RIO GRANDE DELTA THORN WOODLAND AND SHRUBLAND

Nature Serve ID: *Previously undescribed system.*

Geology: Quaternary alluvium.

Landform: Sites within the historic floodplain of the Rio Grande delta, typically on slight rises such as old natural levees or resaca banks.

Soils: Often on Clayey or Loamy Bottomland Ecological Sites, but occasionally on Clay Loam or Gray Sandy Loam types.

Description: This diverse, usually broad-leaved evergreen, woodland is found on resaca banks and old natural levees on the Rio Grande delta. Sites are well-watered, somewhat elevated relative to the surrounding landscape, and tend to occupy loamy or clayey bottomland soils. Occasionally occurrences can be found on clay loams (such as Raymondville or Racombes soils) or gray sandy loams (such as Hidalgo sandy clay loam). The sometimes patchy canopy of these woodlands often contains species such as *Ebenopsis ebano* (Texas ebony), *Ehretia anacua* (anacua), *Celtis laevigata* (sugar hackberry), *Ulmus crassifolia* (cedar elm), and *Celtis ehrenbergiana* (granjeno), and may reach heights of 15 m. Species such as *Phaulothamnus spinescens* (snake-eyes), *Amyris madrensis* (Sierra Madre torchwood), *Amyris texana* (Texas torchwood), *Diospyros texana* (Texas persimmon), *Leucaena pulverulenta* (tepeguaje), *Guaiacum angustifolium* (guayacan), *Malpighia glabra* (Barbados cherry), *Adelia vaseyi* (Vasey's adelia), *Bernardia myricifolia* (oreja de raton), *Sideroxylon celastrinum* (la coma), *Condalia hookeri* (brasil), *Forestiera angustifolia* (desert olive), *Havardia pallens* (tenaza), *Iresine palmeri* (Palmer's bloodleaf), *Trixis inula* (tropical trixis), *Xylosma flexuosa* (brush-holly), and *Randia rhagocarpa* (crucillo) may occur as shrubs or in the sub-canopy, and some individuals of a few of these species may reach heights of 4 to 5 meters. This shrub or understory layer can be extremely dense, almost impenetrable. Woody cover, including the patchier overstory canopy and the almost continuous shrub/ understory layer, often reaches greater than 90%. This system is sometimes referred to as a tall shrubland, since shrubs are often the dominant lifeform, but frequently reach heights resembling the stature of woodland. *Prosopis glandulosa* (honey mesquite) may occasionally be absent or uncommon in the canopy, and is generally not dominant except in disturbed situations. The herbaceous layer is generally represented by a only a few species and is relatively sparse, with species such as *Rivina humilis* (pigeonberry), *Plumbago scandens* (climbing plumbago), *Celosia nitida* (West Indian cock's comb), *Chromolaena odorata* (crucita), *Leersia monandra* (bunch cutgrass), *Digitaria californica* (Arizona cottontop), *Setaria* spp. (bristlegrasses), *Salvia coccinea* (tropical sage), *Petiveria alliacea* (hierba de las gallinitas), *Malvastrum americanum* (Rio Grande false-mallow), *Urtica chamaedryoides* (slim stinging nettle), *Verbesina microptera* (southern frostweed), *Calyptocarpus vialis* (straggler daisy), and *Justicia pilosella* (hairy tubetongue) sometimes present. Vines such as *Serjania brachycarpa* (littlefruit slipplejack), *Urvillea ulmacea* (apaac), *Cocculus diversifolius* (orientvine), *Mikania scandens* (climbing hemp-weed), *Cardiospermum* spp. (balloon-vines), *Chiococca alba* (David's milkberry), *Cissus trifoliata* (ivy treebine), and *Passiflora* spp. (passionflowers) may also be commonly encountered. The rather rare epiphyte *Tillandsia baileyi* (Bailey's ballmoss) may be found in these woodlands, along with the more common *Tillandsia recurvata* (ballmoss) and *Tillandsia usneoides* (Spanish moss). Younger occurrences, especially those occupying drier sites, tend to present as shrublands, often dominated by similar, though shorter, canopy species. These occurrences also tend to be less diverse, lack the layered structure, and

usually support fewer epiphytes. This system differs from the related Tamaulipan Floodplain system in that it has higher diversity, a significant evergreen component to the canopy, a higher subtropical component to the species assemblage, is restricted in range to the Rio Grande delta and vicinity, and often occurs as slight rises in the otherwise relatively level landscape.

