Vegetation Management Activities on Travis County Balcones Canyonlands Preserve Lands During FY2003

Travis County Parks and Natural Resources
Project Numbers 0905-0312, 0905-0325



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 indigo-bush 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

There were no surveys conducted for canyon-mock orange, Texabama croton, or Texas indigo-bush amorpha during FY2003. Field investigations for canyon mock-orange and Texabama populations are conducted on a three-year cycle. These species were surveyed in

2002 and results are reported in "Monitoring and Management of Plant Species of Concern Located on the Balcones Canyonlands Preserve in FY2002" (Travis County Natural Resources 2002). Known locations of Texas indigo-bush amorpha will be revisited and mapped with a GPS in FY2004.

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 2003 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.

The BCCP did not list bracted twistflower as a species of concern because the USFWS believed there was insufficient evidence that populations were robust enough to permit "take" of this species. The permit holders agreed to protect this species if it was found within the proposed boundaries of the BCP. 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 drafted in 2003 and will be 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 ten species of invasive plants for removal on seven tracts during FY2003 (Table 1). The Jollyville Unit (1658 acres) and both the Toops (120 acres) and King (56 acres) tracts are located entirely within the Cypress Creek macrosite and are approximately 13 miles northwest of downtown Austin. At the present time, the tracts within the Jollyville Unit include Bunten, Vireo Ridge, Lake Perspectives, Grandview Hills, and Vista Point. Hamilton Pool Preserve (232 acres), in the Pedernales River macrosite, is located approximately 25 miles southwest of Austin. Approximately 10 days of staff time were devoted to non-native plant removal. In addition, an American YouthWorks (AYW) crew spent one day removing bamboo (*Bamboo* sp).

Table 1. Non-native and invasive plant species targeted for removal on BCP tracts in FY2003.

Species	Location	Quantity	Removal methods
Bamboo (*Bamboo* sp.)	BU	~ 800 sq.ft.	cut
Common Fig (*Ficus carica*)	HPP	~ 20	cut and treat with herbicide
Jasmine (*Jasminum spp.)*	BU	~ 4	cut and treat with herbicide
Japanese Privet (*Ligustrum japonicum)*	TP	1	cut and treat with herbicide
Chinaberry (*Melia azerdarach*	BU, VR, TP, LP, VP, GVH-S	~ 80	cut and treat with herbicide
Oleander (*Nerium oleander)*	TP	1	cut and treat with herbicide
Firethorn (*Pyracantha angustifolia)*	TP	2	cut and treat with herbicide
Johnson Grass (*Sorghum halepense*)	HPP	~ 400 sq.ft.	manual removal
Common Chaste tree (*Vitex agnes-castus*)	BU	1	cut and treat with herbicide
Exotic Wisteria (*Wisteria* spp.)	BU	~ 30	cut

BU= Bunten tract, VR= Vireo Ridge tract, TP= Toops tract, GVH-S= Grandview Hills-South tract, VP= Vista Point tract, HPP= Hamilton Pool Preserve

Several techniques were used to remove non-native plants. Johnsongrass was manually pulled from the ground with roots intact, or was cut above ground in order to prevent seed dispersal. Woody plants were 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. The initial herbicide used was a 3:7 Remedy/diesel mix. However, beginning in September 2003, a 1:5 Garlon 4/Red River Basal Oil mix was used instead. This mixture was chosen because it was

recommended to be especially effective at targeting the species found on Travis County preserves. Treatment with the Remedy/diesel mix was mostly successful. However, the success of the Garlon 4/Red River mix can not be determined until the upcoming spring.

In 2003, one additional staff member obtained a license through the SPCB for herbicide application, bringing the total number of SPCP-licensed Natural Resources staff to two. 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.
- Initiate surveys for previously unrecorded populations, map and protect Texas indigo-bush amorpha throughout Travis County BCP and park properties.
- 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 FY2004 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 2004. Manual and chemical control methods may be utilized. Special care will be taken in areas adjacent to any waterways containing populations of Jollyville Plateau salamanders.
- Continue to manage Johnsongrass colonies at Hamilton Pool Preserve through manual and/or appropriate herbicide methods.

LITERATURE CITED

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

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