Ecological site R008XY220OR
North
10-14 PZ

Accessed: 08/31/2026

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

R008XY110OR	**Loamy 10-12 PZ** Occurs on moderately deep to very deep non-aspect sites. Precipitation is 10-12 inches annually.
R008XY120OR	**Loamy 12-14 PZ** Occurs on moderately deep to very deep non-aspect sites. Precipitation is 12-14 inches annually.
R008XY140OR	**Shallow Loam 10-14 PZ** Occurs on shallow (10 to 20 inches deep) non-aspect sites.
R008XY150OR	**Very Shallow Loam 10-14 PZ** Occurs on very shallow (5 to 10 inches deep) sites.
R008XY200OR	**South 10-14 PZ** Occurs on moderately deep to very deep south-aspect sites.
R008XY210OR	**Shallow South 10-14 PZ** Occurs on shallow (10 to 20 inches deep) south-aspect sites.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	(1) *Festuca idahoensis* (2) *Pseudoroegneria spicata*

Physiographic features

This site occurs on the side slopes of dissected basalt uplands.

Table 2. Representative physiographic features

Landforms	(1) Valley side
Flooding frequency	None
Ponding frequency	None
Elevation	180 – 910 m
Slope	10 – 70 %
Aspect	N, NE, E

Climatic features

The annual precipitation ranges from 10 to 14 inches which occurs as rain with snow during the months of Movember through May. Spring and fall rains are common. The temperature regime is mesic with extremes ranging from 100 degrees F. to -20 degrees F. The frost free period ranges from 120 to 140 days and the optimum period for plant growth is mid-April through June.

Table 3 Representative climatic features

Frost-free period (average)	140 days
Freeze-free period (average)	180 days
Precipitation total (average)	360 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. Subsoils are occasionally silty clay loams. Permeability is moderate and the available water capacity is 4 to 10 inches for the profile. The erosion hazard is moderate to severe for water and slight for wind.

Table 4. Representative soil features

Parent material	(1) Loess – basalt
Surface texture	(1) Silt loam (2) Very fine sandy loam

Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderate
Soil depth	100 – 150 cm
Surface fragment cover <=3"	0 – 10 %
Surface fragment cover >3"	Not specified
Available water capacity (0-101.6cm)	10.41 – 24.89 cm
Calcium carbonate equivalent (0-101.6cm)	Not specified
Electrical conductivity (0-101.6cm)	Not specified
Sodium adsorption ratio (0-101.6cm)	Not specified
Soil reaction (1:1 water) (0-101.6cm)	6.1 – 7.8
Subsurface fragment volume <=3" (Depth not specified)	0 – 20 %
Subsurface fragment volume >3" (Depth not specified)	0 – 30 %

Ecological dynamics

If heavy grazing causes site deterioration, Idaho fescue will lose vigor and decrease. With further deterioration annuals will invade and there will be an increase in gray rabbit brush and bigh sagebrush. Heavy trailing will reduce plant density. A lack of periodic fire may encourage an increase in shrubs and western juniper.

This site is best represented on slopes facing due north on steep pitches. Slopes with aspects trending to the west or southeast support increasing amounts of bluebunch wheatgrass.

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	**Moderately deep rooted perennial grasses**			942-1255	
	Idaho fescue	FEID	*Festuca idahoensis*	942-1255	–
2	**Moderately deep rooted perennial grasses**			157-471	
	bluebunch wheatgrass	PSSP6	*Pseudoroegneria spicata*	157-471	–
4	**Shallow rooted perennial grasses**			16-47	
	Sandberg bluegrass	POSE	*Poa secunda*	16-47	–
5	**Other perennial grasses**			16-31	
	prairie Junegrass	KOMA	*Koeleria macrantha*	16-31	–
6	**Native annual grasses**			16-31	
	sixweeks fescue	VUOC	*Vulpia octoflora*	16-31	–
Forb					
7	**Perennial forbs**			63-126	
	common yarrow	ACMI2	*Achillea millefolium*	16-31	–
	milkvetch	ASTRA	*Astragalus*	16-31	–
	fleabane	ERIGE2	*Erigeron*	16-31	–
	lupine	LUPIN	*Lupinus*	16-31	–
9	**Other perennial forbs**			16-31	
	agoseris	AGOSE	*Agoseris*	0-16	–
	phlox	PHLOX	*Phlox*	0-16	–
Shrub/Vine					
11	**Evergreen shrubs**			16-31	
	rubber rabbitbrush	ERNA10	*Ericameria nauseosa*	16-31	–
15	**Other shrubs**			16-31	
	basin big sagebrush	ARTRT	*Artemisia tridentata ssp. tridentata*	0-16	–
	green rabbitbrush	ERTE18	*Ericameria teretifolia*	0-16	–
Tree					
16	**Evergreen trees**			0-16	
	western juniper	JUOC	*Juniperus occidentalis*	0-16	–

Animal community

Deer will use this site for spring and summer feed. Where associated with cropland upland game birds such as Hungarian partridge are common.

Hydrological functions

The soils of this site have moderate infiltration rates and high runoff potential. The hydrologic soils groups are B and C.

Wood products

None.

Other products

This site is suitable for livestock grazing during summer and fall. Cattle will avoid upper steep slopes if moderate terrain is accessible.

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 and Bruce Franssen
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Date	04/01/2007
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** **Some to none.**

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2. **Presence of water flow patterns:** **Some to none in interspaces.**

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3. **Number and height of erosional pedestals or terracettes:** **Some to few - terracettes common from soil movement; held in check by deep rooted perennials; exacerbated from trailing by livestock and wildlife.**

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground): 5-10%.**

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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.**

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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): Weak fine granular (may be platy or subangular blocky) structure, dry color value 4 - 5, depth 8 - 17 inches, moderate OM (2-4%).**

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff: Significant ground cover (60-80%) limits rainfall impact and overland flow, steeper slopes (to 70%) have high potential for run off.**

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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: Moderately deep-rooted perennial bunchgrasses.

    Sub-dominant: Shallow-rooted perennial bunchgrasses.

    Other: Forbs and Shrubs.

    Additional: Occassional, scattered Western Juniper (JUOC) may be present.

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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: 1800, Normal: 1400, Unfavorable: 700 lbs/acre/year.**

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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:** **Cheatgrass and Medusahead invade sites that have lost moderately deep rooted perennial grass functional groups.**

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