BALCONES CANYONLANDS PRESERVE
LAND MANAGEMENT PLAN

TIER III

TRAVIS COUNTY
CYPRESS CREEK UNIT
CYPRESS CREEK MACROSITE

August 2007

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1.0 BACKGROUND

Travis County owns and manages a number of Balcones Canyonlands Preserve (BCP) tracts acquired through fee simple purchase or through conservation easement agreement in the Cypress Creek macrosite. These tracts include the Attwood, Blake, the Crossings, King, and Toops tracts collectively referred to as the Cypress Creek Unit. These properties are managed by the County's Natural Resources Program.

Travis County and the City of Austin have competed successfully since implementation of the BCCP in 1996 to leverage locally generated funds with federal grant assistance to acquire lands for the BCP. The Attwood, Blake, King and Toops tracts were acquired fee simple in part with federal assistance through the USFWS Habitat Conservation Plan Land Acquisition (Section 6) Grant awards.

Table 1. Tracts Comprising the Cypress Creek Unit

Tract Name	Management Status	Date of Acquisition	Acreage
Attwood	Fee Simple Deed	June 1, 2004	31 ac (12.55 ha)
Blake	Fee Simple Deed	June 25, 2004	38 ac (15.38 ha)
The Crossings (or "Beck")	Conservation Easement	March 16, 2004	175 ac(70.82 ha)
King	Fee Simple Deed	October 1, 2003	55 ac (22.26 ha)
Toops	Fee Simple Deed	October 17, 2001	170 ac (68.80 ha)
Cypress Creek Unit Acreage Total			**469 acres (189.81 ha)**

Travis County accepted a conservation easement on the 175 acre (70.82 ha) Crossings Preserve. This land was set aside by the Crossings as required on-site mitigation for the construction of facilities under USFWS 10(a)1(B) permit TE-024619-0 issued July 27, 2000. The "Conservation Easement Agreement" (hereafter "Agreement") between the Crossings and Travis County was approved by Travis County Commissioners Court on March 16, 2004. Travis County manages the Crossings Preserve as part of the Balcones Canyonlands Preserve (BCP) under the terms and conditions of the BCCP regional permit.

Previous land uses on the tracts comprising the Cypress Creek Unit included agricultural (raising cattle, chickens, goats and sheep) and recreational activities (primarily hunting and outdoor enjoyment and wilderness exploration). The heavily wooded canyons provide habitat for the federally endangered golden-cheeked warbler (*Dendroica chrysoparia*, hereafter GCWA), while the intermittent springs and stream segments host populations of Jollyville Plateau Salamanders (*Eurycea tonkawae*).

1.1 Description of Tracts

1.1.1 Location of Tracts

The Cypress Creek Unit, comprising 469 acres (189.80 ha.), is located in western Travis County, approximately twelve miles (19.3 km) northwest of downtown Austin (Figure 1). The property is located east of Lake Travis and west of FM 2769. Access roads are limited to unnamed private drives and access points accessed via FM 2769. Travis County's Cypress Creek Unit comprises five of nine Balcones Canyonlands Preserve (BCP) tracts in the Cypress Creek macrosite managed by BCP Partners including the City of Austin, the Lower Colorado River Authority, the Travis Audubon Society and the Nature Conservancy of Texas. Two tracts within the Cypress Creek macrosite are managed under USFWS 10(a) permits.

1.1.2 Tract Features

Humans have heavily impacted the lands comprising the Cypress Creek Unit. Numerous old ranch roads, power lines, trails, caliche "borrow pits" used to mine road surfacing material, retention ponds, and old fences can be found on the Preserve. Natural features include several creeks and intermittent streams, natural springs, steep canyons, rolling hills, and oak-juniper savannas.

1.1.3 Land Status

1.1.3.1 Rights-of-Way and Easements

Travis County will undertake compilation of a complete list of right-of-way and easements on BCP preserve property and establish a file entitled "Cypress Creek Unit Deed Records" to be maintained by the Transportation and Natural Resources Department.

