
Texas Vegetation Classification Project: Interpretive Booklet for Phase 6

Texas Parks and Wildlife
Department and Texas
Natural Resources
Information System

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Figure 1. The Texas Ecological Systems Classification Project was completed in seven phases..... 7

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Introduction

The Texas Parks and Wildlife Department has mapped the existing vegetation of Texas at fine spatial and thematic resolution (more mapped vegetation types). Phases 1 through 6 of the project were completed via cooperation with the Missouri Resource Assessment Partnership (MoRAP), University of Missouri, and the High Plains (Phase 7, below) was completed largely by TPWD using methods and mapping targets similar to those used in Phases 1 through 6 (Figure 1). A technical and interpretive guide was produced for each phase. Phase 6 covered most of the Rolling Plains, together with outliers and edges of the Edwards Plateau, Cross-timbers, and High Plains.

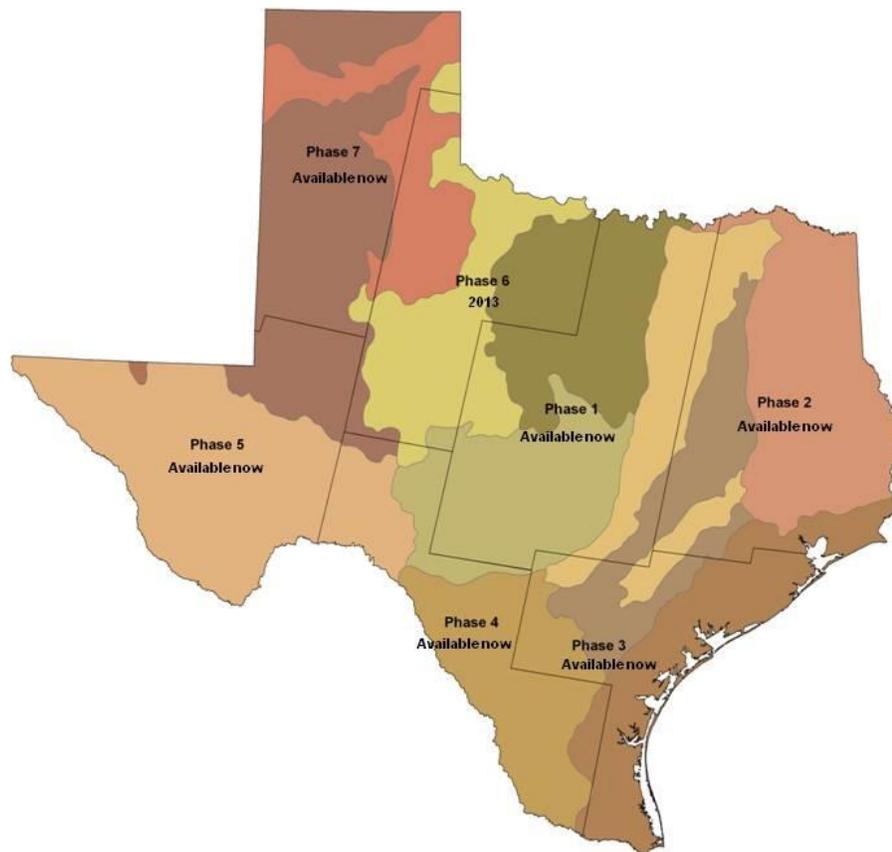


Figure 1. The Texas Ecological Systems Classification Project was completed in seven phases.

The general procedure used to classify and map existing vegetation includes (1) mapping land cover from 30 m resolution satellite imagery, (2) developing image objects from air photos to improve spatial resolution to 10 m, and (3) modeling existing vegetation using information developed from digital county soil surveys and variables developed from digital elevation models. Detailed overall methods are contained in the Phase 1 and Phase 2 interpretative booklet, available on the Texas Parks and Wildlife public web site. Methods have evolved over the course of the project.

Mesquite was by far the most commonly encountered dominant in Phase 6, occurring as a dominant in either the tree or shrub layers, or both, in 68% of 2163 sample plots. Other important woody species included lotebush (21% of plots), Pinchot juniper (20%), and sugar hackberry (19%). Engelmann pricklypear occurred among the dominant succulents in a little less than half of the plots. The five most commonly recorded important herbaceous species were all natives, which contrasts with some other regions of Texas where non-native grasses are among the most important herbaceous species (e.g. Bermudagrass in the east, King Ranch bluestem in the Edwards Plateau). The dominants included, in order, prairie broomweed (16% of plots), Texas wintergrass (12%), little bluestem (11%), sideoats grama (11%), and silver bluestem (11%). The fact that the five most important herbaceous species occurred in only 11% to 16% of sample plots highlights the overall diversity of grasslands within the Rolling Plains. Thus, herbaceous composition is diverse, but mesquite is a fairly ubiquitous shrub and small tree, and Engelmann pricklypear is a common succulent.

Mesquite shrublands and mixedgrass grasslands are closely related communities that differ mainly in the density of mesquite where they are mapped in adjacent areas. Together, Rolling Plains: Mixedgrass Prairie covers 13% of Phase 6, and Native Invasive: Mesquite covers 19%. Both of these types vary considerably across the landscape, with taller grasses such as little bluestem and Indiangrass important in the eastern part of this phase and shorter grasses, especially tobosa, important to the west. Sideoats grama and Texas wintergrass are common components across most of the range of the type. The effects of steep moisture gradients on grassland composition from east to west are particularly apparent in the far northeastern portion of Phase 6.

Mapping at fine thematic resolution showed vegetation and landscape patterns that were not apparent from coarser-resolution data. These include (1) the extent and location of river breaks, often with a significant Pinchot juniper component, that generally trend east to west across the northwestern and west central portions of the region, (2) breaks and gyp-influenced communities, again often with a significant Pinchot juniper component, associated with the Blaine geologic formation that trends north to south on the western side of the region, (3) outliers of the High Plains and Edwards Plateau within the Rolling Plains ecoregion, (4) extensive sandy and deep sandy soils, usually on the north and west side of streams, including fairly extensive stands of Havard's shin oak or sand sage, and (5) broad, mostly level flats of drainage divides that support row crops in the central part of the region.

Mapped Vegetation Type Descriptions and Ecological Interpretations

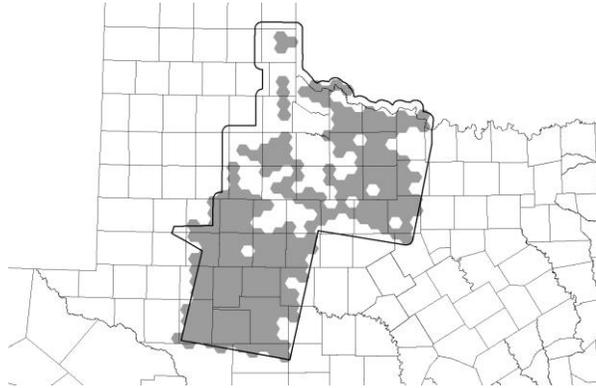
The brief descriptions of existing vegetation types that follow help the user understand the type and amount of variation that might be circumscribed within a given mapped type. We sometimes refer to methods used in modeling and mapping in order to help

the user better understand the concepts used to define a type. Photographs have been taken at every ground verification point for all phases, and we selected from those to provide the illustrations. Even though we have collected more than 2,000 ground verification points, many of the less common mapped vegetation types were not sampled, and their general character was inferred from field experience. Modeling and mapping results flow from the line of thought that asserts different types of plant communities prevail on different landforms and soils.

Barren

Area in Phase 6: 153,153.4 acres (61,981.2 ha)

Description of Mapped Type: This type includes areas where little or no vegetation cover existed at the time of image data collection.



Central Texas: Floodplain Deciduous Shrubland

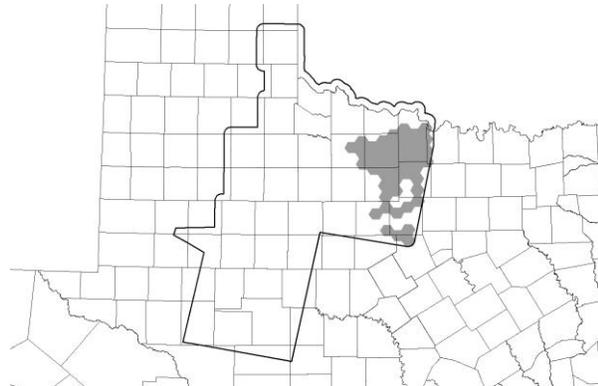
Area in Phase 6: 87,540 acres (35,427.5 ha)

Description of Mapped Type: In Phase 6, this type is mainly dominated by honey mesquite and grazing-tolerant grasses and forbs such as Japanese brome and prairie broomweed, although some sites are more mesic. Species such as netleaf hackberry, Christmas cactus, and Engelmann pricklypear are common.

Where to Visit:

Fort Richardson State Park and Historical Site

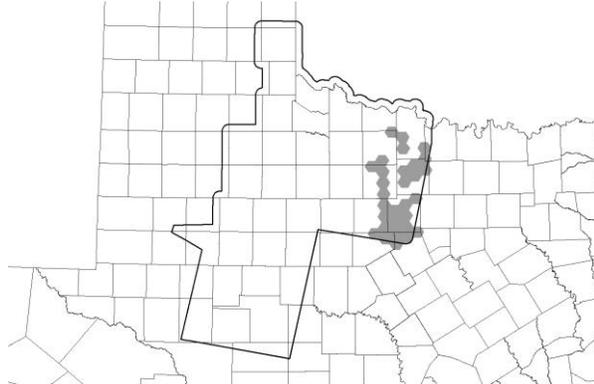
Lake Arrowhead State Park



Central Texas: Floodplain Evergreen Forest

Area in Phase 6: 2,627.9 acres (1,063.5 ha)

Description of Mapped Type: This uncommon type may be dominated by plateau live oak in the far south in Phase 6 or may support small trees and shrubs such as juniper species, netleaf hackberry, cedar elm, and honey mesquite.



Central Texas: Floodplain Evergreen Shrubland

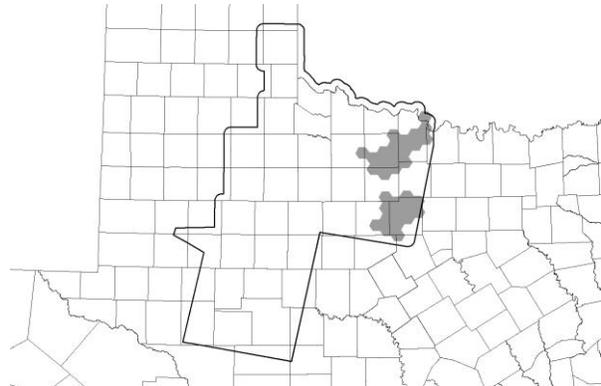
Area in Phase 6: 7,028.8 acres (2,844.5 ha)

Description of Mapped Type: Ashe or redberry juniper usually dominate this shrubland, and species such as mesquite, netleaf hackberry, and cedar elm may be woody components.

Where to Visit:

Fort Richardson State Park and Historical Site

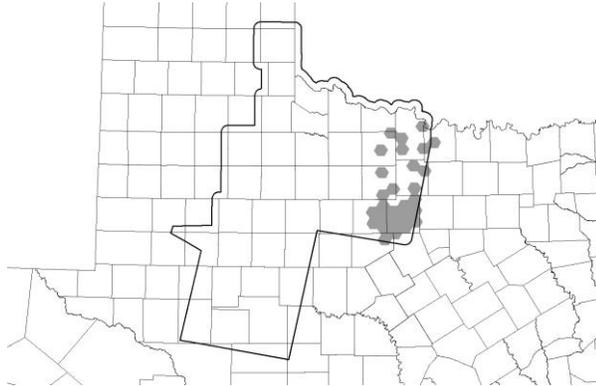
Possum Kingdom State Park



Central Texas: Floodplain Hardwood - Evergreen Forest

Area in Phase 6: 873 acres (353.3 ha)

Description of Mapped Type: This uncommon type may circumscribe a diversity of mixed woodland and forest. Deciduous trees such as cedar elm, post oak, netleaf hackberry, and western soapberry together with juniper species and honey mesquite are common.



Central Texas: Floodplain Hardwood Forest

Area in Phase 6: 144,167.1 acres (58,344.4 ha)

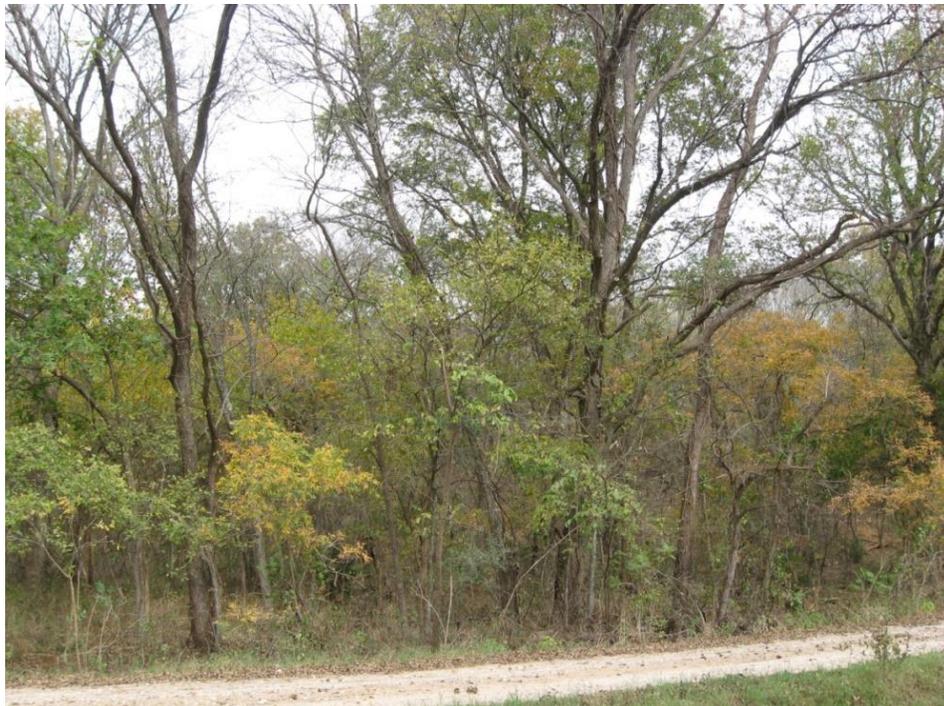
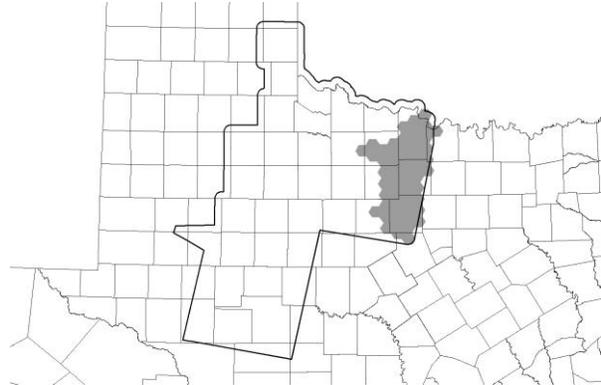
Description of Mapped Type: This type varies from well-watered to relatively dry types. Deciduous trees such as cedar elm, post oak, American elm, pecan, and western soapberry are common components. Shrubs may include small individuals of the overstory, plus species such as honey mesquite, gum bumelia, and black willow.

Where to Visit:

Fort Richardson State Park and Historical Site

Lake Arrowhead State Park

Possum Kingdom State Park



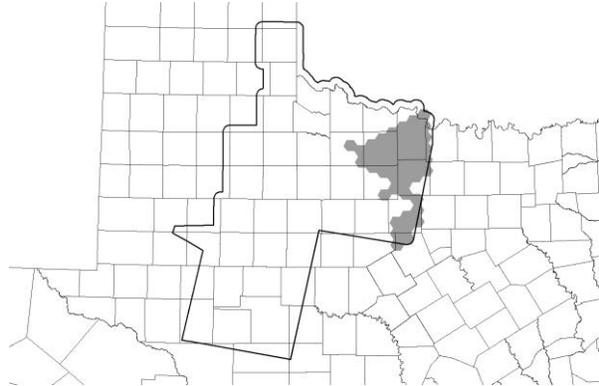
Central Texas: Floodplain Herbaceous Vegetation

Area in Phase 6: 73,972.1 acres (29,936.5 ha)

Description of Mapped Type: Grazing-tolerant grasses such as Japanese brome, and cheatgrass are common components of non-salty representatives of this type, whereas alkali sacaton and saltgrass occur in salty areas. Honey mesquite, lotebush, and netleaf hackberry are common woody components.

Where to Visit:

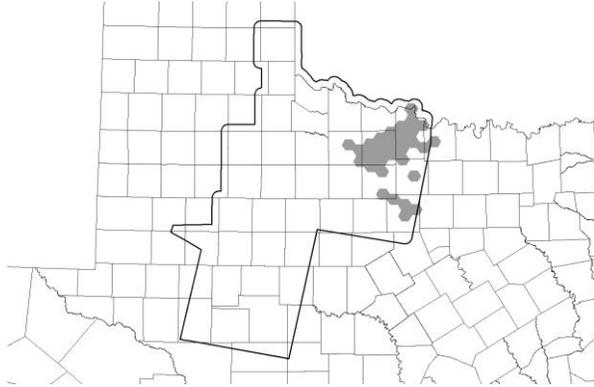
Lake Arrowhead State Park



Central Texas: Floodplain Herbaceous Wetland

Area in Phase 6: 789.5 acres (319.5 ha)

Description of Mapped Type: This rare type circumscribes wetlands in a variety of conditions, water regimes, and degrees of saltiness. Spikerushes, bulrushes, smartweeds, and sedges may be present.



