

10980

California Montane Woodland and Chaparral

BpS Model/Description Version: Aug. 2020

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Vegetation Type

Shrubland

Map Zone

7

Geographic Range

Southern Cascades and Klamath mountains in Oregon to Peninsular Ranges of California south to Baja California, Mexico. This is the southwestern Oregon variant.

Biophysical Site Description

Chaparral or open shrubby woodlands found among montane forests above 700m (2,200ft). Often steep exposed slopes with shallow soils. These are mosaics of woodlands with chaparral understories, shrub-dominated chaparral, or short-lived chaparral with conifer species invading if good seed source is available.

Vegetation Description

These are shrublands and shrub fields, often with either conifer invasion or old conifers distributed through the stands at open woodlands or savannas. Shrubs include *Arctostaphylos* spp. (*nevadensis*, *patula*, *viscida*, *columbiana*), *Cercocarpus betuloides* (now called *montanum*), *Prunus* spp. (*subcordata*, *emarginata*, *virginiana*), and *Ceanothus* spp. (*cuneatus*, *intergerimus*, *sanguineum*). In early conditions, native bunchgrasses (*Agropyron spicatum*, *Festuca idahoensis*, *Stipa lemmonii*) and diverse forbs dominate stands, while shrubs close in after 15yrs without fire.

BpS Dominant and Indicator Species

Symbol	Scientific Name	Common Name
ARNE	<i>Arctostaphylos nevadensis</i>	Pinemat manzanita
ARPA6	<i>Arctostaphylos patula</i>	Greenleaf manzanita
CEVI4	<i>Celosia virgata</i>	Albahaca
CEMOG	<i>Cercocarpus montanus</i> var. <i>glaber</i>	Birchleaf mountain mahogany
PRUNU	<i>Prunus</i>	Plum
PIPO	<i>Pinus ponderosa</i>	Ponderosa pine
CADE27	<i>Calocedrus decurrens</i>	Incense cedar
ABCO	<i>Abies concolor</i>	White fir

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

Disturbance Description

Wildfires occur. Most fires remove the shrub and understory component. Fire Regime II.

Fire Frequency

Severity	Avg FI	Percent of All Fires	Min FI	Max FI
Replacement	50	69		
Moderate (Mixed)	199	17		
Low (Surface)	235	14		
All Fires	34	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

Historically, these were fairly widely distributed at mid-montane and lower montane areas and found in small patch areas at higher elevations. Currently, they are found in fairly small patches.

Adjacency or Identification Concerns

Fire suppression has caused significant invasion of conifers into many of these stands and reduced the openness of the stands and grass cover. Many chaparral patches are mature and full of fuels. Fire types make prescribed burns difficult.

Issues or Problems

Exotic species invasion into these habitats and lack of fire threaten this type.

Native Uncharacteristic Conditions

Shrubs that are 1-3m tall can be as open as 30% canopy closure in Class B.

Comments

Originally, this model was built as a 5-box model. However, it was converted to a 4-box model due to national quality control limitations. Two late-development classes were combined into a single box.

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	B	B	B	B	B	B	B	B	B	B
Shrub	0.5-1.0	B	B	B	B	B	B	B	B	B	B
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	UN	UN	UN	UN	UN	UN	UN
Tree	5-10	C	C	C	UN	UN	UN	UN	UN	UN	UN
Tree	10-25	C	C	C	UN	UN	UN	UN	UN	UN	UN
Tree	25-50	C	C	C	UN	UN	UN	UN	UN	UN	UN
Tree	>50	D	D	D	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 25 Early Development 1 - All Structures

Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
FEID	<i>Festuca idahoensis</i>	Idaho fescue	Lower
ACLEL	<i>Achnatherum lemmonii</i>	Lemmon's needlegrass	Lower
PSSPS	<i>Pseudoroegneria spicata</i> ssp. <i>spicata</i>	Bluebunch wheatgrass	Lower
ARCTO	<i>Arctomecon</i>	Bearpoppy	Low-Mid

Description

In early conditions, native bunchgrasses (*Agropyron spicatum*, *Festuca idahoensis*, *Stipa lemmonii*/*Achnatherum lemmonii*) and diverse forbs dominate stands. These become shrublands (Class B). In early conditions, native bunchgrasses (*Agropyron spicatum*, *Festuca idahoensis*, *Stipa lemmonii*), *Poa scabrella*, and diverse forbs dominate stands. Shrubs may include *Arctostaphylos* spp. (*nevadensis*, *patula*, *viscida*, *columbiana*), *Cercocarpus betuloides* (now called *montanum*), *Prunus* spp. (*subcordata*, *emarginata*, *virginiana*), and *Ceanothus* spp. (*cuneatus*, *intergerimus*, *sanguineum*).

