BALCONES CANYONLANDS CONSERVATION PLAN

Annual Report
FY 2008

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 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) (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 for 35 karst features supporting populations of six endangered invertebrates and an additional 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 (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. The Permit Holders have initiated

discussions with other Municipalities and other stakeholders within the permit area about joining the effort to achieve the goals of the BCCP through Managing Partner Agreements, and hope to forge new agreements securing protections for additional lands within the BCP.

In FY03, 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). In 2007, 100 acres of the Schramm Ranch tract were transferred to the City of Austin to manage as BCP. The City of Lakeway submits an annual report on the remaining 98 acres to the USFWS in conjunction with the BCCP Partners, and this document is attached herein as appendix D.

A number of private landowners also manage habitat within the 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 incorporated into this Annual Report. The Permit Holders 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.

Development Activity within the Permit Area

The City of Austin development activity report for FY08 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 FY08 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).

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.

Table 2. Infrastructure projects mitigated through the use of mitigation credits during FY08 by participating agency.

City of Austin	
Starting City of Austin Balance	11,552.55 acres
New preserve additions (credits) -- Bowman	44.92
WTP # 4 Bore Holes	1.1
Pickfair Lift Station Improvements	0.3
Water Treatment Plant #4	60
Remaining Mitigation Credits	***11,536.07 acres***
Travis County	
Starting Travis County Balance	2736.1 acres
New preserve additions (credits)	0
Remaining Mitigation Credits	***2736.1 acres***
Lower Colorado River Authority (LCRA)	
Starting LCRA Balance	2,495.4 acres
Turkey Bend TMBL Camp	0.9
T-420 transmission line - Escarpment to Manchaca	13.4
Mitigation Credit – PEC Substation	(8.7)
T bar M Pole Barn Expansion.	0.1
Remaining Mitigation Credits	***2,489.7 acres***

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, twenty-four Participation Certificates were issued (Table 3), two for commercial use, sixteen for subdivisions, three under the City of Austin managed Infrastructure process, one under the single family lot provision, one under the land in lieu of fee provision and one under the USFWS Alternative Determination Process.

Table 3. FY08 Participation Certificate summary.

Application #	Date	Name	Category	Amount Paid
#0584	10/29/07	The Reserve at Lake Travis, LLC	Subdivision	$109,800.00
#0582	1/18/08	Commercial Capital, Inc.	Subdivision	$121,200.00
#0596A	02/21/08	Strategic Real Estate Group	Subdivision	$196,800.00
#0596B	02/21/08	Strategic Real Estate Group	Subdivision	$467,600.00
#0519	03/20/08	Stout	Single Family Lot Provision	$2,000.00
#0585	05/01/08	Newmark Homes Purchasing, L.P.	USFWS Alt. Determination	$45,000.00
#0605	05/22/08	GSVR 2222, LLC	Commercial	$7,600.00
#0596C	06/17/08	Strategic Real Estate Group	Subdivision	$101,200.00
#0596D	06/17/08	Strategic Real Estate Group	Subdivision	$36,400.00
#0598	06/23/08	Spanish Oaks, L.P.	Subdivision	$70,000.00
#0595	07/03/08	Waterford LT Partners, LP	Subdivision	$171,400.00
#0587	07/10/08	Unnasch	Commercial	$4,000.00
#0603	07/11/08	Austin Marbella, LTD	Subdivision	$174,000.00
#0583A	07/14/08	Marcel Construction & Maint.	Subdivision	$62,000.00
#0583B	07/14/08	Marcel Construction & Maint.	Subdivision	$12,500.00
#0600	07/14/08	Commercial Capital	Subdivision	$25,800.00
#0614	07/14/08	Stratus Properties	Infrastructure	$2,800.00
#0594	07/15/08	Winston Capital	Subdivision	$235,200.00
#0613	07/14/08	Munson Park, Ltd.	Subdivision	$78,000.00
#0511	08/04/08	Toll Bros.	Land in Lieu of Fee Provision	29 acres
#0245-A1	08/12/08	Steiner Ranch	Subdivision	$1,149,200.00
#0615	08/27/08	Synerggetic Design, Inc.	Infrastructure	$1,650.00
#0616	08/27/08	Synerggetic Design, Inc.	Infrastructure	$275.00
#0563	9/19/08	Troutman	Subdivision	$26,125.00

Funds Collected through Participation Certificate and USFWS directed mitigation fees

A total of $3,100,550.00 was collected through the sale of Participation Certificates in FY08. These funds are disbursed between the Permit Holders on a quarterly basis. Two directed mitigation payments in the amount of $258,370.00 were received in FY08. One

for the Woods at Green Shores tract off of Pierce Road in accordance with the landowner's USFWS 10 (a)1(b) permit ($253,370.00) and from the Vaught Ranch development ($5,000.00) off of RM 2222 for removal of additional vegetation as directed by USFWS.

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 $6,680,000 in FY08.

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, ten Land Acquisition Assistance Program awards totaling $79,005,059 have been completed or are in progress.

Travis County continues 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.

Table 4. 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	$14,362,500	$4,787,500	$19,150,000	City of Austin, Travis County
2002	$10,000,000	$3,333,333	$13,333,333	Travis County
2003	$4,993,794	$1,664,598	$6,658,392	Travis County
2004	$3,375,000	$1,125,000	$4,500,000	Travis County
2005	$6,890,000	$2,296,667	$9,186,667	Travis County
2007	$5,742,500	$1,914,167	$7,656,667	Travis County
2008	$5,250,000	$1,750,000	$7,000,000	Travis County
Total	**$59,253,794**	**$19,751,265**	**$79,005,059**	

In addition to fee simple acquisitions, Travis County actively pursues alternative protection strategies such as conservation easements and deed transfers.

In FY08 Travis County accepted the deed to a 29.0 acre parcel as a "Land-In-Lieu of Fee" transaction as prescribed by the HCP and the Interlocal Agreement between the City of Austin and Travis County. 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 5. Travis County FY08 BCP Land Acquisitions.

Tract	Date Acquired	Acreage	Total Expenditures*
Chandler Tract *Land in Lieu of Mitigation Fee*	4-7-2008	29.0	$0

* Total Expenditures includes land and associated acquisition costs (surveys, environmental site assessments, etc.)

A BCP Completion Task Group comprised of members of Travis County's Planning and Budget Office, TNR Natural Resources, the County Auditor's Office, the County Attorney's Office as well as other BCP Partners was convened in 2007 and met regularly throughout FY08 to develop a set of land acquisition financing recommendations for Commissioners Court and the BCCP Coordinating Committee. Multiple approaches to completing outstanding BCP land acquisition obligations are anticipated, and may include new strategies including installment payments, lease-purchase options, purchasing rights of first refusal and others in addition to continuing to leverage local funding with federal grants, purchase of conservation easements, use of tools such as life-estates and outright fee simple purchases. County staff anticipates that this Task Group will brief the Court on these issues and provide recommendations in FY09.

Funds Expended for Operations and Maintenance

The City of Austin spent a total of $1,245,000 for FY08 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 6. Annual FY07 and FY08 BCP budgets for Permit Holders, the Managing Partner, and cooperating entities with summary of total budgets since plan inception.

BCP Partner	FY2007	FY2008	Total Budget: 1996 to Present
City of Austin	$1,080,939	$1,245,000	$7,775,437
Travis County	$603,146	$569,013	$5,247,233
LCRA	$85,000	$85,000	$1,123,072
TNCTX	$20,000	$10,000	$912,000
TAS	$29,700	$18,425	$190,026
TOTALS	**$1,818,785**	**$1,927,438**	**$15,247,768**

The Travis County Natural Resources budget for the BCP Program in FY08 was $569,013. This total includes Travis County General Fund expenditures and funds negotiated to support ongoing operations and maintenance of County managed Conservation Easements, but does not include administrative, legal, law enforcement support or non-habitat-related operations and maintenance provided by other Travis County Departments. This figure also 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.

Updated Map of Lands Dedicated to the Balcones Canyonlands Preserve

With the addition in FY08 of 29 acres to the Preserve, 27,956 of the 30,428 acres of black-capped vireo and golden-cheeked warbler habitat required by the Permit (92%) have been assembled by the Permit Holders with the assistance of cooperating landowners and entities. A map illustrating the current status of the Balcones Canyonlands Preserve is enclosed as Appendix C. Summaries of BCP lands sorted by managing entity and by macrosite are attached as Appendices D and E, respectively.

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

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 inventory of existing species within the city's 13,530-acre 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 coordinates volunteer activities and provides maintenance and administrative support. Information about WCD public outreach and education activities, including guided hikes, is provided in the "2008 BCP Outreach Program" section of the annual report.

WCD currently manages 10,316 acres of the BCP and assists Parks and Recreation Department (PARD) Park Operations on the other 3,214 acres of designated parks and Preserves.

Upper Bull Creek

Staff and volunteers 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, former WTP#4 tracts) in August 2008, with an average survey count of one deer per 33 acres. One reason for such a low density is that many of the deer appear to exit the preserve at night and browse on plants in the adjacent neighborhoods. Twenty-nine white-tailed deer were culled along with about 74 feral hogs. Culling of deer was conducted under a Texas Parks and Wildlife Department (TPWD) Level 2 Managed Lands Deer Permit (MLDP). Harvesting began in November of 2007 and ended in February 2008. The harvested meat was donated to the Capital Area Food Bank.

Table 7. Management Status of City of Austin BCP Properties

Tract	Primary Management Responsibility	Acreage
Upper Bull Creek Unit (Franklin, Hanks, Lanier, COA Canyon Creek plus MUD tracts, Gardens at Bull Creek, Bowman, and former WTP 4 "entire tract")	AWU/BCP	1146.21
Middle Bull Creek Unit (Ivanhoe, Beard Trust)	AWU/BCP	996.71
Lower Bull Creek Unit (Jester, Forest Ridge, 3M, Hilltop, Gibson/Nott, Hiller, Kruger)	AWU/BCP	1090.97
Lime Creek (inc. 100 acres of Austin-Simon, Ltd.)	AWU/BCP	586.70
Park West, Coldwater I & II, Long Canyon	AWU/BCP	1344.00
Cortaña	AWU/BCP	1751.95
Double J&T	AWU/BCP	1730.00
Reicher Ranch	AWU/BCP	819.70
Bohls Ranch	AWU/BCP	450.14
Bohls II	AWU/BCP/TNC*	18.81
Sansom	AWU/BCP	13.00
Senna Hills	AWU/BCP	35.00
Schramm Ranch	AWU/BCP	100.63
Vireo Research Area	AWU/BCP	214.00
Ullrich Water Treatment Plant	AWU/BCP	18.00
	AWU/BCP Subtotal	**10,315.82**
Bull Creek District Park, Bull Creek Greenbelt	PARD/BCP**	129.48
St. Edward's Park	PARD/BCP	50
Stillhouse Hollow	PARD/BCP	8
Barrow Preserve	PARD/BCP	8
Emma Long Metro Park	PARD/BCP	950
Commons Ford Park	PARD/BCP	115
Barton Creek Wilderness	PARD/BCP	1075.23
Barton Creek Greenbelt	PARD/BCP	813
Friesenhahn	PARD/BCP	62
Mt. Bonnell	PARD/BCP	3
	PARD/BCP Dual-Managed Subtotal	**3,213.71**
	TOTAL ACREAGE	**13,529.53**

******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.

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 easement to the north. Monitoring and management activities for this tract during FY 07-08 included:

- Enumeration of Golden-cheeked Warbler territories in areas of the tract where there have been few sightings of warblers in past years (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Documentation of a homeowner dumping toxic moth balls into the preserve plus follow-up research. Talked with the individual homeowner, who was dumping the moth balls on the preserve in an effort to keep snakes away. The homeowner agreed not to dump this toxic material on preserve land.
- Maintenance of interior roads for vehicle clearance.
- Trash removal.
- Repair of perimeter fence and gates damaged by unauthorized trespass.
- Meeting with adjacent preserve and property managers (Travis County and Concordia University) regarding trespass and vandalism issues; worked on collaborative solutions to the problems.
- Meeting with adjacent representatives of a proposed new retirement community regarding encroachment issues; the property owner agreed to mitigation measures.
- Discovery and mapping of a new illegal trail originating from the adjacent private Canyon Creek preserve.
- Trapping and removal of feral hogs with the assistance of volunteers.
- Trapping of Brown-headed Cowbirds with the assistance of volunteers. All the birds were given to the University of Texas Neuroscience lab for research relating to how birds migrate/brain activity. After research was complete, all birds were humanely euthanized.
- Removal of non-native invasive vegetation.
- Reconnaissance for oak wilt: no new oak wilt observed. Continued monitoring of existing oak wilt centers.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions noted as applicable, corners marked with GPS unit.

Canyon Creek MUD #1 (129.37 former Canyon Creek MUD mitigation tract)

- Enumeration and mapping of Golden-cheeked Warbler territories (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Discovery of a new spring and new location for the Jollyville Plateau salamander; mapped with GPS; met on site with the City's Watershed Protection and Development Review Department (WPDRD) and Andy Gluesenkamp. Five salamanders were collected and deposited with Paul Chippindale (University of Texas at Arlington) for molecular analysis.
- Mapping of several karst features with GPS.
- Installation of a temporary perimeter fence, no trespass signs, and purple paint along the perimeter between Concordia University/Travis County preserve in an effort to stop illegal trespass.
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Removal of non-native invasive vegetation.

Canyon Creek MUD #2 (55 acre former Canyon Creek MUD mitigation tract)

- Enumeration and mapping of Golden-cheeked Warbler territories (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Routine inspection of Stovepipe cave entrance; no evidence of trespass or vandalism was noted.
- Treatment of red-imported fire ants in the vicinity of Stovepipe cave (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Mapping of several karst features with GPS.
- Removal of several large trash dumps with the assistance of the American Youth Works Environmental Corps (AYW E-Corps).
- Fence repair.
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.

Canyon Creek MUD #3 (30.23 former Canyon Creek MUD mitigation tract)

- Enumeration and mapping of Golden-cheeked Warbler territories (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Meeting with representatives of Concordia University regarding needs to fence the perimeter; Concordia allowed the City of Austin to tie into their existing fence, which was "set in" to their property.

