Ecological site group DX035X02DESG11
Grand Canyon - Aridic Ustic - Volcanic or Clayey Upland

Last updated: 10/26/2022
Accessed: 04/19/2024

Key Characteristics

- Grand Canyon (D)
- Site parent material is volcanic or clayey.
- [Criteria]
- Site is and/or located in an upland with slopes <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

Site is and/or located in an upland with slopes <15%. Physiography is complex.

Climate

Site soils are aridic ustic or within a 13-17" precipitation zone. Precipitation comes monsoonal patterns during months of July, August, and September, and is supplemented by winter storm patterns from November through March.

Soil features

Parent material is basalt or andesite. Soils are clay loam, or clayey. Site consists of limited amounts of gently sloping sheet alluvial or eolian deposits over residuum of plateaus and structural benches.

Vegetation dynamics

The dominant aspect of the site is a Colorado pinyon and Utah juniper woodland with understory of cool season grasses and large shrubs. Major grasses include western wheatgrass, blue grama, squirreltail and muttongrass. Dominant shrubs are Wyoming big sagebrush, Stansbury cliffrose, and antelope bitterbrush.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- DX035X02B611–Clay Loam Upland 13-17" p.z. Gravelly (PIED, JUOS)
- DX035X03G602–Clay Loam Upland 13-17" p.z. (PIED, JUOS)
- F035XF609AZ–Cinder Hills 13-17" p.z. (PIED)
- F035XF610AZ–Cinder Upland 13-17" p.z. (PIED, JUOS)
- F035XF620AZ–Basalt Upland 13-17" p.z. (JUOS)
- F035XF624AZ–Basalt Slopes 13-17" p.z. (JUOS, PIED)
- R035XF603AZ–Clay Loam Upland 13-17" p.z.
- R035XF604AZ–Clayey Upland 13-17" p.z.

Correlated Map Unit Components

22391240, 22391238, 22395014, 22395184, 22395185, 22394887, 22394883, 22394884, 22395068, 22395064, 22394988, 22394993, 22394992, 22395011, 22395187, 22395031, 22395032, 22395453, 22394866, 22395040, 22395183, 22394880, 22395432, 22394863, 22394985, 22394983, 22394979, 22394891, 22394856

Stage

Provisional

Contributors

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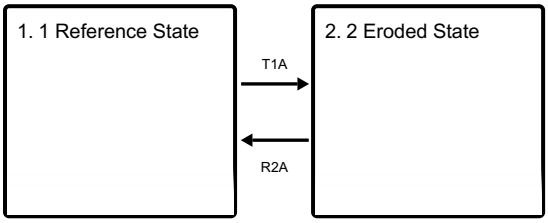
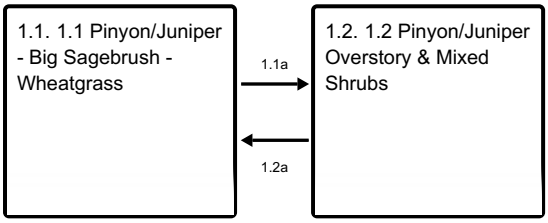
State and transition model

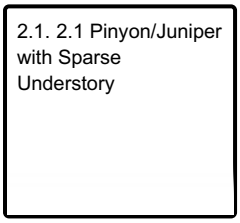
Ecosystem states



State 1 submodel, plant communities



State 2 submodel, plant communities



State 1
1 Reference State

This can be dominated by juniper and pinyon trees with a canopy of 30 to 50 percent. The plant community composition for production is mostly trees (40%), grasses (30%), shrubs (25%) and forbs (5%).

Community 1.1
1.1 Pinyon/Juniper - Big Sagebrush - Wheatgrass

The dominant aspect of the site is a Colorado pinyon and Utah juniper woodland with understory of cool season grasses and large shrubs. Major grasses include western wheatgrass, blue grama, squirreltail and muttongrass. Dominant shrubs are Wyoming big sagebrush, Stansbury cliffrose, and antelope bitterbrush.

Community 1.2
1.2 Pinyon/Juniper Overstory & Mixed Shrubs

This plant community is characterized by a woodland overstory with mixed shrubs and scattered perennial grasses

and forbs. Dominant shrubs are cliffrose, rabbitbrush, big sagebrush, black sagebrush, yucca, snakeweed and antelope bitterbrush. Dominant grasses include muttongrass, blue grama, prairie junegrass and western wheatgrass may or not be present.

Pathway 1.1a
Community 1.1 to 1.2

A decrease in grasses and increase in shrubs due to management and lengthening of fire regime.

Pathway 1.2a
Community 1.2 to 1.1

Restoring fire regime, and management to promote grass species.

State 2
2 Eroded State

Eroded soils, due to lack of plant cover.

Community 2.1
2.1 Pinyon/Juniper with Sparse Understory

This plant community is characterized by an eroded surface with a woodland overstory of pinyon and juniper and a sparse understory of shrubs, very few grasses and forbs. There is high bare ground in this plant community due to a loss of perennial and shrub cover. The soil surface is eroded and increased rills and sheet flow on steeper slopes. This has potential for compacted soils due to low rock fragments and trailing/hoof actions for continuous livestock use.

Transition T1A
State 1 to 2

Loss of plant cover leading to soil erosion.

Restoration pathway R2A
State 2 to 1

Slow restoration of plant, soil, and hydrologic health.

Citations