Central Texas: Riparian Deciduous Shrubland

Area in Phase 6: 44,029.5 acres (17,818.8 ha)

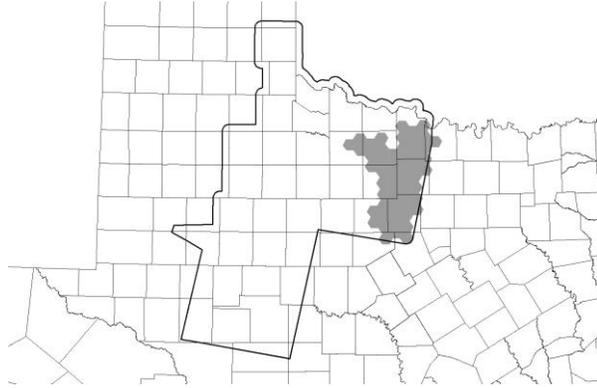
Description of Mapped Type: This type may be more or less well-watered, but most representatives are dominated by honey mesquite and grazing-tolerant grasses and forbs in Phase 6.

Where to Visit:

Fort Richardson State Park and
Historical Site

Lake Arrowhead State Park

Possum Kingdom State Park



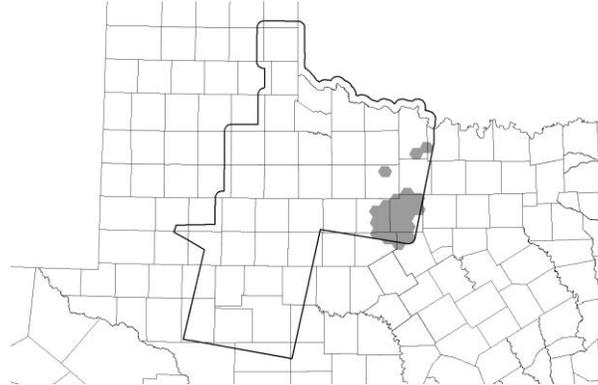
Central Texas: Riparian Evergreen Forest

Area in Phase 6: 3,667 acres (1,484 ha)

Description of Mapped Type: .Ashe juniper, eastern redcedar, cedar elm, honey mesquite, and plateau live oak may be components of this rare type in Phase 6.

Where to Visit:

Possum Kingdom State Park



Central Texas: Riparian Evergreen Shrubland

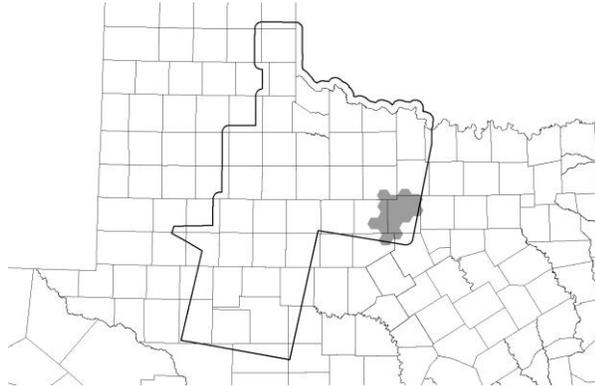
Area in Phase 6: 16,980.3 acres (6,871.9 ha)

Description of Mapped Type: Shrublands in riparian sites dominated by junipers are characteristic of this type.

Where to Visit:

Fort Richardson State Park and
Historical Site

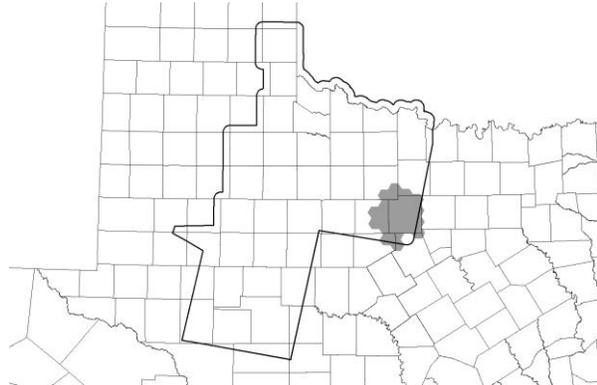
Possum Kingdom State Park



Central Texas: Riparian Hardwood - Evergreen Forest

Area in Phase 6: 1,764.6 acres (714.1 ha)

Description of Mapped Type: This type circumscribes a good deal of variation. Junipers are important in the overstory, and a variety of other woody species may be components, including cedar elm, netleaf hackberry, honey mesquite, and elbowbush.



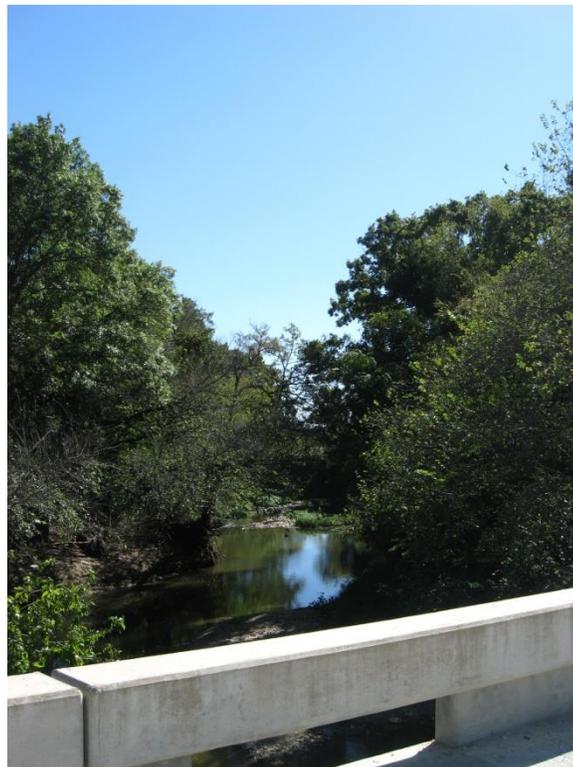
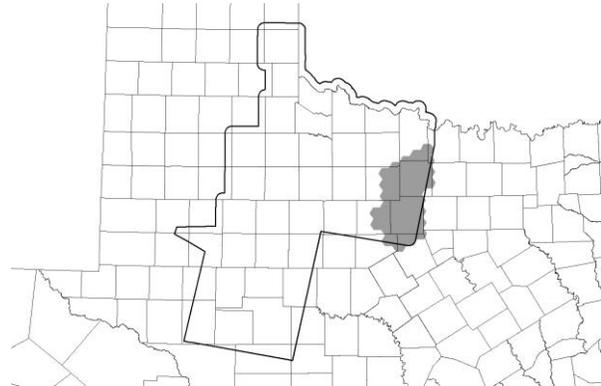
Central Texas: Riparian Hardwood Forest

Area in Phase 6: 53,185.5 acres (21,523.4 ha)

Description of Mapped Type: These forests are dominated by deciduous trees such as cedar elm, netleaf hackberry, post oak, and honey mesquite. Honey mesquite, elbowbush, and western dogwood are common shrubs.

Where to Visit:

Fort Richardson State Park and Historical Site



Central Texas: Riparian Herbaceous Vegetation

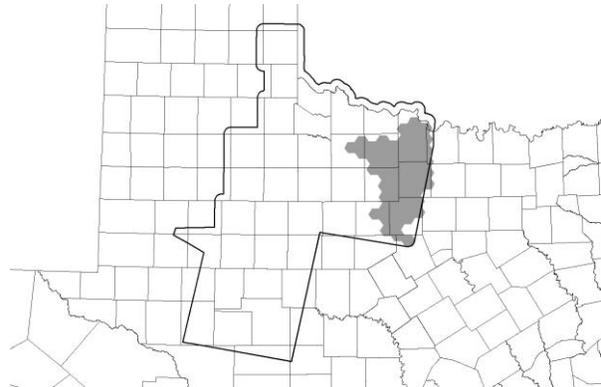
Area in Phase 6: 46,583 acres (18,852.1 ha)

Description of Mapped Type: This type circumscribes a good deal of variation, but grazing-tolerant herbaceous species such as prairie broomweed, western ragweed, and Japanese brome are common. Honey mesquite and juniper species are common woody components.

Where to Visit:

Fort Richardson State Park and Historical Site

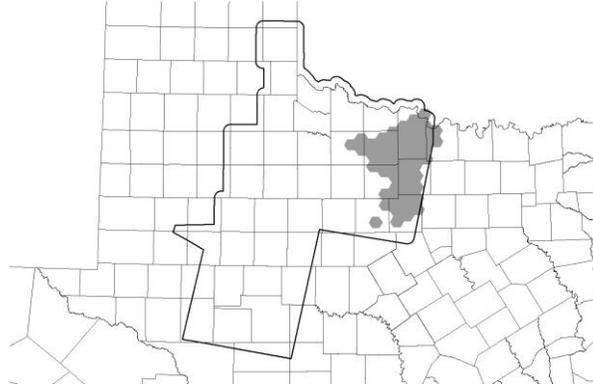
Lake Arrowhead State Park



Central Texas: Riparian Herbaceous Wetland

Area in Phase 6: 631.3 acres (255.5 ha)

Description of Mapped Type: This type circumscribes wetlands in a variety of conditions, water regimes, and degrees of saltiness. Spikerushes, bulrushes, smartweeds, and sedges may be present.



Central Texas: Wooded Cliff/Bluff

Area in Phase 6: 24 acres (9.7 ha)

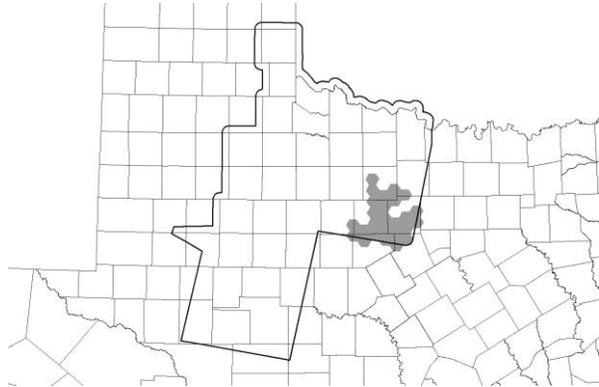
Description of Mapped Type: This type is only mapped in a few areas where with slopes over 100% that support shrubs or trees, especially along the Brazos River downstream from Possum Kingdom Reservoir in Phase 6.



Crosstimbers: Hardwood - Juniper Slope Forest

Area in Phase 6: 192.2 acres (77.8 ha)

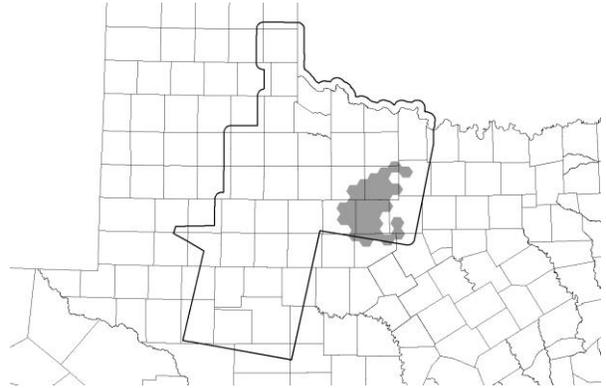
Description of Mapped Type: Deciduous species such as Texas oak, chinkapin oak, cedar elm, and post oak may share dominance with Ashe juniper or eastern redcedar (to the north) in this mixed forest. Plateau live oak is often a component. Understory species may include Texas persimmon, elbowbush, and Texas redbud. This type usually occurs on limestone within the generally sandier Crosstimbers ecoregion.



Crosstimbers: Live Oak Forest and Woodland

Area in Phase 6: 6,732.4 acres (2,724.6 ha)

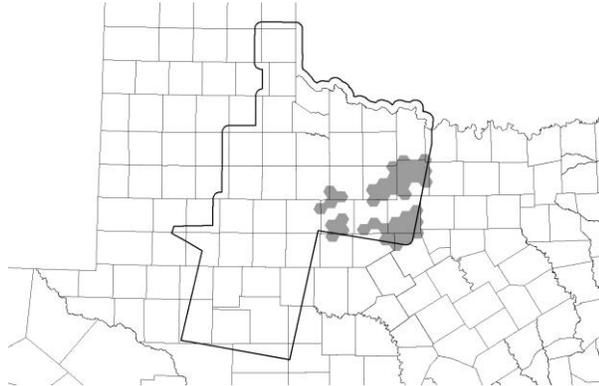
Description of Mapped Type: Plateau live oak is the most important species in this type, with Ashe juniper, post oak, honey mesquite, cedar elm, and netleaf hackberry common woody components.



Crosstimbers: Oak - Hardwood Slope Forest

Area in Phase 6: 38,668.9 acres (15,649.3 ha)

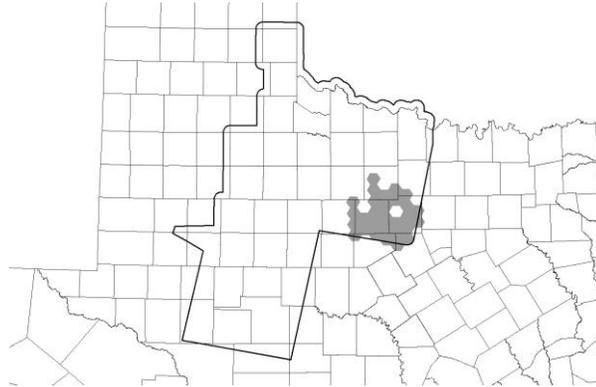
Description of Mapped Type: Post oak, netleaf hackberry, blackjack oak, and plateau live oak are common overstory trees within this type in Phase 6. Skunkbush sumac, gum bumelia, and elbowbush are common shrubs.



Crosstimbers: Post Oak - Juniper Woodland

Area in Phase 6: 12,642 acres (5,116.2 ha)

Description of Mapped Type: Post oak, plateau live oak, Texas oak, Ashe juniper, eastern redcedar (north), honey mesquite, blackjack oak, and netleaf hackberry are common woody components of this type in Phase 6.



Crosstimbers: Post Oak Woodland

Area in Phase 6: 552,190.9 acres (223,471.7 ha)

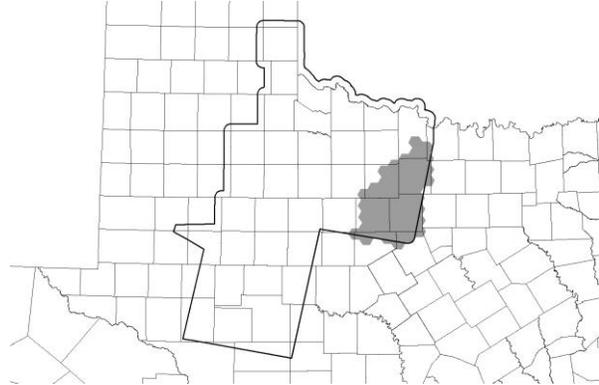
Description of Mapped Type: Post oak, blackjack oak, netleaf hackberry, and cedar elm are common overstory trees within this type in Phase 6. Honey mesquite, gum bumelia, skunkbush sumac, and Ashe juniper are common shrubs. Little bluestem, Texas wintergrass, saw greenbrier, and prairie broomweed are often present in the herbaceous layer.

Where to Visit:

Fort Griffin State Park and Historical Site

Fort Richardson State Park and Historical Site

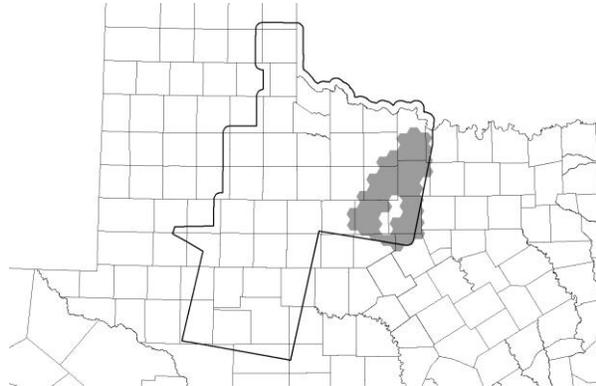
Possum Kingdom State Park



Crosstimbers: Savanna Grassland

Area in Phase 6: 456,147.1 acres (184,602.7 ha)

Description of Mapped Type: This type includes grassland in many different conditions, including areas dominated by non-native Japanese brome and King Ranch bluestem, with weedy species such as prairie broomweed and curlycup gumweed present. Rangelands in better condition may support grasslands where Texas wintergrass, and little bluestem are among the dominants. Honey mesquite is a common woody component.



CRP/Other Improved Grassland

Area in Phase 6: 8,222.1 acres (3,327.5 ha)

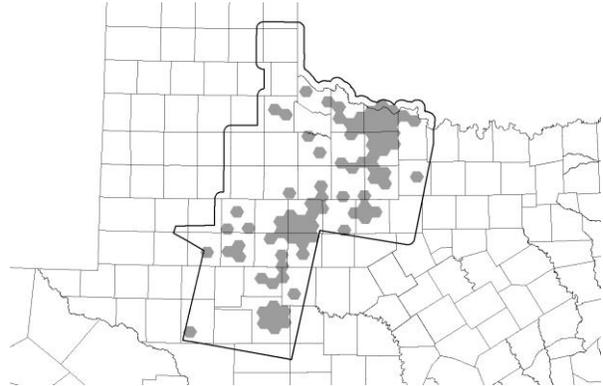
Description of Mapped Type: This type consists of a variety of restored grasslands with seed mixes that may contain native or non-native species.

