Ecological site R009XY070OR
High Ridge
30+ PZ

Last updated: 5/05/2025
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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.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on high elevation ridge tops and slopes of mountain plateaus. It is typically on slopes having north and northwest aspects. Slopes range from 15 to 60%. Elevation varies from 5400 to 7000 feet.

Table 2. Representative physiographic features

Landforms	(1) Mountain (2) Plateau
Elevation	1,650 – 2,130 m
Slope	20 – 60 %
Aspect	N, NW

Climatic features

The annual precipitation ranges from 30 to 40 inches. The precipiation occurs as snow during the months of November through March followed by spring rainfall. Localized, occasionally severe, convection stroms occur during the summer. The mean annual air tepmeratures is approximately 38 to42 degrees F. to -30 degrees F. Soil temperature regimes are cryic. The frost-free period ranges from 30 to 70 days. The period of optimum plant grwoth is from early May through July.

Table 3 Representative climatic features

Frost-free period (average)	70 days

Freeze-free period (average)	
Precipitation total (average)	1,020 mm

Influencing water features

Soil features

The soils of this site are formed in loess and colluvium over tuff. They are moderately deep. Typically the surface layer is a very stoney fine sandy loam over a very cobbly loam subsoil. Soil permeabilty is moderate. The available water holding capacity is 4 to 8 inches. Erosion potential is high.

Table 4. Representative soil features

Surface texture	(1) Very stony sandy loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderate

Ecological dynamics

Range in Characteristics:
Variability in plant composition and yeild is dependant on aspect, soil depth and duration of ephemeral subsurface flows. Sedges and rushes increaseon deep north exposures recieving additionsl late season subsurface flows. Idaho fescue increases on deep well drained soils. Produciton increases with soil depth.
Response to Disturbance:
If the condition of the site deteriorates as a result of overgrazing, Idaho fescue decreases. Sedges, rushes, native bluegrasses and forbs increase. Bluegrasses such as Canadian and bulbous bluegrass, annuals and unpalatable forbs invade. With further deterioration areas of bare ground appear, erosion accelerates and potential site productivity decreases.

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	**Perennial Deep-rooted Dominant**			616-953	
	Idaho fescue	FEID	*Festuca idahoensis*	448-673	–
	sedge	CAREX	*Carex*	168-280	–
2	**Perennial Deep-rooted Sub-dominant**			56-168	
	rush	JUNCU	*Juncus*	56-168	–
4	**Perennial Shallow-rooted Sub-dominant**			34-90	
	bluegrass	POA	*Poa*	34-90	–

5	**PPGG**			34-112	
	needlegrass	ACHNA	*Achnatherum*	9-28	–
	prairie Junegrass	KOMA	*Koeleria macrantha*	9-28	–
	bluebunch wheatgrass	PSSP6	*Pseudoroegneria spicata*	9-28	–
Forb					
9	**PPFF**			22-112	
	common yarrow	ACMI2	*Achillea millefolium*	2-9	–
	agoseris	AGOSE	*Agoseris*	2-9	–
	rush pussytoes	ANLU2	*Antennaria luzuloides*	2-9	–
	larkspur	DELPH	*Delphinium*	2-9	–
	buckwheat	ERIOG	*Eriogonum*	2-9	–
	aster	EUCEP2	*Eucephalus*	2-9	–
	Virginia strawberry	FRVI	*Fragaria virginiana*	2-9	–
	old man's whiskers	GETR	*Geum triflorum*	2-9	–
	lupine	LUPIN	*Lupinus*	2-9	–
	beardtongue	PENST	*Penstemon*	2-9	–
	phlox	PHLOX	*Phlox*	2-9	–
	cinquefoil	POTEN	*Potentilla*	2-9	–
Shrub/Vine					
15	**SSSS**			11-22	
	rose	ROSA5	*Rosa*	6-11	–
	common snowberry	SYAL	*Symphoricarpos albus*	6-11	–

Animal community

Livestock Grazing; This site is suited to summer and fall use by cattle and sheep under a planned grazing system. The key species is Idaho fescue. Idaho fescue can be damaged if heavily grazed during periods of flowering and seed formation when root reserves are low. Care should be taken to avoid trampling damage and soil compaction when soils are wet. Wildlife: When the ecological condition is high this site provides food for bighorn sheep, elk, deer, other mammals and upland birds. Adjacent to sites with excellent cover, it is an important summer and fall sue area for elk and deer. Native Wildlife Associated With The Potentail Climax Community: Rocky Mountain bighorn sheep, elk, mule deer, small mammals and a variety of upland birds use this site for food and limited cover.

Hydrological functions

The soils of this site have good water holding capacities providing late season water for plant grwth. The hydrologic cover condition is good when the ecological condition is high.

Other information

When in poor condiditon the site has low potential for range seeding because of climatic limitations, slope and stoniness.

Contributors

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Approval

Kirt Walstad, 5/05/2025

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
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Date	07/30/2012
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

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

2. **Presence of water flow patterns:** none to some

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):** 5-10%

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 significant 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):** 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):** Moderately deep, well drained, with a very stony fine sandy loam surface; low OM (1-2%)

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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 (80-90%) and moderate to steep slopes (15-60%) moderately limit rainfall impact and overland flow

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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 > sedge > rush > other grasses > forbs > 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: 1500, Normal: 1000, Unfavorable: 700 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:** Sedges, rushes, and perennial forb species will increase with deterioration of plant community. Bluegrasses and annual bromes invade sites that have lost deep rooted perennial grass functional groups. Excessive erosion may occur, deteriorating site potential.

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