Ecological site group DX035X02DESG08
Grand Canyon - Ustic Aridic - Clayey Bottoms

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

Key Characteristics

- Grand Canyon (D)
- Site parent material is volcanic or clayey.
- Site soils are ustic aridic or within a 10-14" precipitation zone.
- Site is and/or located in a wash.

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 a wash/bottom. Physiography is complex.

Climate

Site soils are ustic aridic or within a 10-14" 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 clayey. Site consists of broad alluvial deposits in washes, streams or fans, often deep.

Vegetation dynamics

This site supports a grassland interspersed with small amounts of shrubs. In the original plant community, there is a mixture of both cool and warm season grasses.

Plants most likely to invade or increase on this site are big sagebrush, rabbitbrush, broom snakeweed, mat muhly, and annuals. Continuous winter and spring grazing use will eliminate the cool season mid-grasses.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- DX035X01I104–Clay Loam Wash 10-14" p.z.
- R035XC305AZ–Clayey Bottom 10-14" p.z.

Correlated Map Unit Components

22395167

Stage

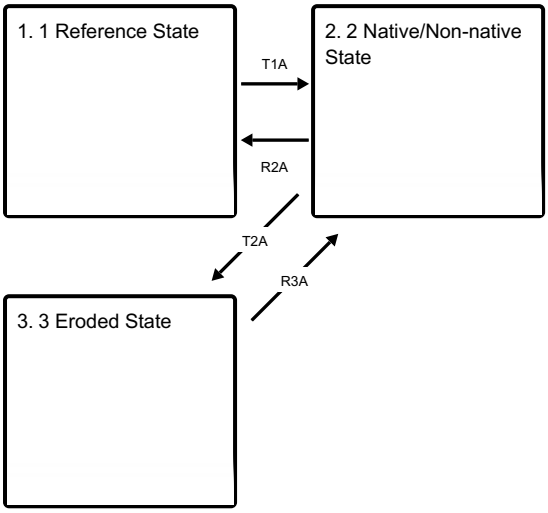
Provisional

Contributors

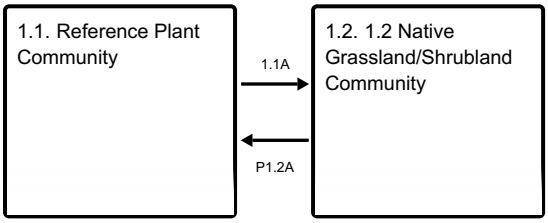
Curtis Talbot

State and transition model

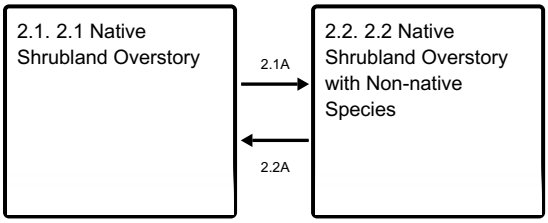
Ecosystem states



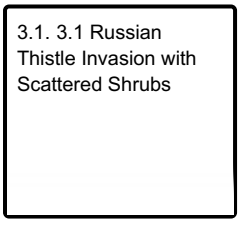
State 1 submodel, plant communities



State 2 submodel, plant communities



State 3 submodel, plant communities



State 1
1 Reference State

Community 1.1
Reference Plant Community

This site supports a grassland interspersed with small amounts of shrubs. In the original plant community, there is a

mixture of both cool and warm season grasses. Plants most likely to invade or increase on this site are big sagebrush, rabbitbrush, broom snakeweed, mat muhly, and annuals. Continuous winter and spring grazing use will eliminate the cool season mid-grasses.

Community 1.2
1.2 Native Grassland/Shrubland Community

This site has an increase in the less desirable shrubs compared to Community Phase 1. Trace amounts of non-native species may be found, however, they do not change the function of the site. Prescribed grazing can help to shift this site back to a dominated grassland community, however, traces of non-native species will always remain.

Pathway 1.1A
Community 1.1 to 1.2

Repetitive, high utilization of palatable species couple with invasion of introduced species.

Pathway P1.2A
Community 1.2 to 1.1

Grazing management which promotes the colonization of palatable grass species can help shift this site back to a dominated grassland community, however, traces of non-native species will always remain.

State 2
2 Native/Non-native State

Community 2.1
2.1 Native Shrubland Overstory

This site is dominated by shrubs with scattered grasses. Bareground has increased from the previous state, increasing the chances for erosion. Non-native species may be found in trace amounts but do not affect the function of this site. Resting this site

Community 2.2
2.2 Native Shrubland Overstory with Non-native Species

This site is dominated by a shrubland overstory with scattered grasses found much like in community phase 2.1. It differs in that it has an increase in non-native species that change the function of this site. Resting this site gives it the potential to be more productive with desirable species.

Pathway 2.1A
Community 2.1 to 2.2

Loss of plant species.

Pathway 2.2A
Community 2.2 to 2.1

A decrease in introduced species.

State 3
3 Eroded State

Community 3.1
3.1 Russian Thistle Invasion with Scattered Shrubs

This site is extremely disturbed. Bareground is dominant, so chances of erosion are high. Russian thistle has

replaced most vegetation with only a few small shrubs scattered around. Reclaiming this site will take a lot of resources and a planned grazing system.

Transition T1A
State 1 to 2

Invasion of introduced species along with site degredation.

Restoration pathway R2A
State 2 to 1

Restoration of soil, plants and water resources.

Transition T2A
State 2 to 3

Increased degradation due to loss of plants and soil.

Restoration pathway R3A
State 3 to 2

Restoration of soil, water, and plant resources.

Citations