

## LLANO ESTACADO CAPROCK ESCARPMENT AND BREAKS SHRUBLAND AND STEPPE

**Nature Serve ID:** CES303.725

**Geology:** May occur on various surfaces that are sufficiently resistant to erosion to form breaks or escarpments. This includes sedimentary deposits such as sandstones, limestones, or shales, or less frequently, igneous formations such as basalt. Breaks associated with the Permian Blaine Formation may have gypsum exposed or influencing the vegetation.

**Landform:** Breaks and escarpments including slopes and nearby uplands, sometimes associated with canyons or drainages, but not necessarily. The system occupies slopes, but may continue over transitions to more level sites upslope and downslope.

**Soils:** May occur on various soils, as well as on sites where little soil development has occurred. Rough Breaks Ecological Sites are characteristic of this system, but other sites such as Rocky Hill, Shallow, and Gravelly Ecological Sites may also be occupied by this system.

**Parent Description:** This system is closely related to, and may overlap with the previously described system Southwestern Great Plains Canyon System (CES303.664), though the currently considered system is not confined strictly to canyons. The physiognomic character of occurrences ranges from sparsely vegetated to shrubland, to sparse woodland. Bare ground is often conspicuous and herbaceous cover is usually dominated by mid- to shortgrasses such as *Aristida purpurea* (purple threeawn), *Bouteloua curtipendula* (sideoats grama), *Bothriochloa laguroides* ssp. *torreyana* (silver bluestem), *Bouteloua gracilis* (blue grama), *Bouteloua hirsuta* (hairy grama), and *Schizachyrium scoparium* (little bluestem). Forbs, including species such as *Artemisia ludoviciana* (western mugwort), *Thelesperma filifolium* (slender greenthread), *Calylophus* sp. (sundrops), *Chaetopappa ericoides* (heath least-daisy), *Krameria lanceolata* (trailing ratany), *Zinnia grandiflora* (plains zinnia), and *Melampodium leucanthum* (plains blackfoot), may also be present. Shrub canopy may be dense, with some species reaching tree stature, and on some sites forming sparse woodland. Shrub and tree species include *Juniperus pinchotii* (redberry juniper), *Juniperus ashei* (Ashe juniper), *Prosopis glandulosa* (honey mesquite), *Rhus trilobata* (skunkbush sumac), *Rhus microphylla* (littleleaf sumac), *Dalea formosa* (feather dalea), *Ziziphus obtusifolia* (lotebush), *Ephedra antisyphilitica* (joint-fir), *Artemisia filifolia* (sand sage), *Mahonia trifoliolata* (agarito), *Cercocarpus montanus* (true mountain mahogany), *Quercus mohriana* (Mohr's shin oak), and *Gutierrezia sarothrae* (broom snakeweed). Occurrences over gypsiferous formations (such as the Permian Blaine Formation) are mapped separately, though they are compositionally very similar to the typical type. Some species that may suggest the presence of gypsum influence include *Nama stevensii* (Stevens' fiddleleaf), *Calylophus berlandieri* (Berlandier's evening primrose), *Phacelia integrifolia* (gyp phacelia), *Thelesperma megapotamicum* (Navajo tea), and *Haploesthes greggii* (false broomweed), but these species may or may not be present at all sites. The gyp breaks tend to have sparser shrub canopy, reduced herbaceous cover, and more visible bare ground, sometimes with exposed gypsum strata visible.

