WEST GULF COASTAL PLAIN PINE-HARDWOOD FOREST

Nature Serve ID: CES203.378

Geology: This system is widespread and forms the matrix of the West Gulf Coastal Plain of Texas and therefore occurs on numerous Cenozoic sedimentary formations and some Cretaceous formations of the Mesozoic era. These formations range from sandstone, shale, alluvium, and conglomerate, to marl, with glauconitic formations (Weches) and tuffaceous formations (Catahoula) present.

Landform: The system occurs over a wide variety of landforms, with drier expressions occurring on hilltops and ridges. It occupies slopes and lower landscape positions, where conditions are more mesic, and composition of the system varies across these gradients.

Soils: Numerous soil types are occupied by this system, but are generally alfisols or ultisols. Soils most commonly encountered are sands and loams.

Parent Description: This upland system forms the matrix over much of the West Gulf Coastal Plain. This is particularly the case outside of the range of *Pinus palustris* (longleaf pine). Within the range of *Pinus palustris* (longleaf pine), the historical matrix was often dominated by that species and should be mapped as West Gulf Coastal Plain Upland Longleaf Pine Forest and Woodland (CES203.293). However, given the current patchy distribution of *Pinus palustris* (longleaf pine), the prevalence of plantings of *Pinus taeda* (loblolly pine) and *Pinus elliottii* (slash pine), and the difficulty in identifying the system on the basis of remote-sensing data, we chose to include occurrences of this more restricted system within the West Gulf Coastal Plain Pine-Hardwood Forest. The system occupies a range of topographic and edaphic conditions, replaced by other systems in areas where unique abiotic conditions result in occurrences of other, more restricted, systems. Typical pines that dominate these sites are *Pinus taeda* (loblolly pine) and *Pinus echinata* (shortleaf pine), though *Pinus palustris* (longleaf pine) may also be present to dominant, within its range. Historically, *Pinus echinata* (shortleaf pine) dominated drier sites, especially to the north. *Pinus taeda* (loblolly pine) was less dominant than in the current landscape, and occupied less dry sites and became more conspicuous to the south. Seventy-five percent or more of the canopy of some occurrences may be occupied by pines, often *Pinus taeda* (loblolly pine). Typical deciduous hardwoods conspicuous in this system include *Liquidambar styraciflua* (sweetgum), *Carya texana* (black hickory), *Quercus stellata* (post oak), *Quercus falcata* (southern red oak), *Quercus alba* (white oak), *Quercus nigra* (water oak), *Ulmus alata* (winged elm), *Ulmus crassifolia* (cedar elm), and *Nyssa sylvatica* (blackgum). Some sites may be primarily deciduous, with 75% or more of the canopy cover occupied by hardwoods. *Ilex vomitoria* (yaupon), saplings and seedlings of overstory species, *Callicarpa americana* (American beautyberry), *Morella cerifera* (wax-myrtle), *Vaccinium arboreum* (farkleberry), and *Cornus florida* (flowering dogwood) commonly occupy the shrub layer, which may be well-developed, with understory canopy cover to 40% or more. Woody vines in this system may be conspicuous and often include *Smilax bona-nox* (saw greenbrier), *Vitis* spp. (grape, often *Vitis rotundifolia* (muscadine grape)), *Parthenocissus quinquefolia* (Virginia creeper), and *Toxicodendron radicans* (poison ivy). The herbaceous layer is generally sparse (often < 20% cover), with *Schizachyrium scoparium* (little bluestem), *Chasmanthium laxum* (slender woodoats), *Chasmanthium sessiliflorum* (narrowleaf woodoats), and *Pteridium aquilinum* (brackenfern) often present to dominant. Forests with dense tree cover (especially evergreen cover), have reduced shrub and herbaceous cover.

Herbaceous cover may be additionally limited by dense litter accumulation. Few occurrences of this system can be considered old growth, and much of the system, as it is mapped, constitutes pine plantations or sites recovering from previous logging. *Pinus elliottii* (slash pine) may be used in some plantations.

