

Ecological site group DX035X01HESG13

Black Mesa-Navajo Mtn-Sandy Loam-Pinyon-Juniper

Last updated: 10/12/2022
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Key Characteristics

- Black Mesa Navajo Mountain
- Sandy loam soils
- Sandy loam Pinyon/Juniper

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

Eolian soils on sandstone capped uplands, plateaus, and mesas.

Climate

Precipitation ranges from 10 to 18 inches falling mostly in late summer and early fall varying substantially from year to year. The mean annual air temperature ranges from 47 to 54 degrees Fahrenheit.

Soil features

Soils are very shallow to shallow to bedrock, usually sandstone. Surface textures are fine sandy loam to loam with 15 to 35 percent rock fragments.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- DX035X03B628–Sandy Loam Upland (JUOS, PIED) 13-17" p.z.
- F035XC321AZ–Juniperus osteosperma/Purshia stansburiana-Artemisia bigelovii/Pleuraphis jamesii-Achnatherum hymenoides
- F035XC322AZ–Sandstone Upland 10-14" p.z. (JUOS)
- F035XF627AZ–Sandstone Upland (JUOS, PIED) 13-17" p.z. (Provisional)

Correlated Map Unit Components

22397625, 22397386, 22484741, 22484782, 22529789, 22529579

Stage

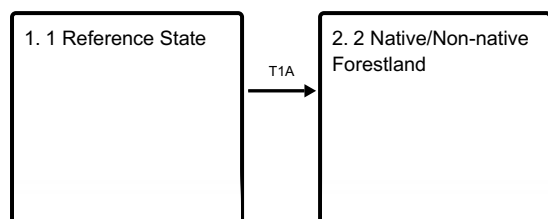
Provisional

Contributors

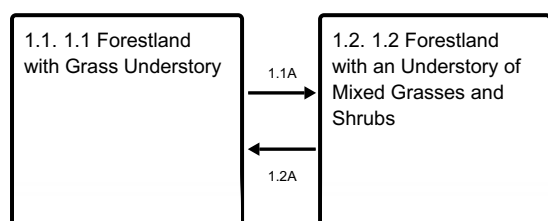
Harry Hosler
Vic Parslow

State and transition model

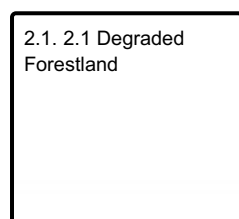
Ecosystem states



State 1 submodel, plant communities



State 2 submodel, plant communities



State 1

1 Reference State

The reference state has a mixed plant community made up of Utah juniper and twoneedle pinyon pine with a understory of grasses, forbs and shrubs. There is a mixture of cool and warm season grasses. Plant species most likely to increase or invade on this site are cheatgrass, thrifty goldenweed, stemless goldenweed, other annual weedy forbs, broom snakeweed, Greene rabbitbrush and Bigelow sagebrush. Unmanaged grazing during the winter and spring periods will decrease cool season grasses which are replaced by lower forage value grasses and forbs.

Community 1.1

1.1 Forestland with Grass Understory

In this plant community the site is characterized as a forestland with an understory dominated by perennial grasses with scattered shrubs and a few perennial forbs. The tree canopy ranges from 25-35% with Utah juniper and Colorado pinyon as major overstory species. The understory is mostly Indian ricegrass, New Mexico feathergrass, blue grama, needle and thread, Bigelow sagebrush and Stansbury cliffrose.

Community 1.2

1.2 Forestland with an Understory of Mixed Grasses and Shrubs

The shrub component such as broom snakeweed, Bigelow sagebrush and Greene rabbitbrush have increased on this site. The overstory remains similar to the 1.1 community. The perennial grass component decreases slightly. Managed grazing allows for the potential of native cool and warm season grasses to regenerate themselves. The potential for erosion increases slightly due to more bareground.

Pathway 1.1A

Community 1.1 to 1.2

Repetitive grazing of preferred species, especially during drought.

Pathway 1.2A

Community 1.2 to 1.1

Managed grazing, favorable precipitation, shrub treatment.

State 2

2 Native/Non-native Forestland

This state is a forested site with shrubs as the dominant understory with introduced non-native species.

Community 2.1

2.1 Degraded Forestland

Shrubs such as Bigelow sagebrush, broom snakeweed, rabbitbrush and opuntia become the dominant understory of this forested site due to continuous disturbance. The overstory canopy cover of juniper and pinyon may increase. Introduced non-native species such as cheatgrass, red brome and Russian thistle are commonly found and have the potential to further increase. Perennial grasses occur scattered throughout the site. Erosion potential is higher due to more bare ground.

Transition T1A

State 1 to 2

Grazing repetitively with heavy utilization of preferred species, especially during drought, introduction of non-natives

Citations