Where to Visit:

E.V. Spence Reservoir Recreation Area

San Angelo State Park

Twin Butte Reservoir Recreation Area



Edwards Plateau: Ashe Juniper Motte and Woodland

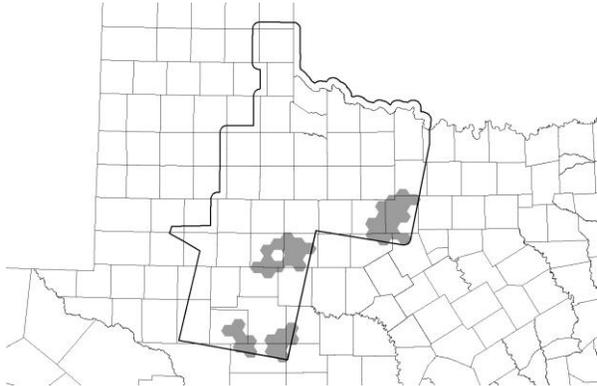
Area in Phase 6: 46,416.1 acres (18,784.6 ha)

Description of Mapped Type: This type is dominated by Ashe juniper. Common woody components include plateau live oak, honey mesquite, cedar elm, and netleaf hackberry.

Where to Visit:

Abilene State Park

Possum Kingdom State Park



Edwards Plateau: Ashe Juniper Slope Forest

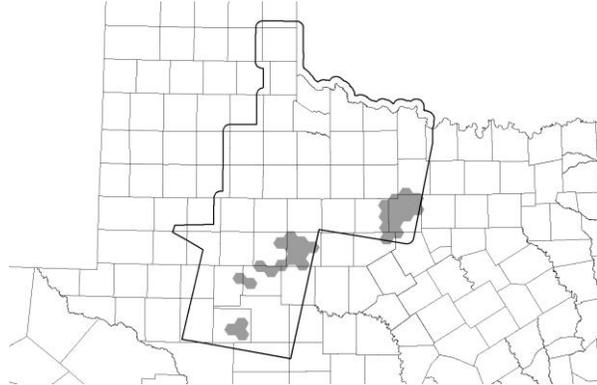
Area in Phase 6: 9,904.3 acres (4,008.3 ha)

Description of Mapped Type: Ashe juniper and plateau live oak are often the most dominant species of this mainly evergreen woodland or forest. Other common woody components include Texas oak, cedar elm, netleaf hackberry, and honey mesquite.

Where to Visit:

Abilene State Park

Possum Kingdom State Park



Edwards Plateau: Ashe Juniper - Live Oak Shrubland

Area in Phase 6: 383,894.4 acres (155,362.1 ha)

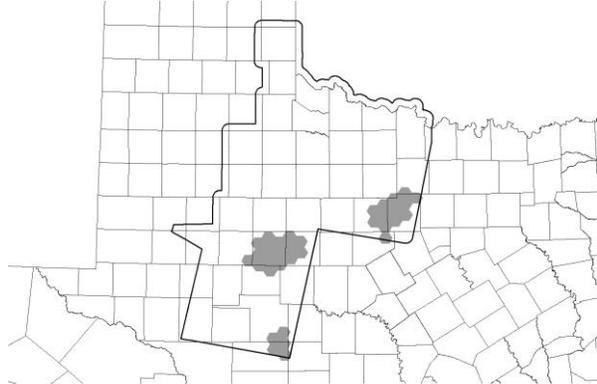
Description of Mapped Type: Ashe juniper and plateau live oak are the most frequent dominants of this evergreen shrubland. Redberry juniper may be important, especially to the west. Other common woody components include honey mesquite, lotebush, prairie sumac, and agarito. Prairie broomweed, Texas wintergrass, purple threeawn, sideoats grama, and red grama are common herbaceous components.

Where to Visit:

Abilene State Park

Fort Richardson State Park and Historical Site

Possum Kingdom State Park



Edwards Plateau: Ashe Juniper - Live Oak Slope Shrubland

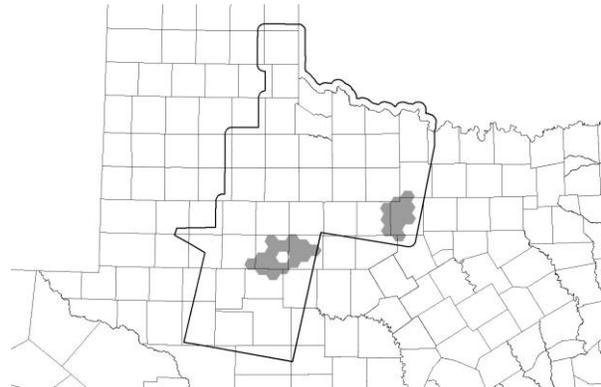
Area in Phase 6: 40,875.4 acres (16,542.3 ha)

Description of Mapped Type: This type is similar to the Edwards Plateau: Ashe Juniper - Live Oak Shrubland but is mapped on slopes >20%. The diversity of shrubs and herbaceous species is relatively high in some areas within this type.

Where to Visit:

Abilene State Park

Possum Kingdom State Park



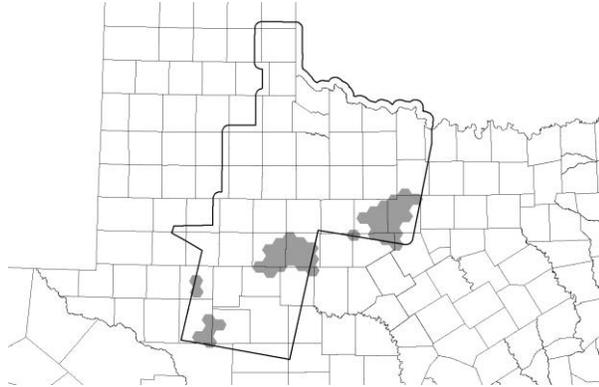
Edwards Plateau: Deciduous Oak - Evergreen Motte and Woodland

Area in Phase 6: 32,767 acres (13,260.8 ha)

Description of Mapped Type: This mixed woodland type contains significant variation, but deciduous species Texas oak, white shin oak, or Mohr's shin oak are often important in the overstory, together with woody components such as Ashe juniper, plateau live oak, cedar elm, Texas persimmon, or netleaf hackberry.

Where to Visit:

Abilene State Park



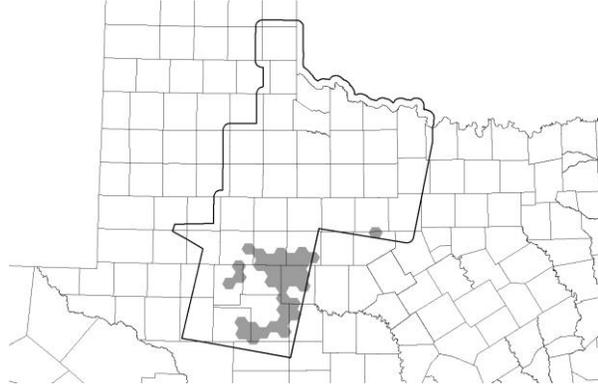
Edwards Plateau: Floodplain Ashe Juniper Forest

Area in Phase 6: 2,326 acres (941.3 ha)

Description of Mapped Type: Ashe juniper, plateau live oak, netleaf hackberry, western soapberry, or cedar elm are frequent canopy dominants of this primarily disturbance type woodland or forest.

Where to Visit:

Twin Butte Reservoir Recreation Area



Edwards Plateau: Floodplain Ashe Juniper Shrubland

Area in Phase 6: 12,798.5 acres (5,179.5 ha)

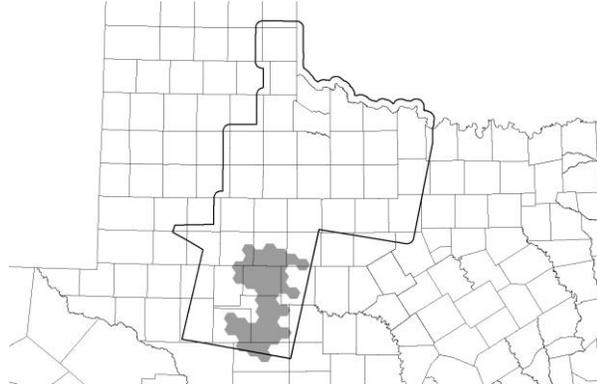
Description of Mapped Type: Ashe juniper, plateau live oak, and honey mesquite are frequent components of this mainly disturbance evergreen shrubland.

Where to Visit:

O.C. Fisher Reservoir

San Angelo State Park

Twin Butte Reservoir Recreation Area



Edwards Plateau: Floodplain Barrens

Area in Phase 6: 4,687.1 acres (1,896.9 ha)

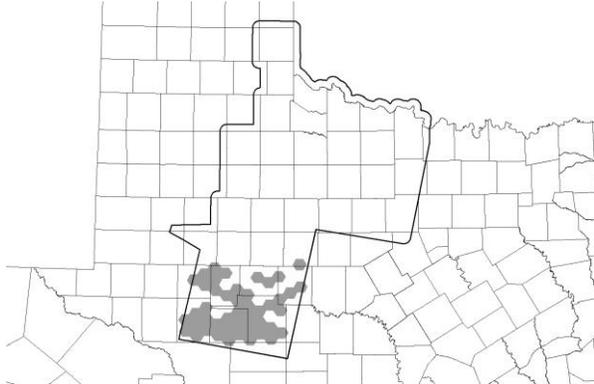
Description of Mapped Type: This type may include bare rocks or gravel within stream beds, but also areas that were heavily overgrazed and mainly devoid of vegetation at the time of remote sensing data collection.

Where to Visit:

O.C. Fisher Reservoir

San Angelo State Park

Twin Butte Reservoir Recreation Area



Edwards Plateau: Floodplain Deciduous Shrubland

Area in Phase 6: 154,793.4 acres (62,644.9 ha)

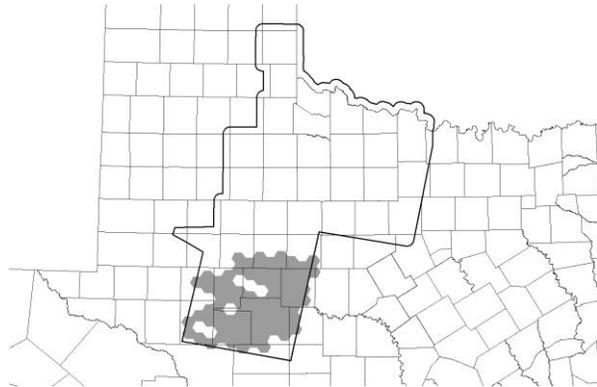
Description of Mapped Type: This type contains various mainly successional shrublands, with honey mesquite the most common dominant. Netleaf hackberry, western soapberry, cedar elm, plateau live oak, and Ashe juniper may be present.

Where to Visit:

O.C. Fisher Reservoir

San Angelo State Park

Twin Butte Reservoir Recreation Area



Edwards Plateau: Floodplain Hardwood - Ashe Juniper Forest

Area in Phase 6: 1,988.9 acres (804.9 ha)

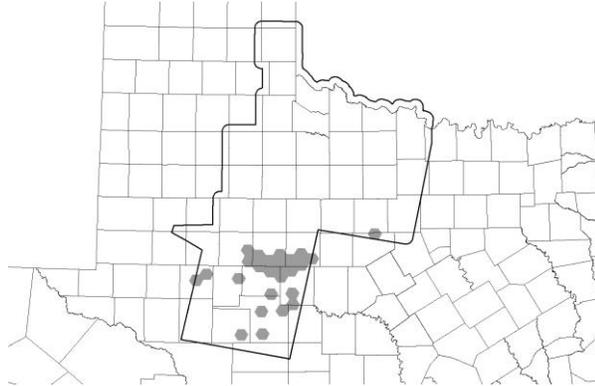
Description of Mapped Type: Ashe juniper trees or shrubs, plateau live oak, western soapberry, honey mesquite, and cedar elm may be present in this variable type.

Where to Visit:

O.C. Fisher Reservoir

San Angelo State Park

Twin Butte Reservoir Recreation Area



Edwards Plateau: Floodplain Hardwood Forest

Area in Phase 6: 15,519.7 acres (6,280.8 ha)

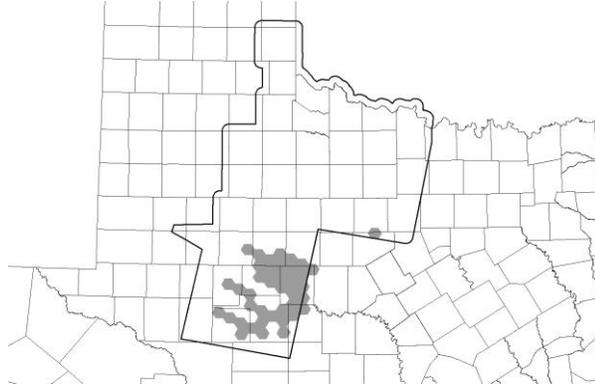
Description of Mapped Type: Cedar elm, American elm, pecan, plateau live oak, western soapberry, and Arizona walnut are common components of this broadly-circumscribed mainly deciduous forest. Understory species may include honey mesquite, Ashe juniper, gum bumelia, roughleaf dogwood, Texas persimmon, and lotebush.

Where to Visit:

O.C. Fisher Reservoir

San Angelo State Park

Twin Butte Reservoir Recreation Area



Edwards Plateau: Floodplain Herbaceous Vegetation

Area in Phase 6: 73,902 acres (29,908.1 ha)

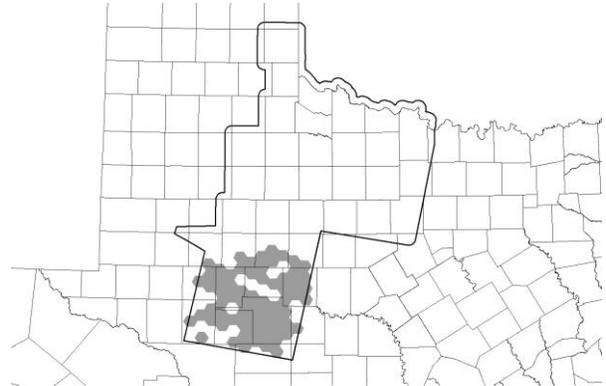
Description of Mapped Type: This mapped type circumscribes various grasslands, including areas dominated by grazing-tolerant species such as tobosa, bermudagrass, and King Ranch bluestem, as well as areas in better condition with species such as Texas wintergrass, sideoats grama, and little bluestem. Honey mesquite, lotebush, and netleaf hackberry are common woody components.

Where to Visit:

O.C. Fisher Reservoir

San Angelo State Park

Twin Butte Reservoir Recreation Area



Edwards Plateau: Floodplain Herbaceous Wetland

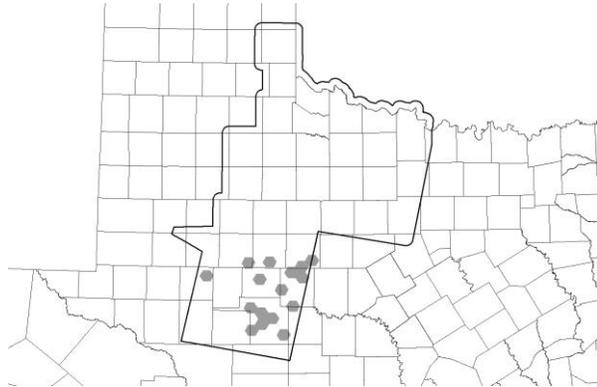
Area in Phase 6: 389.7 acres (157.7 ha)

Description of Mapped Type: A variety of herbaceous sedges, rushes, spikerushes, bulrushes, smartweeds, and grasses, together with shrubs such as black willow and common buttonbush, may be present in this uncommon type in Phase 6.

Where to Visit:

O.C. Fisher Reservoir

Twin Butte Reservoir Recreation Area



Edwards Plateau: Floodplain Live Oak Forest

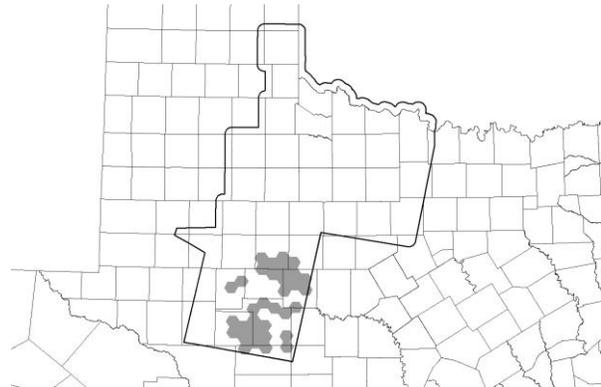
Area in Phase 6: 3,399.1 acres (1,375.6 ha)

Description of Mapped Type: Plateau live oak is a dominant canopy tree, together with deciduous trees such as cedar elm, netleaf hackberry, pecan, black willow, and Texas ash. Ashe juniper may be present as a tree or understory shrub.

Where to Visit:

San Angelo State Park

Twin Butte Reservoir Recreation Area



Edwards Plateau: Juniper Semi-arid Shrubland

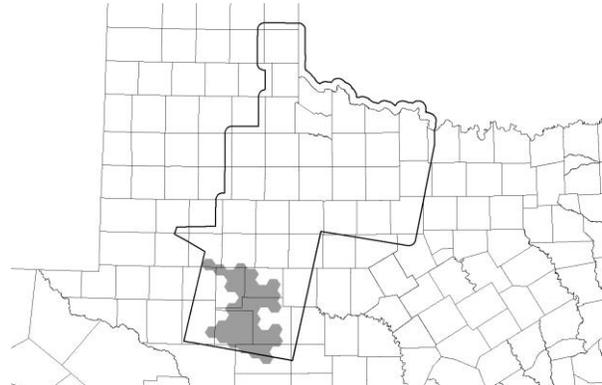
Area in Phase 6: 332,910.9 acres (134,729 ha)

Description of Mapped Type: Redberry juniper and Ashe juniper may both be present in this type, together with species such as plateau live oak, honey mesquite, Texas persimmon, Texas sotol, and agarito. Important grasses may include sideoats grama, purple threeawn, curlymesquite, slim tridens, hairy tridens, and Texas wintergrass.

