

Ecological site group DX035X01JESG17

Paria and Kaibito Plateaus Moderately Deep to Very Deep Sandy Loam, MAST < 54 degrees F

Last updated: 10/25/2022
Accessed: 05/02/2024

Key Characteristics

- Paria and Kaibito Plateaus
- Sandstone or sandy loam
- Moderately deep to very deep
- MAST < 54 degrees F

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 ecological site occurs in an upland position on gently sloping plains or alluvial fans. It neither benefits significantly from run-in nor experiences excessive runoff of moisture.

Climate

Climate features: 50-60% of moisture falls as rain from July through September and is the most effective moisture for plant growth. The remaining moisture comes as snow during the winter.

Mean temperatures for the hottest month (July) is 72 degrees F; for the coldest month (January) is 32 degrees F. Extreme temperatures of 105 degrees F and -26 degrees F have been recorded. Long periods with little or no effective moisture are relatively common.

Cool season plants begin growth in early spring and mature in the early summer. Warm season plants take advantage of summer rains and grow from July through September.

Soil features

Representative Soil Features

These soils are moderately deep to deep with no plant root restricting layers. Surface horizons have textures of sandy loam to fine sandy loam about 4 to 10 inches thick. Subsurface horizons have textures ranging from clay to sandy loam. There may be thin strata of finer and/or coarser textures. The pH ranges from neutral to moderately alkaline (pH 6.6 to 8.4). Water erosion hazard is moderate and the wind erosion hazard is severe.

Vegetation dynamics

State 1

Reference State

The reference state includes the historic climax plant community that evolved with the soils and climate in the area. In this state, the plant communities are dominated by warm and cool season grasses with scattered shrubs and trees. With drought, long term winter dominated moisture patterns, grazing and other disturbances, perennial grasses will decrease and shrubs will increase on the site.

Introduced annuals are present in this common resource area, and very minor amounts of these may occur in the plant communities in this state.

Current Potential State:
This state is similar to the reference state except that non-native plants are now present in all plant community phases. A shift in species composition will affect the nutrient cycling, soil-water relationships, hydrology, and soil stability. Dominant grasses include both warm and cool season species; however heavy spring grazing will generally remove the cool season grasses such as Indian ricegrass, and heavy late summer and early fall grazing will remove the warm season grasses such as black grama and James' galleta. Utah juniper is still a common invader of shallower soil components, creating blowout areas and increasing erosion. This state is losing resistance to disturbances and resilience after disturbance. Invasive plants are beginning to fill available niches and become established on the site.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- DX035X01I117–Sandy Loam Upland 10-14" p.z.
- R035XC317AZ–Sandy Loam Upland 10-14" p.z.
- R035XD414AZ–Sandy Loam Upland 7-11" p.z.
- R035XY118UT–Desert Sandy Loam (Fourwing Saltbush)
- R035XY215UT–Semidesert Sandy Loam (4-Wing Saltbush)
- R035XY216UT–Semidesert Sandy Loam (Wyoming Big Sagebrush)

