Ecological site R021XY208OR
SANDY
10-14 PZ

Accessed: 08/16/2026

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

R021XY200OR	LOAMY 10-14 PZ
R021XY300OR	SOUTH SLOPES 10-14 PZ
R021XY302OR	NORTH SLOPE 10-14 PZ

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on beach terraces adjacent to lake basins.

Table 2. Representative physiographic features

Landforms	(1) Beach terrace
Elevation	1,220 – 1,370 m
Slope	0 – 30 %
Aspect	Aspect is not a significant factor

Climatic features

The annual precipitation ranges from 10 to 14 inches, most of which occurs in the form of snow during the months of November through April. The soil temperature regime is mesic with the mean annual air temperature of about 48 degrees F. Temperature extremes range from 100 to -30 degrees F. The frost free period ranges from 70 to 120 days. The optimum period for plant growth is from mid-April to June.

Table 3 Representative climatic features

Frost-free period (average)	120 days
Freeze-free period (average)	0 days
Precipitation total (average)	360 mm

Influencing water features

Soil features

The soils of this site have sandy textures throughout the profile to a depth of 60 inches or more. Permeability is rapid. The available water holding capacity is 6 to 8 inches. Runoff is very slow. Erosion hazard by water is slight. Erosion by wind is moderate to high.

Table 4. Representative soil features

Surface texture	(1) Sand
Family particle size	(1) Sandy
Permeability class	Rapid
Soil depth	150 cm
Available water capacity (0-101.6cm)	15.24 – 20.32 cm

Ecological dynamics

If the condition of the site deteriorates as a result of overgrazing, Idaho fescue, Thurber needlegrass and Indian ricegrass will decrease. Bottlebrush squirreltail and Sandberg bluegrass will increase. Big sagebrush and rabbitbrush may increase at the expense of antelope bitterbrush. Western juniper may invade the site.

Variability in plant production and composition on this site results from changes in soil surface texture. Coarse textured surfaces promote a larger proportion of Indian ricegrass while a finer textured surface will favor basin wildrye and needleandthread.

State and transition model

Additional community tables

Table 5. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production ()	Foliar Cover (%)
Grass/Grasslike					
1	**Dominant deep rooted perennial grasses**			426-639	
	Idaho fescue	FEID	*Festuca idahoensis*	426-639	–
2	**Sub-dominant deep rooted perennial grasses**			96-267	
	Thurber's needlegrass	ACTH7	*Achnatherum thurberianum*	54-160	–
	mountain guava	PSAM	*Psidium amplexicaule*	21-54	–
	Indian ricegrass	ACHY	*Achnatherum hymenoides*	21-54	–
5	**Other perennial grasses**			21-54	
	squirreltail	ELEL5	*Elymus elymoides*	0-6	–
	needle and thread	HECO26	*Hesperostipa comata*	0-6	–
	prairie Junegrass	KOMA	*Koeleria macrantha*	0-6	–
	Sandberg bluegrass	POSE	*Poa secunda*	0-6	–
	bluebunch wheatgrass	PSSP6	*Pseudoroegneria spicata*	0-6	–
Forb					
7	**Dominant perennial forbs**			43-85	
	common yarrow	ACMI2	*Achillea millefolium*	11-21	–
	buckwheat	ERIOG	*Eriogonum*	11-21	–
	desertparsley	LOMAT	*Lomatium*	11-21	–
	lupine	LUPIN	*Lupinus*	11-21	–
9	**Other perennial forbs**			21-33	
	pussytoes	ANTEN	*Antennaria*	0-6	–
	common starlily	LEMO4	*Leucocrinum montanum*	0-6	–
	phacelia	PHACE	*Phacelia*	0-6	–
	phlox	PHLOX	*Phlox*	0-6	–
Shrub/Vine					
12	**Sub-dominant evergreen shrubs**			21-106	
	Wyoming big sagebrush	ARTRW8	*Artemisia tridentata ssp. wyomingensis*	21-106	–
13	**Dominant deciduous (or 1/2 shrubs) shrubs**			160-267	
	antelope bitterbrush	PUTR2	*Purshia tridentata*	160-267	–
15	**Other shrubs**			21-54	
	rubber rabbitbrush	ERNA10	*Ericameria nauseosa*	0-6	–
	green rabbitbrush	ERTE18	*Ericameria teretifolia*	0-6	–

Animal community

This site offers food and cover for mule deer, burrowing rodents and various bird species and their associated predators.

Hydrological functions

The soils are in hydrologic group A.

Other products

This site is suited to livestock grazing in all seasons of the year under a planned grazing system.

Other information

This site has a high probability as an archeoligical site. Special care must be exercised in designing a seeding plan because the soils are very droughty and subject to wind erosion.

Contributors

Barrett, Carlson
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	08/21/2012
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** **None, slight 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):** **10-25%**

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** None to some, moderate to high 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):** Slightly resistant to erosion: aggregate stability = 2-4

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Deep, well drained loamy fine sand and loamy sands: Low OM (<1%)

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Significant ground cover (70-80%) limits rainfall impact and overland flow (slightly higher hazard on steeper slopes (to 30%))

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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: Idaho fescue > Antelope bitterbrush > Thurber needlegrass > Wyoming big sagebrush > other grasses = 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: 1200, Normal: 950, Unfavorable: 500 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 may invade 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**
