

11030

Great Basin Semi-Desert Chaparral

BpS Model/Description Version: Aug. 2020

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Vegetation Type

Shrubland

Map Zones

6, 7, 12, 13, 16, 17, 23

Geographic Range

Western, southern, and central Great Basin of eastern California, Nevada, and Utah. There are limited occurrences extending as far west as the inner Coast Ranges in central California.

Biophysical Site Description

This system includes chaparral on side-slopes transitioning from low-elevation desert landscapes up into pinyon-juniper and ponderosa pine woodlands of the western and central Great Basin.

Vegetation Description

Although these ecological systems are typically dense to impenetrable shrublands, open spaces that are either bare or supporting patchy grass and forbs can be observed. Characteristic species may include *Arctostaphylos patula*, *Arctostaphylos pungens*, *Ceanothus greggii*, *Cercocarpus montanus* var. *glaber*, *Cercocarpus intricatus*, *Eriogonum fasciculatum*, *Garrya flavescens*, *Quercus turbinella*, *Purshia stansburiana*, and *Rhus trilobata*. *Cercocarpus ledifolius* is generally absent.

BpS Dominant and Indicator Species

Symbol	Scientific Name	Common Name
ARPA6	<i>Arctostaphylos patula</i>	Greenleaf manzanita
ARPU5	<i>Arctostaphylos pungens</i>	Pointleaf manzanita
CEGR	<i>Ceanothus greggii</i>	Desert ceanothus
CEMOG	<i>Cercocarpus montanus</i> var. <i>glaber</i>	Birchleaf mountain mahogany
CEIN7	<i>Cercocarpus intricatus</i>	Littleleaf mountain mahogany
ERFA2	<i>Eriogonum fasciculatum</i>	Eastern Mojave buckwheat
GAFL2	<i>Garrya flavescens</i>	Ashy silktassel
QUTU2	<i>Quercus turbinella</i>	Sonoran scrub oak

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. The only significant disturbance to the system is stand-replacing fire occurring every 50yrs on average. Shrubs resprout rapidly after fire, often making the vegetation impenetrable.

Fire Frequency

Severity	Avg FI	Percent of All Fires	Min FI	Max FI
Replacement	50	100	10	90
Moderate (Mixed)				
Low (Surface)				
All Fires	50	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 10ac to whole mountain slopes of 10,000ac (map zones [MZs] 6, 7, 12, 13, and 17) or 5,000ac (MZs 16 and 23).

Adjacency or Identification Concerns

At higher elevations, chaparral vegetation may blend into ponderosa pine woodlands and pinyon-juniper woodlands. Stand-replacement fire periodically removes these trees.

Compared to other Great Basin systems deserving splitting (e.g., biophysical setting [BpS] 1080, 1081, 1125, and 1126), chaparral systems for MZ12 and MZ17 (1104 Mogollon Semi-Desert Chaparral, 1107 Rocky Mountain Gambel Oak-Mixed Montane Shrublands, and 1108 Sonora-Mojave Semi-Desert Chaparral) are described too finely to be distinguished and share nearly identical fire dynamics.

Issues or Problems

Native Uncharacteristic Conditions

Comments

MZs 6, 7, 12, 13, 16, 17, and 23 were combined during the 2015 BpS review. The models were identical with the exception of a minor difference in the scale description, which is described in that section.

Great Basin chaparral experiences very few disturbances other than replacement fire.

Succession Classes

Mapping Rules

[illegible]

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 17 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
CEGR	Ceanothus greggii	Desert ceanothus	Upper
CEMOG	Cercocarpus montanus var. glaber	Birchleaf mountain mahogany	Upper

Description

After fire, shrubs resprout strongly from roots or from the base of plants. Shrubs can cause stands to become impenetrable.

Maximum Tree Size Class

None

Class B 83 Mid Development 1 - Closed

Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
ARPA6	Arctostaphylos patula	Greenleaf manzanita	Upper
ARPU5	Arctostaphylos pungens	Pointleaf manzanita	Upper
CEGR	Ceanothus greggii	Desert ceanothus	Upper
CEMOG	Cercocarpus montanus var. glaber	Birchleaf mountain mahogany	Upper

Description

Dense shrubs with grasses present in the few openings. Shrub composition same as in Class A. Canopy cover is generally >50%.

Maximum Tree Size Class

None

Model Parameters

Deterministic Transitions

From Class	Begins at (yr)	Succeeds to	After (years)
Early1:ALL	0	Mid1:CLS	9
Mid1:CLS	10	Mid1: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	Early1:ALL	Early1:ALL	0.02	50	Yes	0
Replacement Fire	Mid1:CLS	Early1:ALL	0.02	50	Yes	0

References

Barbour, M.G. and J. Major, editors. 1977. Terrestrial vegetation of California. John Wiley and Sons, New York. 1002 pp.

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NatureServe. 2007. International Ecological Classification Standard: Terrestrial Ecological Classifications. NatureServe Central Databases. Arlington, VA. Data current as of 10 February 2007.

Sawyer, J.O. and T. Keeler-Wolf. 1995. A manual of California vegetation. California Native Plant Society, Sacramento. 471 pp.