- Installation of a temporary perimeter fence, gate, and no trespass signs in an effort to stop illegal trespass, prior to contracting with a professional fence company.
- Installation of approximately 2900 linear feet of an 8-foot game fence along the perimeter of the property to prevent trespass.
- Removal of a large trash dump, including old structures and a vehicle.
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.

Franklin

Monitoring and management activities for this tract during FY08 included:

- Trapping of feral hogs.
- Routine patrols of main roads and perimeter fencing to look for signs of trespassing, vandalism, and/or dumping.
- Attempted capture and removal of "escaped" cattle from adjacent private property.
- Maintenance of existing stands and feeders for the deer management program.
- Repair of vandalized perimeter fence.
- Continued monitoring of the Cistern Spring/Jollyville Plateau salamander habitat restoration project; on average 2 to 3 salamanders continue to be observed.
- Seed collection from locally rare, spring-associated plants; subsequently sowed at the newly-protected Cistern Spring fenced area.
- Repair of access roads.
- Trash removal.
- Meeting on site with Travis County Sheriff's office regarding methods to discourage illegal dumping.
- Removal of non-native invasive vegetation.
- Periodic surface count monitoring for the Jollyville Plateau salamander.
- Monitoring of water level at springs and salamander sites; due to drought conditions most springs and spring runs were dry by July.
- Installation of new deer exclosures around hardwood saplings for Golden-cheeked Warbler habitat restoration.
- Reconnaissance for oak wilt: no oak wilt observed.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions noted, corners marked with GPS unit.

Hanks and Gardens at Bull Creek

Monitoring and management activities for these tracts during FY08 included:

- Routine patrol of the area for evidence of trespass and preserve damage.
- Monitoring of the health of 229 trees that were planted in November 2000, with maintenance conducted as necessary.
- Planting large numbers of seeds including: live oak, red oak, red mulberry, Arizona walnut, Carolina basswood, Amorpha roemeriana, and Viburnum rufidulum, as well as other species to aid Golden-cheeked Warbler habitat restoration.
- Removal of non-native invasive vegetation.
- Trash removal.
- Repair of vandalized perimeter fence, gate, and deer exclosure.
- Contract to construct approximately 2900 linear feet of an 8-foot game fence along the perimeter of the property to prevent trespass and manage white-tailed deer and hogs.
- Posting of new perimeter signs and repair of vandalized signs.
- Seed collection for spring restoration project.
- Documentation of erosion and sedimentation problems from adjacent development that is adversely affecting Bull Creek water quality as well as Jollyville Plateau salamander habitat. Staff reported all erosion problems associated with the adjacent development to the City of Austin's environmental inspectors. Remediation was enacted as required by City code.
- Reporting of major vandalism to the sewer lift station and adjacent perimeter fences; someone crashed a vehicle into the sewer lift station; a police report was filed.
- Reporting of major sewer line leak. Assisted with logistics and made sure no additional damage was done to the preserve. Approximately 240,000 gallons of sewage spilled into Bull Creek due to pump failure at a nearby lift station. AWU staff pumped the nearby pond water/sewage to the lift station, the pumping continued until water quality tests were back to normal. The spill was downstream of any major Jollyville Plateau salamander site.
- Feral hog trapping.
- Review and oversight of a WPDRD project to enhance Jollyville Plateau salamander habitat by removing a low water crossing, thus lowering the water level and potentially habitat for predatory fish. Staff will continue to monitor and attempt to minimize any potential negative impacts that occurred during the implementation of this project.

- Removal of non-native invasive vegetation.
- Continued monitoring of active oak wilt centers. BCP staff and AYW E-Corps crews removed newly infected red oaks.

Lanier

Monitoring and management activities for this tract during FY08 included:

- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Continuation of mark-recapture surveys for the Jollyville Plateau salamander on a quarterly basis at Lanier Spring (2008 Estimation of Jollyville Plateau Salamander Populations report, Appendix G). Mark-recapture surveys were conducted in October 2007 (the conclusion of an 8-month study) and resumed in March 2008. The site was dry by July, so no additional surveys were conducted during 2008.
- Maintenance of existing stands and feeders for the deer management program.
- Removal of feral hogs.
- Removal of non-native invasive vegetation.
- Maintenance of interior roads for vehicle clearance.
- Reconnaissance for oak wilt: no oak wilt observed.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions noted, corners marked with GPS unit.

Former WTP 4

In December 2007, the Austin City Council voted to purchase an alternate site to move Water Treatment Plant 4 (WTP4) out of the Bull Creek watershed, so this site is no longer being considered for a water treatment plan. Monitoring and management activities for this tract during FY 08 included:

- Enumeration and mapping of Golden-cheeked Warbler territories (City of Austin 2008 Avian Endangered Species Report, Appendix D).
- Periodic monitoring of Jollyville Plateau salamanders at Moss Gully spring.
- Periodic monitoring of Jollyville Plateau salamanders in the main branch of Bull Creek at and above the low water crossing to the southwest fence line until water levels dissipated due to the ongoing drought.
- Working with WPDRD staff on measures and a plan to restore flow to Moss Gully spring. WPDRD oversaw this project but unfortunately miscalculated measurements and backfilled concrete beyond the spring conduit. BCP staff plan to attempt to fix this problem and restore flow back to Moss Gully.

- Assisting WPDRD staff with acquiring baseline data on the main branch of Bull Creek and associated springs as part of the original mitigation plan when the water treatment plant was scheduled for construction at this site.
- Repair of perimeter fence and floodgates to prevent entry of feral hogs and deer.
- Working on Golden-cheeked Warbler habitat enhancement plan including seeding, planting, deer removal, and hog removal. This plan was, in part, mitigation for planned warbler habitat removal for the proposed water treatment plant. Since this treatment plant is no longer proposed to be built on this site, the proposed warbler habitat enhancement would likely serve as voluntary tree mitigation for trees that will be destroyed at the new site. As the new treatment plant site is located outside of the City of Austin's jurisdiction, any tree mitigation would be voluntary. Because of this, the mitigation trees may not be not be planted at the former site, rather a separate enhancement project and/or land acquisition may be proposed. This is yet to be determined.
- Continued seed collection for propagation (including shipping seed to the Texas Forest Service) as part of the restoration plan described above.
- Trash removal.
- Removal of non-native invasive vegetation.
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Operation of hog traps and a hog pen trap.
- Reconnaissance for oak wilt: no oak wilt observed.
- Planting of red oak acorns and other tree seeds with Boy Scout troop to restore woodlands.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions noted, corners marked with GPS unit.
- Installation of a new gate, which will allow access from RR 620 and negate the need to cross Bull Creek. This will allow access for storm water monitoring and protect Jollyville Plateau salamander habitat.

Bowman

- Meeting with representatives of Concordia University regarding needs to fence the perimeter; Concordia cooperated by surveying the boundary between the two properties.
- Installation of approximately 1750 linear feet of an 8-foot game fence along the perimeter of the property to prevent trespass.

- Enumeration and mapping of Golden-cheeked Warbler territories (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Removal of non-native invasive vegetation
- Removal of a large trash dump including old structures and a vehicle.

Middle Bull Creek

Ivanhoe

Monitoring and management activities for this tract during FY08 included:

- Mapping of Golden-cheeked Warbler territories on a 100-acre prime study plot, and enumeration of Golden-cheeked Warbler territories in areas of the tract where there have been few sightings of warblers in past years (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Providing support for a Texas State University study to assess the possibility of using occupancy modeling for Golden-cheeked Warbler monitoring; Ivanhoe 100-acre plot was one of five study areas.
- Operation of feral hog traps by staff and volunteers.
- Maintenance and operation of a Brown-headed Cowbird trap, with the assistance of volunteers. All the birds were given to the UT Neuroscience lab for research relating on how birds migrate/brain activity. After research was complete all birds were humanely euthanized.
- Setting up several additional hog traps and two deer feeders and stands in preparation for the upcoming deer season.
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Erosion repair on access road.
- Fence and gate repair.
- Inspection of Austin Energy line-clearing activities.
- Removal of non-native invasive vegetation.
- Trash removal.
- Monitoring of the rare Canyon Mock-Orange.
- Continued monitoring of “Rancho La Valencia” mitigation and remediation of disturbed preserve property. The City filed a lawsuit in an attempt to recover damages.

- Monitoring progress on measures to be implemented by the adjacent Ribelin Ranch development, including setbacks and fencing requirements that will benefit the preserve.
- Reporting of illegal looting of archeological sites on the adjacent private Ribelin Ranch setback areas. Inspectors with WPDRD and Travis County investigated this infraction and took measures to prevent further looting.
- Biannual monitoring of Beard Ranch Cave for visible signs of vandalism and infestations of red-imported fire ants. No problems were noted (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Reconnaissance for oak wilt: no oak wilt observed.
- Contract to construct approximately 2100 linear feet of an 8-foot game fence along the perimeter of the property to prevent trespass and manage white-tailed deer and hogs.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions noted, corners marked with GPS unit.
- Initiation of invasive species mapping by volunteers.

Beard Family Trust

Monitoring and management activities for this tract during FY08 included:

- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Sedimentation and erosion control work.
- Walking fence line with Canyon Ridge development, removal of trash, and talking to developer representative to prevent more incidents.
- Repair of perimeter fences.
- Inspection of Austin Energy line-clearing activities.
- Removal of non-native invasive vegetation.
- Operation of feral hog traps manned by staff and volunteers.
- Reconnaissance for oak wilt: no oak wilt observed.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions noted, corners marked with GPS unit.
- Initiation of invasive species mapping by volunteers.
- Enumeration and mapping of Golden-cheeked Warbler territories (City of Austin 2008 Avian Endangered Species Report, Appendix E).

Lower Bull Creek

Forest Ridge, Hilltop, Hiller, and Gibson/Nott

Monitoring and management activities for these tracts during FY08 included:

- Trail maintenance on lower Bull Creek trail with help from AYW E-Corps. Highlights included repairing the Bull Creek trail, erosion control work, and various improvements to steps and switchbacks.
- Mapping of Golden-cheeked Warbler territories on a 100-acre prime study plot, and enumerations of Golden-cheeked Warbler territories in areas where there have been few sightings of warblers in past years (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Providing support for a Texas State University study to assess the possibility of using occupancy modeling for Golden-cheeked Warbler monitoring; Forest Ridge 100-acre plot was one of five study areas. See Appendix H.
- Cave cricket exit count at Jest John cave (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Two site visits to Jest John cave; found no sign of vandalism or human visitation (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Routine fence repair and maintenance.
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism, and/or dumping.
- Trash removal.
- Reconnaissance for oak wilt.
- Removal of non-native invasive vegetation with staff and volunteers.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions noted, corners marked with GPS unit.
- Completion of invasive species mapping by volunteers.
- Mapping legal and illegal trails as part of the "Trail Master Plan."

Jester

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 monitoring and management activities for this tract during FY08 included:

- Enumeration of Golden-cheeked Warbler territories in areas of the tract where there have been few sightings of warblers in past years; surveys conducted by volunteers (City of Austin 2008 Avian Endangered Species Report, Appendix E).

- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Repair of entry signs/kiosk.
- Repair of the perimeter fence.
- Removal of non-native invasive vegetation by staff and volunteers.
- Inspection of Jester Pit.
- Educational meeting with the neighbors regarding feral hogs problems in the area.
- Reconnaissance for oak wilt; no oak wilt observed.
- Trail maintenance.
- Trash removal.
- Mapping of legal and illegal trails as part of the "Trail Master Plan."
- Inventory of fences by BCP staff and volunteers. Fence type and conditions noted, corners marked with GPS unit.
- Completion of invasive species mapping by volunteers.

St. Edwards, 3M and Krueger

Monitoring and management activities for this tract during FY08 included:

- Mapping of Golden-cheeked Warbler territories on a 100-acre prime study plot, enumerations of Golden-cheeked Warbler territories in areas where there have been few sightings of warblers in past years (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Providing support for a Texas State University study to assess the possibility of using occupancy modeling for Golden-cheeked Warbler monitoring; 3M/St. Edwards 100-acre plot was one of five study areas. See Appendix H.
- Mapping of legal and illegal trails as part of the "Trail Master Plan."
- Maintenance of interior roads for vehicle clearance.
- Reconnaissance for oak wilt: no oak wilt observed.
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Trash removal.
- Routine fence repair and maintenance.
- Removal of non-native invasive vegetation.
- Installation of a new "horseback riding" trail by PARD on St. Edwards Park with a new entry gate off of Spicewood Springs Road. This trail connects to a newly constructed trial along the bull creek greenbelt. The St. Edward's portion of this trail is relatively small, it quickly ties into an existing trail. PARD also added new carsonite markers to this trail.

- Construction, installation, and operation of a new hog pen trap. Removed 19 hogs since March.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions noted, corners marked with GPS unit.
- Completion of invasive species mapping by volunteers.
- Operation of feral hog traps by staff and volunteers.

Cypress Creek Unit

Staff and volunteers conducted 3 white-tailed deer census counts on a five-mile route on and near the Lime Creek tract (representing the Cypress Creek Macrosite) in August and September 2008, with an average survey count of one deer per 8.9 acres. Deer culling will be conducted during FY09 under a TPWD Level 1 MLDP.

Lime Creek

Monitoring and management activities for this tract during FY08 included:

- Golden-cheeked Warbler enumerations on a majority of the tract (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Continued monitoring of restoration work by Travis County for mitigation from the Lime Creek Road re-alignment. BCP staff took over irrigation of the site to ensure persistence of the planting through the summer. Irrigation will likely begin again next spring.
- Installation of approximately 5,100 linear feet of game fence on the eastern, southeastern, and southern boundaries of Lime Creek.
- Inspection of the areas around caves for signs of vandalism and infestation with red-imported fire ants. Lime Creek has two caves, which harbor endangered karst species. No signs of vandalism were found. Red-imported fire ant mounds were marked and treated with boiling water (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Annual cave faunal surveys at Broken Arrow and Rolling Rock caves (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping. Volunteers assisted in completing a fence inventory of the property.
- Wildland fire mitigation on six acres of cleared potential Black-capped Vireo habitat. BCP staff and AYW E-Corps created a primary fireline to prep the site for a slash burn during the winter of 2008/2009 or 2009/2010.

