BALCONES CANYONLANDS CONSERVATION PLAN

Annual Report
FY 2004

Background

On May 2, 1996, the City of Austin and Travis County were jointly issued an U.S. Fish and Wildlife Service (USFWS) regional permit (the Permit) referred to as the Balcones Canyonlands Conservation Plan (BCCP). This Permit allows incidental "take" of eight locally occurring endangered species in compliance with 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 approximately 561,000 acres in western Travis County 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 species of concern should any become listed as threatened or endangered during the life of the permit (see Table 1).

Permit Requirements

The City of Austin and Travis County (the Permit Holders) are required to assemble and manage 30,428 acres of suitable habitat for the golden-cheeked warbler and the black-capped vireo, and to protect and manage populations of canyon mock-orange and Texabama croton. The Permit Holders are also to acquire and manage or ensure protection through management agreements on 35 karst features supporting populations of six endangered invertebrates and 27 features known to harbor 25 species of concern. This system of managed and protected habitats is known as the Balcones Canyonlands Preserve (BCP). The locations of habitat areas and specific karst features proposed for protection are delineated in the HCP/FEIS (U. S. Department of the Interior, Fish and Wildlife Service, 1996b).

Agencies or organizations entering into formal agreements with the Permit Holders to manage designated preserve lands in accordance with the BCCP are considered Managing Partners. At this time, the sole BCP Managing Partner is the Lower Colorado River Authority (LCRA) which manages 2,707 acres as a portion of the preserve system. As a Managing Partner, LCRA may mitigate for capital improvement and infrastructure development projects through the mitigation credit system established by the BCCP.

Table 1. Species covered by the BCCP.

Common name	Scientific name	Status
Black-capped vireo	*Vireo atricapilla*	Endangered
Golden-cheeked warbler	*Dendroica chrysoparia*	Endangered
Tooth Cave pseudoscorpion	*Tartarocreagris texana*	Endangered
Tooth Cave spider	*Neoleptoneta myopica*	Endangered
Bee Creek harvestman	*Texella reddelli*	Endangered
Bone Cave harvestman	*Texella reyesi*	Endangered
Tooth Cave ground beetle	*Rhadine persephone*	Endangered
Kretschmarr Cave mold beetle	*Texamaurops reddelli*	Endangered
Canyon mock-orange	*Philadelphus ernestii*	Species of Concern
Texabama croton	*Croton alabamensis*	Species of Concern
Flatworm	*Sphalloplana mohri*	Species of Concern
Ostracod	*Candona* sp. nr. *stagnalis*	Species of Concern
Isopod	*Caecidotea reddelli*	Species of Concern
Isopod	Trichoniscinae N. S.	Species of Concern
Isopod	*Miktoniscus* N. S.	Species of Concern
Spider	*Cicurina wartoni*	Species of Concern
Spider	*Cicurina ellioti*	Species of Concern
Spider	*Cicurina bandida*	Species of Concern
Spider	*Cicurina reddelli*	Species of Concern
Spider	*Cicurina reyesi*	Species of Concern
Spider	*Cicurina cueva*	Species of Concern
Spider	*Cicurina travisae*	Species of Concern
Spider	*Neoleptoneta cocinna*	Species of Concern
Spider	*Neoleptoneta devia*	Species of Concern
Spider	*Eidmannella reclusa*	Species of Concern
Pseudoscorpion	*Aphrastochthonius* N. S.	Species of Concern
Pseudoscorpion	*Tartarocreagris reddelli*	Species of Concern
Pseudoscorpion	*Tartarocreagris intermedia*	Species of Concern
Pseudoscorpion	*Tartarocreagris* N. S. 3	Species of Concern
Harvestman	*Texella spinoperca*	Species of Concern
New Comanche Trail Cave Harvestman	*Texella comanche*	Species of Concern
Millipede	*Speodesmus* N. S.	Species of Concern
Ground beetle	*Rhadine s. subterranea*	Species of Concern
Ground beetle	*Rhadine s.mitchelli*	Species of Concern
Ground beetle	*Rhadine austinica*	Species of Concern

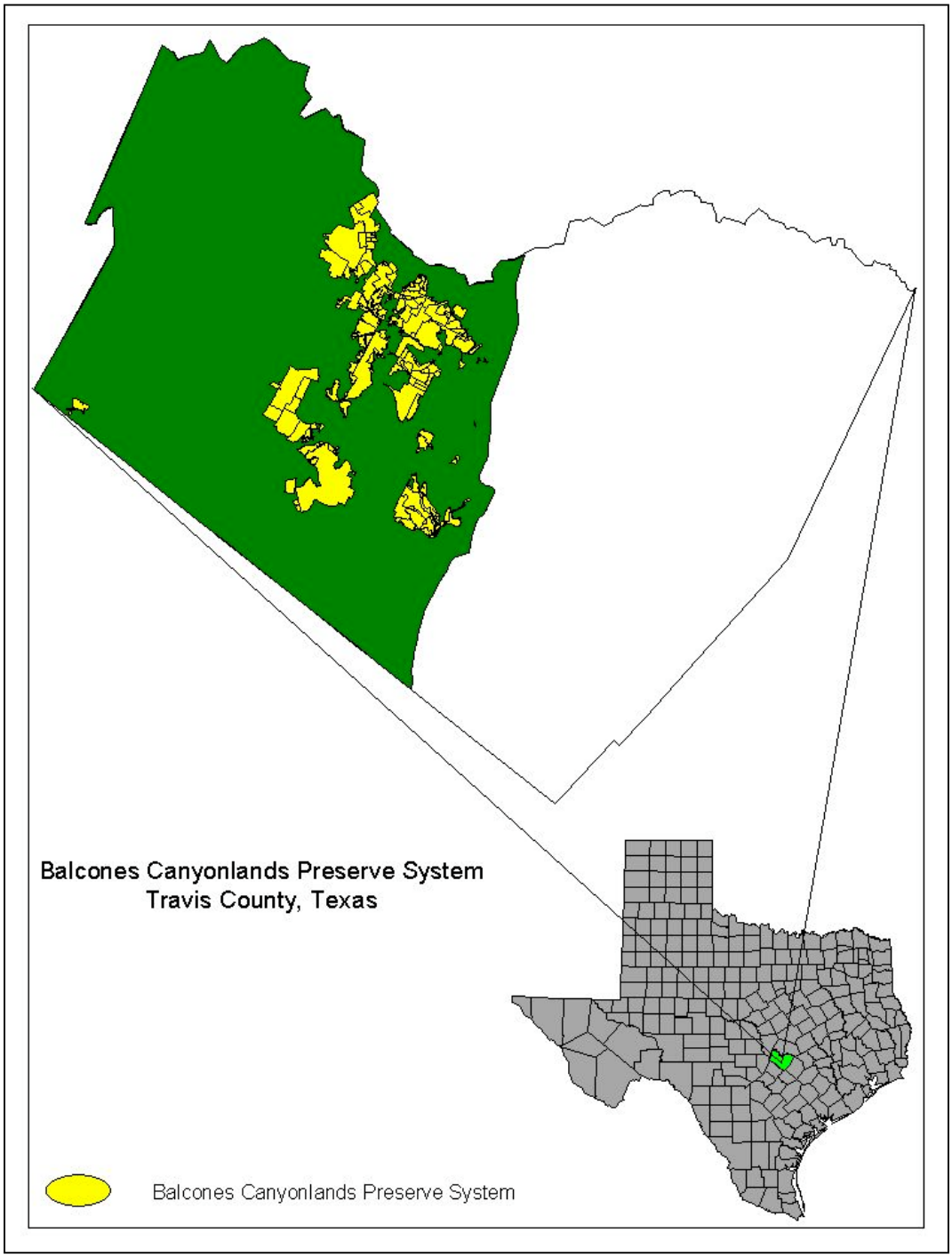
The Nature Conservancy of Texas (TNCTX) and the Travis Audubon Society (TAS) also manage lands for public and environmental benefit within the Preserve. These organizations are not considered Managing Partners, however, as no formal agreements with the Permit Holders have been finalized. In FY2003, the City of Lakeway accepted management obligations for the 498 acre Schramm Ranch tract, portions of which are set aside as mitigation under USFWS 10(a) permit number PRT-812695 (U. S. Department of the Interior, Fish and Wildlife Service, 1998). The City of Lakeway submits an annual report to the USFWS in conjunction with the BCCP Partners, and this document is attached herein as an appendix. A number of private landowners also manage habitat within the USFWS delineated proposed preserve boundaries, often as required under individually issued Section 10(a) permits. These landowners are responsible for reporting in accordance with the terms and conditions of their individual permits directly to the USFWS, and these reports are not contained herein. Though not Managing Partners under the BCCP, the Permit Holders continue to cooperate with these entities and private landowners to address species and land management concerns common to all BCP properties.

The City of Austin operates the BCCP Capital Improvement/Infrastructure Development Mitigation Process, and Travis County administers the BCCP Public Participation Process that addresses the mitigation needs of agencies and landowners under the terms of the Permit. The BCCP provides a voluntary, streamlined alternative for agencies and landowners seeking to comply with the Endangered Species Act (the Act). Those participating through the BCCP have met their obligations under the Act and may proceed with development under the terms of Participation Agreements. Those choosing not to participate may comply with the Endangered Species Act by obtaining an individual 10(a) permit from the U. S. Fish and Wildlife Service.

The Permit further requires that the Permit Holders submit an annual report that provides:

- an annual summary of development activities within the Permit area
- an annual list of tracts for which Participation Certificates were issued
- the amount of funds collected through Participation Certificate and USFWS directed mitigation fees
- the amount of funds expended for land acquisition
- the amount of funds expended for Preserve operations and maintenance
- an updated map of Preserve lands
- a summary of public use and habitat management activities within the Preserve, and
- copies of all research and investigation reports prepared within the last fiscal year.

Figure 1. Location of the Balcones Canyonlands Preserve System.



Development Activity within the Permit Area

The City of Austin development activity report for FY2004 detailing a compilation of Development Permits issued within the City's jurisdiction of the Permit area is attached as Appendix A.

A summary of development permits issued by the Travis County Permitting office within the Permit area in FY2004 is attached as Appendix B.

Mitigation Credit Balance

The City of Austin's Balcones Canyonlands Preserve staff administers the Capital Improvement and Infrastructure Development Project mitigation credit system on behalf of the BCCP Coordinating Committee. The mitigation needs of the Permit Holders and the Managing Partner for these projects are provided under the terms of the regional Permit. Mitigation credits are issued at a rate equal to the number of acres within the Preserve system managed under the terms and conditions of the Permit and the HCP/FEIS (U. S. Department of the Interior, Fish and Wildlife Service, 1996b). Capital improvement and infrastructure development mitigation needs are subtracted from this accumulated "bank" of credits at a rate of one acre of credit per acre of habitat impact; regardless of habitat zone (see Table 2).

Table 2. Projects mitigated through the use of mitigation credits during FY04 by participating agency.

City of Austin	
Starting City of Austin Balance	11,536.35 acres
Remaining Mitigation Credits	***11,536.35 acres***
Travis County	
Starting Travis County Balance	1,563.0 acres
Anderson Mill Road Extension	(10.0) acres
New preserve additions (credits)	933 acres
Remaining Mitigation Credits	***2,546.0 acres***
Lower Colorado River Authority (LCRA)	
Starting LCRA Balance	2,489.1 acres
Rebuild of the Electric Distribution Line Along RR 1431 from Nameless Road to Buck Run (PEC)	(0.8) acres
Remaining Mitigation Credits	***2488.3 acres***

Participation Certificate Activity

Travis County's Natural Resources Department administers the BCCP Public Participation Process on behalf of the BCCP Coordinating Committee and issues Participation Certificates for cooperating landowners within the Permit area. Descriptions of participation categories are defined in the Interlocal Cooperation Agreement between Travis County and the City of Austin Implementing the Balcones Canyonlands Conservation Plan Shared Vision (City of Austin and Travis County, 1995). As required by the terms of the regional Permit, copies of each Participation Certificate and Habitat Determination map are provided to USFWS Austin Ecological Services office. Over the past year, eleven Participation Certificates were issued (Table 3), one for commercial use, three for single family use, six for subdivisions, and one under the USFWS Alternative Determination Process.

Table 3. Fiscal Year 2004 Participation Certificate summary.

BCCP Application #	Date Issued	Name	Category	Amount Paid
#0359	8/23/2004	C. C. Carlton Construction	Commercial	$1,200.00
#0372	7/14/2004	Spanish Oaks	Subdivision	$30,000.00
#0376	10/16/2003	Farago-Walker	Single Family	$3,000.00
#0391	1/23/2004	Cypress Canyon Section 1-A	Subdivision	$40,800.00
#0392	1/23/2004	Cypress Canyon Section 1-B	Subdivision	$30,000.00
#0393	12/3/2003	Cypress Canyon Water Quality Ponds	Subdivision	$34,500.00
#0398	2/10/2004	Panther Hollow Creek	Alternative Determination	$25,200.00
#0422	9/28/2004	Beardsley and Mason	Single Family	$1,500.00
#0431	8/10/2004	Cypress Canyon Section2	Subdivision	$55,899.00
#0432	8/10/2004	Manipakone	Single Family	$1,500.00
#0433	8/10/2004	Single Stone Homes	Subdivision	$31,800.00

Funds Collected through Participation Certificate and USFWS directed mitigation fees

A total of $255,399.00 was collected through the sale of Participation Certificates in FY2004. These funds are disbursed between the Permit Holders on a quarterly basis. Travis County also receives USFWS directed mitigation payments in accordance with the terms of individual 10(a) permits. Four USFWS directed mitigation payments totaling $123,750.00 were received in FY2004 (Table 4). These funds are utilized to acquire lands for habitat protection at the direction of USFWS.