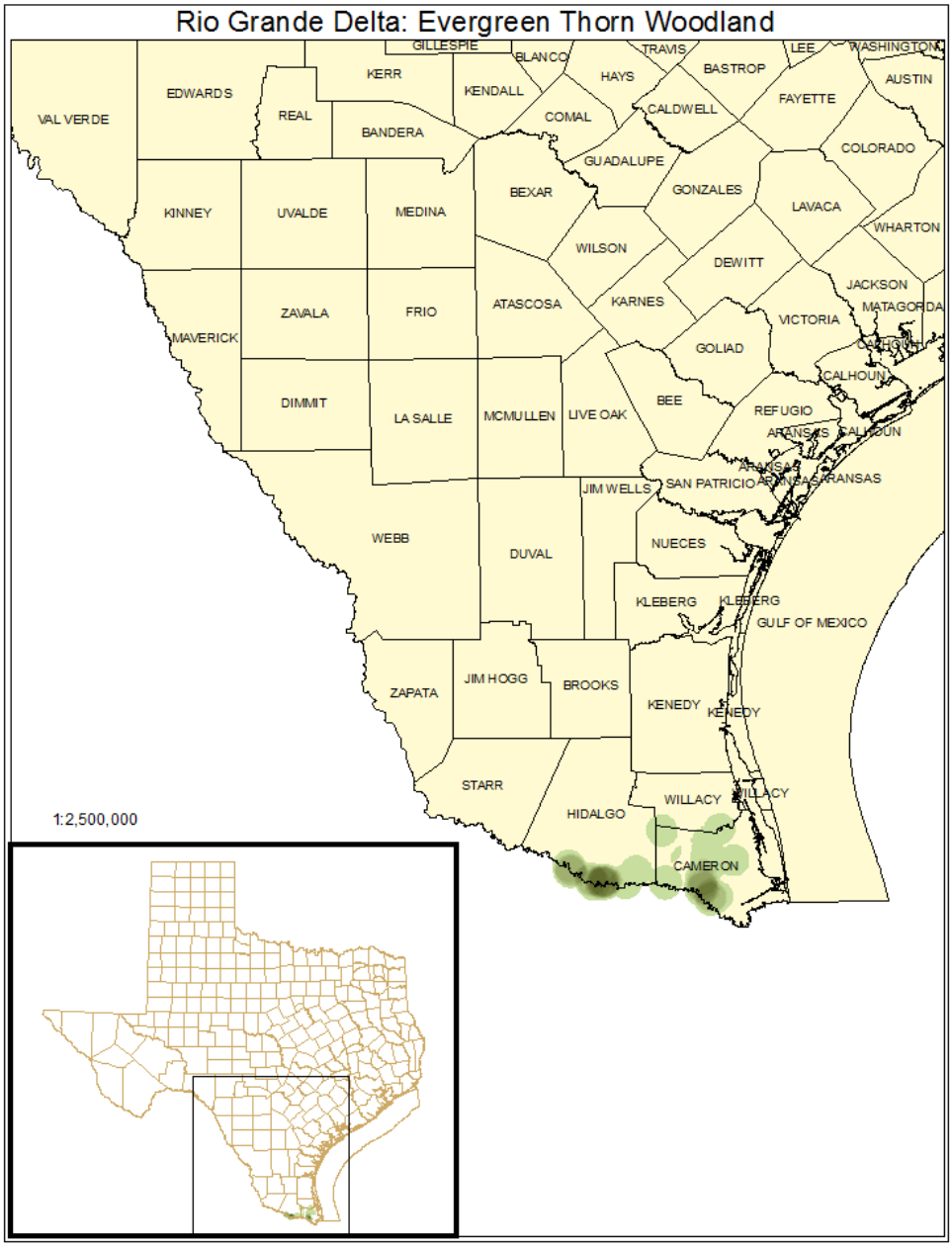
ECOLOGICAL MAPPING SYSTEMS:

RIO GRANDE DELTA: EVERGREEN THORN WOODLAND AND SHRUBLAND

Mapping System ID: 7802

EMS Description: Much of this system (>90%) is mapped as this type with broadleaf evergreen species such as *Ebenopsis ebano* (Texas ebony) and *Ehretia anacua* (anacua) making up a significant portion of the overstory canopy and a dense shrub layer of numerous species present.

Distribution Map:



Example:

Public Land Occurrence:

