USDA Natural Resources Conservation Service

Ecological site R008XY110OR
Loamy 10-12 PZ

Accessed: 05/19/2024

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

R008XY130OR	**Sandy Loam 10-12 PZ**
R008XY150OR	**Very Shallow Loam 10-14 PZ**
R008XY200OR	**South 10-14 PZ**
R008XY220OR	**North 10-14 PZ**

Similar sites

R008XY120OR	**Loamy 12-14 PZ** higher precipitation
R008XY130OR	**Sandy Loam 10-12 PZ** Coarser texture

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on level to gently rolling uplands.

Table 2. Representative physiographic features

Landforms	(1) Hill
Elevation	244–762 m
Slope	2–12%
Water table depth	13–30 cm
Aspect	Aspect is not a significant factor

Climatic features

The annual precipitation ranges from 10 to 12 inches which occurs mostly as snow during the months of November through May. Spring and fall rains are common. The temperature regime is mesic with extreme temperatures ranging from 110 degrees F. to -20 degrees F. The frost free period is 140 to 200 days and the optimum period for plant growth is from early April through mid-June.

Table 3. Representative climatic features

Frost-free period (average)	170 days
Freeze-free period (average)	0 days
Precipitation total (average)	279 mm

Influencing water features

Soil features

The soils of this site are moderately deep to very deep, well drained silt loams formed in loess over basalt bedrock or indurated pan. The permeablity is moderate and the available water holding capacity (AWC) is 5 to 12 inches for the profile. The water erosion hazard is moderate, wind erosion hazard is slight.

Table 4. Representative soil features

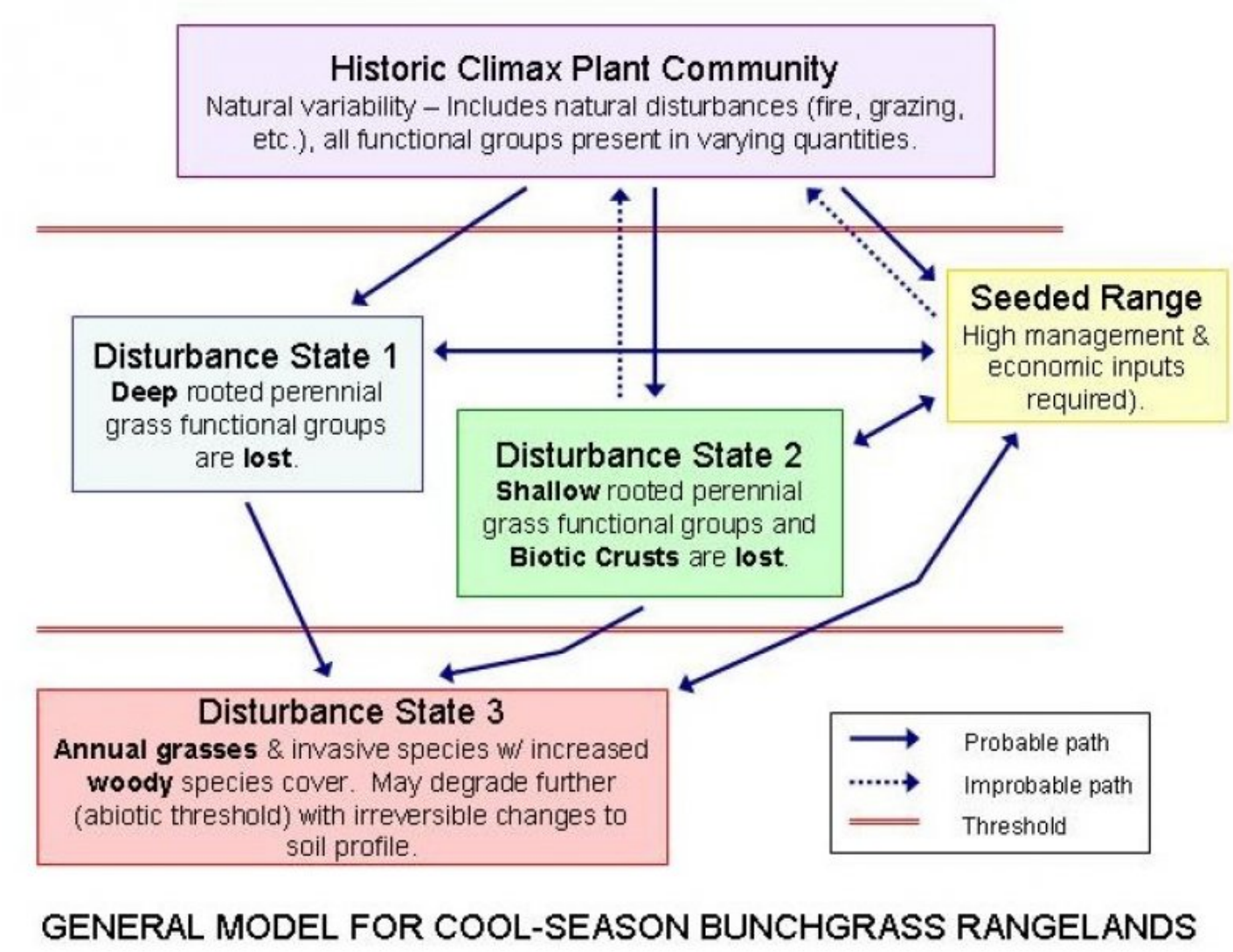
Surface texture	(1) Silt loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderate
Soil depth	152 cm
Available water capacity (0-101.6cm)	12.7–30.48 cm

