

Ecological site group DX035X01IESG16

Little Colorado River Basin-Shale or clayey mod-deep or deeper soils on fan remnants or plains

Last updated: 10/25/2022
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Key Characteristics

- Little Colorado River Basin
- Shale or Clayey
- Does not receive extra water from run-in moisture
- moderately deep and deeper soils on fan remnants and plains

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

This site occurs on relatively flat upland areas as including plateaus, valley floors and fans. Slopes range from 0 to 15 percent but are mostly less than 10 percent. The soils are deep, and have a clay loam to clay surface texture.

Climate

Winter summer moisture ratios range from 70:30 to 60:40. Late spring is usually the driest period, and early fall moisture can be sporadic. Summer rains fall from June through September; moisture originates in the Gulf of Mexico and creates convective, usually brief, intense thunderstorms. Cool season moisture from October through May tends to be frontal; it originates in the Pacific and the Gulf of California and falls in widespread storms with longer duration and lower intensity. Precipitation generally comes as snow from December through February. Accumulations above 12 inches are not common but can occur. Snow usually lasts for 3-4 days, but can persist much longer. Summer daytime temperatures are commonly 95 - 100 F and on occasion exceed 105 F. Winter air temperatures can regularly go below 10 F and have been recorded below - 20 F.

Soil features

The soils grouped into this range site are moderately deep or deep to any plant root restriction layer. The surface textures range from sandy clay loam to clay. This ecological site does not include soils with cracking clay surfaces. The subsurface textures are clay loam to clay and can have rock fragments ranging from 10 to 35 percent. Permeability is slow. The soil reaction is slightly to moderately alkaline (pH 7.4 to 8.4). The water erosion hazard is moderate to high.

Vegetation dynamics

Reference State

This site is a grassland community with scattered shrubs and a few forbs. The grasses are a mixture of cool and warm season grasses. The shrubs are four wing saltbush at the lower elevation and precipitation areas and Wyoming big sagebrush at the higher elevation and precipitation areas.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- R035XA106AZ–Clayey Upland 10-14" p.z.
- R035XA107AZ–Clay Loam Upland 10-14" p.z.
- R035XB239AZ–Clayey Fan 6-10" p.z.
- R035XC307AZ–Clay Loam Upland 10-14" p.z.
- R035XG706AZ–Clayey Upland 14-18" p.z.
- R035XG707AZ–Clay Loam Upland 14-18" p.z.

Correlated Map Unit Components

22341065, 22341097, 22341100, 22341115, 22341143, 22341145, 22341147, 22341149, 22341150, 22341151, 22341152, 22341155, 22341154, 22341159, 22341161, 22341165, 22341163, 22353947, 22353999, 22353377, 22353381, 22353379, 22353436, 22353431, 22484735, 22484724, 22484758, 22484730, 22484775

Stage

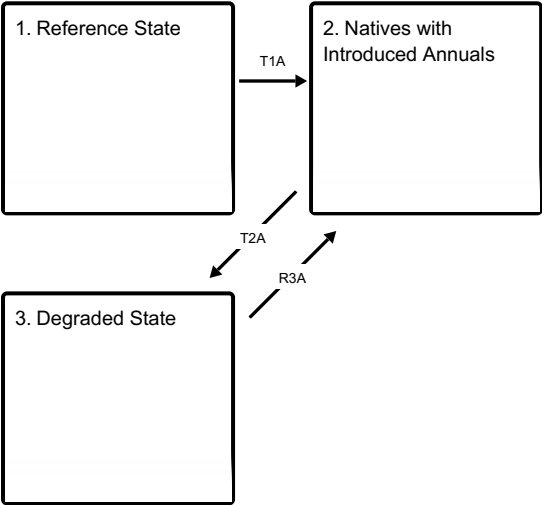
Provisional

Contributors

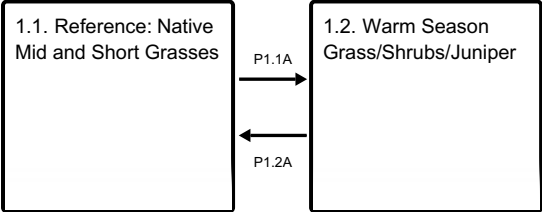
Curtis Talbot

State and transition model

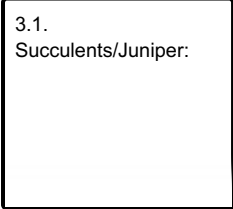
Ecosystem states



State 1 submodel, plant communities



State 3 submodel, plant communities



State 1

Reference State

The reference state includes the reference plant community which is a perennial grassland with scattered shrubs and juniper.

Community 1.1

Reference: Native Mid and Short Grasses

The site has a plant community made up primarily of mid and short grasses, forbs, small shrubs and scattered junipers. In the original plant community there is mixture of both cool and warm season grasses with a predominance of warm season. Common species include blue grama, sideoats grama, western wheatgrass, galleta, fourwing saltbush, winterfat, and juniper

Community 1.2

Warm Season Grass/Shrubs/Juniper

Plant species most likely to invade or increase when this site starts to deteriorate are wooly groundsel, broom snakeweed, annuals and juniper.

Pathway P1.1A

Community 1.1 to 1.2

Heavy, repetitive grazing use during the winter and spring periods will decrease the cool season grasses, which are replaced by warm season, lower forage value grasses and shrubs.

Pathway P1.2A

Community 1.2 to 1.1

A modification to grazing management to allow cool season grass species a chance to grow and reproduce.

State 2

Natives with Introduced Annuals

This plant community is similar to the Reference Community but non-native annuals such as cheatgrass and Russian thistle are present in sufficient amounts to affect the biotic integrity of the site.

State 3

Degraded State

The site has excessive bare ground and soil erosion. The biotic integrity of the site is changed due to the increase of cacti, shrubs and juniper.

Community 3.1

Succulents/Juniper:

This community phase is dominated by Whipple cholla, prickly pear, Mormon tea, snakeweed, rabbitbrush and juniper.

Transition T1A

State 1 to 2

Repetitive, excessive grazing increases bare ground and accelerates erosion and invasion by introduced species. Once introduced species have invaded it is unlikely the site can be restored to reference.

Transition T2A

State 2 to 3

Increased bare ground and succulents due to repetitive grazing with high utilization and drought.

Restoration pathway R3A

State 3 to 2

Management that improves soil, plant, and hydrologic health.

Citations