Ecological site group DX035X01HESG02
Black Mesa-Navajo Mtn-Sandy washes

Last updated: 09/01/2021
Accessed: 05/02/2024

Key Characteristics

- Black Mesa Navajo Mountain
- Sandy soils
- Sandy washes

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 is in a bottom position on stream terraces, floodplains and drainageway channels. It benefits significantly from occasional over bank flooding and run-in moisture from adjacent uplands. Slopes are less than 2%, but can range to 4%.

Climate

Average annual precipitation ranges from 6 to 14 inches. About 50% -60% of the annual precipitation is received as rainfall and comes between July and September. The remaining moisture comes as snow during the winter. Long periods with little or no effective moisture are relatively common.

Soil features

Soils on this site are deep and well drained.
Textures in the profiles are mixed and stratified with thin horizons of loamy textures.

Vegetation dynamics

Grassland dominated by perennial grasses, such as western wheatgrass, Indian ricegrass, alkali sacaton, squirreltail and galleta. Occasional over bank flooding and additional run-in moisture from adjacent uplands lends to high grass production. Shrubs can occur across the site along drainageways and areas of discontinuous channels. The occasional cottonwood may be present where a seep or a higher water table due to shallow bedrock depth occurs. Some areas can range to a vegetation community of Rio Grande cottonwood (*Populus deltoides* ssp. wislizenii, with lesser amounts of red willow (*Salix laevigata*) and other native willows. The understory is a mix of shrubs such as redosier dogwood (*Cornus sericea*) and chokecherry (Prunus spp.) with cool-season and warm season grasses and forbs.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- F035XC332AZ–Sandy Bottom 10-14" (PODEW, SAEX), Perennial (Provisional)
- R035XB216AZ–Sandy Wash 6-10" p.z.

Stage

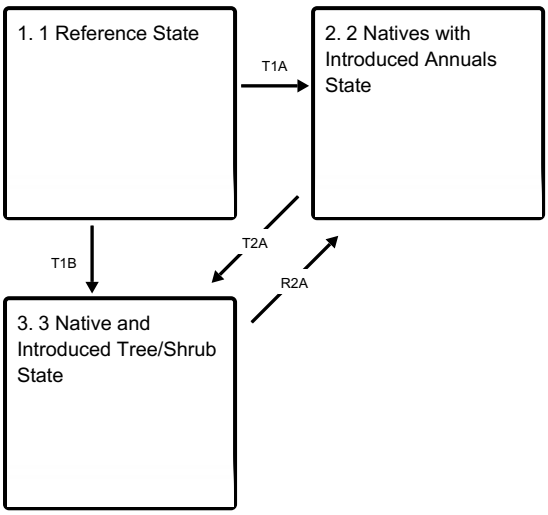
Provisional

Contributors

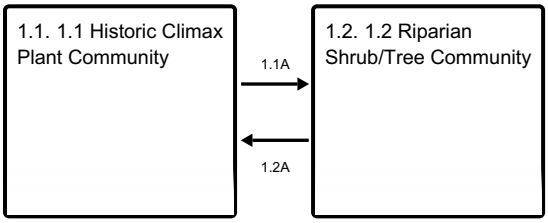
Vic Parslow, Keith Crossland, Harry Hosler, Jeff Fenton

State and transition model

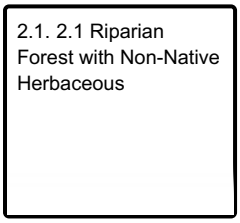
Ecosystem states



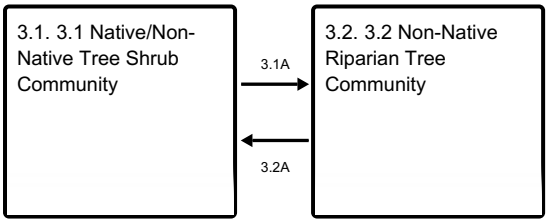
State 1 submodel, plant communities



State 2 submodel, plant communities



State 3 submodel, plant communities



State 1
1 Reference State

The Historic Climax Plant Community (HCPC) is dominated by a canopy of Rio Grande cottonwood (*Populus deltoides* ssp. wislizenii, with lesser amounts of red willow (*Salix laevigata*) and other native willows. The understory is a mix of shrubs such as redosier dogwood (*Cornus sericea*) and chokecherry (Prunus spp.) with cool-season and warm season grasses and forbs. Overstory canopy cover can come close to 90 percent, but will fluctuate with flood

events under natural conditions. These fluctuations allow gaps in the canopy that are important for the recruitment of young cottonwoods and willows into the overstory.

Community 1.1
1.1 Historic Climax Plant Community

The Historic Climax Plant Community (HCPC) is dominated by a canopy of Rio Grande cottonwood (*Populus deltoides* ssp. wislizenii, with lesser amounts of red willow (*Salix laevigata*) and other native willows. The understory is a mix of shrubs such as redosier dogwood (*Cornus sericea*) and chokecherry (Prunus spp.) with cool-season and warm season grasses and forbs. Overstory canopy cover can come close to 90 percent, but will fluctuate with flood events under natural conditions. These fluctuations allow gaps in the canopy that are important for the recruitment of young cottonwoods and willows into the overstory.

Community 1.2
1.2 Riparian Shrub/Tree Community

The overstory is dominated by coyote willow. There may be some mature and decadent cottonwood and other willows in the community, but they do not dominate the overstory. There is an understory of cottonwood, and other shrubs. There are scattered cool-season and warm season grasses and forbs in the understory.

Pathway 1.1A
Community 1.1 to 1.2

Pathway 1.2A
Community 1.2 to 1.1

1.2 The overstory is dominated by coyote willow. There may be some mature and decadent cottonwood and other willows in the community, but they do not dominate the overstory. There is an understory of cottonwood, and other shrubs. There are scattered cool-season and warm season grasses and forbs in the understory.

State 2
2 Natives with Introduced Annuals State

Natural regrowth of native trees such as cottonwood and willow.

Community 2.1
2.1 Riparian Forest with Non-Native Herbaceous

The overstory consists primarily of cottonwood and some willow species. The herbaceous understory consists of a mix of the native herbaceous species with non-native grasses, including ripgut brome (*Bromus diandrus*), cheatgrass (*Bromus tectorum*) and Kentucky bluegrass (*Poa pratensis*).

State 3
3 Native and Introduced Tree/Shrub State

Community 3.1
3.1 Native/Non-Native Tree Shrub Community

The overstory consists of a mix of cottonwood and some willow species, with non-native trees including Russian olive and/or saltcedcar. There are few understory plants but they include a mix of native and non native perennial and annual grasses and forbs. Non native grasses include ripgut brome, cheatgrass and Kentucky bluegrass.

Community 3.2
3.2 Non-Native Riparian Tree Community

This is a riparian plant community dominated by non-native trees such as salt cedar and/or Russian olive. The understory includes a mix of native and non-native shrubs and herbaceous species.

Pathway 3.1A
Community 3.1 to 3.2

Loss of native trees from flooding, fire, or drought.

Pathway 3.2A
Community 3.2 to 3.1

Control of non-native trees and shrubs, and planting of native trees. Grazing by livestock and wildlife must be managed.

Transition T1A
State 1 to 2

Introduction of non-native herbaceous species into the plant community.

Transition T1B
State 1 to 3

Introduction of non-native trees into the plant community.

Transition T2A
State 2 to 3

Introduction of non-native trees into the plant community.

Restoration pathway R2A
State 3 to 2

Control of non-native trees and planting of native trees. Grazing by livestock and wildlife must be properly managed.

Citations