

# Ecological site group DX035X01AESG08

## Grand Staircase-Saline Uplands & Flats-Loam to Clay soils

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### Key Characteristics

- Grand Staircase-Kaiparowits
- Saline Uplands and Flats
- 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 hillslopes, structural benches, and escarpments. Slopes range from 15-50% and elevations range from 4000 to 6900 feet. Runoff potential is very high.

### Climate

Soil temperature and moisture regime ranges from mesic, typic aridic to mesic, aridic ustic.

### Soil features

The soils on this ecological site group are shallow or moderately deep to bedrock and well drained. These soils formed in residuum, slope alluvium and colluvium derived from sandstone and shale. Soil textures are typically loamy, but range in texture from clay loams to loamy fine sands. Rock fragments are usually abundant on the soil surface and throughout the soil profile. Sometimes rock fragments are not abundant.

### Vegetation dynamics

This plant community is dominated by shadscale, Torrey mormontea, and perennial grasses. Grasses may include but are not limited to, Indian ricegrass and galleta. Galleta is typically the dominant perennial grass species in this plant community phase. Other perennial grasses may or may not be present. Other perennial shrubs, and forbs may be present and cover is variable.

### Major Land Resource Area

MLRA 035X  
Colorado Plateau

### Subclasses

- R035XD410AZ–Saline Upland 7-11" p.z. Loamy
- R035XY009UT–Alkali Flat (Greasewood)
- R035XY109UT–Desert Loam (Shadscale)
- R035XY122UT–Desert Shallow Loam (Shadscale)
- R035XY125UT–Desert Shallow Clay (Shadscale)
- R035XY239UT–Semidesert Shallow Clay (Shadscale-Utah Juniper)

### Correlated Map Unit Components

22601305, 22601479, 22601477, 22965237, 22965221, 22965347, 22965551, 22965549, 22965268, 22965568, 22965569, 22965253, 22965480

Stage

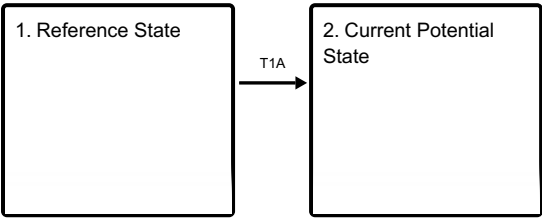
Provisional

Contributors

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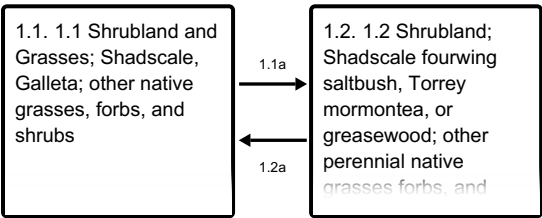
State and transition model

Ecosystem states



T1A - E = Establishment of non-native plant species

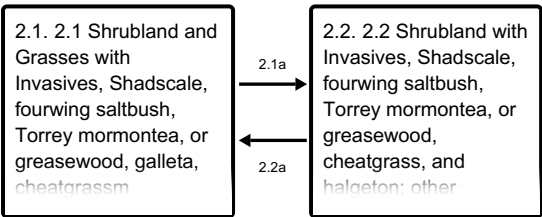
State 1 submodel, plant communities



1.1a - D = Climate - drought

1.2a - W = Climate -above average precipitation

State 2 submodel, plant communities



2.1a - D = Climate - drought G = Continuous season long grazing of perennial grasses

2.2a - W = Climate -above average precipitation

State 1  
Reference State

The Reference State for this ecological site group is generally a shrubland, made up of shadscale , fourwing saltbush, Torrey mormontea, or greasewood, with an understory of perennial grasses, most commonly galleta. Indian ricegrass, sand dropseed, and needleandthread may also be present. Saltgrass may occur in the more saline sites. The proportion of grass may vary with climatic fluctuations.

**Characteristics and indicators.** A saltbush shrubland with a perennial grass understory. Typically shadscale with

galleta.