Where to Visit:

San Angelo State Park

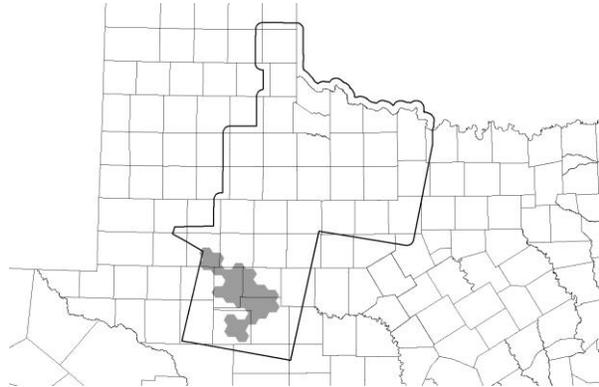
Twin Butte Reservoir Recreation Area



Edwards Plateau: Juniper Semi-arid Slope Shrubland

Area in Phase 6: 40,980.3 acres (16,584.7 ha)

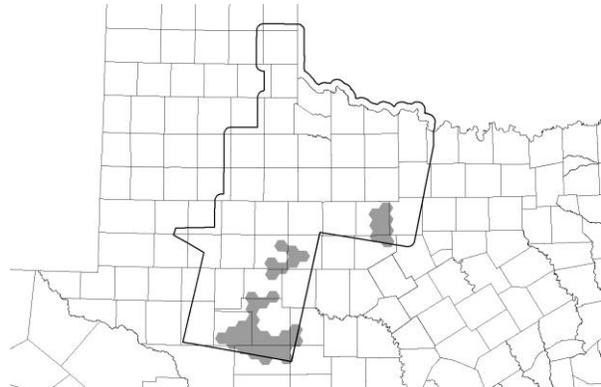
Description of Mapped Type: This type is similar to the Juniper Semi-arid Shrubland but is mapped on slopes >20% and overall cover is generally lower. Common species of this diverse type in Phase 6 include redberry juniper, Ashe juniper, Vasey shin oak, Texas persimmon, white shin oak, and redberry juniper. Succulents including Texas sotol, lechuguilla, and pricklypear species are often important.



Edwards Plateau: Live Oak Motte and Woodland

Area in Phase 6: 35,856.3 acres (14,511.1 ha)

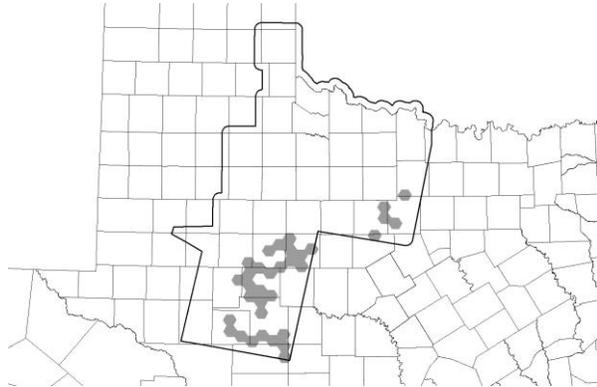
Description of Mapped Type: Plateau live oak dominates this evergreen woodland, and Ashe juniper is the most frequent understory species. Ashe juniper may also appear in the overstory, along with netleaf hackberry, Texas oak, and post oak. Frequent shrubs include honey mesquite, Texas persimmon and agarito.



Edwards Plateau: Live Oak Slope Forest

Area in Phase 6: 251.8 acres (101.9 ha)

Description of Mapped Type: Plateau live oak is the most important tree of this mainly evergreen slope woodland or forest, but Ashe juniper and deciduous trees such as Texas oak, cedar elm, and netleaf hackberry may be important in the overstory. The understory may contain Ashe juniper along with species such as Texas persimmon.



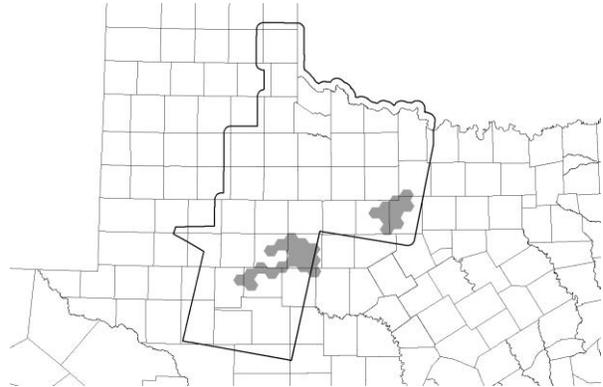
Edwards Plateau: Oak - Ashe Juniper Slope Forest

Area in Phase 6: 5,146.3 acres (2,082.7 ha)

Description of Mapped Type: Deciduous trees such as Texas oak, netleaf hackberry, and cedar elm share dominance with Ashe juniper in this mixed woodland or forest. Understory species may include Texas redbud and roughleaf dogwood, along with Ashe juniper.

Where to Visit:

Abilene State Park



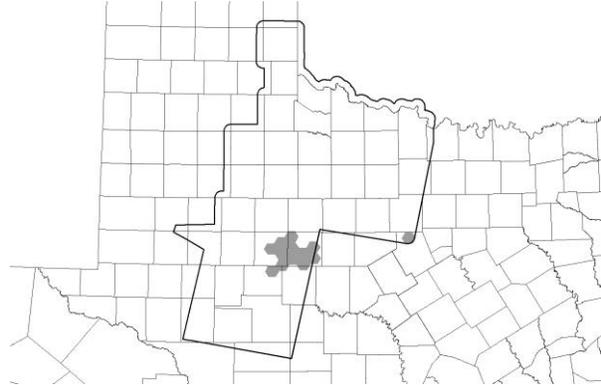
Edwards Plateau: Oak - Hardwood Motte and Woodland

Area in Phase 6: 11,186.2 acres (4,527.1 ha)

Description of Mapped Type: This deciduous woodland or forest may contain a diversity of species in the overstory, including cedar elm, Texas oak, netleaf hackberry, or post oak. Plateau live oak is often an important component, and Ashe juniper may be in the overstory as well as the understory.

Where to Visit:

Abilene State Park



Edwards Plateau: Oak - Hardwood Slope Forest

Area in Phase 6: 26,850.7 acres (10,866.5 ha)

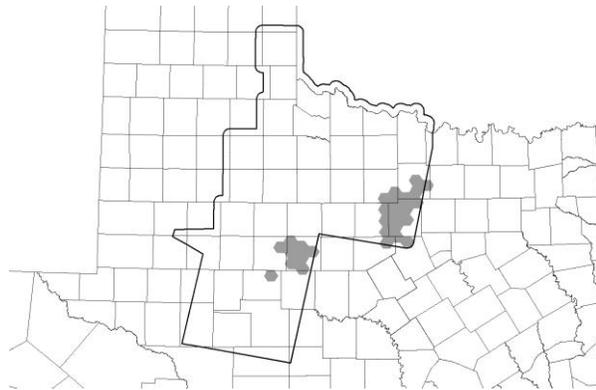
Description of Mapped Type: A fairly wide diversity of deciduous trees such as Texas oak, chinkapin oak, Texas ash, escarpment black cherry, Arizona walnut, cedar elm, and sugar (or netleaf) hackberry may be in the overstory of this mainly deciduous woodland or forest. Plateau live oak is often important in the canopy. The understory may also contain a diversity of woody plants such as elbowbush, roughleaf dogwood, Texas redbud, Mexican buckeye, Jersey tea, Carolina buckthorn, and rusty blackhaw.

Where to Visit:

Abilene State Park

Fort Richardson State Park and Historical Site

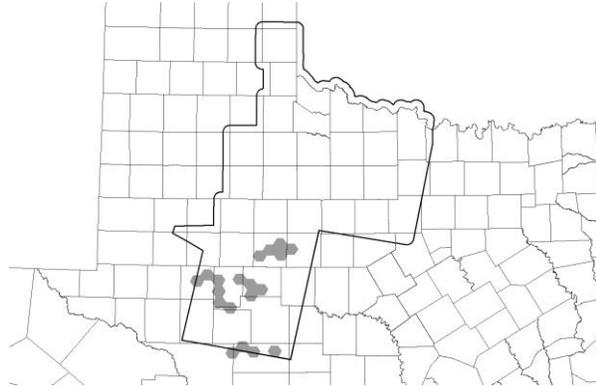
Possum Kingdom State Park



Edwards Plateau: Playa

Area in Phase 6: 3,423.9 acres (1,385.7 ha)

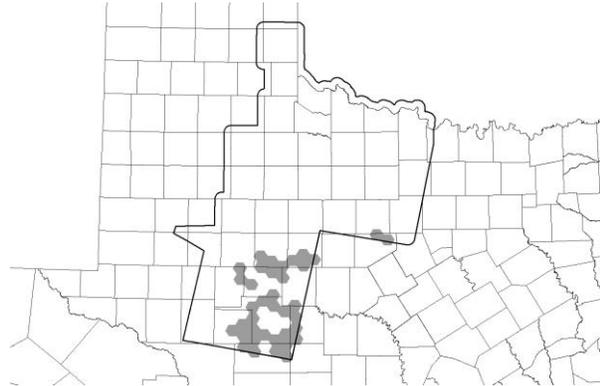
Description of Mapped Type: Buffalograss, white tridens, slim tridens, tobosa, yellow stonecrop, and cane bluestem are common components of this type, which is mapped in upland depressions and shallow lake beds.



Edwards Plateau: Riparian Ashe Juniper Forest

Area in Phase 6: 2,812.8 acres (1,138.3 ha)

Description of Mapped Type: Ashe juniper, redberry juniper, plateau live oak, honey mesquite, and netleaf hackberry are common woody components of this narrow evergreen woodland along mainly first-order streams.



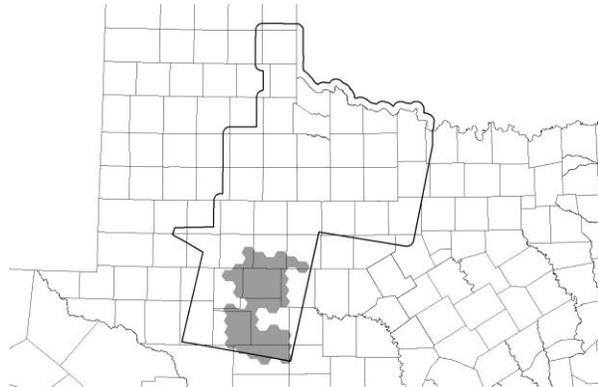
Edwards Plateau: Riparian Ashe Juniper Shrubland

Area in Phase 6: 34,028.4 acres (13,771.3 ha)

Description of Mapped Type: This type is mapped primarily along first- or second-order stream corridors, and circumscribes a fairly wide variety of vegetation types. Ashe juniper, redberry juniper, honey mesquite, western soapberry, and plateau live oak may be important. This type may simply represent a more dense and more diverse version of surrounding juniper-dominated shrublands along upland drainages.

Where to Visit:

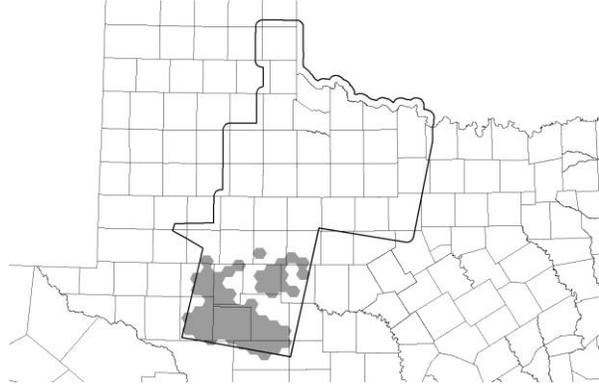
E.V. Spence Reservoir Recreation Area



Edwards Plateau: Riparian Barrens

Area in Phase 6: 1,958.7 acres (792.7 ha)

Description of Mapped Type: This type is mapped where barren areas occur along first- or second-order streams in the Edwards Plateau, and may represent essentially bare limestone rock or gravel bars.



Edwards Plateau: Riparian Deciduous Shrubland

Area in Phase 6: 102,649.5 acres (41,542.3 ha)

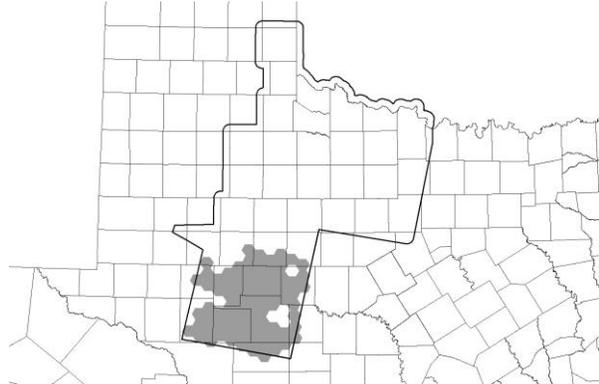
Description of Mapped Type: A variety of small trees or shrubs such as honey mesquite, netleaf hackberry, Ashe juniper, redberry juniper, lotebush, and gum bumelia may be present. This type is mapped mainly along first order upland drainages.

Where to Visit:

E.V. Spence Reservoir Recreation Area

San Angelo State Park

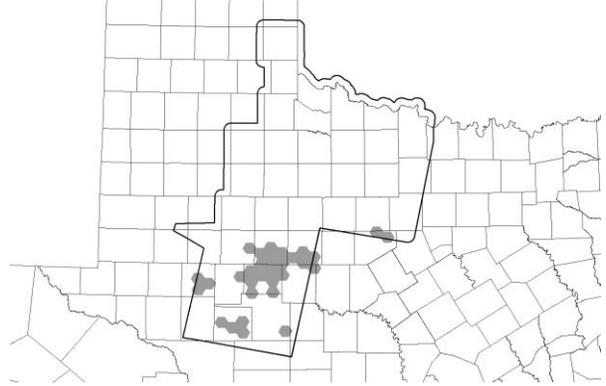
Twin Butte Reservoir Recreation Area



Edwards Plateau: Riparian Hardwood - Ashe Juniper Forest

Area in Phase 6: 1,439.4 acres (582.5 ha)

Description of Mapped Type: Ashe juniper and plateau live oak are the most frequent dominant trees of this mixed woodland or forest, and cedar elm, western soapberry, and netleaf hackberry may be present.



Edwards Plateau: Riparian Hardwood Forest

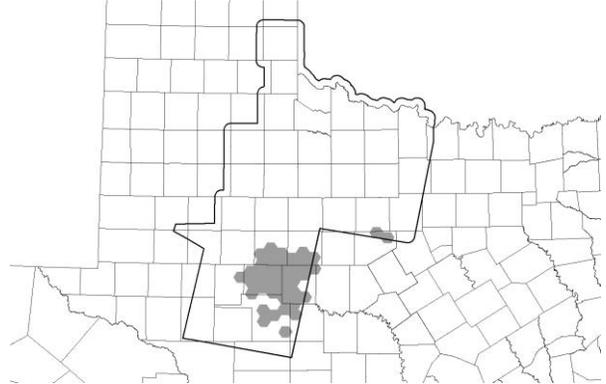
Area in Phase 6: 2,252 acres (911.4 ha)

Description of Mapped Type: This narrow, deciduous woodland along mainly first-order streams may contain cedar elm, plateau live oak, western soapberry, Texas oak, and netleaf hackberry as important components. Ashe juniper, elbowbush, and Texas persimmon may be present.

Where to Visit:

San Angelo State Park

Twin Butte Reservoir Recreation Area



Edwards Plateau: Riparian Herbaceous Vegetation

Area in Phase 6: 58,729.2 acres (23,767.7 ha)

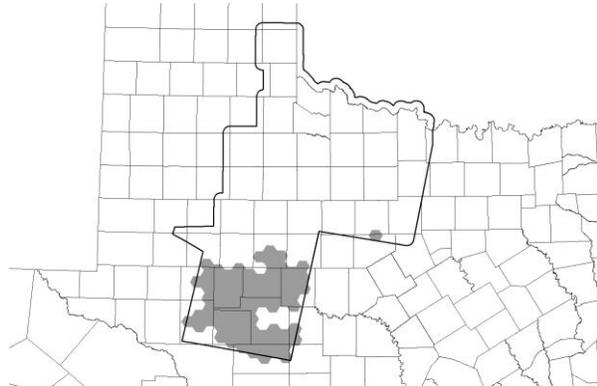
Description of Mapped Type: This is a broadly-defined type may be dominated by a variety of grasses such as sideoats grama, curlymesquite, threeawns, tridens species, or King Ranch bluestem. Plateau live oak, netleaf hackberry, honey mesquite, Ashe juniper, redberry juniper, and Texas persimmon are common woody components.