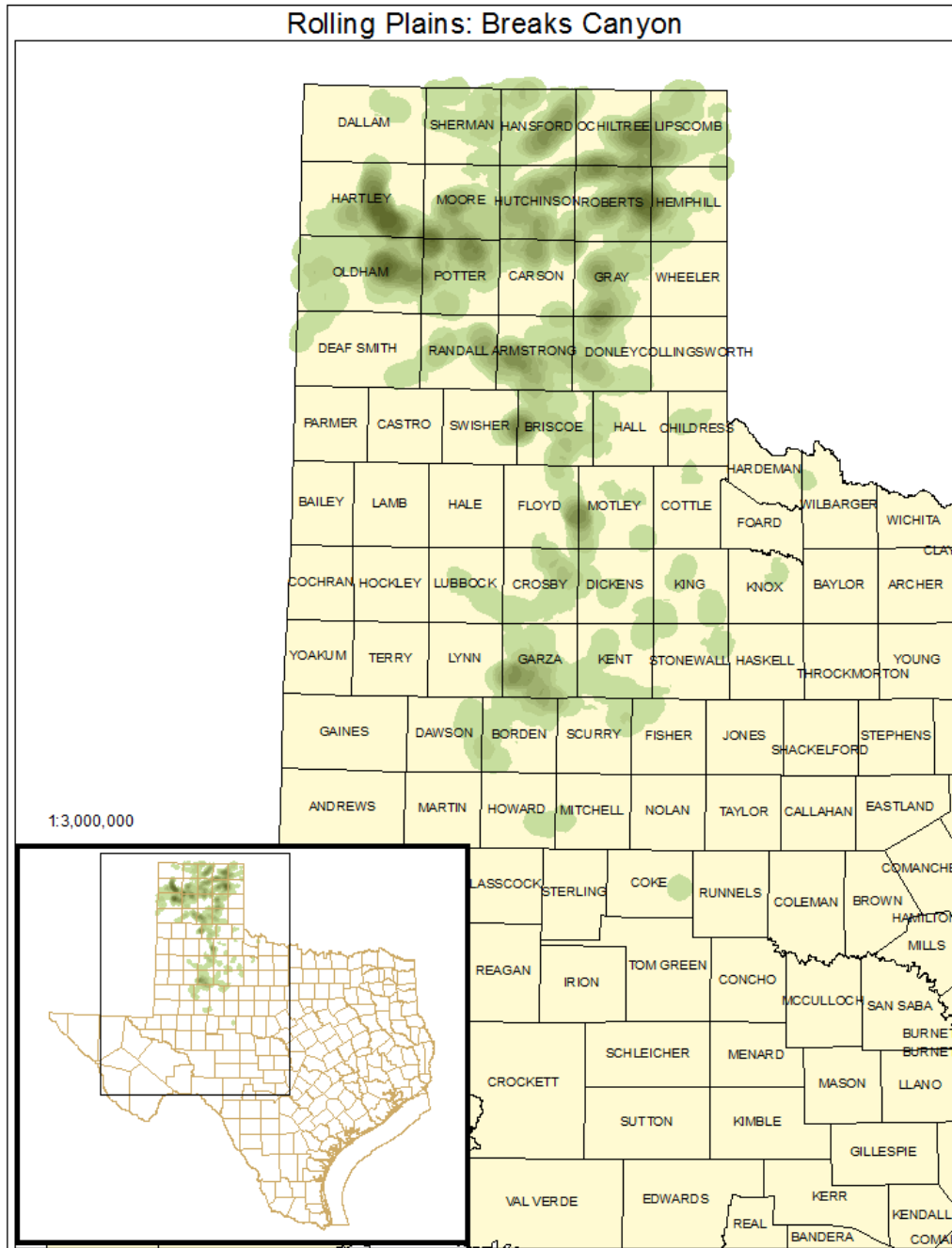
**ECOLOGICAL MAPPING SYSTEMS:**

**ROLLING PLAINS: BREAKS CANYON**

**Mapping System ID:** 2100

**EMS Description:** Areas of the breaks and canyons that lack significant vegetative cover.

**Distribution Map:**



**Example:**



**Public Land Occurrence:**

Copper Breaks State Park: Texas Parks & Wildlife Department

