

RARE PLANT SURVEY AND GENERAL PLANT INVENTORY
OF MANSFIELD DAM COUNTY PARK, TRAVIS COUNTY, TEXAS,
SUMMER 1996

24 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. Mansfield Dam Park was visited for approximately three hours on 25 June 1996 and two hours on 2 August 1996. A third survey, on 1 July 1996, was mistakenly conducted in areas that are now understood to lie outside the park, on adjacent property administered by the Lower Colorado River Authority.

Location/Physical Setting

Mansfield Dam Park occupies 65 acres at the north end of Mansfield Dam east of Mansfield Dam Road (former R. M. 620). Development includes a boat ramp, dozens or perhaps hundreds of picnic tables, restroom facilities, and various roads and lawns, all of which necessitates regular mowing of most vegetation in the southern two-thirds of the park. Untended vegetation is found in the northern third as well as on steep slopes along the lakeshore.

Topography is mostly gently to moderately convex, with steeper slopes and cliffs found along the shoreline of Lake Travis on the southern and eastern edges of the park. A small, very intermittent stream bisects the park from east to west, terminating in a cove along Lake Travis. No other surface water is present. According to the Mansfield Dam Quadrangle (USGS, 1986), elevation ranges from about 746 feet down to the pool level of Lake Travis, normally 681 feet.

Like most of the parks in the Lake Travis area, Mansfield Dam is underlain entirely by beds of Glen Rose Limestone (Garner et al., 1980; Proctor et al., 1981). This Cretaceous formation is composed of alternating layers of hard limestone and soft marl which typically erode into a stairstep topography, but this feature is not readily apparent within the park.

On sheet 32 in the Travis County soil survey (Werchan et al., 1974), only one soil unit is mapped from the Mansfield Dam area: 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.

Vegetation

Several plant communities might be recognized at Mansfield Dam Park. Most conspicuous is a live oak (*Quercus fusiformis*) savanna, which occupies most of the upland in the developed southern part of the park. Coverage by trees is probably less than 25 percent; important species include live oak, Texas oak (*Quercus buckleyi*), Ashe juniper (*Juniperus ashei*) and, particularly in deeper soils along the southern edge of the intermittent stream, cedar elm (*Ulmus crassifolia*). Clearing and continued maintenance has removed shrubs from most areas, but typical limestone upland species such as twistleaf yucca (*Yucca rupicola*), Texas kidneywood (*Eysenhardtia texana*) and elbowbush (*Forestiera pubescens*) can be found in unmaintained areas. The ground layer consists of huge numbers of early- to mid-successional grasses and forbs, including those of shallow soils of rocky Glen Rose slopes as well as those of deeper soils.

On the immediate floodplain of the intermittent drainage this woodland becomes much denser and plainly dominated by Ashe juniper. Winterberry (*Ilex decidua*), silk-tassel (*Garrya lindheimeri*) and cedar elm are also common components of this variant. Juniper-dominated woodlands extend upslope to the north on dry rocky slopes and higher creek terraces as well as on very steep slopes along the lakeshore. In such situations they often comele with patches of shrubland where shin oak (*Quercus sinuata* var. *breviloba*) is locally important.

During low lake levels, an unusual association of mostly annual grasses, sedges and forbs invades exposed silt, sand and gravel flats along the shoreline, particularly within the cove north of the developed part of the park. During 1996, cocklebur (*Xanthium strumarium*), fourspike heliotrope (*Heliotropium procumbens*), and creeping lovegrass (*Neeragrostis reptans*) were among the more common species.

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 amorphia (*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 Mansfield Dam Park during a surveys of 1996. Virtually all of the park was examined to a greater or lesser degree, and none of the

three conspicuous target shrubs (canyon mock-orange, Texabama croton, Texas amorphia) was encountered. It seems likely that all three are in fact absent from the park.

The status of the four herbaceous targets is less clear. Summer surveys are inappropriate for the detection of both bracted twistflower and Buckley tridens. Efforts instead centered on Glass Mountains coral root, which was sought in juniper woodlands in the northern third of the park for two hours on 2 August 1996. No *Hexaletris* of any persuasion was encountered. The fourth herbaceous target, Heller's marbleseed, was reported from the park by DLS Associates (1994). Hours of searching for this conspicuous herb produced only negative results, and it seem likely that the DLS report was based on plants observed on adjacent LCRA property rather than within the park itself.

Results of General Plant Inventory

Approximately 301 plant species have been observed to date within the park or on immediately adjacent property administered by the Lower Colorado River Authority. This flora includes 13 species that are endemic to (found only in) central Texas: plateau gerardia (*Agalinis edwardsiana*), blackfoot spurge (*Chamaesyce angusta*), scarlet leatherflower (*Clematis texensis*), widow's tears (*Commelinantia anomala*), Stanfield prairieclover (*Dalea tenuis*), meadow daucosma (*Daucosma laciniatum*), plateau milkvine (*Matalea edwardsensis*), sevenleaf creeper (*Parthenocissus heptaphylla*), large-stipule scurfpea (*Pediomelum latestipulatum* var. *appressum*), Engelmann sage (*Salvia engelmannii*), plateau spiderwort (*Tradescantia edwardsiana*), Lindheimer crownbeard (*Verbesina lindheimeri*), mountain grape (*Vitis monticola*), and twistleaf yucca (*Yucca rupicola*). None is generally considered a species of conservation concern.

Also present are 31 naturalized or recently-introduced non-native species, some of which are sufficiently aggressive to threaten the native flora. Three woody plant species, Japanese honeysuckle (*Lonicera japonica*), chinaberry (*Melia azedarach*), and particularly Japanese ligustrum (*Ligustrum japonicum*), should be of management concern. The first two are presently uncommon in the park, and action now may save considerable maintenance time in the future. The last, Japanese ligustrum, is quite common in the woodland along the intermittent stream and may have already had a negative impact on what should be a more diverse community. A meaningful reduction in its population will require considerable effort and a long-term commitment to diligence.

Information about the occurrence of these and other species within the park can be gleaned from the attached park plant list. General information about endemic species will be presented in a separate appendix at the end of the set of park reports.