1.1.3.2 In-Holdings

Travis County managed Preserve lands in the Cypress Creek Unit are owned in fee by the County with the exception of the Crossings Preserve, which is managed under Conservation Easement Agreement. In-holdings within the Cypress Creek Unit include an approximately seven-acre homestead tract held by Mr. Kenneth Bake as well as the facilities and structures of the Crossings.

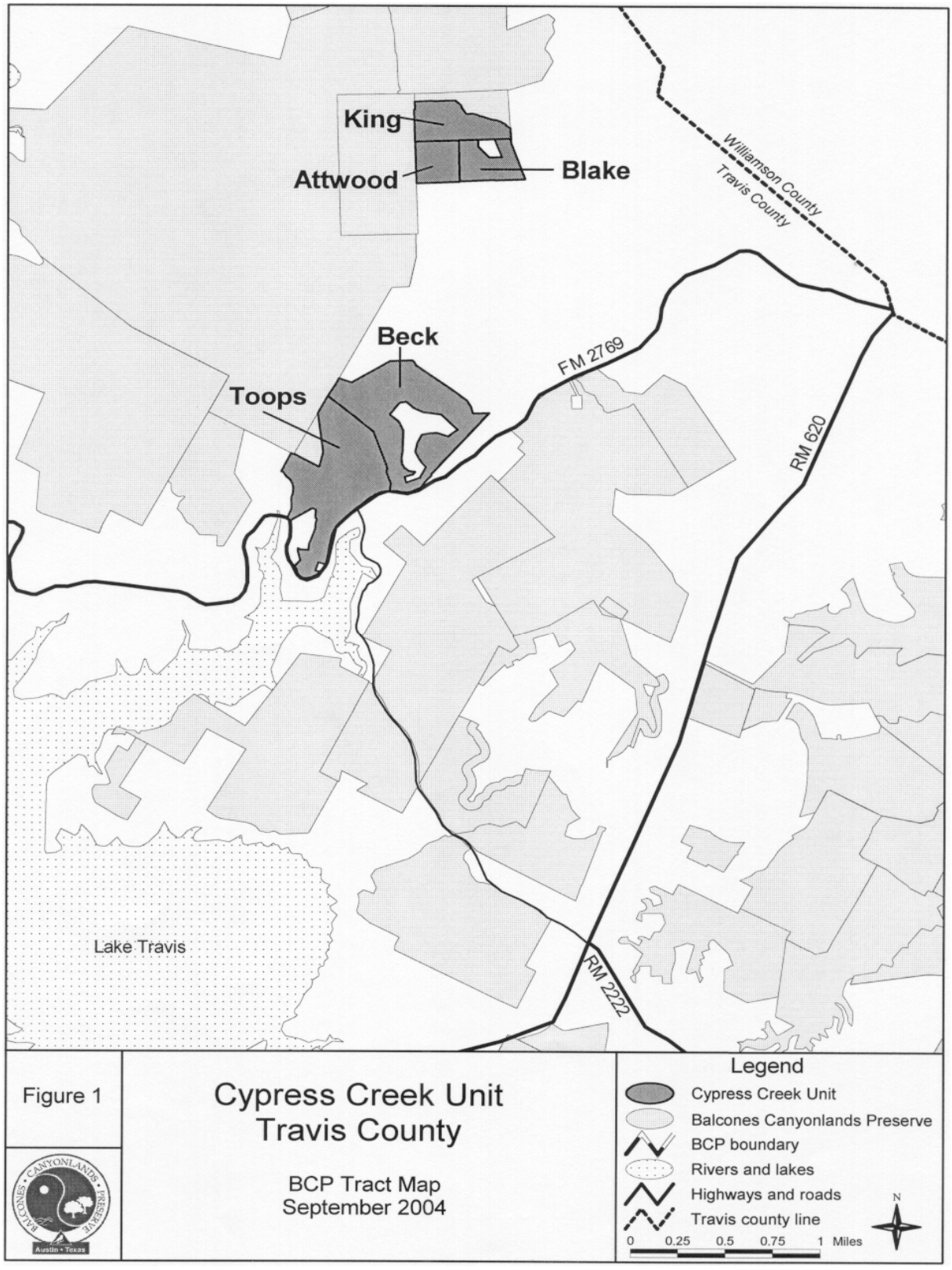

Figure 1. BCP Tract Map: Cypress Creek Unit

1.1.3.3 Boundary Disputes

There are no known boundary disputes.