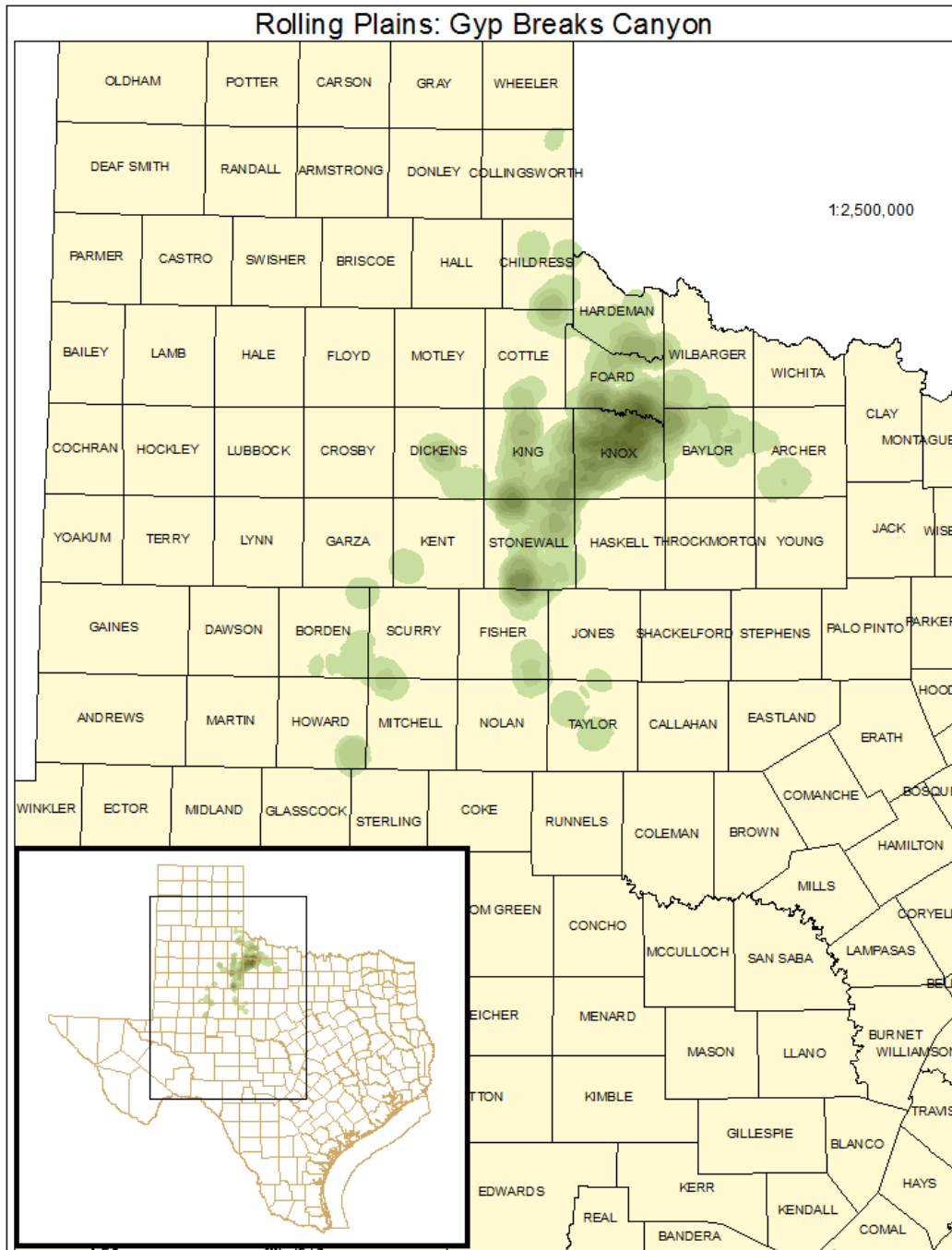
E.V. Spence Reservoir Recreation Area: Texas Parks & Wildlife Department

## ROLLING PLAINS: GYP BREAKS CANYON

Mapping System ID: 2110

**EMS Description:** Areas of breaks and canyons occurring on, or influenced by, gypsiferous formations and lacking significant vegetative cover.

