Vegetation Management Activities on Travis County Balcones Canyonlands Preserve During FY2008



Photo: Canyon Mock-orange (*Philadelphus ernestii*)

Travis County Natural Resources and Environmental Quality

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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 referred 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 lands in 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 properties. 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, but were not listed in the BCCP Permit (U. S. Department of the Interior, Fish and Wildlife Service 1996b). However, because these two species are rare, they are afforded the same protection as plants listed under the permit.

In addition to managing these rare plant species, Travis County Natural Resources also manages non-native and invasive plant species in accordance with the BCP Land Management Plan (2007) 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 MONITORING

Canyon mock-orange, Texabama croton and Texas amorpha are monitored on a three-year cycle. Canyon mock-orange is scheduled to be surveyed in 2009 and Texas amorpha in 2010. Texabama croton was surveyed in 2008 and is scheduled to be re-sururveyed in 2011. Active searches will continue for bracted twistflower, which to date, has not been found on Travis County BCP or Park properties.

Texabama Croton

Texabama croton is a thicket-forming woody species typically occurring as an understory shrub in mesic limestone canyon woodlands associated with live oak (*Quercus fusiformis*) mottes. In 1994 the species was first observed at Pace Bend Park (Travis County Transportation and Natural Resources Department, 1996). Pace Bend Park consists of 1520 acres owned by the Lower Colorado River Authority (LCRA) and managed by Travis County's Parks Division. The park is located in western Travis County, approximately 11 miles northwest of Bee Cave, north of State Highway 71 at the terminus of Ranch Road 2322. Pace Bend Park is found on the Pace Bend USGS 7.5" quadrangle maps.

All known colonies of croton at Pace Bend Park were mapped using a Global Positioning System (GPS) (**Figure 1**) and surveys to locate new plants were conducted. Additionally, all located plants were checked for overall health. Three generalized categories were used in classifying health of individual plants or colonies: "poor" - shows significant damage from insects, deer, or other animals or appeared to be stressed, "fair" - shows marginal signs of damage or stressed, and "good" - vigorous plant or colony that showed no signs of damage or stress.

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Search efforts in 2008 located 8 new colonies from 2006, yielding a total of 85 colonies at Pace Bend Park (**Figure 1**). These colonies contained a total of approximately 1274 individual plants, a gain of 110 individuals from 2006 (Travis County, 2006). Approximately 70% of the Texabama croton colonies were categorized as being in good health, 25% were considered in fair health, and 5% were found to be in poor health. Protection of Texabama croton is enhanced through park staff education and training, including plant identification, familiarization of colony locations and proper management techniques.

In 2008 a rare plant notebook was created. It contains all current maps, information and research on all rare and unique plants found on Travis County owned or managed lands.

NON-NATIVE SPECIES MANAGEMENT

In accordance with the BCP Land Management Plan and Travis County's Wildlife and Vegetation Management guidelines, Travis County BCP properties 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 Texas Department of Health-licensed staff, and use of prescribed fire.

Staff targeted four species of invasive plants for removal on BCP tracts during FY2008 (**Table 1**). Management activities occurred on five tracts: Bunten, Vireo Ridge, Concordia, Grandview Hills and Ribelin (**Figure 2**) Approximately 5 days of staff time were devoted to non-native plant removal.

Table 1. Non-native and invasive plant species targeted for removal on Balcones Canyonlands Preserve tracts in FY2008 (Fiscal year Oct.2007-Oct.2008)

Species	Location	Quantity	Removal methods
Chinaberry (*Melia azedarach)*	CO,VR, GVH	21	hand pulled
Heavenly bamboo (*Nandina domestica)*	RI, BU,	14	hand pulled
Japanese privet *(Ligustrum japonicum)*	CO, BU, GVH,	22	hand pulled
Tree of Heaven *(Ailanthus altissima)*	CV	15	hand pulled

BU= Bunten tract, VR= Vireo Ridge, RB= Ribelin, CO= Concordia, GVH=Grandview Hills, CV= Canyon Vista

Due to time constraints, no herbicides were used this year and all plants were removed manually (hand pulled).

In 2008, there were three Natural Resources staff that obtained their herbicide license through Texas Department of Health.