- Periodic fence repair. Perimeter fence has been repeatedly damaged by vehicular crashes.
- Removal of trash, brush, and construction spoils.

North Lake Austin Macrosite

Staff conducted 3 white-tailed deer census counts on a five-mile route on the Cortana tract (representing the North Lake Austin Macrosite) in August and September 2008, with an average survey count of one deer per 27.5 acres. No white-tailed deer were culled in winter 2007-2008.

Coldwater/Cowfork

Monitoring and management activities for this tract during FY08 included:

- Enumeration of Golden-cheeked Warbler territories on a portion of the Cowfork tract where there have been few sightings of warblers in past years (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Periodic patrols of main roads and perimeter fencing to look for signs of trespassing, vandalism, or dumping. Corrective actions were taken on a number of issues including contacting various enforcement entities (Environmental Inspector, WPDRD) to investigate infractions. Volunteers assisted in completing a fence inventory of the property.
- Mapping and removal of non-native invasive plants.
- Removal of trash, brush, and construction spoils.
- Negotiating access for Austin Energy to the boundary of Cowfork for a major distribution line replacement project.
- Halting the clearing of vegetation and partial fence construction along the northeast portion of the Cowfork tract due to acquisition of adjacent property.
- Delineating City of Austin access easements to adjacent Vaught Ranch tracts to be acquired (acquired after October 1, 2009) from the adjacent private property.

Cortaña

Monitoring and management activities for this tract during FY08 included:

- Enumeration of Golden-cheeked Warbler territories in areas of the tract where there have been few surveys or few sightings of warblers in past years (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Mapping of Black-capped Vireo territories, and assessment of productivity (City of Austin 2008 Avian Endangered Species Report, Appendix E).

- Mist-netting and banding of 3 adult male and 3 nestling Black-capped Vireos by Texas State University researchers (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Breeding bird surveys conducted by volunteers from twelve points in existing and prospective Black-capped Vireo habitat.
- Creation of a wildfire control line, with help of AYW E-Corps, around the perimeter of much of the existing Black-capped Vireo habitat.
- Removal of slash left from construction of a new fence along the eastern boundary of the tract, to reduce the danger of wildfire. Staff was assisted by AYW E-Corps.
- Collection of juniper foliage for live fuel moisture samples by volunteers.
- Maintenance of existing deer stands and feeders. No white-tailed deer were culled from the tract this year.
- On the northeastern boundary of the tract, construction of approximately 225 linear feet of ornamental iron fence, and preparation for construction of approximately 3600 linear feet of deer-proof game fence, to prevent trespass and manage white-tailed deer.
- Planning for the construction of approximately 500 linear feet of deer-proof game fence along the frontage with Ranch Road 620, to discourage dumping.
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism, or dumping.
- Documentation and report to Travis County Sheriff of damaged junipers on BCP land behind 5206 Eagle Trace Trail.
- Reporting to Travis County Sheriff the trespassing of a work crew on BCP land behind 8215 Big View Drive to cut up dead wood.
- Blocking and erasing portions of an illegal trail on the southern part of the tract.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions were noted, and corners marked with GPS unit.
- Repair of the perimeter fence.
- Trash removal.
- Trimming vegetation that encroaches on roads.
- Construction of a hog-panel weir upstream of a culvert at the south end of the tract. The purpose of the weir is to prevent flotsam from blocking the culvert, forcing stream water across a road and eroding it. BCP staff later decided to close this road, since it is not necessary for management purposes.

- Landscaping of an easement held by a neighboring landowner. BCP staff recommended native plant species.
- Vegetation monitoring along four pairs of transects, by means of point-intercept and line-transect methods, with help from a volunteer. The purpose of the monitoring is to assess restoration of Black-capped Vireo habitat.
- Photographic monitoring of vegetation in Black-capped Vireo habitat restoration area, with help from a volunteer.
- Removal of non-native invasive plants.
- On-the-ground verification of aerial oak wilt surveys. One new oak wilt center found.
- Installation in the shinnery of a new metal Brown-headed Cowbird trap, built by a volunteer. The wooden hybrid trap remains on site as a back-up, if needed.
- Maintenance and operation of the cowbird trap (City of Austin 2008 Avian Endangered Species Report, Appendix E), with help from volunteers. Cowbirds were humanely euthanized at the end of the season; carcasses were then delivered to a raptor rehabilitator.

Emma Long Park and Preserve

Monitoring and management activities for this tract during FY08 included:

- Mapping of Golden-cheeked Warbler territories on a 100-acre prime study plot (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Providing support for a Texas State University study to assess the possibility of using occupancy modeling for Golden-cheeked Warbler monitoring; Emma Long 100-acre plot was one of five study areas. See Appendix H.
- Continued monitoring of Turkey Creek trail and documentation of trail problems and erosion.
- Continued removal and documentation of non-native invasive vegetation, including the multi-year volunteer project for the removal of two acres of Tree-of-Heaven. A large portion of the Tree-of-Heaven site was eradicated and will need follow-up visits to ensure new ramets do not appear. Volunteers, AYW E-Corps, and BCP staff assisted in invasive species removal and documentation efforts.
- Discovery and mapping of two new oak wilt centers, and continued monitoring of known oak wilt centers. Staff, with assistance from Texas Forest Service, delineated the route for an oak wilt trench on the eastern portion of the property, to include neighboring private landowners. Staff also prepared the scope of work for a contract to complete the trench in FY 08/09.

- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Trash removal.
- Plant educational event for surrounding areas, held in December 2007.

Long Canyon

Monitoring and management activities for this tract during FY08 included:

- Enumeration of Golden-cheeked Warbler territories on the eastern portion of the tract (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism or dumping. Corrective actions were taken on a number of issues including contacting various enforcement entities (Environmental Inspector, Travis County Sheriff's Department) to investigate infractions. Also worked with BCP liaison and Long Canyon Home Owner's Association (HOA) to mitigate encroachment and vandalism from the neighborhood into the preserve. Volunteers assisted in completing a fence inventory of the property.
- Posting boundary marker signs on the property boundary between Long Canyon HOA trail and BCP property.
- Documentation and removal of non-native invasive plants by BCP staff and volunteers.
- On-the-ground verification of observations from aerial oak wilt surveys, which documented a new oak wilt center. BCP staff worked with the Long Canyon HOA and BCP liaison to inform the neighborhood of its status.
- Coordination with Long Canyon HOA members on wildland fire hazard education along the HOA trail/BCP property boundary.
- Removal of trash and construction spoils.
- Negotiating access for Austin Energy to the boundary of Long Canyon for a major distribution line replacement project.

Parke West

Monitoring and management activities for this tract during FY08 included:

- Enumeration of Golden-cheeked Warbler territories on portion of Parke West, conducted by BCP staff and volunteers (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Quarterly karst faunal surveys at Spider Cave by BCP staff. Quarterly cave cricket exit counts were conducted at Spider Cave with the help of volunteers

(Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).

- Monitoring of Spider Cave and vicinity for the presence of red-imported fire ants; conducted two boiling water treatments for their control (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism, or dumping.
- Removal of trash.

South Lake Austin Macrosite

Staff and volunteers conducted 3 white-tailed deer census counts on a 5–mile census route covering portions of three South Lake Austin Macrosite tracts (Double J&T, Reicher Ranch, and Bohls) in August of 2008, with an average survey count of 1 deer per 6 acres. A total of 10 white-tailed deer were culled from the entire macrosite. Culling of white-tailed deer was conducted under a TPWD Level 2 MLDP. Harvesting began in November of 2007 and ended in February of 2008. Harvested meat was donated to the Capital Area Food Bank.

Bohls Ranch

This riverfront tract is bordered on the west by Reicher Ranch and on the east by the Lake Pointe subdivision and its 240-acre mitigation tract. Since much of the common boundary between Bohls and the Lake Pointe mitigation is not fenced, the potential for frequent trespassing onto Bohls continues. Monitoring and management activities for this tract during FY 07-08 included:

- Mapping of Golden-cheeked Warbler territories on a 100-acre prime study plot, and enumerations in areas of the tract where there have been few sightings of warblers in past years (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Providing support for a Texas State University study to assess the possibility of using occupancy modeling for Golden-cheeked Warbler monitoring; Bohls 100-acre plot was one of five study areas. See Appendix H.
- Breeding bird surveys from six points in the Black-capped Vireo habitat restoration area (5 visits).
- Monitoring of birds by a volunteer on six Land Condition Trend Analysis transects in the proposed wastewater treatment plant area (5 visits).

- Vegetation monitoring along 15 pairs of transects, by means of point-intercept and line-transect methods, with help from a volunteer. The purpose of the monitoring is to assess restoration of Black-capped Vireo habitat.
- Photographic monitoring of vegetation in Black-capped Vireo habitat restoration area, with help from a volunteer.
- Construction of approximately 500 linear feet of deer-proof game fence along the southwestern boundary of the tract, to prevent trespass and manage white-tailed deer.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions were noted, and corners marked with GPS unit.
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Removal of non-native invasive vegetation.
- Trash removal
- Maintenance of existing stands and feeders for the white-tailed deer management program.
- Maintenance and operation of a Brown-headed Cowbird trap (City of Austin 2008 Avian Endangered Species Report, Appendix H), with help from volunteers.

Commons Ford Ranch Park

Monitoring and management activities for this tract during FY08 included:

- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.

Double J&T

Monitoring and management activities for this tract during FY08 included:

- Enumeration of Golden-cheeked Warbler territories in areas of the tract where there have been few sightings of warblers in past years (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism, and/or dumping.
- In July, a motorist struck and damaged the cattle guard at the end of Kollmeyer Drive, complicating access to the tract through this gate. Repair was still pending at the end of September.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions were noted, and corners marked with GPS unit.
- Perimeter fence repair.

- Maintenance of interior roads for vehicle clearance.
- Trash removal, with help on one occasion from the Alta Vista neighborhood group.
- Removal of non-native invasive plants.
- Maintenance of existing stands and feeders for the deer management program.
- Maintenance and operation of a Brown-headed Cowbird trap (City of Austin 2008 Avian Endangered Species Report, Appendix E), with help from volunteers.
- Continued monitoring of two existing oak wilt centers. BCP staff and AYW E-Corps crew removed newly infected red oaks.
- Continued monitoring of transplanted grasses at a quarry restoration site.

Reicher Ranch

Monitoring and management activities for this tract during FY08 included:

- Enumeration of Golden-cheeked Warbler territories in areas of the tract where there have been few sightings of warblers in past years (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Construction of a new entrance to the tract and BCP offices, and closing of the former entrance. The tract is now accessible via the traffic light at Home Depot Boulevard.
- Planting of trees and installation of an irrigation system at the new entrance. Trees were provided by Opus West and Rodman Construction, as mitigation for trees damaged and removed along the southern boundary of the tract in 2007.
- Construction of approximately 4600 linear feet of deer-proof game fence along the southern boundary of the tract, to prevent trespass and manage white-tailed deer.
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism, and/or dumping.
- Replacement of the cable and bollards, installed in 2007 along the southern boundary, with a more durable welded pipe barricade, for access control.
- Inventory of fences by BCP staff and volunteers. Fence type and conditions were noted, and corners marked with GPS unit.
- Routine maintenance and upkeep of the greenhouse, with help from volunteers. Staff and volunteers prepared and planted seeds and grew numerous plant species in the greenhouse for use in restoration and education efforts on the BCP.
- Road repair.
- Trash removal.

- Removal of the Brown-headed Cowbird trap from the site due to vandalism.
- Removal of non-native invasive vegetation.
- Continued monitoring of an existing oak wilt center. A trench to sever root connections and isolate the disease was completed in 2007, and valuable trees inside the trench were treated with the fungicide propiconazole (brand name Alamo®). There was no sign of new infections outside the trench or in treated trees.
- Collection by volunteers of juniper samples for live fuel moisture measurements.

Schramm Ranch

This 100-acre tract was relinquished by the City of Lakeway to the City of Austin in May of 2007. Monitoring and management activities for this tract during FY08 included:

- Enumeration of Golden-cheeked Warbler territories (See City of Austin 2008 Avian Endangered Species Report, appendix E).
- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Documenting runoff and siltation from construction sites on adjacent properties.
- Reconnaissance for oak wilt: no oak wilt observed.

Barton Creek Macrosite

Barton Creek Wilderness Area

Monitoring and management activities for this tract during FY08 included:

- Mapping Golden-cheeked Warbler territories on a 100-acre prime study plot (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Monitoring Bracted Twistflower colonies. BCP staff and volunteers located 24 plants, most less than 15 cm tall. Some of these produced seedpods, but too few to collect.
- Periodic inspections of the entrances to Cave Y, Fog Cave, Seibert Sink, and Substation Sink for signs of human visitation, trash, and damage. Found no signs of trespass or vandalism, except for some trash associated with a large camp near Cave Y. Removed this camp with assistance from Park Police and PARD staff.
- Faunal surveys in Cave Y and Seibert Sink.
- Monitoring for infestations of red imported fire ants. Mounds of fire ants found at Cave Y and Seibert Sink were destroyed with boiling water. Found no activity within the caves.
- Removal of non-native invasive vegetation.

- Inspection of Austin Energy and Lower Colorado River Authority line-clearing activities.
- Routine patrols of main roads, trails, and perimeter fencing to look for signs of trespass, vandalism and/or dumping.
- Removal of several active and inactive camps, and large quantities of trash, with assistance from Park Police, PARD, and AYW E-Corps.
- Dismantling of a hut constructed of juniper posts harvested from the site.
- Repair of vandalized perimeter fence, gate, and closure signs to discourage illegal access into Golden-cheeked Warbler habitat.
- Filing of police affidavit documenting vandalism to the perimeter chain-link fence, including photographs of the alleged perpetrator.
- Construction of a 1000-foot extension to the chain-link fence flanking Capital of Texas Highway (Loop 360). The purpose of the fence is to protect a Bracted Twistflower colony and to prevent further degradation of Golden-cheeked Warbler habitat. USFWS, PARD, Save Barton Creek Association, and others provided funding and assistance on this project. AYW E-Corps cleared vegetation in preparation for the construction.
- Inventory of fences by volunteers.
- Mapping illegal trails as part of the "Trail Master Plan."
- Solicitation of bids for a trench around two merging oak wilt centers northwest of the intersection of Loop 360 and Walsh-Tarlton Lane. BCP staff, with assistance from Texas Forest Service, marked the route for the proposed trench.
- Continued monitoring of active oak wilt centers. BCP staff and AYW E-Corps crews removed newly infected red oaks.

