

# Ecological site group DX035X04BESG03

## Bisti Lowlands LRU Subset - Sandy Subgroup

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### Key Characteristics

- Bisti Lowlands. This LRU subset is composed of Cretaceous materials, and is generally below 1900 m in elevation. The Bisti Lowlands subset is further distinguished from Chaco Mesa in that the former receives less monsoonal moisture, harbors less warm-season grass, and experiences low amounts of blowing sands.
- Sites that occur on "upland", water-shedding landforms. Elevated terraces are included in this group.
- Soils are > 50 cm to lithic or paralithic contact (root-restrictive bedrock).
- Soils lack both significant salinity and sodicity.
- Soils lack one or both of the following at the surface: Strong or violent response to dilute HCl or  $\geq 5\%$  calcareous fragments.
- Sites with soils that have particle size classes of sandy, coarse loamy, or coarser.

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

Various water-shedding, upland landforms, including elevated terraces. Drainageways are excluded from the Sandy ESG concept. Also excluded are soils with moderate to high salinity and or sodicity, and those with abundant free carbonates at the surface.

### Soil features

Soils have particle size family classes of coarse-loamy and coarser.

### Major Land Resource Area

MLRA 035X  
Colorado Plateau

### Subclasses

- DX035X03A113–Sandy
- DX035X03E002–Sandy
- DX035X03E007–Deep Sand
- R035XB035NM–Sandy Upland 6-10"
- R035XB217AZ–Sandy Upland 6-10" p.z.

### Correlated Map Unit Components

22979836, 23436596, 23436136, 23436144, 23436611, 23436610, 23436150, 23436149, 23436185, 23436192, 23436567, 23436242

### Stage

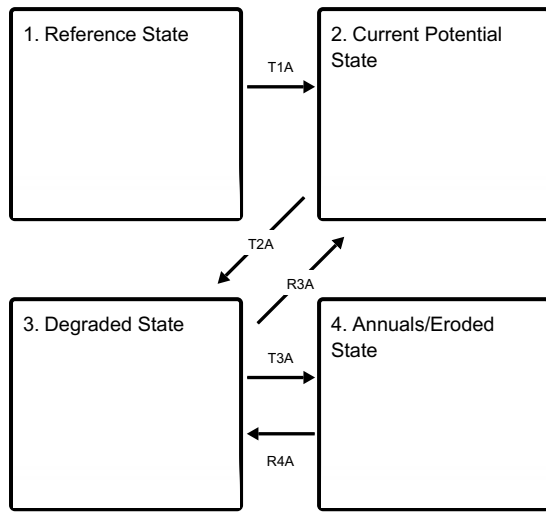
Provisional

# Contributors

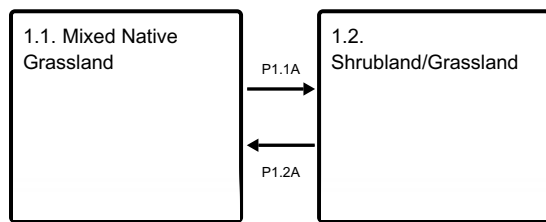
Curtis Talbot

## State and transition model

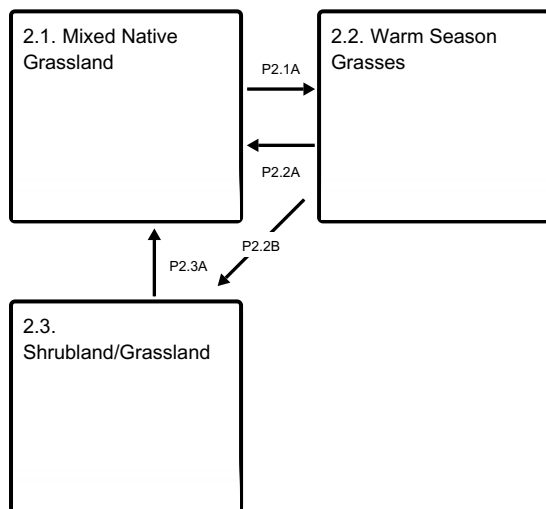
### Ecosystem states



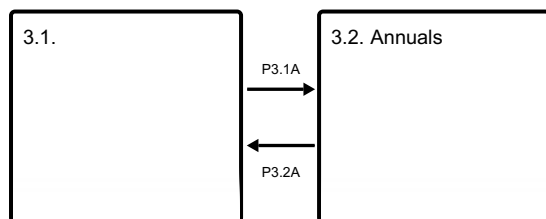
### State 1 submodel, plant communities



### State 2 submodel, plant communities



### State 3 submodel, plant communities



## State 1 Reference State

This state represents historical conditions that are rarely found in current times.

