10910

Sonoran Mid-Elevation Desert Scrub

BpS Model/Description Version: Aug. 2020

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|  |  |  |  |

Vegetation Type

Shrubland

Map Zones

15

Geographic Range

The northern edge of the Sonoran Desert in an elevational band along the lower slopes of the Mogollon Rim/Central Highlands region. Also in the Bradshaw, Hualapai and Superstition mountains.

Biophysical Site Description

Between 750-1,300m. Sites range from a narrow strip on steep slopes to very broad areas such as the Verde Valley. Climate is too dry for chaparral species to be abundant, and freezing temperatures during winter are too frequent and prolonged for many of the frost-sensitive species that are characteristic of Sonoran Paloverde-Mixed Cacti Desert Scrub. Substrates are generally rocky soils derived from parent materials such as limestone, granitic rocks or rhyolite.

Vegetation Description

The vegetation is typically composed of an open shrub layer of *Larrea tridentata*, *Ericameria linearifolia*, or *Eriogonum fasciculatum* with taller shrub such as *Canotia holacantha* (limestone or granite) or *Simmondsia chinensis* (rhyolite). The herbaceous layer is generally sparse.

BpS Dominant and Indicator Species

|  |  |  |
| --- | --- | --- |
| **Symbol** | **Scientific Name** | **Common Name** |
| EFRA2 | *Penstemon fruticosus var. albus* | Littleleaf bush penstemon |
| ERLI6 | *Ericameria linearifolia* | Narrowleaf goldenbush |
| ISTE2 | *Isocoma tenuisecta* | Burroweed |
| CAHO3 | *Canotia holacantha* | Crucifixion thorn |
| GUTIE | *Gutierrezia* | Snakeweed |
| SICH | *Simmondsia chinensis* | Jojoba |
| LATR2 | *Larrea tridentata* | Creosote bush |

Species names are from the NRCS PLANTS database. Check species codes at http://plants.usda.gov.

Disturbance Description

Fire is unusual in this BpS.

Fire Frequency

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Severity** | **Avg FI** | **Percent of All Fires** | **Min FI** | **Max FI** |
| Replacement | 351 | 100 |  |  |
| Moderate (Mixed) |  |  |  |  |
| Low (Surface) |  |  |  |  |
| All Fires | 351 | 100 |  |  |

Fire interval is expressed in years for each fire severity class and for all types of fire combined (All Fires). Average FI is the central tendency modeled. Percent of all fires is the percent of all fires modeled in that severity class. Minimum and Maximum FIs show the relative range of fire intervals as estimated by model contributors, if known.

Scale Description

50-2,000 ha

Adjacency or Identification Concerns

Above Sonoran Paloverde-Mixed Cacti Desert Scrub (CES302.761) and below Mogollon Chaparral (CES302.741) in elevation.

Non-native, weedy annuals may be present to dominant in Class A.

Issues or Problems

Native Uncharacteristic Conditions

Comments

Succession Classes

**Mapping Rules**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Upper Layer Lifeform** | **Height (m)** | **Canopy Cover (%)** | | | | | | | | | |
| **0-10** | **11-20** | **21-30** | **31-40** | **41 - 50** | **51-60** | **61-70** | **71-80** | **81-90** | **91-100** |
| Herb | 0-0.5 | A | A | A | UN | UN | UN | UN | UN | UN | UN |
| Herb | 0.5-1.0 | A | A | A | UN | UN | UN | UN | UN | UN | UN |
| Herb | >1.0 | A | A | A | UN | UN | UN | UN | UN | UN | UN |
| Shrub | 0-0.5 | A | B | B | B | B | B | UN | UN | UN | UN |
| Shrub | 0.5-1.0 | A | B | B | B | B | B | UN | UN | UN | UN |
| Shrub | 1.0-3.0 | A | B | B | B | B | B | UN | UN | UN | UN |
| Shrub | >3.0 | A | B | B | B | B | B | UN | UN | UN | UN |
| Tree | 0-5 | B | B | UN | UN | UN | UN | UN | UN | UN | UN |
| Tree | 5-10 | B | B | UN | UN | UN | UN | UN | UN | UN | UN |
| Tree | 10-25 | B | B | UN | UN | UN | UN | UN | UN | UN | UN |
| Tree | 25-50 | B | B | UN | UN | UN | UN | UN | UN | UN | UN |
| Tree | >50 | B | B | UN | UN | UN | UN | UN | UN | UN | UN |

Succession class letters A-E are described in the Succession Class Description section. Some classes use a leafform distinction where a qualifier is added to the class letter: Brdl (broadleaf), Con (conifer), or Mix (mixed conifer and broadleaf). UN refers to uncharacteristic native or a combination of height and cover that would not be expected under the reference condition. NP refers to not possible or a combination of height and cover which is not physiologically possible for the species in the BpS.

**Description**

Class A 14 Early Development 1 - Open

Indicator Species

|  |  |  |  |
| --- | --- | --- | --- |
| **Symbol** | **Scientific Name** | **Common Name** | **Canopy Position** |
| ERFA2 | Eriogonum fasciculatum | Eastern mojave buckwheat | All |
| ERLI6 | Ericameria linearifolia | Narrowleaf goldenbush | All |
| ISTE2 | Isocoma tenuisecta | Burroweed | All |
| GUTIE | Gutierrezia | Snakeweed | All |

Description

High percent bare ground, with shrub seedlings or resprouts. Patchy burn may result in scattered larger plants remaining from original community. ISTE2 and GUTIE are highest percentage.

*Maximum Tree Size Class*  
None None None None

Class B 86 Late Development 1 - Closed

Indicator Species

|  |  |  |  |
| --- | --- | --- | --- |
| **Symbol** | **Scientific Name** | **Common Name** | **Canopy Position** |
| ERFA2 | Eriogonum fasciculatum | Eastern mojave buckwheat | Upper |
| CAHO3 | Canotia holacantha | Crucifixion thorn | Upper |
| SICH | Simmondsia chinensis | Jojoba | Upper |
| LATR2 | Larrea tridentata | Creosotebush | Upper |

Description

Acacia may occur in patches. Sparse herbaceous layer, high percent of bare ground. *Larrea*, *Eriogonium*, *Simmondsia*, *Ericameria*, and *Canotia* species, found throughout. Fire is very rare in this system.

*Maximum Tree Size Class*  
None None None None

Model Parameters

Deterministic Transitions

|  |  |  |  |
| --- | --- | --- | --- |
| **From Class** | **Begins at (yr)** | **Succeeds to** | **After (years)** |
| Early1:OPN | 0 | Late1:CLS | 49 |
| Late1:CLS | 50 | Late1:CLS | 999 |

Probabilistic Transitions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Disturbance Type** | **Disturbance occurs In** | **Moves vegetation to** | **Disturbance Probability** | **Return Interval (yrs)** | **Reset Age to New Class Start Age After Disturbance?** | **Years Since Last Disturbance** |
| Replacement Fire | Late1:CLS | Early1:OPN | 0.0033 | 303 | Yes | 0 |
| Wind or Weather or Stress | Late1:CLS | Late1:CLS | 0.01 | 100 | No | 0 |

References

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