Table 4. Fiscal Year 2004 USFWS Directed Mitigation Payment Summary.

Date Received	Name	Category	Amount Paid
10/27/2003	Mayberry	10(a) Payment	$1,500.00
11/7/2003	Volente Group	10(a) Payment	$57,000.00
3/30/2004	Greenshores	10(a) Payment	$32,000.00
9/30/2004	Gray Mountain	10(a) Payment	$33,250.00

Travis County's Tax Benefit Financing Plan, a funding mechanism outlined in the Interlocal Cooperation Agreement between Travis County and the City of Austin Implementing the Balcones Canyonlands Conservation Plan Shared Vision (City of Austin and Travis County, 1995) generated $3,099,876.00 in FY2004. Travis County Commissioners Court directed these funds to support County Preserve land purchases until the land acquisition goals established by the permit have been achieved.

Funds Expended for Land Acquisition

Since the inception of the BCCP, the Permit Holders have successfully competed for USFWS Habitat Conservation Plan grants each year. To date, eight Land Acquisition Assistance Program awards totaling $54,848,411 have been completed or are in progress (see Table 5).

Table 5. USFWS HCP Land Acquisition Grant awards received by the Permit Holders.

Year	Federal Grant Funds	Minimum Local Match (25%)	Total Grant	Local Recipient
1997	$1,000,000	$333,333	$1,333,333	City of Austin
1998	$2,000,000	$666,666	$2,666,666	Travis County
1999	$1,500,000	$500,000	$2,000,000	Travis County
2000	$4,140,000	$1,380,000	$5,520,000	Travis County
2001	$14,140,000	$4,713,333	$18,853,333	City of Austin, Travis County
2002	$10,000,000	$3,333,333	$13,333,333	Travis County
2003	$4,993,794	$1,647,952	$6,641,746	Travis County
2004	$3,375,000	$1,125,000	$4,500,000	Travis County
Totals	**$41,148,794**	**$13,699,617**	**$54,848,411**	

Travis County expended a total of $23,982,608 on fee simple land acquisition activities in FY2004. Note that this total includes $9,845 spent on appraisals and associated acquisition costs for the Nootsie Ltd. tract, which was acquired in FY05. These expenditures are broken down by tract in Table 6. In addition to fee simple acquisitions, Travis County actively pursues alternative protection strategies such as conservation easements and deed transfers. Use of these non-traditional measures provides opportunities to secure in-perpetuity protection for habitat lands that may not otherwise be available for fee simple purchase.

Table 6. Travis County FY2004 BCP Land Acquisitions.

Tract	Date Acquired	Acreage	Total Cost*
King	01 Oct. 2003	59.524	$664,824
Tomen-Parke Cave Tract	19 Dec. 2003	140.462	$4,131,505
The Crossings Conservation Easement	16 March 2004	175	NA
Greenshores Ltd. Conservation Easement	13 April 2004	52	NA
Grandview Hills Section 8 Conservation Easement	13 April 2004	24	NA
Attwood	01 June 2004	31.4	$382,652
Ribelin	25 June 2004	319.709	$8,603,653
Blake	25 June 2004	38.76	$474,773
Canyon Vista Deed Transfer	10 June 2004	237	NA
Canyon Vista Conservation Easement	11 June 2004	1	NA
Medway Ranch	07 July 2004	344.984	$9,265,943
Stratton/Verandah	31 Aug. 2004	6	$449,413
Nootsie, Ltd. **			$9,845
Totals		**1,429.839**	**$23,982,608**

* Total Cost includes land and associated acquisition costs (surveys, environmental site assessments, etc.)
** Note that these funds were expended in FY2004, while closing and remaining land and acquisition costs were expended in FY2005

Travis County's continuing land acquisition efforts in FY05 have already resulted in additional habitat protection successes. Travis County staff will continue to pursue fee simple purchases as well as alternatives such as conservation easements, deed transfers, and other land protection strategies to meet the goals established by the Permit.

The City of Austin committed to accruing 11, 578 acres toward the completion of the BCP. Presently the City of Austin owns and manages 13,035 acres of land within the Balcones Canyonlands Preserve. At this time, the City of Austin is not negotiating for the purchase of any additional preserve land.

Funds Expended for Operations and Maintenance

The City of Austin spent a total of $540,088 for FY 03-04 to fund preserve management expenditures by the Austin Water Utility's Wildland Conservation Division, Balcones Canyonlands Preserve Program. This figure understates the City's total expenditures on this program since it does not include (1) work by other staff in the AWU's Wildland Conservation Division on program administration and support; (2) operation and maintenance expenditures by Austin Park and Recreation Department Operations on BCP-designated parkland; or (3) land management expenditures by the Austin Water Utility on the two BCP-designated tracts that it owns and manages. Those expenditures cannot be readily determined from their program budgets.

Table 7. Annual FY2003 and FY2004 BCP budgets for Permit Holders, the Managing Partner, and cooperating entities with summary of total budgets since plan inception.

BCP Partner	2003	2004	Total Budget: 1996 to Present
City of Austin	$540,088	$540,088	$4,167,427
Travis County	$333,834	$493,170	$2,898,689
LCRA	$165,000	$105,000	$783,072
TNCTX	$80,000	$80,000	$854,000
TAS	$8,863	$7,350	$68,696
TOTALS	**$1,128,390**	**$1,225,608**	**$7,918,738**

The Travis County Natural Resources budget for the BCP Program in FY2004 was $493,170. This includes Travis County General Fund expenditures as well as developer funds negotiated to support ongoing operations and maintenance of County managed Conservation Easements. Note that this figure does not include expenditures by the Committee for Wild Basin Wilderness, Inc., which holds a contract to conduct educational programming and management of the County owned Wild Basin Wilderness Preserve. This total also does not include administrative, legal, and additional law

enforcement support or non-habitat-related operations and maintenance provided by other Travis County Departments.

Updated Map of Lands Dedicated to the Balcones Canyonlands Preserve

With the addition in FY2004 of 940 acres to the Preserve, 27,565 of the 30,428 acres of black-capped vireo and golden-cheeked warbler habitat required by the Permit (91%) have been assembled by the Permit Holders with the assistance of cooperating landowners and entities. In addition, Travis County acquired ownership or management responsibilities for 489 acres within the Preserve that had previously been managed by private landowners, thereby ensuring long-term protection of these habitat lands. A map illustrating the current status of the Balcones Canyonlands Preserve is enclosed as Appendix C. A summary of BCP lands by managing entity is enclosed as Appendix D.

Public Use and Habitat Management Activities occurring within the Balcones Canyonlands Preserve

The City of Austin

The Austin Water Utility (AWU) Wildland Conservation Division (WCD) staff has responsibility for management, habitat restoration, removal of threats to the habitat and inventorying existing species within the city's 13,035 acres portion of the BCP. Five biologists assigned to the WCD provide monitoring; surveying; and land management functions for the City's BCP Program. WCD staff and staff coordinated volunteer activities provide maintenance and administration support.

The Utility's Wildland Conservation Division currently manages 9,852 acres of the BCP and assists PARD Park Operations on the other 3,183 acres of designated parks and Preserves (see Table 8).

Table 8. Management Status of City of Austin BCP Properties

Tract	Primary Management Responsibility	Acreage
Upper Bull Creek Unit (Franklin, Hanks, Lanier, COA Canyon Creek)	AWU/BCP BCP/PARD(Franklin)	608
Middle Bull Creek Unit (Ivanhoe, Beard Trust)	AWU/ BCP	996
Lower Bull Creek Unit (St. Edward's Park, Jester, Forest Ridge, 3M, Hilltop, Gibson/Nott, Hiller, Kruger)	AWU/BCP	1140
Lime Creek (inc. 100 acres of Austin-Simon, Ltd.)	AWU/BCP	594
Park West, Coldwater I & II, Long Canyon	AWU/BCP	1345
Cortaña	AWU/BCP	1752
Double J&T	AWU/BCP	1729
Reicher Ranch	AWU/BCP/PARD	820
Bohls Ranch	AWU/BCP	450
Sansom	AWU/BCP	13
Senna Hills	AWU/BCP	35
Vireo Research Area	AWU/BCP/PARD	214
Ullrich Water Treatment Plant	AWU/BCP	18
Water Treatment Plant #4	AWU/BCP	138
	AWU/BCP Subtotal	**9,852**
Bull Creek District Park, Barton Creek Greenbelt	PARD Operations*	25
Spicewood Springs Preserve	PARD Operations	8
Barrow Preserve	PARD Operations	8
Emma Long Metro Park	PARD Operations	950
Commons Ford Park	PARD Operations	115
Barton Creek Wilderness	PARD Operations	999
Barton Creek Greenbelt	PARD Operations	813
Friesenhahn	PARD Operations	62
Mt. Bonnell	PARD Operations	3
	Other City of Austin Subtotal	**3,183**
	TOTAL ACREAGE	**13,0*35***

*****PARD Operations does not manage for Endangered Species; they perform regular maintenance, i.e. mowing, trash pickup, and some trail management activities. AWU BCP staff provides BCP management activities.

UPPER BULL CREEK UNIT

Staff conducted three white-tailed deer census counts on a 5-mile census route on a portion of the Upper Bull Creek Unit (Canyon Creek, Franklin, Lanier, WTP#4 tracts) in August and September of 2004, with an average survey count of one deer per 23.3 acres (the majority of deer leave the preserve late evenings to forage in nearby suburbs).

Canyon Creek

Illegal trespass from Canyon Creek development remains an ongoing problem. The primary trespass routes appear to come from the adjacent Canyon Creek conservation easements. Management activities for this tract during FY 03-04 included:

- Routine patrol of the area for evidence of trespass and preserve damage.
- Repair road by removing fallen trees and added reinforced concrete to eroded portions of the road.
- Erosion control efforts.
- Trash removal.
- Repair of damaged perimeter fence and gates due to unauthorized trespass.
- Added “no trespassing” signs and purple paint to warn against trespassing along perimeter of property.
- Continued to meet with USFWS and Canyon Creek development officials regarding illegal trespass and non-compliance with Canyon Creeks section 7A permit. Met on site with USFWS, and Canyon Creek development representatives regarding our concerns. Canyon Creek agreed to fence and post “no trespassing” signs at the major illegal access points and to date they have carried out a few of these projects.
- Staff conducted 3 white-tailed deer census counts.
- Feral hog trapping.
- Removed non-native invasive vegetation.
- BCP staff are in communication with property management and neighborhood association management companies to develop educational efforts.
- Located and marked one Land Condition Trend Analysis plot for upcoming vegetation monitoring, to commence in October 2004.
- Surveyed for the presence of oak wilt (no oak wilt observed).

Hanks Tract and Gardens at Bull Creek Tract

BCP staff has spent considerable time overseeing mitigation measures on this tract and adjacent City infrastructure land to the north. A portion of the Hanks tract was involved in the construction of a regional flood retention facility on the adjoining Gardens of Bull

Creek property (To date the GBC property's acreage is not counted toward the BCP total, but is managed as BCP land). Management activities for this tract included:

- Routine patrol of the area for evidence of trespass and preserve damage.
- Issued trespass warnings to numerous trespassers.
- Had 4 ATV trespassers arrested for trespass and fishing without the consent of the property manager.
- Staff continued to monitor the health of 229 trees (planted Nov. 2000).
- Continued to irrigate the newly planted trees as needed.
- Removed trash from both tracts.
- Repaired access road on Hanks by removing fallen trees.
- Repaired vandalized perimeter fence and deer exclosure.
- Repaired fence and floodgates damaged by floodwaters.
- Installed new perimeter signs and repaired vandalized signs.
- Removed the Hanks cabin (Habitat for Humanity reused 80% of the cabin). The cabin had become an attractive nuisance for vandalism (completed in 10/04).
- Revegetated the former cabin site.
- White-tailed deer exclosure: monitored hardwood saplings that had been planted in previous years by Boy Scout troops.
- Seeded white-tailed deer exclosure to aid in golden-cheeked warbler habitat restoration.
- Seeded eroded areas with native grasses.
- Surveyed erosion problems from adjacent development. This erosion and sedimentation is adversely affecting Bull Creek water quality as well as Jollyville Plateau salamander habitat. Staff reported all erosions problems associated with adjacent development to the City of Austin's environmental inspectors. Remediation was enacted as required by City code.
- Feral hog trapping.
- Biological monitoring continued during FY 03-04 at Hanks. Quarterly monitoring of the presence of the aquatic Jollyville Plateau salamander was conducted on both tributaries. Staff conducted surveys following protocol established in the City of Austin's Watershed Protection and Development Review Department (WPDRD) report "Jollyville Plateau Water Quality and Salamander Assessment". At set stations, staff measured flow, water, substrate and air temperature and counted all salamanders observed. Salamanders counted were further broken down into 3 categories based on observed size. WSPD staff periodically takes water and benthic samples at these sites to determine current status on water quality. Staff will continue to conduct quarterly

surveys at this site until there is a minimum of 5 years of data. Five years of data should allow for an accurate assessment of the populations dynamics at this site. Monitoring at this site will continue beyond the 5 years to determine if the recently constructed dam has any adverse affect on the salamanders and their habitat.