MANAGEMENT RECOMMENDATIONS

- Continue to collect baseline data on unique, endemic plant species. Unusual species previously unrecorded will be assessed for degree of rarity and protected accordingly.
- Survey known populations of *Philadelphus ernestii*
- Continue efforts to locate, map and protect populations of all rare plants, including bracted twistflower on all Travis County BCP and parklands.
- Continue to collect baseline data on non-native and invasive plant species on all current and newly acquired County properties.
- Continue to prioritize BCP properties for removal of exotics and initiate management activities.
- Priority targets for removal on the Bunten tract in FY2009 should include periwinkle, bamboo, multiflora rose and exotic wisteria. Though other non-natives exist on this tract, these species are highly invasive and therefore will be aggressively targeted in 2009. 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 (*Eurycea tonkawae*).
- Focus on eradicating non-native plants on the Mirtsching and Snowden tracts around existing structures.

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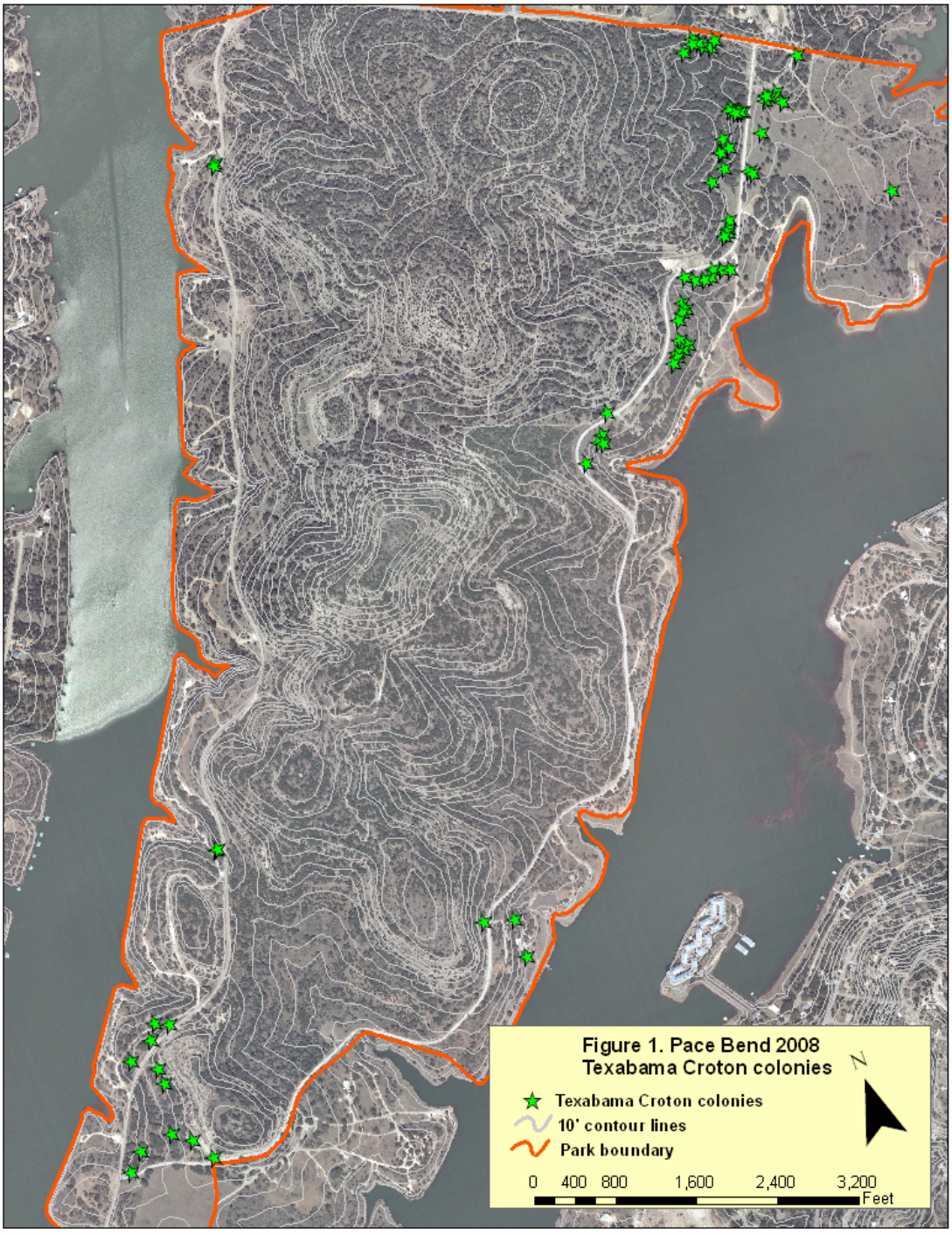