1.1.3.4 Regulatory Requirements

The Crossings has developed, posted, and enforces rules for access on the approved trails in accordance with USFWS permit #TE-024619-0 and the Travis County Agreement. The County maintains the right to close all or any portion of the Crossings trails if found to negatively impact the protected species or to encourage compliance with the terms and conditions of the Agreement.

Regulatory requirements of the Balcones Canyonlands Conservation Plan (BCCP) are covered in the BCCP permit and in the Balcones Canyonlands Preserve - Land Management Plan Tier II Plan Administration.

1.1.3.5 Deed Restrictions

The County is unaware of any current deed restrictions that impact land management on tracts held in fee by the County. Any such restrictions may be appended to this document at a later date. The Crossings has placed Deed Restrictions on the development portions as well as the Conservation Easement portions of the tract covered by the Agreement.

1.1.3.6 Special Agreements

Travis County Commissioners Court on March 16, 2004 approved a "Conservation Easement Agreement" between the Crossings and Travis County. The Agreement transferred management of Preserve areas to Travis County and detailed the rights and responsibilities of each party. The Conservation Easement on the Crossings will remain in effect in perpetuity and limits access to the tract to uses compatible with Preserve management.

Staff and guests of the Crossings may access approved trails in accordance with USFWS permit TE-024619-0 and the Agreement. Off-trail access is not permitted. The "Crossings Trail Plan" was approved by USFWS and Travis County and guides the management and use of approved trails. This document summarizes the Agreement as it relates to general management as part of the BCP. The Agreement in its entirety is recorded in the Travis County Real Property Records as document number 2004055492.

1.1.3.7 Mineral Rights

The Warranty Deed conveying the Blake tract to the County contained an exception for reservation of an interest in and royalties for oil, gas, and all other minerals. Details may be found in Travis County Real Property Records document 2004122574.

The Crossings reserved all mineral rights on the tract but waved their rights to explore or drill for any oil, gas, or minerals within the easement area. Details may be found in Travis County Real Property Records document 2004055492.

The Warranty Deed conveying the King tract contained exceptions concerning mineral and/or royalty interests, and can be found in Travis County Real Property Records document 2003283450.

The Special Warranty Deed conveying the Toops tract to the County included rights, title and interest in those mineral rights associated with the property. Details may be found in Travis County Real Property Records document 2001179041.

1.1.3.8 Legal Issues

Other than those issues associated with participation in the BCCP, no tract-specific legal issues remain. BCCP requirements are treated elsewhere in this document; see Regulatory Requirements section, above.

1.1.3.9 Financial Issues

As part of the Conservation Easement Agreement, the Crossings will make an annual payment to cover Preserve land operation and maintenance obligations. Details are found recorded in the Real Property Records of Travis County as document number 2004055492.

1.2 Physical characteristics

The preserve is situated along the southwestern edge of the Jollyville Plateau, a significant geographic feature in northwestern Travis County. Adjacent to the plateau is the highly dissected Hill Country. Topography ranges from gently sloping uplands to hilly with steep canyons and ravines. Preserve elevation ranges from 700’ along tributaries of Lake Travis to 1000’ on the Jollyville Plateau. All draws and creeks as well as intermittently spring-fed tributaries drain into the Cypress Creek Arm of Lake Travis. Karst topography is associated with the Jollyville Plateau and the slope breaks along the edge of the plateau. Many caves, grottos, and springs occur on the

preserve. The Cypress Creek Unit falls on the Mansfield Dam and Jollyville USGS 7.5" quadrangle maps.

