

11210

Apacherian-Chihuahuan Semi-Desert Grassland and Steppe

BpS Model/Description Version: Aug. 2020

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Vegetation Type

Steppe/Savanna

Map Zone

25

Geographic Range

Borderland of Arizona, New Mexico, Texas, and northern Mexico. Extends from Sonoran Desert to the Mogollon Rim and much of the Chihuahuan Desert.

Biophysical Site Description

Gently sloping, on mesas, foothill slopes, piedmonts, narrow-fingered draws, and loamy broad swales; 1,100-1,800m elevations.

Vegetation Description

Perennial grasses, herbs with shrubs as the upper lifeform. Perennial grass dominated with scattered shrubs. Perennial herbaceous cover values range from 16-25%. Bare ground can make up 50% of the ground cover. Bare ground patch sizes should be small <0.5m in diameter.

BpS Dominant and Indicator Species

Symbol	Scientific Name	Common Name
BOER4	<i>Bouteloua eriopoda</i>	Black grama
PLMU3	<i>Pleuraphis mutica</i>	Tobosagrass
MUPO2	<i>Muhlenbergia porteri</i>	Bush muhly
SPAI	<i>Sporobolus airoides</i>	Alkali sacaton
BOGR2	<i>Bouteloua gracilis</i>	Blue grama
LATR2	<i>Larrea tridentata</i>	Creosote bush
PRGL2	<i>Prosopis glandulosa</i>	Honey mesquite
RHUS	<i>Rhus</i>	Sumac

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

Disturbance Description

One camp believes that fire has a major impact in these systems. There is another camp that believes that fire is less important in the control of woody species than maintenance of perennial grass cover in the systems. Historical fire data in this system are lacking. Uncertain what role fire plays in maintaining these systems.

Fire Frequency

Severity	Avg FI	Percent of All Fires	Min FI	Max FI
Replacement				
Moderate (Mixed)	82	100		
Low (Surface)				
All Fires	82	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

1,000-100,000 of ha.

Adjacency or Identification Concerns

NRCS Ecological Site Descriptions are SD-2 Draw, Loamy and Gravelly Loam. Excludes SD-2 Limy, which may be more similar in vegetation and disturbance dynamics to SD-2 Gravelly and to the map zone (MZ) 15 Grama Creosote BpS. The SD-2 Bottomland is also excluded from this Biophysical Setting (BpS).

Issues or Problems

Moisture following fire has significant impact on plant response/recovery.

Native Uncharacteristic Conditions

Comments

It may be useful to separate similar sites found in Arizona into their own BpS. Keith Schulz was an additional LANDFIRE National reviewer. This model was based on model for MZ15. Original model for MZ15 reviewed and modified in Las Cruces, 29 June 2005, to reflect conditions in MZ15. Adapted from FRCC Model DGRA3, Hann, 25 September 2003. This model is based on grass shrub community and does not address large tree savanna community.

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	B	B	B	UN	UN	UN	UN	UN
Herb	0.5-1.0	A	A	B	B	B	UN	UN	UN	UN	UN
Herb	>1.0	A	A	B	B	B	UN	UN	UN	UN	UN
Shrub	0-0.5	B	B	C	C	C	UN	UN	UN	UN	UN
Shrub	0.5-1.0	B	B	C	C	C	UN	UN	UN	UN	UN
Shrub	1.0-3.0	B	B	C	C	C	UN	UN	UN	UN	UN
Shrub	>3.0	B	B	C	C	C	UN	UN	UN	UN	UN
Tree	0-5	C	C	UN	UN	UN	UN	UN	UN	UN	UN
Tree	5-10	C	C	UN	UN	UN	UN	UN	UN	UN	UN
Tree	10-25	C	C	UN	UN	UN	UN	UN	UN	UN	UN
Tree	25-50	C	C	UN	UN	UN	UN	UN	UN	UN	UN
Tree	>50	C	C	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

Description

Indicator Species

Description

Maximum Tree Size Class

Class B	34	Mid Development 1 - All Structures
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Indicator Species

Description

Maximum Tree Size Class

Class C	48	Late Development 1 - All Structures
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Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
BOER4	Bouteloua eriopoda	Black grama	Middle
PLMU3	Pleuraphis mutica	Tobosagrass	Middle

SPAI	Sporobolus airoides	Alkali sacaton	Middle
LATR2	Larrea tridentata	Creosote bush	Upper

Description

Species are perennial bunchgrasses and shrubs. Shrubs continue to increase in size and/or number of individuals. Perennial grass species dominate with 10-35% canopy cover; 1-2m height. Canopy cover of shrubs is 10-20%. Shrub cover will be similar to species composition found in the Ecological System Apacherian-Chihuahuan Mesquite Upland Scrub.

Maximum Tree Size Class

None

Model Parameters

Deterministic Transitions

From Class	Begins at (yr)	Succeeds to	After (years)
Early1:ALL	0	Mid1:ALL	15
Mid1:ALL	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
Mixed Fire	Mid1:ALL	Early1:ALL	0.015	67	Yes	0
Wind or Weather or Stress	Mid1:ALL	Mid1:ALL	0.02	50	No	0
Mixed Fire	Late1:ALL	Early1:ALL	0.015	67	Yes	0
Wind or Weather or Stress	Late1:ALL	Late1:ALL	0.02	50	No	0

References

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