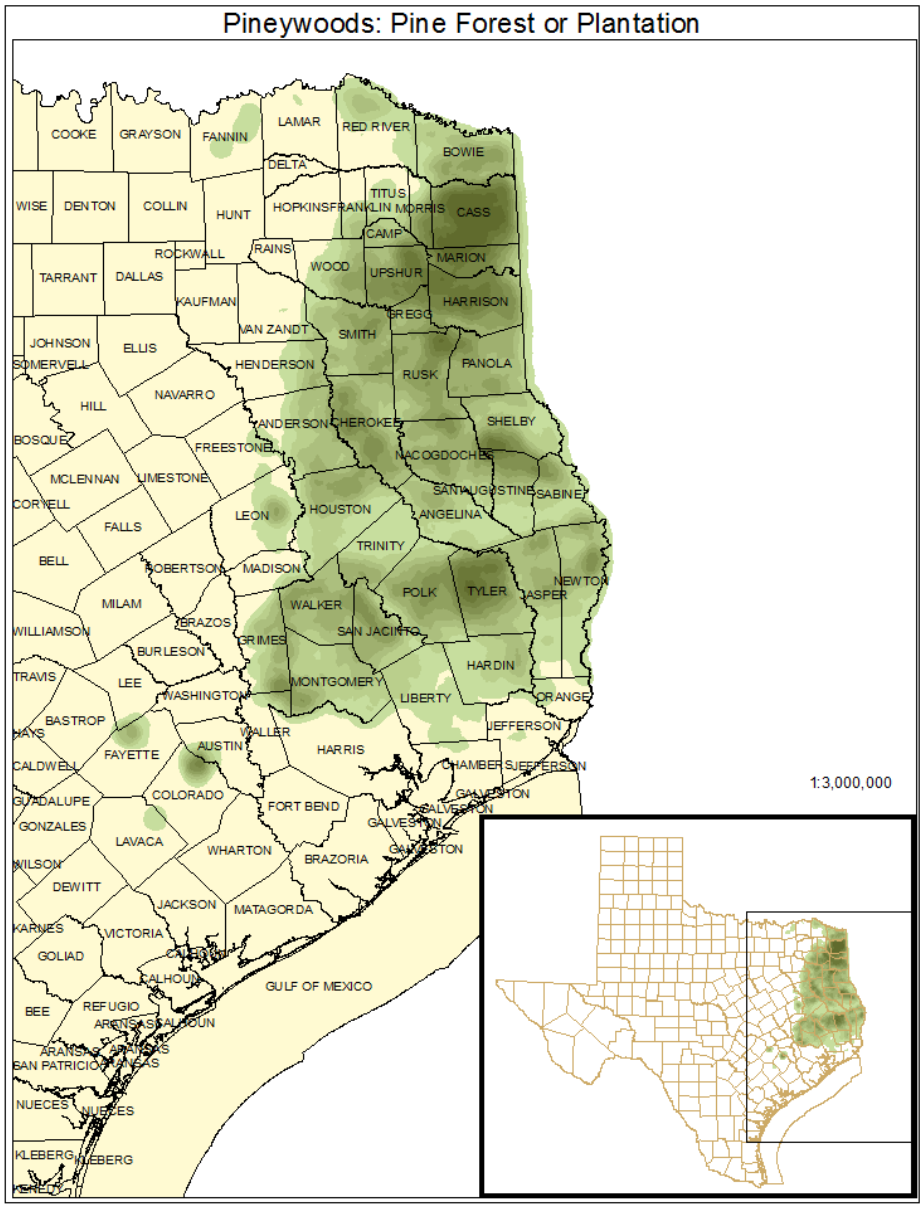
ECOLOGICAL MAPPING SYSTEMS:

PINEYWOODS: PINE FOREST OR PLANTATION

Mapping Systems ID: 3001

EMS Description: This represents the typical type for the system where the canopy is dominated by pines. Many sites actually represent pine plantations and managed forests, and discriminating between natural pine forest and plantation is problematic using our mapping methods. More than half of the area mapped for this system is represented by this vegetation type, and *Pinus taeda* (loblolly pine) predominates.

