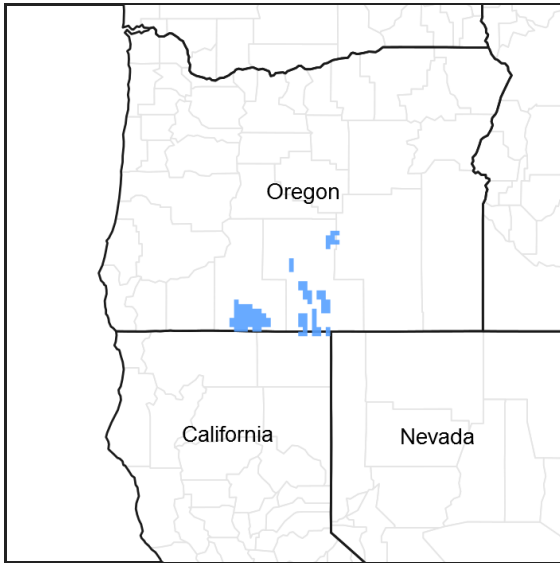


# Ecological site R021XY312OR NORTH SLOPES 14-18 PZ

Accessed: 05/03/2024

## 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

R021XY210OR	<b>LOAMY 14-18 PZ</b>
R021XY310OR	<b>SHALLOW NORTH 14-18 PZ</b>

## Similar sites

R021XY302OR	<b>NORTH SLOPE 10-14 PZ</b> Lower precipitation.
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**Table 1. Dominant plant species**

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

## Physiographic features

This site occurs on north-facing mountain sideslopes. Slopes range from 30 to 70%. Elevations range from 4000 to 6500 feet.

**Table 2. Representative physiographic features**

Landforms	(1) Mountain slope
Elevation	1,219–1,981 m
Slope	30–70%
Aspect	N

## Climatic features

The annual precipitation ranges from 14 to 18 inches, most of which occurs in the form of snow during the months of October through May. The soil temperature regime is frigid with a mean annual air temperature of about 45 degrees F. Temperature extremes range from 90 to -30 degrees F. The frost-free period ranges from 50 to 70 days. The optimum period for plant growth is from mid-April through July.

**Table 3. Representative climatic features**

Frost-free period (average)	70 days
Freeze-free period (average)	90 days
Precipitation total (average)	457 mm

## Influencing water features

### Soil features

The soils of this site have a loamy surface layer 7 inches or more thick. The subsoil is loamy or clayey throughout. The soils are well drained and typically have 35 percent or more rock fragments on the surface. The organic matter content is 1 to 4 percent throughout the upper 10 inches of the soil profile. The soils are moderately deep to very deep to bedrock. Other soil properties such as permeability, available water holding capacity and subsoil rock fragment content are variable. Runoff is rapid. Erosion hazard by water is moderate to high.