Barton Creek Greenbelt

Monitoring and management activities for this tract during FY08 included:

- A well-publicized rescue of spelunkers who had become lost in Airman's Cave. As a result of publicity from this event, BCP staff, the Texas Cave Management Association, and PARD staff have planned installation of educational signs and temporary gates in this cave.
- An annual karst fauna survey at Airman's Cave, and routine maintenance and monitoring (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Routine water and benthic sampling from several points on the creek by WPDRD staff. These samples help to determine the health of the creek and how the creek is being affected by adjacent urban sprawl.

- Mapping legal and illegal trails as part of the "Trail Master Plan."
- Attempts to block and/or erase new, unauthorized trails in endangered species habitat.
- Removal of non-native invasive vegetation.

Bohls II

This 17-acre tract, acquired in August 2007, straddles Barton Creek and borders the TNC-Barton Creek Habitat Preserve. Monitoring and management activities for this tract during FY08 included:

- Enumeration of Golden-cheeked Warbler territories (See City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Routine patrol of dwellings and perimeter fencing to look for signs of trespass, vandalism, and/or dumping.
- Monitoring of oak wilt encroaching from TNC-Barton Creek Habitat Preserve on the west boundary.

Friesenhahn

Monitoring and management activities for this tract during FY08 included:

- Routine patrols of perimeter fencing to look for signs of trespass, vandalism, and/or dumping.
- Continued monitoring of active oak wilt centers. BCP staff and AYW E-Corps crews removed newly infected red oaks.
- Removal of trash and several inactive camps, with help from PARD and AYW E-Corps.
- Removal of non-native invasive vegetation.
- Mapping legal and illegal trails as part of the "Trail Master Plan."

Senna Hills

Monitoring and management activities for this tract during FY08 included:

- Enumeration of Golden-cheeked Warbler territories (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Inspection of Austin Energy line-clearing activities.
- Routine patrols of perimeter fencing to look for signs of trespass, vandalism, and/or dumping.
- Removal of non-native invasive vegetation.
- Reconnaissance for oak wilt: no oak wilt observed.

West Austin Macrosite

Barrow Preserve

Other monitoring and management activities for this tract during FY08 included:

- Routine patrols and monitoring of adjacent new development (Canyon Rim).
- Periodic surface count monitoring for the Jollyville Plateau salamander.
- Water quality monitoring for pollutants by WPDRD staff.
- Removal of non-native invasive vegetation.
- Reconnaissance for oak wilt: no oak wilt observed.

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. Monitoring and management activities for this tract during FY08 included:

- Monitoring of Bracted Twistflower colonies. BCP staff and volunteers located only 1 plant in this dry year.

Stillhouse Hollow

Monitoring and management activities for this tract during FY08 included:

- Repair of vandalized security fence around Cotterell Cave.
- Control of red imported fire ants with boiling water. (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Removal of non-native invasive vegetation.
- Trail maintenance and repair.
- Entry sign vandalism repair.
- Preliminary work on an interpretive kiosk, with volunteer assistance and in collaboration with PARD.
- Trash and graffiti removal.
- Quarterly faunal surveys at Cotterell Cave (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Quarterly cave cricket exit counts by volunteers (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Periodic surface count monitoring for the Jollyville Plateau salamander.
- Reconnaissance for oak wilt: no oak wilt observed.
- Meeting with neighbor and WPDRD staff regarding concerns of flooding from the preserve parking lot and adjacent neighborhood. The neighbor proposed that the runoff be directed into a sinkhole, however, we let him know that would not be possible without treating the water, we would not be in favor of discharging

polluted water into recharge features. WPDRD staff stated that they would review the proposal.

- Mapping of karst features and caves at Stillhouse Hollow.

Ullrich Water Treatment Plant

This tract is managed by the Austin Water Utility. Monitoring and management activities overseen by BCP staff and volunteers during FY08 included:

- Monitoring of Bracted Twistflower colonies. BCP staff and volunteers located only 5 plants, none taller than 40 cm. Two of these had been damaged by a recent hailstorm. Only one undamaged plant had produced seedpods.
- Cave faunal survey conducted by staff at Little Bee Creek cave (Travis County and City of Austin BCP Karst Management 2008 Report, Appendix F).
- Removal of non-native invasive vegetation.

Vireo Research Area

Monitoring and management activities for this tract during FY 07-08 included:

- Routine patrols of main roads and perimeter fencing to look for signs of trespass, vandalism, or dumping. Volunteers assisted in completing a fence inventory of the property.
- Enumeration of Golden-cheeked Warbler territories by BCP staff and volunteers (City of Austin 2008 Avian Endangered Species Report, Appendix E).
- Assessment of the tract for potential Black-capped Vireo habitat creation/restoration. Planning began for a 7-acre prescribed burn to be conducted in the future on the central portion of the property. BCP staff and AYW E-Corps prepared the fire-line. Development of pre- and post-fire vegetation monitoring protocols was initiated.
- Preparation for a University of Texas study into the light requirements of Bracted Twistflower, to be initiated on the Vireo Research Area during FY 08-09.
- Removal of non-native invasive vegetation.
- Continued monitoring of active oak wilt centers. BCP staff and AYW E-Corps crews removed newly infected red oaks.

City of Austin BCP Outreach Program

The City of Austin provides outreach to the community for the Balcones Canyonlands Preserve through educational and volunteer activities which, in turn, support management of the lands directly and indirectly. Volunteers provide labor that shortens task time and expertise that enhances staff projects. During their participation, volunteers develop a

richer understanding of the BCP and a personal connection to its ongoing management and success. Educational presentations to community organizations and homeowners associations, informational displays at community events and guided hikes for the public are opportunities to provide information to and field questions from citizens. It is believed that better informed recreationists, neighbors, and citizen advocates will respect property boundaries, access rules, and strategies for property management. The outreach program also models responsible public access through its volunteer and educational efforts. Though many outreach activities occur on specific tracts and have been mentioned previously in this report, others are conducted offsite or preserve-wide.

The BCP strategic plan outlines the following role for the Outreach program.

- Educate the public about the BCP and its regulatory requirements.
- Facilitate implementation of the BCP Land Management plans by: forging relationships with the community through education that creates greater support for the BCP, maintaining and expanding a volunteer program that extends the abilities of staff to accomplish tasks and provides education and access to citizens.
- Develop partnerships that extend resources for BCP education.
- Reduce stresses created by Wildland Urban Interface issues through outreach and education to communities that directly abut the preserve.
- Facilitate research by academic institutions and other scientists to further the understanding of endangered species biology and management, the BCP, and other areas important to endangered species preservation.

The FY08 outreach staff consisted of Gail McGlamery, Conservation Program Coordinator, and Daniel Dietz, Environmental Conservation Information Specialist. Gail McGlamery tendered her resignation in August 2008 after almost 5 years of service. During most of this time, she was sole outreach staff member.

Education Activities

Efforts to educate the community about the BCP were greatly expanded in 2008 and made use of a variety of formats. Through strategic planning efforts, staff developed educational goals that included activities on BCP properties as well as community events and better communication tools to reach a broader audience. Overall, 3,072 individuals attended activities that were specifically educational in nature and learned about the Balcones Canyonlands Preserve program. Those attending volunteer projects also received information about the BCP program, though education was not the primary focus of those events.

On-site Activities/Events

Guided hikes and property tours represented a significant portion of public education in FY08, with a total of 36 taking place. The regularly scheduled BCP hikes began in September of 2007. These hikes are offered on the first Sunday and third Saturday of each month from October to February. A reduced schedule was offered during the endangered bird breeding season from March to June. Hikes took a hiatus during the hottest months of July and August before resuming again in September. To ensure that guided access continues to be asset to the program and not damage our conservation targets, outreach staff worked with BCP biologists in August of 2008 to draft guidelines to direct our interpretive hike program.

In addition to the regularly scheduled hikes mentioned above, there were a number of specialty hikes. Most were open to the public, such as ones that focused on birding, children's activities, and photography, while others were for private groups such as a Cortana tract hike for the Sierra Club, and a field trip for an Austin Community College course.

The Bull Creek Preserve Entry Permit program continued in 2008. The Bull Creek Preserve is a portion of the BCP's Lower Bull Creek Macrosite. Through this program up to 80 individuals can earn a permit to access trails in the Bull Creek Preserve during the golden-cheeked warbler breeding season from March 1 and July 31. Without an Entry Permit access is unauthorized and classified as trespassing. Earning a permit requires citizens to read through a content-rich online course, pass a multiple-choice test and complete a guided hike. The permit they earn is valid for three seasons. This program has been running since 2005, so this was the first year in which some of the permits issued, approximately 20, were renewals.

The WCD's outreach program continued to be the driving force for the second year of the BCP Hike and Lecture Series. The series is a collaborative venture by all the BCP managing partners. Each month on the 2nd Saturday a hike was hosted by one of the managing partners. Four lectures were also scheduled over the course of the year. Both the City and Travis County's program hosted multiple months since each has several dedicated properties and more staff resources. Community response to the hikes was overwhelming, with all hikes filling up and most maintaining sizable waiting lists. The lecture group sizes varied widely from as many as 28 people for the lecture about oak wilt to as few as 5 individuals for the discussion on wildfire in the wildland urban

interface. The City of Austin hosted 3 hikes and organized 3 lectures for the series, handled registration and confirmation notices for all events, and created the series brochure.

Table 8. Number of hikes and tours led on BCP tracts in FY08

Tract	# of hikes
Bohls	4
Bull Creek Preserve (Forest Ridge, Jester)	10
Cortana	4
Franklin	1
Long Canyon	4
Reicher	7
Vireo Research Area	5

The second annual native plant education event was held on December 1, 2007 at Emma Long Park. The event is designed to encourage residents surrounding the BCP to use native plants in their new landscaping and to replace existing invasive plants with natives. Trees and shrubs grown in the WCD greenhouse are distributed free of charge to lure residents to the event, where they also receive educational handouts. By using natives, residents can soften the edge of the wildland urban interface by supplying food for wildlife, using less fertilizer and water than is required by most non-native species, and preventing the spread of non-native exotics from suburban environments into the surrounding preserve. Approximately 90 people attended the event, despite cold and rainy weather.

Outreach staff assisted fire manager Glen Gillman in holding a wildfire awareness event at Reicher Ranch on March 29, 2008. Twenty nine participants listened to lectures and evaluated structures for wildfire readiness. Outreach staff made brochures and promoted the event to neighborhood associations, homeowner groups, and other interested parties that surround BCP tracts.

Off-site Activities/Events

Meaningful efforts in education also occurred in the community. Presentations to community groups, neighborhood associations, and K-12 classes were given upon request to groups as different as the Glen Lake Homeowners Association to the Earth Club of Laurel Elementary. A total of 3 presentations were given to neighborhood or homeowners associations. While most of the presentations were general in nature, the presentation in the Jester/Lakewood area addressed the growing feral hog problem in that

area and was designed to give residents the information they needed to respond to it. In addition to these efforts, a volunteer stewardship day was held for the residents of Alta Vista on BCP lands that surround their neighborhood. These types of presentations allow for a virtual tour of the City's wildlands and the ability to convey a great deal of information in an engaging format. Educational efforts included community events such as Austin's annual Cave Festival, the Water Education Festival, and the IBM earth day event. A total of 2,029 people attended these community events and had access to the BCP's information.

Development of Outreach Tools

Website content continued to be expanded throughout FY08, with emphasis placed on the expansion of the photo gallery and refinement of the online registration system that allows the public to register for interpretive hikes. Volunteer stewardship days were added to the web-calendar, which had previously been exclusively used for educational events. The BCP hike and lecture series content was also greatly expanded.

Work was initiated on kiosks for the Reicher Ranch and Stillhouse properties, but has yet to be completed.

Volunteer Activities

The Balcones Canyonlands Preserve (BCP) program benefited from the efforts of 150 volunteers investing 2,303 hours in many different types of projects. Volunteer activities have many forms, with some work being relatively independent of city staff, while other work takes place in large groups led by staff. There are too many volunteer projects to list individually, so what follows is a list of project categories and an example from each one.

Ecologic management is one of the chief volunteer activities on the BCP. Volunteers assisted with the removal of invasive species, both plants and animals. Ten volunteers contributed 67.5 hours to monitor 5 cowbird traps throughout the spring, while an even greater effort (14 volunteers, 118 hours) was expended by the volunteers to monitor feral hog traps. The volunteer Invasive Species Corps, a highly trained group of volunteers who track invasive plant infestations on the BCP, completed invasive plant mapping on the Bull Creek preserve and began mapping the Ivanhoe tract. A member of the Invasive Species Corps created a field guide to assist in the identification of invasive plants that is of professional quality and has attracted interest among our partners. Additionally, four invasive plant removal workdays were held in the Bull Creek and Emma Long areas.

Volunteers collected data to contribute data to research projects and track changes in resource abundance. Volunteers continue to collect live fuel moisture samples so the program's fire manager could better predict the effects of our prescribed fires and know if wildfire was a danger. They collect this data every two weeks and it is posted on the Wildland Conservation Division website. Volunteers also conducted cave cricket exit counts, surveyed for golden-cheeked warblers, surveyed Jollyville plateau salamander populations; conducted vegetation transects, and assisted with white-tailed deer surveys. Much of this data is collected without the presence of WCD staff and would not otherwise be obtained.

Educating the public about the BCP's missions is a high priority for the WCD and much of this work is accomplished with volunteers. Off site educational events that required volunteers included the plant education event at Emma Long (mentioned above), engaging the public at the Cave Festival and City of Austin Earth day events, and demonstrating wildland firefighting equipment at the wildfire awareness event.

