

Ecological site group DX035X01IESG03

Little Colorado River Basin-salt affected soils- moderately deep or deeper

Last updated: 10/12/2022

Accessed: 04/19/2024

Key Characteristics

- Little Colorado River Basin
- Salt affected soils
- Soils do not receive extra water from run-in moisture
- Moderately deep or deeper

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.

Physiography

Site located in an upland position on alluvial fans, stream terraces, fan remnants and summits of structural benches.

Climate

The 35.2 Colorado Plateau Cold Desert Shrub - Grassland common resource area has a very dry and windy climate that is hot in the summer and cold in the winter. The annual precipitation averages between 6 and 10 inches. The soil moisture regime is typic-aridic and the soil temperature regime is mesic. A slight majority of the precipitation arrives during the late fall, winter, and early spring. This winter season moisture originates in the Pacific Ocean and arrives as rain, or sometimes snow, during widespread frontal storms of generally low intensity. The majority of the snow (average range of 1 to 17 inches) falls from December through February, but rarely lasts more than a few days. A seasonal drought occurs from late May through early July. Summer rains occur from July through September during brief intense local thunderstorms. The rain is sporadic in intensity and location. The moisture originates from the Gulf of Mexico in the early summer and the Gulf of California in the late summer/early fall. Windy conditions are common year round, but the winds are strongest and most frequent during the spring.

Soil features

Soils on this site are Moderately deep or deeper. Surface textures range from sandy loam to fine sandy loam on the surface. Subsurface textures generally range from sandy loams to sandy clay loams. Some upland textures in sediment-collection areas can have Clay loam to Clay (non-shrinking) with subsurface textures are typically Clay loam, Clay, Silty clay, Sandy clay loam, Sandy loam. Geologic formation: Chinle formation shales, Moenkopi fine sand stone.

Parent material is alluvium from sandstone, shale, and mudstone. Available water capacity: moderate to high. Hazard of erosion by water: slight to moderate - wind: moderate to high. Soil moisture regime: Typic aridic Soil temperature regime: mesic.

Vegetation dynamics

The reference plant community is made up primarily of mid and short grasses mixed (70-80%) with scattered shrubs (15-25%) and a relatively small percentage of annual and perennial forbs (1-5%). Dominant plants include fourwing saltbush, mound saltbush, alkali sacaton, and galleta. Disturbances can result in a slight decrease in the amount of cool season perennial grasses and palatable shrubs, like fourwing saltbush and winterfat. With unmanaged grazing, warm season grasses increase along with shrubs such as, shadscale, greasewood and mound saltbush.

Plant species most likely to invade or increase on this site when it deteriorates are Galleta, shadscale, mound saltbush, black greasewood, Russian thistle and Annual forbs. Unmanaged grazing during the winter and spring periods will decrease the cool season grasses, which are replaced by warm season, lower forage value grasses and shrubs

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- R035XB203AZ–Clay Loam Upland 6-10" p.z. Saline
- R035XB223AZ–Sandy Upland 6-10" p.z. Sodic
- R035XB225AZ–Clay Loam Upland 6-10" p.z. Sodic
- R035XB227AZ–Sandy Loam Upland 6-10" p.z. Saline-Sodic
- R035XB237AZ–Clay Loam Terrace 6-10" p.z. Sodic
- R035XB238AZ–Sandy Terrace 6-10" p.z. Sodic
- R035XC309AZ–Clay Loam Terrace 10-14" p.z. Saline-Sodic
- R035XC326AZ–Sandy Loam Upland 10-14" p.z. Saline

Correlated Map Unit Components

22353865, 22353863, 22353867, 22353933, 22353954, 22396715, 22396707, 22396815, 22396636, 22396638, 22396778, 22396655, 22396656, 22396657, 22484756, 22484769, 22484727, 22484728, 22529506, 22529608

Stage

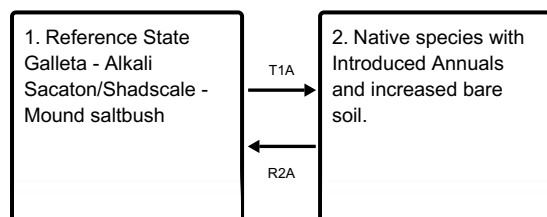
Provisional

Contributors

Curtis Talbot

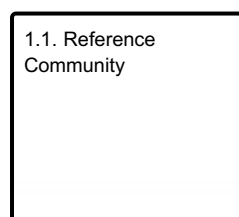
State and transition model

Ecosystem states



T1A - T1A = Unmanaged grazing, prolonged drought, introduction of non-native annuals

State 1 submodel, plant communities



State 2 submodel, plant communities

2.1. Grass-Shrubs-
Introduced Annuals

State 1

Reference State Galleta - Alkali Sacaton/Shadscale - Mound saltbush

State 1 Reference State This plant community is a perennial grassland with a moderate amount of low shrubs and a small percentage of forbs. Natural climatic variation can result in changes in the amount of and ratio of both individual plants. Dominate plants are galleta, alkali sacaton, shadscale and mound saltbush.

Community 1.1

Reference Community

This site has a plant community made up primarily of mid and short grasses with a small percentage of forbs and low growing shrubs. In the original plant community there is a predominance of warm season grasses with shrubs, half shrubs, and cool season grasses. Common species include Galleta - Alkali sacaton/Shadscale - Mound saltbush.

State 2

Native species with Introduced Annuals and increased bare soil.

This site is a grassland - shrubland with increased of native forbs along with the introduction of non-native invasive annuals. Plant species most likely to invade or increase on this site when it deteriorates are mound saltbush, shadscale, broom snakeweed, Greene's rabbitbrush, and annuals such as cheatgrass and Russian thistle.

Community 2.1

Grass-Shrubs-Introduced Annuals

This plant community is a grassland with warm season grasses dominate with native shrubs along with the introduction of non-native invasive annuals species. Annuals, including non-natives, can make up to 15% of the total plant community composition. The amount of bare ground has increased on this site and sodic slickspots are present. Common species include Galleta - Alkali sacaton/Shadscale - Mound saltbush - with Cheatgrass, and Russian Thistle.

Transition T1A

State 1 to 2

Repetitive, heavy utilization on preferred species coupled with colonization of introduced species.

Restoration pathway R2A

State 2 to 1

An increase in soil organic matter and perennial cover coupled with a set-back to invasive species through treatment. It may not be possible to fully eradicate introduced species.

Citations