**Distribution Map:**



**Example:**

*Not available at this time.*

**Public Land Occurrence:**

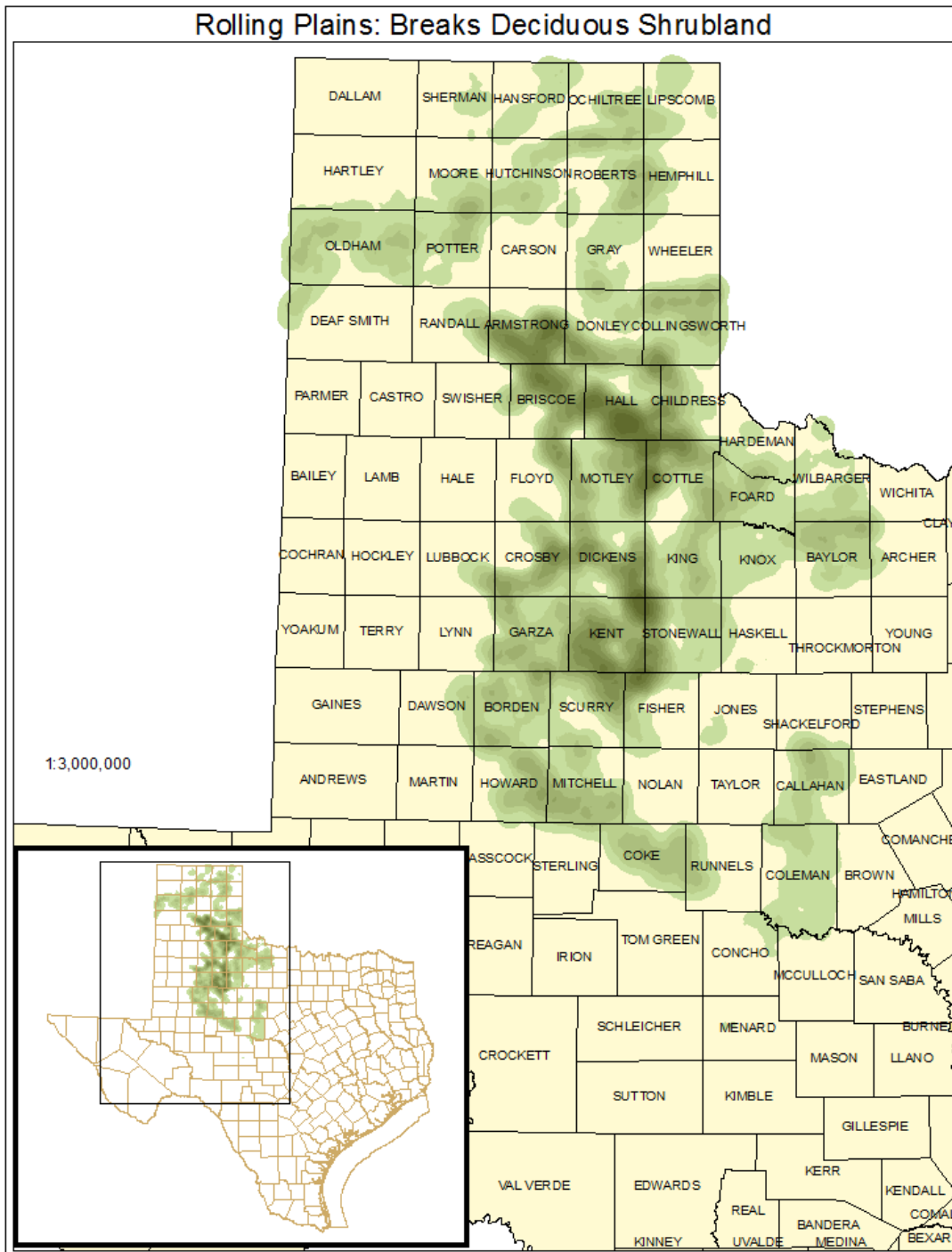
Copper Breaks State Park: Texas Parks & Wildlife Department