Distribution Map:



Example:

Public Land Occurrences:

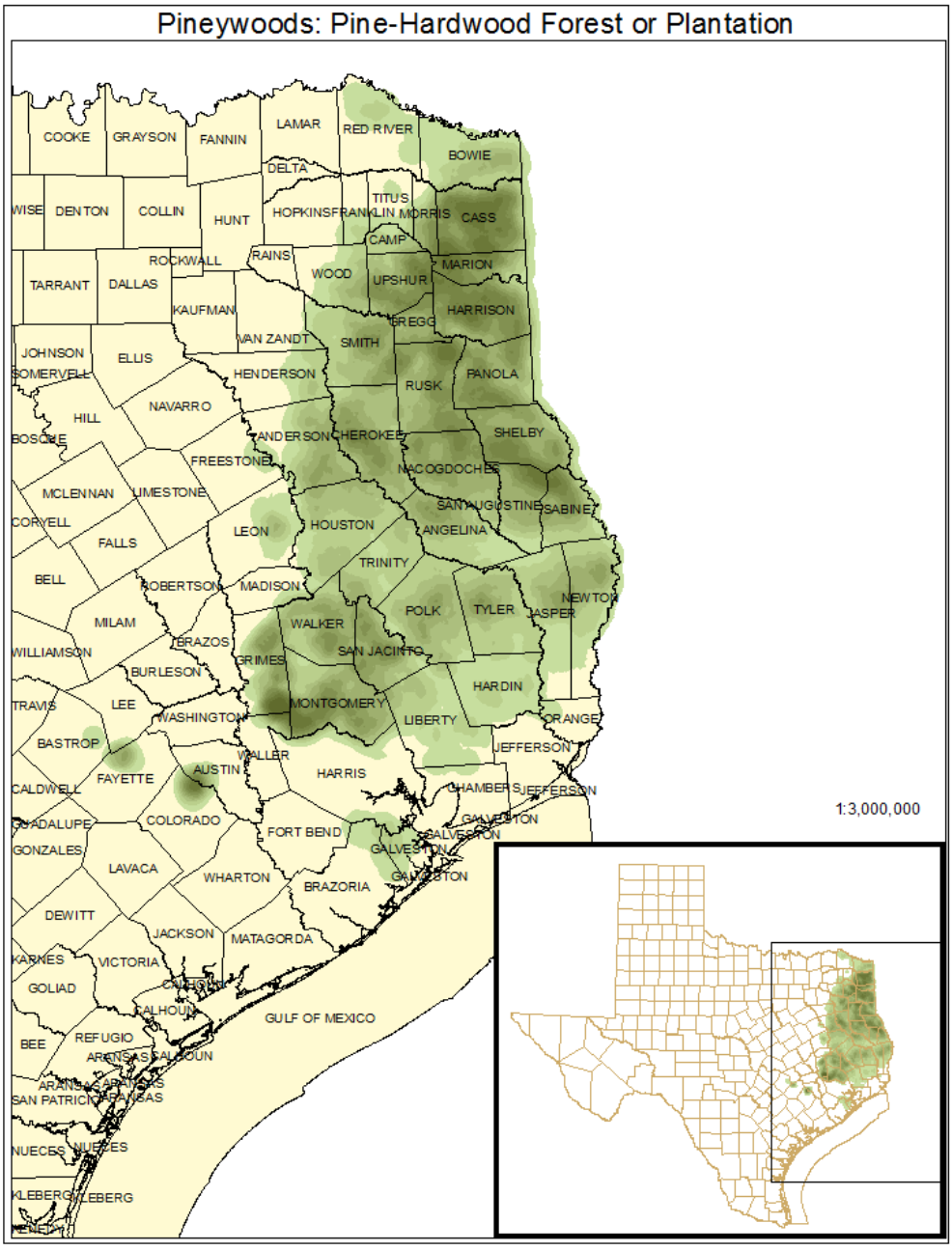
Angelina National Forest: US Forest Service
Big Thicket National Preserve: US National Park Service
Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department
Davy Crockett National Forest: US Forest Service
Sam Houston National Forest Wildlife Management Area: Texas Parks & Wildlife Department
Sabine National Forest: US Forest Service

