Vegetation Management Activities on Travis County Balcones Canyonlands Preserve During FY2007



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 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 these 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 MONITORING

Canyon mock-orange, Texabama croton and Texas amorpha are monitored on a three-year cycle. Texabama croton and Canyon mock-orange are both scheduled to be surveyed in FY2009. Texas amorpha is scheduled to be surveyed in FY2008. Active searches will continue for bracted twistflower which has not yet been found on Travis County Preserve properties.

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 Structural Pest Control Board (SPCB)-licensed staff, and use of prescribed fire.

Staff targeted 10 species of invasive plants for removal on BCP tracts during FY2007 (**Table 1**). Six tracts were targeted: Bunten, Greenshores, Vireo Ridge, Steiner Ranch, Wildbasin Preserve and Ribelin tracts (**Figure 1**) Approximately 12 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 FY2007 (Fiscal year Oct.2006-Oct.2007)

Species	Location	Quantity	Removal methods
Chinaberry (*Melia azedarach)*	WB, VR, GS, BU	~99	cut and treat with herbicide, and/or hand pulled
Chaste tree *(Vitex Agnus-castus)*	WB	30	cut and treat with herbicide
Giant reed *(Arundo donax)*	WB	~20	cut and treat with herbicide
Heavenly bamboo (*Nandina domestica)*	RB, GS, VR, SR	129	cut and treat with herbicide and/or hand pulled
Red-tipped Photinia *(photinia fraseri)*	WB	1	Spray with herbicide
Japanese privet *(Ligustrum japonicum)*	WB, VR	13	cut and treat with herbicide and/or hand pull
Silk Tree *(albizia julibrissin)*	WB, VR	2	cut and treat with herbicde
Chinese tallow *(Triadica sebifera)*	WB	25	cut and treat with herbicde
Tree of Heaven *(Ailanthus altissima)*	GS	15	hand pull

Species	Location	Quantity	Removal methods
Periwinkle *(Vinca minor)*	BU	~20	hand pull

BU= Bunten tract, GS= Greenshores tract, VR= Vireo Ridge tract, SR= Steiner Ranch, WB=Wild Basin Preserve, RB= Ribelin tract, tract

Several techniques were used in conjuction 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) with hand tools such as chainsaws, handsaws, or loppers, and then most plants were treated with herbicide; a 1:5 Garlon 4/Red River Basal Oil mix was used on the majority of plants. A Glyphosphate/surfactant mix of 2.5:5 mix or 100% Glyphosphate was applied to non-natives at the Wild Basin Preserve tract. Some plants were removed manually with no herbicide use.

In 2007, there were four SPCP (Structural Pest Control board) -licensed Natural Resources staff. All individulas attended the necessary 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 known populations of Texas Amorpha
- 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 FY2008 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 2008. 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 tract around existing structures.

LITERATURE CITED

Balcones Canyonlands Preserve. 1999. Balcones Canyonlands Preserve Land Management Plan. Unpub. Document. Austin, Texas

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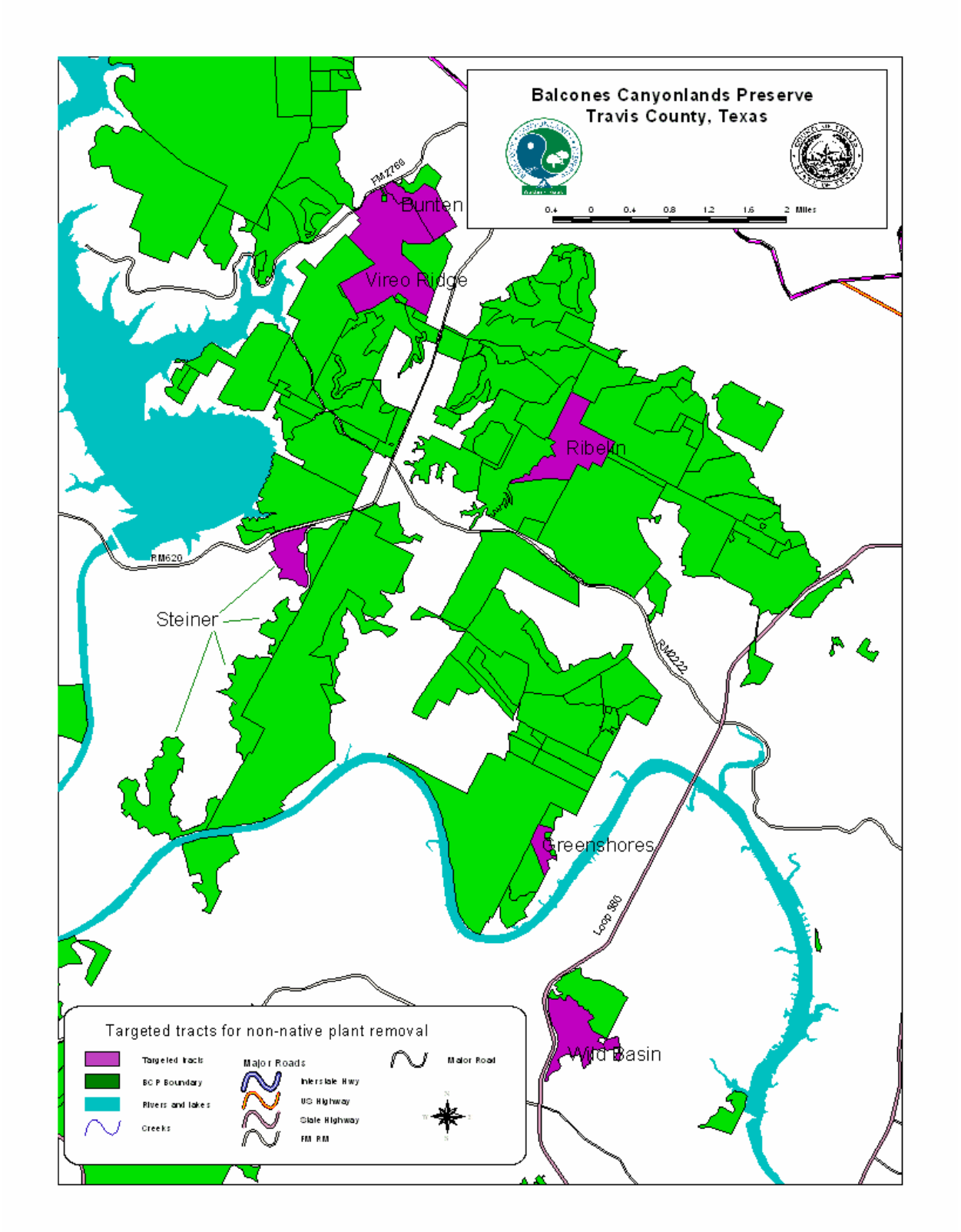


Figure. 1 Balcones Canyonlands Preserve tract location for non-native plant removal. 2007