

# Ecological site R010XC052OR SR Shallow South Schist 9-12 PZ

Accessed: 04/24/2024

## 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

R010XC044OR	<b>SR South Schist 9-12 PZ</b> South Schist 9-12" PZ
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## Similar sites

R010XC044OR	<b>SR South Schist 9-12 PZ</b> South Schist 9-12" PZ (deeper soil, higher production)
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**Table 1. Dominant plant species**

Tree	Not specified
Shrub	(1) <i>Glossopetalon spinescens</i>
Herbaceous	(1) <i>Pseudoroegneria spicata</i> ssp. <i>spicata</i>

## Physiographic features

This site occurs on rocky canyon walls and south facing sideslopes of hills and ravines.

**Table 2. Representative physiographic features**

Landforms	(1) Hill (2) Ravine (3) Canyon
Elevation	2,000–4,000 ft
Slope	30–80%
Aspect	S

## Climatic features

The annual precipitation ranges from 9 to 12 inches, most of which occurs in the form of snow during the months of November through March. Localized, occasionally severe, convectional storms occur during the summer. The soil temperature regime is mesic with a mean annual air temperature of 50 degrees F. Temperature extremes range from 100 to -20 degrees F. The frost free period ranges from 110 to 140 days. The optimum period for plant growth is from April through May.

**Table 3. Representative climatic features**

Frost-free period (average)	140 days
Freeze-free period (average)	0 days
Precipitation total (average)	12 in

## Influencing water features

### Soil features

The soils of this site are typically shallow and well drained with areas of rock outcrop. Typically the surface layer is a channery loam about 3 inches thick. The subsoil is a very channery loam to about 16 inches. Depth to bedrock is 10 to 20 inches. Permeability is moderate. The available water holding capacity is about 2 to 4 inches for the profile. The potential for erosion is severe.

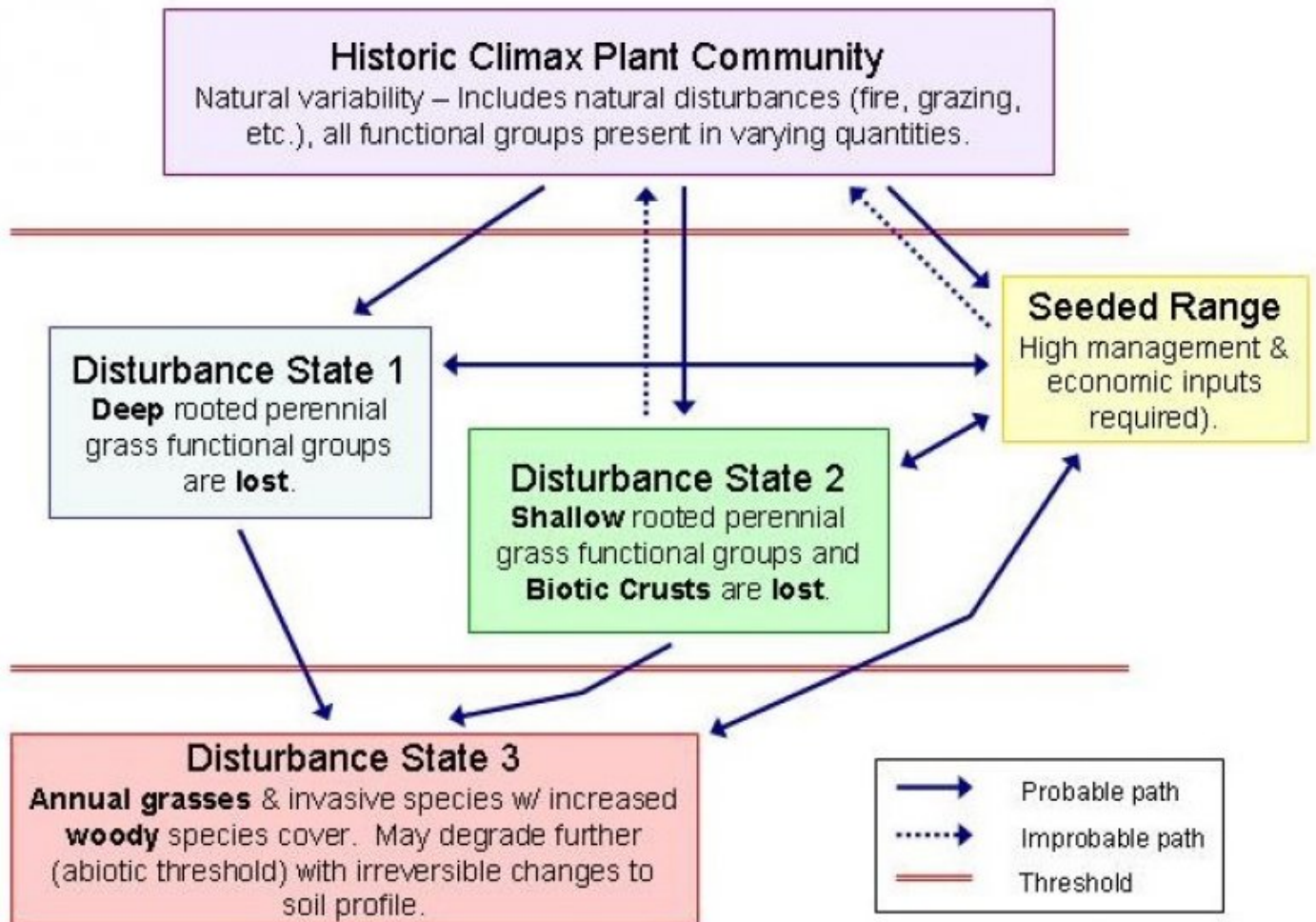
**Table 4. Representative soil features**