## ROLLING PLAINS: BREAKS DECIDUOUS SHRUBLAND

**Mapping System ID:** 2106

**EMS Description:** As described for the system.

**Distribution Map:**





**Example:**



**Public Land Occurrence:**

Big Spring State Park: Texas Parks & Wildlife Department

Copper Breaks State Park: Texas Parks & Wildlife Department

E.V. Spence Reservoir Recreation Area: Texas Parks & Wildlife Department

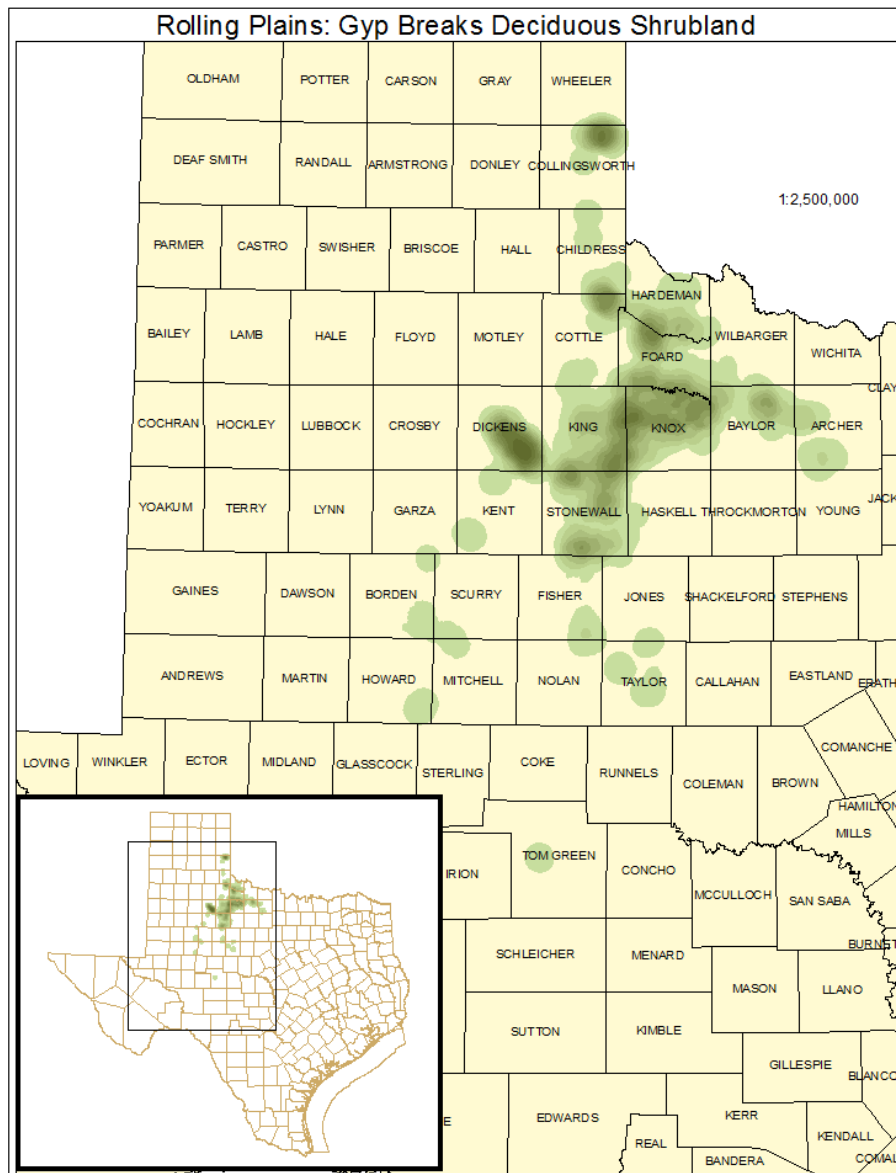
Matador Wildlife Management Area: Texas Parks & Wildlife Department

## ROLLING PLAINS: GYP BREAKS DECIDUOUS SHRUBLAND

**Mapping System ID:** 2116

**EMS Description:** Deciduous shrublands associated with breaks associated with gypsiferous formations. These shrublands are compositionally very similar to Rolling Plains: Breaks Deciduous Shrubland but are often somewhat less dense, have a sparser herbaceous layer, and bare ground beneath the shrub layer is more conspicuous. Some species that may be present to indicate the gyp nature of a site include *Nama stevensii* (Stevens' fiddleleaf), *Calylophus berlandieri* (Berlandier's evening primrose), *Phacelia integrifolia* (gyp phacelia), *Thelesperma megapotamicum* (Navajo tea), and *Haploesthes greggii* (false broomweed).

