Vegetation Management Activities on Travis County Balcones Canyonlands Preserve Lands During FY2004

Travis County Parks and Natural Resources
Project Number 0810-4904 Project Number 0810-4907



INTRODUCTION

On May 2, 1996, the City of Austin and Travis County were jointly issued a U.S. Fish and Wildlife Service (USFWS) regional permit preferred to as the Balcones Canyonlands Conservation Plan (BCCP) that allows incidental "take" of eight locally occurring endangered species under Section 10(a)1(b) of the Endangered Species Act (U. S. Department of the Interior, Fish and Wildlife Service 1996a). The thirty-year permit covers western Travis County outside of proposed Preserve boundaries identified in the Habitat Conservation Plan and Final Environmental Impact Statement (HCP/FEIS) (U. S. Department of the Interior, Fish and Wildlife Service 1996b). The permit also covers incidental take of 27 additional species of concern should any become listed as threatened or endangered during the life of the permit.

The City of Austin and Travis County are required by the terms of the BCCP to assemble and manage suitable habitat for two endangered bird species and six karst invertebrates. This system of managed and protected habitats is known as the Balcones Canyonlands Preserve (BCP). The City of Austin and Travis County also agreed to protect and manage populations of unique or endemic plant species of concern found within preserve boundaries, as well as on other City-and County-managed tracts. Plant species of concern listed in the permit include canyon mock-orange *(Philadelphus ernestii)* and Texabama croton (*Croton alabamensis var. texensis*). Bracted twistflower (*Streptanthus bracteatus*) and Texas amorpha *(Amorpha roemerana)* were discussed in the HCP/FEIS (U. S. Department of the Interior, Fish and Wildlife Service 1996b) but were not listed in the BCCP Permit. However, because these two species are rare, they are afforded the same protection as plants listed under the permit.

In addition to managing for rare plant species, Travis County Natural Resources also manages non-native and invasive plant species in accordance with the BCP Land Management Plan (1999) and Travis County's Wildlife and Vegetation Management guidelines. Non-native and invasive plants cause habitat degradation by out-competing and replacing native plants, which can ultimately decrease the quality of food, cover, and breeding sites for wildlife. Therefore, in order to prevent a negative impact on endangered species habitat, non-native plants found on the BCP are targeted for removal.

SPECIES OF CONCERN

Canyon mock-orange, Texabama croton and Texas amorpha are monitored on a three-year cycle. Since Canyon mock-orange and Texabama croton were surveyed in 2002 (Travis County Natural Resources 2002), they were not monitored in FY2004. In FY2004, known and new locations of Texas amorpha were located and GPSed and active searches continued for Bracted twistflower.

Texas amorpha

Texas amorpha is a shrub or small tree typically found in juniper-oak woodlands on dry to mesic limestone slopes. The plant is confined mostly to Travis County and is considered to be a rarity outside of the county (B.Carr pers.comm.).

Texas amorpha was located and GPSed in three locations: Sandy Creek Park and Cypress Creek Park, both of which are Travis County Parks, and the Romberg tract (BCP) (Figure 1). Bill Carr previously surveyed these locations in 1996. Carr found and mapped individual plants and plants in close proximity of each other (clusters). To avoid labeling confusion, Travis County has adopted a new labeling system for designating clusters and individual plants for amorpha. Three designations will be used for plants: colony, clusters, and individuals. A colony is two or more plants and/or two or more clusters within close proximity of each other (~5-15 feet apart). A cluster is defined as two or more plants within close proximity to each other (<5 feet apart). An individual is one plant not in close proximity to any other individual and/or cluster (>15 feet).

The total number of individual plants found at each site in 2004 was compared to the total number found in 1996. A detailed comparison will be not made between 2004 and any previous years data due to labeling confusion. Overall, there was a net gain in each of the three locations from 1996 to 2004 (Table 1; Figures2-4).

Table 1: Comparison of Texas amorpha in 1996 and 2004

Location	1996 data	2004 data
Cypress Creek Park	35 plants	~ 51plants
Sandy Creek Park	15 plants	~48 plants
Romberg Tract	16 plants	~17 plants

Bracted Twistflower

Bracted twistflower is an inconspicuous, herbaceous annual occurring on thin clay soils typically described in association with oak-juniper woodlands on sites near permanently

flowing water. Most populations throughout Travis County occur in areas with thick, dense brush that is believed to provide a mechanical barrier to browsing white-tailed deer (*Odocoileus virginianus*). Bracted twistflower is often found in association with evergreen sumac (*Rhus virens*), Lindheimer's silktassel (*Garrya ovata* var. *lindheimeri*), shin oak *(Quercus sinuata var. breviloba),* elbowbush *(Forestiera pubescens),* and myrtlecroton (*Bernardia myricaefolia*).