Correlated Map Unit Components

22340792, 22340841, 22340845, 22340844

Stage

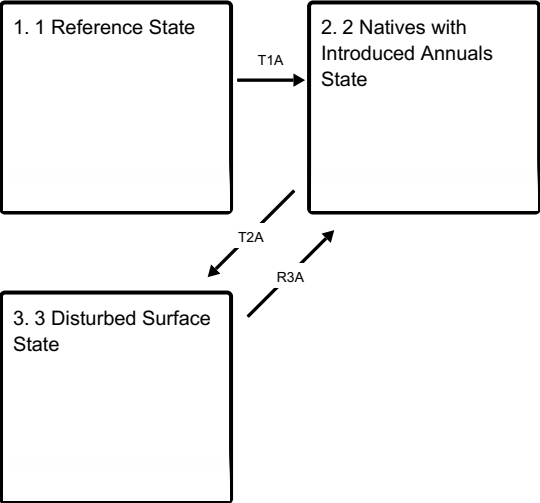
Provisional

Contributors

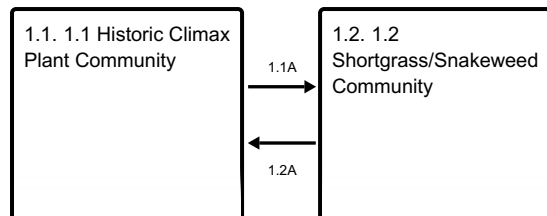
Curtis Talbot

State and transition model

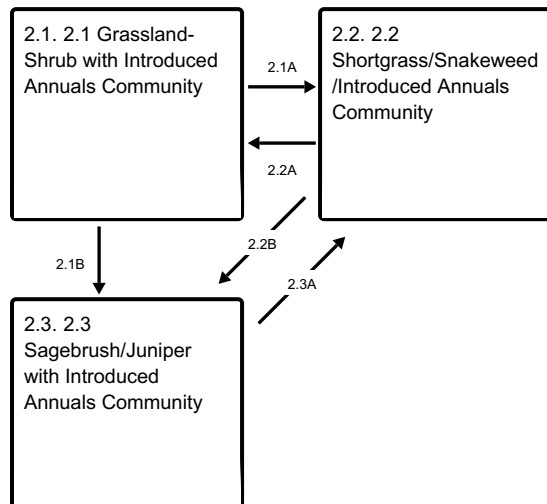
Ecosystem states



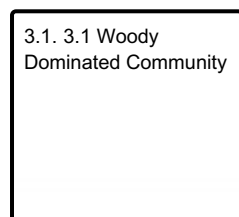
State 1 submodel, plant communities



State 2 submodel, plant communities



State 3 submodel, plant communities



State 1

1 Reference State

Community 1.1

1.1 Historic Climax Plant Community

galleta, blue grama, sand dropseed, fourwing saltbush, Mormon tea, rabbitbrush

Community 1.2

1.2 Shortgrass/Snakeweed Community

blue grama, galleta, dropseeds, Indian ricegrass, snakeweed, rabbitbrush, big sagebrush.

Pathway 1.1A

Community 1.1 to 1.2

Season long grazing providing little rest and recovery for preferred grazed plants during critical growing periods coupled with high utilization, drought

Pathway 1.2A

Community 1.2 to 1.1

Manged livestock grazing, fire, and favorable moisture/climate

State 2

2 Natives with Introduced Annuals State

Community 2.1

2.1 Grassland-Shrub with Introduced Annuals Community

blue grama, galleta, sand dropseed, fourwing saltbrush, rabbitbrush, Mormon tea, native and introduced annuals

Community 2.2

2.2 Shortgrass/Snakeweed/Introduced Annuals Community

blue grama, galleta, dropseed, Indian ricegrass, Mormon tea, big sagebrush.

Community 2.3

2.3 Sagebrush/Juniper with Introduced Annuals Community

blue grama, galleta, dropseeds, big sagebrush, scattered juniper

Pathway 2.1A

Community 2.1 to 2.2

Season long grazing providing little rest and recovery for preferred grazed plants during critical growing periods coupled with high utilization, drought

Pathway 2.1B

Community 2.1 to 2.3

Continuous, season long grazing providing little rest and recovery for preferred grazed plants during critical growing periods coupled with high utilization; drought

Pathway 2.2A

Community 2.2 to 2.1

Time without disturbance, well managed grazing, favorable moisture/climate

Pathway 2.2B

Community 2.2 to 2.3

Season long grazing providing little rest and recovery for preferred grazed plants during critical growing periods coupled with high utilization, soil surface disturbance, reduced perennial grass cover allows favors establishment of woody species, such as sagebrush and/or juniper.

Pathway 2.3A

Community 2.3 to 2.2

Reduction of woody canopy (Fire, prolonged drought), removal of soil disturbances, prescribed grazing.

State 3

3 Disturbed Surface State

Community 3.1

3.1 Woody Dominated Community

Junipers, rabbitbrush, snakeweed, big sagebrush, Mormon tea, blue grama, galleta, native and introduced annuals.

Transition T1A

State 1 to 2

Introduction of non-native annuals species creates an irreversible change in the plant community

Transition T2A

State 2 to 3

Severe drought, unmanaged grazing consisting of season long grazing providing little rest and recovery for preferred grazed plants during critical growing periods coupled with high utilization, severe soil disturbances create areas of bare ground, increase erosion with rills and gullies.

Restoration pathway R3A

State 3 to 2

Removal of woody canopy with mechanical treatments or fire, prescribed grazing, seed source of grasses recovery, time without soil surface disturbance

Citations