Where to Visit:

E.V. Spence Reservoir Recreation Area

San Angelo State Park

Twin Butte Reservoir Recreation Area



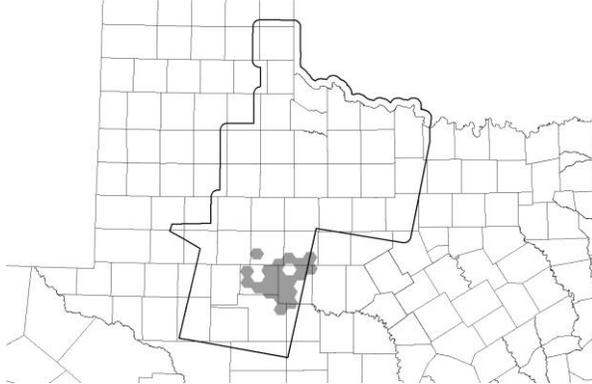
Edwards Plateau: Riparian Herbaceous Wetland

Area in Phase 6: 42.4 acres (17.2 ha)

Description of Mapped Type: A variety of herbaceous sedges, rushes, spikerushes, bulrushes, smartweeds, and grasses, together with shrubs such as black willow and common buttonbush, may be common in this mapped type.

Where to Visit:

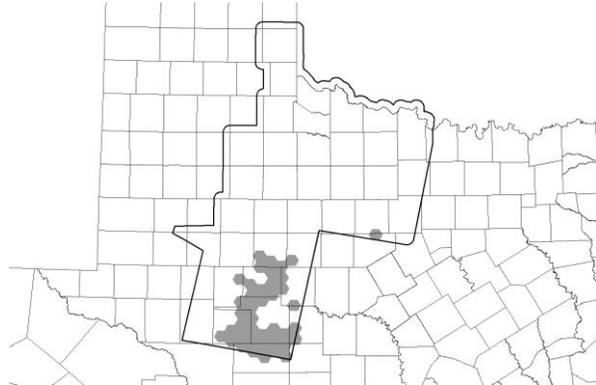
Twin Butte Reservoir Recreation Area



Edwards Plateau: Riparian Live Oak Forest

Area in Phase 6: 3,483.2 acres (1,409.6 ha)

Description of Mapped Type: Plateau live oak, Ashe juniper, western soapberry, and sugar (or netleaf) hackberry are the common canopy dominants of this mainly evergreen woodland. Other important species may include Texas persimmon, honey mesquite, and redberry juniper.



Edwards Plateau: Savanna Grassland

Area in Phase 6: 273,215 acres (110,570.1 ha)

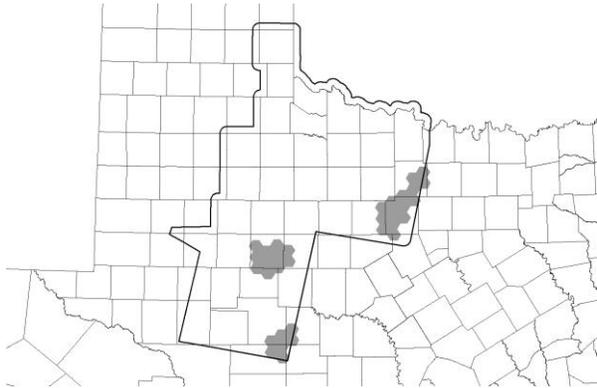
Description of Mapped Type: Grassland condition varies for this mapped type, but many areas support grazing-tolerant species such as King Ranch bluestem, Japanese brome, and purple threeawn. Other common grasses include little bluestem, sideoats grama, silver bluestem, Texas wintergrass, and curlymesquite. Trees and shrubs are usually present, and may include honey mesquite, plateau live oak, Ashe juniper, redberry juniper, agarito, or cedar elm. Shrub cover may be dense enough to qualify as shrubland rather than grassland in some areas.

Where to Visit:

Abilene State Park

Fort Richardson State Park and Historical Site

Possum Kingdom State Park



Edwards Plateau: Semi-arid Grassland

Area in Phase 6: 606,246.1 acres (245,347.8 ha)

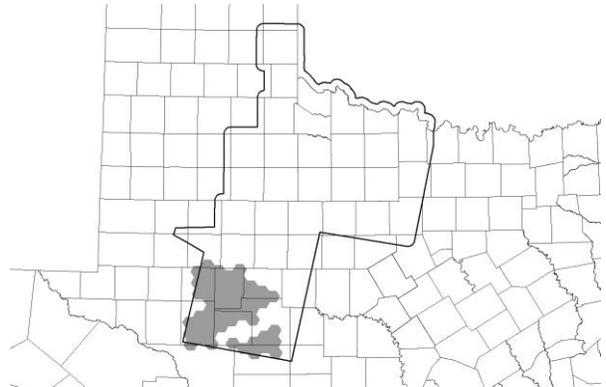
Description of Mapped Type: This type often contains a mix of grasses and shrubs with grasses such as purple threeawn, King Ranch bluestem, tobosa, buffalograss, red grama, sideoats grama, slim tridens, and Texas wintergrass common. Shrubs may include honey mesquite, Ashe juniper, redberry juniper, fragrant mimosa, javelina bush, and feather dalea.

Where to Visit:

O.C. Fisher Reservoir

San Angelo State Park

Twin Butte Reservoir Recreation Area



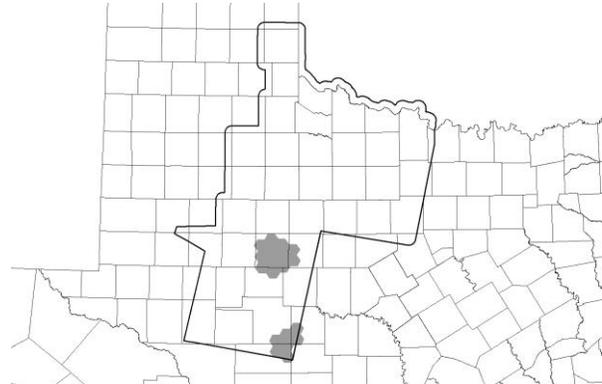
Edwards Plateau: Shin Oak Shrubland

Area in Phase 6: 198,662.9 acres (80,398.9 ha)

Description of Mapped Type: Mohr's shin oak is the most common dominant oak, but a wide variety of species may be present in this variable type. Honey mesquite, redberry juniper, Ashe juniper, plateau live oak, lotebush, and netleaf hackberry are common woody components.. Sideoats grama, purple threeawn, and Texas wintergrass are common herbaceous species.

Where to Visit:

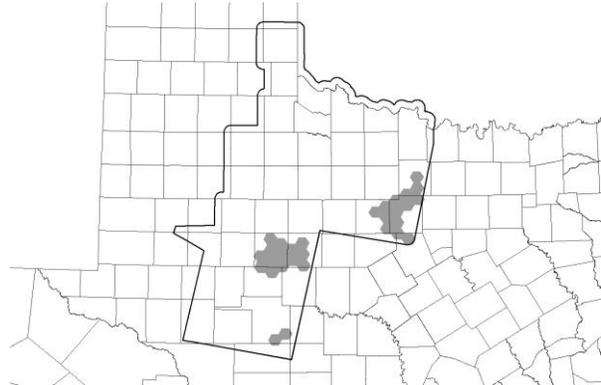
Abilene State Park



Edwards Plateau: Shin Oak Slope Shrubland

Area in Phase 6: 5,381.8 acres (2,178 ha)

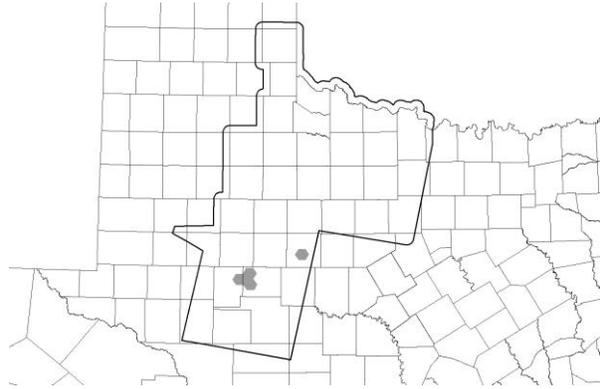
Description of Mapped Type: This type is similar to the Edwards Plateau: Shin Oak Shrubland but is mapped on slopes >20%. Species diversity is often relatively high, and species such as evergreen sumac, skunkbush sumac, catclaw acacia, and feather dalea are more frequent.



Edwards Plateau: Wooded Cliff/Bluff

Area in Phase 6: 3.2 acres (1.3 ha)

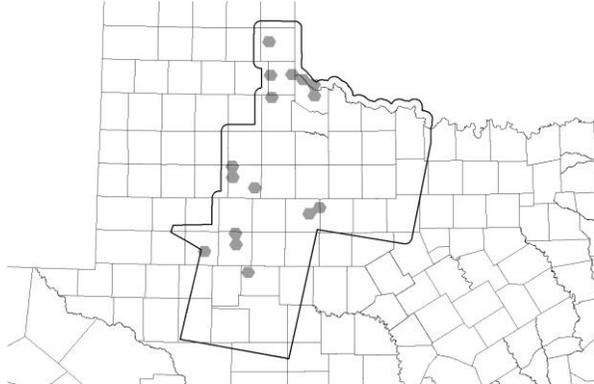
Description of Mapped Type: Generally limestone cliffs with some woody canopy cover, mostly resulting from canopy cover of surrounding slopes.



High Plains: Active Sand Dunes

Area in Phase 6: 733.4 acres (296.8 ha)

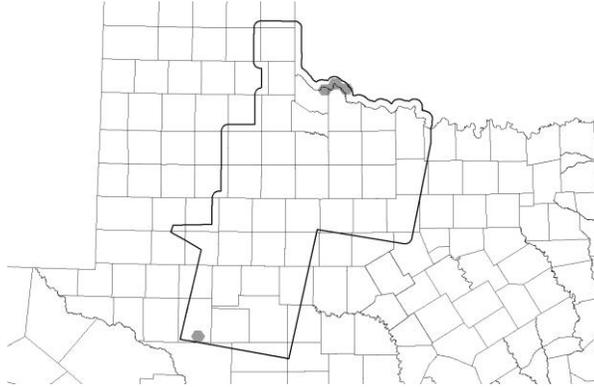
Description of Mapped Type: This type consists of essentially barren sand dunes. Scattered honey mesquite, sand sage, Havard's shin oak, sand dropseed, sand bluestem, and Mediterranean lovegrass may be present.



High Plains: Alkali Sacaton Grassland

Area in Phase 6: 582.5 acres (235.7 ha)

Description of Mapped Type: This type may consist of low-diversity stands of alkali sacaton, or may include more diverse areas with species such as honey mesquite, tobosa, and four-wing saltbush.



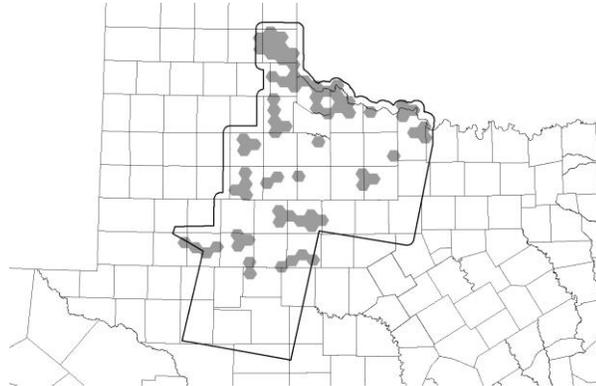
High Plains: Deep Sand Woodland

Area in Phase 6: 9,638.4 acres (3,900.7 ha)

Description of Mapped Type: This is a deciduous woodland or forest type that circumscribes wide variation and may be dominated by species such as post oak, western soapberry, netleaf hackberry, or dense stands of Chickasaw plum or gum bumelia. It may occur in a matrix of other sandy-soil or sandhill types that have less woody cover.

Where to Visit:

Matador Wildlife Management Area



High Plains: Depressional Marsh

Area in Phase 6: 6,166.2 acres (2,495.5 ha)

Description of Mapped Type: This type is wet or alternately wet and dry and may support a variety of mainly herbaceous species. Species such as spikerushes, smartweeds, cattails, and bulrushes may be present, together with grasses such as buffalograss and shrubs such as willow, *Baccharis* species, and common buttonbush. Some areas may also be salty with species such as saltcedar.

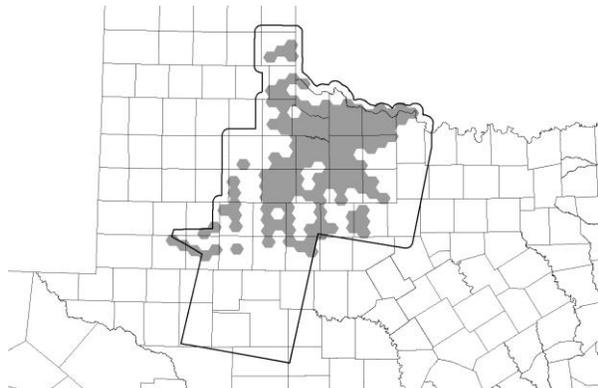
Where to Visit:

Copper Breaks State Park

Fort Griffin State Park and Historical Site

Lake Colorado City State Park

Matador Wildlife Management Area



High Plains: Floodplain Barrens

Area in Phase 6: 24,152.6 acres (9,774.6 ha)

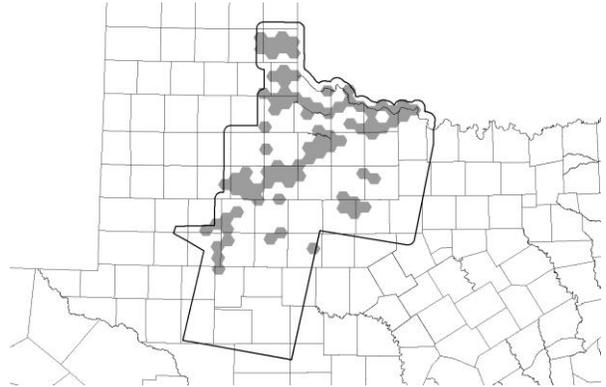
Description of Mapped Type: This type includes active floodplains with exposed rock, sand, or gravel as well as heavily grazed areas with sparse vegetation at the time of remote sensing data acquisition.

Where to Visit:

Abilene State Park

Copper Breaks State Park

Matador Wildlife Management Area



High Plains: Floodplain Hardwood Forest

Area in Phase 6: 144,587.1 acres (58,514.4 ha)

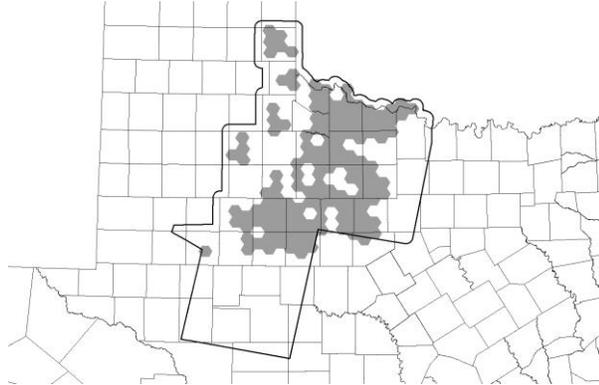
Description of Mapped Type: Important tree species within this variable type may include eastern cottonwood, netleaf hackberry, black willow, western soapberry, American elm, pecan, and honey mesquite. Saltcedar is a common invasive species that occurs over salty soils, especially near water's edge.

Where to Visit:

Abilene State Park

Copper Breaks State Park

Matador Wildlife Management Area



High Plains: Floodplain Herbaceous Vegetation

Area in Phase 6: 265,564.1 acres (107,473.8 ha)

Description of Mapped Type: This type may be represented by grasslands within a variety of moisture regimes and under different management influences. In good condition, mid- and tallgrasses such as sideoats grama, little bluestem, and big bluestem may be present, but on the modern landscape earlier successional stage or introduced grasses such as tobosa, Japanese brome, blue grama, buffalograss, and bermudagrass are often more common. Honey mesquite is a common woody component.

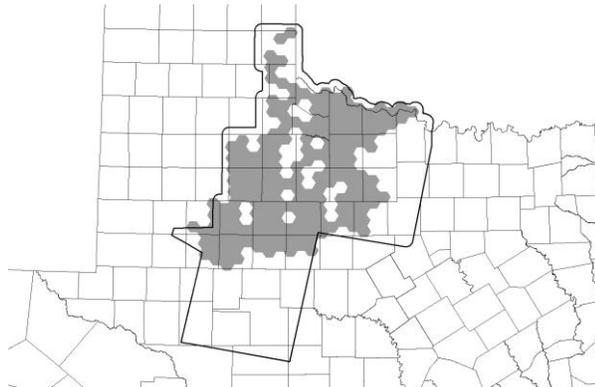
Where to Visit:

Copper Breaks State Park

Fort Griffin State Park and Historical Site

Lake Colorado City State Park

Matador Wildlife Management Area



High Plains: Mesquite Shrubland

Area in Phase 6: 886,698.6 acres (358,846.9 ha)

Description of Mapped Type: This type is mapped only in bottomlands or other lower landscape positions, and is dominated by honey mesquite together with shrubs and small trees such as netleaf hackberry, western soapberry, lotebush, redberry juniper, and Chickasaw plum. A variety of herbaceous species may be important, including tobosa, prairie broomweed, Japanese brome, rescuegrass, Texas wintergrass, threeawns, tridens species, blue grama, and buffalograss. Some areas may be salty and include saltcedar as a woody component.

