

# Ecological site group DX035X02DESG05

## Grand Canyon - Aridic Ustic - Limestone or Loamy Hills

Last updated: 10/26/2022  
Accessed: 05/02/2024

---

### Key Characteristics

- Grand Canyon (D)
- Site parent material is limestone or dolomite, or soil is loamy.
- Site soils are aridic ustic or within a 13-17" precipitation zone.
- Site is and/or located on a hill with slopes >15%.

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 on a hill with slopes >15%. Physiography is complex.

### Climate

Site soils are aridic ustic or within a 13-17" 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 limestone. Soils are loamy. Site consists of gently dipping shallow residuum weathered from sedimentary rocks eroded into steep cliff faces and canyons.

### Vegetation dynamics

This site is characterized by an overstory dominance of trees with an understory of shrubs and herbaceous species. Tree canopy is typically 25-40% with a range of 15 to 55% depending on aspect, elevation, slopes, rock cover and soil depth. Major overstory species are pinyon and juniper with scattered large shrubs including Freemont barberry, Stansbury cliffrose, turbinella oak and Utah serviceberry. Major understory species include muttongrass, blue grama, squirreltail, galleta, Wyoming big sagebrush, broom snakeweed, Mormon tea and yucca. Amounts and composition of understory species will vary depending on tree canopy, elevation, aspect, rock cover and drought.

### Major Land Resource Area

MLRA 035X  
Colorado Plateau

### Subclasses

- F035XF613AZ–Limestone Hills 13-17" p.z. (PIED, JUOS)

### Correlated Map Unit Components

22394885, 22395066, 22395067, 22395072, 22395017, 22394890, 22394917, 22394896, 22394869, 22394870, 22396814

## Stage

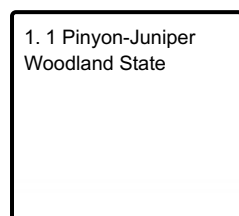
Provisional

## Contributors

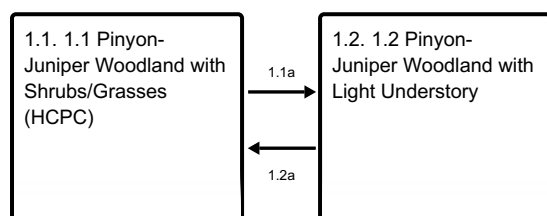
Curtis Talbot

## State and transition model

### Ecosystem states



### State 1 submodel, plant communities



## State 1

### 1 Pinyon-Juniper Woodland State

This state is characterized by an overstory dominance of trees with an understory of shrubs and herbaceous species. Tree canopy is typically 25-40% with a range of 15 to 55% depending on aspect, elevation, slopes, rock cover and soil depth. Major overstory species are pinyon and juniper with scattered large shrubs including Freemont barberry, Stansbury cliffrose, turbinella oak and Utah serviceberry. Major understory species include muttongrass, blue grama, squirreltail, galleta, Wyoming big sagebrush, broom snakeweed, Mormon tea and yucca. Amounts and composition of understory species will vary depending on tree canopy, elevation, aspect, rock cover and drought.

## Community 1.1

### 1.1 Pinyon-Juniper Woodland with Shrubs/Grasses (HCPC)

The Pinyon-Juniper Woodland with Shrubs/Grasses Plant Community(HCPC) has a tree canopy cover that typically ranges from 25% to 45% over grasses, forbs, shrubs and small trees. The dominate aspect of this plant community is a pinyon-juniper woodland with Wyoming big sagebrush, cliffrose, muttongrass and blue grama. On this site the herbaceous species and shrubs have developed in competition with tree species. Understory production potential varies with tree canopy density.

## Community 1.2

### 1.2 Pinyon-Juniper Woodland with Light Understory

This plant community phase the tree canopy that is greater than 35 percent with a lighter understory of shrubs and grasses. Grass and shrub diversity has declined with tree canopy increase. Grasses that will most likely decline are squirreltail, blue grama, junegrass and galleta. Shrub species likely to decline are Wyoming sagebrush and cliffrose. Both perennial and annual forbs will also reduce.

## Pathway 1.1a

### Community 1.1 to 1.2

Grass and shrub diversity has declined with tree canopy increase.

**Pathway 1.2a**  
**Community 1.2 to 1.1**

Management to decrease trees and shrubs while increasing grasses.

**Citations**