**Distribution Map:**





**Example:**

*Not available at this time.*

**Public Land Occurrence:**

Abilene State Park: Texas Parks & Wildlife Department

Copper Breaks State Park: Texas Parks & Wildlife Department

San Angelo State Park: Texas Parks & Wildlife Department

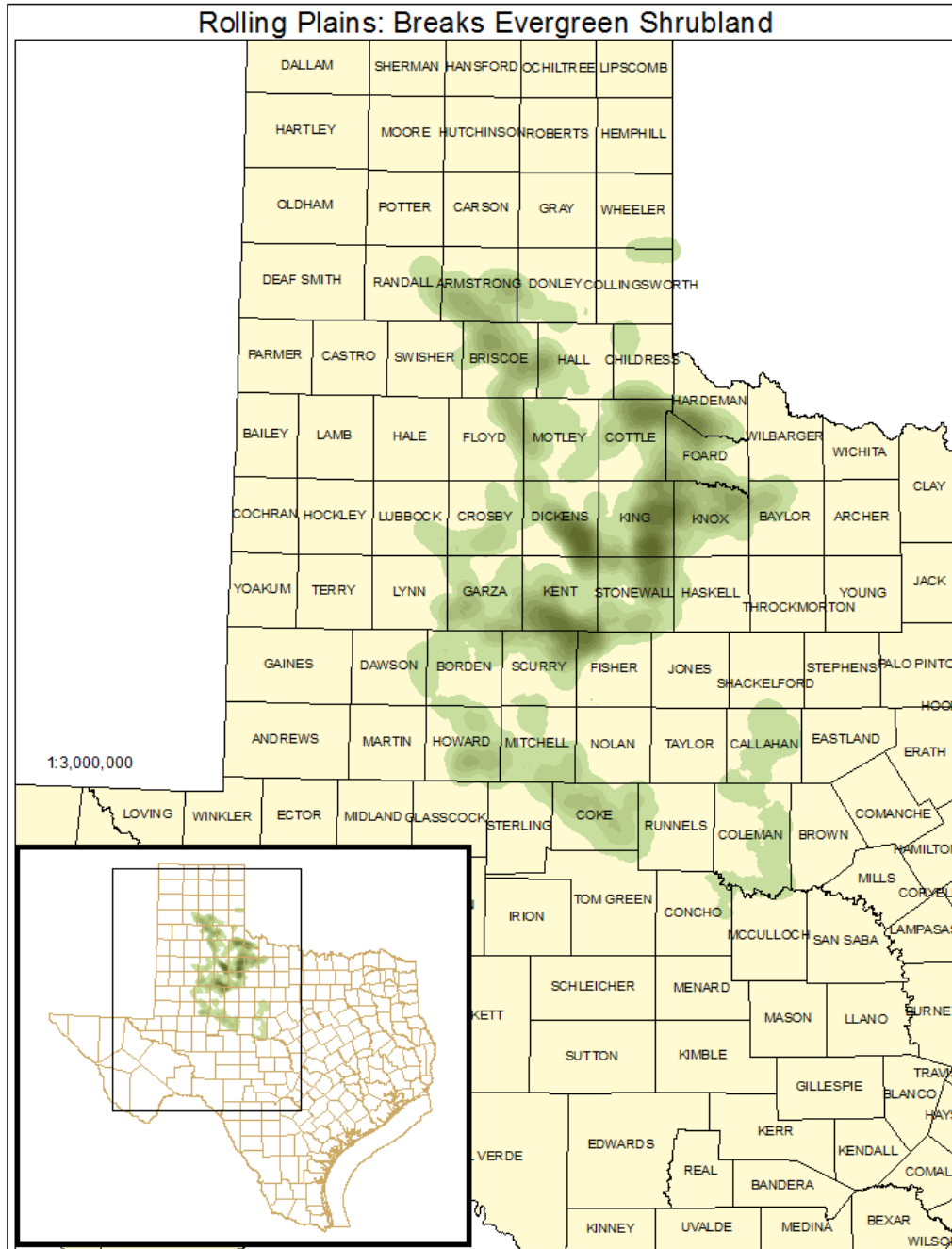
Twin Butte Reservoir Recreation Area: Texas Parks & Wildlife Department

## ROLLING PLAINS: BREAKS EVERGREEN SHRUBLAND

Mapping System ID: 2105

**EMS Description:** As described for the system, but shrub cover with significant amounts of evergreen species such as *Juniperus pinchotii* (redberry juniper) or, to a lesser extent, *Juniperus ashei* (Ashe juniper).