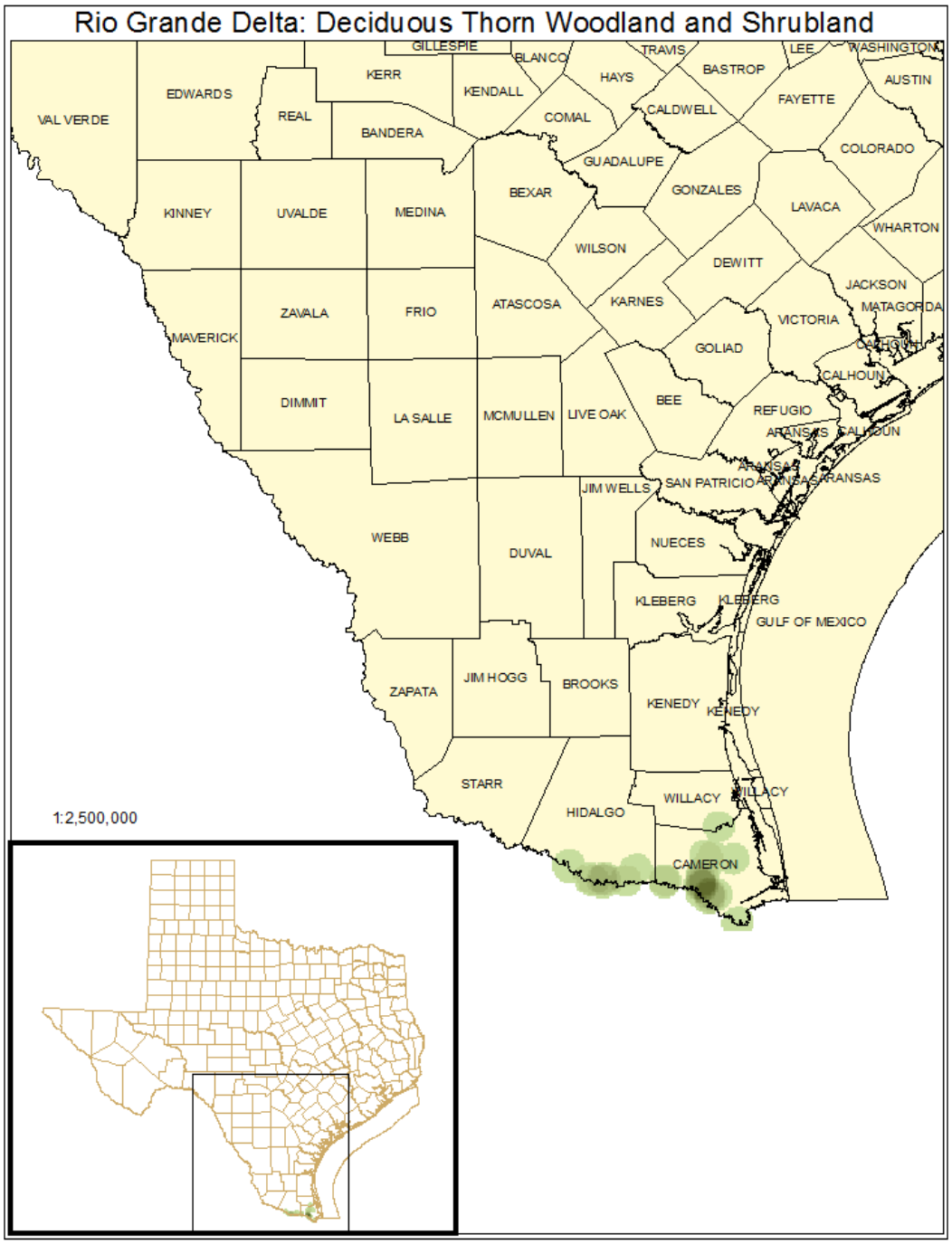
Estero Llano Grande State Park: Texas Parks & Wildlife Department
Estero Llano Grande: The World Birding Center
Las Palomas Wildlife Management Area-Arroyo-Colorado: Texas Parks & Wildlife Department
Lower Rio Grande Valley National Wildlife Refuge- El Morillo Banco Unit: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-Gabrielson: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-La Coma: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge- La Joya Unit: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-Madero: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-Ranchito: US Fish and Wildlife Service
Resaca De La Palma State Park: Texas Parks & Wildlife Department
Resaca De La Palma: The World Birding Center
Sabal Palm Sanctuary: Gorgas Science Foundation
Santa Ana National Wildlife Refuge: US Fish and Wildlife Service

RIO GRANDE DELTA: DECIDUOUS THORN WOODLAND AND SHRUBLAND

Mapping System ID: 7804

EMS Description: Woodlands with increased dominance of deciduous species such as *Celtis laevigata* (sugar hackberry), *Ulmus crassifolia* (cedar elm), and *Celtis ehrenbergiana* (granjeno).

Distribution Map:



Example:

Not available at this time.

