

Ecological site group DX035X01HESG12

Black Mesa-Navajo Mtn-Sandy Loam Uplands

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Key Characteristics

- Black Mesa Navajo Mountain
- Sandy loam soils
- Sandy loam uplands
- Sandy loam uplands

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 sites in this group occur on plateaus, fans and mesas where slopes are less than 15 percent. Elevations range from 4,800 to 6,700 feet.

Climate

Annual precipitation ranges from 6 to 14 inches occurring primarily during the summer months. The average annual temperature ranges from 47 to 54 degrees Fahrenheit.

Soil features

Soils within this group are deep and well-drained. Surface textures range from very fine sandy loam to sandy loam. Parent materials are alluvium and derived from sandstone and shale.

Vegetation dynamics

Vegetation communities are typically comprised of salt desert shrubs with warm-season, perennial grasses and forbs.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- DX035X01117–Sandy Loam Upland 10-14" p.z.
- R035XB219AZ–Sandy Loam Upland 6-10" p.z.
- R035XC317AZ–Sandy Loam Upland 10-14" p.z.
- R035XF606AZ–Sandy Loam Upland 13-17" p.z.
- R035XY118UT–Desert Sandy Loam (Fourwing Saltbush)
- R035XY215UT–Semidesert Sandy Loam (4-Wing Saltbush)
- R035XY219UT–Semidesert Sandy Loam (Indian Ricegrass - Galleta)

Correlated Map Unit Components

22397628, 22397500, 22397425, 22601857, 22601856, 22601084, 22600859, 22601312, 22601316, 22601322, 22601327, 22600885, 22601328, 22601340, 22601540, 22601339, 22600910, 22601122, 22601355, 22601361

Stage

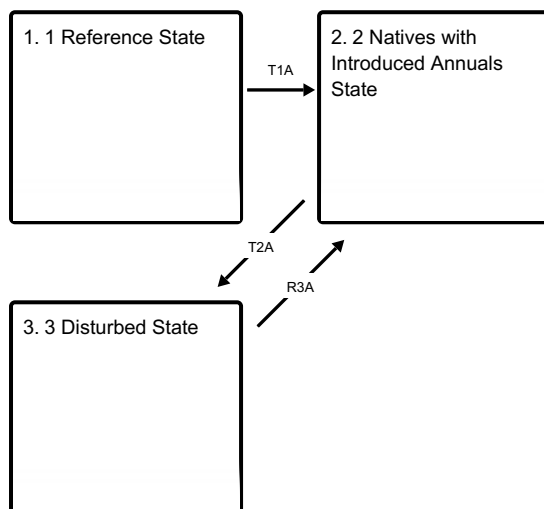
Provisional

Contributors

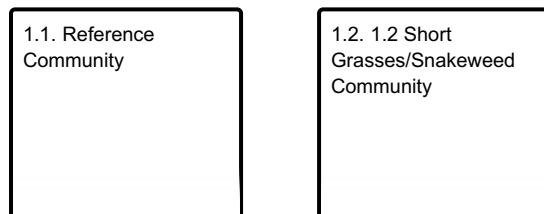
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State and transition model

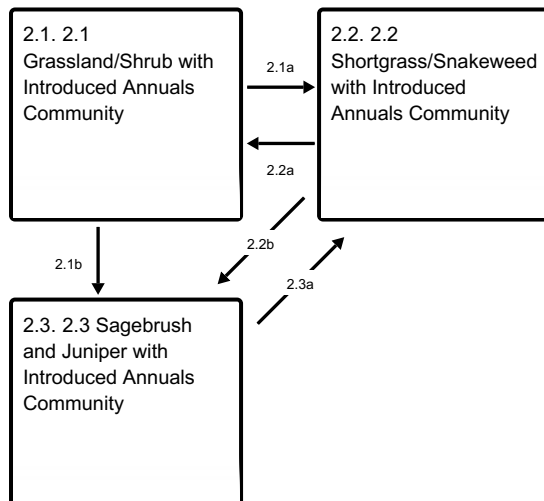
Ecosystem states



State 1 submodel, plant communities



State 2 submodel, plant communities



State 3 submodel, plant communities

3.1. 3.1 Woody
Dominated Community

State 1

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.

Community 1.1

Reference Community

The reference community is dominated by mid and short warm and cool season grasses with a relatively small percentage of forbs and scattered shrubs and half shrubs. Plant species most likely to increase on this site when it is disturbed are broom snakeweed, rabbitbrush and annuals. There will be an increase in juniper on this site in the higher elevation and rainfall areas of this common resource area.

Community 1.2

1.2 Short Grasses/Snakeweed Community

This plant community is characterized by increase of shrubs such as broom snakeweed and Greene's rabbitbrush. There is a decline of perennial grasses as shrubs increase. Other shrubs that increase include Wyoming big sagebrush at higher precipitation and/or mormon tea on dryer sites.

State 2

2 Natives with Introduced Annuals State

The plant communities in this state include the same species and plant community structures as the reference state. Introduced herbaceous species are now part of those plant communities and compete with native species for available moisture. Disturbances over time, such as fire, drought, and uncontrolled grazing, will now have the potential to allow an increase the introduced species on the site.

Community 2.1

2.1 Grassland/Shrub with Introduced Annuals Community

This plant community is very similar to the historic climax plant community, but it includes introduced exotic annual grasses and forbs that are affecting the biotic integrity of the site.

Community 2.2

2.2 Shortgrass/Snakeweed with Introduced Annuals Community

Introduced annual grasses and forbs are present in the plant community, but the amount and proportions of native plants is similar to that found in plant community 1.2, Shortgrass/Snakeweed.

Community 2.3

2.3 Sagebrush and Juniper with Introduced Annuals Community

This plant community is characterized by a dominance of shrubs and a increase of junipers. Introduced annual grasses and forbs are present in minor amounts in the plant community. Common shrubs include snakeweed, big

sagebrush, rabbitbrush, mormon tea and yucca.

Pathway 2.1a
Community 2.1 to 2.2

Unmanaged grazing, drought

Pathway 2.1b
Community 2.1 to 2.3

Continuous improper grazing, 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

Unmanaged grazing, 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 State

Shrubs such as snakeweed and/or rabbitbrush dominate the understory along with junipers. Wind and water caused soil erosion is prevalent creating rills and/or hummocks.

Community 3.1
3.1 Woody Dominated Community

Junipers and shrubs crowds and competes with understory species. Some grasses and forbs remain with annuals. Accelerated erosion occurs with Wind and water erosion is prevalent creating rills and/or hummocks.

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, 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