1.2.1 Geology

Geologic units of the Cypress Creek Unit include Cretaceous age Edwards limestone of the Fredericksburg Group Formation, Bee Cave Marls, and areas of the Upper Glen Rose Formation. Edwards limestone is relatively resistant to mechanical erosion, but easily soluble by groundwater, resulting in the ready formation of karst features. The Glen Rose Formation consists of thinly bedded soft and hard limestones, dolomites, and marls. Alternating soft and hard limestones result in a stair-step topography commonly seen in the Hill County of western Travis County.

1.2.2 Hydrology

1.2.2.1 Surface water

The Cypress Creek Unit falls entirely within the Lake Travis watershed. A ridgeline running northeast to southwest divides the Cypress Creek Unit into two drainages. Most of the Cypress Creek Unit is southeast of this ridge, and water drains generally in a southerly or southeasterly direction into Cypress Creek and then to Travis Lake. Small portions of the Toops tract straddle the ridgeline and provide some runoff to Long Hollow Creek, which drains directly to Lake Travis.

Hydrology of the Cypress Creek Unit is highly influenced by the geology of the Jollyville Plateau. Because the layer of Edwards limestone on the Jollyville Plateau is thin, most of the surface water on the plateau rapidly drains towards the highly dissected edge, discharging in numerous springs and seeps along the slope breaks (Woodruff 1985). Along the breaks, water run-off and erosion are high. The well-defined stream channels and adjacent floodplains of the lowlands and the less well-defined drainages further upland are both dynamic hydrologic units. Several ephemeral tributaries, springs and seeps characterize the hydrology of the Cypress Creek Unit. Seeps and springs also occur in the narrow bottomland channels that are underlain by Glen Rose limestone. Water flow in the canyon networks appears to be of long-term duration as evidenced by mesic vegetation and sedimentary features. Waterways have been observed to dry completely in the summertime and during times of drought, though water retention in the clayey soils helps to maintain riparian vegetation even in dry periods, supporting floral and faunal diversity.

1.2.2.2 Water quality

Water draining the surface of the Jollyville Plateau descends through a thin layer of Edwards limestone to a local water table, which then discharges through numerous springs and seeps along the breaks at the edge of the plateau. Woodruff (1985) suggested that water penetration into the water table might be highly localized due to the presence of sinkholes and caves. However, see Veni and Associates (1988) for a fuller discussion of water quality and the potential effects of local development.

Flowing water contains numerous aquatic species including tadpoles, insect larvae, and crustaceans. Water quality is being investigated at this writing in conjunction with research into the abundance, distribution and ecology of the Jollyville Plateau Salamander (*Eurecea tonokowae*), a species currently under consideration for regulatory status by the USFWS. The effect of nearby residential development on water quality and water flow has not been studied.

1.2.2.3 Sub-surface water

The Edwards and Trinity Aquifers are located in the area of the Cypress Creek Unit. Though Edwards Aquifer producing formations are found on tracts of the Cypress Creek Unit, the subject parcels are located on the western edge of the outcrop, and little water is produced from this source on the Preserve. The Cypress Creek Unit is not located within either the recharge or contributing zones of this Aquifer. The principal water bearing unit consists of the Middle Trinity Aquifer. Recharge occurs through the densely porous Glen Rose limestone or through faults and fractures located in streambeds, creeks, and their tributaries. The formation of travertine structures at seeps and springs is characteristic of the hydrology of the Middle Trinity Aquifer. The depth to producing formations of the Trinity Aquifer is estimated to be approximately 200 feet, with a total thickness of approximately 500 feet. Like surface water, direction of groundwater flow is roughly east or southeast. No analysis of ground water quality has been conducted.

