

Ecological site group DX035X04CESG03

Chaco Mesa LRU Subset - Saline and Sodic Uplands

Last updated: 11/02/2022
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Key Characteristics

- Chaco Mesa. This LRU subset is composed of Cretaceous materials, is generally above 1900 m in elevation, and does not drain directly into the San Juan River. The Chaco Mesa subset is further distinguished from the Bisti Lowlands in that the former receives more monsoonal moisture, harbors more warm-season grasses, and experiences a considerable amount of blowing sands.
- Sites that occur on "upland", water-shedding landforms. Elevated terraces are included in this group.
- Soils are > 50 cm to lithic or paralithic contact (root-restrictive bedrock).
- Sites that have saline and/or sodic soils. In these cases soils regularly have an EC > 4.0 and/or SAR > 10 or ESP > 15.

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

On upland landforms. Drainageways are excluded. Elevated terraces are included. Flooding does not occur.

Soil features

Soils are at least moderately saline and/or sodic.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

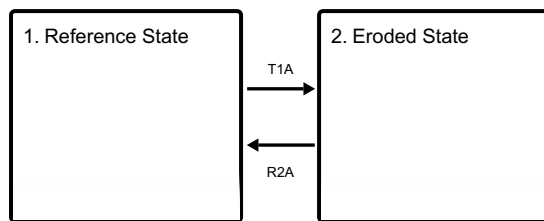
- DX035X03E005–Salt Flats
- R035XB008NM–Sodic Slopes
- R035XB016NM–Clay Loam Terrace (Sodic) 7-10"
- R035XB017NM–Cobbly Slopes 6-10"
- R035XB022NM–Loamy Upland 6-10" p.z. sodic
- R035XB033NM–Sandy Loam Upland 6-10" sodic
- R035XB034NM–Sandy Terrace 6-10" sodic
- R035XB227AZ–Sandy Loam Upland 6-10" p.z. Saline-Sodic
- R035XB228AZ–Sandstone Upland 6-10" p.z. Sodic
- R035XB237AZ–Clay Loam Terrace 6-10" p.z. Sodic
- R035XB268AZ–Shale Hills 6-10" p.z.
- R035XB271AZ–Loamy Upland 6-10" p.z. Saline-Sodic
- R035XB274AZ–Sandy Loam Upland 6-10" p.z. Saline
- R035XB276AZ–Siltstone Upland 6-10" p.z. Saline
- R035XB277AZ–Siltstone Upland 6-10" p.z. Limy
- R035XB278AZ–Loamy Upland 6-10" p.z. Saline, Gypsic
- R035XB279AZ–Clay Loam Upland 6-10" p.z. Sodic, Gypsic

Stage

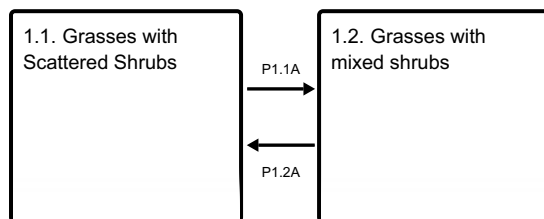
Provisional

State and transition model

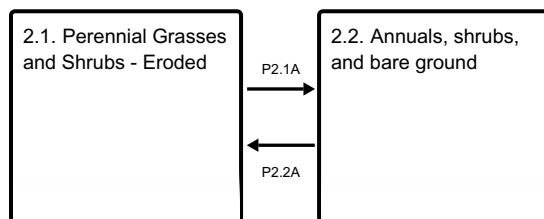
Ecosystem states



State 1 submodel, plant communities



State 2 submodel, plant communities



State 1

Reference State

This state occurs where topsoils have not been significantly eroded.

Characteristics and indicators. Topsoils remain intact.

Dominant plant species

- saltbush (*Atriplex*), shrub
- broom snakeweed (*Gutierrezia sarothrae*), shrub
- rubber rabbitbrush (*Ericameria nauseosa*), shrub
- alkali sacaton (*Sporobolus airoides*), grass
- James' galleta (*Pleuraphis jamesii*), grass
- Indian ricegrass (*Achnatherum hymenoides*), grass

Community 1.1

Grasses with Scattered Shrubs

Perennial grasses dominant.

Dominant plant species

- saltbush (*Atriplex*), shrub
- alkali sacaton (*Sporobolus airoides*), grass
- James' galleta (*Pleuraphis jamesii*), grass

Community 1.2

Grasses with mixed shrubs

Grasses dominant. Shrubs more abundant and diverse than in Phase 1.1

Dominant plant species

- saltbush (*Atriplex*), shrub
- broom snakeweed (*Gutierrezia sarothrae*), shrub
- rubber rabbitbrush (*Ericameria nauseosa*), shrub
- alkali sacaton (*Sporobolus airoides*), grass
- James' galleta (*Pleuraphis jamesii*), grass

Pathway P1.1A

Community 1.1 to 1.2

Continuous grazing

Pathway P1.2A

Community 1.2 to 1.1

Prescribed grazing

State 2

Eroded State

Soils significantly eroded. Topsoils truncated or absent.

Community 2.1

Perennial Grasses and Shrubs - Eroded

Shrubs and grasses are roughly codominant. Annual grasses and forbs are a significant component.

Community 2.2

Annuals, shrubs, and bare ground

Shrubs and annual grasses and forbs make up the plant community. Production is quite low, and bare ground abounds.

Pathway P2.1A

Community 2.1 to 2.2

Continuous grazing.

Pathway P2.2A

Community 2.2 to 2.1

Prescribed grazing, coupled with erosion control and, likely, seeding.

Transition T1A

State 1 to 2

Prolonged continuous grazing regime, coupled with introduction of invasive annuals. Drought is thought to be the trigger event. Low basal cover increases susceptibility to erosion.

Restoration pathway R2A

State 2 to 1

Prescribed/deferred grazing.

Citations