

# San Augustine Glades Executive Summary

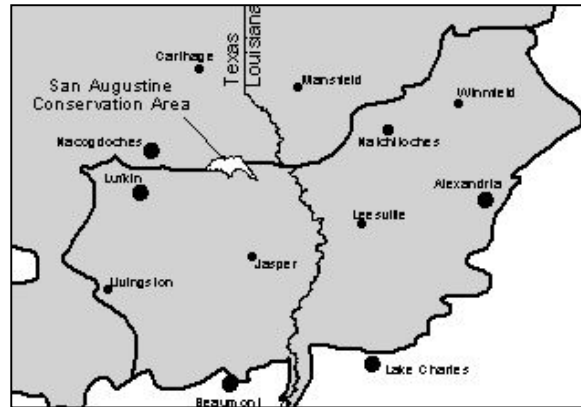
## Vision

*The purpose of the San Augustine Glades conservation area plan is to provide guidance for the conservation and restoration of a network of ecologically functional forests and glades along the Weches Geologic Formation in San Augustine County, Texas.*

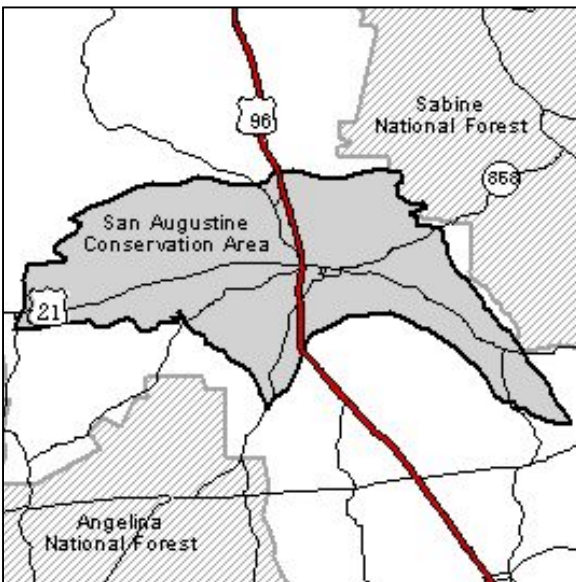
## Introduction

The San Augustine Glades conservation area is located within the West Gulf Coastal Plain ecoregion in East Texas (Figures 1, 2). This conservation area is characterized by marine deposit soils which comprise the Weches Geologic Formation. This formation, with its calcareous soils underlain by glauconite clay, exhibits huge seasonal fluctuations in moisture. The combination of thin, alkaline soils and periods of extreme drought results in glades with open, prairie-like herbaceous communities in a matrix of mixed pine-hardwood forest. Stream slopes are slightly drier than glades, and characteristic slope forest plants prefer these mesic conditions. The glades support a distinctive array of native plants that have adapted to conditions that are extremely wet most of the year but very droughty during the summer. Texas golden gladecress (*Leavenworthia aurea* var. *texana*) and white bladderpod (*Lesquerella pallida*) are endemic species restricted to the small, treeless glades. The white bladderpod is federally and state listed as endangered, and the Texas golden gladecress is a candidate for federal listing. While these two species are also found outside the conservation area, some of the best opportunities for protection and restoration are thought to exist within San Augustine Glades.

**Figure 1. West Gulf Coastal Plain ecoregion**



**Figure 2. San Augustine Glades conservation area**



The U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department, The Nature Conservancy of Texas, Mercer Botanic Garden and Arboretum, among others, would like to see white bladderpod and Texas golden gladecress be afforded sufficient long-term protection and management to assure their recovery and ultimate removal from the endangered species and candidate lists. Therefore, biologists from these organizations, Stephen F. Austin University, and the Pineywoods Nature Center convened to create a conservation plan that would guide protection of the glades that serve as habitat for these and other rare plant species. ***The focus of this plan is the conservation of the two plant communities that contain most of the rare and endemic plants of San Augustine County: the carbonate glades and the mesic slopes and terraces.***

## **Challenges and Opportunities**

None of the known populations of white bladderpod and Texas golden gladecress in San Augustine Glades are currently under any type of formal protection, and their continued viability is uncertain. The uncommon glade communities, as well as their associated mesic slope woodlands, suffer the negative effects of

- historic and current agricultural and silvicultural land conversion,
- development of homes, roads and utility rights of way,
- invasive plant species,
- glauconite mining,
- heavy use of agricultural herbicides, and
- intensive irrigation that alters glade and riparian hydrology.

To help abate these threats, this plan recommends partnerships between public agencies, private organizations, and interested landowners to:

- protect or restore at least twelve ecologically functional glade occurrences and at least one occurrence of the mesic woodlands that naturally occur on streamside slopes;
- protect and restore twelve self-sustaining, ecologically functional white bladderpod populations, to aid in recovery of this species; and
- protect and restore at least eight self-sustaining, ecologically functional Texas golden gladecress populations, to aid in preventing listing as federally endangered or threatened.