Public Land Occurrence:

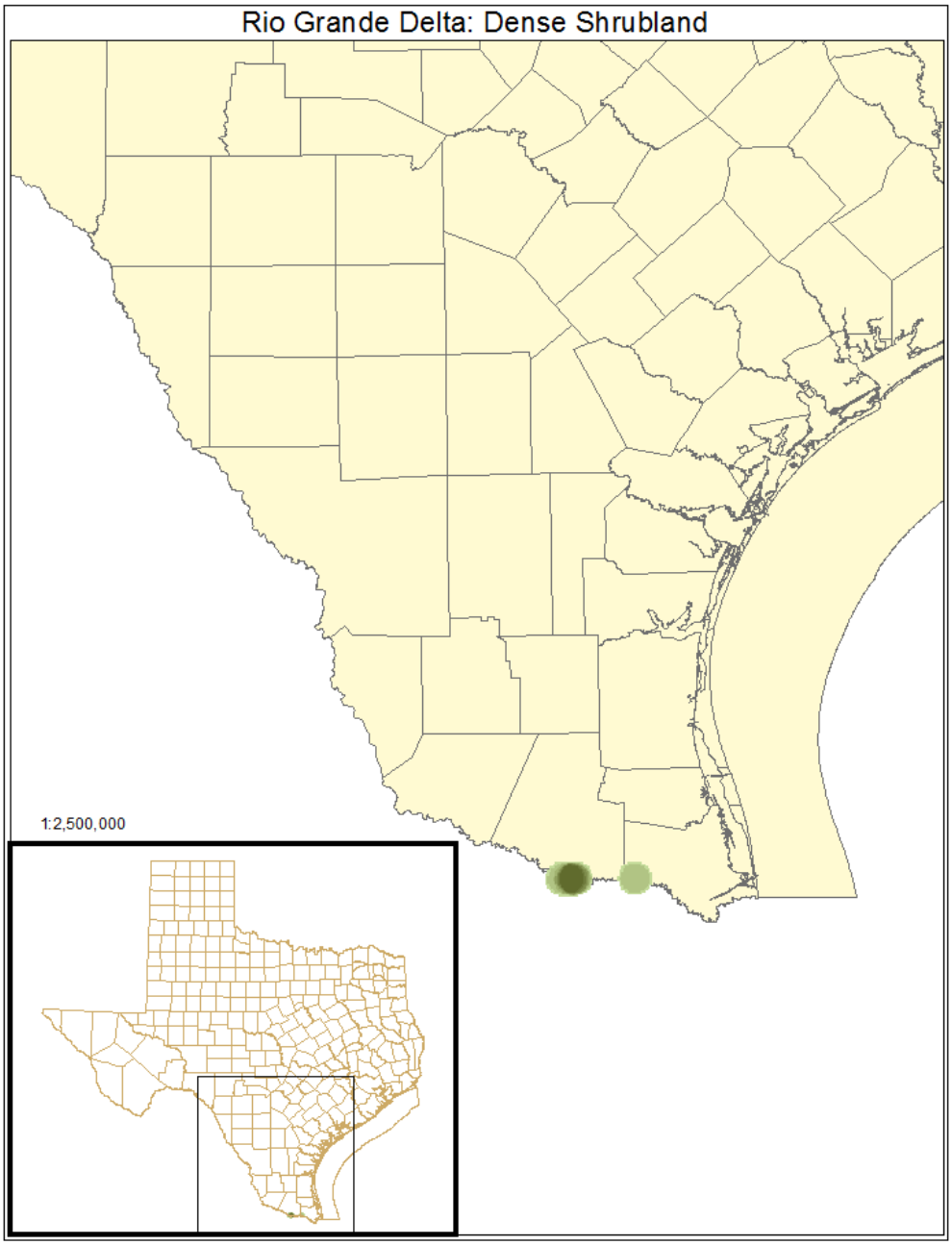
Bentsen-Rio Grande Valley (Mission): The World Birding Center
Bentsen-Rio Grande Valley State Park: Texas Parks & Wildlife Department
Las Palomas Wildlife Management Area-Carricitos: Texas Parks & Wildlife Department
Las Palomas Wildlife Management Area-Kelly: Texas Parks & Wildlife Department
Lower Rio Grande Valley National Wildlife Refuge-El Morillo Banco Unit: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-Gabrielson: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-La Coma: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-La Gloria: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-La Joya Unit: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-Lantana: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-Madero: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-Milagro: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-Noriega: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-Ranchito: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge-Vela Woods: US Fish and Wildlife Service
Resaca De La Palma State Park: Texas Parks & Wildlife Department
Resaca De La Palma: The World Birding Center
Santa Ana National Wildlife Refuge: US Fish and Wildlife Service

RIO GRANDE DELTA: DENSE SHRUBLAND

Mapping System ID: 7805

EMS Description: Dense shrublands often representing younger occurrences and occurrences occupying slightly less well-watered sites. *Phaulothamnus spinescens* (snake-eyes), *Guaiacum angustifolium* (guayacan), *Celtis ehrenbergiana* (granjeno), and *Diospyros texana* (Texas persimmon) are often conspicuous components.

Distribution Map:



Example:

Not available at this time.

Public Land Occurrence:

Lower Rio Grande Valley National Wildlife Refuge- Gabrielson: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge- Madero: US Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge- Milagro: US Fish and Wildlife Service