Where to Visit:

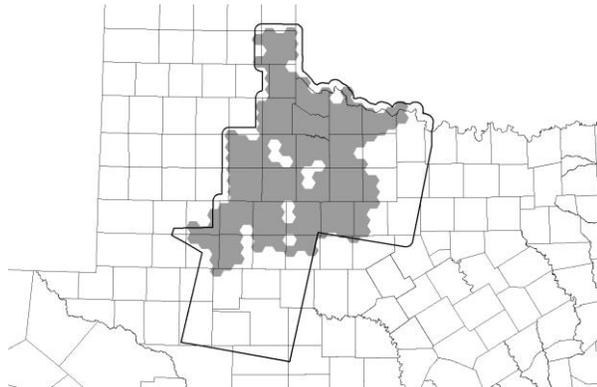
Abilene State Park

Copper Breaks State Park

Fort Griffin State Park and Historical Site

Lake Colorado City State Park

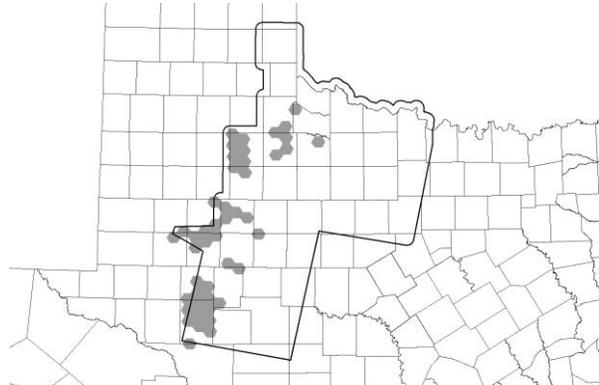
Matador Wildlife Management Area



High Plains: Playa Grassland

Area in Phase 6: 10,239.9 acres (4,144.1 ha)

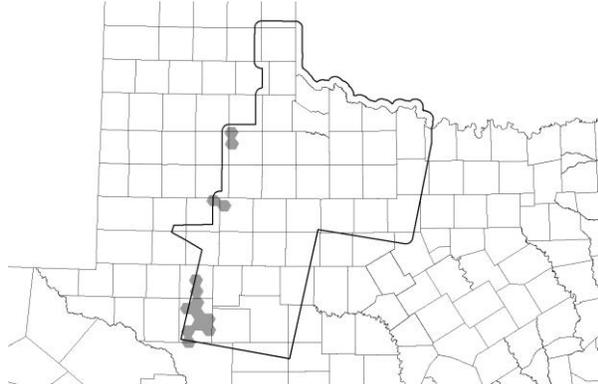
Description of Mapped Type: This type represents playas that are generally alternately wet and dry, and vary from year to year and from place to place across short distances. Typical dominant grasses include buffalograss, vine mesquite, bermudagrass, spikerushes, and western wheatgrass. Honey mesquite is a common woody component, and pricklypear species are often present.



High Plains: Playa Lake

Area in Phase 6: 1,138 acres (460.6 ha)

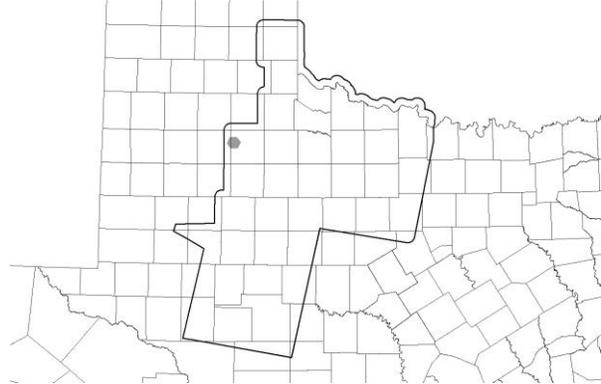
Description of Mapped Type: These playas were open water in all seasons during the time of data collection for this mapping project.



High Plains: Playa Marsh

Area in Phase 6: 109.8 acres (44.4 ha)

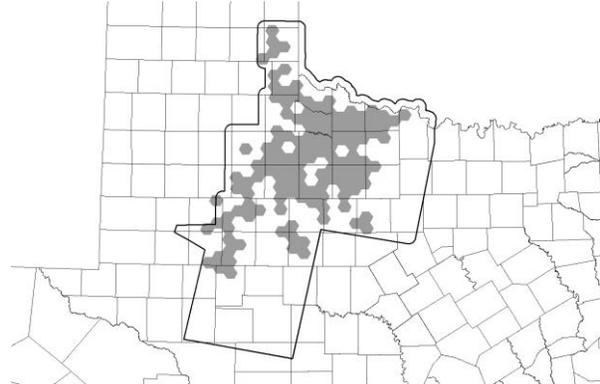
Description of Mapped Type: Wet areas within playas are represented by this type, which varies from year to year and across short distances on the ground. Spikerushes, cattails, smartweeds, frogfruit, and bulrushes may be present.



High Plains: Riparian Barrens

Area in Phase 6: 7,300.4 acres (2,954.5 ha)

Description of Mapped Type: This type consisted of essentially bare ground (sand, gravel, or rock) during all seasons at the time of data collection for this mapping project (circa 2010).



High Plains: Riparian Hardwood Forest

Area in Phase 6: 30,081 acres (12,173.8 ha)

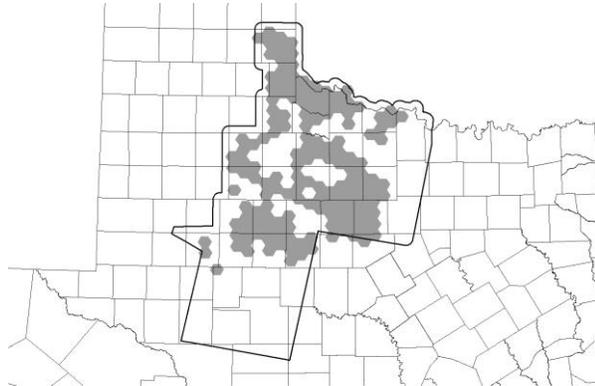
Description of Mapped Type: Trees such as netleaf hackberry, black willow, eastern cottonwood, western soapberry, and honey mesquite may be present in this variable type that is mapped along upland drainages. Often the type may be a more dense representation of surrounding upland shrublands, and some areas may be dominated by saltcedars.

Where to Visit:

Abilene State Park

Copper Breaks State Park

Matador Wildlife Management Area



High Plains: Riparian Herbaceous Vegetation

Area in Phase 6: 154,977.9 acres (62,719.5 ha)

Description of Mapped Type: These upland drainages may be slightly wetter representations of surrounding grasslands and shrublands. Short grasses such as tobosa, buffalograss, blue grama, and Japanese brome may be present together with introduced bermudagrass and shrubs such as honey mesquite, lotebush, and wolfberry.

Where to Visit:

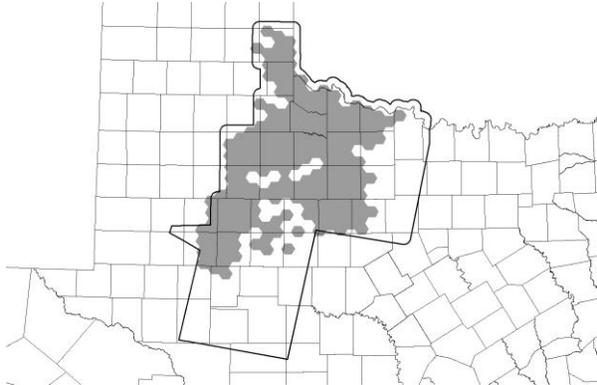
Abilene State Park

Copper Breaks State Park

Fort Griffith State Park and Historical Site

Lake Colorado City State Park

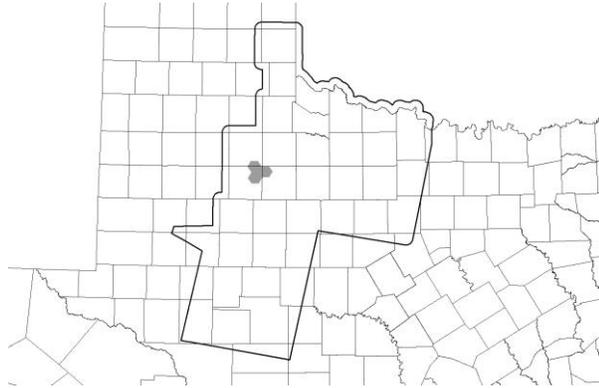
Matador Wildlife Management Area



High Plains: Saline Flat

Area in Phase 6: 486.3 acres (196.8 ha)

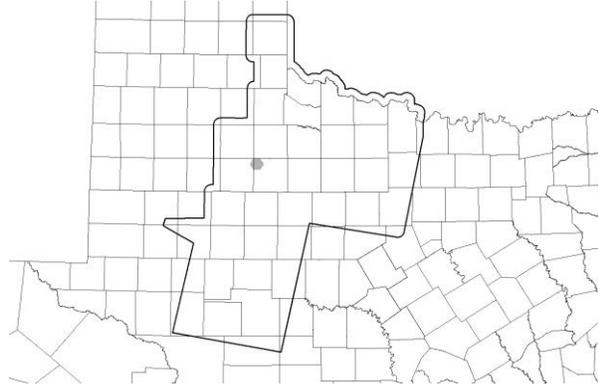
Description of Mapped Type: This type was mapped in essentially barren areas over salty soils.



High Plains: Salt Lake

Area in Phase 6: 3.4 acres (1.4 ha)

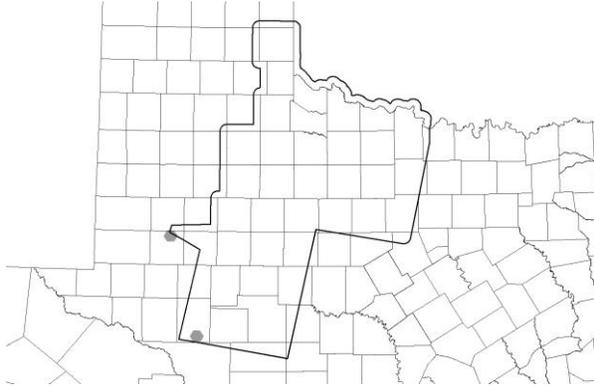
Description of Mapped Type: This type was open water in all seasons during the time of data collection for this mapping project (circa 2010).



High Plains: Salt Lake Shrubland

Area in Phase 6: 585.1 acres (236.8 ha)

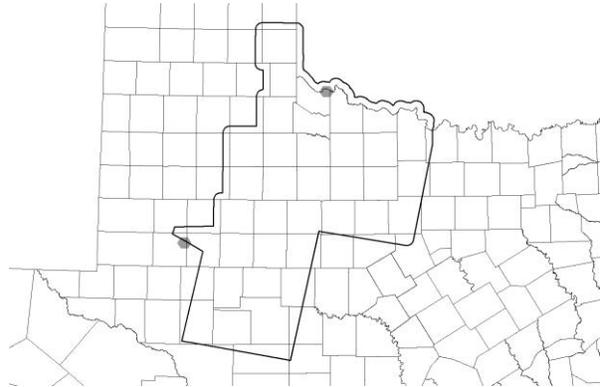
Description of Mapped Type: This type is mapped in depressions associated with drainages or in circular basins, and may be dominated by four-wing saltbush, saltcedar, or honey mesquite. Grasses such as alkali sacaton, saltgrass, and foxtail barley are common components.



High Plains: Salt Marsh

Area in Phase 6: 8.8 acres (3.6 ha)

Description of Mapped Type: This type is mapped in depressions associated with drainages or in circular basins, and may be dominated by bulrushes, cattails, and spikerushes. Alkali sacaton and saltgrass are common grasses, and four-wing saltbush and saltcedar are associated shrubs.



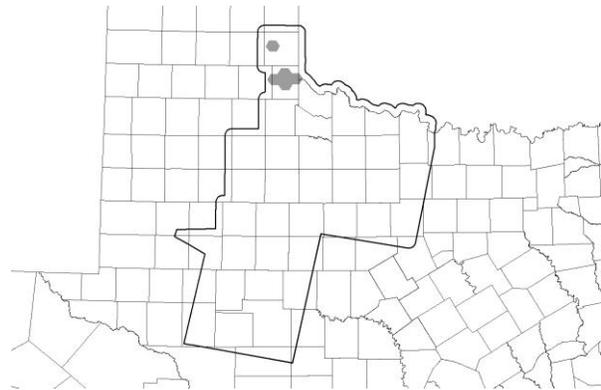
High Plains: Sand Prairie

Area in Phase 6: 921.5 acres (372.9 ha)

Description of Mapped Type: This type is mapped on deep sand soils under a variety of management regimes, and hence are quite variable. Common herbaceous species may include sand dropseed, silver bluestem, annual buckwheat, false goldenaster, common sandbur, threeawns, giant dropseed, sand bluestem, little bluestem, and Japanese brome. Havard's shin oak, honey mesquite, and sand sage are common woody components.

Where to Visit:

Matador Wildlife Management Area



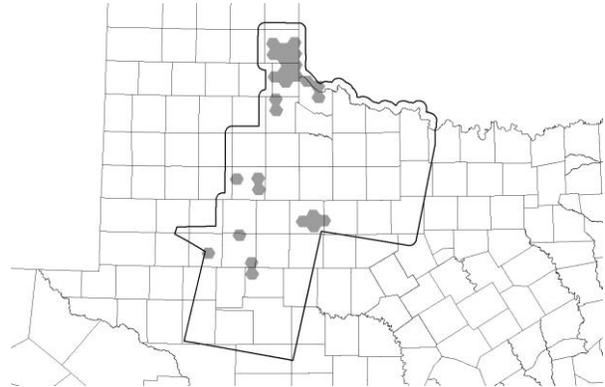
High Plains: Sandhill Deciduous Shrub Duneland

Area in Phase 6: 43,279.7 acres (17,515.3 ha)

Description of Mapped Type: This type circumscribes areas that can be more disturbed or in more natural condition. Common dominant shrubs include Havard's shin oak, sand sage, honey mesquite, Chickasaw plum, western soapberry, and netleaf hackberry.

Where to Visit:

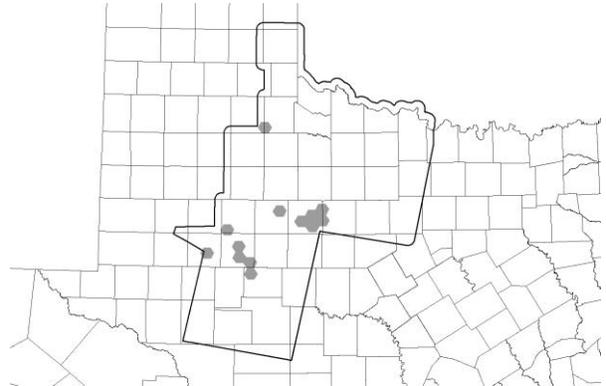
Matador Wildlife Management Area



High Plains: Sandhill Shinnery Duneland

Area in Phase 6: 36,923.3 acres (14,942.9 ha)

Description of Mapped Type: This type occurs over deep sands and is most often dominated by relatively dense stands of Havard's shin oak. Sand sage and honey mesquite are common components. Buckley's yucca is a common succulent, and giant dropseed, sand dropseed, and Mediterranean lovegrass are common grasses.



High Plains: Sandy Deciduous Shrubland

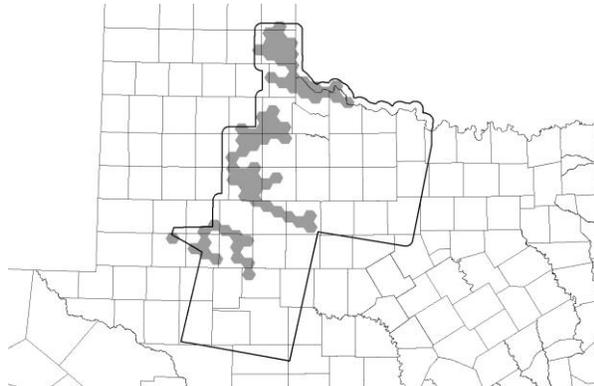
Area in Phase 6: 210,581.8 acres (85,222.5 ha)

Description of Mapped Type: This type is mapped over soils that are more or less sandy and deep, and circumscribes a good deal of variation. Honey mesquite is a common dominant, with Havard's shin oak and sand sage occurring over sandier soils. Sand dropseed, annual buckwheat, Palmer's spectalepod, little bluestem, silver bluestem, threeawns, fringed signalgrass, and Mediterranean lovegrass are common herbaceous species.

Where to Visit:

Copper Breaks State Park

Matador Wildlife Management Area



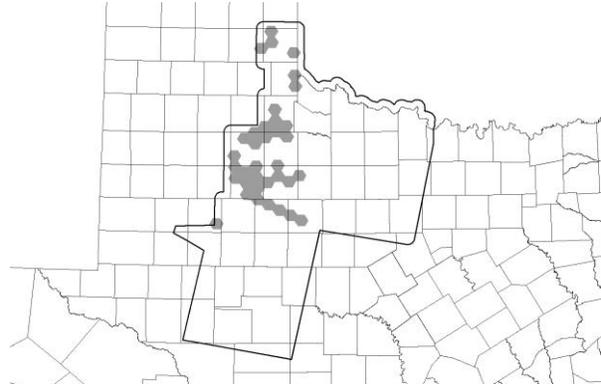
High Plains: Sandy Shinnery Shrubland

Area in Phase 6: 276,842 acres (112,038 ha)

Description of Mapped Type: This type is mapped over sandy soils that are close to deep sands, and is often dominated by Havard shin oak, sand sage, or honey mesquite in relatively open stands. Sand dropseed and Mediterranean lovegrass are common grasses.

