

## Ecological site F039XA136AZ Cinder Hills 17-22" p.z. (PIPO, QUGA)

Last updated: 9/05/2019  
Accessed: 04/24/2024

---

### General information

**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.

### MLRA notes

Major Land Resource Area (MLRA): 039X–Mogollon Transition North

AZ 39.1 Mogollon Plateau Coniferous Forests

Elevations range from 7000 to 12,500 feet and precipitation averages 20 to 35 inches per year. Vegetation includes ponderosa pine, Gambel oak, Arizona walnut, sycamore, Douglas fir, blue spruce, Arizona fescue, sheep fescue, mountain muhly, muttongrass, junegrass, pine dropseed, and dryland sedges. The soil temperature regime ranges from mesic to frigid and the soil moisture regime ranges from typic ustic to udic ustic. 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.

Table 1. Dominant plant species

Tree	(1) <i>Pinus ponderosa</i> (2) <i>Quercus gambelii</i>
Shrub	(1) <i>Ceanothus fendleri</i>
Herbaceous	(1) <i>Muhlenbergia montana</i>

### Physiographic features

Hill slopes of cinder cones

### Climatic features

### Influencing water features

### Soil features

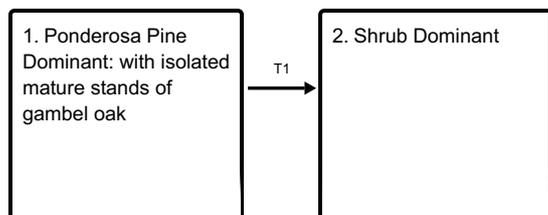
Taxonomic units mapped on this site include: from SSA-695 Kaibab NF area MU 17-1-Vitrandic Haplustalfs and 17-2-Vitrandic Haplustolls.

### Ecological dynamics

A ponderosa pine dominant site that is susceptible to transition to a shrub community.

### State and transition model

## Ecosystem states



### State 1

#### **Ponderosa Pine Dominant: with isolated mature stands of gambel oak**

Dominant ponderosa pine with isolated mature stands of gambel oak and other shrubs. Plus there is dominant cool-season bunch grasses.

### State 2

#### **Shrub Dominant**

Shrub Dominant with immature Gambel Oak and others. There is less cool-season bunchgrass present.

### Transition T1

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

Severe fire taking out the ponderosa pine and increasing immature gambel oak. The ecological drivers back to reference are unknown at this time.

### Contributors

Karlynn Huling  
Larry D. Ellicott

### Approval

Scott Woodall, 9/05/2019

### Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

### Indicators

1. **Number and extent of rills:**
-

---

2. **Presence of water flow patterns:**

---

3. **Number and height of erosional pedestals or terracettes:**

---

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

---

5. **Number of gullies and erosion associated with gullies:**

---

6. **Extent of wind scoured, blowouts and/or depositional areas:**

---

7. **Amount of litter movement (describe size and distance expected to travel):**

---

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

---

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

---

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

---

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

---

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

Dominant:

Sub-dominant:

Other:

Additional:

---

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

---

14. **Average percent litter cover (%) and depth ( in):**

---

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

---

16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

---

17. **Perennial plant reproductive capability:**

---