1.2.3 Soils

Predominant soil types on the Cypress Creek Unit include those in the Brackett series (Soil Conservation Service 1974). These soils consist of shallow, gravelly, calcareous, loamy soils overlying interbedded limestone and marl. These soils are characterized as having moderately slow permeability, high shrink-swell potential, and a high risk of corrosion to uncoated steel. They are suitable for range and wildlife habitat or recreation. Soils in the Brackett series are shallow and well drained with a generally gravelly surface layer. Brackett soils and Rock

outcrop, steep, (BoF) are found on steeper slopes along creeks or rivers and consist of Brackett soils separated by rock outcroppings (Soil Conservation Service 1974).

1.2.3 Caves and Subsurface Features

Numerous karst features occur on the Cypress Creek Unit. "Karst" is defined as terrain where the rock is dissolved by water such that a significant percentage of surface water drains into the subsurface (Veni and Associates 1988). Karst features that have been located on the Jollyville Plateau include caves, sinkholes, pits, karren, and honeycombed rock (Veni and Associates 1988).

Karst features act as conduits, transmitting water to the subsurface rapidly, with little or no filtration. For this reason, groundwater systems in karst habitats are sensitive to surface activities and conditions (Veni and Associates 1988). Woodruff (1985) noted that, on the plateau, the movement of surface water to groundwater might be highly localized due to the presence of karst features (Woodruff 1985). Surface water quality may potentially affect karst invertebrates, as well as the Jollyville salamander (see Section 1.3.2 Animals on the Tract). See Veni and Associates (1988) for a discussion of karst and water quality impacts of local development and see Section 1.2.2 Hydrology.

1.3 Biological characteristics

1.3.1 Vegetation currently on tract

The Cypress Creek Unit is located in the Edwards Plateau vegetative region**.** A majority of the preserve comprises upland savannah or grassland habitat with extensive Ashe juniper (*Juniperus ashei*). Dominant grasses include little bluestem *(Schizachyrium scoparium*), silver bluestem (*Bothriochloa saccharoides*), gramas (*Bouteloua spp.*) and *Panicum sp*. Due to historic land use patterns, it is unlikely that grassland habitats contain remnant native prairie. Terraced areas and areas of gently sloping topography are relatively open, but have been colonized by young Ashe juniper. On steeper slopes, junipers form dense brakes. Canyons and mesic slopes support closed canopy, juniper-oak woodlands with a mix of hardwoods including cedar elm (*Ulmus crassifolia*), black cherry (*Prunus serotina*), Texas ash (*Fraxius texensis*), hackberry (*Celtis sp.*), and Spanish oak (*Quercus buckleyi*). Riparian vegetation includes sycamore (*Plantanus occidentalus*), and willow (*Salix nigra*). Numerous seeps and springs support a variety of mesic vegetation, including sedges, mosses and ferns.

1.3.2 Animal species currently on tract

Species of interest include the endangered golden-cheeked warbler and black-capped vireo. A number of bird species on the Audubon Watch List for Texas, 2001, have been observed on the preserve. These include the Yellow-billed Cuckoo, Northern Bobwhite, Black-chinned Hummingbird, Scissor-tailed Flycatcher, Painted Bunting, and Rufous-crowned Sparrow. A large population of feral hogs also occurs on the preserve.

1.3.2.1 Endangered species and species of concern

- **Golden-cheeked Warbler**

Prime nesting habitat for the golden-cheeked warbler (GCWA) occurs throughout tracts of the Cypress Creek Unit. Prime habitat contains large, mature junipers and a mix of deciduous hardwoods in a closed-canopy woodland. A total of twenty-one GCWA breeding territories were documented on the Preserve in field seasons 2003 and 2004 (Travis County 2003, 2004). Areas surveyed included the Attwood, Blake, King, Toops and the Crossings tracts (Travis County 2002, 2003, 2004, 2005, 2006). Additional "edge" territories, i.e. territories in which some portion (in some cases more than half) fell outside of preserve boundaries, and incidental GCWA observations were noted on private lands adjacent to County managed tracts. These observations are reported in each year's BCCP Annual Report to the USFWS (Travis County 2002, 2003, 2004, 2005, 2006).