Where to Visit:

Matador Wildlife Management Area



High Plains: Shortgrass Prairie

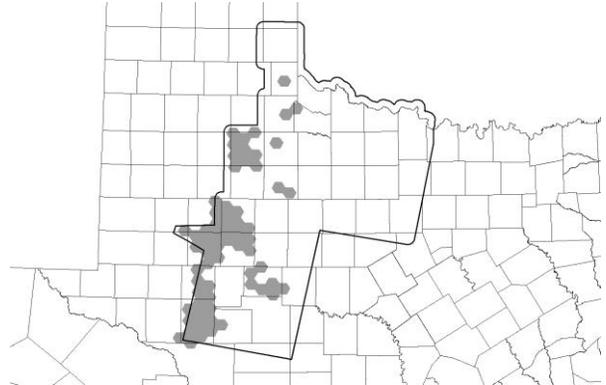
Area in Phase 6: 284,802.7 acres (115,259.7 ha)

Description of Mapped Type: Buffalograss, blue grama, tobosa, and silver bluestem are common dominant grasses of this type. Other grasses may include hairy grama, sideoats grama, western wheatgrass, and purple threeawn. Broom snakeweed, honey mesquite, lotebush, wolfberry, and sand sage are common woody components.

Where to Visit:

E.V. Spence Reservoir Recreation Area

Lake Colorado City State Park



Marsh

Area in Phase 6: 9,119.4 acres (3,690.6 ha)

Description of Mapped Type: Areas mapped as marsh are small, and consist of wet or alternately wet and dry soils with herbaceous vegetation, often associated with man-made ponds.

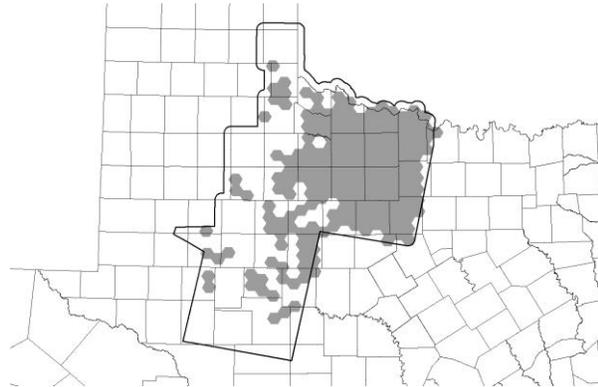
Where to Visit:

Copper Breaks State Park

Lake Arrowhead State Park

Possum Kingdom State Park

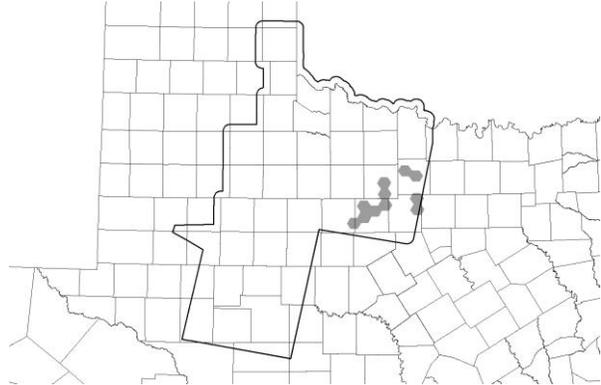
Twin Butte Reservoir Recreation Area



Native Invasive: Common Reed

Area in Phase 6: 208.7 acres (84.4 ha)

Description of Mapped Type: Common reed occurs in nearly mono-dominant stands along drainage ways.



Native Invasive: Deciduous – Juniper Woodland

Area in Phase 6: 7,641.4 acres (3,092.5 ha)

Description of Mapped Type: Common species may include redberry or Ashe juniper, western soapberry, honey mesquite, Siberian elm, netleaf hackberry, and lotebush. The type is mapped on soils that are classically considered to have supported grasslands or open shrublands in pre-European settlement times.

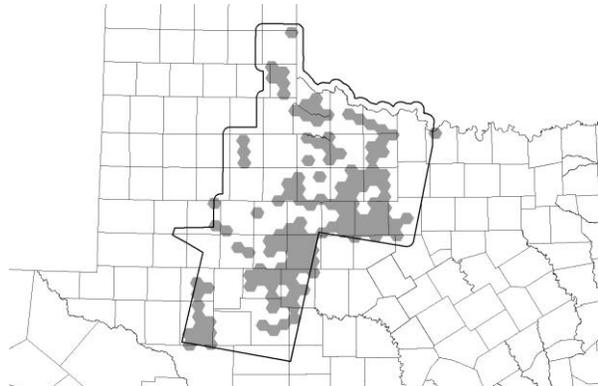
Where to Visit:

Lake Colorado City State Park

Matador Wildlife Management Area

San Angelo State Park

Twin Butte Reservoir Recreation Area



Native Invasive: Deciduous Woodland

Area in Phase 6: 99,210.3 acres (40,150.4 ha)

Description of Mapped Type: This broadly-defined type often has Siberian elm, netleaf hackberry, western soapberry, or honey mesquite among the dominants. Redberry or Ashe juniper may also be present. The type is mapped on soils that are classically considered to have supported grasslands or open shrublands in pre-European settlement times.

Where to Visit:

Copper Breaks State Park

E.V. Spence Reservoir Recreation Area

Fort Griffin State Park and Historical Site

Fort Richardson State Park and Historical Site

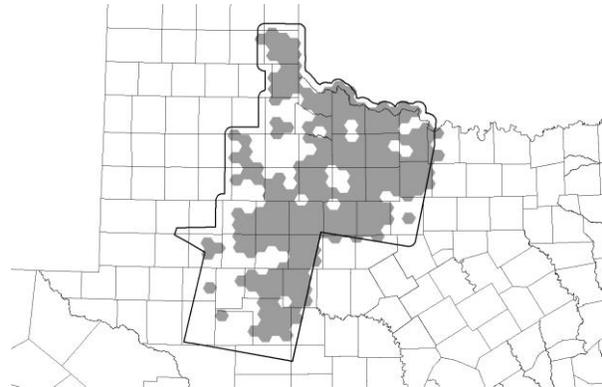
Lake Colorado City State Park

Matador Wildlife Management Area

O.C. Fisher Reservoir (the reservoir)

San Angelo State Park

Twin Butte Reservoir Recreation Area



Native Invasive: Juniper Shrubland

Area in Phase 6: 382,882 acres (154,952.4 ha)

Description of Mapped Type: This type contains mainly Ashe juniper and redberry juniper shrublands. Honey mesquite, lotebush, agarito, gum bumeila, feather dalea, and littleleaf sumac may be present. The type is mapped on soils that are classically considered to have supported grasslands or open shrublands in pre-European settlement times.

Where to Visit:

Abilene State Park

Copper Breaks State Park

E.V. Spence Reservoir Recreation Area

Fort Griffin State Park and Historical Site

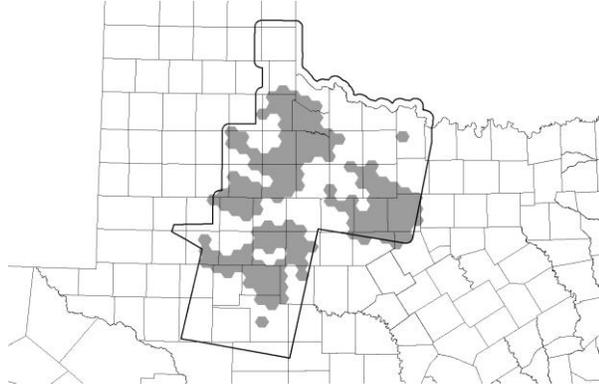
Lake Colorado City State Park

Matador Wildlife Management Area

Possum Kingdom State Park

San Angelo State Park

Twin Butte Reservoir Recreation Area



Native Invasive: Juniper Woodland

Area in Phase 6: 30,448.9 acres (12,322.7 ha)

Description of Mapped Type: This type consists of dense, low woodlands with Ashe juniper or redberry juniper in Phase 6. Other common species may include plateau live oak (within the range of this species), honey mesquite, and lotebush. The type is mapped on soils that are classically considered to have supported grasslands or open shrublands in pre-European settlement times.

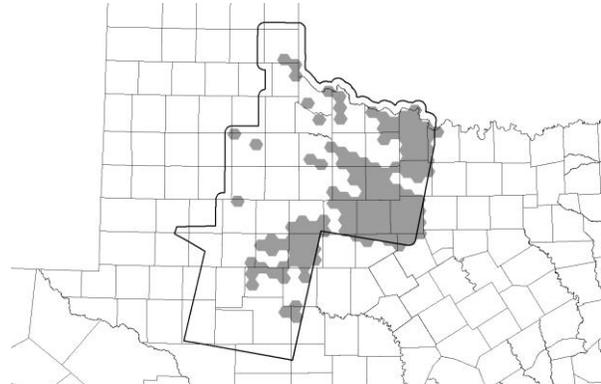
Where to Visit:

Abilene State Park

Fort Griffin State Park and Historical Site

Matador Wildlife Management Area

San Angelo State Park



Native Invasive: Mesquite Shrubland

Area in Phase 6: 4,142,143.9 acres (1,676,325.6 ha)

Description of Mapped Type: Relatively dense honey mesquite shrublands are characteristic of this broadly-defined type. Other common species include lotebush, Ashe juniper, redberry juniper, wolfberry, and netleaf hackberry. *Yucca* and pricklypear species are common succulents. Prairie broomweed, Texas wintergrass, Japanese brome, tobosa, and western ragweed are common herbaceous species. The type is mapped on soils that are classically considered to have supported grasslands or open shrublands in pre-European settlement times. It is the most abundant type mapped in Phase 6, comprising 19% of the area. More open areas, often with similar composition but less woody cover are mapped as Rolling Plains: Mixedgrass Prairie, which comprises an additional 13% of the area of Phase 6.

Where to Visit:

Abilene State Park

Copper Breaks State Park

E.V. Spence Reservoir Recreation Area

Fort Griffin State Park and Historical Site

Lake Arrowhead State Park

Lake Colorado City State Park

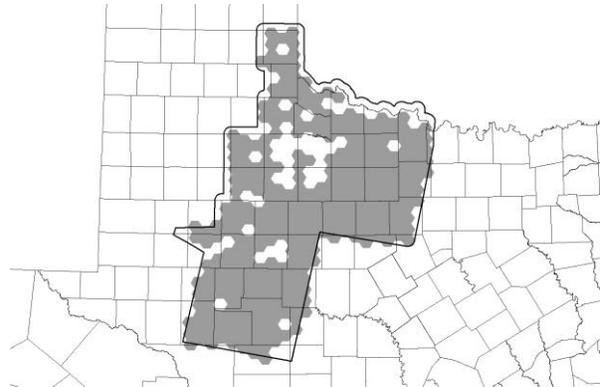
Fort Richardson State Park and Historical Site

Matador Wildlife
Management
Area

Possum
Kingdom State
Park

San Angelo
State Park

Twin Butte
Reservoir
Recreation Area



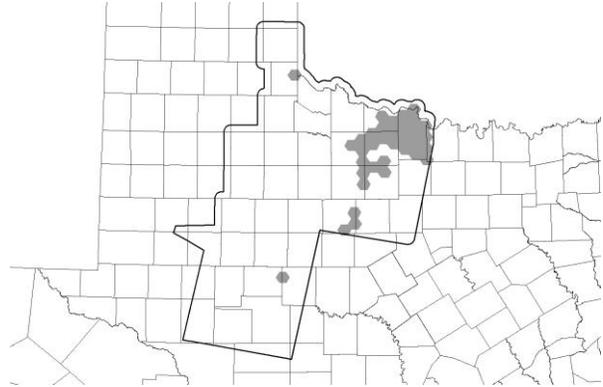
Native Invasive: Mesquite Woodland

Area in Phase 6: 18,229.3 acres (7,377.4 ha)

Description of Mapped Type: Dense stands of honey mesquite are characteristic of this type, which is mapped on soils classically considered to support prairie in pre-European settlement times. Other woody species may include post oak, blackjack oak, hackberry, juniper species, lotebush, western soapberry, and gum bumelia.

Where to Visit:

Lake Arrowhead State Park



Non-native Invasive: Saltcedar Shrubland

Area in Phase 6: 129.7 acres (52.5 ha)

Description of Mapped Type: Saltcedar often forms nearly monotypic stands in narrow belts along salty streams. In Phase 6, it was mapped in limited areas where more extensive stands occur along salty river bottoms and near salt lakes.



Open Water

Area in Phase 6: 120,774.7 acres (48,877.5 ha)

Description of Mapped Type: Large lakes, stock ponds, and rivers are included in this type, but open water of playas is mapped as High Plains: Playa Lake. Some alternately wet and dry areas may support sparse vegetation.

Where to Visit:

Copper Breaks State Park

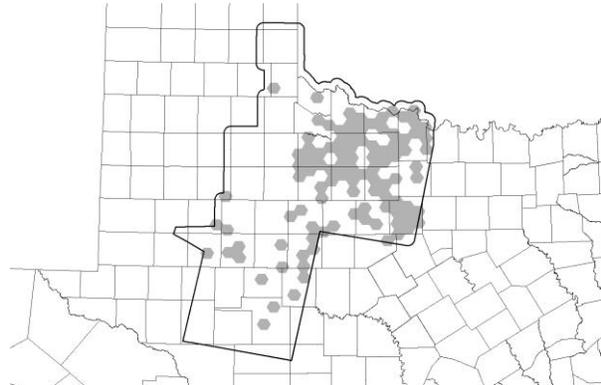
Fort Richardson State Park and Historical Site

Lake Arrowhead State Park

Lake Colorado City State Park

Possum Kingdom State Park

Twin Butte Reservoir Recreation Area



Rolling Plains: Breaks Deciduous Shrubland

Area in Phase 6: 669,121.6 acres (270,793.5 ha)

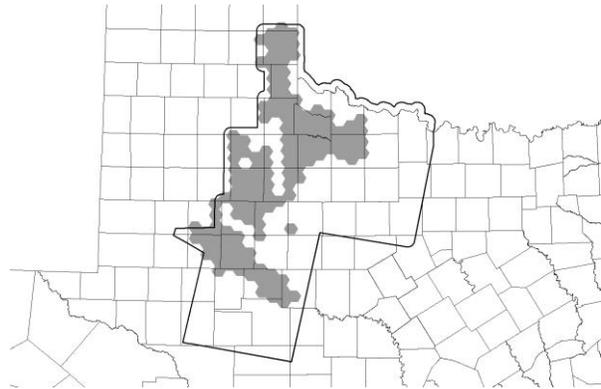
Description of Mapped Type: This type extends from drier sites with more low shrubs in the west to more moist sites with fewer shrubs in the east. Examples tend to be quite diverse with a relatively diverse compliment of native shrubs and herbaceous species. Common shrubs include honey mesquite, redberry juniper, lotebush, feather dalea, littleleaf sumac, and catclaw acacia. Common herbaceous species include purple threeawn, sideoats grama, sand dropseed, tobosa, prairie broomweed, blue grama, little bluestem, and silver bluestem.

Where to Visit:

Copper Breaks State Park

E.V. Spence Reservoir Recreation Area

Matador Wildlife Management Area



Rolling Plains: Breaks Evergreen Shrubland

Area in Phase 6: 668,843.9 acres (270,681.1 ha)

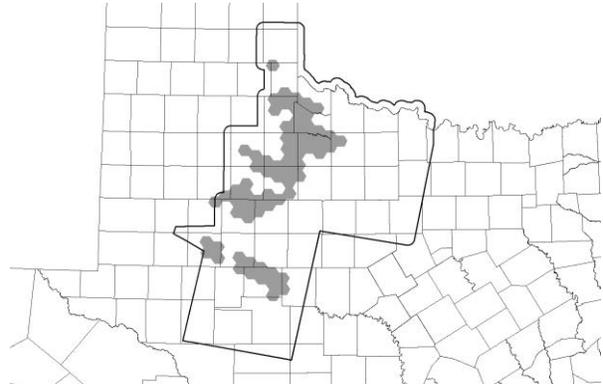
Description of Mapped Type: Redberry juniper is the most common dominant of this type, and Ashe juniper may be important to the south and east over limestone. Other common woody components include feather dalea, honey mesquite, agarito, littleleaf sumac, lotebush, and joint-fir. Engelmann pricklypear and Arkansas yucca are common succulents. Sideoats grama, purple threeawn, and little bluestem are common grasses.

Where to Visit:

Copper Breaks State Park

E.V. Spence Reservoir Recreation Area

Matador Wildlife Management Area



Rolling Plains: Breaks Grassland

Area in Phase 6: 450,887 acres (182,474 ha)

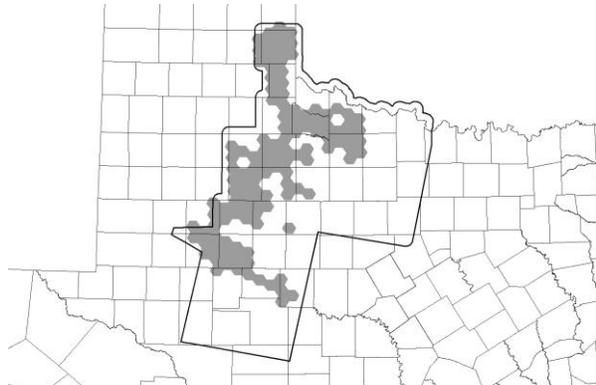
Description of Mapped Type: This type is generally grassy but also usually contains shrubs, especially in the west. Common herbaceous species include purple threeawn, sideoats grama, sliver bluestem, little bluestem, tobosa, blue grama, and prairie broomweed. Common shrubs include redberry juniper, honey mesquite, lotebush, agarito, littleleaf sumac, and joint-fir.

