

Ecological site group DX035X01AESG12

Grand Staircase-Shallow Soils Shrub & Woodlands-Not Volcanic PM-Loam to Clay Soils

Last updated: 10/05/2022
Accessed: 04/19/2024

Key Characteristics

- Grand Staircase-Kaiparowits
- Shallow Soil Shrublands and Woodlands
- Soil parent material is not volcanic cinders
- Soils are loams to clays

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 ecological site group occurs on hillslopes, structural benches, and escarpments. Slopes range from 15-50% and elevations range from 4800 to 7200 feet. Runoff potential is very high.

Climate

Soil temperature and moisture regimes range from mesic, ustic aridic to mesic, aridic ustic.

Soil features

This ecological site group occurs on shallow soils. Surface soil textures range from fine sandy loams to loam and can be channery/gravelly. Soils are moderately well developed, well drained, and have moderate water holding capacities.

Vegetation dynamics

This ecological site group is characterized by a dense overstory canopy of Utah Juniper. Perennial warm and cool season grasses are present but make up less than 20% of the sites production. A few two-needle pinyon may be present and native shrubs, often dominated by broom snakeweed are commonly found. Warm season grasses occur more frequently than cool season species due to precipitation regime. The composition by annual air-dry weight is approximately 20% perennial grasses, 10% forbs, 20% shrubs, and 50% trees. Plants growth begins around March 1 and ends around October 15.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- R035XC319AZ–Limestone/Sandstone Upland 10-14" p.z.
- R035XY221UT–Semidesert Shallow Loam (Utah Juniper-Pinyon)
- R035XY222UT–Semidesert Shallow Loam (Utah Juniper- James Galleta)
- R035XY234UT–Semidesert Shallow Shale (Utah Juniper-Pinyon)
- R035XY238UT–Semidesert Shallow Hardpan (Utah Juniper-Pinyon)

- R035XY239UT–Semidesert Shallow Clay (Shadscale-Utah Juniper)
- R035XY313UT–Upland Shallow Loam (Cliffrose)
- R035XY315UT–Upland Shallow Loam (Pinyon-Utah Juniper) AWC <3

Correlated Map Unit Components

22857820, 23436580, 23436583, 23436318, 22999759, 22999767, 22601147, 22600931, 22600995, 22601457, 22601466, 22601501, 22600921, 22601735, 22601721, 22601777, 22601821, 22601470, 22601468, 22965227, 22965366, 22965369, 22965376, 22965729, 22965382, 22965394, 22965595, 22965390, 22965196, 22965674, 22965148, 22965318, 22965321, 22965319, 22965510, 22965511, 22965514, 22965314, 22965315, 22965311, 22965199, 22965200, 22965206, 22965523, 22965522, 22965214, 22965180, 22965188, 22965190, 22965192, 22965505, 22965327, 22965328, 22965509, 22965326, 22965662, 22965668, 22965682, 22965683, 22965344, 22965341, 22965361, 22965303, 22965298, 22965293, 22965545, 22965340, 22965249, 22965625, 22965626, 22965772, 22965644, 22965637, 22965161, 22965450, 22965459, 22965646, 22965647, 22965163, 22965448, 22965476, 22965786, 22965787, 22965782, 22963416, 22963323, 22963436

Stage

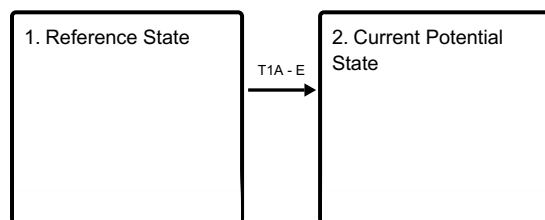
Provisional

Contributors

Victor Parslow, Keith Crossland
Curtis Talbot

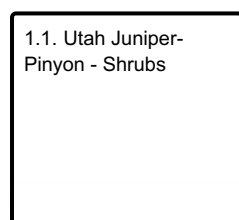
State and transition model

Ecosystem states

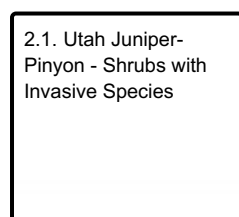


T1A - E - E = Establishment of non-native invasive species

State 1 submodel, plant communities



State 2 submodel, plant communities



State 1 Reference State

This state includes the biotic communities that become established on the ecological sites if all successional

sequences are completed under the natural disturbance regimes. The reference state is generally dominated by twoneedle pinyon and Utah juniper, however depending on disturbance history, native grasses, forbs, or other shrubs may occupy significant composition in the plant community. Typically, in the reference state this site is self-sustainable; however once invasive plants establish, return to this community may not be possible.

Characteristics and indicators. A community dominated by twoneedle pinyon and Utah juniper, where shrubs, and native perennial grasses and forb production is variable.

Community 1.1

Utah Juniper-Pinyon - Shrubs

This community phase is characterized by a twoneedle pinyon and Utah juniper upper canopy. The shrub layer consists of a variety of native shrubs, ranging from shadscale and broom snakeweed to cliffrose, depending on elevation and aspect. In the lower canopy, commonly seen grasses include Indian ricegrass and galleta. Other perennial grasses, shrubs, and forbs may or may not be present and cover is variable. Bare ground is variable (6-16%) depending on surface rock cover, which is also variable (8-54%).

State 2

Current Potential State

The current potential state is similar to the reference state; however invasive species are present. This state is generally dominated by Utah juniper and twoneedle pinyon, however depending on disturbance history, native grasses, forbs, or other shrubs may dominate the site. Primary disturbance mechanisms include insect herbivory, domestic livestock grazing, and surface disturbances such as road and pipeline development and off road vehicle (OHV) use.

Community 2.1

Utah Juniper-Pinyon - Shrubs with Invasive Species

This community phase is characterized by a twoneedle pinyon and Utah juniper upper canopy. The shrub layer consists of a variety of native shrubs, ranging from shadscale and broom snakeweed to cliffrose, depending on elevation and aspect. In the lower canopy, commonly seen grasses include Indian ricegrass and galleta. Other perennial grasses, shrubs, and forbs may or may not be present and cover is variable. Invasive species are present but do not typically dominate the community. Bare ground is variable (6-16%) depending on surface rock cover, which is also variable (8-54%).

Transition T1A - E

State 1 to 2

This transition occurs when non-native invasive species, particularly cheatgrass, establish on the site.

Citations