11080

Sonora-Mojave Semi-Desert Chaparral

BpS Model/Description Version: Aug. 2020

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| --- | --- | --- | --- |
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Vegetation Type

Shrubland

Map Zones

4, 5, 13, 14, 15, 24, 25

Geographic Range

This ecological system is composed of evergreen shrublands on sideslopes transitioning from low-elevation desert landscapes up into woodlands of the western Mojave and Sonoran Deserts. It extends from northeast Kern County, CA, into Baja California Norte. This vegetation type is also found on the northern slopes of the Transverse Ranges and eastern slopes of Peninsular and coast ranges.

Biophysical Site Description

This system includes chaparral on sideslopes transitioning from low-elevation desert landscapes up into pinyon-juniper and ponderosa pine woodlands of the western and central Great Basin, between 4000-7000ft (including north and east slopes of Transverse and Peninsular ranges in southern California).

Vegetation Description

Associated species include Quercus john-tuckeri, Quercus cornelius-mulleri, Quercus berberidifolia, Arctostaphylos patula, Arctostaphylos pungens, Arctostaphylos glauca, Rhus ovata, Juniperus californica, Cercocarpus montanus var. glaber (=Cercocarpus betuloides), Ceanothus greggii, Garrya flavescens and Nolina parryi. Stands tend to be on steep slopes embedded in larger stands of blackbrush, pinyon, juniper, and sagebrush.

BpS Dominant and Indicator Species

|  |  |  |
| --- | --- | --- |
| **Symbol** | **Scientific Name** | **Common Name** |
| QUJO3 | *Quercus john-tuckeri* | Tucker oak |
| QUCO7 | *Quercus cornelius-mulleri* | Muller oak |
| QUBE5 | *Quercus berberidifolia* | Scrub oak |
| ARPA6 | *Arctostaphylos patula* | Greenleaf manzanita |
| ARPU5 | *Arctostaphylos pungens* | Pointleaf manzanita |
| ARGL4 | *Arctostaphylos glauca* | Bigberry manzanita |
| CEMOG | *Cercocarpus montanus var. glaber* | Birchleaf mountain mahogany |
| GAFL2 | *Garrya flavescens* | Ashy silktassel |

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

Disturbance Description

Typical fire regime in these systems varies with the amount of organic accumulation and is largely related to fire regimes of surrounding vegetation. The only significant disturbance to the system is stand-replacing fire occurring every 100+yrs on average. Shrubs resprout rapidly after fire or regenerate from soil-stored seeds.

Fire Frequency

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Severity** | **Avg FI** | **Percent of All Fires** | **Min FI** | **Max FI** |
| Replacement | 81 | 100 | 75 | 100 |
| Moderate (Mixed) |  |  |  |  |
| Low (Surface) |  |  |  |  |
| All Fires | 81 | 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

Vegetation found in small patches of 10s-100s of acres.

Adjacency or Identification Concerns

BPS 1108 will be difficult to distinguish from BPS 1103 (Great Basin Semi-Desert Chaparral) and BPS 1104 (Mogollon Semi-Desert Chaparral). Smaller stand size than BpS 1104 and longer fire return intervals.

Issues or Problems

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 | A | A | A | A | A | A | A |
| Herb | 0.5-1.0 | A | A | A | A | A | A | A | A | A | A |
| Herb | >1.0 | A | A | A | A | A | A | A | A | A | A |
| Shrub | 0-0.5 | A | A | A | A | A | A | A | A | A | A |
| Shrub | 0.5-1.0 | A | A | A | A | A | A | A | A | A | A |
| Shrub | 1.0-3.0 | B | B | B | B | B | B | B | B | B | B |
| Shrub | >3.0 | B | B | B | B | B | B | B | B | B | B |
| Tree | 0-5 | B | B | B | B | B | UN | UN | UN | UN | UN |
| Tree | 5-10 | B | B | B | B | B | UN | UN | UN | UN | UN |
| Tree | 10-25 | B | B | B | B | B | UN | UN | UN | UN | UN |
| Tree | 25-50 | B | B | B | B | B | UN | UN | UN | UN | UN |
| Tree | >50 | B | B | B | B | B | 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 21 Early Development 1 - All Structures

Indicator Species

|  |  |  |  |
| --- | --- | --- | --- |
| **Symbol** | **Scientific Name** | **Common Name** | **Canopy Position** |
| ARPA6 | Arctostaphylos patula | Greenleaf manzanita | Upper |
| ARPU5 | Arctostaphylos pungens | Pointleaf manzanita | Upper |
| QUJO3 | Quercus john-tuckeri | Tucker oak | Upper |
| CEMOG | Cercocarpus montanus var. glaber | Birchleaf mountain mahogany | Upper |

Description

After fire, shrubs resprout strongly from roots or from the base of plants; a few species regenerate from soil-stored seed. Shrubs can cause stands to become impenetrable.

*Maximum Tree Size Class*  
None

Class B 79 Late Development 1 - All Structures

Indicator Species

|  |  |  |  |
| --- | --- | --- | --- |
| **Symbol** | **Scientific Name** | **Common Name** | **Canopy Position** |
| ARPA6 | Arctostaphylos patula | Greenleaf manzanita | Upper |
| ARPU5 | Arctostaphylos pungens | Pointleaf manzanita | Upper |
| QUJO3 | Quercus john-tuckeri | Tucker oak | Upper |
| CEMOG | Cercocarpus montanus var. glaber | Birchleaf mountain mahogany | Upper |

Description

Dense shrubs with grasses present in the few openings.

*Maximum Tree Size Class*  
None

Model Parameters

Deterministic Transitions

|  |  |  |  |
| --- | --- | --- | --- |
| **From Class** | **Begins at (yr)** | **Succeeds to** | **After (years)** |
| Early1:ALL | 1 | Late1:ALL | 20 |
| Late1:ALL | 21 | Late1:ALL | 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 | Early1:ALL | Early1:ALL | 0.01 | 100 | Yes | 0 |
| Replacement Fire | Late1:ALL | Early1:ALL | 0.013 | 77 | Yes | 0 |

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