

Ecological site R030XA015CA

Coarse Loamy 5-7" P.Z.

Last updated: 10/21/2024

Accessed: 05/11/2025

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.

Ecological site concept

This site occurs on small coppice dunes on alluvial flats and sand sheets. Elevations are 2300 to 2900 feet. Slopes range from 0 to 5 percent.

The soils that characterize this site are very deep and moderately well drained to somewhat excessively drained. They are formed in mixed alluvium from mostly granitic sources. Surface textures are loamy sands, sandy loams and loamy fine sands.

Table 1. Dominant plant species

Tree	Not specified
Shrub	(1) <i>Ambrosia dumosa</i> (2) <i>Krascheninnikovia lanata</i>
Herbaceous	(1) <i>Achnatherum hymenoides</i>

Physiographic features

This site occurs on small coppice dunes on alluvial flats and sand sheets. Elevations are 2300 to 2900 feet. Slopes range from 0 to 5 percent.

Table 2. Representative physiographic features

Landforms	(1) Sand sheet
Elevation	2,300–2,900 ft
Slope	0–5%
Aspect	Aspect is not a significant factor

Climatic features

The climate on this site is characterized by cool, relatively dry winters (30 to 60 degrees F) and hot, dry summers (70 to 100 degrees F). The average annual precipitation ranges from 3 to 7 inches with most falling as rain from November to March. Mean annual air temperature is 60 to 64 degrees F.

The average frost free period is 200 to 250 days.

Table 3. Representative climatic features

Frost-free period (average)	250 days
-----------------------------	----------

Freeze-free period (average)	
Precipitation total (average)	7 in

Influencing water features

Soil features

The soils that characterize this site are very deep and moderately well drained to somewhat excessively drained. They are formed in mixed alluvium from mostly granitic sources. Surface textures are loamy sands, sandy loams and loamy fine sands. Available water capacity is low to high and the hazard of water erosion is none to slight. Wind erosion hazard is severe to very severe. Effective rooting depth is 60 inches or more. Water tables are greater than 60 inches.

Soil Map Units

101 Cajon loamy fine sand, 0-2% slopes

110 Cajon-Norob complex, 0-15% slopes

137 Norob complex, 0-5% slopes, overblown

Ecological dynamics

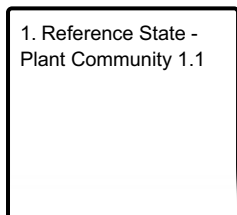
Please refer to grouped concept R030XA016CA Deep Sand 5-7 to view STM concept.

As ecological condition deteriorates, perennial grasses and shrubs such as winterfat and spiny hopsage decrease. White bursage, Cooper goldenbush, and rayless goldenhead will increase. Species likely to invade this site include burrobrush, filaree, schismus, and annual bromes.

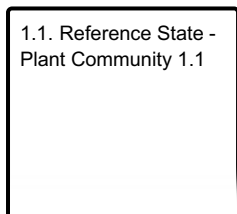
Fire is infrequent and is not recommended as a range management tool due to the sparse cover, hazard of wind erosion, and slow recovery rates.

State and transition model

Ecosystem states



State 1 submodel, plant communities



State 1

Reference State - Plant Community 1.1

Community 1.1

Reference State - Plant Community 1.1

The representative natural plant community is Desert Sand Fields or White bursage series. This community is dominated by white bursage, winterfat, and Indian ricegrass. Potential vegetative composition is about 30% grasses, 10% forbs, and 60% shrubs. The historic site potential is dominated by white bursage, winterfat, and

Indian ricegrass. This community occurs where desert sand accumulations are not obviously worked into dune landforms. Vegetation varies from scant cover of widely scattered shrubs and herbs to nearly closed shrub canopies. Annual forbs and grasses are seasonally present. This site is stable in this condition. The following table lists the major plant species and percentages by weight, air dry, of the total plant community that each contributes in an average production year. Fluctuations in species composition and relative production may change from year to year dependent upon abnormal precipitation or other climatic factors.

Forest overstory. **Allow no more than 2% of each species of the shrub group and no more than 10% in aggregate

Other shrubs comprise 5 to 10% composition (air-dry weight)

Forest understory. **Allow no more than 2% of each species of the grass group and no more than 8% in aggregate

Other perennial grasses comprise 2 to 8% composition (air-dry weight)

Other annual grasses comprise 2 to 5% composition (air-dry weight)

**Allow no more than 2% of each species of the forb group and no more than 8% in aggregate

Other perennial forbs comprise 2 to 8% composition (air-dry weight)

Other annual forbs comprise 2 to 5% composition (air-dry weight)

Table 4. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Shrub/Vine	120	210	300
Grass/Grasslike	60	105	150
Forb	20	35	50
Total	200	350	500

Table 5. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	9-15%
Grass/grasslike foliar cover	4-7%
Forb foliar cover	1-2%
Non-vascular plants	0%
Biological crusts	0%
Litter	0%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	0%

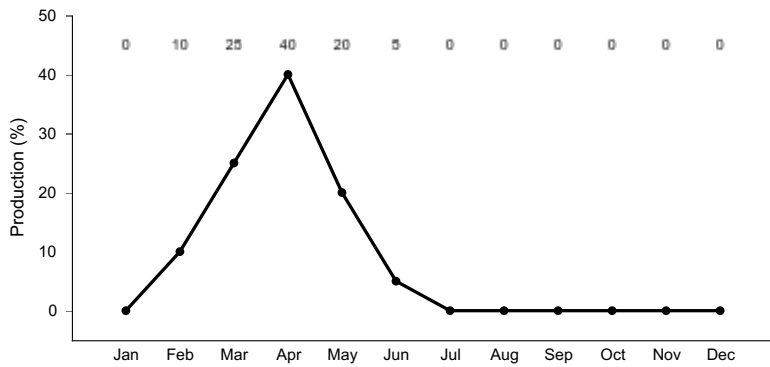


Figure 2. Plant community growth curve (percent production by month). CA3009, Winterfat. Growth starts in late winter. Flowering and seed set occur by June. Seeds remain on the shrubs for several months. Dormancy occurs during the hot summer months..

