USDA Natural Resources
Conservation Service

Ecological site R023XY505OR
SUBALPINE THIN SURFACE 35-40 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.

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

R023XY504OR	**SUBALPINE LOAMY 35-40 PZ** Subalpine Loamy 35-40" PZ

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on ridgetops in mountainous areas. Slopes range from 3 to 30%. Elevation ranges from 8800 to 9700 feet.

Table 2. Representative physiographic features

Landforms	(1) Mountain (2) Ridge
Elevation	2,682–2,957 m
Slope	3–30%
Aspect	Aspect is not a significant factor

Climatic features

The annual precipiataion is 35 to 40 inches. Most of which occurs as snow during December to March. Late spring and early summer rains are common. The soil temperature regime is cryic. Mean annual air temperature range from 40 to 43 degrees F. The frost-free period is from 30 to 60 days. The period of optimum plant growth is form late June to August.

Table 3. Representative climatic features

Frost-free period (average)	60 days
Freeze-free period (average)	0 days
Precipitation total (average)	1,016 mm

Influencing water features

Soil features

The soils in this site are typically moderately deep and well drained. Typical soil depths of this site are 20-40 inches to bedrock. Soils of this site are well drained with moderately slow permeability. Average water holding capacity is about 3 inches. There is moderate potentail for frost action and moderate shrink-swell potential. Surface textures are typically very gravelly loams. The soils of the site generally contian 35 to 50% rock fragments

throughout the soil profile. Subsurface textures are very stony clay loams.

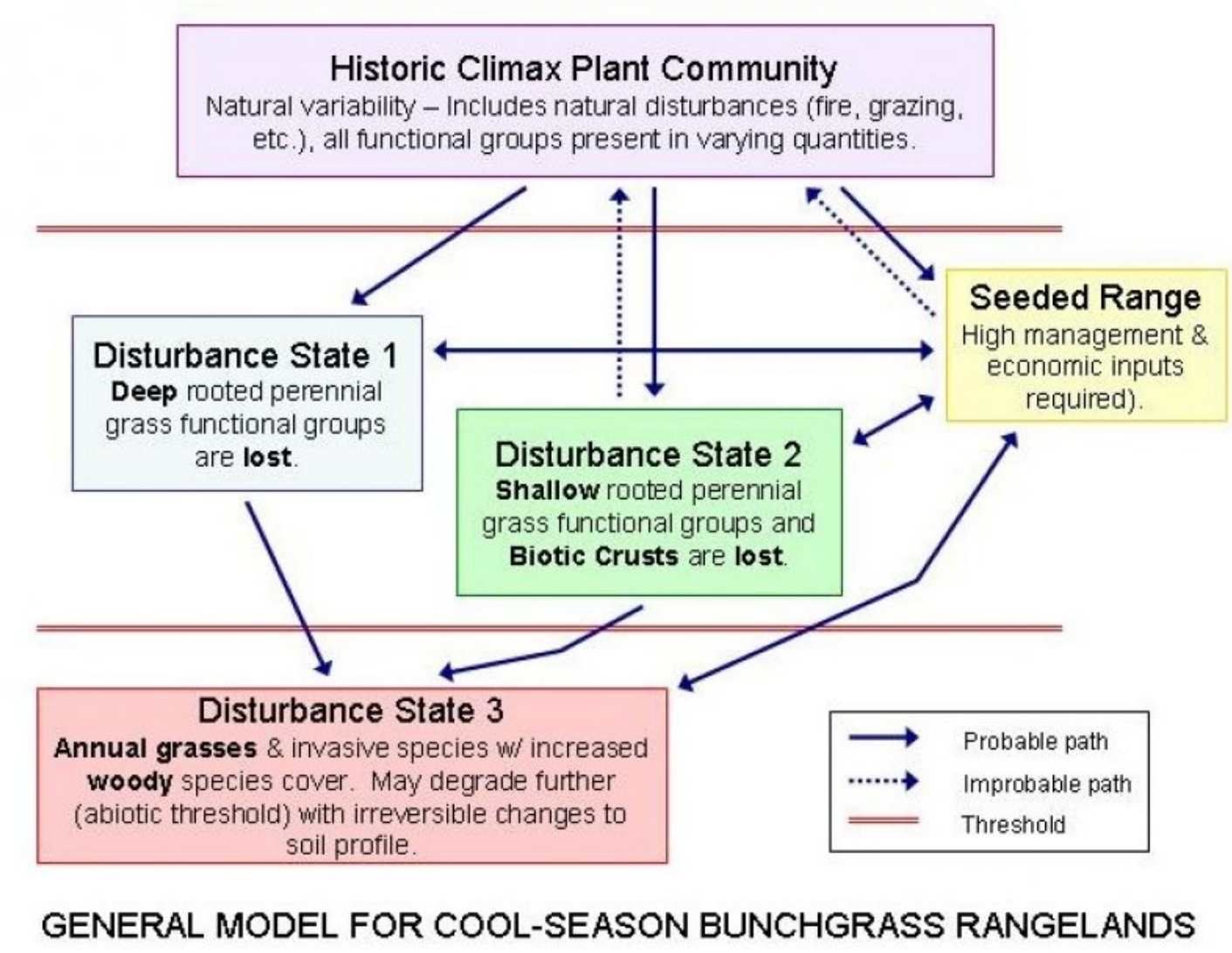
Table 4. Representative soil features

Surface texture	(1) Very gravelly loam
Family particle size	(1) Clayey
Drainage class	Well drained
Permeability class	Moderately slow

Ecological dynamics

Range in Characteristics:
As soil depth increases, grasses increase and forbs decrease. This site is an eroded phase of subalpine Loamy 35-40" PZ.
Response to Disturbance:
As the site deteriorates bottlebrush squirreltailand Sandberg bluegrass increase in plant density while fescue and Cusick bluegrass decrease.

State and transition model



GENERAL MODEL FOR COOL-SEASON BUNCHGRASS RANGELANDS

State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

The potential native community is dominated by sheep fescue and bluegrasses. Vegetative composition is about 85 percent grasses and 15 percent forbs.

Additional community tables

Animal community

Livestock Grazing:
there is a high potential to negatively impact this site due to the harsh climate and steep slopes.
Wildlife:
This site provides forage areas for big game and raptors. Small mammals and passerine birds are the predominate resident species.

Hydrological functions

The soils of this site have moderately slow infiltraion rates and medium runoff potential. The hydrologic soil group is C.

Other information

Suitability for seeding this site is fair because of the short growing season and surface rock fragments. Waterbar construction is necessary to prevent gullying on roads, trails, and pipelines. Depth to bedrock limits construction of water impoundments. Settleing snow pack may damage fence structures requiring special design of fences such as laydown fences.

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)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

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2. **Presence of water flow patterns:**

3. **Number and height of erosional pedestals or terracettes:**

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

5. **Number of gullies and erosion associated with gullies:**

6. **Extent of wind scoured, blowouts and/or depositional areas:**

7. **Amount of litter movement (describe size and distance expected to travel):**

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

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:

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):**

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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):**

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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:**

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17. **Perennial plant reproductive capability:**
