USDA Natural Resources
Conservation Service

Ecological site R021XE044CA
Cool Loam 12-16 Fine-loamy

Accessed: 04/19/2024

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.

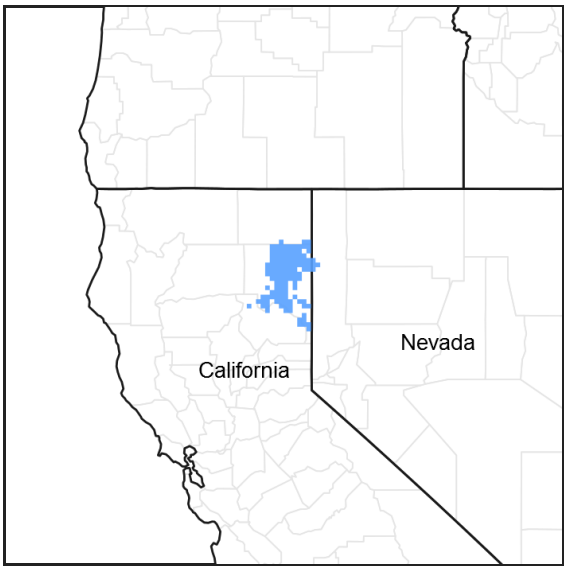

Figure 1. Mapped extent

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.

MLRA notes

Major Land Resource Area (MLRA): 021X–Klamath and Shasta Valleys and Basins

Site Concept:

Slopes: 15-50%
Aspect: North-facing
Elevation: 5400 - 7000 feet
Landform: Mountains, hills
Soils: Mesic/Cryic
Moderately to very deep
< 15% suface cobbles & stones
Argillic or Mollic epipedon
Surface Texture: Fine-loamy
Surface Texture
Modifier: Stony, Cobbly or Gravelly

Table 1. Dominant plant species

Tree	Not specified

Shrub	(1) *Artemisia tridentata ssp. vaseyana* (2) *Purshia tridentata*
Herbaceous	(1) *Festuca idahoensis* (2) *Achnatherum*

Physiographic features

This site is found on north-facing mountains and hills from 5400 to 7800 feet. It is found on slopes ranging from 15-50%, however slopes can go as low as 5% in some locations.

Table 2. Representative physiographic features

Landforms	(1) Mountain (2) Hill
Elevation	5,400–7,800 ft
Slope	15–50%
Aspect	N, NE, NW

Climatic features

Annual precipitation for this MLRA ranges from 12 to 30 inches, however this site is found on the lower end of that range between 12 and 16 inches. Most of the rainfall this MLRA receives occurs as low- or moderate-intensity Pacific frontal storms during the winter months, November through March. Rain generally turns to snow during the cold winter months, especially at the upper end of this site's elevation range. The average annual temperature is 39 to 52 degrees F, with a freeze-free period averaging 130 days and ranging from 70 to 185 days.

Table 3. Representative climatic features

Frost-free period (average)	80 days
Freeze-free period (average)	185 days
Precipitation total (average)	16 in

Influencing water features

Soil features

This upland site is characterized by less than 15% surface cover of cobbles and stones. Soils are moderately deep to very deep, with cobbly, stony or gravelly fine-loamy surface textures. Surface horizon averages 12 inches thick, and mollic horizon averages 20 inches. Available water capacity ranges from 2.5 to 4.5 inches.

Major soil families include:
Fine-loamy, mixed, Typic Argixerolls
Fine-loamy, mixed, superactive Xeric Argicryolls
Fine-loamy, mixed, superactive, frigid Pachic Ultic Haploxerolls

Table 4. Representative soil features

Surface texture	(1) Stony loam (2) Cobbly (3) Gravelly
Family particle size	(1) Loamy
Drainage class	Well drained
Soil depth	20–60 in

Surface fragment cover >3"	0–15%
Available water capacity (0-40in)	2.5–4.5 in
Soil reaction (1:1 water) (0-40in)	6.3–7.1

Ecological dynamics

State and transition model

Contributors

Test

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:**

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

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

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

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

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

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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):**

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

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

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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):**

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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:

    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:**