

Ecological site R010XY014OR

Clayey Bottom

Last updated: 5/13/2025
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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.

Associated sites

R010XY002OR	Cold Meadow Mountain Meadow
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Similar sites

R010XY005OR	Loamy Bottom Loamy Bottom.
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Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	(1) <i>Leymus cinereus</i>

Physiographic features

This site occurs as nearly level terraces to gently sloping areas along drainages. They may be narrow non-flooding stream terraces or broader valleys. Elevations range from 2000 to 4000 feet.

Table 2. Representative physiographic features

Landforms	(1) Terrace
Elevation	610 – 1,220 m
Aspect	Aspect is not a significant factor

Climatic features

The annual precipitation ranges from 10 to 16 inches. It occurs mainly between the months of October and June in the form of rain and snow. The soil temperature regime is mesic. The average annual air temperature is 48 degrees F with extreme temperature ranging from -16 to 103 degrees F. The frost-free period is 100 to 140 days. The optimum period for plant growth is from April through early July.

Table 3 Representative climatic features

Frost-free period (average)	140 days
Freeze-free period (average)	
Precipitation total (average)	410 mm

Influencing water features

Soil features

The soils of this site are deep with clayey surface layers and subsoils. They are well drained. They are generally formed in sedimentary rock. Permeability is slow and the available water holding capacity (AWC) is 6 to 9 inches for the profile. The potential for water or wind erosion is low. See appendix II for soils on which this site occurs.

Table 4. Representative soil features

Surface texture	(1) Clay
Permeability class	Slow
Available water capacity (0-101.6cm)	15.24 – 22.86 cm

Ecological dynamics

Range in Characteristics-

Willow and hawthorn are confined to low swales and moist areas within the stand. Sedge and rush will be more common in these areas also. Bitterbrush will be more common on the better drained portions of the site.

Response to Disturbance-

Bitterbrush is vulnerable to loss from both burning and heavy use by wildlife and livestock. Prolonged overgrazing will eventually eliminate all or most of all perennial bunchgrasses. Increaser and invader species include cheatgrass, soft chess, salsify, filaree, grey rabbitbrush, and mullein.

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 (%)
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Animal community

Wildlife- This site offers food and cover for mule deer, lagomorphs, coyotes and a variety of songbirds. Livestock grazing- This site is very accessible and vulnerable to cover use. Fencing should be considered, where practical, to improve management of this site.

Hydrological functions

Watershed- The soils of this site have moderate infiltration rates and low runoff potential.

Other information

Seeding recommendations- Species include tall wheatgrass, intermediate wheatgrass, pubescent wheatgrass, tall fescue, bluebunch wheatgrass, timothy and brome.

Contributors

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Approval

Kirt Walstad, 5/13/2025

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	08/08/2012
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: Occasional flooding with seasonal high water table

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): 0-5%

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): Significantly resistant to erosion: aggregate stability = 4-6

9. Soil surface structure and SOM content (include type of structure and A-horizon color and thickness): Deep, well drained with a clayey surface: Moderate OM (2-5%)

10. Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff: Significant ground cover (100+%) and gentle slopes (0-3%) effectively limit rainfall impact and overland 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: Basin wildrye > other grasses > shrubs > forbs

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):

15. Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):

Favorable: 6000, Normal: 4000, Unfavorable: 3000 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 forb and brush species will increase with deterioration of plant community. Kentucky bluegrass and quackgrass invade sites that have lost deep rooted native perennial grass functional groups.

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