Where to Visit:

Copper Breaks State Park

E.V. Spence Reservoir Recreation Area

Matador Wildlife Management Area



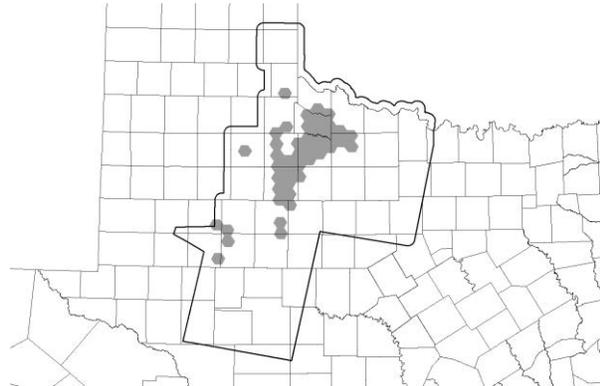
Rolling Plains: Gyp Breaks Canyon

Area in Phase 6: 36,602.8 acres (14,813.1 ha)

Description of Mapped Type: This occurs over soils with gyp inclusions (often over the Blaine geologic formation) in relatively steep landscapes, and these areas were barren or very sparsely vegetated at the time of satellite remote sensing image collection. .

Where to Visit:

Copper Breaks State Park



Rolling Plains: Gyp Breaks Deciduous Shrubland

Area in Phase 6: 153,010 acres (61,923.1 ha)

Description of Mapped Type: This type was mapped over soils with gyp inclusions (often over the Blaine geologic formation) and cover tends to be patchy, with small openings (sometimes linear, perpendicular to slopes) apparent in the landscape. Examples tend to be quite diverse with a relatively diverse compliment of native shrubs and herbaceous species. Common shrubs include honey mesquite, redberry juniper, lotebush, feather dalea, littleleaf sumac, and catclaw acacia. Common herbaceous species include purple threeawn, sideoats grama, sand dropseed, tobosa, prairie broomweed, blue grama, little bluestem, and silver bluestem. Species more common on gyp such as Stevens' fiddleleaf, false broomweed, gyp phacelia, Navajo tea, and cream milkvetch may be present.

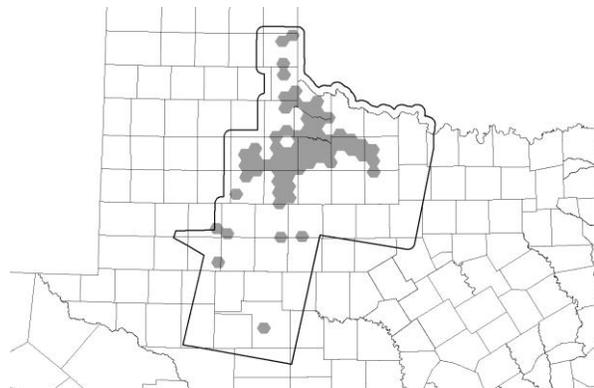
Where to Visit:

Abilene State Park

Copper Breaks State Park

San Angelo State Park

Twin Butte Reservoir Recreation Area



Rolling Plains: Gyp Breaks Grassland

Area in Phase 6: 127,720.2 acres (51,688.4 ha)

Description of Mapped Type: This type was mapped over soils with gyp inclusions (often over the Blaine geologic formation) and cover tends to be patchy, with small openings (sometimes linear, perpendicular to slopes) apparent in the landscape. Common herbaceous species include purple threeawn, sideoats grama, sliver bluestem, little bluestem, tobosa, blue grama, and prairie broomweed. Common shrubs include redberry juniper, honey mesquite, lotebush, agarito, littleleaf sumac, and joint-fir. Species more common on gyp such as Stevens' fiddleleaf, false broomweed, gyp phacelia, Navajo tea, and cream milkvetch may be present.

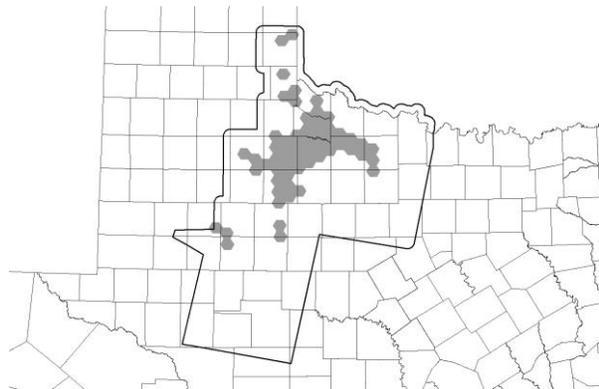
Where to Visit:

Abilene State Park

Copper Breaks State Park

San Angelo State Park

Twin Butte Reservoir Recreation Area



Rolling Plains: Mixedgrass Prairie

Area in Phase 6: 2,759,866.7 acres (1,116,918.1 ha)

Description of Mapped Type: This type circumscribes a variety of grasslands across a relatively large area and under various past and current management regimes, and honey mesquite is often an important woody component. Dry sites to the west often contain short grasses such as tobosa, purple threeawn, and buffalograss together with honey mesquite and succulents such as Engelmann pricklypear and Arkansas yucca. Wetter sites to the east may contain mid-grasses such as little bluestem, sideoats grama, Texas wintergrass, and tall grasses such as Indiangrass and big bluestem in locally well-watered areas. Grazing-tolerant species such as Japanese brome, rescuegrass, and prairie broomweed are common in the modern landscape. Some recently retired cropland fields are also mapped within this type.

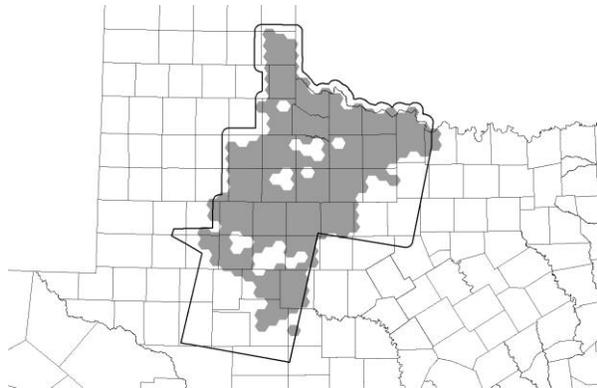
Where to Visit:

Copper Breaks State Park

Fort Griffin State Park and Historical Park

Lake Arrowhead State Park

Matador Wildlife Management Area



Rolling Plains: Mixedgrass Sandy Prairie

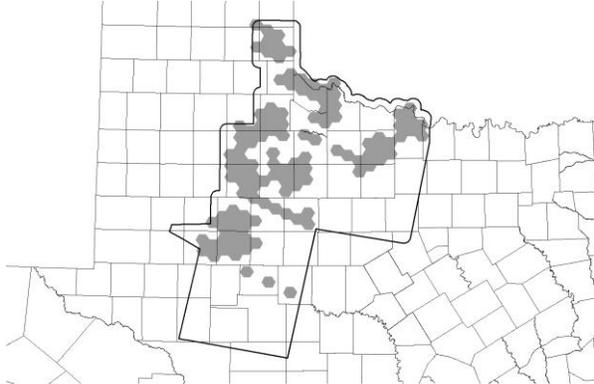
Area in Phase 6: 432,446.4 acres (175,011.1 ha)

Description of Mapped Type: This type is mapped over sandy soils of various depths and with various management histories. Mesquite is usually a component. Common herbaceous species include sand dropseed, purple threeawn, annual buckwheat, cane bluestem, little bluestem, prairie broomweed, and sideoats grama. Recently retired croplands may be included within this type.

Where to Visit:

Lake Colorado City State Park

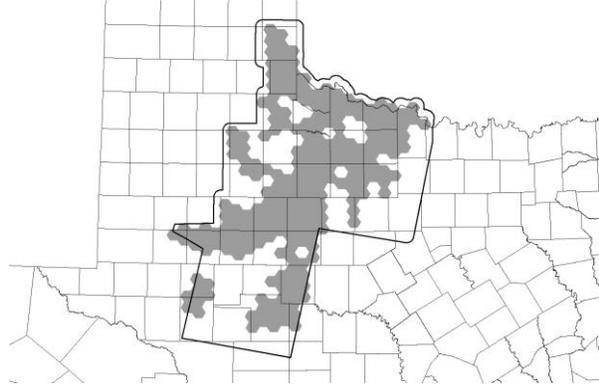
Matador Wildlife Management Area



Row Crops

Area in Phase 6: 3,659,276.6 acres (1,480,909.2 ha)

Description of Mapped Type: This type includes all cropland where fields are fallow for some portion of the year. Some fields may rotate into and out of cultivation frequently, and year-round cover crops and tame hay fields are generally mapped as grassland.



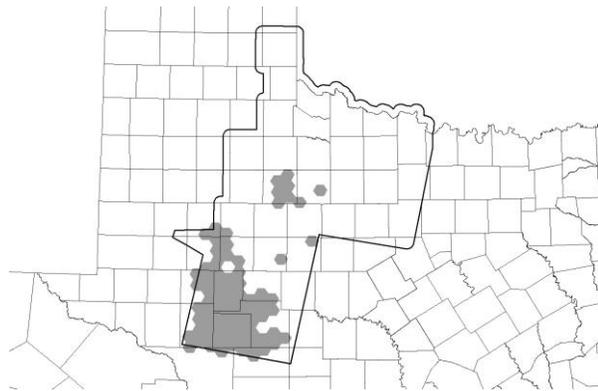
Southwest: Mesquite / Tobosa Grassland

Area in Phase 6: 656,007.4 acres (265,486.2 ha)

Description of Mapped Type: This type is mapped over heavy-textured soils south of the Rolling Plains in Phase 6. Tobosa, purple threeawn, Texas stork's bill, Texas wintergrass, silver bluestem, buffalograss, and prairie broomweed are common herbaceous species. Mesquite is the most common shrub, and redberry or Ashe juniper are often present, along with Gregg acacia, lotebush, agarito, and littleleaf sumac. Succulents such as Engelmann pricklypear, Buckley's yucca, and Christmas cactus are common.

Where to Visit:

San Angelo State Park



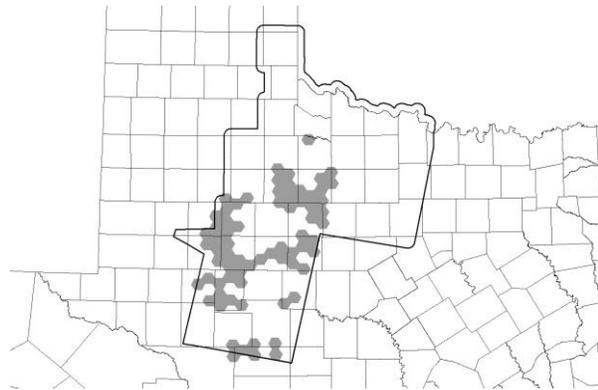
Southwest: Tobosa Grassland

Area in Phase 6: 145,745.9 acres (58,983.4 ha)

Description of Mapped Type: This grassland type is mapped over heavy clay soils and usually contains honey mesquite as a component. Common herbaceous species include tobosa, Texas stork's bill, prairie broomweed, purple threeawn, sideoats grama, Texas wintergrass, and pepperweed. Engelmann pricklypear, Christmas cactus, and Buckley's yucca are common succulents. Tobosa is grazing-tolerant, and hence is a major component of other grassland and shrubland types in Phase 6.

Where to Visit:

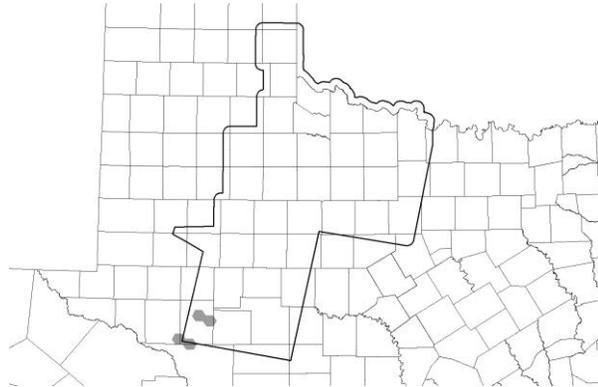
San Angelo State Park



Trans-Pecos: Creosotebush Scrub

Area in Phase 6: 173.1 acres (70.1 ha)

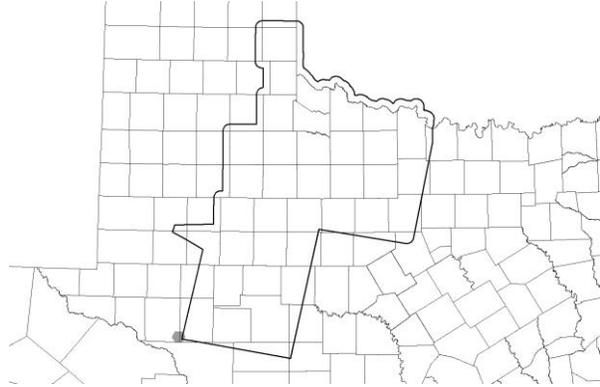
Description of Mapped Type: This type is mapped at low elevations within intermountain basins in the Trans-Pecos, mainly on flats or gently rolling landscapes over gravelly colluvial or alluvial soils. It is restricted to the far southwestern portion of Phase 6. Creosotebush is often the primary dominant, and diversity may be low. Other woody species may include honey mesquite, mariola, catclaw acacia, and whitethorn acacia. Common succulents include Christmas cactus, Torrey's yucca, Engelmann pricklypear, and other pricklypear species. Bush muhly, fluffgrass, burrograss, white tridens, and threeawns are common grasses.



Trans-Pecos: Desert Wash Barrens

Area in Phase 6: 264.6 acres (107.1 ha)

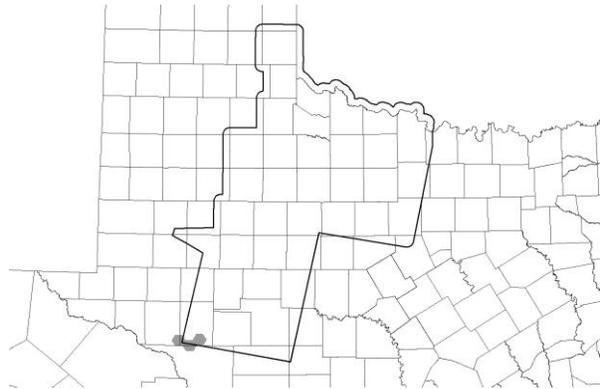
Description of Mapped Type: This type is mapped in sparsely vegetated areas along arroyos and draws at relatively low elevation in the Trans-Pecos. It occurs in the far southwestern part of Phase 6. Sparse cover of desert shrubs, succulents, and grasses is usually present.



Trans-Pecos: Desert Wash Grassland

Area in Phase 6: 77.4 acres (31.3 ha)

Description of Mapped Type: This type is mapped along relatively low elevation arroyos and draws. It occurs in the far southwestern part of Phase 6. Common grasses include sideoats grama, silver bluestem, black grama, and threeawn species. Some areas may be well-watered and salty, and support species such as saltgrass and alkali sacaton. Common shrubs include honey mesquite, creosotebush, desert willow, little walnut, Texas persimmon, and *Acacia* species.



Trans-Pecos: Desert Wash Shrubland

Area in Phase 6: 675.3 acres (273.3 ha)

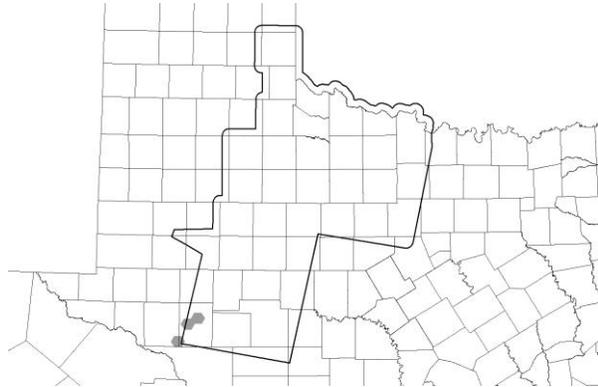
Description of Mapped Type: This type is mapped along relatively low elevation arroyos and draws. It occurs in the far southwestern part of Phase 6. A variety of water regimes are represented, and hence a variety of shrubland types. Common shrubs and small trees include honey mesquite, creosotebush, littleleaf sumac, little-leaf ash, little walnut, seep willow, desert willow, netleaf hackberry, junipers, and whitebrush. Torrey's yucca, sotol, and Christmas cactus are common succulents. Sideoats grama, alkali sacaton, streambed bristlegrass, silver bluestem, and tobosa are common grasses.



Trans-Pecos: Sparse Creosotebush Scrub

Area in Phase 6: 366.8 acres (148.4 ha)

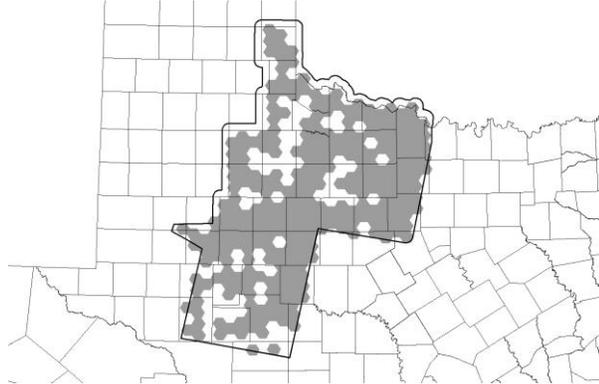
Description of Mapped Type: This type is mapped in low desert flats and is commonly dominated by a sparse cover of creosotebush with a low diversity of other species. It is restricted to the far southwestern portion of Phase 6. Shrubs such as mariola and whitethorn acacia may be present, together with succulents such as Torrey's yucca.



Urban High Intensity

Area in Phase 6: 116,053.2 acres (46,966.7 ha)

Description of Mapped Type: This type consists of built-up areas and wide transportation corridors that are dominated by impervious cover.



Urban Low Intensity

Area in Phase 6: 142,900 acres (57,831.6 ha)

Description of Mapped Type: This type includes areas that are built-up but not entirely covered by impervious cover, and includes most of the non-industrial areas within cities and towns.

