

# Ecological site group DX035X01JESG03

## Paria and Kaibito Plateaus Gypsum

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### Key Characteristics

- Paria and Kaibito Plateaus
- Gypsum

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 in an upland position. It does not benefit from run-in moisture, and runoff is medium to rapid. This site occurs as hummocky and dissected hills or plains of complex gypsiferous shale and sandstone outcrops.

### Climate

Winter-Summer moisture ratios are typically 70:30 on the west side of this LRU and shift to 60:40 on the east side. Late spring is usually the driest period, and early fall moisture can be sporadic. Summer rains fall June-September; moisture originates in the Gulf of Mexico and creates convective, usually brief, intense thunderstorms. Cool season moisture October-May tends to be frontal; it originates in the Pacific and the Gulf of California and falls in widespread storms with longer duration and lower intensity. Precipitation generally comes as snow December-February. Accumulations above 10 inches are not common, but can occur. Snow usually lasts 3-4 days, but can persist much longer. Summer daytime temperatures are commonly 95-100 F and, on occasion, exceed 105F. Winter air temperatures can regularly go below 15 F and have been recorded below -15 F.

### Soil features

Soils characterizing this site are very shallow to deep to any plant root restricting layer. Rock outcrop is common. The soil profile is extremely variable on the site. Various amounts of gypsum are always present. The gypsum may be visible in powdery or crystalline forms. The pH may exceed 9.0 and is usually above 7.8. Excessive erosion can occur when the stable surface is disturbed.

### Vegetation dynamics

This site is a mixture of shrubs, forbs and grasses. In the original plant community there is a mixture of both cool and warm season plants. Lichens are a major ground cover on this site. Plant species most likely to increase or invade on this site are halophytes. This is a harsh site and retrogression usually leave bare ground. Unpalatable shrubs do well. Elevations range from 4200 to 5100 feet and precipitation averages 7 to 11 inches. Vegetation includes winterfat, fourwing saltbush, buckwheat species, needlegrass, bottlebrush squirreltail, Indian ricegrass, black grama, blue grama, sideoats grama, gyp dropseed, and galleta. The soil temperature regime is mesic and the soil moisture regime is typical aridic. This unit occurs within the Colorado Plateau Physiographic Province and is characterized by a sequence of flat to gently dipping sedimentary rocks eroded into plateaus, valleys and deep canyons. Sedimentary rock classes dominate the plateau with volcanic fields occurring for the most part near its margin.

### Major Land Resource Area

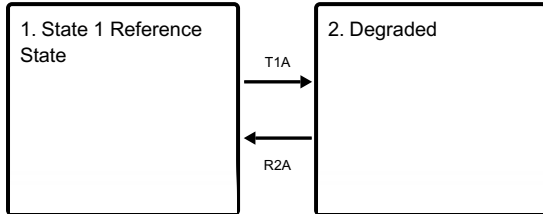
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## Stage

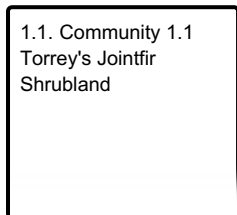
Provisional

## State and transition model

### Ecosystem states



### State 1 submodel, plant communities



## State 1

### State 1 Reference State

State 1 Reference State The reference state is highly resistant to change due to the harsh soil environment of this site. Few species can readily establish and dominate on a gypsum affected soil with only 6-9 inches of annual precipitation. However, given the moderate to deep soils, deep-rooted perennial grass species are resilient during and after drought, and are expected to persist in the community under droughty conditions. The fuel loads are too sparse to carry a fire, and insect or disease impacts have not been documented to have a major impact on the plant community of the site. The resulting condition is a reference state that perpetuates itself on the site indefinitely under natural historical conditions. To this point, no non-native invasive species have been documented on this site, however, it is expected that cheatgrass, Russian thistle, and/or annual mustards may be able to establish as a result of disturbance.

## Community 1.1

### Community 1.1 Torrey's Jointfir Shrubland

Community 1.1 Torrey's Jointfir Shrubland This plant community phase is dominated by Torrey's jointfir, shadscale, and perennial grasses. Grasses may include but are not limited to, Indian ricegrass, galleta, and sand dropseed. 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. Bare ground is 0-8% and biological crusts are 0-50%. Surface rock fragments (0-60%) can be very prevalent and are characterized by gravels.

## State 2

### Degraded

Grass species are minimal, site mostly consists of unpalatable shrubs.

## Transition T1A

### State 1 to 2

Plant species most likely to increase or invade on this site are halophytes. This is a harsh site and retrogression usually leave bare ground. Unpalatable shrubs do well.

## **Restoration pathway R2A**

### **State 2 to 1**

Slow restoration of understory species and soil health.

### **Citations**