- **Black-capped Vireo**

Black-capped vireos (BCVI) were observed on the Cypress Creek Unit during the 2007 field season, and will be reported to the USFWS in the BCCP 2007 Annual Report to the USFWS. Important characteristics of BCVI habitat in Travis County include dense vegetative cover to two meters above the ground, and structural patchiness resulting in high amounts of edge. Occupied habitat in Travis County often includes some species of oak (*Quercus sp*.). Occupied BCVI habitat is also found not far from the Cypress Creek Unit on Travis County's Jollyville Unit. A total of as many as twenty-two male BCVI have been reported from the Jollyville Unit, and in 2003 twenty of these males successfully established territories (Travis County 2003). Travis County staff will continue to survey for BCVI and assess the suitability of potential habitat restoration sites within the Cypress Creek Unit.

- **Karst species**

No karst species covered under the regional permit (BCCP) are known to occur on this preserve.

- **Plant species**

No plant species covered under the regional permit (BCCP) are known to occur on this preserve.

- **Other species of concern**

No other species of concern are known to occur on this preserve.

1.4 Land uses

1.4.1 Pre-historic

The prehistoric sites were predominantly surface scatters and appear to have been small campsites or lithic procurement areas. The historic period sites appear to represent late nineteenth/early twentieth century ranching occupations.

Travis County is committed to conserving archeological sites within the preserve. Should the necessity arise for land management activities potentially harmful to cultural resources, Travis County will make every effort to locate and avoid destruction of any such resources and will consult with the Texas Historical Commission.

1.4.2 Historic

The lands that now comprise the Cypress Creek Unit were at one time working ranches, focused primarily on production of cattle, chickens, goats and sheep. Recent land use was largely recreational, and included activities such as camping, hunting, and nature study and enjoyment.

1.4.3 Current

1.4.3.1 On-site land use

The Cypress Creek Unit was acquired as preserve land and has no other uses. The Crossings Preserve was set aside as on-site mitigation and preserve with no other use except the USFWS approved trails for use only by staff and guests of the Crossings.

1.4.3.2 Adjacent land use

The Attwood, Blake and King portions of the Unit are bounded by the City of Cedar Park's mitigation tract to the north and privately held land to the south. This portion of the Cypress Creek Unit abuts the Twin Creeks development which consists of single family residences, a golf course, and open space to the east and the LCRA's BCP Wheless Tract and the Nature Conservancy of Texas' BCP Ruth P. Lehmann Preserve to the west.

The Crossings and the Toops tracts are bounded by FM2769 to the south and east, by the BCP Wheless tract to the west, and by privately held land to the north.

2.0 MANAGEMENT PROGRAM

2.1 Plan Administration

See Tier II-B Plan Administration for the description of Travis County as a managing entity, County staffing levels, equipment inventory, budget and annual reports as they pertain to the County's management of BCP lands.

2.2 Management Goals

2.2.1 Primary Management Goals

- Maintain or improve vegetation quality and coverage to provide habitat area for the GCWA.
- Participate in the development and implementation of the BCP long-term biological monitoring program in conjunction with other preserves within the macrosite and with other BCP agencies.
- Manage the preserve in accordance with applicable BCP Land Management Plan sections, including the Tier II-A Management Handbook.

2.2.1.1 Golden-cheeked Warbler

Management for GCWA will include limiting human disturbance of habitat areas and maintaining or improving existing habitat. The preserve will be surveyed to measure the success of management activities in accordance with USFWS protocols and guidance provided in Tier II-A Chapter 7.

2.2.1.2 Federally listed karst species

None are known to occur on this tract. No significant karst habitat is known to occur on the Cypress Creek Unit. The preserve will continue to be monitored to identify any possible habitat located on these tracts.

2.2.1.3 Species of concern

None are known to occur on this tract. The preserve will continue to be monitored for possible occurrence in the future.

