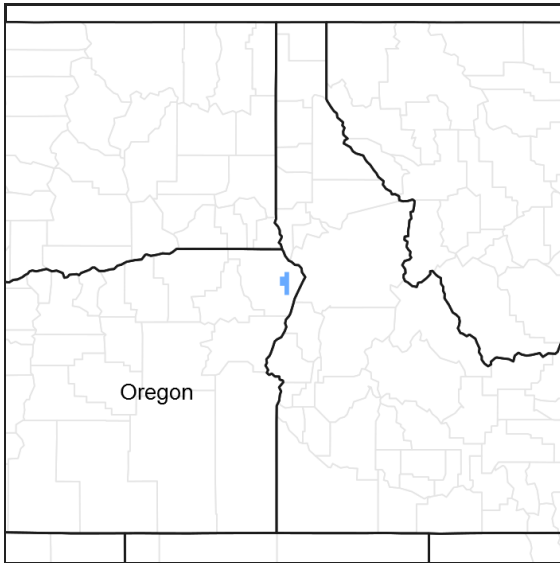
# Ecological site R009XY054OR

## Loamy North 10-15 PZ

Accessed: 02/10/2025

### 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

R009XY003OR	<b>Fan 10-15 PZ</b> Fan 10-15" PZ
R009XY050OR	<b>Loamy Bench 10-15 PZ</b> Loamy Bench 10-15" PZ
R009XY051OR	<b>Loamy South 10-15 PZ</b> Loamy South 10-15" PZ
R009XY052OR	<b>Loamy Shallow South 10-15 PZ</b> Loamy Shallow South 10-15" PZ
R009XY053OR	<b>Very Shallow South 10-15 PZ</b> Very Shallow South 10-15" PZ
R009XY055OR	<b>Shallow North 10-15 PZ</b> Shallow North 10-15" Pz

### Similar sites

R009XY042OR	<b>Low Elevation North 14-17 PZ</b> Low Elevation North 14-17" PZ (higher production)
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R009XY055OR	<b>Shallow North 10-15 PZ</b> Shallow North 10-15" PZ (lower production)
R009XY040OR	<b>North 14-17 PZ</b> North 14-17" PZ (higher production)

**Table 1. Dominant plant species**

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

## Physiographic features

This site occurs on north facing aspects along the lower slopes of canyons. It is typically on slopes having north and northeast aspects. Slopes range from 15 to 90% with slopes of 30 to 60% being most typical. Elevation varies from 800 to 2800 feet.

**Table 2. Representative physiographic features**

Landforms	(1) Canyon
Elevation	800–2,800 ft
Slope	15–90%
Aspect	N, NE

## Climatic features

The annual precipitation ranges from 10 to 15 inches. The precipitation occurs as rain and snow during the months of November through March. Localized, occasionally severe, convection storms occur during the summer. The mean annual air temperature is approximately 50 degrees F. Extreme temperatures range from 100 degrees F. to -20 degrees F. Soil temperature regimes are mesic. The frost-free period ranges from 90 to 120 days. The period of optimum plant growth is from early April through June.

**Table 3. Representative climatic features**

Frost-free period (average)	120 days
Freeze-free period (average)	0 days
Precipitation total (average)	15 in

## Influencing water features

### Soil features

The soils of this site are formed in colluvium and loess over old, lower Miocene basalt bedrock. They are moderately deep to very deep. Typically the surface layer is a silt loam to loam over a loamy to cobbly clay loam subsoil. Soil permeability is moderate. The available water holding capacity (AWC) is 6 to 10 inches. The erosion potential is moderate.

**Table 4. Representative soil features**

Surface texture	(1) Silt loam (2) Loam
Family particle size	(1) Loamy
Drainage class	Well drained

Permeability class	Moderate
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## Ecological dynamics