## **Community 1.1**

### **1.1 Shrubland and Grasses; Shadscale, Galleta; other native grasses, forbs, and shrubs**

This plant community phase is dominated by shrubs, typically shadscale, fourwing saltbush, Torrey mormontea or greasewood, and perennial grasses. Grasses may include but are not limited to, Indian ricegrass and galleta. Galleta is typically the dominant perennial grass species in this plant community phase. Other perennial grasses may or may not be present. Surface rock fragments (0-35%) can be very prevalent.

## **Community 1.2**

### **1.2 Shrubland; Shadscale fourwing saltbush, Torrey mormontea, or greasewood; other perennial native grasses forbs, and shrubs**

This plant community phase is dominated by shadscale, fourwing saltbush, Torrey mormontea or greasewood, where warm and cool season perennial grasses are minimally present. Grasses may include but are not limited to, Indian ricegrass and galleta. Galleta is typically the dominant perennial grass species in this plant community phase. Other perennial grasses, shrubs, and forbs may or may not be present and cover is variable. Surface rock fragments are 0 to 35%.

## **Pathway 1.1a**

### **Community 1.1 to 1.2**

This pathway occurs when events, such as drought or continuous season long grazing of perennial grasses, are not favorable to the persistence of perennial grasses.

## **Pathway 1.2a**

### **Community 1.2 to 1.1**

This pathway occurs when climatic events, such as years with normal to above average precipitation favor the establishment of perennial grasses.

## **State 2**

### **Current Potential State**

This state is similar in structure to the Reference State, however invasive species established in the understory; cheatgrass, halogeton, and Russian thistle being the most common. The primary disturbance mechanism is climate fluctuations; however livestock grazing may influence the ecological dynamics of the site.

**Characteristics and indicators.** A site dominated by salt-tolerant shrubs and perennial grasses, typically shadscale and galleta. Invasive species are present.

## **Community 2.1**

### **2.1 Shrubland and Grasses with Invasives, Shadscale, fourwing saltbush, Torrey mormontea, or greasewood, galleta, cheatgrass, halogeton; Other grasses, forbs, and shrubs.**

This plant community phase is dominated by shrubs, typically shadscale, fourwing saltbush, Torrey mormontea, or greasewood, and perennial grasses. Grasses may include but are not limited to, Indian ricegrass and galleta. Galleta is typically the dominant perennial grass species in this plant community phase. Other perennial or invasive grasses, shrubs, and forbs may or may not be present and cover is variable. This plant community is very similar to plant community 1.1 in production and cover. The main difference is that invasive species are present in this phase. Surface rock fragments (0-35%) can be very prevalent.

## **Community 2.2**

### **2.2 Shrubland with Invasives, Shadscale, fourwing saltbush, Torrey mormontea, or greasewood, cheatgrass, and halogeton; other grasses, forbs, and shrubs.**

This plant community phase is dominated by shadscale, fourwing saltbush, Torrey mormontea, or greasewood; where warm and cool season perennial grasses are minimally present. Grasses may include but are not limited to, Indian ricegrass and galleta. Galleta is typically the dominant perennial grass species in this plant community phase. Other perennial or invasive grasses, shrubs, and forbs may or may not be present and cover is variable. This plant community is very similar to plant community 1.2 in production and cover. The main difference is that invasive species are present in this phase. Surface rock fragments (0-35%) can be very prevalent.

### **Pathway 2.1a**

#### **Community 2.1 to 2.2**

This pathway occurs when events, such as drought or continuous season long grazing of perennial grasses, disfavor the persistence of perennial grasses.

### **Pathway 2.2a**

#### **Community 2.2 to 2.1**

This pathway occurs when events, such as years with normal to above average precipitation favor the establishment of perennial grasses, and when grazing regimes are used that promote the establishment and persistence of perennial grasses.

### **Transition T1A**

#### **State 1 to 2**

This transition occurs as invasive species become established in the plant community. Common invasive species include cheatgrass, halogeton, and Russian thistle. Disturbances that may accelerate this transition include improper livestock grazing and extended drought. Invasive species such as cheatgrass have also been known to invade intact perennial plant community where no disturbance has occurred.

### **Citations**