PINWEYWOODS: PINE – HARDWOOD FOREST AND PLANTATION

Mapping Systems ID: 3003

EMS Description: Less commonly encountered type with mixed evergreen/deciduous canopy cover, not occupying dry landscape positions such as hilltops and ridgetops. This is typically managed forest of *Pinus taeda* (loblolly pine), with various hardwood species co-dominant in the canopy.

Distribution Map:



Example:

Public Land Occurrences:

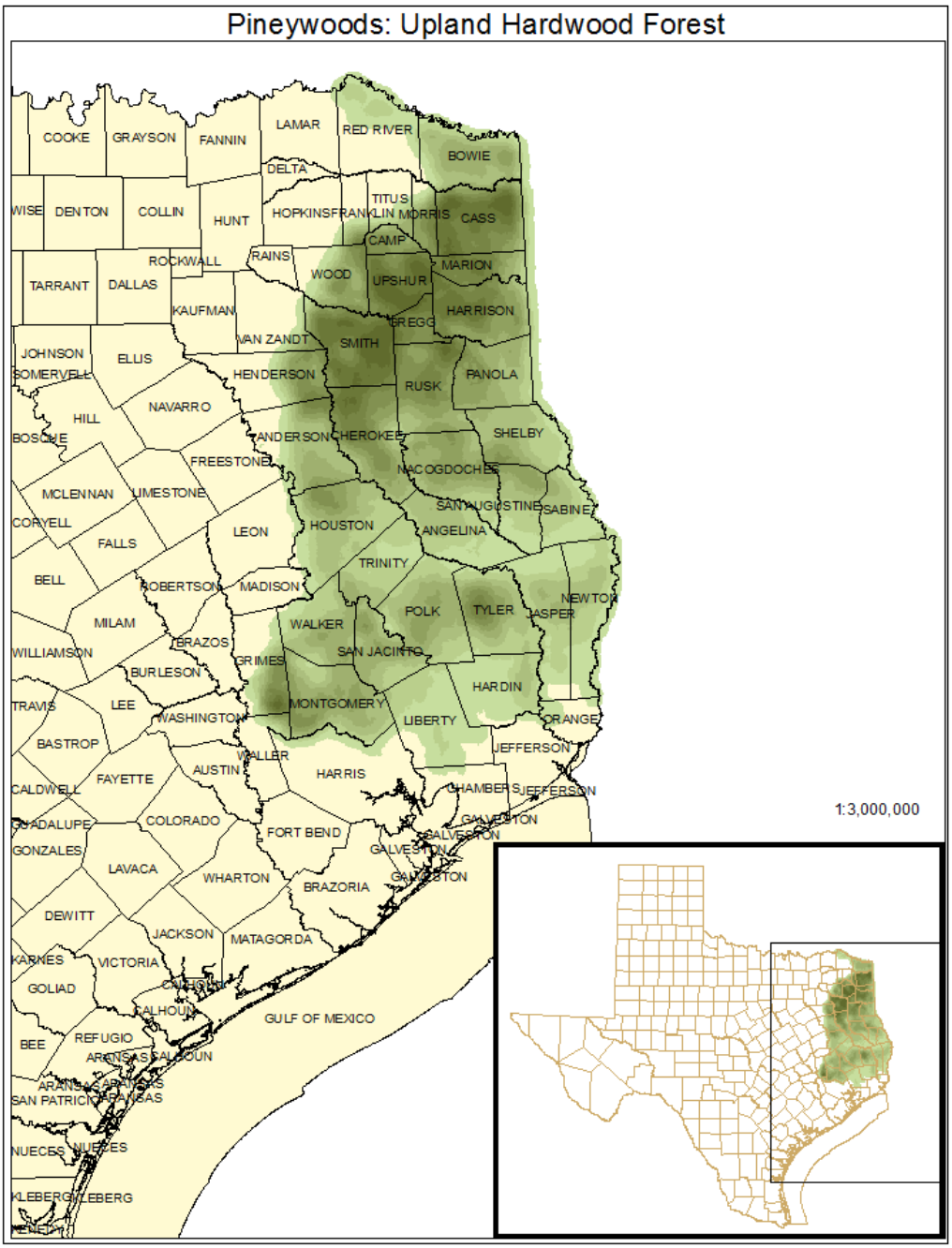
Angelina National Forest: US Forest Service
Big Thicket National Preserve: US National Park Service
Davy Crockett National Forest: US Forest Service
Sam Houston National Forest Wildlife Management Area: Texas Parks & Wildlife Department
Sabine National Forest: US Forest Service