Surface texture	(1) Loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderate
Soil depth	10–20 in
Available water capacity (0–40in)	2–4 in

## Ecological dynamics

This site is most susceptible to erosion by water. Where this has occurred, the underlying parent material may be exposed. If the condition of the site deteriorates as a result of overgrazing, bluebunch wheatgrass decreases while cheatgrass and other annuals increase. Bare soil increases rapidly and erosion is accelerated.

## 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 Snake River greasewood and bluebunch wheatgrass. Spiny hopsage is common in the stand. Vegetative composition of the community is approximately 75% grasses, 10% forbs, and 15% shrubs.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	320	358	395
Shrub/Vine	40	73	145
Forb	35	53	70
<b>Total</b>	<b>395</b>	<b>484</b>	<b>610</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>Dominant, deep-rooted, perennial grasses</b>			300–350	
	bluebunch wheatgrass	PSSP6	<i>Pseudoroegneria spicata</i>	300–350	–
2	<b>Sub-dominant, deep-rooted, perennial grasses</b>			10–20	
	Thurber's needlegrass	ACTH7	<i>Achnatherum thurberianum</i>	5–10	–
	squirreltail	ELEL5	<i>Elymus elymoides</i>	5–10	–
4	<b>Sub-dominant, shallow-rooted, perennial grasses</b>			10–25	
	Sandberg bluegrass	POSE	<i>Poa secunda</i>	10–25	–
<b>Forb</b>					
7	<b>All dominant, perennial forbs</b>			10–15	
	buckwheat	ERIOG	<i>Eriogonum</i>	10–15	–
8	<b>All sub-dominant, perennial forbs</b>			15–30	
	milkvetch	ASTRA	<i>Astragalus</i>	5–10	–
	desertparsley	LOMAT	<i>Lomatium</i>	5–10	–
	cliff beardtongue	PERU	<i>Penstemon rupicola</i>	5–10	–
	milkvetch	ASTRA	<i>Astragalus</i>	5–10	–
	desertparsley	LOMAT	<i>Lomatium</i>	5–10	–
	cliff beardtongue	PERU	<i>Penstemon rupicola</i>	5–10	–
9	<b>All other perennial forbs</b>			10–25	
	common yarrow	ACMI2	<i>Achillea millefolium</i>	1–3	–
	agoseris	AGOSE	<i>Agoseris</i>	1–3	–
	onion	ALLIU	<i>Allium</i>	1–3	–
	arrowleaf balsamroot	BASA3	<i>Balsamorhiza sagittata</i>	1–3	–
	larkspur	DELPH	<i>Delphinium</i>	1–3	–
	western stoneseed	LIRU4	<i>Lithospermum ruderales</i>	1–3	–
	woodland-star	LITHO2	<i>Lithophragma</i>	1–3	–
	blazingstar	MENTZ	<i>Mentzelia</i>	1–3	–
	phacelia	PHACE	<i>Phacelia</i>	1–3	–
	goldenweed	PYRRO	<i>Pyrrocoma</i>	1–3	–
<b>Shrub/Vine</b>					
11	<b>Dominant, perennial, evergreen shrubs</b>			25–75	
	spiny greasebush	GLSP	<i>Glossopetalon spinescens</i>	25–75	–
12	<b>Sub-dominant, perennial, evergreen shrubs</b>			10–20	
	rubber rabbitbrush	ERNA10	<i>Ericameria nauseosa</i>	5–10	–
	spiny hopsage	GRSP	<i>Grayia spinosa</i>	5–10	–
14	<b>Sub-dominant, deciduous, perennial shrubs</b>			5–10	
	horsebrush	TETRA3	<i>Tetradymia</i>	5–10	–

## Animal community

This site is critical for mule deer and elk.

Mule deer

Elk

Hawks  
Rodents  
Songbirds

## Hydrological functions

The soils are in hydrologic group D. The soils of this site have high runoff potential.

## Other products

This site is not suited to use by cattle, sheep or horses for grazing. The slopes are steep to very steep with unstable soils.

## Other information

This site is not conducive to mechanical improvements due to steepness of slope, coarse and unstable soil conditions and limited cover.

## 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	08/07/2012
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, severe shet & rill erosion hazard

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

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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):** 15-30%

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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, moderate 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):** Moderately resistant to erosion: aggregate stability = 3-5
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Shallow well drained channery loam (3 inches thick): Low OM (0-2%)
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Low ground cover (20-40%) and moderate to steep slopes (30-80%) slightly limit rainfall impact and overland flow
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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: Bluebunch wheatgrass > Snake River Greasebush > 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: 800, Normal: 500, Unfavorable: 300 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 will increase with deterioration of plant community. Western Juniper readily invades the 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 to reproduce annually
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