Our volunteer led guided hikes provide access to properties that are not normally open to public recreation while educating the public of the BCP's mission and the unique aspects of our landscape. Volunteers led four guided hikes at each of the following tracts: Cortana, Bull Creek Preserve (Forest Ridge and Jester), Long Canyon, and Vireo Research Area. Six hikes were led at Reicher Ranch. Additional hikes were led by staff members.

Two other categories of volunteer projects include recreation management, and maintenance and monitoring. Although no trail maintenance occurred during this fiscal year, property monitors were very active. Goat cave preserve and Blowing Sink preserve is visited twice a month to survey for vandalism or other preserve problems.

In addition to the projects listed above, one new volunteer initiative began in FY08. Volunteers were used to inventory fences on the BCP. They collected GPS coordinates of property corners, noted the type and conditions of fences on their assigned property, and noted boundary issues such as cut fences, illegal access areas, and illegal dumping. Each volunteer was required to go through an extensive training session to ensure that they could work independently in rough terrain, were able to navigate using a map and compass, and that they would follow a detailed safety protocol. As of September 2008,

over 65 miles of boundary had been surveyed, although much work remains to be done. Volunteers donated over 400 hours to this project.

TRAVIS COUNTY

Travis County currently manages a total of 5,122 acres of habitat lands dedicated to the BCP, and continues to actively pursue acquisition and management of additional habitat lands to meet the terms and conditions of the BCCP. All Travis County owned or managed BCP tracts are regularly patrolled and inspected by Travis County Park Rangers and Natural Resources Staff. Travis County performs Texas Historical Commission reviews on tracts with cultural resources.

Bull Creek Macrosite

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 2004. Management efforts included:

- Baseline data and land use history was researched and recorded, and creation of a Land Management Plan continued. Staff expects to present a final BCP Land Management Plan Tier III draft to the USFWS in FY09.
- Continuing public outreach efforts with neighboring landowners, Home Owners Associations, and the staff and students at the adjacent Laurel Mountain Elementary School. One Girl Scout, two HOA, and two Laurel Mountain Elementary tours were led by Natural Resources staff in FY08.
- Natural Resources staff continued to work in cooperation with Laurel Mountain Elementary staff on their outdoor laboratory, which included delineating boundaries and consulting on environmental education projects.
- Travis County met with homeowners and developers with interests adjacent to the preserve to address encroachment, erosion, trespass, feral hogs and illegal dumping concerns.
- White-tailed deer surveys were completed in late summer and the tract was assessed throughout the year for feral hog damage. The Canyon Vista tract is one of the most heavily impacted by feral hogs, and staff is planning for expanded management efforts to in FY09.
- Repairs to the boundary fence as well as construction were completed.

- Natural Resources staff established a 100-acre prime habitat golden-cheeked warbler plot on Canyon Vista and completed 60 hours of monitoring effort in the spring. Data collection is summarized in Travis County's *Monitoring of the golden-cheeked warbler (Dendroica chrysoparia) in western Travis County, Texas: 2008 field season* report, attached as Appendix I.

Concordia University Preserve

The Concordia University Preserve, also sometimes referred to as the "Schlumberger" tract, consists of a 250-acre conservation easement conveyed to Travis County in March 2007. Management obligations were accepted by Travis County as the result of terms of the landowner's USFWS 10(a) permit TE-827597-2. Management on this tract in FY08 included:

- GCWA surveys were conducted and results are reported in *Monitoring of the golden-cheeked warbler (Dendroica chrysoparia) in western Travis County, Texas: 2008 field season* report, attached as Appendix I.
- County Staff met with Concordia University officials/faculty to discuss research interests and science curriculum related to access onto and use of the Preserve area.
- Reviewed and edited scientific permit applications requesting authorization to perform research on County managed preserve.
- County staff provided training regarding the BCCP and the Preserve for Concordia faculty and staff.

Ribelin Tract

The Ribelin tract was acquired fee simple by Travis County in June 2004. This parcel consists of 320 acres 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 tract in FY08 included:

- Baseline data and land use history was researched and recorded, and creation of a Land Management Plan was initiated. Staff expects to present a final draft to the USFWS in FY09.
- Assessing the tract throughout the year for feral hog damage. The Ribelin tract is one of the most heavily impacted by feral hogs, and staff is planning to initiate a management program in FY09.
- Portions of the tract were visually assessed for significant archeological sites.
- Natural Resources staff removed by hand the exotic and invasive heavenly bamboo (*Nandina domestica)* at the Ribelin tract. For a full description of

invasive and exotic plant management activities, please see Appendix J, *Vegetation Management Activities on Travis County Balcones Canyonlands Preserve during FY08*.

- Natural Resources staff established a 100-acre prime habitat golden-cheeked warbler plot on Ribelin in FY2006 and completed 60 hours of monitoring effort in the spring of 2008. Data collection is summarized in Travis County's *Monitoring of the golden-cheeked warbler (Dendroica chrysoparia) in western Travis County, Texas: 2008 field season* report, attached as Appendix I.
- Hicks & Company, Inc. voluntarily completed golden-cheeked warbler presence-absence surveys along the southern boundary and power lines to assess the potential impact of the ongoing development on the adjacent property. Results from this survey effort are summarized in a Technical Memorandum, see Appendix K.

Cypress Creek Macrosite

Cypress Unit

The Cypress Unit consists of 473 acres located within the Cypress Creek Macrosite. The Cypress Unit is comprised of the Attwood, Blake, "The Crossings", King and Toops tracts, and includes lands managed thorough conservation easements or owned by Travis County.

Attwood tract

The 31-acre Attwood tract was acquired fee simple in June 2004. Management activities on the Attwood tract in FY07 included:

Blake tract

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

"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 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 FY08 included:

- Travis County staff met with and coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.

- County staff provided education and outreach opportunities and provided management guidance for The Crossings' on-site staff.
- Conducted guided tour for public for the Crossings 5 year anniversary.

King tract

The King tract consists of a 59-acre parcel immediately adjacent to the Attwood and Blake tracts, and the Nature Conservancy of Texas' Lehmann Preserve. This parcel was acquired in October 2003. Management activities on the King tract in FY08 included:

Toops tract

Habitat management activities on the 170-acre Toops tract included:

- Travis County staff oversaw power line and infrastructure maintenance activities performed by Pedernales Electric Cooperative.

Jollyville Unit

The Jollyville Unit is located in the Cypress Creek Macrosite and incorporates the Bunten, Cuevas, Grandview Hills, Lake Perspectives, Mirtsching, Nootsie, Romberg, Snowden, Stratton, 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 FY02. Travis County habitat management occurring on the Bunten tract in FY08 consisted of:

- 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, 2008 Field Season* report, attached as Appendix I.
- Travis County Structural Pest Control Board licensed staff worked to identify and remove invasive and exotic plant species from the Bunten tract, including Chinaberry (*Melia azedarach)* and periwinkle *(Vinca minor).* For a full description of invasive and exotic plant management activities, see Appendix J, *Vegetation Management Activities on Travis County Balcones Canyonlands Preserve during FY08.*
- Restoration of a spring by Environmental Survey Consulting adjacent to a long-term Jollyville Plateau salamander survey site. See Appendix L.

- Travis County Natural Resources staff coordinated Jollyville Plateau salamander survey and monitoring efforts with City of Austin Watershed Protection and Development Review staff. Substrate composition, water quality parameters (temperature, pH, specific conductance, alkalinity and dissolved gasses), and population surveys were initiated. A report detailing these findings is presented attached in Appendix L.

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 FY08 included:

- Surface monitoring of protected karst features continued, and is discussed in the *Balcones Canyonlands Preserve Karst Management 2008 Annual Report*, attached as Appendix F.

Grandview Hills tracts

The Grandview Hills tracts are comprised of 903 acres in multiple parcels that were acquired fee simple or conveyed through conservation easements between FY02 and FY04. Habitat management on Grandview Hills in FY08 included:

- Travis County Natural Resources staff provided members of the Grandview Hills Homeowners Association and the Ridge at Grandview Hills Homeowners Association with a guided tour. They also continued to foster a management partnership with SAS Institute staff.
- On the northern portion of Grandview Hills, golden-cheeked warbler surveys were performed and results are summarized in Travis County's *Monitoring of the golden-cheeked warbler (Dendroica chrysoparia) in western Travis County, Texas: 2008 field season* report, attached as Appendix I.
- Black-capped vireo surveys were performed and results are summarized in Travis County's *Monitoring of the Black-capped Vireo, 2008* report, attached as Appendix M.
- Travis County staff surveyed white-tailed deer to quantify and manage populations. Feral hog populations were continually assessed and an active trapping hog program is in place on this tract. Data from these activities is summarized in the *2008 Summary of Wildlife Management Activities on Travis County Managed Tracts of the Balcones Canyonlands Preserve*, and is attached as Appendix N.

- Travis County continued Texas Historical Commission review of cultural sites throughout the tract.
- Travis County Natural Resources staff completed quarterly Jollyville Plateau salamander surveys in SAS canyon and Kretschmarr salamander cave in FY08. City of Austin Watershed Protection and Development Review staff continued to provide technical support. Water and sediment samples were taken from both survey areas to assess water quality. A report detailing these findings and survey results is presented in Appendix L.
- Surface and subsurface monitoring of protected karst features continued, and is discussed in the *Balcones Canyonlands Preserve Karst Management 2008 Annual Report*, attached as Appendix F.

Lake Perspectives tract

Travis County acquired the 124-acre Lake Perspectives tract in FY99. Management activities taking place in FY08 consisted of:

- Natural Resources staff completed 60 hours of golden-cheeked warbler monitoring on the 100-acre prime habitat study plot on this tract. Data collection is summarized in Travis County's *Monitoring of the golden-cheeked warbler (Dendroica chrysoparia) in western Travis County, Texas: 2008 field season* report, attached as Appendix I.
- White-tailed deer population management continued on the Lake Perspectives tract. The *2008 Summary of Wildlife Management Activities on Travis County Managed Tracts of the Balcones Canyonlands Preserve* is attached as Appendix N.

Nootsie Tract

The 120-acre Nootsie tract was acquired in FY05. Management activities included:

- Management of brown-headed cowbirds, white-tailed deer and feral hog populations continued. The *2008 Summary of Wildlife Management Activities on Travis County Managed Tracts of the Balcones Canyonlands Preserve* is attached as Appendix N.

Romberg tract

The 40-acre Romberg tract has been a portion of Travis County's BCP land since the permit's inception in 1996. Habitat management activities in FY08 included:

- Boundary surveys to assess boundary concerns such as the need for new fencing, trash and dumping on the tract, drainage problems, and trespass issues.

Snowden tract

Travis County acquired the 54-acre Snowden parcel in 2007. Management of this tract in FY08 consisted of:

- Boundary surveys to assess boundary concerns such as the need for new fencing, trash and dumping on the tract, drainage problems, and trespass issues.
- New fences were installed on the northern and eastern boundaries of the property.
- Staff performed several assessments of dumpsites on an adjacent tract that had crossed onto County property, and created and implemented the first stages of a stabilization plan.
- A number of structures on the tract were cleaned, and old fencing and dumped materials were collected and hauled off the preserve.
- Water quality assessments were performed for waters emerging from a spring located approximately 50 feet north of the property boundary, and initiated planning to route spring water around dump site before flowing onto the Preserve.
- Territory-level monitoring of the GCWA is summarized in Travis County's *Monitoring of the golden-cheeked warbler (Dendroica chrysoparia) in western Travis County, Texas: 2008 field season* report, attached as Appendix I.
- Baseline data and land use history was researched and recorded, and creation of a Land Management Plan was initiated. Staff expects to present a final draft to USFWS in FY09.

Stratton tract

Travis County acquired the 6-acre Stratton tract in August 2004. Management of this tract in FY08 consisted of:

- Assessment and initiation of habitat restoration needs.
- Fencing and property boundary delineation continued.
- Worked closely with Travis County Facilities and Purchasing to plan for removal of dilapidated and vandalized structures.
- Damaged fences were repaired.

Texas System of Natural Laboratories tracts

Travis County accepted in FY05 the fee simple land transfer of a total of six acres from the Texas System of Natural Laboratories, a non-profit research organization. This land consists of multiple parcels surrounding the openings of a number of important karst features. Management of these parcels included:

- Surface monitoring of protected karst features continued, and is discussed in the *Balcones Canyonlands Preserve Karst Management 2008 Annual Report*, attached as Appendix F.
- Karst faunal and cricket surveys were conducted on all BCCP-listed caves, and is discussed in the *Balcones Canyonlands Preserve Karst Management 2008 Annual Report,* attached in Appendix F.
- Red Imported Fire Ant monitoring was performed.

Vireo Ridge tract

Vireo Ridge was acquired in fee through multiple transactions in FY00 and FY01, and consists of 581 acres of GCWA and BCVI habitat. Management on Vireo Ridge in FY08 consisted of:

- American Youth Works performed habitat restoration on this tract in FY08.
- Black-capped vireo surveys and habitat manipulation efforts to restore nesting areas in this historically populated area continued as reported in the *Monitoring of the Black-capped Vireo, 2008 Field Season*, attached as Appendix M.
- Travis County staff trapped brown-headed cowbirds 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 N.
- Travis County Texas Department of Health licensed staff worked to identify and remove invasive and exotic plant species at Vireo Ridge, including Chinaberry (*Melia azedarach).* For a full description of invasive and exotic plant management activities, please see Appendix J, *Vegetation Management Activities on Travis County Balcones Canyonlands Preserve during FY2008*.
- White tailed deer and feral hog surveys were completed and efforts to manage populations of these species is reported in the *2008 Summary of Wildlife Management Activities on Travis County Managed Tracts of the Balcones Canyonlands Preserve*, attached as Appendix N.
- Met with contractor regarding the demolition and removal of dilapidated and vandalized structures at Stratton, scheduled to begin in winter of 2009.