PINEYWOODS: UPLAND HARDWOOD FOREST

Mapping Systems ID: 3004

EMS Description: This is a commonly encountered vegetation type of the system, making up about a third of the areal extent of the system. It is dominated by deciduous hardwoods, but may (and often does) have some cover of pine, usually *Pinus taeda* (loblolly pine).

Distribution Map:



Example Map:

Public Land Occurrences:

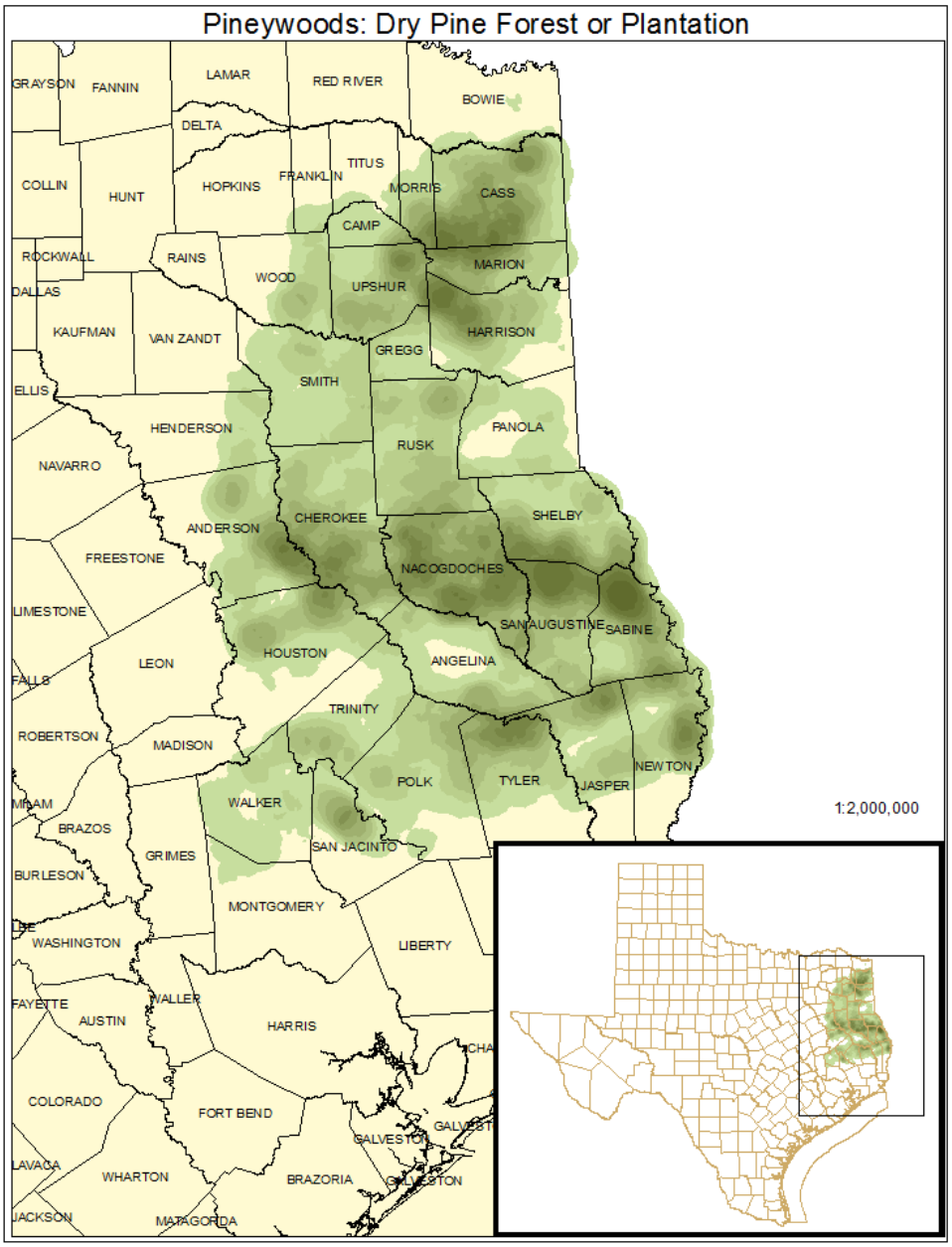
Angelina National Forest: US Forest Service
Big Thicket National Preserve: US National Park Service
Caddo National Grasslands Wildlife Management Area: Texas Parks & Wildlife Department
Davy Crockett National Forest: US Forest Service
Sabine National Forest: US Forest Service
Sam Houston National Forest Wildlife Management Area: Texas Parks & Wildlife Department
Wright Patman Lake: US Army Corps of Engineers

