Ecological site R022AZ053CA
SNOW POCKET

Accessed: 05/13/2025

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.

MLRA notes

Major Land Resource Area (MLRA): 022A–Sierra Nevada and Tehachapi Mountains

This ESD was developed using older policy requirements which have been improved with the intent of improving ESD products overall. Users should approach these materials with some caution as the content herein, while likely useful for some purposes, was developed within parameters now recognized as needing varying levels of improvement. As always, a site-specific investigation is highly recommended when site-specific management alternatives are to be developed and/or management decisions are to be made.

Each ESD is an interpretation of the ecological relationships between biotic and abiotic aspects of the landscape. Users of this document should be aware of the limitations of this tool to the extent that specific local conditions may not be entirely captured within the ESD. In particular, management decisions should be supported by site-specific inventories, assessments and planning processes based on the best available information including and extending beyond the ESD.

An ESD is not a permanent determination of ecological dynamics. Rather, each ESD is an evolving body of work intrinsically tied to the soil surveys and data associated with soil map unit components of correlated soil-ecological site relationships. As new information becomes available, updates may be made or may be underway at any given time. Minor updates may be made without announcement when such changes do not modify the ecological site concept, the soils correlated or the state-and-transition model.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	(1) *Carex*

Physiographic features

This site occurs in strongly concave positons on the lee side (mostly north-facing aspects) of mountain ridges. This site typically appears as an "eyebrow" on mountain shoulders just below the ridgeline. Slopes range from 15 to 50 percent. Elevations are 8000 to over 13,000 feet.

Table 2. Representative physiographic features

Landforms	(1) Mountain slope
Elevation	2,134–2,896 m
Slope	4–50%
Aspect	N

Climatic features

The climate on this site is subhumid-continental, characterized by cold, moist winters, and cool dry summers. The average annual precipitation is over 20 inches, mostly occurring as snow. The linear to convex slope shapes associated with this site cause some of the precipitation to be removed from the site because of wind action, thus reducing the moisture available for plant growth. The mean annual air temperature ranges from 36 to 39 degrees F. The average frost free growing season is 30 to 60 days. Climate data used to support this section were derived from PRISM and is not specifically tied to any dominant climate station.

Table 3. Representative climatic features

Frost-free period (average)	0 days
Freeze-free period (average)	0 days
Precipitation total (average)	0 mm

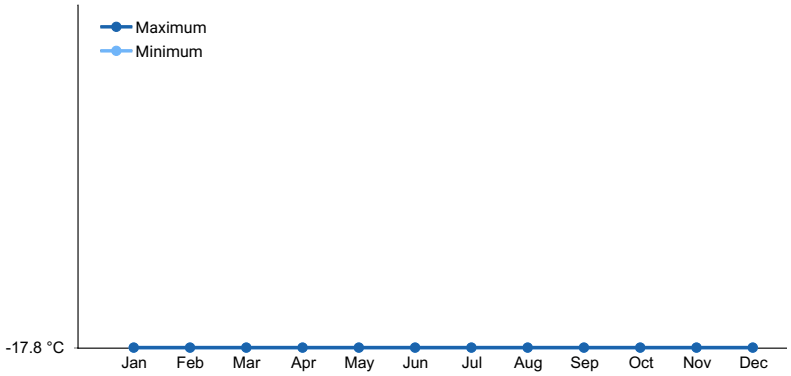

Figure 1. Monthly average minimum and maximum temperature

Influencing water features

There are no influencing water features associated with this site.

Soil features

The soils associated with this site are moderately deep and somewhat excessively drained. They are formed in colluvium and residuum from granitic rock. runoff is medium and permeability is rapid. Available water holding capacity is very low. The soils are moist during late fall, winter, and spring, and dry from July through early October. The soils associated with this site are classified as Typic Cryorthents.