- Golden-cheeked warbler observations and enumeration were conducted and territories were mapped. (City of Austin 2004 Golden-cheeked Warbler Report Appendix X).
- Removed non-native invasive vegetation.
- Located and marked one Land Condition Trend Analysis plot for upcoming vegetation monitoring, to commence in October 2004.
- Surveyed for the presence of oak wilt (no oak wilt observed).
- Lead an educational tour on site for the AmeriCorps Youth works.
- Initiated TCAD to vacate subdivision plans for Gardens at Bull Creek (this will get Mapsco to remove the roads from their maps and clarify the status of this preserve).
- Invasive plant removal with volunteers (on the boundary between Forest Ridge and the greenbelt).

Lanier tract

Important management activities for this tract include:

- Within the last three years there have been 4 large apartment complexes built nearby without adequate barriers to stop illegal trespass onto adjacent preserve land. Most of the illegal trespass on Lanier originates from Canyon Creek mitigation land.
- Routine patrol of the area for evidence of trespass and preserve damage.
- Marked boundaries with “no trespassing signs” and purple paint.
- White-tailed deer surveys are conducted on Lanier, as part of the five mile Upper Bull Creek census route.
- Installed a new deer feeder and stand as part of the BCP deer control program.
- Ashe juniper removal and manipulation for WTD management (shooting lanes).
- Removed non-native invasive vegetation.
- Repaired road, both erosion and vegetation removal of downed trees.
- Eagle Scout project: protected 50 hardwood saplings by installing deer exclosures.
- Located and marked one Land Condition Trend Analysis plot for upcoming vegetation monitoring, to commence in October 2004.
- Surveyed for the presence of oak wilt (no oak wilt observed).

Franklin tract

Key management activities for this tract over the past year were:

- Trapped feral hogs (9 hogs were removed).
- Sedimentation and erosion work along Bull Creek.
- Routinely patrolled main roads and perimeter fencing to look for signs of trespassing, vandalism or illicit dumping, added purple paint and "no trespassing" signs.
- White-tailed deer surveys are conducted on Franklin tract, as part of the five mile Upper Bull Creek census route.
- White-tailed Deer Management Program. Deer were culled under the TPWD Antlerless & spike-buck Deer Control Permit (ADCP). The harvested meat was donated to the Capital Area Food Bank.
- Ashe juniper removal and manipulation for WTD management (shooting lanes).
- Repaired vandalized perimeter fence.
- Continued to monitor and enhance the Cistern Spring/Jollyville Plateau salamander habitat restoration project, salamanders were observed in November 2004.
- Collected the seed of locally rare spring associated plants and sowed it at the newly protected Cistern Spring fenced area.
- Removed trash dumps from this site.
- Repaired access roads
- Removed non-native invasive vegetation.
- Quarterly monitoring for the presence of the aquatic Jollyville Plateau salamander. Note: Staff conducted surveys following protocol established in the City of Austin's Watershed Protection Department (WPD) report "Jollyville Plateau Water Quality and Salamander Assessment". At set stations, staff measured flow, water and air temperature and counted all salamanders observed. Salamanders counted were further broken down into 3 categories based on observed size. WPD staff periodically takes water, substrate and benthic samples at this site to determine current status on water quality. Staff will continue to conduct quarterly surveys at this site until there is a minimum of 5 years of data. Five years of data should allow for an accurate assessment of the populations dynamics at this site.
- Golden-cheeked warbler observations and enumeration were conducted and territories were mapped. (City of Austin 2004 Golden-cheeked Warbler Report Appendix X).
- Treated site for fire ants.
- Planted and maintained hardwood saplings in open areas in an attempt to create GCW habitat.
- Eagle Scout project: protected 50 hardwood saplings by installing deer exclosures.
- Assisted WSPDR staff in collecting water samples to determine if any contaminants were present.

- Assisted TPWD staff in collecting caddis flies, (a TPWD study to determine species diversity from undisturbed sites versus disturbed sites).
- Located and marked one Land Condition Trend Analysis plot for upcoming vegetation monitoring, to commence in October 2004.
- Surveyed for the presence of oak wilt (no oak wilt observed).
- Ashe juniper removal and manipulation for WTD management (shooting lanes).

LOWER BULL CREEK UNIT

Forest Ridge

The Forest Ridge area is subject to continuing heavy public use by hikers and runners. Mountain biking and dog walking appear to be substantially reduced, though these activities continue to occur illegally. The proportion of hikers with entry permits continues to increase and staff finds increasing awareness and sympathy for the nesting season entry permit requirement. Key management activities for this tract over the past are listed below.

- Repaired perimeter fence along Spicewood Springs road.
- Installed new trailhead sign at Bull Creek Greenbelt with volunteer group.
- Installed new, larger sign at dodge way entrance alerting hikers to restricted access period and requirement of a permit between March 1 and July 31.
- Conducted routine patrolling and trash removal.
- Removed graffiti from greenbelt sign.
- Performed trail repair and erosion control (water bars) along trails.
- Installed new key locks on all gates.
- Two site inspections (spring and fall) at Jest John cave completed.
- Process initiated for vacating Forest Ridge subdivision plans (and removal of streets from maps).
- BCP staff conducted golden-cheeked warbler surveys at the 100-acre prime study plot on Forest Ridge for the seventh consecutive year (City of Austin 2004 Golden-cheeked Warbler and Black-capped Vireo report, Appendix X).
- Recorded all breeding season avifauna and rare plants.
- 2 LCTA transects completed for long-term vegetation study and ground-truthing.
- Surveyed for oak wilt.
- Lead Invasive plant removal project with volunteers on Forest Ridge and Bull Creek Greenbelt.
- Lead tour for group of outdoor educators on Forest Ridge/Bull Creek Greenbelt trail.

- Public Outreach: Conducted four entry permit classes (classroom lecture and interpretive hike) and permitted 71 individuals. Initiated development of website and online course to replace classroom lecture and serve as year-round educational resource
- Conducted a usage survey during bird season for the Forest Ridge and contiguous trail-associated tracts.

Jester tract

Public access has been allowed on a portion of this tract; however, dodge ways have been installed to curtail prohibited mountain bike and horse use of this area. Other management activities on Jester have included:

- Sedimentation and erosion control.
- Trail work and repair.
- Closed illegal trails.
- Discovered old trash piles and removed approximately 50% of the trash.
- Removed non-native invasive vegetation.
- Installed informational signs regarding access and endangered species issues.
- Installed trail markers.
- Repaired fence, dodge way and sign vandalism.
- Routine patrol of site.
- Met with Austin Energy regarding vegetation clearing near power lines.
- Conducted a property line survey for areas where there was a conflict with adjacent landowners and in preparation for a new fence.
- Met with adjacent private landowners and requested that they remove their items illegally stored on preserve property (all agreed and later the site was fenced).
- New game fencing: had a portion of Jester surveyed in preparation for fencing, 1,650 linear feet (the contract was awarded in fiscal 03-04, and the fence was completed in October 2004).
- Located and marked one Land Condition Trend Analysis plot for upcoming vegetation monitoring, to commence in October 2004.
- Surveyed for presence of oak wilt. Identified two infected red oaks. Due to terrain constraints, both trees were girdled from the base up to 6 feet high.
- A new and larger sign was installed seasonally at the dodge ways access points alerting hikers to restricted access period and requirement of a permit between March 1 and July 31.

- Golden-cheeked warbler observations and enumeration were conducted and territories were mapped. (City of Austin 2004 Golden-cheeked Warbler Report Appendix X).
- Monitored Jester Pit for signs of vandalism and fire ants, no problems were observed.
- Discovered a new recharge feature, took a GPS location and relayed the information to WPDRD staff.

Hilltop

With the completion of a fence along a portion of the northern boundary, the trespass from mountain bikers, horseback riders and motorcyclists has been reduced. Management activities on Hilltop included:

- Routine patrol of site.
- New key locks on gates.
- Continued networking with Day Care Center neighbor.
- Conducted GCW surveys (enumerations).

Hiller

This tract lies adjacent to Forest Ridge, Hilltop, and Gibson/Nott tracts. Management activities included:

- Routine patrolling of site.
- GCW surveys (enumerations).
- Replacement of all locks with new key locks.

Gibson/Nott

- Periodic patrolling of site.

Kruger

This tract (95 acres) lies adjacent to both the Hilltop and 3M tracts. The completion of fencing of the external Kruger boundaries has aided greatly in the management of trespassing from mountain bikers, horseback riders, and motorcyclists onto the Kruger and 3M tracts. Management activities included:

- Routine patrolling of site.
- GCW surveys (enumerations).
- Replacement of all locks with new key locks.
- Repairing fence vandalism.

3M Mitigation Tract

Horseback riders and motorcyclists have subsided on this tract due to fencing installed on the Kruger tract. The closure of Forest Ridge and Jester to biking was initiated in the spring of 2001. Some illegal biking on 3M continues from entry points on the St. Edward's tract. Management activities included:

- Routine patrolling of main roads and perimeter fencing to look for signs of trespassing, vandalism or illicit dumping.
- Repaired fence vandalism.
- Replaced all locks with new key locks.
- Golden-cheeked warbler monitoring was conducted on a 100-acre plot (designated as a primary plot) on a portion of this tract (City of Austin 2004 Golden-Cheeked Warblers Report and Black-capped Vireo Report, Appendix X)
- GCWA surveys (enumerations on non 100-acre plot).
- One LCTA transect completed on 3M for vegetation study.
- Surveyed for presence of oak wilt.
- Installment of new, larger sign at dodge way entrance alerting hikers to restricted access period and requirement of a permit between March 1 and July 31.

St. Edwards Park

This area serves as a major public access route for hikers and bikers. Hikers are allowed into adjacent Bull Creek Preserve properties, but mountain biking is prohibited. The major trail through this park continues to be heavily used by dog-walkers, hikers and mountain bikers. Management activities included:

- Patrolling new, illegal mountain biking paths within the parkland portion of the tract.
- Golden-cheeked warbler monitoring was conducted on a 100-acre plot (designated as a primary plot) on a portion of this tract and 3M tract (City of Austin 2004 Golden-Cheeked Warblers Report and Black-capped Vireo Report, Appendix X)
- GCW surveys (enumerations on non 100-acre plot).
- Trail repair.
- Repaired perimeter fence.
- Replaced locks with new key locks at all gates.

MIDDLE BULL CREEK UNIT

Ivanhoe

Management activities included the following:

- Endangered bird monitoring activities at Ivanhoe concentrated on the 100-acre study plot for golden-cheeked warblers (City of Austin 2004 Golden-cheeked Warbler and Black-capped Vireo Monitoring Program report, Appendix X).

- Conducted routine patrols on this tract.
- Filed a police report regarding vandalism (gate was breached and the site was used for a "keg party"). The gates were fixed and the trash was removed.
- Erosion repair on access road.
- Met with and reviewed Austin Energy's proposal to cut vegetation from power lines. The proposal was regarded as routine maintenance.
- Removed non-native invasive vegetation.
- Removed trash from the site.
- Treated site for fire ants.
- Monitored the rare canyon-mock orange (*Philadelphus Ernestii),* made note of bloom period, pollinators and seed set.
- Met with Austin Energy (AE) regarding vegetation clearing near power lines.
- A portion of Ivanhoe was surveyed in preparation for new game fencing, 3,096 linear feet (the contract was awarded in fiscal 03-04, however it will be completed this coming fiscal year)
- Quarterly monitoring for the presence of the aquatic Jollyville Plateau Salamander. Note: Staff conducted surveys following protocol established in the City of Austin's Watershed Protection Department (WPD) report "Jollyville Plateau Water Quality and Salamander Assessment". At Ivanhoe spring staff measured air temperature and counted all salamanders observed. Salamanders counted were further broken down into 3 categories based on observed size. WPD staff periodically takes water, substrate and benthic samples at this site to determine current status on water quality. Staff will continue to conduct quarterly surveys at this site until there is a minimum of 5 years of data. Five years of data should allow for an accurate assessment of the populations dynamics at this site.
- Monitoring: Featherman's cave (Beard Ranch cave): biannual monitoring of this cave has been conducted for visible signs of vandalism and red important fire ant infestations (no problems were noted) (Karst Report, Appendix X).
- A major property encroachment was discovered by the adjacent "Rancho La Valencia" development project. Negotiations for mitigation are on-going.

Beard Family Trust

Management activities for this tract included:

- Routine patrol of area.
- Sedimentation and erosion control work.
- Repair of fences.