PINEYWOODS: DRY PINE FOREST OR PLANTATION

Mapping Systems ID: 3011

EMS Description: This is the pine dominated vegetation type that occupies high landscape positions, such as hilltops and ridgetops. Relative to *Pinus taeda* (loblolly pine), *Pinus echinata* (shortleaf pine) tends to be better represented in this drier landscape position. Hardwood species of drier sites, such as *Quercus stellata* (post oak), *Quercus marilandica* (blackjack oak), *Liquidambar styraciflua* (sweetgum), and/or *Carya texana* (black hickory) may be present.

Distribution Map:



Example:

Public Land Occurrences:

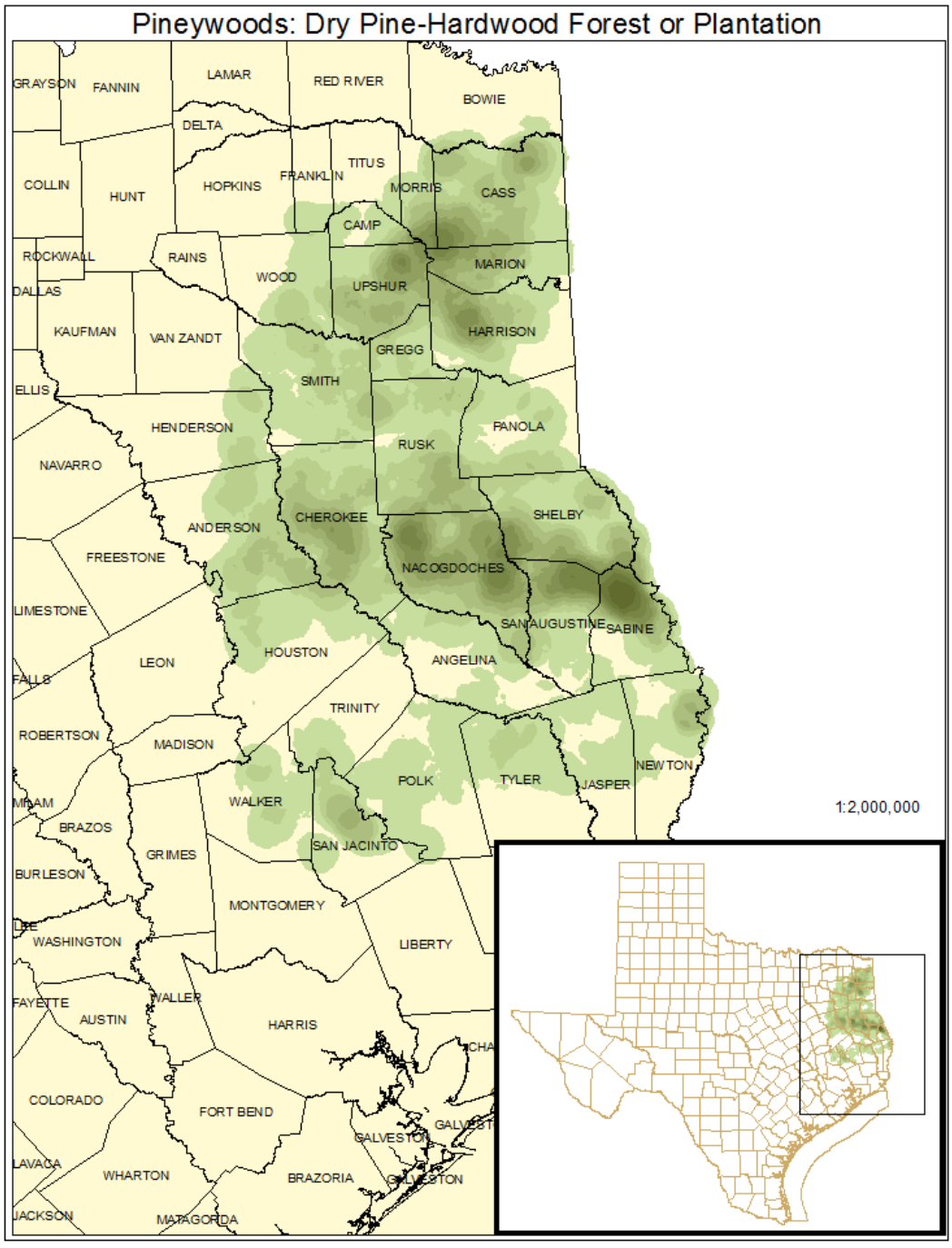
Angelina National Forest: US Forest Service
Davy Crockett National Forest: US Forest Service
Sabine National Forest: US Forest Service
Sam Houston National Forest Wildlife Management Area: Texas Parks & Wildlife Department
Tyler State Park: Texas Parks & Wildlife Department
Wright Patman Lake: US Army Corps of Engineers

PINEYWOODS: DRY PINE – HARDWOOD FOREST AND PLANTATION

Mapping Systems ID: 3013

EMS Description: This vegetation type occupies high landscape positions and has a mixed deciduous/evergreen canopy.

Distribution Map:



Example:

Public Land Occurrences:

