

Ecological site group DX035X01AESG09

Grand Staircase-Shallow Soils Shrub & Woodlands-Volcanic Cinders

Last updated: 10/05/2022
Accessed: 04/19/2024

Key Characteristics

- Grand Staircase-Kaiparowits
- Shallow Soil Shrublands and Woodlands
- Soil parent material is volcanic cinders

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 ecological site group occurs on uplands of fan remnants, structural benches, foot slopes of hills and cinder cones. This site does not suffer from excessive runoff or benefit from run-in moisture. Moisture infiltration is good because of the coarse textures of the soil. Some available moisture is lost on steeper slopes. Slopes generally range from 0-15% with occasional steeper slopes.

Climate

Average annual precipitation varies from about 10 inches to just over 16 inches. Fluctuations ranging from about 5 inches to 25 inches are not uncommon. The overall climate is characterized by cold dry winters in which winter moisture is less than summer. As much as half or more of the annual precipitation can be expected to come during the period of July through September. Thus, fall conditions are often more favorable for good growth of cool-season perennial grasses, shrubs, and forbs than are those of spring.

The average frost-free season is about 120 days and extends from approximately mid-May to early or mid-September. Average annual air temperatures are 50 degrees F or lower and summer maximums rarely exceed 100 degrees F. Winter minimums typically approach or go below zero. Monthly mean temperatures exceed 70 degrees F for the period of July and August.

Rainfall patterns generally favor warm-season perennial vegetation, while the temperature regime tends to favor cool-season vegetation. This creates a somewhat complex community of plants on a given range site which is quite susceptible to disturbance and is at or near its productive potential only when both natural warm- and cool- season dominants are present.

Soil features

The soils on this ecological site group are shallow over cinders or cemented cinders although depending on the micro topography some soils will be moderately deep. The surface horizons, about 2 to 10 inches thick, generally have textures of gravelly to very gravelly loam. The subsurface horizons have textures of gravelly to very gravelly loams over a cinders or cemented cinders. Permeability is moderate to moderately slow but the soils on level slopes can absorb and hold all the moisture the climate can supply. On steeper slopes some moisture is lost in runoff. The soil reaction ranges from slightly to moderately alkaline (pH 7.4-8.4).

Vegetation dynamics

This plant community is made up primarily of mid and short grasses with a relatively small percentage of shrubs, sub-shrubs and forbs. The plant community may have an occasional juniper at higher elevations. There is a mixture

of both cool and warm season grasses.

Plants most likely to invade or increase on this site when it deteriorates are broom snakeweed, wooly groundsel, annuals, cacti, juniper and rabbitbrush. Unmanaged grazing during the winter and spring periods will decrease the cool season grasses, which are replaced by warm season, lower forage value grasses and shrubs.

In this plant community there may be a trace of non-native annuals present. They do not change the sites ecological processes in these minor amounts

Major Land Resource Area

MLRA 035X

Colorado Plateau

Subclasses

- R035XA117NM–Cinder
- R035XA128AZ–Tephra Uplands, Loamy 10-14" p.z

Correlated Map Unit Components

22396793, 22396798, 22396758, 22396757, 22600990, 22963385

Stage

Provisional

Contributors

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State and transition model

Citations