CYPRESS CREEK UNIT

Lime Creek

Management activities for this tract included:

- Monitoring: Lime Creek has two caves, which harbor endangered karst species. Biannual monitoring of these caves has been conducted for karst fauna and red important fire ant infestations (fire ants were found near the entrance of Broken Arrow cave) (Karst Report, Appendix X).
- Golden-cheeked warbler observations and enumeration were conducted and territories were mapped. (City of Austin 2004 Golden-cheeked Warbler Report Appendix X).
- GPS locations were taken for Rolling Rock, Broken Arrow and other major karst features. The surface drainage area was mapped for each of these features as part of a NPDS permit undertaken by WPDRD staff with assistance from BCP staff .
- Periodic patrolling.
- Periodic fence repair.
- Large amounts of trash including an estimated 250 tires were removed in two separate volunteer projects with assistance from Boy Scouts and a Travis County Work Crew.
- Cleared access road of fallen trees.
- Met with USFWS, Williamson County, and Cedar Park officials regarding the widening of Lime Creek Blvd, which will impact a portion of the preserve.
- BCP and WPDRD staff searched for and mapped karst features near the Lime Creek/ Anderson Mill Road expansion. Numerous karst features were found but were determined not to be significant.
- Travis County broke ground on the new Lime Creek road expansion project. A portion of Lime Creek preserve was taken, and for mitigation the COA BCP will receive a portion of the old road alignment, that will be mitigated by re-vegetation, and the existing ranch fence will be replaced with an eight-foot game fence.
- Surveyed for presence of oak wilt (no oak wilt observed).
- Three permanent Land Condition Trend Analysis field plots were surveyed by line and belt transect plot inventory methodology to aid in ongoing vegetation analysis and restoration.
- Contracted to have the northwest boundary surveyed in preparation for a perimeter fence (to be completed in fiscal year 04-05).

NORTH LAKE AUSTIN UNIT

Emma Long Park

Management activities included:

- Monitoring surveys for golden-cheeked warblers continued for the seventh year on the Emma Long 100-acre plot. Staff also spent time enumerating warblers throughout the rest of the park (City of Austin 2004 Golden-cheeked Warbler and Black-Capped Vireo Monitoring Program, Appendix X).
- Routinely patrolled main roads and trails to look for signs of trespassing, vandalism or illicit dumping. Monitored off-leash dog trail for problems.
- Monitored cowbird abundance near 100-acre plot. Planned new BHCPO trap for spring 2005.
- Surveyed for oak wilt and found several existing oak wilt centers, all live oak except one Spanish oak center.
- Coordinated BCP activities with a new PARD supervisor at Emma Long.
- Recorded all breeding season avifauna and rare flora.
- Monitored Emma Long boundary along new Green Shores development.

Coldwater

Management activities on Coldwater during FY 03-04 included:

- Located and marked two Land Condition Trend Analysis plots for upcoming vegetation monitoring, to commence in October 2004.
- Routinely patrolled main roads and perimeter fencing to look for signs of trespassing, vandalism or dumping.
- Surveyed for presence of oak wilt (no oak wilt observed).
- Removed combination locks and replaced with key locks.
- Installed new "no trespassing signs."
- Repaired fence and entrance gates.

Long Canyon

City management activities at the Long Canyon tract during FY 03-04 involved the following:

- Routine Patrols: Main roads and perimeter fencing were visited to look for signs of trespassing, vandalism or dumping.
- Golden-cheeked warbler observations and enumeration were conducted and territories were mapped. (City of Austin 2004 Golden-cheeked Warbler Report Appendix X).
- Removed combination lock and replaced with key lock.
- Trash and tire removal from entrance at City Park Road.
- Removed non-native invasive vegetation.

- Surveyed for presence of oak wilt (no oak wilt observed).
- Repaired entrance gate.
- Requested that Austin Energy barricade illegal road off of City Park Rd leading to a power line.

Park West

A variety of management activities were conducted during FY 03-04 at the Park West Tract. Key work efforts included:

- Removed non-native invasive vegetation.
- Routinely patrolled main roads and perimeter fencing to look for signs of trespass, vandalism or dumping.
- Investigation of areas surrounding cave mouths for presence of red imported fire ants, (no fire ants were observed entering any of the karst features).
- Golden-cheeked warbler observations and enumeration were conducted and territories were mapped. (City of Austin 2004 Golden-cheeked Warbler Report Appendix X).
- Surveyed for presence of oak wilt (no oak wilt observed).
- Removed combination lock and replaced with key lock.
- Three permanent Land Condition Trend Analysis field plots were surveyed by line and belt transect plot inventory methodology to aid in ongoing vegetation analysis and restoration.

Cortaña

The fencing installed by Travis County on a portion of its Steiner Ranch Conservation Easement, which is contiguous with Cortaña's western boundary, has helped greatly to curtail some of the trespassing that has occurred in the central and lower parts of Cortaña. However, with the expansion of development on the lower eastern boundary of Cortaña, trespassing activities have escalated this past year.

Staff conducted three white-tailed deer census counts on a 5-mile census route on Cortana in August and September of 2004, with an average survey count of one deer per 23.2 acres (the majority of deer leave the preserve late evenings to forage in nearby suburbs).

Activities included:

- Monitoring: In the past, the COA has not been conducting GCW monitoring of Cortaña. However, because of a federal Section 7 permit, Sierra Development Corp. (River Place) has been conducting studies (every other year) to determine GCWA and BCVI territories and reproductive success on adjacent properties within 3,000 ft of the River Place boundaries. These studies include almost the entire portion of

Cortaña (as well as portions of Park West). The studies have included the years 1994, 1996, 1998, and 2000 and will continue until three years after complete build out of River Place. River Place is also responsible for monitoring 100 acres of manipulated BCVI habitat, a portion of which is at the northern tip of Cortaña. The monitoring includes both avian and plant monitoring studies, and has been conducted every year since 1996. All of these studies have been presented to USFWS, via SWCA, Inc, which is conducting the surveys.

- Black-capped vireos: the northern portion of the property was surveyed for BCVI's, mapped territories and discovered nest, however, it appears that the BCVI's were not successful in fledging any young.
- GCWA enumeration was conducted adjacent to the BCVI survey area.
- Approximately 30 acres within the middle portion of the tract was manipulated mechanically to attempt to create BCVI habitat.
- A contract was awarded for more mechanical vegetation manipulation on themed-Cortana BCVI restoration site (the project will be completed next fiscal year).
- The new BCVI habitat restoration site was seeded along with more vegetation manipulation by staff and volunteers.
- Created and improved BCVI habitat by clearing shin oak and Ashe juniper by hand operated equipment.
- Brown-headed cowbird trapping. BHCO were trapped daily in March, April, May, and June (93 days). Total number of birds trapped was seven (three males and four females).

- Repaired vandalism of perimeter fence and installed a BCP "no trespassing," sign.
- Repaired access roads.
  - Routinely patrolled main roads and perimeter fencing to look for signs of trespass, vandalism or dumping.
  - Investigated illegal clearing on the preserve. It appeared that the homebuilder cut a large juniper on our preserve; however, it was noticed after the home was sold and so therefore we did not take any enforcement action.
  - Revegetation: met with and approved LCRA's plans for revegetation and stabilization of disturbed areas.
  - Golden-cheeked warbler habitat enhancement: planted native vegetation in illegally cleared areas along the fence line.
  - Lower eastern boundary gates at 3 locations have had frequent trespass and damage to gates & lock requiring frequent repair of these gates/locks.
  - Conducted 3 deer census counts.

- Installed 7 deer feeders and stands in preparation for the deer control program.
- Ashe juniper removal and manipulation for WTD management (shooting lanes).
- Surveyed for presence of oak wilt (no oak wilt observed).
- The southern portion of the property boundary was resurveyed in preparation for a new game fence.
- New game fencing: Southern portion of the property, 8,065 linear feet (the contract was awarded in fiscal 03-04, however it will be completed this coming fiscal year).

SOUTH LAKE AUSTIN TRACTS

Staff conducted 3 white-tailed deer census counts on a 5–mile census route on the South Lake Austin tracts (Double J&T, Reicher Ranch, and Bohls) in October of 2003 and in August and September of 2004, with an average survey count of one deer per 6.2 acres.

Double J&T

Management activities included:

- Along Murfin Road, there is the continual problem of trespassing and dumping of trash onto Double J&T., as well as cutting of fence along various portions of the road.
- New 5-strand barbed wire fencing: both sides of Murfin Road portion of the property, adjacent to new development on the north and south sides of the Murfin Road neck, 3,300 linear feet (the contract was awarded in fiscal 03-04, however it will be completed this coming fiscal year)
- Perimeter fence repair work.
- Installed new “no trespassing” signs and purple paint along the boundary of the property.
- Golden-cheeked warbler monitoring: enumeration by BCP staff and a volunteer was conducted on this tract (City of Austin 2004 Golden-Cheeked Warblers Report, Appendix X).
- Golden-cheeked warbler enhancement: planted native vegetation along fence line.
- White-tailed deer surveys are conducted on Double J&T, as part of the five mile SLAM census route.
- Five permanent Land Condition Trend Analysis field plots were surveyed by line and belt transect plot inventory methodology to aid in ongoing vegetation analysis and restoration.
- Routinely patrolled main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Issued trespass warning letters to trespassers.

- Removed large amounts of trash.
- Removed non-native invasive plants.
- White-tailed Deer Management Program. Deer were culled under the TPWD Antlerless & Spike-Buck Deer Control Permit (ADCP). The harvested meat was donated to the Capital Area Food Bank.
- Installed new deer feeders and stands.
- Ashe juniper removal and manipulation for WTD management (shooting lanes).
- Ranch and game fence preparation: had portions of the property boundary re-surveyed in preparation for a game fence.
- Had an eight-foot swath cleared along the northern boundary in preparation for a game fence.
- New game fencing for the northern and western boundaries, 13, 196 linear feet (the contract was awarded in fiscal 03-04, however it will be completed this coming fiscal year)
- Surveyed for presence of oak wilt (no oak wilt observed).
- Discovered and removed a transient camp, notified TPWD game wardens and gave a GPS coordinate

Sansom Tract

Management activities included:

- Routine patrol of property.
- New game fencing along western boundary of Double J&T, north of Murfin Road, included the western boundary of the Sansom tract.

Reicher Ranch

Management activities included:

- Routine patrol of property.
- Routine trash removal.
- White-tailed deer surveys are conducted on Reicher Ranch, as part of the five mile SLAM census route.
- White-tailed Deer Management Program. Deer were culled under the TPWD Antlerless & Spike-Buck Deer Control Permit (ADCP). The harvested meat was donated to the Capital Area Food Bank.
- Three permanent Land Condition Trend Analysis field plots are maintained to aid in ongoing vegetation analysis and restoration.
- Monitoring of twist-leaf yuccas will be continued this year.

- In selected areas treated fire ants with boiling water.

Bohls Ranch

This riverfront tract is bordered on the west by Reicher Ranch and on the east by the Lake Pointe subdivision and its 230-acre mitigation tract. Since much of the common boundary between Bohls and Lake Pointe mitigation is not fenced, the potential for frequent trespassing onto Bohls continues. Management activities included:

- White-tailed deer surveys were conducted on Bohls Ranch, as part of the five mile SLAM census route.
- Monitoring for golden-cheeked warblers conducted on a 100-acre plot (designated as a prime plot), in addition to enumerations on the remainder of the tract (City of Austin 2004 Golden-Cheeked Warbler Report, Appendix X).
- Ashe juniper removal and manipulation for WTD management (shooting lanes).
- Routine patrolling.
- Surveyed for presence of oak wilt (no oak wilt observed).
- Black-capped vireo habitat restoration efforts were continued. Removed scrub Ashe juniper and "topped off" shin oaks and live oaks on approximately 30 acres on BCV restoration site. Through the United Way's Day of Caring, volunteers from Sematech topped oak trees in 3-acre area as part of the BCVI restoration efforts.
- Removed non-native invasive vegetation.
- Removed combination lock and replaced with key lock.
- White-tailed Deer Management Program. Deer were culled under the TPWD Antlerless & spike-buck Deer Control Permit (ADCP). The harvested meat was donated to the Capital Area Food Bank.
- Contract for juniper mulching to occur in vireo management area agreed upon. Work is slated to begin after deer season ends and before BCVI/GCWA breeding season begins.

Commons Ford Ranch Park

Management activities included:

- Routine patrolling.
- GCWA enumerations conducted in habitat (City of Austin 2004 Golden-Cheeked Warbler and Black-capped Vireo Monitoring Report, Appendix X).

Senna Hills

Management activities included:

- Routine patrolling.