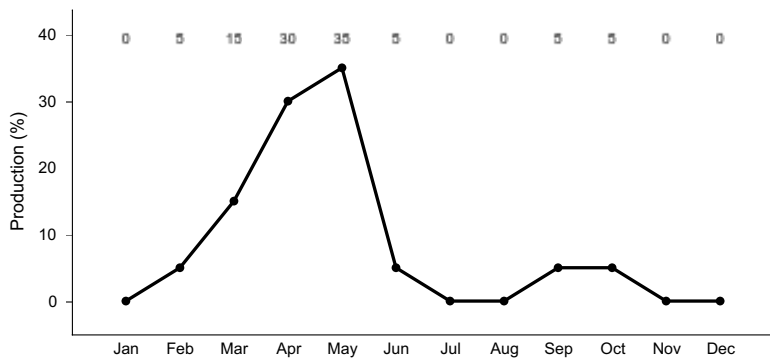


Figure 3. Plant community growth curve (percent production by month). CA3022, Indian ricegrass. Growth begins in late winter, flowering and fruiting finished by the hot summer months. Early fall rains can trigger a flush of new growth..

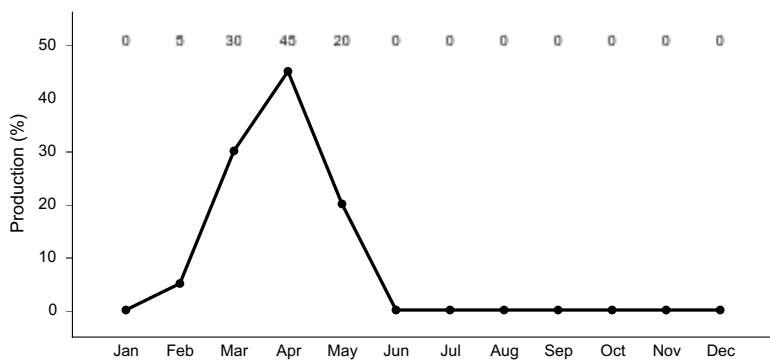


Figure 4. Plant community growth curve (percent production by month). CA3083, Burrobush XY. Growth begins in mid-winter and by late spring, seed has set..

Additional community tables

Animal community

This site provides suitable habitat for small mammals such as kangaroo rats and ground squirrels, and game and fur mammals such as coyotes and rabbits. Other wildlife species occurring on this site include: ravens, raptors, reptiles and various songbirds. This site also provides suitable habitat for desert tortoise. Historically, this site provided habitat for antelope as well.

Wildlife Habitat - Management for this site would be to protect it from excessive disturbance and maintain existing plant cover. Water developments would also increase the species diversity of this site. Habitat-destructive military maneuvers and vehicle activity off of designated roads are incompatible with desert tortoise recovery. Access to non-essential roads and trails should be closed. These and other disturbed areas should be restored to pre-disturbance conditions.

LIVESTOCK GRAZING:

Season of Use- Other Mgt. Considerations: This site is suitable for limited spring grazing by sheep and also cattle where water is available. In favorable years, annual forbs and grasses provide additional forage.

General guide to initial stocking rate. Before making specific recommendations, an on-site evaluation must be made.

Pounds/acre
air dry
Normal Years 350

Hydrological functions

Runoff is negligible, very low, low or medium. Hydrologic soil group A - soils having high infiltration rates even when thoroughly wetted and consisting chiefly of deep, well drained to excessively drained sands or gravels. These soils have a high rate of water transmission. Hydrologic soil group C - soils having slow infiltration rates when thoroughly wetted and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission. Hydrologic conditions: good - >70% ground cover (includes litter, grass and brush overstory); fair - 30 to 70% ground cover; poor <30% ground cover.

Soil Series: Cajon
Hydrologic Group: A
Hydrologic Conditions and Runoff Curves:
Good 49; Fair 55; Poor 63

Soil Series: Norbo, Thick
Hydrologic Group: C
Hydrologic Conditions and Runoff Curves:
Good 79; Fair 81; Poor 85

Recreational uses

This site is highly valued for open space. Recreation users include mountain bikers, joggers, and off-road enthusiasts. Flowering wildflowers and desert tortoise may also attract visitors.

Other information

Military Operations - Land clearing or other disturbances that destroys the vegetation and soil structure can result in increased erosion, soil blowing, and barren areas. Off-road vehicles should be restricted to existing roads and trails. Native species indigenous to this site are recommended for any revegetation efforts.

Inventory data references

This ecological site description is based on the following documentation:

Sampling technique

5 NV-ECS-1
1 SCS-Range 417
___ Other

Type locality

Location 1: San Bernardino County, CA

Township/Range/Section	T9N R7W S11
General legal description	SE1/4 Section 11, T9N, R7W Northeast of Haystack Butte, San Bernardino Co., CA

Contributors

P. Novak-Echenique

Approval

Kendra Moseley, 10/21/2024

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	05/11/2025
Approved by	Kendra Moseley
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:**
-
17. **Perennial plant reproductive capability:**
-