### **Community 1.1**

#### **Mixed Native Grassland**

This is our best estimate of the historic climax community. It is grass-dominated, but also contains a mix of shrubs and forbs.

##### **Dominant plant species**

- fourwing saltbush (*Atriplex canescens*), shrub
- blue grama (*Bouteloua gracilis*), grass
- black grama (*Bouteloua eriopoda*), grass
- Indian ricegrass (*Achnatherum hymenoides*), grass

### **Community 1.2**

#### **Shrubland/Grassland**

##### **Dominant plant species**

- rabbitbrush (*Chrysothamnus*), shrub
- broom snakeweed (*Gutierrezia sarothrae*), shrub
- fourwing saltbush (*Atriplex canescens*), shrub
- mormon tea (*Ephedra viridis*), shrub
- James' galleta (*Pleuraphis jamesii*), grass
- Indian ricegrass (*Achnatherum hymenoides*), grass
- blue grama (*Bouteloua gracilis*), grass

### **Pathway P1.1A**

#### **Community 1.1 to 1.2**

Continuous grazing

### **Pathway P1.2A**

#### **Community 1.2 to 1.1**

Prescribed/deferred grazing

## **State 2**

### **Current Potential State**

### **Community 2.1**

#### **Mixed Native Grassland**

Perennial native grassland with some native shrubs and introduced annuals.

##### **Dominant plant species**

- fourwing saltbush (*Atriplex canescens*), shrub
- blue grama (*Bouteloua gracilis*), grass
- Indian ricegrass (*Achnatherum hymenoides*), grass
- black grama (*Bouteloua eriopoda*), grass

### **Community 2.2**

#### **Warm Season Grasses**

Grassland dominated by perennial, warm-season grasses, with scattered native shrubs and introduced annuals.

### **Dominant plant species**

- fourwing saltbush (*Atriplex canescens*), shrub
- mormon tea (*Ephedra viridis*), shrub
- blue grama (*Bouteloua gracilis*), grass
- James' galleta (*Pleuraphis jamesii*), grass
- dropseed (*Sporobolus*), grass

### **Community 2.3**

#### **Shrubland/Grassland**

### **Dominant plant species**

- fourwing saltbush (*Atriplex canescens*), shrub
- mormon tea (*Ephedra viridis*), shrub
- broom snakeweed (*Gutierrezia sarothrae*), shrub
- rabbitbrush (*Chrysothamnus*), shrub
- James' galleta (*Pleuraphis jamesii*), grass
- Indian ricegrass (*Achnatherum hymenoides*), grass
- blue grama (*Bouteloua gracilis*), grass

### **Pathway P2.1A**

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

Continuous grazing

### **Pathway P2.2A**

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

Prescribed/deferred grazing

### **Pathway P2.2B**

#### **Community 2.2 to 2.3**

Continuous grazing

### **Pathway P2.3A**

#### **Community 2.3 to 2.1**

Prescribed/deferred grazing

## **State 3**

### **Degraded State**

### **Community 3.1**

#### **Dominant plant species**

- rabbitbrush (*Chrysothamnus*), shrub
- mormon tea (*Ephedra viridis*), shrub
- James' galleta (*Pleuraphis jamesii*), grass
- Indian ricegrass (*Achnatherum hymenoides*), grass
- blue grama (*Bouteloua gracilis*), grass

### **Community 3.2**

#### **Annuals**

Community dominated by annual grasses and forbs, including Russian thistle.

### **Dominant plant species**

- cheatgrass (*Bromus tectorum*), grass

### **Pathway P3.1A**

#### **Community 3.1 to 3.2**

Continuous grazing

### **Pathway P3.2A**

#### **Community 3.2 to 3.1**

Prescribed/deferred grazing

### **State 4**

#### **Annuals/Eroded State**

This state is dominated by annuals such as cheatgrass and Russian thistle. Productivity is quite low, and bare ground abounds.

### **Dominant plant species**

- cheatgrass (*Bromus tectorum*), grass

### **Transition T1A**

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

Continuous grazing

### **Transition T2A**

#### **State 2 to 3**

Prolonged continuous grazing.

### **Restoration pathway R3A**

#### **State 3 to 2**

Prescribed/deferred grazing

### **Transition T3A**

#### **State 3 to 4**

Prolonged continuous grazing

### **Restoration pathway R4A**

#### **State 4 to 3**

Deferred/prescribed grazing, coupled with seeding.

### **Citations**