Vista Point tract

Travis County acquired the 490-acre Vista Point tract in FY02. Habitat management on this tract in the last year included:

- 4.65 acres of BCVI habitat was restored by a contractor.
- Travis County coordinated efforts with American Youth Works to perform BCVI habitat restoration.
- Surface monitoring and investigations of protected karst features continued, as summarized in the *Balcones Canyonlands Preserve Karst Management Report, 2008 found* in Appendix F.
- Karst faunal and cricket surveys were conducted on McDonald Cave and are discussed in the *Balcones Canyonlands Preserve Karst Management 2008 Annual Report,* attached in Appendix F.
- Golden-cheeked warbler presence/absence surveys were performed and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler 2008 Field Season*, attached as Appendix I.
- Investigations to quantify and manage populations of white-tailed deer and feral hogs continued. A summary of these activities is attached as Appendix N.

North Lake Austin Unit

Travis County manages the Franzetti, Greenshores, Grey Mountain, and Hereford tracts located within the North Lake Austin Macrosite.

Franzetti

Travis County accepted transfer of a conservation easement from the National Fish and Wildlife Foundation in FY05. This 54 acre tract contains habitat for golden-cheeked warblers.

- Efforts to complete a Land Management Plan Tier III document for this property were initiated. Staff expects to present a final draft to the USFWS in FY09.
- Continued monitoring construction of new house on the ¾ ac. permitted home site and roadway.
- Documented and discussed with owner the unauthorized clearing of preserve land (< 1 acre) adjacent to newly constructed driveway, just south of house site.

Greenshores Conservation Easement

A Conservation Easement was conveyed to Travis County in accordance with the terms and conditions of USFWS 10 (a) permit # TE-074582-0 in April 2004. This 52-acre parcel is located in the North Lake Austin Macrosite, and is adjacent to the City of

Austin's Emma Long Park. Travis County actions on the Greenshores tract in FY08 included:

- Efforts to complete a Land Management Plan Tier III document for this property continued. Staff expects to present a final draft to the USFWS in FY09.
- Travis County staff met with and coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.
- Staff continued negotiations with the developer to finalize long-term protection efforts for an adjacent area slated for construction.
- Golden-cheeked warbler territory mapping was performed and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler 2008 Field Season*, attached as Appendix I.
- Coordinated with owner developer and USFWS on illegal clearing on pipeline through the tract, erosion damage, and other unauthorized activities.
- Coordinated with owner developer, COA and Environmental Survey Consulting to compile habitat restoration project list for both north and south sides of Connor's Creek.

Grey Mountain Tract

Travis County accepted a Conservation Easement in accordance with the terms and conditions of USFWS 10 (a) permit # TE-037888-1 in May 2006. This 25-acre parcel is located in the North Lake Austin Macrosite, and provides habitat for the golden-cheeked warbler. Travis County actions on the Grey Mountain tract in FY08 included:

- Efforts to compile a Land Management Plan Tier III document were initiated. Staff expects to present a final draft to the USFWS in FY09.
- Travis County staff coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.

Hereford Tract

Travis County acquired the 10-acre Hereford tract in 2006.

- Efforts to generate a Land Management Plan Tier III document for this property were initiated. Staff expects to present a final draft to the USFWS in FY09.

Steiner Ranch

The Preserve tracts of Steiner Ranch comprise 819 acres in five separate parcels managed by Travis County since FY01. Though located within the North Lake Austin Macrosite and contiguous with other BCP lands, the acreage at Steiner Ranch has yet to be credited

towards BCP land acquisition goals, as these lands are outside the original preserve acquisition boundaries established by the USFWS.

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 are reserved 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 activities on these parcels included:

- County Natural Resources and Law Enforcement staff provided Steiner Ranch Homeowners with guided tours through Preserve areas.
- Coordinated trail signage and trailhead gate installation.
- Travis County staff met with and coordinated landowner activities in accordance with the terms and conditions of the Conservation Easement.
- Coordinated trail re-route to bypass low, consistently wet area
- Met with Steiner Ranch trail committee head to begin planning on additional re-routes for J-Canyon trail.
- Delineated new 100-acre Transitional Plot; Golden-cheeked warbler surveys were performed and results are summarized in Travis County's *Monitoring of the Golden-cheeked Warbler, 2008* reports, attached as Appendix I.
- Travis County staff met with and reviewed power line and infrastructure maintenance activities performed by multiple utility providers.
- A section of old, unauthorized trail was blocked.
- Approximately 12 acres of predominately secondary growth Ashe juniper woodlands were mechanically manipulated with a goal of restoring the area to Black-capped vireo habitat.
- Black-capped vireo surveys were performed and results are summarized in Travis County's *Monitoring of the Black-capped vireo, 2008 Field Season* attached as Appendix M.

Pedernales River Macrosite

Hamilton Pool Preserve

Public uses permitted prior to Hamilton Pool Preserve's dedication as a portion of the BCP continued through FY05. 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. BCP management at Hamilton Pool in FY08 included:

- 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 2008 Field Season* report, attached as Appendix I.
- Canyon mock orange *(Philadelphus ernestii)*, one of the BCCP Permit's Species of Concern, is found at Hamilton Pool Preserve, and is monitored and protected in accordance with the federal permit. Monitoring highlights for this species are found in Appendix J.
- Brown-headed cowbird trapping continued at Hamilton Pool Preserve, and results are found in the *2008 Wildlife Management Summary for Travis County BCP Lands,* attached as Appendix N.

South Lake Austin Macrosite

Medway Ranch

Medway Ranch consists of 345 acres acquired by Travis County in 2004. The tract is contiguous with the City of Austin's Double J&T Preserve and is located in the South Lake Austin Macrosite. Management activities on Medway Ranch in FY08 consisted of:

- Efforts to create a Land Management Plan Tier III document for this tract were initiated. Staff expects to present a final draft to the USFWS in FY09.
- Public outreach efforts continued with the surrounding landowners and users of the unauthorized trails.
- 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 2008Field Season* report, attached as Appendix K.

Chandler Tract

The 29 acre Chandler tract was deeded to Travis County in April 2008 by Toll Brothers Inc. through the BCCP "Land-in-Lieu of Fees" Provision. On September 23, 2008, Travis county staff observed damage to the preserve tract on approximately 2 acres that according to City of Lakeway officials resulted from the collapse of the retention pond dam in the "Vistas of Lakeway" subdivision on August 20, 2008. Vegetation had been cleared from the newly eroded slope below the retention pond, down to the creek bottom, and in the creed bed. The creek, a section of the Honey Creek Tributary contained washed-in sediment, building stones from the retention pond wall blowout and vegetation that appeared to have been bulldozed in the creek bottom. The developer complied with Travis County's request that temporary sediment control structures be put in place to prevent additional erosion damage with no further work be started until Toll Brothers Inc. develops a restoration plan agreed to by Travis County for the damaged portion of the tract. Restoration will include permanent erosion control structures, restoration of trees and other vegetation, and restoration of the tributary.

- Efforts to create a Land Management Plan Tier III document for this tract were initiated. Staff expects to present a final draft to the USFWS in FY09.

West Austin Macrosite

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. Details concerning the management of Wild Basin Wilderness Preserve are reported below under the heading devoted to The Committee for Wild Basin Wilderness, Inc.

Pace Bend Park

Though not considered part of the BCP, Travis County's Pace Bend Park hosts a population of Texabama croton (*Croton alabamensis var. texensis*), one of the BCCP Permit's Species of Concern. Under the terms and conditions of the BCCP, Travis County agreed to monitor and manage this species wherever it occurs on Travis County owned or managed lands. County BCP staff therefore, regularly performs vegetation

monitoring and wildlife management activities to protect this unique woody shrub at Pace Bend.

- Hicks & Company, Inc. voluntarily completed golden-cheeked warbler presence-absence surveys on potential habitat areas within the park. Results from this survey effort are summarized in a Technical Memorandum, see Appendix O.
- White-tailed deer management was initiated at Pace Bend Park, and is reported in the Summary of Wildlife Management Activities attached as Appendix N.

Law Enforcement and Preserve Patrol Summary

Management of Preserve lands to meet the terms and conditions of the BCCP permit in a rapidly developing urban interface presents unique challenges for public agencies. Many BCP tracts present management challenges ranging from illegal trespass (including pedestrian, mountain bike, all-terrain vehicle, and motorcycle traffic) to illegal dumping and poaching of native wildlife on preserve lands to the obligation to provide monitoring and protection for cultural sites of historic significance.

Travis County employs multiple approaches to address these management concerns. Travis County's Parks Division employs Rangers that are commissioned Texas Peace Officers operating as Deputy Sheriffs under the Travis County Sheriff's Office (TCSO) and certified by the Texas Department of State Health Services as Emergency Medical Technicians. 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, human safety, and the natural environment. Their primary duty is to provide the law enforcement on all Travis County owned or managed properties including County Parks and County BCP tracts.

In FY08 Travis County's Natural Resources and Environmental Quality Division created a new full-time position to assist with preserve protection and patrol issues on the County's preserve lands. Though not a commissioned Texas Peace officer, this newly created Natural Resource Technician (Preserve Patrol) was able to provide full-time monitoring and surveillance of County managed preserve lands and served as the primary liaison between the Travis County Natural Resources staff and County law enforcement staff (Travis County Park Rangers or Sheriffs Officers). The Natural Resource Technician provided daily patrols of County BCP boundaries and preserve interiors, helped with neighbor-related issues, and addressed protection issues such as trespass, vandalism, and dumping, and also assisted with other management tasks.

The Natural Resources Technician and Travis County Park Rangers cooperated to protect the significant natural and cultural resources on County owned and managed preserve lands.

Trespass onto posted preserve lands is the most common illegal activity on County BCP lands. When trespassers are apprehended (by Rangers) on BCP property they are identified per state law and TCSO policy, questioned regarding their activities, issued a Criminal Trespass Warning (if the incident is the 2nd time the trespasser has been caught), and then escorted from the property. In FY08 the number of documented trespasser-encountered incidents on Travis County BCP tracts decreased to three; however, each of those resulted in a formal Warning being issued. Rangers also investigated three incidents of Criminal Mischief and at least a dozen occurrences of neighbor-related issues, including illegal dumping and encroachment.

Patrols by both Natural Resources Technician and Rangers of BCP boundaries and tract interiors are conducted to provide a visible County presence, thereby minimizing the incidence of unauthorized activities. These patrols also allow for regular monitoring and assessment of County property, such as boundary fencing and equipment. 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.

In FY08 Travis County Rangers assisted Natural Resources staff with education programs, monitoring and removal of non-native animal species, trail mapping, and protection of cultural resource sites. Rangers assisted with educational tours and programs including presentations for various Homeowners Associations, the faculty and staff ant Concordia University and with the BCP Hike and Lecture Series. Rangers also assisted with presentations for three elementary schools and one Boy Scout troop.

Rangers assisted staff with securing physical addresses and address signage for the gates to all Travis County BCP properties, and distributed address maps and contact lists to emergency response agencies in an effort to facilitate interagency cooperation and reduce response times to incidents within the BCP. Rangers continued to work with county authorized feral hog trappers in an effort to reduce the existing population on BCP and Park properties.

In FY08 additional Rangers began training that will enable them to provide assistance with resource protection, law enforcement activities, and public education, on the

Preserve. The intent of this training is to train all Park Rangers to patrol and respond to BCP properties.

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 are under review to determine in any merit designation as State Archaeological Landmark status. 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 exist 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.

Education and Outreach Activities

Travis County's Balcones Canyonlands Preserve education and outreach efforts in FY08 included:

- Interpretation of research data and information about the BCP and endangered species for the general public and interested groups through preserve tours, workshops, special presentations and exhibits.

- An expanded 2008 BCP Hike and Lecture Series provided monthly guided hikes to provide opportunities for the public to visit and learn about the preserve and management of the plants and animals that the preserve protects. Travis County participated in or hosted a number of events throughout the year, including a lecture on fire behavior in the Texas Hill Country by Dr. Joseph White of Baylor University, assisted with interpretive educational hikes at the Travis Audubon Society's Baker Sanctuary, led multiple guided tours at Wild Basin Preserve, and hosted a round-table for landowners addressing living with wildlife in the urban environment. An expanded series of hikes and events incorporating volunteer "Stewardship Days" are being planned for the continuing series in FY09.
- 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, 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. Presentations and activities were provided this year at Steiner Ranch Elementary, Laurel Mountain Elementary and Oak Hill Elementary.
- Numerous opportunities were provided for college and university researchers and field classes to utilize the BCP as a living classroom. Texas State University at San Marcos and the University of Texas had projects or fieldwork on Travis County BCP lands in FY08, and staff participated in a mini-symposium addressing research on the BCP and the Balcones Canyonlands National Wildlife Refuge. Travis County provided on-site training for Concordia University staff and began identifying research and management needs with University researchers. Staff initiated discussions with St. Edward's University staff regarding their new relationship with Wild Basin, and began planning to coordinate on education and research issues on the preserve.
- County BCP staff continues data collection and scientific study of the species protected by the BCCP, as well as impacts of land management practices both on the preserve and on surrounding non-protected habitats. Research data is presented for interested groups and at professional and scientific conferences, such as the Texas Land Trust Council Annual Meeting, the Hays County Biological Advisory Team, provided a poster session for the Texas Herpetological Society Meeting and the Golden-cheeked Warbler Recovery Task Group Meeting.
- The County attempts to share information with the public through participation in community events throughout the area. In 2008, County BCP staff participated in the annual "Austin Karst Festival and Western Oaks Karst Preserve Open House";

"Nature Week" guided interpretive hikes at the Crossings, a meeting of the Texas Outdoors Women's Network, the Wild Basin Festival, hosted a booth at the City of Austin's "Green City Festival", and "Nature Day" at the Travis Audubon Society's Baker Sanctuary.

