

Ecological site group DX035X01DESG05

Henry Mtns-Shallow Shrub & Wood lands-loamy

Last updated: 10/12/2022
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Key Characteristics

- Henry Mountains
- Shallow Shrublands & Woodlands
- 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 site occurs on structural benches, plateaus, mesas, and cuestas. Runoff is high to very high (due to the shallow depth). Slopes typically range from 2-15%, but can be as high as 50%. Elevations are generally 5200-8000 ft.

Climate

The climate is characterized by warm summers and cold winters. Large fluctuations in daily temperatures are common. Average annual precipitation ranges from 12 to 16 inches, with much of the summer precipitation in the form of convective thunderstorms from July to October. On the average February, May, and June are the driest months and August, September, and October are the wettest months. In average years, plants begin growth around March 10 and end growth around October 10.

Soil features

Soils of this site are shallow sandy loams over sandstone bedrock. They formed in eolian deposits, slope alluvium and/or colluvium over residuum derived mainly from sandstone and shale parent materials. Rock fragments are uncommon on the soil surface and in the profile, but can be abundant in some areas for this site. The soil moisture regime is aridic ustic and the soil temperature regime is mesic. Available water holding capacity ranges from 0.8 to 2.5 inches of water in the entire profile. These soils are usually in complex with rock outcrop. On areas where soils are very shallow, production and plant density are lower.

Vegetation dynamics

This site's plant species composition is generally dominated by Utah juniper and twoneedle pinyon. Drought and insects appear to be the main driving factors in many of the Pinyon/Juniper communities of Utah. Betancourt et al. (1993), noted that Pinyon and Juniper woodlands in the southwest appear to be more susceptible to large die offs during droughts, than in other locations. As severe droughts persist, the Pinyon trees, being more susceptible to drought and insects, seem to die out, while the Utah juniper trees survive. Large die offs of pinyons due to insects and drought have not been recorded for this ecological site. However, given the tendency for pinyons to be susceptible to insect and drought kill, managers should be aware of the possibility.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- R035XY315UT–Upland Shallow Loam (Pinyon-Utah Juniper) AWC <3

Correlated Map Unit Components

22592358, 22592727, 22592728

Stage

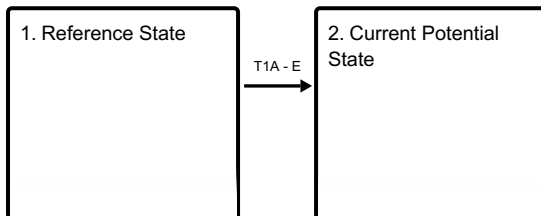
Provisional

Contributors

Curtis Talbot

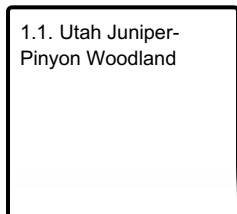
State and transition model

Ecosystem states

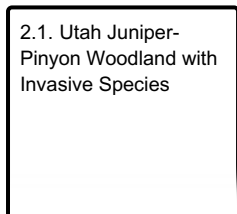


T1A - E - E = Establishment of non-native invasive species

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 site 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.

Community 1.1 Utah Juniper-Pinyon Woodland

This community phase is characterized by a twoneedle pinyon and Utah juniper upper canopy. 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 Woodland with Invasive Species

This community phase is characterized by a twoneedle pinyon and Utah juniper upper canopy. 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. Non-native species are present. 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