BARTON CREEK TRACTS

Barton Creek Wilderness Park

FY 2003-04 management highlights for the B.C. Wilderness Park include:

- A gate was installed at the entrance to Cave Y. Repairs were later made after vandals passed through the original gate.
- Cave Y and substation sink entrances were checked periodically for signs of human visitation, trash, and damage. Conducted 4 site inspections, other than the gate vandalism no other vandalism was noted, fire ants were found near the entrance but no activity within the cave.
- Monitored for the presence of fire ants and found no activity within the caves.
- Repaired vandalized perimeter fence, gate and closure signs to prevent illegal access into golden-cheeked warbler habitat.
- Met with PARD, Austin Energy and Travis County Sheriff's Department to address trespass issue along Loop 360 after a fatality occurred at the substation entrance. Large and explicit trespass signs were posted along the substation frontage of the Loop 360 fence line.
- Continued to meet with Austin Energy and PARD representatives regarding an Austin Energy proposal to install a new security fence to prevent illegal access. This new fence will protect the endangered golden-cheeked warbler, caves with endangered species, the rare *Streptanthus bracteatus*, and water quality. After a delay with TXDOT regarding a new entrance, the fence has been approved and will be built before January 1, 2005.
- Golden-cheeked warbler monitoring continued at the 100-acre prime GCW study plot near Barton Creek (City of Austin Golden-cheeked Warbler Report, Appendix X).
- Existing *Streptanthus bracteatus* populations in the Wilderness Park were monitored.
- Routine patrolling.
- An adjacent homeowner was found to be destroying GCWA habitat behind his home in the Travis Country subdivision (near Seibert Sink). The case is still under investigation by PARD Police and other authorities.
- The lock from Seibert Sink gate was removed. The sink was inspected for trespass and/or damage. A small amount of trash was removed and a distinct lack of cave fauna was noticed. A new lock was placed on the gate.
- Closed illegal trails.
- Removed non-native invasive vegetation.
- Established permanent contacts with PARD management and APD regarding transient camps within the wilderness area. Removed two active camps and one

inactive camp, one of which included a high-powered pellet gun and drug paraphernalia.
- Routine trash removal.
- Met with two graduate students from Texas State University regarding a study of effects of non-native vegetation (food availability) on neo-tropical songbirds. The study is ongoing.

Barton Creek Greenbelt

- Annual karst fauna monitoring was conducted at Airman's Cave, (Karst Report, Appendix X).
- Austin WSPDR staff take routine water and benthic samples from several points on the creek to help determine the health of the creek and to try to determine how the creek is being impacted by adjacent urban sprawl.
- Monitored for active oak wilt. Identified ten infected red oaks and two infected live oaks. All ten red oaks were removed and the live oaks continue to be monitored.

Friesenhahn Tract

- Routine patrolling.
- Monitored for active oak wilt. Identified 1 infected red oak and 2 infected live oaks. The red oak was removed and the live oaks continue to be monitored.

WEST AUSTIN PROPERTIES

Vireo Research Area

- Routine patrolling.
- Located and marked one Land Condition Trend Analysis plot for upcoming vegetation monitoring, to commence in October 2004.
- Closed illegal trails.
- Golden-cheeked warbler observations and enumeration were conducted (City of Austin 2004 Golden-cheeked Warbler Report Appendix X).
- Black-capped vireo observations and enumeration were conducted, one male was seen for one day (City of Austin 2004 Black-capped Vireo Report Appendix X).
- Monitored for active oak wilt. 3 infected red oaks were identified and removed.
- No trespassing sign posted on AE cable gate on Loop 360, immediately south of the scenic overlook (mountain biking and associated illegal activities continue to occur from this access point).
- Trash removal.

- Repaired entrance gate and perimeter fence.

Mount Bonnell Park

This small hilltop park overlooking Lake Austin continues to receive high visitation rates, especially by out-of-town visitors seeking a panoramic view of the lake and scenic Texas Hill Country. Over the past year, several clean-ups of trash (mostly beverage bottles and cans) thrown into the native vegetation by park visitors were performed by preserve staff. Property owners to the immediate south have recently cleared the land and constructed homes effectively removing the vast majority of the habitat for the rare bracted-twist flower, *(Streptanthus bracteatus)*

- Volunteers did extensive monitoring of the rare *Streptanthus bracteatus* (deer browse had a dramatic negative impact so therefore very few plants put out seed).

Ullrich Water Treatment Plant

Managed by AWU. BCP management activities included:

- Perimeter and preserve fence: met on site to answer potential contractor questions during the bid process.
- Fence was initiated and completed effectively protecting the rare plant from deer browse.
- Surveyed site in mid- and late April for the bracted-twist flower (*Streptanthus bracteatus*), no plants observed.
- The Ullrich water treatment site is undergoing a major construction work for expansion of its water treatment capacity. All construction lies outside of the preserve area and therefore has minimal impact on the rare plants and endangered cave invertebrates.
- Little Bee Creek cave: inspected the cave for signs of vandalism and fire ants, no problems noted.

Water Treatment Plant #4

Managed by AWU. BCP management activities included:

- White-tailed deer surveys are conducted on WTP#4, as part of the five mile Upper Bull Creek census.
- Illegal trespass from adjacent newly built apartments.
- Conducted a follow up survey of “Moss Gully” spring and determined that current flow is not adequate for the presence of salamanders.
- BCP staff removed non-native invasive vegetation in accordance with the management plan.

- Conducted routine site visits, noted continuing trespass problems.
- An eight-foot swath was cleared along the perimeter of the property in preparation for a game fence.
- Game fence: contract was awarded for the construction of a new eight-foot game fence for the entire boundary of the property (contract was awarded in fiscal year 03-04 but was completed in October 2004.
- Confiscated an illegal deer feeder found on the property.

Barrow Preserve

Management activities include:

- Routine patrol and monitoring adjacent new development (Canyon Rim).
- WSPDR staff monitored the water for pollutants.
- Conducted annual salamander survey at main spring.
- Removal on non-native invasive vegetation.

Stillhouse Hollow

Management activities include:

- Erosion and sedimentation control.
- Repair of vandalized security fence around Cotterell Cave
- Red-imported fire ant control with boiling water on three separate occasions (Karst Report, Appendix X).
- Invasive non-native plant removal.
- Trail work and repair
- PARD staff meet with the adjacent neighborhoods associations regarding concerns of wild fires. Staff removed brush illegally dumped by nearby homeowners thus reducing wildfire risk.
- Trash removal (including the removal of tree forts).
- Put out seed of locally collected native plants in areas where erosion is occurring to aid in erosion control.
- Completed a vegetation transect (a five year follow up to a transect set up to determine the effects of deer browse, 50% within the deer exclosure and 50% outside.)
- Added a new rules sign, which covered all illegal activities occurring in the preserve.
- Replaced and repaired rules signs in preserve.
- Officially changed the name of the preserve to its historical name “Stillhouse Hollow”.

- Conducted 4 faunal surveys at Cotterell Cave (Karst Report, Appendix X).
- Jollyville Plateau salamander: Quarterly surveys were conducted on this preserve and the land immediately downstream. This site is the type locality for the Jollyville Plateau salamander. This population crashed in 1994 and has never really recovered. Some of the remaining salamanders have notable spinal deformities. Watershed Protection and Development Review (WPDR) staff takes regular water quality samples for analysis. This year WPDR staff collected soil samples from Cotterell cave for analysis of potential contaminants washing in from nearby homes.
- Staff conducted surveys following protocol established in the City of Austin's Watershed Protection Department (WSPD) report "Jollyville Plateau Water Quality and Salamander Assessment". At set stations, staff measured flow, water and air temperature and counted all salamanders observed. Salamanders counted were further broken down into 3 categories based on observed size. WSPD staff periodically takes water samples at these sites to determine current status on water quality. Staff will continue to conduct yearly surveys at this site until there is a minimum of 7 years of data. As of 1/02 this site is surveyed yearly. Up until then this site was surveyed monthly since 1994. It is uncertain how much longer City of Austin BCP staff will continue to survey this site. However, staff will continue to try to determine why salamanders are disappearing from this site and why some are deformed.
- Salamanders on this site carry the chytrid fungus, which is lethal to frogs. All equipment and clothing must be either dedicated to this site and none other or sterilized with a 10% solution of bleach before accessing any other sites.
- Dr. Rob Jackson at Duke University and Dr. Will Pockman with the University of New Mexico are currently conducting research on the uptake of water from certain species of trees. They have set up scientific probes on some of the roots inside the cave. This monitoring does not require access into the cave and is only done under BCP staff supervision.

PRESERVE-WIDE ACTIVITIES

- Brown-headed Cowbird Control Program.
- Feral Hog Control Program.
- White-tailed Deer Survey Program.
- White-tailed Deer Management Program. A total of thirty-six white-tailed deer were culled from the City of Austin BCP lands.
- A permanent staff member was hired to coordinate volunteer, outreach and education activities for the BCP Program.

- Public Outreach Efforts: presentations to homeowners associations, scouts, volunteer groups, AmeriCorps staff and E-Corps members.
- Volunteer Efforts: land management support activities, construction of protective equipment for monitoring apparatus, and proving monitoring support for bird surveys.
- GCW/BCV Monitoring Surveys: See attached report, Appendix X.
- Karst Protection: See report, attached as Appendix X.
- Spring and Jollyville Plateau salamander habitat restoration.
- Continued GIS/GPS mapping of existing BCP resources. The Arc view-created map will have roads, structures, wells, fences, gates, etc. and will be used for future land management.
- Three staff members presented papers at the 15th Annual Conference of the Society for Ecological Restoration International in November of 2003: 1) Carlo Abbruzzese, "Use of Restored Scrubland Habitat by the Endangered Black-Capped Vireo", 2) Donald L. Koehler, "Restoration Opportunities and Tribulations in the Balcones Canyonlands Preserve", and 3) Mark Sanders, "Cistern Springs Restoration and Salamander Habitat Enhancement."
- Staff direct two field trips in support of the 15th Annual Conference of the Society for Ecological Restoration International in November of 2003, 1) Black-capped Vireo (*Vireo atricapillus*) Restoration Sites Within the Balcones Canyonlands Preserve, and 2) Austin Caving Adventure.
- Staff assisted academic research studies: Woodland Edge Effects Study (Texas State University at San Marcos); Mountain Bike Activity on GCWA Productivity (Oklahoma State University); BCVI Foraging Study (Texas State University at San Marcos); Non-Native Tree Species Effect on Neotropical Diversity and Abundance (Texas State University at San Marcos); and GCWA Nest Predation Adjacent to an Urban/Wildland Interface (University of Missouri at Columbus).

Travis County

Travis County currently manages a total of 4,693 acres of habitat lands dedicated to the BCP, and continues to actively pursue acquisition and management of additional habitat lands to meet the goals of the BCCP.

Canyon Vista

The Canyon Vista tract consists of two parcels located in the Bull Creek Macrosite. The 237-acre Canyon Vista tract and the 1-acre Canyon Vista Conservation Easement were conveyed to the County by a private landowner previously managing these lands under

USFWS 10(a) permit PRT-783564. Travis County accepted transfer of these lands in June of 2004. Management efforts included:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Public outreach efforts were initiated with the surrounding landowners, the staff and students at the adjacent Laurel Mountain Elementary school, and users of the unauthorized trails located throughout the tract.
- Travis County Natural Resources staff coordinated a trash and debris collection and removal event in coordination with Travis County Sheriff's Office Correctional Facilities.
- Travis County staff met with and reviewed power line and infrastructure maintenance activities performed by multiple utility providers.
- Fencing and property boundary delineation was initiated.

Greenshores Conservation Easement

The Greenshores Conservation Easement was conveyed to Travis County in accordance with the terms and conditions of USFWS 10 (a) permit # TE-074582-0 in April of 2004. This 52-acre parcel is located in the Bull Creek Macrosite, and is adjacent to the City of Austin's Emma Long Park. Travis County actions on the Greenshores tract included:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Fencing and property boundary delineation was initiated.
- Travis County staff met with and coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.
- Golden-cheeked warbler presence/absence surveys were performed and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler 2004 Field Season*, attached as Appendix K.

CYPRESS UNIT

A total of 303 acres were acquired and incorporated into the Cypress Unit (now totaling 473 acres), located within the Cypress Creek Macrosite. New acquisitions included the 31 acre Attwood tract, 38 acre Blake tract, 175 acre "The Crossings" tract, and the 59 acre King tract. The Cypress Unit is comprised of the Attwood, Blake, "the Crossings", King tract and Toops tracts, and includes lands held in fee simple ownership and managed thorough conservation easements.

Attwood

The 31-acre Attwood tract was acquired fee simple in June of 2004. Management activities on the Attwood tract in FY2004 included:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Boundary delineation was initiated.
- Travis County staff worked to coordinate removal of debris and mobile home abandoned on site.
- Golden-cheeked warbler surveys were performed and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler 2004 Field Season*, attached as Appendix K.

Blake tract

The 38-acre Blake tract was a fee simple acquisition also completed in June of 2004. Management efforts included:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Boundary delineation was initiated.
- Golden-cheeked warbler surveys were performed and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler 2004 Field Season*, attached as Appendix K.

"The Crossings" tract

The tract referred to as "The Crossings", also sometimes referred to as the Beck tract, consists of a 175-acre conservation easement conveyed to Travis County in March of 2004. Management obligations were accepted by Travis County as the result of terms of the landowner's USFWS 10(a) permit TE-024619-0. Habitat management in FY2004 included:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Travis County staff met with and coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.
- Boundary delineation was initiated.
- Golden-cheeked warbler surveys were performed and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler 2004 Field Season*, attached as Appendix K.

