

Ecological site group ESG4

Saline

Last updated: 08/16/2022
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Key Characteristics

- Not flooded (hills, convex portions of piedmont slopes, broad basin floors)
- Exposed bedrock absent and few if any cobbles and stones
- Soil surface textures are fine sandy loam to clay loam, subsoil non gravelly, gypsum may or may not be present
- Subsoil moderately to strongly saline, often with visible salt accumulation or crusts

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.

Climate

Alluvial plains, moderately to strongly saline soils

Vegetation dynamics

Alluvial plains, moderately to strongly saline soils

Major Land Resource Area

MLRA 042B
Southern Rio Grande Rift

Correlated Map Unit Components

21843406, 21843146, 21843145, 21843143, 21843152, 21843153, 21843154, 21843511, 21843160, 21843044, 21843001, 21843005, 21843009, 21842847, 21843061, 21839823, 21839743, 21839827, 21839831, 21839765, 21839840, 21839845, 21839847, 21839939, 21839851, 21839991, 21839990, 21840088, 21840087, 21839812, 21840093, 21839997, 21843741, 21843742, 21844103, 21838088, 21838142, 21838211, 21838209, 21838210, 21838054, 21838053, 21838299, 21838298, 21838144, 21838139, 21838358, 21838314, 21838263, 21838264, 21838262, 21838339, 21838338, 21838241, 21838119, 21838120, 21838121, 21838201, 21838199, 21838200, 21838283, 21838277, 21838105, 21838232, 21838092, 21838356, 21838051, 21838230, 21838229, 21838130, 21838131, 21838086, 21838322, 21838115, 21838117, 21838303, 21838304, 21838286, 21838102, 21838555, 21838592, 21838590, 21838591, 21838637, 21838636, 21838493, 21838606, 21838607, 21838605, 21838506, 21838505, 21838548, 21838549, 21838550, 21838621, 21838615, 21838533, 21838526, 21838539, 21838541, 21838482, 21838483, 21838624, 21838536, 21838588, 21838586, 21838587, 21838578, 21838584, 21838510

Stage

Provisional

Contributors

Curtis Talbot

State and transition model

Ecosystem states

1. Perennial-dominated

2. Barren

State 1

Perennial-dominated



Salinity levels, ponding duration and frequency determine the diversity, type and cover of vegetation on these sites. Alkali sacaton grasslands are common at lower salinity levels, and typically include iodinebush or saltbush. In some cases, tobosa and vine mesquite may be present. Where present, honey mesquite cover is limited. Bare areas are a natural occurrence on this site, often related to increased salinity or past water ponding events. More saline soils in this state are characterized by sparse cover of iodinebush.

Characteristics and indicators. Transition dynamics are not well understood. Soil salinity dictates plant composition. Drought and/or overgrazing may lead to mortality of perennial grasses. Reduced water infiltration and accumulation of sodium or salts at the soil surface may inhibit grass recruitment, possibly leading to the expansion of bare areas. Changes in hydrology may also contribute to grass loss.

Resilience management. The interplay of human versus natural causes of vegetation loss are not well understood. Grazed areas should be managed to avoid soil compaction and degradation to prevent soil sealing, erosion and changes in surface hydrology. Decadence or mortality of perennial grasses, expansion of bare areas and increases in surface salts are key indicators that a management change may be needed to prevent a transition to the bare state.

State 2

Barren



Erosion, high salt content, water ponding and seasonal fluctuations in a high water table makes this an extremely harsh environment. This state typically occurs in the lowest elevations and is essentially devoid of vegetation and susceptible to extended periods of ponding.

Citations