

RARE PLANT SURVEY AND GENERAL PLANT INVENTORY
OF ARKANSAS BEND COUNTY PARK, TRAVIS COUNTY, TEXAS,
SUMMER 1996

23 September 1996 Draft

During the summer of 1996, botanical surveys were conducted on all Travis County parks west of the Balcones Escarpment. The goals of these surveys were to locate populations of rare, unusual, or management-sensitive plant species and, at each park, to conduct a general inventory resulting in an annotated checklist of all plant species observed. Arkansas Bend Park was visited for approximately thirty minutes on 11 July 1996 and for approximately four hours on 6 August 1996.

Location/Physical Setting

Arkansas Bend Park occupies about 195 acres along the northern shoreline of Lake Travis west of the Hudson Bend peninsula. It is divided by shallow drainages into three peninsulas (designated northern, southern and central in this report) which are more or less level but rimmed by short steep slopes along the lakeshore. The drainage between the northern and central peninsulas probably contains water only for short periods after rains, but the stream in the southern drainage is apparently perennial. The entrance to the park is at the east end of Sylvester Ford Road/Cherry Lane east of Lohman Ford Road south of R. M. 1431. Cherry Lane becomes the park's paved road on the central peninsula.

The park is underlain entirely by beds of Glen Rose Limestone (Garner et al., 1980; Proctor et al., 1981). Typically the alternating layers of hard limestone and soft marl of this Cretaceous formation weather into a stairstep topography, but such features are not readily apparent at Arkansas Bend. In at least one area, a small spot on the tip of the southern peninsula, these limestones are mantled by a thin layer of gravelly Pleistocene terrace deposits. Elevation ranges from a little over 720 feet down to the pool level of Lake Travis, normally 681 feet (USGS, 1986).

Soils of the park are mapped on sheets 21 and 31 of the soil survey of Travis County (Werchan et al., 1974). Those of the uplands on the northern and southern peninsulas are mapped as Brackett soils, rolling. Brackett soils are shallow, well drained soils of limestone uplands. The surface layer is light brownish-gray gravelly clay loam or gravelly loam about 4 inches thick; the next layer, about 10 inches thick, is pale-brown clay loam. These soils are calcareous, moderately alkaline Typic Ustochrepts and are assigned to the Steep Adobe range site. Soils in the same setting on the central peninsula are mapped as Tarrant soils, rolling. Tarrant soils are shallow to very shallow stony clays of limestone uplands. The surface layer is dark grayish-brown stony clay about 8 inches thick; the underlying layer is limestone. These soils are well drained, calcareous, moderately alkaline Lithic Haplustolls and are assigned to the Rocky Upland range site. Soils along slopes just above the water line are mapped as Tarrant soils and Rock outcrop, steep.

Vegetation

The vegetation of Arkansas Bend Park consists mostly of evergreen woodland clearly dominated by Ashe juniper (*Juniperus ashei*) with plateau live oak (*Quercus fusiformis*) of secondary importance. Few other trees and shrubs occur in significant numbers except on short rocky slopes along the shoreline or on sides of the two shallow drainages. Some species typical of woodlands on Glen Rose slopes, such as Texas oak (*Quercus buckleyi*), Texas ash (*Fraxinus texensis*) and Texas redbud (*Cercis canadensis* var. *texensis*) are essentially absent, represented mostly by small seedlings or sprouts under the juniper canopy. It is unclear whether their rarity is the result of fire (many junipers exhibit burn scars) or poor site potential. The openings in this mosaic are mostly dominated by early or mid successional grasses such as purple threeawn (*Aristida purpurea*), Texas grama (*Bouteloua rigidiseta*), hairy tridens (*Erioneuron pilosum*), and silver bluestem (*Bothriochloa saccharoides*), but some areas on the northern and southern peninsulas support taller midgrasses such as little bluestem (*Schizachyrium scoparium*), tall grama (*Bouteloua pectinata*) and seep muhly (*Muhlenbergia reverchonii*).

Notably different is a small patch of deciduous woodland along the perennial stream in the southern drainage. Important canopy species include red ash (*Fraxinus pensylvanica*), hackberry (*Celtis laevigata*), and black willow (*Salix nigra*). Saplings of these species as well as buttonbush (*Cephalanthus occidentalis*) shrubs crowd the understory, and woody vines such as peppervine (*Ampelopsis arborea*), Carolina snailseed (*Cocculus carolinus*) and greenbriar (*Smilax bona-nox*) serve to give the woodland the appearance of an impenetrable thicket.

