Ecological site R007XY025OR
Sandy North 8-10 PZ

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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.

Associated sites

R007XY012OR	**Sandy 8-10 PZ** Sandy 8-10" PZ
R007XY013OR	**Sandy Loam 8-10 PZ** Sandy Loam 8-10" PZ
R007XY014OR	**Loamy 8-10 PZ** Loamy 8-10" PZ

Similar sites

R007XY013OR	**Sandy Loam 8-10 PZ** Sandy Loam 8-10" PZ (lower production, not steep)

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on side slopes of terraces and dissected uplands. Aspect is north to northeasterly.

Table 2. Representative physiographic features

Landforms	(1) Terrace (2) Hill (3) Plateau
Flooding frequency	None
Elevation	152–366 m
Slope	12–40%
Water table depth	183 cm
Aspect	N, NE

Climatic features

The annual precipitation ranges form 8 to 10 inches which occurs mostly as rain during the months of November through April. The temperature regime is mesic with extremes ranging from 115 degrees F to -10 degrees F. The

frost-free period is 180 to 215 days and the optimum period for plant growth is early March through mid-June.

Table 3. Representative climatic features

Frost-free period (average)	215 days
Freeze-free period (average)	
Precipitation total (average)	254 mm

Influencing water features

Soil features

The soils of this site are deep to very deep, well drained, very fine sandy loams to silt loams, formed in loess, alluvium, or lacustrine sediments. Permeability is moderate and the available water holding capacity is from 5 to 10 inches for the profile. The erosion hazard is slight for water and moderate to high for wind.

Table 4. Representative soil features

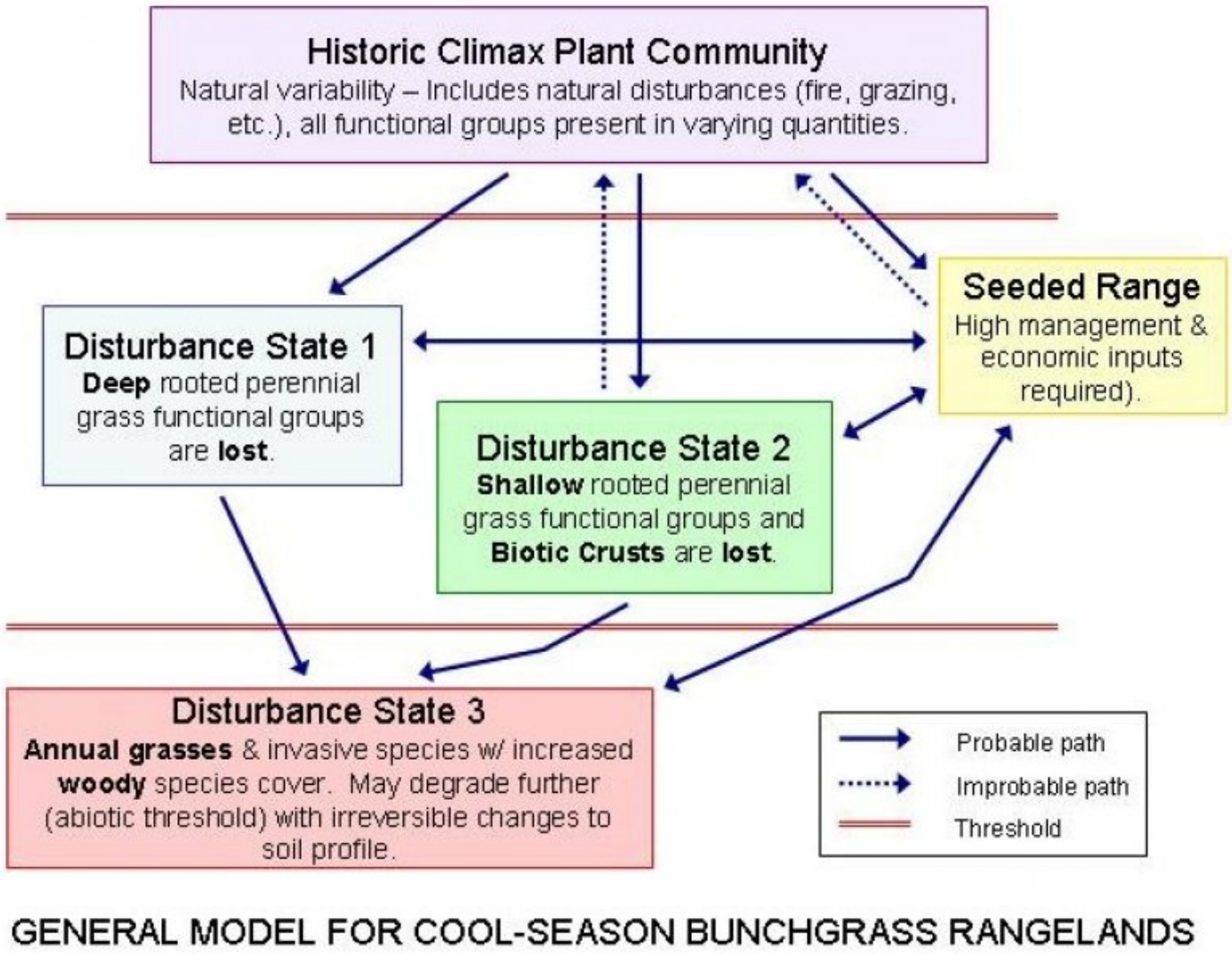
Surface texture	(1) Very fine sandy loam (2) Silt loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderate
Soil depth	152–183 cm
Available water capacity (0-101.6cm)	12.7–25.4 cm

Ecological dynamics

If heavy grazing causes site deterioration, bluebunch wheatgrass and needle and thread decrease in the stand; sandberg bluegrass, rabbitbrush, big sagebrush, and broom snakeweed increase. With further deterioration, cheatgrass, mustard, and russian thistle invade the site. Frequent burning commonly results in an increase in rabbitbrush.

