

## Ecological site R030XA025CA Saline Bottom

Accessed: 11/22/2024

### 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.

### Ecological site concept

This site occurs on nearly level to gently sloping areas of basin floors. Elevations are 2270 to 2375 feet. Slopes range from 0 to 9 percent.

The soils that characterize this site are very deep and moderately well drained. They are formed in lacustrine sediments. Surface textures are sandy loams, and loamy sands.

### Similar sites

R030XA031CA	<b>Sodic Dunes 5-7" P.Z.</b> Sodic Dune 5-7" P.Z.[ATCA2 dominant species]
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Table 1. Dominant plant species

Tree	Not specified
Shrub	(1) <i>Atriplex confertifolia</i>
Herbaceous	(1) <i>Sporobolus airoides</i> (2) <i>Distichlis spicata</i>

### Physiographic features

This site occurs on nearly level to gently sloping areas of basin floors. Elevations are 2270 to 2375 feet. Slopes range from 0 to 9 percent.

Table 2. Representative physiographic features

Landforms	(1) Alluvial flat
Flooding duration	Very brief (4 to 48 hours)
Flooding frequency	Occasional
Ponding duration	Very brief (4 to 48 hours)
Ponding frequency	Occasional
Elevation	692–724 m
Slope	0–2%
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)	0 days
Precipitation total (average)	178 mm

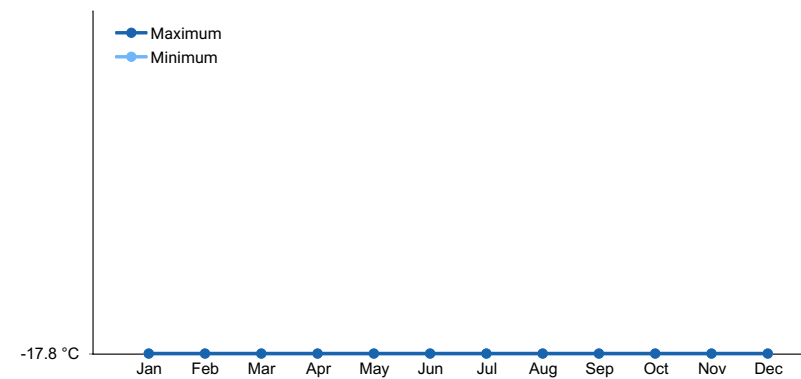


Figure 1. Monthly average minimum and maximum temperature

Influencing water features

Soil features

The soils that characterize this site are very deep and moderately well drained. They are formed in lacustrine sediments. Surface textures are sandy loams, and loamy sands. The subsoil is a sandy clay loam about 45 inches thick. The substratum to 60 inches is sandy loam and loamy sand. These soils are moderately to very strongly alkaline and calcareous throughout the profile. Available water capacity is moderate and the hazard of water erosion is slight. Wind erosion hazard is moderate. Effective rooting depth is 60 inches or more. A seasonal water table that occurs at depths greater than 60 inches supplies moisture to deep-rooted phreatophytic shrubs and grasses. Additional moisture is received as run-in from higher landscapes. Up to 6 inches of ponding may occur in the small playas for several days after heavy winter rains.

Soil Map Units

112 Challenger-Leuhman complex, 0-9% slopes

128 Leuhman-Challenger complex, 0-9% slopes

Ecological dynamics

As ecological condition deteriorates, the perennial grasses decrease and the xerophytic shrubs such as shadscale and rubber rabbitbrush become dominant. Inland saltgrass will increase with occasional ponding. Lowering of the seasonal watertable can result in a loss of the the phreatophytic shrubs and grasses. Loss of perennial cover will allow for the invasion of non-native annual forbs and grasses such as Russian thistle, filaree, foxtail barley, red brome, and schismus. Gullying and accelerated erosion will also occur. Threadleaf snakeweed and saltcedar are also invaders of this site.

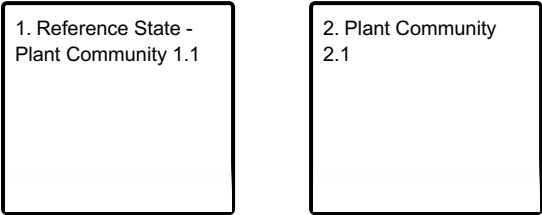
Management for this site is to maintain existing plant cover and protect it from excessive disturbance especially when the playas are wet.

Black greasewood contains soluble oxalates which may cause poisoning and death if livestock consume a large amount in a short time period.