**Distribution Map:**



**Example:**



**Public Land Occurrence:**

Copper Breaks State Park: Texas Parks & Wildlife Department

E.V. Spence Reservoir Recreation Area: Texas Parks & Wildlife Department

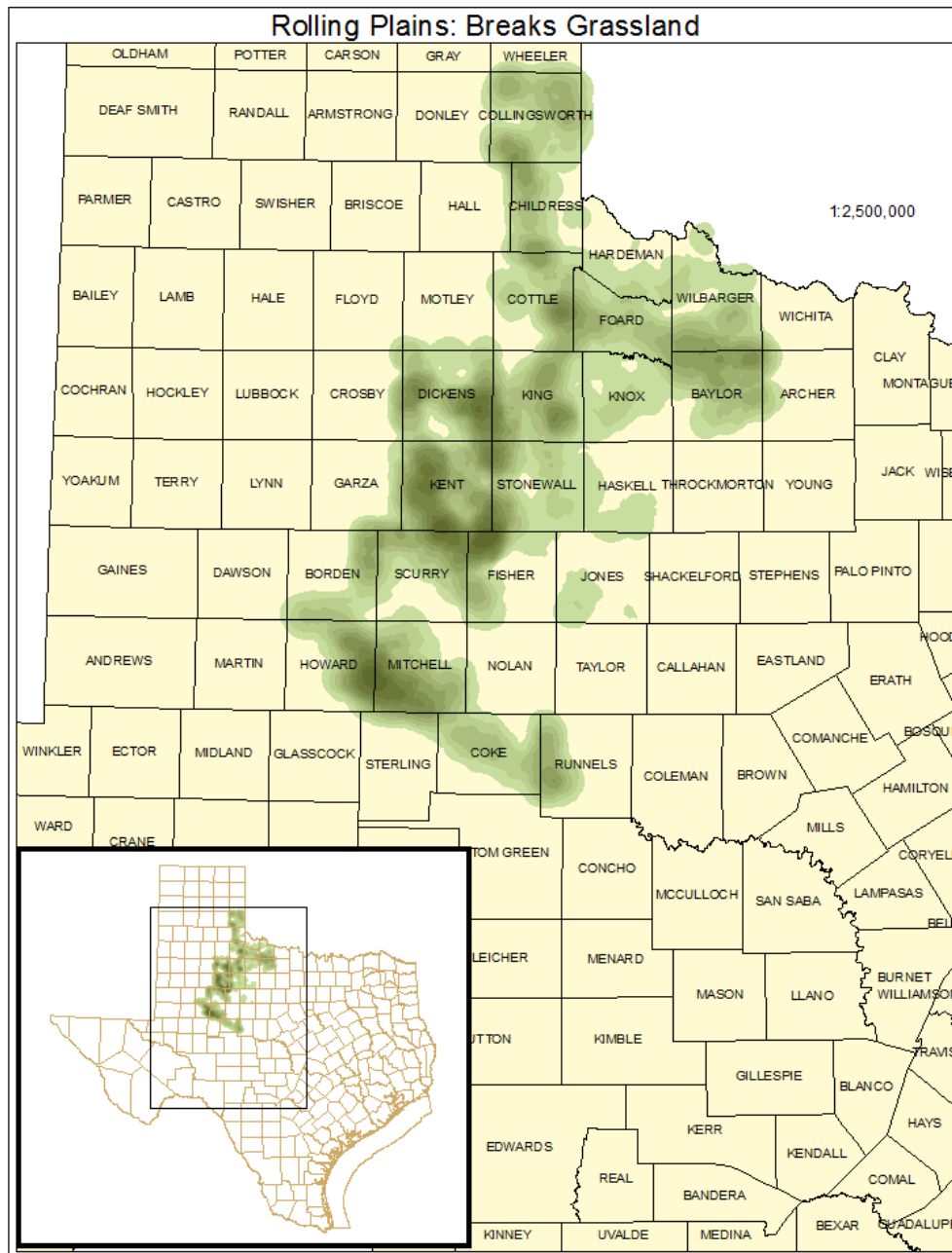
Matador Wildlife Management Area: Texas Parks & Wildlife Department

## ROLLING PLAINS: BREAKS GRASSLAND

Mapping System ID: 2107

**EMS Description:** This type has reduced shrub canopy cover and is typically dominated by graminoids, including *Schizachyrium scoparium* (little bluestem), *Bouteloua curtipendula* (sideoats grama), *Bothriochloa laguroides* ssp. *torreyana* (silver bluestem), *Pleuraphis mutica* (tobosa), *Bouteloua dactyloides* (buffalograss), and *Tridens muticus* (slim tridens).