**Table 4. Representative soil features**

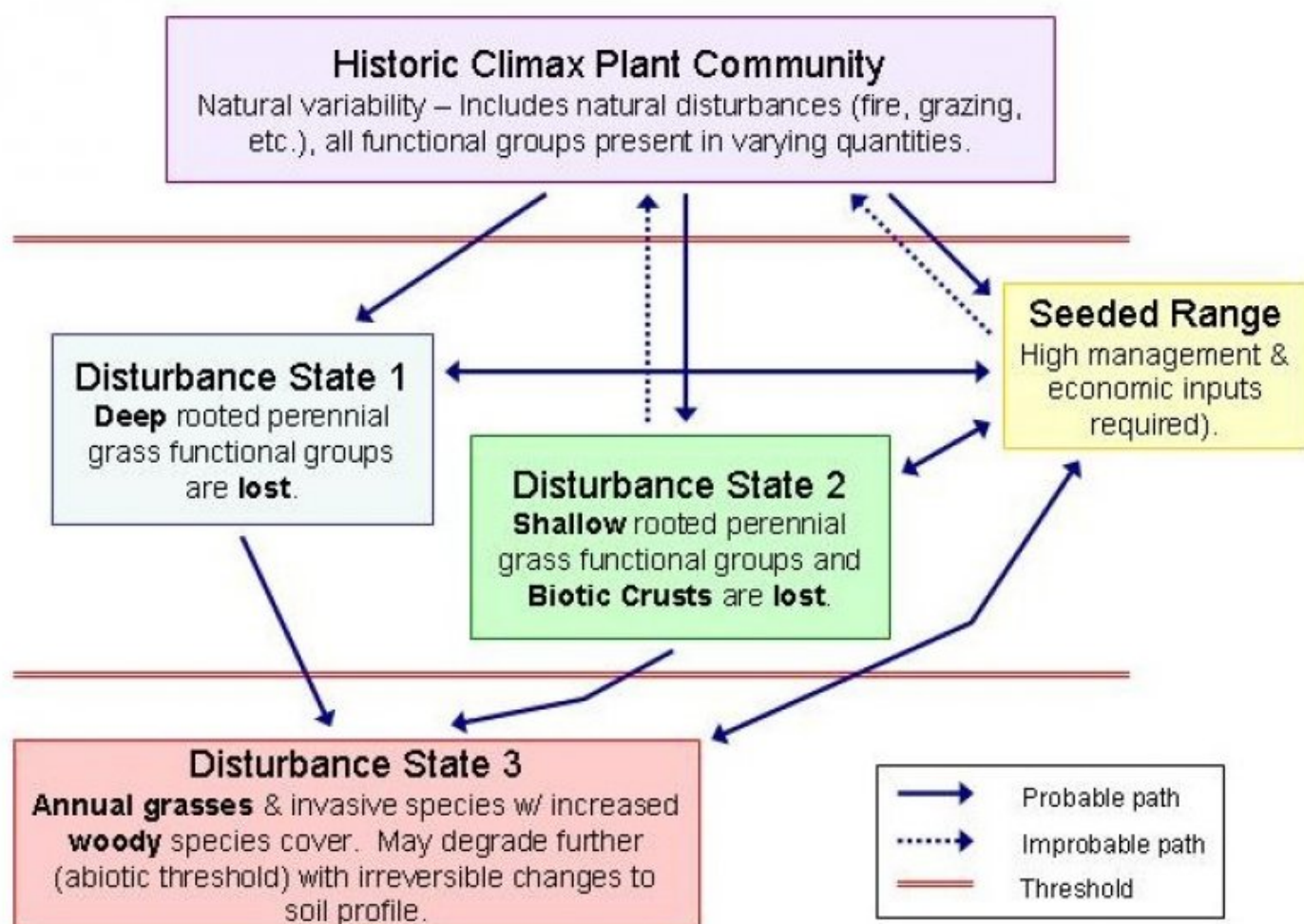
Surface texture	(1) Loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderate
Soil depth	0 cm
Available water capacity (0-101.6cm)	0 cm
Calcium carbonate equivalent (0-101.6cm)	0%
Electrical conductivity (0-101.6cm)	0 mmhos/cm
Sodium adsorption ratio (0-101.6cm)	0
Soil reaction (1:1 water) (0-101.6cm)	7

## Ecological dynamics

The northerly aspect of this site influences the plant composition. As the aspect tends toward the west or southeast, Idaho fescue will become less prominent and bluebunch wheatgrass will increase in the stand.

If the condition of the site deteriorates as a result of overgrazing, Idaho fescue and bluebunch wheatgrass will decrease, Sandberg bluegrass will increase and mountain big sagebrush and rabbitbrush may dominate the site.

## State and transition model



## GENERAL MODEL FOR COOL-SEASON BUNCHGRASS RANGELANDS

### State 1 HCPC, FEID/PUTR2

### Community 1.1 HCPC, FEID/PUTR2

The potential native plant community is dominated by Idaho fescue. Bluebunch wheatgrass, big bluegrass and Canby bluegrass are common. A variety of forbs including arrowleaf balsamroot, lupine and Indian paintbrush occur. Antelope bitterbrush and mountain big sagebrush can often dominate the aspect. Vegetative composition of the community is approximately 85% grasses, 5% forbs, and 10% shrubs.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	717	947	1177
Shrub/Vine	101	163	224
Forb	11	34	56
<b>Total</b>	<b>829</b>	<b>1144</b>	<b>1457</b>