- The County works to advise landowners and others with mitigation needs such as real estate agencies, homebuilders and community 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. A Girl Scout Troop worked with Staff Biologists to learn about the preserve and earn their "Earth Connection" badges.
- Travis County partnered with American Youth Works to restore remnant native prairie areas, manage woody species encroachment and assisted with Black-capped Vireo habitat manipulation and restoration activities.
- Informing, evaluating, and problem-solving issues such as alternate mitigation opportunities, acquisition strategies, and cooperative land management strategies with individual landowners, developers and others.
- County BCP Staff regularly coordinates and advises on land and habitat management topics with local landowners such as the Committee for Wild Basin Wilderness, the Steiner Ranch Trails Committee and the Canyon Mesa Homeowners Association.
- 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.
- County Staff provided presentations for the Prudential Texas Real Estate Group, the Texas Recreation and Parks Regions 5 and 7 Annual Meetings, the Preston Oaks Homeowners Association, the City of Austin's BCCP Infrastructure Workshop, the Travis Audubon Society, the Canyon Mesa Home Owners Association Annual Meeting, Pecan Road Homeowners, the Steiner Ranch Home Owners Association and others.
- BCP Staff is regularly called upon to describe cooperative approaches to compliance with the Endangered Species Act and discuss Habitat Conservation Planning for interested parties such as the Hays County Citizen's Advisory

Committee, the Comal County Regional Habitat Conservation Plan Citizens Advisory Board, the Hays County Parks Advisory Committee, and the Hays County Citizen and Scientific Advisory Committees.

- County BCP Biologists provided training regarding rare plants, endangered species, and natural and cultural resource protection for other County Departments, including staff responsible for assisting in management efforts on County Parks and Open Space lands.

THE COMMITTEE FOR WILD BASIN WILDERNESS, INC.
Wild Basin Wilderness Preserve

The Wild Basin staff implements the policies and priorities as set forth by the Committee for Wild Basin Wilderness, Inc., with guidance from St. Edward's University, and in accordance with BCP and Travis County rules and regulations. The Wild Basin Wilderness Preserve, in its role as an interdisciplinary laboratory of St. Edward's University, exists to protect and maintain its urban wilderness, and to promote the importance of environmental education, research, conservation and preservation. Collaboration between Wild Basin and St. Edward's enables the creation of programs and initiatives that serve to fulfill the mission.

In 2008, staff devoted their time to the day-to-day management of the preserve, including scheduling and supervising all educational programs, land management activities and programs and other work performed within its boundaries. They also supervised, coordinated and trained all volunteers and tour guides. All staff renewed their CPR and First Aid training and certifications in 2008.

Wild Basin's education and land management programs offered to schools and to the community are designed to promote awareness of environmental preservation, and encourage wise stewardship of the land. Through guided hikes, specialized study and volunteer opportunities, visitors to Wild Basin discover the many pressures on the natural quality of the preserve. From outside the preserve, residential and commercial development brings invasive, non-native plants and soil and watershed pollution. In addition, domestic animals, air, sound and light pollution can impact the preserve as well. Through outdoor study, experimentation, and hands-on opportunities, Wild Basin continues to bring awareness and an appreciation of the natural environment to the Central Texas community.

Building Infrastructure

1. Environmental Education Center (EEC)
    a. General - under the direction of preserve staff, community service restitution (CSR) volunteers regularly cleaned and maintained the EEC's interior and performed exterior maintenance work on an as-needed basis. When required, other maintenance was performed by qualified maintenance professionals/technicians, including pest/vermin control.
    b. Solar-power array—throughout the year, staff consulted with an Austin Energy technician regarding maintenance and efficiency of our solar-power collection apparatus.
    c. Scout Projects--An Eagle Scout candidate performed a valuable land management project on a volunteer basis for the preserve. Chris Webb covered the EEC wooden-lattice underskirt with sheet metal for wildfire protection. He was supervised by staff in consultation with his scout leaders and parents:
    d. Wild Basin Garden—As a joint project with our education staff, volunteers refined the native-plants garden on the west and south sides of the EEC. Labeling many of the plants serves as interpretive information for visitors. The project, supported financially and manually by NPSOT, will continue into 2009.

2. Information Technology (IT) – staff enlisted the volunteer services of Garry Child and a qualified CSR to stabilize and upgrade the EEC's IT and telephone infrastructure. Mr. Child donated 45 hours of his time toward this effort in 2008; the CSR, approximately 25 hours.

Security

1. Emergency Procedures– preserve staff maintains an emergency-policies-and-procedures manual to be followed in case of emergency on/adjacent to/threatening the preserve. This manual covers staff, volunteers, and visitors at the preserve. Please see Appendix for the complete manual.
2. Preserve perimeter—staff and volunteers performed annual perimeter walks to check the integrity of fencing and boundary markers. Brush was cleared to provide easier patrolling on line-of-sight pathways along all boundaries. New identification tags were provided for survey pins where necessary, especially on the northern, unfenced perimeter. Pin locations along that perimeter were also recorded by GPS equipment.

3. General – preserve caretaker continued to provide overnight security by patrolling the grounds and discouraging overnight illegal entry into the preserve by locking the gate overnight. Sonitrol was once again contracted to provide silent alarm services and notification to staff in event of attempted break-ins to the EEC.
4. Visitors – signage and interpretive media warned about
    a. fire danger
    b. personal safety in extreme heat
    c. potential threats to automobile security in the parking lot
    d. potential encounters with wildlife and related precautions.

EDUCATIONAL & EDUCATIONAL OUTREACH PROGRAMS

Volunteers donated approximately 955 hours of their time to the preserve's Educational and Educational Outreach Programs, which were supported by a grant from the Moody Foundation.

The following summarizes these programs:

1. *Environmental Education & Interpretation –*
    a. School Tours – Over 1,500 students from public, private and parochial schools, as well as a small number of home-school groups in Bastrop, Hays, Travis and Williamson counties attended education programs at the preserve in 2008. Group size limits are restricted and held to maximums of 60 per visit. Over 700 volunteer hours were donated in assisting in these education programs.
    b. Family & Public Programs –500 adults and children attended public programs at the preserve; programs offered in 2008 again including Moonlighting, Stargazing, Flintknapping, Indian Lore, and Weekend Hikes. Over 80 volunteer hours were donated to enable Wild Basin to host these programs.
    c. Maplewood Elementary – This AISD elementary school has an after-school science club called Caterpillars & Tadpoles which is in its fifth year with Wild Basin staff as volunteer educator. This year, 15 students learned about the life cycle through this interactive program led by Wild Basin educator, Sally Scott.
    d. Wild Afternoons – Thanks to a generous grant from the Moody Foundation, the Wild Afternoons program enabled 1,020 children to visit the preserve, enjoy guided hikes, and achieve youth group-specific goals. The participants included 380 students whose hikes were sponsored by grant-funded scholarships. Groups participating in the program included

Girl Scouts, Boy Scouts, Communities in Schools, Big Brothers Big Sisters, AISD Go-Project and Alternative Learning Centers, and the Travis County Day Treatment Center. 100 volunteer hours were donated to this program.

e. Tiny Footprints – In 2008, this program enabled more than 200 young children, ages 3-5, to experience high quality, small-group guided hikes designed specifically for early learning. Over 70 volunteer hours were donated to assist with these tours for very young children.

2. *Family & Public Programs and Group Tours –*

a. Moonlighting and Stargazing – In its 20th year, the Moonlighting and Stargazing program again provided 2 public tours each month, guided by volunteers from the Austin Astronomical Society. Despite the inclement weather that was common in 2007, 300 visitors learned how to use telescopes and interpret the night sky.

b. Other Tours - Other public tours led by Wild Basin volunteers and staff included Wild Basin Walks, Indian Lore, Flintknapping, and Spider Walks.

c. BCP Hike & Lecture Series – On Dec. 13th, Wild Basin hosted 2 public hikes as part of the BCP Hike & Lecture Series. Approximately 15 visitors, guided by volunteers, were introduced to Wild Basin and the BCP.

3. *Training Programs -*

a. Guide Training – In 2008, Wild Basin once again offered 2 sessions of Weekday & Weekend Guide Training for 20 new volunteer trail guides. At the September training, 14 guides participated along with 5 rangers from Hamilton Pool Preserve. 40 hours were donated by key preserve volunteers in assisting staff with training.

b. Tiny Footprints Training – In 2008, 2 sessions of Tiny Footprints Training were offered for 4 new volunteer Tiny Footprints guides. 16 hours were donated for training.

c. Other – Community Service Restitution volunteers continued to receive educational training in 2008 as part of their orientation to the preserve before proceeding with work assignments.

4. *Public Outreach –*

a. Austin Museum Day – Wild Basin participated in the city-wide free museum day with a Wild About Insects-themed exhibit and hike. Over

450 people participated in this program, which was a success due to almost 100 volunteer hours donated to the program.

b. Wee Trails – Wild Basin staff held the Wee Trails program at Lake Travis Elementary School, where approximately 60 children discovered nature in their own schoolyard.

c. 3M Program- Wild Basin had an exhibit hosted by Sally Scott at this event where participants had the opportunity to discover Wild Basin Wilderness Preserve.

d. Austin Butterfly Forum—staff member Sally Scott volunteered as a docent for the Dinoland Exhibit at the Zilker Botanical Gardens.

e. Maplewood Elementary School—staff member Sally Scott volunteered as facilitator for their After-School Science Club.

f. Balcones Canyonlands National Wildlife Refuge – Again in 2008, preserve staff member Sally Scott coordinated the children's activities for the refuge's Bridges-to-Birding program and Spring Songbird Festival, which is sponsored by Travis Audubon Society.

5. *Affiliations & Publications* –

Association of Nature Centers of America (ANCA)
Austin Astronomical Society
Austin Independent School District
Austin Museum Partnership
Bastrop Independent School District
Big Brothers Big Sisters
Camp Fire USA Balcones Council
Capital Area Council, Boy Scouts of America
Communities in Schools
Lake Travis Independent School District
Girl Scouts of Central Texas
Maplewood Elementary
Moody Foundation
Spiral Scouts
St. Edward's University
Tuktawa Foundation

The preserve staff continued writing Wild Basin's column in our local weekly newspaper, the Westlake *Picayune's* "Distinct" section.

Each quarter, Wild Basin staff produced the *Wild Ways Newsletter*.

LAND MANAGEMENT ACTIVITIES & PROGRAMS

Land Management Vision and Charges (a restatement for overview purposes)

Our vision is to preserve a piece of the Texas Hill Country in its native condition and to educate school children and the general public in the natural laboratory of Wild Basin Preserve by:

- Managing and, where necessary, restoring a mosaic of habitats that are indigenous to Wild Basin, including (but not limited to) oak-juniper woodlands, riparian areas, semi-open grasslands and cedar breaks (please note that "juniper" and "cedar" refer to the same plant species: *Juniperus ashei*)
- Protecting native biodiversity
- Protecting habitat for the federally endangered Golden-cheeked warbler
- Protecting habitats to support threatened and rare plant and animal species
- Controlling non-native and invasive species
- Protecting soil profiles and unique geologic features
- Monitoring water quality relative to watershed inputs, runoff, and erosion
- Protecting prehistoric and historic cultural sites
- Managing a trail system that presents to visitors a variety of habitats while leaving a majority of the preserve undisturbed

Charges to the Land Management Committee:

- Provide expert advice to the land management program. Review plans and recommend actions regarding proposed changes or projects that would result in alteration or possible adverse impacts to the preserve.
- Ensure that in all our planning and decision-making processes, the health of Wild Basin Preserve is the highest priority. Above all, do no damage.

Among the highlights of our 2008 Land Management activities and programs:

Land Management volunteers donated 926.25 hours of their time to the preserve's land management efforts in 2008, an approximately 50% increase over 2007. The following summarizes these efforts as performed both by staff and by volunteers:

Habitat – Mosaic Assessment

Since January 2007, the Land Management Committee has assessed various habitat components to develop an overall preserve management plan for the future. So far, we have analyzed the following components: riparian zones/features, GCWA, Texas Madrone, vegetative communities, invasive/exotic plants, and plant species of interest/concern.

Biological and other Surveys

1. Golden-cheeked warbler (GCWA – *Dendroica chrysoparia*)

   Contract wildlife biologists Jennifer Brown and Paul Fushille performed presence/absence surveys for this federally endangered songbird in the preserve. Between 30 March and 1 June 2008, they recorded sightings of five (5) GCWA males but no mating pairs during seven (7) survey days, totaling 48 hours. No female or fledgling/juvenile GCWA were sighted. This data represents an unusually low number of GCWA sighted in the preserve. (The 2007 survey, for example, recorded 6-7 mating pairs, the highest since 2001.)

   Other comments:

   a. Obviously, no breeding territories were established.
   b. Speculation regarding low results has focused on various factors, e.g. weather, interspecies competition, and predation.

   For the full GCWA report, see Appendix.

2. Bee Creek Watershed

   a. Our Land Management Committee created a subcommittee for watershed management chaired by Sue Anderson, a volunteer retired aquatic biologist.
   b. Volunteer personnel assisted with water-quality testing at various sites on Bee Creek and its tributaries.
   c. Preserve staff and volunteers pursued information related to (1) commercial development in our contributing watershed west of Loop 360, namely projects by Brandywine Realty and the Munson Park project, and (2) home sites on our southern perimeter. Earlier this year, the Munson Park developers requested a variance from the City of Austin's Zoning & Platting Commission regarding a modification of their planned driveway access off Loop 360. During November, our staff and volunteers attended three separate ZAPCO hearings, sometimes testifying. On November 18, the commission approved Munson's variance request.

3. White-tailed deer (O*docoileus virginianus*)

For the second consecutive year, Wild Basin successfully performed a census of the preserve's deer population. Volunteer wildlife biologists Kris Thorne and Janet Reed conducted the activity. Data analysis from their report reveals approximately 2.54-4 acre/deer. Healthy regional population density is considered no less than 15-20 acres/deer. Data therefore supports the same conclusion as 2007, i.e. the preserve does not have a healthy deer population. Texas Parks & Wildlife Department requires a minimum of two consecutive years of good data for a removal permit. We will consider application for fall 2009.

We appreciate the technical assistance from TPWD game wardens and Travis County wildlife biologists. For the full report, see Appendix.

4. Texas Madrone (*Arbutus xalapensis*)

   With the assistance of several Texas State University students and other volunteers, we have continued GIS documentation our population of eighteen (18) individual trees. As the only Madrone species in Texas, it represents the easternmost population of the species within the U.S.