Travis County preserve lands were surveyed for bracted twistflower populations during April 2004 in cooperation with researchers from local, state and federal agencies. Additionally, Travis County Natural Resources staff conducted searches on BCP properties during the blooming period in conjunction with other ongoing management activities. Despite these efforts, this species has yet to be confirmed on any Travis County-managed land. Natural Resources staff will continue to search for this species on Travis County parks and preserves and will continue to train additional staff in field identification of this species.

Protection of bracted twistflower was not required by the BCCP because the USFWS felt that they could not allow "take" of this species outside preserve areas, nor could they guarantee its protection through mitigation. Following a multi-year cooperative effort involving USFWS, Texas Parks and Wildlife Department, City of Austin, Travis County, the Lower Colorado River Authority, and the Lady Bird Johnson Wildflower Center, a Memorandum of Agreement (MOA) was approved in 2003 and was signed into effect in FY2004. This MOA was drafted in order to provide significant protection throughout this species' historic range and preclude the necessity of federal listing.

NON-NATIVE SPECIES

In accordance with the BCP Land Management Plan and Travis County's Wildlife and Vegetation Management guidelines, all Travis County BCP lands are inventoried for the presence of non-native and invasive species. When located, these species are assessed for potential impacts to native plant and wildlife populations. Plant species constituting a threat are prioritized for management action. Control methods employed to manage non-native species may include, but are not limited to, manual removal, application of approved site-appropriate herbicide by Structural Pest Control Board (SPCB)-licensed staff and use of prescribed fire.

Travis County Natural Resources staff targeted seven species of invasive plants for removal on eight BCP tracts and Travis County parks during FY2004 (Table 2). The

preserve tracts are all located on the Jollyville Unit (1799acres), which is entirely within the Cypress Creek macrosite and is located approximately 13 miles northwest of downtown Austin. At the present time, the tracts within the Jollyville Unit include Bunten, Vista Pointe, Vireo Ridge, Lake Perspectives, Grandview Hills, and Cuevas tracts. Non-native plants were also treated at the following Travis County operated parks, all located on Lake Travis: Cypress Creek, Arkansas Bend and Dink Pearson. Approximately 10 days of staff time were devoted to non-native plant removal.

Table 2. Non-native and invasive plant species targeted for removal on BCP tracts and Travis County Parks in FY2004.

Species	Location	Quantity	Removal methods
Chinaberry (*Melia azerdarach)*	CU (ROW), BU, LP, VP, CC	~ 245	cut and treat with herbicide
Chinese Tallow *(Triadica sebifera)*	CU (ROW), AB, DP	~93	cut and treat with herbicide
Common Chaste-tree *(Vitex Agnus-castus)*	BU	4	cut and treat with herbicide
Heavenly Bamboo (*Nadina domestica)*	GVH	2	cut and treat with herbicide
Firethorn (*Pyracantha angustifolia)*	AB	1	cut and treat with herbicide
Periwinkle (*Vinca major)*	BU	25 sq. m.	foliar application with herbicide
Japanese Privet *(Ligustrum japonicum)*	AB, GVH	3	cut and treat with herbicide

BU= Bunten tract, Cuevas tract (right of way located on Bullock Hollow)
VP= Vista Point tract, GVH= Grandview Hills tract, LP= Lake Perspectives tract, AB=Arkansas Bend park, DP= Dink Pearson park, CC=Cypress Creek park

Several techniques were used to remove non-native plants. Woody plants were either cut down or “girdled” (i.e., cuts were made around the circumference of the trunk, but the plant was not felled) using hand tools such as chainsaws, handsaws, or loppers. Following cutting, most plants were treated with herbicide; a 1:5 Garlon 4/Red River Basal Oil mix was used. This mixture was chosen because it was recommended to be especially effective at targeting the species found on Travis County preserves/parks. However, the success of the Garlon 4/Red River mix cannot be determined until the upcoming spring.

In 2004, there were two SPCP-licensed Natural Resources staff. These two individuals also took a one-hour Continuing Education course in order to comply with annual license requirements.