### Distribution Map:



**Example:**



**Public Land Occurrence:**

Copper Breaks State Park: Texas Parks & Wildlife Department

E.V. Spence Reservoir Recreation Area: Texas Parks & Wildlife Department

Matador Wildlife Management Area: Texas Parks & Wildlife Department

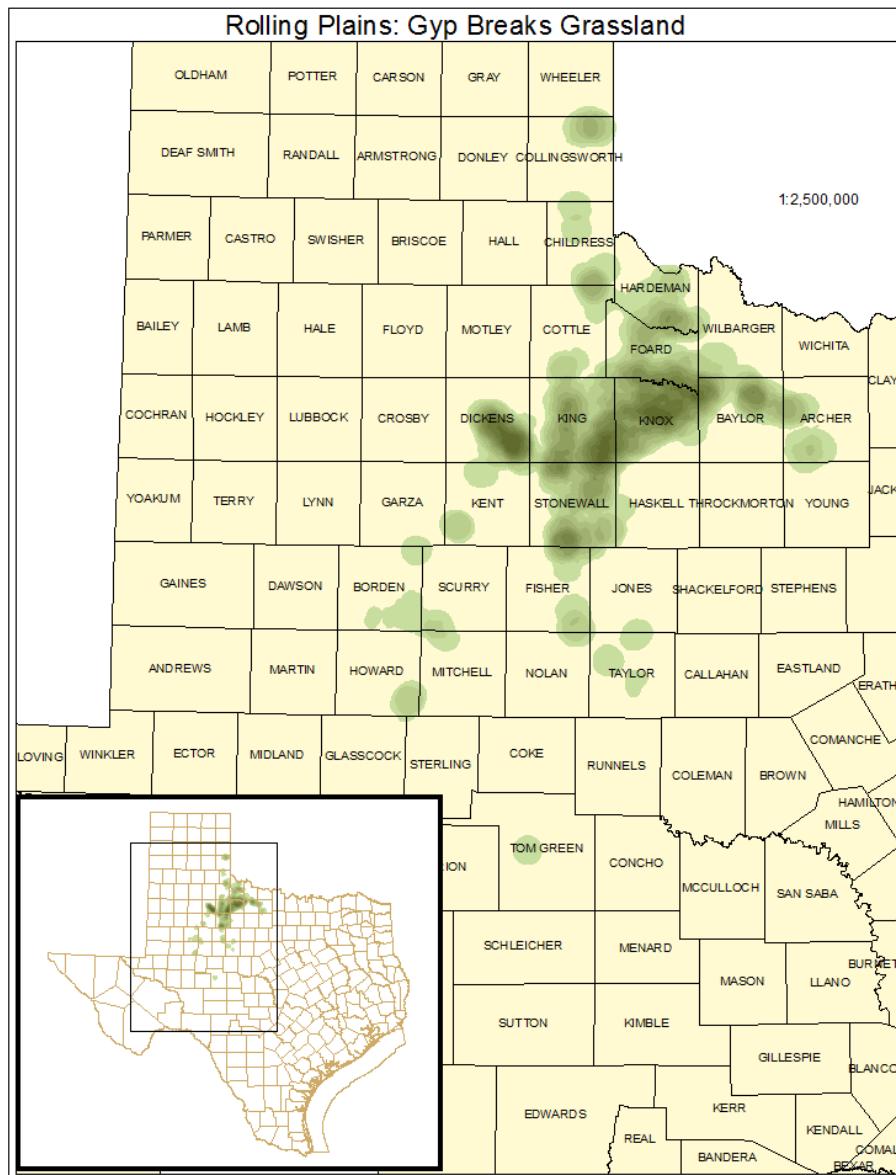


## ROLLING PLAINS: GYP BREAKS GRASSLAND

**Mapping System ID:** 2117

**EMS Description:** Similar to Rolling Plains: Breaks Grassland but occupying substrate with some gyp influence. Herbaceous cover is typically somewhat reduced with more exposed bare earth, sometimes with gypsum strata visible at the surface. Composition typically resembles the Rolling Plains: Breaks Grassland, though species such as *Nama stevensii* (Stevens' fiddleleaf), *Calylophus berlandieri* (Berlandier's evening primrose), *Phacelia integrifolia* (gyp phacelia), *Thelesperma megapotamicum* (Navajo tea), and *Haploesthes greggii* (false broomweed) may be present.

**Distribution Map:**



**Example:**

*Not available at this time.*

**Public Land Occurrence:**

Abilene State Park: Texas Parks & Wildlife Department

Copper Breaks State Park: Texas Parks & Wildlife Department

San Angelo State Park: Texas Parks & Wildlife Department

Twin Butte Reservoir Recreation Area: Texas Parks & Wildlife Department