King tract

The King tract consists of a 59-acre parcel immediately adjacent to the Attwood and Blake tracts, as well as the Nature Conservancy of Texas' Lehmann Preserve. The King tract was acquired in part with federal matching funds through the USFWS Land Acquisition Assistance Program grant awarded to the County in 2003. This parcel was acquired in October of 2003. Management activities on the King tract in FY2004 included:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Golden-cheeked warbler surveys were performed and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler 2004 Field Season*, attached as Appendix K.
- Boundary delineation was initiated.

Toops tract

The 170-acre Toops tract was available to the public through guided access for educational and outreach activities provided by Travis County BCP staff. Habitat management activities in FY2004 included:

- Regular patrols by Travis County BCP Rangers.
- Travis County Natural Resources staff coordinated a trash and debris collection and removal event in coordination with Travis County Sheriff's Office Correctional Facilities.
- Travis County staff met with and reviewed power line and infrastructure maintenance activities performed by multiple utility providers.
- Assessment and control of non-native and invasive plant species continued, as reported in *Vegetation Management on Travis County's Balcones Canyonlands Preserve, FY2004*, attached as Appendix M.
- Investigations to quantify and manage white-tailed deer populations continued. A summary of these activities is attached as Appendix L.
- Fencing and property boundary delineation was initiated.

Hamilton Pool Preserve

Public uses permitted prior to Hamilton Pool Preserve's dedication as a portion of the BCP continued through FY2004. The 232-acre site located in the Pedernales Macrosite contains approximately 1.75 miles of maintained nature trails, and provides access to a popular swimming area located in a natural grotto. User fees are assessed, and public access to the Preserve is limited to day use only. Pets, fires, cooking, fishing, and collecting are all prohibited within the Preserve.

- Regular patrols by Travis County BCP Rangers.
- Travis County Parks and Natural Resources staff actively engages school children and the public in education and outreach efforts related to endangered species and the BCP through guided tours and special opportunities throughout the year.
- A 100-acre study plot for collection of long-term distribution and abundance data for the golden-cheeked warbler was established by the BCP Land Management Plan (BCP LMP). Intensive data collection and monitoring on the study plot continued, and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler 2004 Field Season* report, attached as Appendix K.
- Brown-headed cowbird trapping continued at Hamilton Pool Preserve, and results are found in the *2004 Wildlife Management Summary for Travis County BCP Lands*, attached as Appendix L.
- The Hamilton Pool Preserve population of canyon mock-orange, a species of concern covered under the Permit, continues to be protected and monitored. A discussion of management information related to the assessment and control of non-native and invasive plant species may be found in *Vegetation Management on Travis County's Balcones Canyonlands Preserve, FY2004*, attached as Appendix M.

JOLLYVILLE UNIT

In FY2004, a total of 206 acres were acquired and incorporated into the Jollyville Unit (now totaling 1829 acres). New acquisitions included the 6 acre Stratton/Verandah tract, 140.462-acre Tomen-Parke Cave tract (referred to hereafter as the "Cuevas tract"), 24 acre Tomen Section 8 tract, and the 35 acre Tomen Grandview Hills Section 14, Lot 2 tract. The Jollyville Unit is located in the Cypress Creek Macrosite and consists of the Bunten, Cuevas, Grandview Hills, Lake Perspectives, Stratton/Verandah, Tomen Grandview Hills Section 14 Lot 2, Tomen Verandah Apartments Section 8, Vireo Ridge and Vista Point tracts, and includes lands held in fee simple ownership and managed thorough conservation easements.

Bunten tract

The 170-acre Bunten tract was acquired in fee during FY2002. Travis County habitat management occurring on the Bunten tract in FY2004 consisted of:

- Regular patrols completed by Travis County BCP Rangers.
- A 100-acre study plot for collection of long-term distribution and abundance data for the golden-cheeked warbler was monitored. Results of the intensive data collection and monitoring on the study plot are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler, 2003 Field Season* report, attached as Appendix L.

- Assessment and control of non-native and invasive plant species on this heavily impacted tract continued, as reported in *Vegetation Management on Travis County's Balcones Canyonlands Preserve FY2004*, attached as Appendix O.
- City of Austin Watershed Protection and Development Review staff delineated and mapped Jollyville Plateau salamander habitat located on this tract. Substrate composition, water quality parameters (temperature, pH, specific conductance, alkalinity and dissolved gasses), and population surveys were initiated.
- Fencing and property boundary delineation was initiated.

Cuevas Tract

The 140-acre Cuevas tract (also sometimes referred to as the "Tomen-Parke Cave tract") was acquired fee simple in December 2003. Habitat management activities in FY2004 included:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Assessment and control of non-native and invasive plant species was initiated, as reported in *Vegetation Management on Travis County's Balcones Canyonlands Preserve FY2004*, attached as Appendix O.
- Golden-cheeked warbler surveys were performed and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler, 2004 Field Season*, attached as Appendix K.
- Surface monitoring of protected karst features.
- Fencing and property boundary delineation was initiated.

Grandview Hills tract

The Grandview Hills tract consists of multiple separate parcels that were acquired fee simple or conveyed through conservation easements in FY2002. Habitat management on Grandview Hills in FY2004 included:

- Regular patrols by Travis County BCP Rangers.
- Travis County Natural Resources and Law Enforcement staff provided members of the Grandview Hills Homeowners Association guided tours though the preserve units nearest their homes.
- Travis County Natural Resources staff met with the Grandview Hills Homeowners Association (GVH HOA) Board of Directors and attended the GVH HOA Annual Meeting to discuss management of Talus Springs Cave. For more information about this critical karst feature, *the Balcones Canyonlands Preserve Karst Management 2004 Annual Report* attached as Appendix N.

- Black-capped vireo surveys were performed and results are summarized in Travis County's *Monitoring of the Black-capped Vireo, 2004* report, attached as Appendix J.
- Non-native and invasive plant species were managed, and the tract was surveyed for the presence of the bracted twistflower as reported in *Vegetation Management on Travis County's Balcones Canyonlands Preserve, FY2004*, attached as Appendix O.
- Travis County staff trapped brown-headed cowbirds and continued investigations to quantify and manage populations of white-tailed deer and feral hogs. The *2004 Summary of Wildlife Management Activities on Travis County Managed Tracts of the Balcones Canyonlands Preserve* is attached as Appendix L.
- Fencing and property boundary delineation was initiated.
- Surface monitoring of protected karst features.
- Travis County initiated Texas Historical Commission review of cultural sites throughout the tract.
- City of Austin Watershed Protection and Development Review staff delineated and mapped Jollyville Plateau salamander habitat located on this tract. Substrate composition, water quality parameters (temperature, pH, specific conductance, alkalinity and dissolved gasses), and population surveys were initiated.

Lake Perspectives tract

Travis County in FY1999 acquired the 124-acre Lake Perspectives tract. This parcel was available to the public through guided access for educational and outreach activities provided by Travis County BCP staff. Other management activities taking place in FY2004 consisted of:

- Regular patrols by Travis County BCP Rangers.
- Assessment and control of non-native and invasive plant species on this tract continued, as reported in *Vegetation Management on Travis County's Balcones Canyonlands Preserve, FY2004*, attached as Appendix M.
- Endangered species surveys, including intensive efforts on one 100-acre study plot for collection of long-term distribution and abundance data for the golden-cheeked warbler per the guidelines found in BCP Land Management Plan (BCP LMP) continued. Results of this data collection and monitoring are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler 2004 Field Season* report, attached as Appendix K.
- Investigations to quantify and manage white-tailed deer populations continued. The 2004 Summary of Wildlife Management Activities on Travis County Managed Tracts of the Balcones Canyonlands Preserve is attached as Appendix L.

Stratton/Verandah

Travis County acquired the 6-acre Stratton/Verandah parcel for the Preserve in August of 2004. This important parcel had been an in-holding within the Jollyville Unit, and development on this tract would have impacted surrounding habitat areas. Management of this tract in FY2004 consisted of:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Assessment of debris removal and habitat restoration needs.
- Fencing and property boundary delineation was initiated.

Tomen Grandview Hills Section 14, Lot 2

This 35-acre parcel was acquired fee simple in FY2003. FY2004 Habitat management actions included:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Non-native and invasive plant species were managed, and the tract was surveyed for the presence of the bracted twistflower as reported in *Vegetation Management on Travis County's Balcones Canyonlands Preserve, FY2004*, attached as Appendix O.
- Travis County Natural Resources staff coordinated a trash and debris collection and removal event in coordination with Travis County Sheriff's Office Correctional Facilities.

Tomen Section 8

The Tomen Section 8 parcel consists of a 24-acre conservation easement that was conveyed to Travis County in April of 2004. Management activities included:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Non-native and invasive plant species were managed, and the tract was surveyed for the presence of the bracted twistflower as reported in *Vegetation Management on Travis County's Balcones Canyonlands Preserve, FY2004*, attached as Appendix O.

Vireo Ridge tract

Vireo Ridge was acquired in fee through multiple transactions in FY2000 and FY2001, and consists of 581 acres of GCWA and BCVI habitat. Management on Vireo Ridge in FY2004 consisted of:

- Regular patrols by Travis County BCP Rangers.

- Black-capped vireo surveys and habitat manipulation efforts to restore nesting areas in this historically populated area continued, and is reported in the *Monitoring of the Black-capped Vireo, 2004 Field Season*, attached as Appendix J.
- Travis County staff trapped brown-headed cowbirds on the preserve, as well as on private property immediately adjacent to the Jollyville Unit. Investigations to quantify and manage populations of white-tailed deer and feral hogs continued. A summary of these activities is attached as Appendix L.
- Assessment and control of non-native and invasive plant species on this tract continued and the tract was surveyed for the presence of the bracted twistflower, as reported in *Vegetation Management on Travis County's Balcones Canyonlands Preserve FY2004*, attached as Appendix M.
- Karst features were investigated, as summarized in the *Balcones Canyonlands Preserve Karst Management Report, 2004* found in Appendix O.

Vista Point tract

Travis County acquired the 490-acre Vista Point tract in FY2002. Habitat management on this tract in the last year included:

- Regular patrols by Travis County BCP Rangers.
- Surface monitoring of protected karst features.
- Black-capped vireo surveys were performed and results are summarized in Travis County's *Monitoring of the Black-capped Vireo, 2004 Field Season*, attached as Appendix J.
- Investigations to quantify and manage populations of white-tailed deer and feral hogs continued. A summary of these activities is attached as Appendix L.
- Assessment and control of non-native and invasive plant species on this tract continued and the tract was surveyed for the presence of the bracted twistflower, as reported in *Vegetation Management on Travis County's Balcones Canyonlands Preserve, FY2004*, attached as Appendix M.
- Karst features were investigated, as summarized in the *Balcones Canyonlands Preserve Karst Management Report, 2004* found in Appendix N.

Medway Ranch

Medway Ranch consists of 345 acres contiguous with the City of Austin's Double J&T Preserve located in the South Lake Austin Macrosite. The tract was acquired in July of 2004 in part with federal matching funds through the USFWS Land Acquisition Assistance Program grant awarded to the County in 2003. Management activities on Medway Ranch in FY2004 consisted of:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Public outreach efforts were initiated with the surrounding landowners and users of the unauthorized trails located throughout the tract.
- Travis County staff met with and reviewed power line and infrastructure maintenance activities performed by multiple utility providers.
- Travis County Natural Resources staff coordinated a trash and debris collection and removal event in coordination with Travis County Sheriff's Office Correctional Facilities.
- Fencing and property boundary delineation was initiated.

Ribelin Ranch

The Ribelin Ranch tract was acquired fee simple by Travis County in June of 2004. This parcel consists of 320 acres located in the Bull Creek Macrosite, and connects City of Austin managed preserve lands located to the south (the Ivanhoe tract) with those to the north and west (the Franklin and Lanier tracts). Travis County management on the Ribelin Ranch tract in FY2004 included:

- Regular patrols by Travis County BCP Rangers.
- Baseline data and land use history was researched and recorded.
- Travis County staff met with and reviewed power line and infrastructure maintenance activities performed by multiple utility providers.
- Coordination of management and monitoring efforts with City of Austin BCP staff responsible for surrounding parcels.

Romberg Tract

The 40-acre Romberg tract has been a portion of Travis County's BCP land since the permit's inception in 1996. This parcel was available to the public through guided access for educational and outreach activities provided by Travis County BCP staff.

Habitat management activities in FY2004 included:

- Regular patrols by Travis County BCP Rangers.
- Travis County Natural Resources staff completed site visits, but was not intensively surveyed for rare birds in FY2004 due to the absence of warbler breeding territories in recent years. Though warblers have been documented foraging and dispersing juveniles at this location in the past, site visits did not provide any evidence of such use during this nesting season.
- The Romberg tract was surveyed for the presence of Texas amorpha (*Amorpha romerana*), a rare Texas Hill Country endemic shrub. Individual plants were located

and mapped, as reported in *Vegetation Management on Travis County's Balcones Canyonlands Preserve FY2004*, attached as Appendix M.