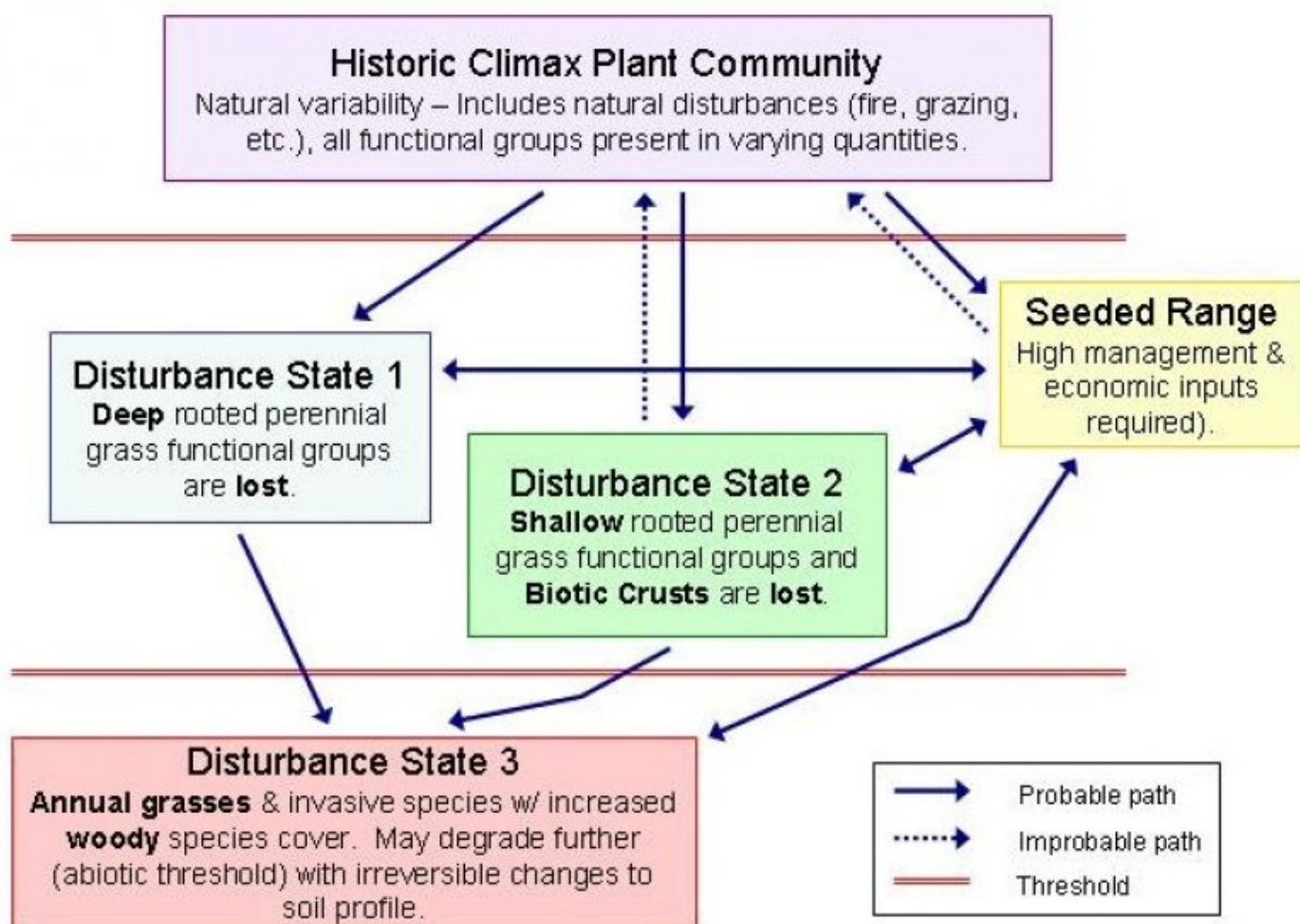
Range in Characteristics:

Variability in plant composition and production is dependant on soil depth, slope and aspect. Idaho fescue increases on steep, due north exposures. Bluebunch wheatgrass increases as the aspect changes to northeast and northwest. Production increases with soil depth.

Response to Disturbance:

If the condition of the site deteriorates as a result of overgrazing, Idaho fescue decreases and bluebunch wheatgrass increases. Sand dropseed, cheatgrass, Japanese brome, annual fescues and a variety of unpalatable forbs invade. With further deterioration, bluebunch wheatgrass decreases, sand dropseed, threeawn and annuals continue to invade and total forage production decreases. Under deteriorated conditions areas of bare ground appear and soil erosion accelerates.

## 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 plant community is dominated by Idaho fescue. Bluebunch wheatgrass is prominent. Prairie junegrass and Sandberg bluegrass are present along with a variety of forbs. Shrubs are minor. The potential

vegetative composition is approximately 95 percent grass and 5 percent forbs.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	730	945	1160
Forb	30	70	110
Shrub/Vine	10	45	80
<b>Total</b>	<b>770</b>	<b>1060</b>	<b>1350</b>