2.2.2 Secondary Management Goals

Secondary management goals include habitat restoration, erosion controls where needed, and control of invasive species.

2.3 Issues

2.3.1 Conservation Easement

The Conservation Easement Agreement between Travis County and the Crossings was signed March 16, 2004. Aspects of this agreement require active cooperation between the parties to ensure compliance with all permit terms and conditions.

2.3.2 Development Pressures

With increasing development of land adjacent to the Cypress Creek Unit primarily for single family residential developments, concerns such as erosion, illegal dumping, trespass, fire, non-native animals and others will continue to be a major concern and will require active protection efforts for many years.

2.3.3 Public Access on the Preserve

With increasing nearby development, Land Managers anticipate increased pressure for public access to preserve land. Land Managers will abide by the BCP Public Access Permitting Process to address any proposed changes to current uses on these tracts.

Approved trails located on the Ctossings are constructed and maintained by the Crossings in compliance with USFWS permit #TE-024619-0. This trail system is located entirely on privately owned land, and is for the use of the Crossings staff and guests only and is not available for public access.

2.4 Management Objectives

The main objectives for this macrosite (North Lake Austin Macrosite) are, in the order of priority:

1. Protection of endangered species and species of concern, the land and water;
2. Management of endangered species and species of concern and their habitats;
3. Monitoring of the habitats for endangered species and species of concern; and
4. Enhancement of the habitats for endangered species and species of concern;
5. Public education and outreach about endangered species and species of concern and their habitats.

The macrosite land management plan details how activities are prioritized under the objectives (see Tier II-C North Lake Austin Macrosite). Following are the four categories with associated activities listed.

Vegetation Management:

- Monitor oaks for oak wilt and regeneration to assess action needed.
- Maintain, enhance and restore GCWA and BCVI habitat to the extent possible.
- Monitor encroachment of invasive and/or non-native species throughout the preserve and control as needed.
- Inventory plants in the preserve.
- Map vegetation zones and significant occurrences.
- Monitor changes in vegetation over time to the extent possible.

Animal Management:

- Continue to monitor GCWA and BCVI habitat use within the preserve.
- Monitor other species' impacts on GCWA and BCVI to assess action needed.
- Inventory animals (native and non-native) in the preserve.
- Implement a control plan for native and non-native wildlife (brown-headed cowbirds, deer, feral hogs, fire ants, cats, dogs, etc.).

Physical and Cultural Management:

- Monitor erosion and sedimentation sources and stabilize/restore as needed.
- Conduct archeological assessments as needed and protect cultural resources.

Visitor Management and Education:

- Monitor the boundary for signs of fence damage or trespass, and take appropriate action.
- Work with the Crossings to implement the USFWS approved Trail Plan and work with the Crossings to update the plan as needed.
- Work with preserve neighbors, homeowners groups, and other interested parties to educate and inform about County management activities.
- Monitor trespass impacts to the preserve.
- Increase public awareness of BCP and endangered species protection through use of tours, brochures, kiosk displays and signs. Increase neighboring landowner awareness of the preserve and inform them of BCP access, education and outreach opportunities.

Staff efforts will be supplemented by volunteers and research interns whenever possible. Staff will collaborate with other managing partners to support and achieve common goals.

2.5 Specific Implementation Strategies

(See BCP Land Management Plan, Tier II-A Management Handbook for more detailed guidance and applicable strategies and constraints.)

2.5.1 Vegetation management procedures

2.5.1.1 Control methods

Invasive and non-native vegetation will be managed with hand tools, digging, or with application of approved herbicides. Other methods such as mowing and drill seeding may be incorporated to boost native species' competitive edge against non-native and/or invasive species. See Tier II-A Chapter 4 for guidance on vegetation management.

2.5.1.2 Oak wilt

No oak wilt centers are known to occur on the Cypress Creek Unit. The County will continue to monitor and take appropriate action should this disease be discovered.