Target Rare Plant Species

Six rare plant species were sought in appropriate habitat at all of the sixteen parks included for survey during this project: Texas amorpha (*Amorpha roemerana*), Texabama croton (*Croton alabamensis* var. *texensis*), Glass Mountains coral-root (*Hexalectris nitida*), Heller marbleseed (*Onosmodium helleri*), canyon mock-orange (*Philadelphus ernestii*), and Buckley tridens (*Tridens buckleyanus*). A seventh rare plant species, bracted twistflower (*Streptanthus bracteatus*), cannot be detected during summer of a drought year and was essentially omitted from this project. Information about the relative rarity, distribution, habitat, etc., of each of these species will be provided in a separate appendix at the end of the set of park reports.

Results of Rare Plant Surveys

None of the targeted rare plant species was encountered at Arkansas Bend Park during these surveys. The first visit, a half-hour affair on 11 July 1996, was essentially a reconnaissance mission in which it quickly became obvious that only two of the targets, Texas amorpha and Glass Mountains coral-root, were likely to occur on the property. The four-hour survey on 6 August

1996 involved searches for these two species. Glass Mountains coral-root was the principal target; it was sought under older Ashe junipers in most of the central peninsula, along the shoreline side of the northern peninsula, along the road through the center of the southern peninsula and along the northern (inlet) side of the of the same peninsula. Texas amorpha was sought along margins of juniper woodlands, particularly along the limestone bluffs and rubble slopes just above the normal pool level of Lake Travis in these same areas. However, since Glass Mountains coral-root was the principal target, only about half of this “edge” habitat was examined, and then only when crawling around in search of the orchid in the heat and humidity under Ashe junipers became so intolerable that the surveyor was driven to out of the woodland in search of some fresh air and perhaps a slight breeze.

Results of General Plant Inventory

Arkansas Bend, in part because of its remoteness but moreso because of its lack of interesting vegetation and micro-habitats, was the last park to be visited during this project’s first round of surveys. The endless seduction of more productive work at other parks delayed the first visit until 6 August 1996 (the reconnaissance visit of 11 July 1996 doesn’t really count), by which time the Drought of ’96 had reduced most of the herbaceous flora of Arkansas Bend to dust. Dozens of species that had been detectable via skeletal remains two weeks before at other parks were not found in any form on this date at Arkansas Bend. Although the rare plant surveys were probably adequate, it should be realized that the same surveys accomplished very little in terms of general plant inventory. The 1993 work of DLS Associates filled in some of the gaps in our knowledge of the vernal flora of the park, but much remains to be done.

However, the same drought that made it impossible to adequately survey the park’s “normal” vegetation also allowed the formation of an assemblage of plants not normally seen at the park. The level of Lake Travis was sufficiently low during the first nine months of 1996 to expose a band of silt, sand and gravel all along the shoreline. This band of dry sediments supported fairly continuous cover of relatively few species including fourspike heliotrope (*Heliotropium procumbens*), creeping lovegrass (*Neeragrostis reptans*), and smooth chaff-flower (*Alternanthera polygonoides*), all of which are otherwise rare in central Texas. At Arkansas Bend this florula graded into a second association on moister silt exposed on the normally submerged banks of the permanent stream feeding the southern inlet. Since virtually everything in this association was in full bloom and not likely to be observed on a regular basis, at least half an hour was spent determining its composition (see attached park plant list). However, the relevance of this information to resource management planning is not obvious.

The flora of Arkansas Bend is presently known to include six plant species that are endemic to (found only in) central Texas: plateau gerardia (*Agalinis edwardsiana*), canyon anemone (*Anemone edwardsiana* var. *edwardsiana*), scarlet clematis (*Clematis texensis*), plateau milkvine (*Matelea edwardsiana*), big-stipule scurfpea (*Pediomelum latestipulatum* var. *appressum*), and

twistleaf yucca (*Yucca rupicola*). Only the two most common of these species (the first and the last) were observed during these surveys; the other four are spring-blooming species reported by DLS Associates (1994). Although none is a rare species of management concern, some, such as canyon anemone and scarlet clematis, may provide insights into resources that were overlooked during these summer surveys. Information about all of these endemics will be presented in a separate appendix at the end of the set of park reports.