## Additional community tables

Table 6. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
<b>Grass/Grasslike</b>					
1	<b>Perennial Deep-rooted Dominant</b>			700–1100	
	Idaho fescue	FEID	<i>Festuca idahoensis</i>	500–700	–
	bluebunch wheatgrass	PSSP6	<i>Pseudoroegneria spicata</i>	200–400	–
5	<b>PPGG</b>			30–60	
	prairie Junegrass	KOMA	<i>Koeleria macrantha</i>	15–30	–
	Sandberg bluegrass	POSE	<i>Poa secunda</i>	15–30	–
9	<b>PPFF</b>			10–50	
<b>Forb</b>					
7	<b>Perennial All Dominant</b>			30–60	
	common yarrow	ACMI2	<i>Achillea millefolium</i>	10–30	–
	milkvetch	ASTRA	<i>Astragalus</i>	10–30	–
9	<b>PPFF</b>			10–50	
	agosseris	AGOSE	<i>Agoseris</i>	1–4	–
	arrowleaf balsamroot	BASA3	<i>Balsamorhiza sagittata</i>	1–4	–
	mariposa lily	CALOC	<i>Calochortus</i>	1–4	–
	brittle bladderfern	CYFR2	<i>Cystopteris fragilis</i>	1–4	–
	buckwheat	ERIOG	<i>Eriogonum</i>	1–4	–
	shaggy fleabane	ERPU2	<i>Erigeron pumilus</i>	1–4	–
	aster	EUCEP2	<i>Eucephalus</i>	1–4	–
	hawkweed	HIERA	<i>Hieracium</i>	1–4	–
	desertparsley	LOMAT	<i>Lomatium</i>	1–4	–
	lupine	LUPIN	<i>Lupinus</i>	1–4	–
	phlox	PHLOX	<i>Phlox</i>	1–4	–
	woolly plantain	PLPA2	<i>Plantago patagonica</i>	1–4	–
	agosseris	AGOSE	<i>Agoseris</i>	1–4	–
	arrowleaf balsamroot	BASA3	<i>Balsamorhiza sagittata</i>	1–4	–
	mariposa lily	CALOC	<i>Calochortus</i>	1–4	–
	brittle bladderfern	CYFR2	<i>Cystopteris fragilis</i>	1–4	–
	buckwheat	ERIOG	<i>Eriogonum</i>	1–4	–
	shaggy fleabane	ERPU2	<i>Erigeron pumilus</i>	1–4	–
	aster	EUCEP2	<i>Eucephalus</i>	1–4	–

	hawkweed	HIERA	<i>Hieracium</i>	1-4	-
	desertparsley	LOMAT	<i>Lomatium</i>	1-4	-
	lupine	LUPIN	<i>Lupinus</i>	1-4	-
	phlox	PHLOX	<i>Phlox</i>	1-4	-
	woolly plantain	PLPA2	<i>Plantago patagonica</i>	1-4	-

<b>Shrub/Vine</b>					
15	<b>SSSS</b>			10-80	
	Saskatoon serviceberry	AMAL2	<i>Amelanchier alnifolia</i>	2-16	-
	netleaf hackberry	CELAR	<i>Celtis laevigata var. reticulata</i>	2-16	-
	smooth sumac	RHGL	<i>Rhus glabra</i>	2-16	-
	rose	ROSA5	<i>Rosa</i>	2-16	-
	common snowberry	SYAL	<i>Symphoricarpos albus</i>	2-16	-

## Animal community

### Livestock Grazing:

This site is suited to spring and fall use by cattle, sheep and horses under a planned grazing system. The key species is Idaho fescue. Idaho fescue can be damaged if heavily grazed during periods of flowering and seed formation when root reserves and soil moisture is low. Use in the spring should be postponed until the soils are firm enough to prevent trampling damage, soil compaction and soil mass movement.

### Wildlife:

When the ecological condition is high this site provides food for deer, elk, other mammals and upland birds. It is an important wintering area for deer and elk.

### Native Wildlife Associated With The Potential Climax Community:

Mule deer, white-tail deer, elk, rodents and a variety of upland birds use this site.

## Hydrological functions

when the ecological condition is high this site provides food for deer, elk, other mammals and upland birds. It is an important wintering area for deer and elk.

## Other information

When in poor condition this site has a high potential for mechanical range seeding on moderate slopes and a low potential on steep slopes. Technology for seeding steep slopes is currently not available.

## 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
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Date	07/30/2012
Approved by	Bob Gillaspay
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

## Indicators

1. **Number and extent of rills:** None to some, moderate sheet & rill erosion hazard  
\_\_\_\_\_
2. **Presence of water flow patterns:** None to some  
\_\_\_\_\_
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):** 5-10%  
\_\_\_\_\_
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):** moderately resistant to erosion; aggregate stability = 2-4  
\_\_\_\_\_
9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**  
Moderately deep to deep, well drained, with a silt loam to loam surface; moderate OM (2-4%)  
\_\_\_\_\_
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Significant ground cover (90-100%) and moderate to very steep slopes (15-90%) 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: Idaho fescue > Bluebunch wheatgrass > forbs > other grasses > 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: 1200, Normal: 1000, Unfavorable: 800 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 forb and brush species will increase with deterioration of plant community. Sand dropseed, annual bromes, and annual fescues invade sites that have lost deep rooted perennial grass functional groups. Excessive erosion may occur, deteriorating site otential.
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17. **Perennial plant reproductive capability:** All species should be capable of reproducing annually
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