Maximum Tree Size Class

None

Class B 22 Mid Development 1 - Closed

Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
ARCTO	<i>Arctomecon</i>	Bearpoppy	Upper
CEMOG	<i>Cercocarpus montanus</i> var. <i>glaber</i>	Birchleaf mountain mahogany	Upper
CEANO	<i>Ceanothus</i>	Ceanothus	Upper
FEID	<i>Festuca idahoensis</i>	Idaho fescue	Lower

Description

Closed chaparral shrubland, with some small-tree invasion starting. Shrubs include *Arctostaphylos* spp. (*nevadensis*, *patula*, *viscida*, *columbiana*), *Cercocarpus betuloides* (now called *montanum*), *Prunus* spp. (*subcordata*, *emarginata*, *virginiana*), and *Ceanothus* spp. (*cuneatus*, *intergerimus*, *sanguineum*).

Maximum Tree Size Class

Medium 9-21" DBH

Class C 10 Mid Development 1 - Open

Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
PSME	<i>Pseudotsuga menziesii</i>	Douglas-fir	Upper
CADE27	<i>Calocedrus decurrens</i>	Incense cedar	Upper
ABCO	<i>Abies concolor</i>	White fir	Upper
CEANO	<i>Ceanothus</i>	Ceanothus	Low-Mid

Description

Mid seral forest, with invasion of conifers, including PSME, CADE, and PIPO at lower elevations, and ABCO, PIEN, and PSME at higher elevations. This is a dense to open chaparral with young trees. Shrubs can exceed 3m height and are generally between 30-80% canopy closure. Shrubs include *Arctostaphylos* spp. (*nevadensis*, *patula*, *viscida*, *columbiana*), *Cercocarpus betuloides* (now called *montanum*), *Prunus* spp. (*subcordata*, *emarginata*, *virginiana*), and *Ceanothus* spp. (*cuneatus*, *intergerimus*, *sanguineum*). In early conditions, native bunchgrasses (*Agropyron spicatum*, *Festuca idahoensis*, *Stipa lemmonii*) and diverse forbs dominate stands, while shrubs close in after 15yrs without fire.

Maximum Tree Size Class

Medium 9-21" DBH

Class D 43 Late Development 1 - All Structures

Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
PIPO	<i>Pinus ponderosa</i>	Ponderosa pine	Upper
PSME	<i>Pseudotsuga menziesii</i>	Douglas-fir	Upper
ARCTO	<i>Arctomecon</i>	Bearpoppy	Low-Mid
FEID	<i>Festuca idahoensis</i>	Idaho fescue	Lower

Description

Open woodland or savanna dominated by ponderosa pine, Douglas-fir, or incense cedar at lower elevations, white fir at higher elevations. This is an open grassland or open shrubland with widely spaced, giant trees. The dominant plants are medium grasses, 0.5m tall. Few, newly established chaparral shrubs (see Class C). Native bunchgrasses (*Agropyron spicatum*, *Festuca idahoensis*, *Festuca idahoensis* ssp. *roemerii*, *Stipa lemmonii*, *Pseudoroegneria spicata*) and diverse forbs, or fairly dense understory or chaparral shrubs (*Arctostaphylos* spp. [*nevadensis*, *patula*, *viscida*, *columbiana*], *Cercocarpus betuloides* [now called *montanum*], *Prunus* spp. [*subcordata*, *emarginata*, *virginiana*], and *Ceanothus* spp. [*cuneatus*, *intergerimus*, *sanguineum*]) dominate stands.

Maximum Tree Size Class
Large 21-33" DBH

Model Parameters

Deterministic Transitions

From Class	Begins at (yr)	Succeeds to	After (years)
Early1:ALL	0	Mid1:CLS	15
Mid1:OPN	16	Late1:ALL	50
Mid1:CLS	16	Late1:ALL	50
Late1:ALL	51	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	0.025	40	Yes	0
Replacement Fire	Mid1:OPN	Early1:ALL	0.01	100	Yes	0
Mixed Fire	Mid1:OPN	Mid1:OPN	0.016	63	No	0
Mixed Fire	Mid1:CLS	Mid1:OPN	0.016	63	Yes	0
Replacement Fire	Mid1:CLS	Early1:ALL	0.04	25	Yes	0
Surface Fire	Late1:ALL	Late1:ALL	0.01	100	No	0
Replacement Fire	Late1:ALL	Early1:ALL	0.01	100	Yes	0

References

Detling, L. 1961 or so. Chaparral vegetation of southwestern Oregon. (The title is very approximate, but this is the only reference, published by the University of Oregon Natural History Museum).

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

Paul Hosten with BLM has been doing research in these stands in the Cascade Siskiyou NM for the Medford District of the BLM.