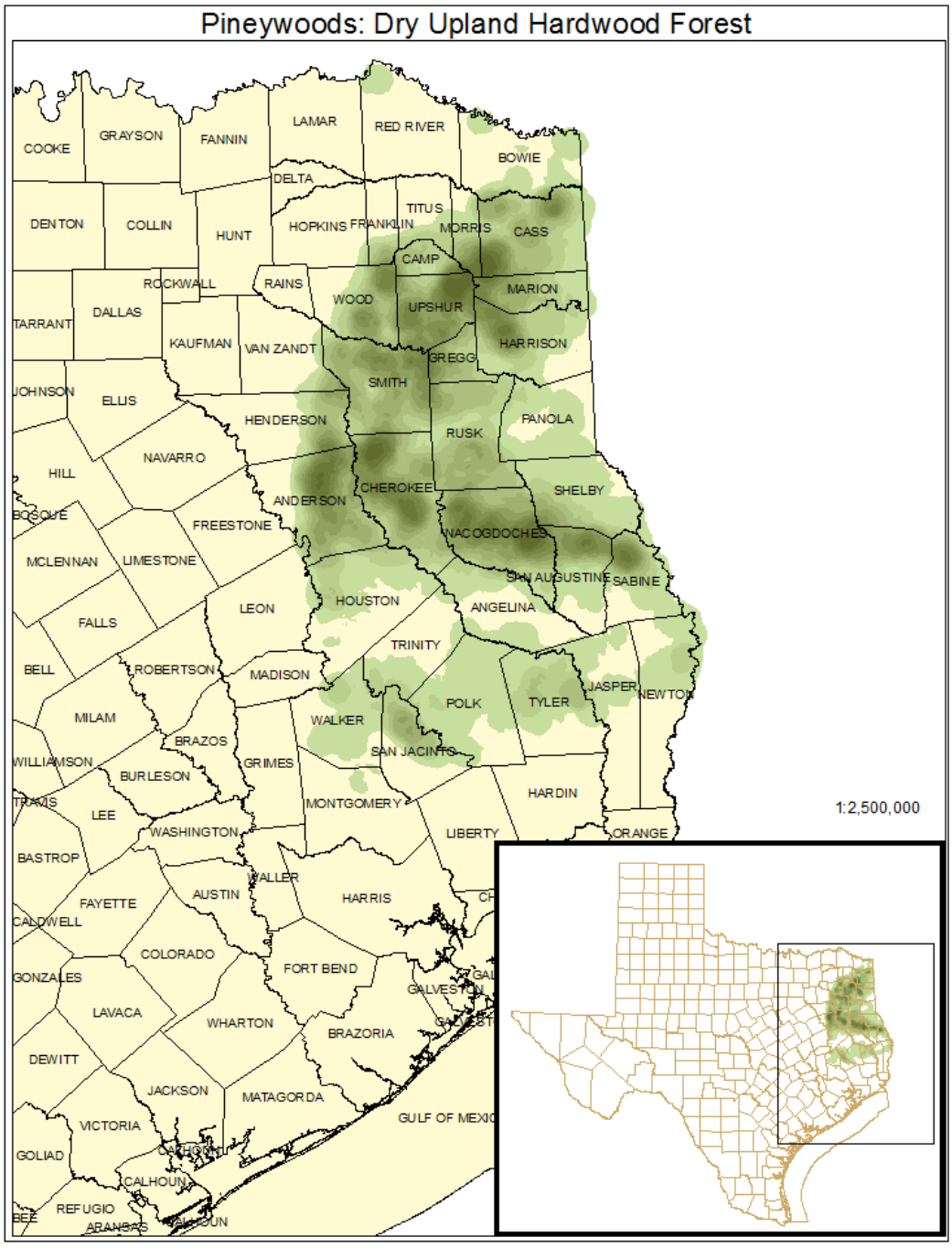
Angelina National Forest: US Forest Service
Sabine National Forest: US Forest Service
Wright Patman Lake: US Army Corps of Engineers

PINEYWOODS: DRY UPLAND HARDWOOD FOREST

Mapping Systems ID: 3014

EMS Description: This vegetation type has a deciduous dominated canopy and occupies high landscape positions.

Distribution Map:



Example:

Public Land Occurrences:

Angelina National Forest: US Forest Service
Caddo National Grasslands Wildlife Management Area: Texas Parks & Wildlife Department
Sabine National Forest: US Forest Service
White Oak Creek Wildlife Management Area: Texas Parks & Wildlife Department
Wright Patman Lake: US Army Corps of Engineers