2.5.1.3 Prescribed fire and wildfires

No prescribed fires are planned and all wildfires will be controlled.

2.5.1.4 Restoration and protection efforts

Areas within the preserve found to have erosion problems will be stabilized, revegetated and/or restored to the extent possible. Unused roads and trails will be restored to habitat where appropriate.

2.5.1.5 Protection efforts for species of concern

No species of concern are known to occur on these tracts within the preserve.

2.5.2 Animal Management Procedures

2.5.2.1 Endangered species

(a) Golden-cheeked Warbler

Bird surveys will be conducted in accordance with the guidelines provided in Tier II-A Chapter 7. Mixed hardwood juniper forests will be managed to maintain/enhance closed-canopy woodland to the extent applicable.

(b) Black-capped Vireo

Black-capped vireos were verified on the Cypress Creek Unit in 2007 and will be formally reported to the USFWS in the BCCP 2007 Annual Report. BCVI surveys will be conducted in accordance with the guidelines provided in Tier IIA Chapter 8.

(c) Karst Invertebrates

None are known to occur on this tract. Surveys will be conducted if any karst formations known to support karst species are identified.

2.5.2.2 Animal control methods

(a) Browsing animals

Deer populations and regeneration of woody species will be monitored. Management of deer populations has been implemented in accordance with Tier II-A Chapter 10 and with Travis County's "Wildlife and Vegetation Management Guidelines" as approved by Commissioners Court on 17 December 2002.

(b) Feral animals

Presence of feral animals will be monitored and feral animals will be removed from the preserve whenever possible and in accordance with Travis County's "Wildlife and Vegetation Management Guidelines" as approved by Commissioners Court on 17 December 2002. See Tier II-A Chapter 10 for information concerning management of feral animals.

(c) Predation and parasitism

The Brown-headed cowbird population will be monitored and any GCWA feeding cowbirds will be noted. Cowbird trapping will be conducted when necessary. Red imported fire ants will be monitored and controlled with approved methods. Tier II-A Chapter 10 provides guidance concerning management of predaceous and parasitic organisms.

2.5.3 Physical and Cultural Management Procedures

2.5.3.1 Hydrology and Water Quality

Contamination of water both via run-off and via groundwater sources will be minimized to the greatest extent possible through cooperative efforts with neighboring landowners.

2.5.3.2 Geology (caves)

If any significant caves or other karst features are found, surveys will be conducted for endangered species and species of concern. The areas will be managed in accordance with the BCP Land Management Plan for karst protection.

2.5.3.3 Soils

Areas of soil loss will be stabilized/restored to the extent possible.

2.5.3.4 Cultural resource protection

Cultural resources will be protected through careful management and any new project planning and monitoring. The Texas Historical Commission will be consulted prior to taking any action which might impact archeological or historical resources.

2.5.4 Visitor Management Procedures

2.5.4.1 Access control

There are several approved trails that traverse the Crossings Preserve for use by Crossings staff and guests only. The Crossings staff is responsible for enforcing trail rules as described in USFWS 10(a) 1B permit #TE-024619-0 issued July 27, 2000. Access is not allowed off approved trails except in the case of emergency or for management by staff of the Crossings or Travis County Natural Resources.

2.5.4.2 Individual or independent group use

(a) Non-commercial use

There is no non-commercial use anticipated.

(b) Commercial use

There is no commercial use anticipated.

(c) User/resource conflicts

The Crossings staff and guests are allowed to use the approved trails under specific conditions outlined in the Conservation Easement Agreement. There are “Self-help Rights” in this agreement that allow Travis County to close the trails if conditions exist that threaten the protected species.

3.0 MANAGEMENT PROGRAM MONITORING

The County will monitor and evaluate habitat management in accordance with applicable biological monitoring procedures as defined in BCP Land Management Plan, Tier II-A Management Handbook. Evaluation and reporting procedures will comply with applicable portions of the Tier II-B Plan Administration.

4.0 LITERATURE CITED

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