Steiner Ranch

The Preserve tracts of Steiner Ranch comprise 819 acres in five separate parcels managed by Travis County since FY2001. Conservation Easements on these tracts were transferred to Travis County as partial mitigation required by the USFWS for impacts resulting from the associated development. Under the terms of the Conservation Easement, the Steiner Ranch Master Association (SRMA) maintained access to a limited number of approved nature trails within the Preserve areas. The use of these trails is restricted to hiking, jogging, and nature viewing from maintained trails, and the trails are for the sole use of residents of the development. Access to remaining portions of these preserve tracts was available to the public through guided access for educational and outreach activities provided by Travis County BCP staff. Travis County Natural Resources provides consulting and reporting services to the landowner concerning wildlife management throughout the preserve.

The Steiner Ranch Unit is comprised of five tracts referred to as J-Canyon, L-Bend, Middle Section, the Vireo Management Area and North East. Management activites on these parcels included:

J-Canyon tract

- Regular patrols by Travis County BCP Rangers.
- Fencing and property boundary delineation continued.
- County Natural Resources and Law Enforcement staff provided Steiner Ranch Homeowners with guided tours through Preserve areas.
- Coordinated trail signage and trailhead gate installation.
- Coordinated habitat restoration efforts and installation of wildlife viewing areas.
- Travis County staff met with and coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.

L-Bend tract

- Regular patrols by Travis County BCP Rangers.
- Travis County staff met with and reviewed power line and infrastructure maintenance activities performed by multiple utility providers.
- Travis County staff met with and coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.

- Coordinated trail signage and trailhead gate installation.
- Fencing and property boundary delineation continued.

Middle Section tract

- Regular patrols by Travis County BCP Rangers.
- Travis County staff met with and reviewed power line and infrastructure maintenance activities performed by multiple utility providers.
- Travis County staff met with and coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.
- Coordinated trail signage and trailhead gate installation.
- Fencing and property boundary delineation continued.

Vireo Management Area tract

- Regular patrols by Travis County BCP Rangers.
- Travis County staff met with and reviewed power line and infrastructure maintenance activities performed by multiple utility providers.
- Fencing and property boundary delineation continued.
- Travis County staff met with and coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.
- Coordinated trail signage and trailhead gate installation.
- Golden-cheeked warbler and black-capped vireo surveys were performed and results are summarized in Travis County's *Monitoring of the Black-capped Vireo, 2004 Field Season* and the *Monitoring of the Golden-cheeked Warbler, 2004* reports, attached as Appendices J and K.

North East tract

- Regular patrols by Travis County BCP Rangers.
- Travis County staff met with and reviewed power line and infrastructure maintenance activities performed by multiple utility providers.
- Travis County staff met with and coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.
- Golden-cheeked warbler and black-capped vireo surveys were performed and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler, 2004 Field Season* and the *Monitoring of the Black-capped Vireo, 2004* reports, attached as Appendices J and K.
- Coordinated trail signage and trailhead gate installation.

- Fencing and property boundary delineation continued.

Wild Basin Wilderness Preserve

Wild Basin Wilderness Preserve is owned by Travis County and managed through contractual agreement by the Committee for Wild Basin Wilderness, Inc. Travis County Parks and Natural Resources supports operation of the 227-acre Preserve through staff and financial assistance. Public uses allowed prior to dedication of Wild Basin Wilderness as a portion of the BCP continued through FY2004. Access is permitted for day use only and is restricted to designated trails. Pets, picnicking, and collecting within the Preserve are prohibited.

Wild Basin Wilderness Preserve contains approximately 2.5 miles of maintained nature trails and provides environmental education and outreach programs for the public. Over 4,500 visitors signed in at the hiking trailhead in FY2004. School tours served over 4,500 students over a period of twenty weeks. Tours were conducted in the spring and again in the fall. Groups include public and private schools, parochial schools and home-school groups primarily in age groups 1st - 6th grades. Participating school districts include Austin, Eanes, Georgetown and Roundrock. Eleven different programs were scheduled through the Lone Star Girl Scout Council's Possibilities program and the Boy Scout Council and were attended by 1,500 children and 120 adults. A Summer Camp provides more intensive learning experiences for approximately 120 students each summer. The Committee for Wild Basin Wilderness Preserve has strived to develop relationships with area organizations and businesses, and continues to be an important meeting place for local community, conservation, governmental and corporate groups.

Habitat management activities at Wild Basin Wilderness Preserve in FY2004 included:

- trail maintenance
- erosion control
- re-vegetation projects
- hundreds of hours of volunteer efforts to control non-native and invasive plant species
- boundary delineation by improved signage

Law Enforcement Summary

Management of Preserve lands to maintain and increase populations of endangered species in a rapidly developing urban interface presents unique challenges for public agencies. Many BCP tracts present significant management challenges ranging from illegal trespass including pedestrian, mountain bike, ATV, and motorcycle traffic, to

illegal dumping to poaching of native wildlife on preserve lands. In addition, some BCP tracts contain registered archaeological sites, which require monitoring and protection.

To protect the significant natural and cultural resources on County owned and managed preserve lands Travis County has assigned two Park Rangers to the BCP. Travis County Park Rangers are commissioned Texas Peace Officers operating as Deputy Sheriffs under the Travis County Sheriff's Office (TCSO) and are certified Texas Department of Health Emergency Medical Technicians. Their primary duty is to provide the law enforcement component for the effective management of all county owned or managed BCP properties. In FY2004 two additional Park Rangers underwent training enabling them to provide assistance as necessary with resource protection and law enforcement activities on the Preserve. These supplemental BCP Law Enforcement officers spent approximately 18-20% of their FY2004 scheduled patrol time completing training or providing protection on County BCP lands.

Trespass onto posted preserve lands is the most common concern addressed by Travis County BCP Rangers. When trespassers are apprehended on BCP property they are temporarily detained per state law and TCSO policy, questioned regarding their activities, issued a criminal trespass warning and escorted from the property. In FY2004, 17 TCSO Field Identification citations were issued to trespassers confronted on Travis County BCP property. Rapidly developing suburban neighborhoods surrounding many BCP locations will likely generate additional trespass pressure on preserve tracts.

Rangers are responsible for boundary patrols and quarterly inspections of County BCP tracts. Patrols are conducted to provide a law enforcement presence to help minimize illegal activities as well as to assess the condition of County property such as boundary fencing. Rangers are also trained to recognize and respond to hazardous and illegally dumped materials, and regularly cooperate with local, state and federal agencies to appropriately address the threats these materials pose to health and human safety as well as to the natural environment. Inspections encompass surveys of facilities, trails, invasive and non-native species and management needs, trespass issues and other areas that impact the overall condition of preserve tracts. Cooperation with Texas Parks and Wildlife Department Game Wardens has led to the apprehension of poachers illegally taking game animals within the boundaries of the County's preserve lands as well as on adjoining private properties.

Travis County BCP Rangers assist with or lead ongoing education programs conducted by BCP staff, assist with the monitoring and removal of non-native plant and animal species, monitor and protect cultural resource sites, assist with trail mapping and provide support for Travis County Natural Resources field staff. The BCP Rangers have provided assistance in several incidents on City of Austin and LCRA BCP properties and have assisted neighboring landowners and individual BCP land managers with trespass and criminal mischief concerns on adjoining properties. BCP Rangers have also secured physical addresses for the gates to all properties, installed appropriate signage at those properties, and have produced and distributed address maps and lists to emergency response agencies in an effort to facilitate interagency cooperation and reduce response times to incidents within the BCP.

Cultural Resources

As a political subdivision of the State of Texas, Travis County is obligated to comply with the Antiquities Code of Texas to locate, protect and preserve all cultural resource sites on properties within the jurisdiction and management of the County. Travis County Natural Resources is aware of a number of prehistoric and multi-component archaeological sites located on County owned or managed preserve lands. These sites have been recorded with the Texas Historical Commission, and the Texas Archaeological Research Laboratory located at the University of Texas maintains maps showing locations of identified archaeological sites throughout the BCP. These locations are not identified here, as Section 191.004 of the Antiquities Code of Texas prohibits revealing archaeological site locations in public documents (U. S. Department of the Interior, U. S. Fish and Wildlife Service, 1996).

In order to better protect the important cultural resources known to be on Balcones Canyonlands Preserve tracts, Travis County field staff have undergone training pertaining to the identification and field assessment of lithic (rock) artifacts well as historic artifacts associated with 19th and 20th century farming and ranching practices most likely to be encountered in Central Texas. Known cultural sites are regularly monitored for illegal activities such as evidence of surface collecting of artifacts or unauthorized excavation. Known cultural sites are currently being mapped with global positioning satellite technology and mapped on USGS 7.5-minute topographic maps. This data has been transmitted to the Texas Historical Commission and maintained by Travis County Natural Resources staff. Cultural features located on BCP properties are reviewed for possible protection through the National Register of Historic Places, Recorded Texas

Historic Landmark, or State Archaeological Landmark designations. Currently, no known features meet the criteria for inclusion under these designations.

Travis County's Balcones Canyonlands Preserve education and outreach efforts in FY2004 included:

- Interpretation of research data and information about the BCP and endangered species for neighborhoods and homeowner's associations, the general public, and interested groups through preserve tours, workshops, special presentations and exhibits.
- Travis County makes a special effort to reach out to schoolchildren living in the vicinity of Preserve properties. Participation in activities such as Elementary and Secondary school science, environment and nature clubs, the Austin Science Fun Day, and extra-curricular student programs such as summer camps helps to spread the word about the BCCP and protecting the unique native plants and animals found in our community.
- The County regularly provides internship opportunities for college students working in the field of natural resources research and management.
- Continuing data collection and scientific study of the species protected by the BCCP, as well as impacts of land management practices. Research data is presented for interested groups and at professional and scientific conferences, such as the 2002 Land Trust Alliance National Rally, the Society of Ecological Restoration and the Continuing Legal Education Conference on the Endangered Species Act and Habitat Conservation Planning.
- Participation at community events throughout the area, such as the Texas Parks and Wildlife Department's annual "Wildlife Expo" and the Western Oaks annual Karst Preserve Open House, and conferences for groups with mitigation needs such as real estate agencies and builders associations.
- Travis County Natural Resources staff works closely with interested clubs, organizations, and youth-at-risk programs to educate and inform while also providing valuable hands-on work experiences on the Preserve.
- Informing, evaluating, and problem-solving issues such as alternate mitigation opportunities, acquisition strategies, and land management planning with local landowners, developers, real estate associations, and scientific communities.
- The County works closely with partner agencies to address common safety concerns, and has worked to familiarize emergency responders with Preserve tracts within their jurisdictions.
- The County utilizes various media opportunities to inform the public about issues related to the Preserves, such as purchase of new Preserve lands, receipt of federal

HCP land acquisition grants, and the negative impact of non-native wildlife on ecosystem health.

- New content was created and posted to the Travis County website to provide additional public resources related to the BCCP, including expanded and updated participation information, frequently asked questions, species protection, access issues, and contact information for BCP partners and the USFWS.
- A digital video entitled "The Balcones Canyonlands Conservation Plan: A Community-Based Solution" was produced by Travis County Natural Resources and Travis County Media Services. The video is currently available to the public through the Austin Public Library, the Austin History Center, as well as on two local cable television stations (Austin Time-Warner TCTV Channel 17 and City of Austin TV Channel 6). The video was also featured on local PBS station KLRU's award winning "Austin Now". The documentary will soon be available in streaming video format on the Travis County website.
- Information packets including letters of support were created to demonstrate widespread public endorsement of the BCCP and the USFWS Habitat Conservation Plan Land Acquisition Assistance Program.

The Lower Colorado River Authority

Management activities for the three LCRA preserves continued to focus on natural resource research, manage access, and promote stewardship.

Westcave

- LCRA staff conducted territory level surveys for golden-cheeked warblers. Six territories were delineated.

- Preserve staff hosted more than 6887 students, teachers, tourists, researchers, and nature-enthusiasts.

McGregor

- LCRA contracted SWCA to conduct territory level surveys for golden-cheeked warblers. Thirteen to fourteen territories were delineated.

- LCRA staff continued to work with the Comanche Trail Community Association to promote local support of land and wildlife management and stewardship efforts on the preserve. Through collaboration with the McGregor Good Neighbor Program and the CTCA Dirt Club, the preserve is protected through the

continuation of the permit. The forth annual permit renewal meeting was held October 2004 for CTCA McGregor Good Neighbor Program permittees. Training for new permittees was also held October 2004. There are currently 19 permitted McGregor Good Neighbors. The active participation of the permittees continues to be an asset to preserve management. Individuals notify LCRA staff about trail conditions, access concerns, and general preserve status, as well as make suggestions for additional cooperative efforts between the CTCA and the LCRA. Finally, the CTCA Dirt Club officially dedicated the wildscape they built at the corner of McGregor Preserve. LCRA provided guidance, signage and some native plants.

- LCRA staff continued to conduct routine property surveys to identify and address maintenance needs and access issues. Activities included walking the preserve's perimeter, mending small sections of fence, and installing perimeter signs at strategic locations to discourage trespass.

- LCRA continues to work with CTCA, Texas Forest Service and the Hudson Bend Fire Department on the development of the CTCA Fire Plan.

