

13920

Tamaulipan Calcareous Thornscrub

BpS Model/Description Version: Aug. 2020

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Vegetation Type

Shrubland

Map Zones

35

Geographic Range

From the eastern portion of Brewster County and southern Terrel County, Texas, on Cretaceous limestone, south and east throughout much of south Texas from Hidalgo to Nueces Counties, Texas and in Coahuila and Tamaulipas, Mexico.

Biophysical Site Description

This xeric thornscrub Biophysical Setting (BpS) is restricted to limestone and calcareous sandstone hills, caliche substrates, and calcareous gravels (Uvalde gravel). Caliche substrates are common along the Bordas Scarp in south Texas, and this system occurs on Cretaceous limestones of the southwestern portion of the Edwards Plateau. Soils are shallow, alkaline, strongly calcareous and underlain by bedrock or caliche layer.

Vegetation Description

This system has a shorter, more open shrub canopy (usually <2m in height). Dominant species include Texas barometer bush, leatherstem and guajillo (*Leucophyllum frutescens*, *Jatropha dioica*, and *Acacia berlandieri*) with many other shrub species that may be locally dominant, such as blackbrush acacia, coyotillo, Texas kidneywood, crown of thorns and Texas paloverde (*Acacia rigidula*, *Karwinskia humboldtiana*, *Eysenhardtia texana*, *Koeberlinia spinosa*, and *Parkinsonia texana* var. *macra*). In the south and east, barreta, spiny hackberry, Texas torchwood, Texan goatbush and mescal bean (*Helietta parvifolia*, *Celtis pallida*, *Amyris texana*, *Castela erecta* ssp. *texana* and *Sophora secundiflora*) may be abundant. The sparse to moderately dense herbaceous layer is dominated by perennial graminoids.

BpS Dominant and Indicator Species

Symbol	Scientific Name	Common Name
LEFR3	<i>Leucophyllum frutescens</i>	Texas barometer bush
ACBE	<i>Acacia berlandieri</i>	Guajillo
JADI	<i>Jatropha dioica</i>	Leatherstem

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

Disturbance Description

This system is controlled by substrate and edaphic conditions. Natural disturbances are poorly known. This system generally does not carry fire. No known disturbance would cause marked

changes, although drought is included in the VDDT model as a maintenance event and may result in a minor reduction in the shrub canopy cover.

Fire Frequency

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

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

100s to 1000s of acres.

Adjacency or Identification Concerns

In the arid areas to the west, this system may be adjacent to Chihuahuan Succulent Desert Scrub. In the east, this system is adjacent to other Tamaulipan shrubland types that are characteristic of deeper soils.

Issues or Problems

Today, if this system is cleared using the brush removal technique of chaining or roller-chopping, recovery may be slow due to the xeric nature of the system and the thin soils.

Native Uncharacteristic Conditions

Comments

For MZ35 this model was adopted without changes from the same BpS for map zone 26.

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	UN	A	A	A	A	A	A	A	A	A
Shrub	0.5-1.0	UN	A	A	A	A	A	A	A	A	A
Shrub	1.0-3.0	UN	A	A	A	A	A	A	A	A	A
Shrub	>3.0	UN	A	A	A	A	A	A	A	A	A
Tree	0-5	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Tree	5-10	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Tree	10-25	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Tree	25-50	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Tree	>50	UN	UN	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 100 Early Development 1 - Closed

Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
LEFR3	<i>Leucophyllum frutescens</i>	Texas barometer bush	Low-Mid
ACBE	<i>Acacia berlandieri</i>	Guajillo	Low-Mid
JADI	<i>Jatropha dioica</i>	Leatherstem	Low-Mid

Description

This system has a shorter, more open shrub canopy (usually <2m in height). Dominant species include *Leucophyllum frutescens*, *Acacia berlandieri*, and *Jatropha dioica* with many other shrub species that may be locally dominant, such as *Karwinskia humboldtiana*, *Eysenhardtia texana*, *Koeberlinia spinose*, and *Parkinsonia texana* var. *macra*.

Maximum Tree Size Class

None

Model Parameters

Deterministic Transitions

From Class	Begins at (yr)	Succeeds to	After (years)
Early1:CLS	0	Early1: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
Wind or Weather or Stress	Early1:CLS	Early1:CLS	0.02	50	No	0

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