Variability in composition on this site results from variations in soil surface textures and steepness of slope. Fine textured surfaces favor establishment of bluebunch wheatgrass. Coarse textured surfaces will encourage a higher proportion of needleandthread. Steeper and due north exposures favor bluebunch wheatgrass and an increase in Idaho fescue.

State and transition model



GENERAL MODEL FOR COOL-SEASON BUNCHGRASS RANGELANDS

State 1
Reference

Community 1.1
Needle and Thread, Bluebunch Wheatgrass, and Sandberg Bluegrass

Variability in composition on this site results from variations in soil surface textures and steepness of slope. Fine textured surfaces (silts) favor the establishment of bluebunch wheatgrass. Coarse textured surfaces (fine sands) will encourage a higher proportion of needle and thread. Steeper and due north exposures favor bluebunch wheatgrass and an increase in idaho fescue.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	681	897	1121
Forb	36	54	72
Shrub/Vine	18	31	45
Total	**735**	**982**	**1238**

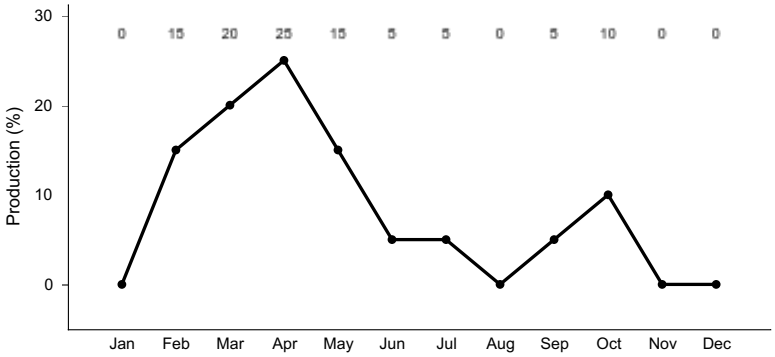


Figure 2. Plant community growth curve (percent production by month). OR2261, B7 SANDS, GOOD CONDITION. RPC growth curve B7 SANDS, GOOD CONDITION.

Additional community tables

Table 6. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Kg/Hectare)	Foliar Cover (%)
Grass/Grasslike					
1	**Dominant deep rooted perennial grasses**			628–785	
	needle and thread	HECO26	*Hesperostipa comata*	359–538	–
	bluebunch wheatgrass	PSSP6	*Pseudoroegneria spicata*	269–359	–
2	**Sub-dominant deep rooted perennial grasses**			18–90	
	Idaho fescue	FEID	*Festuca idahoensis*	18–90	–
4	**Sub-dominant shallow rooted perennial grasses**			18–108	
	Sandberg bluegrass	POSE	*Poa secunda*	18–108	–
5	**Other perennial grasses**			18–27	
	squirreltail	ELEL5	*Elymus elymoides*	0–18	–
	prairie Junegrass	KOMA	*Koeleria macrantha*	0–18	–
Forb					
7	**Dominant perennial forbs**			27–54	
	milkvetch	ASTRA	*Astragalus*	9–18	–
	balsamroot	BALSA	*Balsamorhiza*	9–18	–
	lupine	LUPIN	*Lupinus*	9–18	–
9	**Other perennial forbs**			9–18	
	common yarrow	ACMI2	*Achillea millefolium*	0–9	–
	balsamroot	BALSA	*Balsamorhiza*	0–9	–
	phlox	PHLOX	*Phlox*	0–9	–
Shrub/Vine					
11	**Dominant evergreen shrubs**			9–27	
	basin big sagebrush	ARTRT	*Artemisia tridentata ssp. tridentata*	9–27	–
15	**Other shrubs**			9–18	
	rubber rabbitbrush	ERNA10	*Ericameria nauseosa*	0–9	–
	green rabbitbrush	ERTE18	*Ericameria teretifolia*	0–9	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	0–9	–

Animal community

This site provides food and cover for songbirds, small mammals, and their associated predators. It also can provide excellent spring and summer forage for mule deer.

The scarcity of water is the limiting factor in use of this site by wildlife. When located near dependable water sources it is used extensively by native wildlife species and introduced upland game birds.

Livestock Grazing:
This site is well suited to spring, fall, and winter grazing by livestock in a grazing system that provides frequent deferment.

Hydrological functions

The soils of this site have high intake rates and low runoff potential. The hyrologic soil group is B.

Other information

Caution must be exercised in developing a seeding plan because the soils are droughty and subject to severe wind erosion.

Contributors

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Approval

Kirt Walstad, 2/06/2025

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	07/26/2012
Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None, slight sheet & rill erosion hazard

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

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):** 2-8%

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** Very few; moderate to high 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 = 3-5

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Deep to very deep, well drained, very fine sandy loams to silt loams; low OM (1-3%)

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Relatively high ground cover (50-70%) should effectively limit rainfall impact and overland flow; slightly increased flow possible on steeper slopes (up to 40%)

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: Needle and thread > Bluebunch wheatgrass > Sandberg bluegrass = Idaho fescue > other frasses > Bassin big sagebrush > dominant forbs = other forbs = other shrubs

    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):** In areas with adequate plant cover

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Favorable: 900, Normal: 800, Unfavorable: 700 lbs/acre/year at high RSI (HCPC)

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:** Rabbitbrush, sage brush and broom snakeweed may increase and reduce cover of herbaceous plants. Cheatgrass and annual forbs invade sites that have lost shallow rooted perennial grass functional groups

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