13920

Tamaulipan Calcareous Thornscrub

BpS Model/Description Version: Aug. 2020

Update: 4/17/2018

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| **Modelers** |  | **Reviewers** |  |
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| None | None | None | None |

Vegetation Type

Shrubland

Map Zones

36

Geographic Range

Occurs from Starr County north and to the vicinity of Goliad County and westward in a band along the Rio Grande, including Zapata, Webb and Maverick counties, Texas.

Biophysical Site Description

Shrublands generally occur on thin-soiled calcareous substrates on upland sites, including on caliche of the Goliad formation and calcareous gravels.

Vegetation Description

Texas barometer bush (*Leucophyllum frutescens*), guajillo (*Acacia berlandieri*), blackbrush acacia (*A. rigidula*), Texas kidneywood (*Eysenhardtia texana*), goatbush (*Castela erecta*), whitebrush (*Aloysia gratissima*), shrubby blue sage (*Salvia ballotiflora*) and Texas lignum-vitae (*Guajacum angustifolium*) may dominate the system. Other shrubs include Mexican oregano (*Lippia graveolens*), Texas torchwood (*Amyris texana*), crown of thorns (*Koeberlinia spinosa*), Don Quixote’s lace (*Yucca treculeana*), leatherstem (*Jatropha dioica*), pepperbush (*Croton humilis*), wild crapemyrtle (*Malpighia glabra*) and hairy wedelia (*Wedelia hispida*). A sparse overstory canopy composed of mesquite (*Prosopis glandulosa*), sometimes with Texas paloverde (*Parkinsonia texana*), anacahuita (*Cordia boissieri*) and Texas ebony (*Ebenopsis ebano*) to the south. Cacti present include Christmas cactus (*Opuntia leptocaulis*), cactus apple (*O. engelmannii*), horse crippler (*Echinocactus texensis*) and pitaya (*Echinocereus enneacanthus*). In the understory, woody crinklemat (*Tiquilia canescens*) may frequently occur. Some geographic variation occurs within this system with species such as mescal bean (*Sophora secundiflora*) frequent on the northern part of the range and barreta (*Helietta parvifolia*), heartleaf rosemallow (*Hibiscus martianus*), anacahuita (*Cordia boissieri*), Gregg’s saddlebush (*Mortonia greggii*) and shrubby bullseye (*Gochnatia hypoleuca*) occurring on southern areas.

BpS Dominant and Indicator Species

|  |  |  |
| --- | --- | --- |
| **Symbol** | **Scientific Name** | **Common Name** |
| LEFR3 | *Leucophyllum frutescens* | Texas barometer bush |
| ACBE | *Acacia berlandieri* | Guajillo |
| PRGL2 | *Prosopis glandulosa* | Honey mesquite |
| ACRI | *Acacia rigidula* | Blackbrush acacia |

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

Disturbance Description

Erosion occurs on these sites, creating gullies, but not causing a shift in the community. Fire played little to no role in this system, though may have spread into the margins of this Biophysical Setting (BpS) during drought and high wind conditions.

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

Large patch to matrix on ridgetops, covering 1,000-100,000+ acres.

Adjacency or Identification Concerns

Some situations soils develop in sufficient depth to allow a community that is intermediate between BpS 1392 and BpS 1390.

Issues or Problems

Native Uncharacteristic Conditions

Comments

This model was created for map zone (MZ)36. Suggested reviewers for MZ36: Lisa Williams and Tim Fulbright (TAMU-Kingsville).

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 | Leucophyllum frutescens | Texas barometer bush | Upper |
| ACBE | Acacia berlandieri | Guajillo | Upper |
| PRGL2 | Prosopis glandulosa | Honey mesquite | Upper |
| ACRI | Acacia rigidula | Blackbrush acacia | Upper |

Description

Dense shrubland, generally 40-90% cover with sparse cover from emergent overstory species. Little disturbance affects this shrubland BpS. Low fine fuel loadings make fire spread in this BpS minimal except under extreme windy and dry conditions when fire may spread into it from surrounding sites. Species are drought resistant. However, this BpS occurs in large patch to matrix scale and marginal fires likely spread little into the interior portions of occurrences.

*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 |

References

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