CA729 Toiyabe National Forest Area, California
800;Grandridge-Delhew association;Typic Cryorthents

NV773 Douglas County Area, Nevada
800;Grandridge-Delhew association;Typic Cryorthents

Table 4. Representative soil features

Surface texture	(1) Very gravelly loamy coarse sand
Family particle size	(1) Sandy
Drainage class	Somewhat excessively drained
Permeability class	Rapid
Soil depth	51–99 cm
Surface fragment cover <=3"	65%

Surface fragment cover >3"	7%
Available water capacity (0-101.6cm)	3.05 cm
Electrical conductivity (0-101.6cm)	0 mmhos/cm
Sodium adsorption ratio (0-101.6cm)	0
Soil reaction (1:1 water) (0-101.6cm)	4.5–6
Subsurface fragment volume <=3" (Depth not specified)	16–40%
Subsurface fragment volume >3" (Depth not specified)	2–26%

Ecological dynamics

State and transition model

Ecosystem states

1. Reference Plant Community

State 1 submodel, plant communities

1.1. Reference Plant Community

State 1
Reference Plant Community

Community 1.1
Reference Plant Community

The plant community is dominated by carex and goldenweed. Other important plants are lupine and Eriogonum. Potential vegetative composition is about 20% grasses and grasslikes, 40% forbs and 40% shrubs.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Forb	34	67	90
Shrub/Vine	34	67	90
Grass/Grasslike	17	34	45
Total	**85**	**168**	**225**

Additional community tables

Table 6. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Kg/Hectare)	Foliar Cover (%)
Grass/Grasslike					
1	**Primary Perennial Grasses/Grasslikes**			17–26	
	sedge	CAREX	*Carex*	13–17	–
	bluegrass	POA	*Poa*	3–9	–
2	**Secondary Perennnial Grasses**			6–17	
	big squirreltail	ELMU3	*Elymus multisetus*	1–6	–
	mat muhly	MURI	*Muhlenbergia richardsonis*	1–6	–
Forb					
3	**Perennial Forbs**			34–76	
	buckwheat	ERIOG	*Eriogonum*	1–2	–
	dwarf mountain lupine	LULYS	*Lupinus lyallii ssp. subpandens*	1–2	–
	phlox	PHLOX	*Phlox*	1–2	–
	mock goldenweed	STENO7	*Stenotus*	1–2	–
Shrub/Vine					
4	**Primary Shrubs**			34–43	
	goldenweed	PYRRO	*Pyrrocoma*	34–43	–
5	**Secondary Shrubs**			3–13	
	mountain big sagebrush	ARTRV	*Artemisia tridentata ssp. vaseyana*	1–3	–
	roundleaf snowberry	SYRO	*Symphoricarpos rotundifolius*	1–3	–

Animal community

Livestock Interpretations:
This site has limited value for livestock grazing, due to the low forage production. Sedge provides good to fair forage for domestic grazing.

Stocking rates vary over time depending upon season of use, climate variations, site, and previous and current management goals. A safe starting stocking rate is an estimated stocking rate that is fine tuned by the client by adaptive management through the year and from year to year.

Wildlife Interpretations:
Sedges have a high to moderate resource value for elk and a medium value for mule deer. Elk consume beaked sedge later in the growing season.

Recreational uses

Aesthetic value is derived from the diverse floral and faunal composition and the colorful flowering of wild flowers and shrubs during the spring and early summer. This site offers rewarding opportunities to photographers and for nature study. This site is used for camping and hiking and has potential for upland and big game hunting.

Type locality

Location 1: Mono County, CA	
Township/Range/Section	T7N R24E S31
UTM zone	N
UTM northing	292244

UTM easting	4254753
Latitude	38° 25′ 0″
Longitude	119° 22′ 46″
General legal description	Toiyabe National Forest, near headwaters of South Fork Cottonwood Creek, Mono County, California.

Other references

Fire Effect Information System (Online; http://www.fs.fed.us/database/feis/plants/).

USDA-NRCS Plants Database (Online; http://plants.usda.gov/).

Contributors

ALM

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:**

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:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

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):**

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:**