Ecological dynamics

If heavy grazing causes site deterioration, bluebunch wheatgrass will decrease in the stand and Sandberg bluegrass, sixweeks fescue, yarrow, and gray rabbitbrush will increase. Cheatgrass, China lettuce, salsify and Russian thistle can invade this site. The lack of occasional fire will encourage an increase of shrubs.

Variability in plant composition on this site is influenced by aspect. Slight northerly pitches will encourage the presence of Idaho fescue. Southerly pitches will favor bluebunch wheatgrass. If there is an increase in coarse material, needleandthread wil increase. This site is susceptible to invasion by western juniper.

State and transition model



State 1
HCPC: PSSP6-POSE/ ARTRT

Community 1.1
HCPC: PSSP6-POSE/ ARTRT

The potential native plant community is dominated by bluebunch wheatgrass with lesser amounts of Sandberg bluegrass. Vegetative composition is about 95% grasses, 3% forbs, and 2% shrubs.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	797	975	1150
Forb	40	61	81
Shrub/Vine	30	46	61
Total	**867**	**1082**	**1292**

Figure 6. Plant community growth curve (percent production by month). OR2501, B8 Loamy, Droughty North, Good Condition. RPC Growth Curve B8 Loamy, Droughty North, & South,Good Condition.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	10	20	25	20	10	5	0	5	5	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 (%)
Grass/Grasslike					
1	**Dominant, deep rooted perennial grasses**			706–908	
	bluebunch wheatgrass	PSSP6	*Pseudoroegneria spicata*	706–908	–
2	**Sub-dominant, shallow rooted perennial grasses**			40–131	
	needle and thread	HECO26	*Hesperostipa comata*	20–81	–
	Idaho fescue	FEID	*Festuca idahoensis*	20–50	–
4	**Sub-dominant, shallow rooted perennial grasses**			30–71	
	Sandberg bluegrass	POSE	*Poa secunda*	30–71	–
5	**Other perennial grasses**			10–20	
	squirreltail	ELEL5	*Elymus elymoides*	10–20	–
6	**Annual grasses**			10–20	
	sixweeks fescue	VUOC	*Vulpia octoflora*	10–20	–
Forb					
7	**Dominant perennial forbs**			10–20	
	common yarrow	ACMI2	*Achillea millefolium*	10–20	–
	fleabane	ERIGE2	*Erigeron*	10–20	–
	phlox	PHLOX	*Phlox*	10–20	–
9	**Other perennial forbs**			10–20	
	pussytoes	ANTEN	*Antennaria*	0–6	–
	milkvetch	ASTRA	*Astragalus*	0–6	–
	arrowleaf balsamroot	BASA3	*Balsamorhiza sagittata*	0–6	–
	naked mariposa lily	CANU2	*Calochortus nudus*	0–6	–
	buckwheat	ERIOG	*Eriogonum*	0–6	–
	flax	LINUM	*Linum*	0–6	–
	desertparsley	LOMAT	*Lomatium*	0–6	–
Shrub/Vine					
11	**Dominant evergreen shrubs**			10–20	
	basin big sagebrush	ARTRT	*Artemisia tridentata ssp. tridentata*	10–20	–
	rubber rabbitbrush	ERNA10	*Ericameria nauseosa*	10–20	–
15	**Other shrubs**			10–20	
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	10–20	–

Animal community

When associated with cropland, this site is used by upland game birds including Hungarian partridge and ring-necked pheasant. This site offers forage for deer and pronghorn antelope.

Mule deer

Pronghorn antelope

Hydrological functions

The soils of this site have moderate infilitration rates and low runoff potential. The hydrologic soil groups are B and C.

Other products

This site is suitable for grazing during all seasons under a planned grazing system. It is perhaps best suited to use during the fall, winter, and early spring.

Contributors

Barrett/Bahn
E Ersch
K.Kennedy

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	Bob Gillaspy
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

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

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):** 12-25%

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 = 4-5

---

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Moderately deep to very deep well drained silt loams; low OM (2-3%)

---

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Significant ground cover (45-65%) and level to gently rolling slopes (2-12%) limit rainfall impact and ovrland 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 > Sandberg bluegrass > Needle and thread > Idaho fescue > other grasses = forbs = 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 most areas

---

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Favorable: 1200, Normal: 900, Unfavorable: 500 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: Perennial brush species will increase with deterioration of plant community. Western Juniper readily invades the site. Cheatgrass and Medusahead invades sites that have lost deep rooted perennial grass functional groups

---

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

---