**Figure 4. Plant community growth curve (percent production by month).  
OR5555, D21 Mid Elev., North, Good Condition. HCPC Growth Curve.**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	0	25	50	20	5	0	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 (%)
<b>Grass/Grasslike</b>					
1	<b>Dominant deep rooted perennial grasses</b>			560–785	
	Idaho fescue	FEID	<i>Festuca idahoensis</i>	560–785	–
2	<b>Sub-dominant deep rooted perennial grasses</b>			78–224	
	bluebunch wheatgrass	PSSP6	<i>Pseudoroegneria spicata</i>	56–168	–
	basin wildrye	LECI4	<i>Leymus cinereus</i>	22–56	–
4	<b>Sub-dominant shallow rooted perennial grasses</b>			56–112	
	Sandberg bluegrass	POSE	<i>Poa secunda</i>	56–112	–
5	<b>Other perennial grasses</b>			22–56	
	Thurber's needlegrass	ACTH7	<i>Achnatherum thurberianum</i>	0–6	–
	sedge	CAREX	<i>Carex</i>	0–6	–
	prairie Junegrass	KOMA	<i>Koeleria macrantha</i>	0–6	–
	melicgrass	MELIC	<i>Melica</i>	0–6	–
<b>Forb</b>					
9	<b>Other perennial forbs</b>			11–56	
	agoseris	AGOSE	<i>Agoseris</i>	0–6	–
	arrowleaf balsamroot	BASA3	<i>Balsamorhiza sagittata</i>	0–6	–
	Indian paintbrush	CASTI2	<i>Castilleja</i>	0–6	–
	tapertip hawksbeard	CRAC2	<i>Crepis acuminata</i>	0–6	–
	fleabane	ERIGE2	<i>Erigeron</i>	0–6	–
	buckwheat	ERIOG	<i>Eriogonum</i>	0–6	–
	old man's whiskers	GETR	<i>Geum triflorum</i>	0–6	–
	desertparsley	LOMAT	<i>Lomatium</i>	0–6	–
	lupine	LUPIN	<i>Lupinus</i>	0–6	–
	ragwort	SENEC	<i>Senecio</i>	0–6	–
<b>Shrub/Vine</b>					
11	<b>Dominant evergreen shrubs</b>			22–56	
	mountain big sagebrush	ARTRV	<i>Artemisia tridentata ssp. vaseyana</i>	22–56	–
13	<b>Dominant deciduous (or 1/2 shrubs) shrubs</b>			56–112	
	antelope bitterbrush	PUTR2	<i>Purshia tridentata</i>	56–112	–
15	<b>Other shrubs</b>			22–56	
	Saskatoon serviceberry	AMAL2	<i>Amelanchier alnifolia</i>	0–6	–
	basin big sagebrush	ARTRT	<i>Artemisia tridentata ssp. tridentata</i>	0–6	–
	Klamath plum	PRSU2	<i>Prunus subcordata</i>	0–6	–
	rose	ROSA5	<i>Rosa</i>	0–6	–
	common snowberry	SYAL	<i>Symphoricarpos albus</i>	0–6	–

## Animal community

Wildlife- This site offers food and limited cover for mule deer.

## Hydrological functions

The soils are in hydrologic groups B and C.

## Other products

Livestock grazing- This site is suited to grazing in late spring, summer and fall under a planned grazing system.

## 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	08/22/2012
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 to severe sheet & rill erosion hazard  

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- 2. Presence of water flow patterns:** Some in interspaces  

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- 3. Number and height of erosional pedestals or terracettes:** Some to few; limited by vegetation density  

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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):** 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 = 4-6
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**  
Moderately deep to very deep, well drained gravelly or stony loam (>35% surface rock fragments): Moderate OM (1-4%)
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Significant vegetative cover (60-80%) provides protection from run off; slopes range from 30-70%; infiltration is slow to rapid
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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
- 
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 > Sandberg bluegrass = Antelope bitterbrush > Basin wildrye = other grasses = other shrubs > forbs
- Sub-dominant:
- Other:
- Additional:
- 
13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Normal decadence and mortality expected
- 
14. **Average percent litter cover (%) and depth ( in):**
- 
15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Favorable: 1500, Normal: 1000, 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:** 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 of reproducing annually

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