Ecological site group DX035X01HESG04
Black Mesa-Navajo Mtn-Loamy bottoms

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Key Characteristics

- Black Mesa Navajo Mountain
- Loamy soils
- Loamy bottoms

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 site occurs in the bottom position of level to gently sloping flood plains, valley floors, stream terraces and drainageways. It benefits significantly from run-in moisture from adjacent areas.

Climate

Winter summer moisture ratios range from 70:30 to 60:40. Late spring is usually the driest period, and early fall moisture can be sporadic. Summer rains fall from June through September

Soil features

Soils are moderately deep to very deep. Surface texture ranges from very fine sandy loam to sandy clay loam. Subsurface horizons have textures of clay loam to sandy loam.

Vegetation dynamics

Western wheatgrass and blue grama are the dominant grasses with fourwing saltbush, winterfat, basin big sagebrush as the common shrubs.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- DX035X01I112–Loamy Wash 10-14" p.z.
- R035XC312AZ–Loamy Wash 10-14" p.z.
- R035XY011UT–Loamy Bottom (Basin Big Sagebrush)

Stage

Provisional

Contributors

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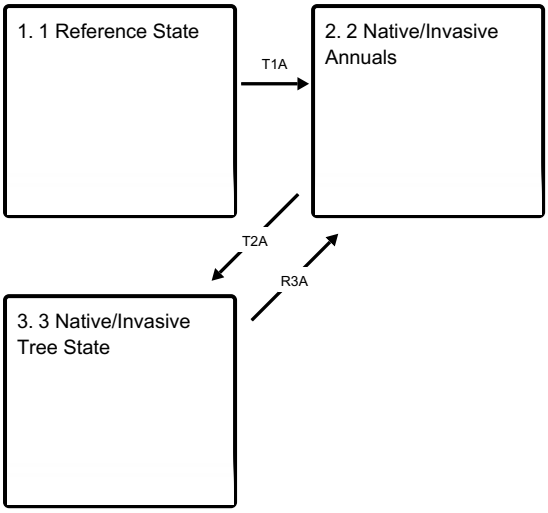
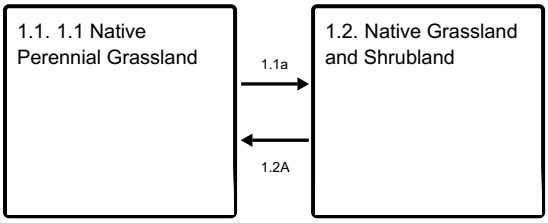
State and transition model

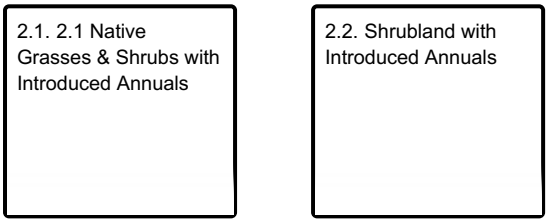
Ecosystem states



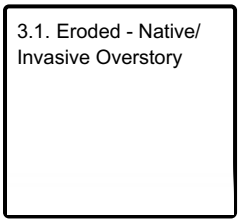
State 1 submodel, plant communities



State 2 submodel, plant communities



State 3 submodel, plant communities



State 1
1 Reference State

Community 1.1
1.1 Native Perennial Grassland

The historic climax plant community consists predominately of cool and warm season grasses with a small percentage of shrubs and forbs. In the original plant community there is a mixture of both cool and warm season grasses. 1.1 Native Perennial Grassland: The site consist of perennial Native grasses and forbs with minor amounts of shrub cover. Dominant plants species include: James' galleta, Indian ricegrass, sand dropseed, and western wheat grass. 1.1A:Continuous yearlong herbivory.

Community 1.2
Native Grassland and Shrubland

Palatable cool and warm grasses decreases due to continuous yearlong grazing, thus decreasing the vegetative cover of the native grasses. As the native grasses begin to decline, native shrubs increase their establishment such as fourwing saltbush, broom snakeweed, Greene's rabbitbrush, rubber rabbitbrush, and whipple cholla. Dominant plant species include: James' galleta, Indian ricegrass, western wheat grass and fourwing saltbush.

Pathway 1.1a
Community 1.1 to 1.2

Continuous yearlong herbivory.

Pathway 1.2A
Community 1.2 to 1.1

No grazing to rest the rangelands and implement a prescribed grazing plan with favorable precipitation

State 2
2 Native/Invasive Annuals

The general aspect of this state is a native perennial grassland/shrubland with a mix of native and non-native annuals. Invasive annuals have been introduced and are well established in the understory.

Community 2.1
2.1 Native Grasses & Shrubs with Introduced Annuals

If left unmanaged from continuous grazing, undesirable exotic plant species will establish and continue to increase in the understory. ntroduced invasive species most likely to establish themselves when the site deteriorates are prickly Russian thistle, weed Kochia, cheatgrass, filaree and other exotic annuals. There will be a low component of these exotic annuals in the understory, and beginning the process of exotic annuals establishing themselves on site.

Community 2.2
Shrubland with Introduced Annuals

Shrubland with Introduced Annuals

State 3
3 Native/Invasive Tree State

The plant community in this state is dominated by a mix of native and non-native trees and shrubs with scattered patches of grasses and forbs. There is active channel downcutting and deposition.

Community 3.1
Eroded - Native/ Invasive Overstory

As native grasses and shrubs are grazed continuously, the native vegetative cover decreases rapidly and the understory is transformed into an exotic plant community. There will be a higher component of exotic trees, annual grasses and forbs eventually stressing and outcompeting the native plant community. Invasive dominant species include: Tamarisk, Russian olive, broom snakeweed, rubber rabbitbrush, Greene's rabbitbrush, prickly Russian thistle, common sunflower, weed Kochia, mustards, beeplant, thistles, cheatgrass, foxtail barley, field bindweed, filaree and other exotic annuals. Distribution of these exotics species will be extensive and eventually displace most of the native herbaceous species, as the native species are not given time to reproduce. Bare interspaces with less vegetative cover are visible on the surface resulting in the increased erosion process allowing for more rainfall runoff

Transition T1A
State 1 to 2

Continuous yearlong herbivory/ Unmanaged Rangelands/ Introduction of Exotics

Transition T2A
State 2 to 3

Unmanaged Continuous Grazing/ Severe Prolonged Drought/ Unmanaged Uplands - increased run-on & sediments/ Invasive of Woody Exotics

Restoration pathway R3A
State 3 to 2

Rest/ Prescribe grazing/ Reseeding/ Integrated Shrub &Weed treatment

Citations