- Fence construction continued in FY04. Approximately 2050 ft of 5-strand barbed wire fence was constructed. Additional fence construction is not planned for the immediate future at McGregor Preserve.

Wheless

- A presence-absence survey of two 100-acre plots (representing prime and transitional habitat) was conducted by LCRA staff. Ten males were observed within the prime habitat plot and three were observed within the transitional habitat plot.

- LCRA staff continued to conduct routine property surveys to identify and address maintenance needs and access issues. Activities included walking the preserve's perimeter, mending small sections of fence, and installing perimeter signs at strategic locations to discourage trespass. Fewer mountain bike tracks were seen on upland sections of the preserve. Points of entry have been identified through the property surveys. Fence repair and additional signage at these locations should help alleviate the problem.

- The BCVI habitat manipulation area was monitored to determine the success of woody vegetation establishment following the January 2002 clearing.

- Fence construction continued in FY04. Approximately 9000 ft of game fence was constructed on the northern and southern property line. Additional fence construction is not planned at Wheless Preserve in the immediate future.

MONITORING HIGHLIGHTS

Westcave

Five visits totaling 30.2 hours were spent surveying for golden-cheeked warblers at Westcave Preserve. Six territories were delineated. Four females and no fledglings were observed during the season.

Wheless

Seven visits were made with a total of 40.2 hours spent on site surveying for golden-cheeked warblers at Wheless Preserve. Survey time was split among the two 100-acre plots designated as prime habitat and transitional habitat. A total of ten males were recorded on the two plots.

McGregor

A survey of the property was conducted by contractors. According to the draft report, 12 visits totaling 126.43 hours were spent surveying for golden-cheeked warblers at McGregor Preserve. Thirteen to 14 territories were delineated (half as many as found in 2001 territory level surveys). Three females and no fledglings were observed during the season.

The Nature Conservancy of Texas

Barton Creek Habitat Preserve

Vireo Management

In 2003 The Nature Conservancy continued management of the Barton Creek Habitat Preserve. This year we continued our monitoring protocol for golden-cheeked warblers, and also continued our active habitat restoration program for black-capped vireos and in fact were successful in finding two pair of black-capped vireos on Barton Creek Habitat Preserve. Both nests were found, but unfortunately both were predated. We believe they re-nested, but were unable to find the new nests.

We worked on three areas approximately 50 acres in size each for vireo restoration. Restoration of the three areas included cutting approximately half of the ashe juniper over three feet in height. After half of the junipers are cut, the three areas are slated to be burned in the winter of 2004. After burning, the remaining standing juniper will be cut.

In 2003 we once again used "call boxes" as part of an ongoing conspecific attraction study. A total of four boxes in two different areas of the preserve were used. Although we have not been able to infer whether or not the subsequent arrival of two pairs of vireos is attributed directly to the call boxes, we are also not able to determine that they are not the reason.

Golden-Cheeked Warbler Monitoring

In 2001, a new protocol entitled "Protocol for Barton Creek Preserve Golden-cheeked Warbler Monitoring" was initiated at Barton Creek Preserve to monitor the population status and trends of the Golden-cheeked Warbler. This protocol will enable The Nature Conservancy to estimate pairing success, productivity, and numbers of breeding Golden-cheeked Warblers in the area. This information will enable us to quantify annual population trends based on point count surveys.

The protocol will also allow for comparisons with Golden-cheeked Warbler monitoring data collected at Balcones Canyonlands Preserve and at Fort Hood, Texas. Both Balcones Canyonlands Preserve and Fort Hood collect data on Golden-cheeked Warbler pairing success, productivity, survival, and territory densities on study sites thought to be representative of Golden-cheeked Warbler habitat on those respective lands (Anders 2000a; Travis County Transportation and Natural Resources Department 1999). Balcones Canyonlands collects demographic data at 17 100-acre sites located throughout the preserve, or a total of approximately 8.7% of the Golden-cheeked Warbler habitat on that preserve (Travis County Transportation and Natural Resources Department 1999). The protocol designed for Barton Creek Preserve includes collecting data on pairing success, productivity, survival, and territory density at two approximately 100-acre sites, totaling approximately 15% of the Golden-cheeked Warbler habitat on this preserve (The Nature Conservancy unpubl. data). Although a single 100-acre site would represent a proportion of habitat equivalent to that monitored at Balcones Canyonlands, 2 sites will likely provide data that are more representative of the population at Barton Creek than would a single site. The 2 study sites established at Barton Creek Preserve were chosen randomly from the 13 sites that have been surveyed on the preserve since 1996 (The Nature Conservancy unpubl. data). The 2 randomly selected sites include a portion of the

historic Highway 71 (HWY 71) site, and the entire historic Vireo Hill Hollow (VHH) site. The new HWY 71 site is 106.2 acres (43.0 ha) in size, and the VHH site is 115.0 acres (46.4 ha) in size (see attached Barton Creek Habitat Preserve map).

In addition to collecting demographic data on representative study sites, Fort Hood also collects data on population trends of Golden-cheeked Warblers throughout the military installation (Anders 2000b). These data are collected through point count surveys conducted annually at 428 permanent point count stations arranged along 31 routes. At Fort Hood stations are all located at least 300 m apart along existing roads or trails throughout oak-juniper woodland (Anders 2000b). Using this same protocol, we established 43 permanent stations throughout Golden-cheeked Warbler habitat at Barton Creek Preserve (see attached Barton Creek Habitat Preserve map).

2003 Data Collection

In 2003, we were able, with the help of two volunteer assistants collect point count survey data at Barton Creek. No demographic data were collected due to time constraints.

Methods

Point Count Surveys

Forty-three permanent point count stations were mapped along existing roads and trails throughout oak-juniper woodland using ArcView. Universal Transverse Mercator (UTM) coordinates were obtained from ArcView and entered into Global Positioning System (GPS) units. Volunteers located the point count station coordinates in the field and flagged these locations, tying red flagging to branches on each side of the road or trail at each of the 43 points.

As outlined in the Barton Creek monitoring protocol, the point count stations should be surveyed twice between 1 April and 31 May. Point count surveys consisted of 6-minute unlimited-radius counts. Counts generally began within 20 minutes of sunrise and ended by 1100. Counts were not conducted during periods of wind or rain strong enough to interfere with detection of birds. At each point, observers recorded date, observer, route number, point number, start time, temperature, cloud cover category, wind speed category, wind direction, and precipitation. Observers recorded all Golden-cheeked Warblers, as well as all individuals of all other bird species detected. For each bird detected, the observer recorded: species, time interval in which bird was detected (first 3 minutes, next 2 minutes, or last minute of count), distance, sex, observation type (song,

call, visual), and for Golden-cheeked Warblers, the direction, number of fledglings present, and song type (A or B).

We calculated the mean number of Golden-cheeked Warbler detections at each point surveyed in 2003. We then summed these values. Next, we divided the sum of mean detections by the number of points surveyed during those years. This provides the mean number of detections per point. (Anders 2001)

Results and Discussion

Point Count Surveys

The average detection of Golden-cheeked Warblers per point for 2003 is 0.74. Surveys from 2002 and 2001 showed an average detection rate of 0.59 and 0.40 respectfully.

Bottomland Hardwood Restoration

In 2003 we continued with our bottomland hardwood restoration projects. We have currently replanted approximately twenty-five acres of previously cleared land. In these areas we have planted native hardwood trees from the preserve such as oak, pecan, cherry, and other native bottomland species. Nature Conservancy volunteers have set up a watering system to help get the trees established, and have donated hundreds of hours of work on the project.

Eagle Scout Projects

In 2003 several Boy Scouts completed Eagle Scout projects. Projects included a new sign over one of the preserve entrances, a chimney swift tower, signage for a new native fruit and nut orchard, and bridges over small tributaries to Barton Creek along a nature trail.

The City of Lakeway

Schramm Ranch

Endangered species surveys were completed and are reported in Appendix I.

Travis Audubon Society

Baker Sanctuary

Access and trail maintenance

- The Sanctuary was open from January 24th until October 23rd at which time the gates were locked and the Sanctuary Chair/Steward, John Wilcox, posted a closure notice.
- On March 20th, 2004 the Travis Audubon Society held their annual open house at the Sanctuary with guided tours from 9:00 AM until noon. 60 visitors toured the Sanctuary.
- John Wilcox maintained all three walking trails and access and service roads by trimming low hanging limbs and installing water bars.
- During the 2004 visitor season, the Sanctuary had 192 registered visitors of whom 52% were members. This year, visitation to the Sanctuary was down 30% compared to our visitation records from the last three years. The decrease in visitations might have resulted from higher fuel cost and/or increased traffic brought about by development. The non-member visitors had prior permission to enter the Sanctuary.

Boundary control

- John Wilcox monitored the Sanctuary boundaries and maintained the new fence line.

General maintenance

- John Wilcox picked up trash on the Sanctuary right-of-way 12 times.
- The Sanctuary Managers hauled 160 bags of trash to the Travis County Solid Waste Transfer Station.
- John Wilcox mowed and trimmed the Headquarters Area, Parking Lot and around the Baker Cabin 10 times, continued cleaning up around the Baker Cabin and created a site plan of the Baker Cabin area for the Jackie Arnold Education Center.
- John Wilcox hauled trash out of the woods to the Travis County Solid Waste Transfer Station, repaired barbed wire fences, and maintained Sanctuary facilities and equipment.

Problem animal control

- During the 2004-2005 WTD season, John Wilcox managed 5 deer hunting leases for gun hunters. As of January 2, 2005 16 deer (5 bucks three points or more, 2 spike bucks and 9 antlerless deer) had been taken. The number of deer harvested was effected by the green-up of forbs from ample fall rains and a fair acorn crop.

All hunters on the Sanctuary filled out the TAS Hunting Application and signed off on the TAS Liability, Indemnity and Release form as well as the TAS Hunting Regulations.

- Feral hogs have not been a problem at the TAS-BS during 2004.
- John Wilcox trapped 32 cowbirds in 2004, including 1 male Bronzed Cowbird.

Endangered species

- TAS member Dan Callaway surveyed the TAS-BS 100 acre GCW plot in 2004 and found 11 warbler territories and 2 fledging groups.
- The Sanctuary Committee met at the TAS-BS three times during 2004.

Restoration

- John Wilcox caged 18 oak saplings.
- In March, the National Wildlife Federation certified the Headquarters Area a Backyard Habitat.

Cultural resources

- No activity occurred this year regarding cultural resources.

Research

- Lisa O'Donnell (City of Austin Watershed Protection and Development Review Department took over the Jollyville Plateau Salamander survey at the Sanctuary. On her April 14th survey, she and Franc Trampas found 33 salamanders below the Baker Springs and in the spring run.
- Lisa O'Donnell, Franc Trampas, John Chenowith (City of Austin), and Kathleen O'Connor (Travis County) surveyed both the Audubon and Baker Springs on August 24th and found no salamanders in either spring.

Copies of all research or investigative reports prepared during FY03

Becker, H. M. and D. L. Koehler. City of Austin 2004 Golden-cheeked Warbler *Dendroica chrysoparia* and Black-capped Vireo *Vireo atricapilla* Monitoring Program. City of Austin Water Utility Wildland Conservation Division, Balcones Canyonlands Preserve Program. See Appendix E.

SWCA Environmental Consultants. Draft Results of a 2004 Golden-cheeked Warbler Survey on the Lower Colorado River Authority McGregor Preserve, Travis County, Texas. See Appendix F.

Pavlas, M. Lower Colorado River Authority 2004 Rare Bird Survey Report, Westcave Preserve. See Appendix G.

Pavlas, M. Lower Colorado River Authority 2004 Rare Bird Survey Report, Wheless Preserve. See Appendix H.

City of Lakeway. Schramm Ranch - Fish and Wildlife Service Permit (PRT-812696) ("The 10-A Permit") 2004 Annual Report. See Appendix I.

Travis County Natural Resources. Monitoring of the Black-capped Vireo (*Vireo atricapilla*) 2004 Field Season, Project Numbers 0810-0501. See Appendix J.

Travis County Natural Resources. Monitoring of the Golden-cheeked Warbler 2004 Field Season, Project Numbers 0810-0401, 0905-0413, 0905-0414, 0905-0415, 0905-0419, 0905-0420, 0905-0422, 0905-0434. See Appendix K.

Travis County Natural Resources. 2004 Summary of Wildlife Management Activities on Travis County Managed Tracts of the Balcones Canyonlands Preserve, Project Numbers 0905-0220, 0905-0226, 0905-0332. See Appendix L.

Travis County Natural Resources. Vegetation Management on Travis County Balcones Canyonlands Preserve Lands during FY2004. Project Numbers 0810-4904, 0810-4907. See Appendix M.

Travis County Natural Resources and City of Austin BCP-AWU. Balcones Canyonlands Preserve Karst Management 2004 Annual Report, Travis County Parks and Natural Resources Project Numbers 0905-0312, 0905-0323, 0905-0324. See Appendix N.

Hardy, D. H. Palamedes Swallowtails in the Texas Hill Country. News of the Lepidopterists' Society, Volume 46, Number 1. See Appendix O.

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