Figure. 1 2008 Pace Bend Park Croton locations

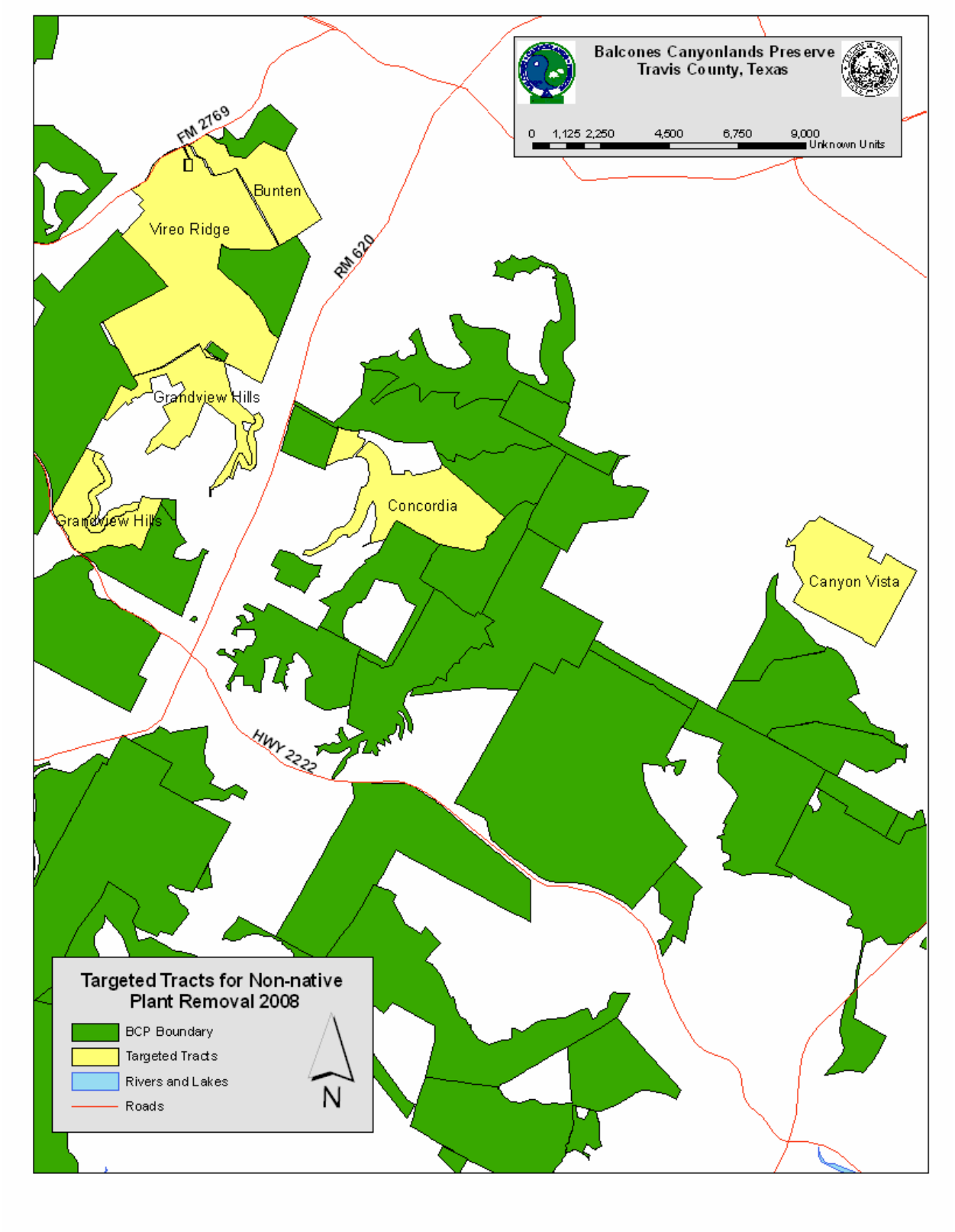


Figure. 1 Balcones Canyonlands Preserve tract location for non-native plant removal. 2008