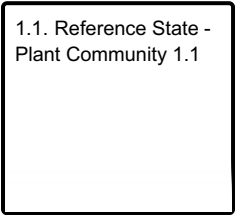
The foliage of the saltbushes appears to have fire-retarding qualities associated with the salt content of the leaves. A severe fire will typically kill aboveground portions of the saltbushes, thus fire can be used as a range management tool to decrease the brush species and to increase grass cover.

State and transition model

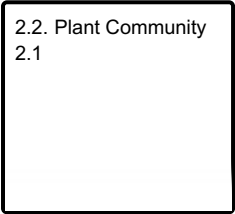
Ecosystem states



State 1 submodel, plant communities



State 2 submodel, plant communities



State 1  
Reference State - Plant Community 1.1

Community 1.1  
Reference State - Plant Community 1.1

The historic site potential, is a dense to fairly open growth of perennial grasses dominated by alkali sacaton with several shrubby species from the Chenopod family scattered throughout. Annual grasses and forbs are common in favorable years. This site is stable in this condition. This site is a gradation between alkali meadow and halophytic saltbush scrub vegetation and usually occurs on higher ground on the edge of playas. Further away from the playa a xerophytic saltbush scrub gradually replaces this site. The representative natural plant community is Halophytic Desert Saltbush Scrub or Alkali Sacaton series. This community is dominated by shadscale, alkali sacaton and inland saltgrass. Vegetation is restricted to coppice dunes that are surrounded by small barren playas. Potential vegetative composition is about 65% grasses, 10% forbs, and 25% shrubs and trees. A well-developed cryptogamic crust is also common. 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 3% of each species of this group, and no more than 15% in aggregate

**Forest understory.** \*\* Allow no more than 3% of each species of the grasses group, and no more than 10% in aggregate

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

Table 4. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	364	547	729
Shrub/Vine	140	210	280
Forb	56	84	112
<b>Total</b>	<b>560</b>	<b>841</b>	<b>1121</b>

**Table 5. Ground cover**

Tree foliar cover	0%
Shrub/vine/liana foliar cover	5-10%
Grass/grasslike foliar cover	13-29%
Forb foliar cover	2-4%
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%

## State 2

### Plant Community 2.1

#### Community 2.1

#### Plant Community 2.1

This plant community occurs across the western portion of the MLRA. Introduced annuals such as red brome, schismus, cheatgrass, and filaree have invaded the historic climax plant community and have become a dominant component of the herbaceous cover. It is hypothesized that the change from native to non-natives is due to a combination of (1)invasion of alien species, (2)watertable drawdown, and (3)drought. The site in this condition is not stable. Often so much of the surface soil has been lost that the site will not respond to management and the site potential is no longer obtainable. The introduced annuals provide abundant forage for livestock in favorable years.

### Additional community tables

#### Animal community

Historically, this site may have been grazed by antelope. At present, this site provides habitat for small mammals such as kangaroo rats and ground squirrels, and fur and game mammals such as coyotes and rabbits. Songbirds are also common. The small playas or "claypans" provide habitats for five species of eubranchiopods including species of tadpole shrimp, clam shrimp and fairy shrimp. This site is poorly suited for desert tortoise due to the occurrence of ponding.

This site is suitable for spring grazing by sheep and also cattle where water is available. The perennial grasses also provide limited winter grazing for cattle. 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 750

## Hydrological functions

Runoff is negligible or low. Hydrologic soil group D - soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission. Hydrologic soil condition: good - >70% ground cover (includes litter, grass and brush overstory); fair - 30 to 70% ground cover; poor - <30% ground cover.

Soil Series: Leuhman  
Hydrologic Group: D  
Hydrologic Conditions and Runoff Curves:  
Good 84; Fair 86; Poor 88

## Recreational uses

This site is valued for open space and is used by mountain bikers, joggers and off-road enthusiasts. Off-road vehicle use can easily damage the soil structure and vegetative cover and should be restricted to existing roads and trails.

## Other information

Vehicles and aircraft should be limited to existing roads and airstrips. Park vehicles on roadways only and avoid playas especially when wet. Limit disturbance of surrounding watershed and vegetation as much as possible. Native species indigenous to the site are recommended for any revegetation efforts. Contain all potentially hazardous materials.

## Inventory data references

Sampling technique

☐ \_7\_ NV-ECS-1  
☐ SCS-Range 417  
☐ Other

## Type locality

Location 1: Los Angeles County, CA	
Township/Range/Section	T8N R12W S24
General legal description	NE 1/4 Section 24, T8N, R12W South of Rosamond Lake, Los Angeles Co., CA

## 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	11/22/2024
Approved by	Kendra Moseley
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):
- 

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:**
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