RECOMMENDATIONS

- Continue to collect baseline data on unique, endemic plant species. Unusual species previously unrecorded will be assessed for degree of rarity and protected as appropriate.
- Survey populations of Canyon mock-orange in FY2005
- Continue efforts to locate, map and protect populations of bracted twistflower on County BCP and parklands.
- Continue to collect baseline data on non-native and invasive plant species on all current and newly acquired County properties.
- Prioritize BCP properties for removal of exotics, and initiate management activities.
- Priority targets for removal on the Bunten tract in FY2005 should include periwinkle, bamboo, and exotic wisteria. Though other non-natives exist on this tract, these species are highly invasive and will therefore be aggressively targeted in 2005. Manual and chemical control methods may be utilized. Special care should be taken in areas adjacent to any waterways containing populations of Jollyville Plateau salamanders.

LITERATURE CITED

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Bill Carr The Nature Conservancy, Personal communication

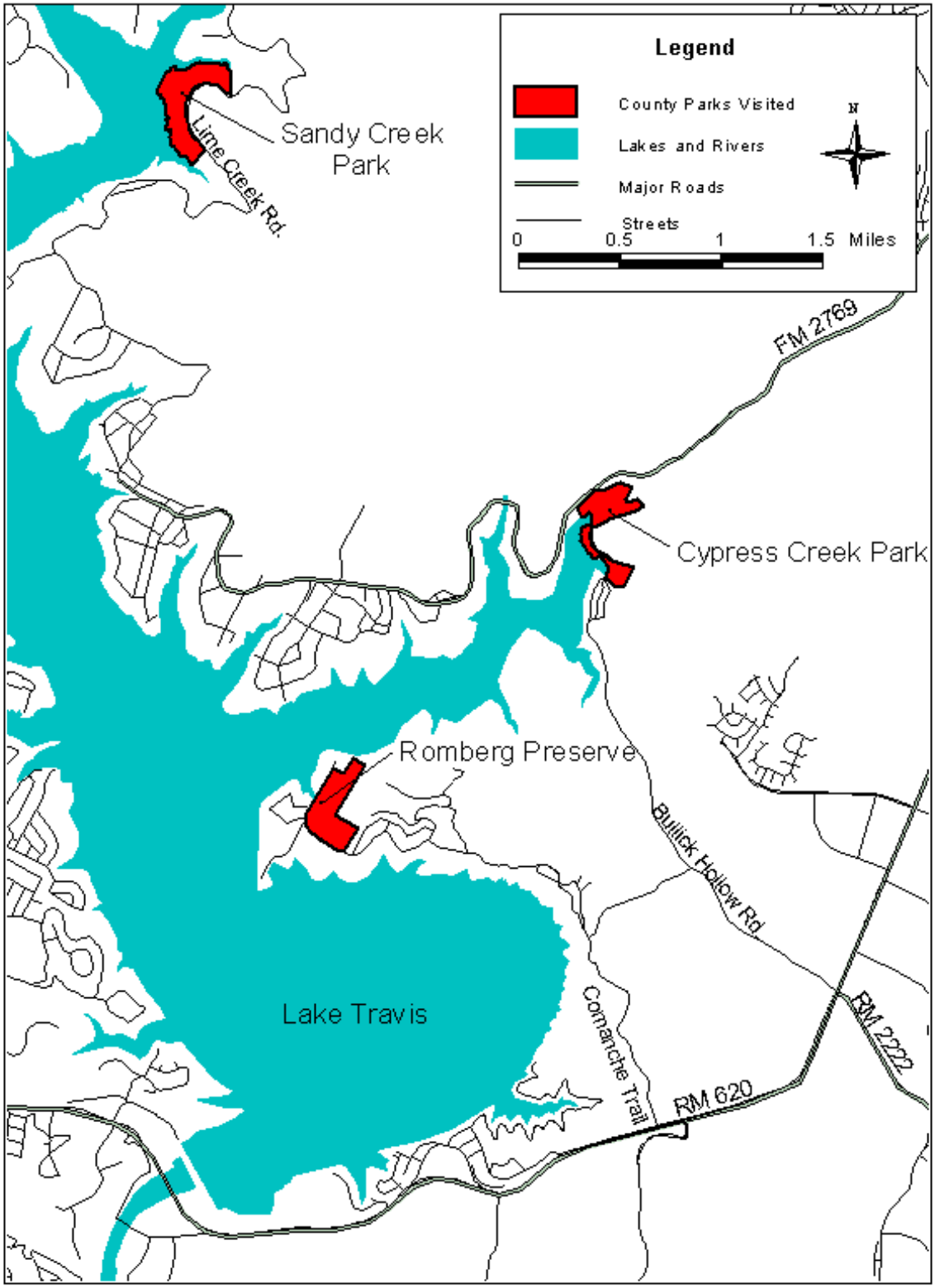


Figure 1. Travis County Parks surveyed for Texas Amorpha in FY 2004

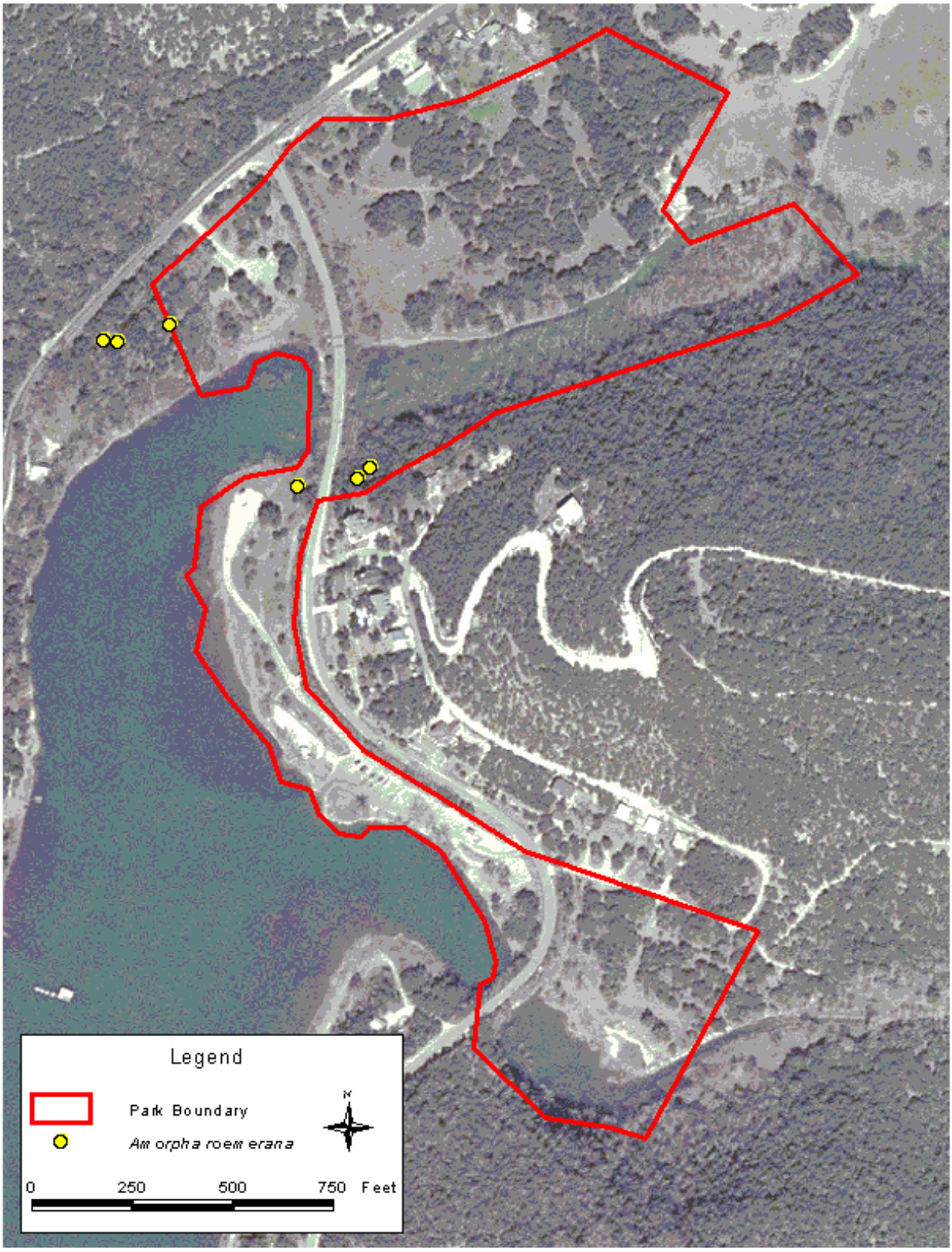

Legend
Park Boundary
Amorpha roemeriana
N
0
250
500
750
Feet

Figure 2. Texas amorpha locations at Cypress Creek Park FY2004

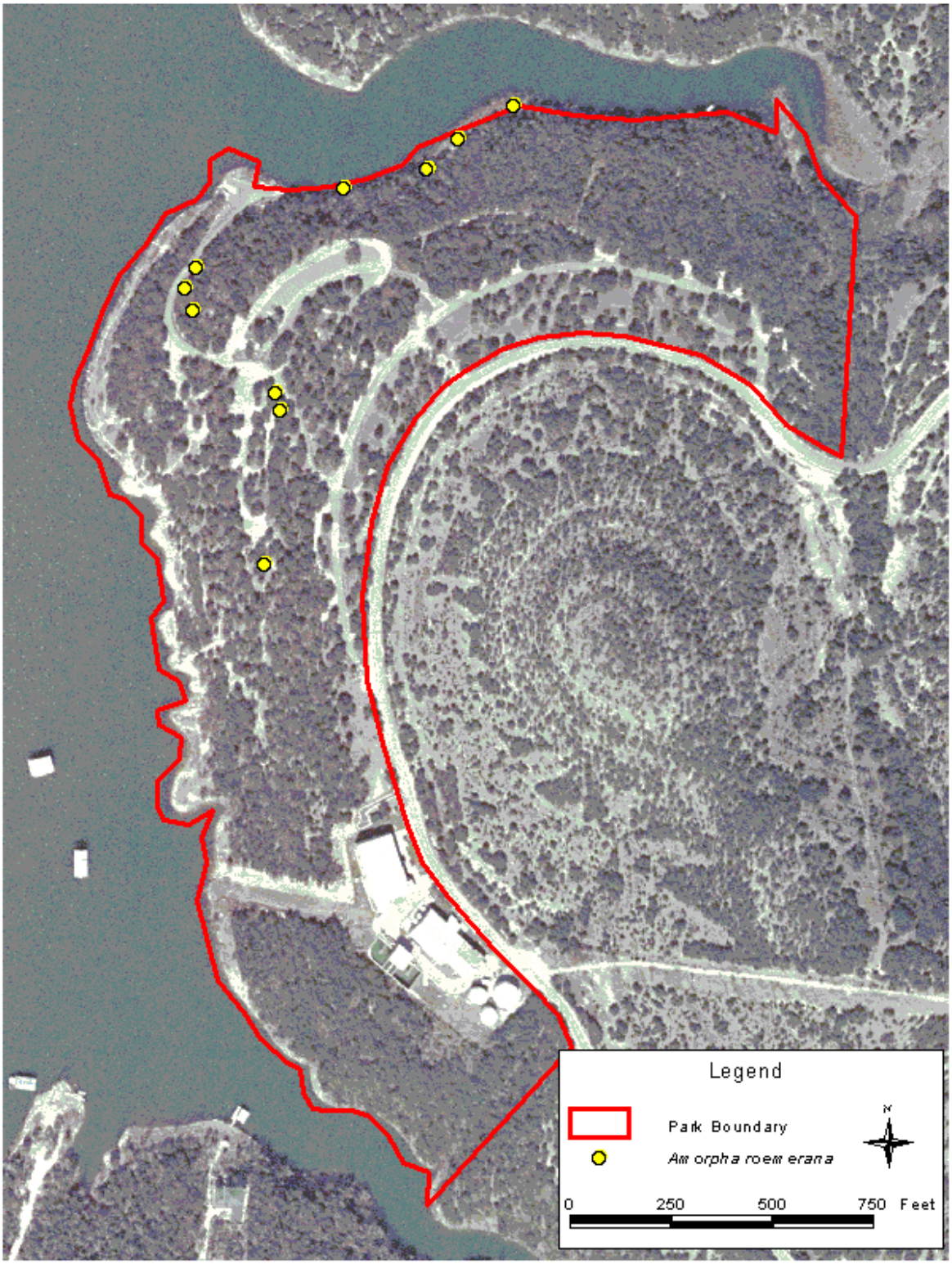

Legend
Park Boundary
Amorpha roemeriana
N
0
250
500
750
Feet

Figure 3. Texas amorpha locations at Sandy Creek Park FY2004



Figure 4. Texas Amorpha locations at Romberg tract FY2004