5. Shooting Star (*Dodecatheon meadia*)

   In April 2007, Brad Oberle, a graduate student from Washington University in St. Louis, MO performed research on our Shooting Star population. He collected data and tissue samples under a BCP permit and preserve staff supervision. In January 2008, he reported to Rose Farmer at Travis County Natural Resources that his research has so far strongly indicated that our population may represent a new taxon/subspecies. A final determination will be forthcoming at an unspecified date. This past spring, we visited our sites and reported our observations to Mr. Oberle.

   For the preserve's complete plant inventory, see Appendix

6. Amphibian Watch

   Volunteer Dana Spontak provided data from his three (3) nocturnal Amphibian Watch surveys, recording four (4) frog species, June-August. For data, see Appendix.

7. Photo Points

   Photographs were taken seasonally by preserve volunteers at each of the ten (10) photo points in the preserve. This project began in 2005.

8. Rain Gauge

   In April, preserve staff mounted a rain gauge near the southern side of the EEC. Measurable data has since been collected following precipitation events. Between the installation date, April 17, and the date of this annual report, December 19, we received 15.25 inches of measurable precipitation. From other regional sources,

we know that rainfall from January 1 until April 17 was negligible. Regionally, average annual rainfall is approximately 25 inches. Drought conditions, therefore, have existed most of the year. Only 2008's unusually high rainfall has kept regional ground and surface water levels as high as they are under these conditions. Our own Bee Creek has been "ephemeral" at best since July.

9. Contaminant Assessment

   In early January, two technicians from Terracon Consultants Inc. assessed contaminants, e.g. asbestos, in the EEC and in the former trash dump between the old driveway and North Hollow. This survey was requested by St. Edward's University in relation to the 63.5 acres owned by Wild Basin Inc. No serious problems were observed.

10. Horned Lizard sighting

    In April, a reliable observer spotted a horned lizard on the north side of Arroyo Vista near the EEC. This represents the first preserve sighting in a decade.

Public Outreach

1. Balcones Canyonlands Preserve (BCP)—(a) Again in 2008, Wild Basin preserve staff attended and participated in quarterly meetings of the BCP Land Managers informal group. In April, we hosted the meeting; (b) in January, the land manager and a volunteer attended a habitat-restoration tour at the Balcones Canyonlands National Wildlife Refuge; (c) in June, the land manager and a volunteer attended an oak-wilt lecture and tour at COA's Reicher Ranch facility; in November, our preserve hosted a presentation on Urban Wildlands Issues, attended by the land manager.
2. Texas State University—In March, the land manager delivered a preserve presentation to the Wildlife Society, composed mostly of wildlife biology students, to solicit interns and other volunteers.
3. College interns—During the fall semester, Sara Weaver (from Texas State University's wildlife biology program) as well as Adrian Sanchez and Kadence Hampton (both St. Edward's University service-learning students from the environmental science & policy program) volunteered a total of 123 hours of their time assisting preserve staff in various land management and education activities.
4. Donations-in-Kind— During 2008, several individuals donated various materials, particularly rebar for erosion-bar pins and juniper timber for the bars themselves.
5. UT Brackenridge Field Laboratories—In June, the land manager attended a fire-ant management conference sponsored by the Karst Conservation Initiative Group.

6. Community Groups

   a. Central Texas Trail Tamers (CTTT) – CTTT again hosted bi-monthly meetings open to the public at the preserve. Their volunteers contributed 17 hours to trail maintenance projects. In March, they conducted crew-leader classes at the preserve, admitting our volunteers gratis.
   b. Bright Leaf Preserve – Wild Basin staff member Sally Scott currently serves as board president of the Friends of Bright Leaf Preserve.
   c. Capital Area Master Naturalists (CAMN) – Wild Basin staff member Sally Scott currently serves as program committee chair for CAMN. WB land manager Mike Powers is also a CAMN member and uses five others as crew leaders for our land management projects. Their volunteers donated 150.25 hours of their time to our land management projects.
   d. Native Plant Society of Texas, Austin chapter (NPSOT) – Again in 2007, Wild Basin land manager Mike Powers hosted the regular monthly meetings of the Austin chapter of this statewide group. NPSOT volunteers donated approximately 85.5 hours of time to our land management projects.
   e. Hill Country Conservation Conference—In June, the land manager attended the HCCC's first organizational conference.

Preserve staff wrote several articles for the local weekly newspaper, the *Westlake Picayune*. Originals and copies of these articles are on file in the main offices in the EEC. Land management staff members also wrote articles for the preserve's *Wild Ways* newsletter.

Visitation

In 2007, preserve staff tracked the number of self-guided visitors, using the two (2) trailhead sign-in boxes located near the Environmental Education Center (EEC). While this is by no means a perfect record of every visitor on a self-guided hike, it at least provides us baseline data of 3031 recorded this year (897 children and 2134 adults). The overall total is only slightly less than 2007. See Appendix for breakdown of visitors by month.

Habitat Maintenance and Restoration

Please note that land management activities use only native Ashe juniper for trail/water bars and native limestone for boulders, steps and gravel where needed on or off the

preserve's trails. No old-growth junipers or other native hardwoods are cut down in the preserve for such use. All trail maintenance and other land management activities avoid impact or disturbance of the preserve's cultural/archeological resources.

1. Trail Maintenance
    a. General – nearly all 3.2 miles of trails in the preserve received maintenance. (No trail maintenance was performed during GCWA breeding season, 15 March – 15 July, along trail sections where the warblers were sighted.) This work included maintaining, replacing and/or installing nine (9) water bars and twenty-four (24) checkdams; building eight (8) steps in steep areas; constructing and maintaining various water-diversion channels to carry water off the trails; replacing/repairing six (6) creek-crossing step stones following flashflood events; pruning trees and brush from trail corridors; clearing downed trees and fallen limbs from trails; and rebuilding/repairing trail surfaces. Volunteers donated approximately 308 hours of their time performing trail maintenance in 2008.
    b. Throughout the year, staff consulted with various individuals concerning a future reroute of Creek Trail from the upper creek crossing to Woodland Trail, due to erosive problems.
    c. Pond Trail remained closed for the third year due to silting problems at the retention pond.
    d. Volunteers from the community and area high schools donated approximately 50 hours of their time. Under staff supervision, selected CSR volunteers also performed trail maintenance.
2. Habitat Restoration
    a. General--Preserve staff and volunteers continued to aggressively remove invasive, non-native species such as Japanese honeysuckle, Chinese tallow, chinaberry, pyrocantha, ligustrum, nandina, King Ranch bluestem, Johnson grass, vitex, Georgia Cane and others. With herbicidal-treatment assistance from Travis County field biologists Paul Fushille and Amber Gosselin, preserve staff and volunteers have continued to suppress the few persistent Georgia cane (*Arundo donax*) and also combat some of the aforementioned invasives. The Native Plant Society of Texas also assisted in these efforts. Overall, volunteers donated approximately 616 hours of their time performing habitat restoration in 2008.

b. Deer exclosures – In consultation with Texas Parks & Wildlife and Travis County biologists, preserve staff continued installing "deer exclosures" of hog wire/wire cages around stands of native trees and shrubs (such as Shin oaks and Texas red oaks, escarpment black cherries, Texas persimmon, coralroot orchids and twisted-leaf yucca, among others) to prohibit excessive browse by deer and other animals.
c. Red Imported Fire Ants (*Solenopsis invicta*) –No nests of these invasive, non-native insects were found within the preserve boundaries this year. Along the shoulder of Loop 360, however, several dozen were observed in late spring. Somehow, they mysteriously disappeared in late summer.
d. Wildfire Defense – In consultation with Texas Forest Service Urban-Wild Lands Interface specialists and the Westlake Hills Fire Department, preserve staff continued performing recommended measures related to creating a defensible-space around the EEC and along the driveway perimeter by (1) reducing nearby flammable vegetation and (2) installing a metal underskirt on the building. WLH asst. fire chief Mike Elliot agreed that the driveway was now sufficiently cleared to risk a fire vehicle's entering the preserve to fight a fire at the EEC.
e. Fire Management—In April, the land manager toured the neighboring City of Austin Black-Capped Vireo Preserve with their staff to assess possible future prescribed burns. This collaboration will help prepare us for possibly using fire as a management tool, never previously done in our preserve. The last wildfire here occurred in 1961.

Equipment & Materials

Tuktawa Foundation Grant—at the end of July, an acquisitions grant expired. During the previous months, we were able to use the land management portion to purchase approximately $6,000 worth of equipment and materials, e.g. GPS handheld devices & software, manual & power tools, fire-fighting equipment, optical range-finder for surveys, safety equipment, etc.

Affiliations and Publications

The preserve in 2008 continued development of relationships and partnerships with like-minded groups and selected individuals in the community. These relationships and partnerships were pursued to strengthen the preserve's land management and educational activities. They included the following:

Ann Molineux, PhD
Austin Astronomical Society
Austin Butterfly Forum
Austin Gem & Mineral Society
Austin Geological Society
Balcones Canyonlands Conservation Project
Balcones Canyonlands Preserve Land Managers
Balcones Canyonlands National Wildlife Refuge
Bob Harms, PhD
Capital Area Council, Boy Scouts of America
Capital Area Master Naturalists
Central Texas Trail Tamers
City of Austin Water Utility Wildland Conservation Division
Loomis Partners—Austin
Lower Colorado River Authority
Native Plant Society of Texas, Austin chapter
REI
Rob Roy Homeowners Association
Rob Roy on the Canyon Homeowners Association
Texas Commission on Environmental Quality
Texas Forest Service
Texas Ornithological Society
Texas Parks & Wildlife
Travis Audubon Society
Travis County Transportation & Natural Resources
Tuktawa Foundation
University of Texas Archeological Research Laboratory
University of Texas Bureau of Economic Geology
University of Texas Nonvertebrate Paleontology Laboratory
Westlake Chamber of Commerce
Westlake Hills City Inspector

Westlake Hills Fire Department
Westlake Picayune newspaper

THE LOWER COLORADO RIVER AUTHORITY

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

Westcave

- Preserve staff hosted 7750 students, teachers, and visitors and gave 586 programs.
- The Lower Colorado River Authority and the Westcave Preserve Corporation recently completed the acquisition of a 44-acre tract of land adjoining LCRA's Westcave Preserve property located in western Travis County. This property was acquired to provide a conservation buffer for the Westcave Preserve and protect the watershed of the creek that feeds the Westcave grotto. As a result of the transaction, LCRA received ownership to an approximate 8.5-acre portion of the tract which consist of three lots that front the Pedernales River.

McGregor

- Golden-cheeked warbler surveys were conducted at McGregor by temporary staff biologists this year. Two, 100-acre plots were set up this year according to BCCP protocol. Unfortunately, due to staff loss, each plot was only visited once, resulting in nine males observed (three males on the prime plot and five on the transitional plot). For details, see Appendix P.
- Students from the Wildlife and Fisheries Department at Texas A&M University began a golden-cheeked warbler project observing habitat use patterns utilizing point count surveys.
- Deer harvest was limited at McGregor during the 07-08 season. No deer were taken off the McGregor preserve during this time period.
- LCRA staff continued to work with the Comanche Trail Community Association (CTCA) to promote local support of land management, animal management, and stewardship efforts on the preserve. The permit renewal training was held October 15 and 18, 2008 for new or returning CTCA McGregor Good Neighbor Program permittees. There are currently 21 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. Five new

property owners joined the program to learn about the BCCP preserve system “in their backyards.”

- 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.

Wheless

- LCRA started approximately 5000’ of high fence on the south side of the property.
- Golden-cheeked warbler surveys were conducted at Wheless by temporary staff biologists this year. Two, 100-acre plots were surveyed this year according to BCCP protocol. Unfortunately, due to staff loss, each plot was only visited once, resulting in nine males observed (eight males on the prime plot and one on the transitional plot). See Appendix Q.
- Students from the Wildlife and Fisheries Department at Texas A&M University began a golden-cheeked warbler project observing habitat use patterns utilizing point count surveys.
- Biologists from the City of Austin (COA) continued surveys on Jollyville salamanders at Long Hollow Creek.
- Wheless was also included in a Section 6 Grant project for a dye trace study, conducted by COA staff.
- LCRA staff treated exotic vegetation this year throughout the preserve. Remedy was used in a hand sprayer to minimize the risk of drift. Trees smaller than 6 inches diameter at breast height (dbh) were basally treated while those over 6 inches dbh were girdled and then treated. Thirteen sites treated were composed of chinaberry and tree of heaven. Another site visit was spent identifying additional areas for treatment as staff time allows. Two areas with potential oak wilt were also identified.
- 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.
- Feral hog activity was noted around sensitive areas providing habitat to the Jollyville salamander. Trapping was attempted; however, no recent sign of feral hogs has been seen indicating a moving, seasonal population.

THE NATURE CONSERVANCY OF TEXAS

Barton Creek Habitat Preserve

Science/Stewardship

This spring, we conducted annual point-count surveys of the Golden-cheeked Warblers (GCWA) and Black-Capped Vireos (BCVI) to determine population densities. Brown-headed cowbirds were actively trapped and shot this year in an effort to help out nesting success of the BCVI and GCWA.

The GCW data collected was analyzed against previous year's data by Conservancy scientists. The data concluded that a population trend was not found at the Preserve and Warbler abundance has fluctuated over the last six years. Two male BCVI were documented on the Preserve for the 2007 season while none were observed during the 2006 season and two were observed during the 2005 season. The 2007 season surveys were conducted using the point-count method while in previous years surveys were conducted by direct observation.

Hunting has also been continued on the preserve to manage the white-tailed deer population in an effort to reduce browse and increase recruitment of Texas Oaks.

Austin Youth River Watch monitored the water quality of Barton Creek at the preserve again this year. No anomalies were found.

The Ladybird Johnson Wildflower Center also collected seeds on the preserve for the Millennium Seeds Bank Project.

NRCS conducted surveys on the preserve looking for the exotic Asian gypsy moth after a specimen was found in Travis County in March of 2006.

A prescribed fire was set on 125 acres of the preserve in February. Due to droughty conditions and burn bans in previous years this was the first burn on the property since 2002. Currently, the Preserve has one burned lined up for the upcoming winter season and three more at a future date of approximately 250 acres total.

Education/Outreach/Volunteers

We have had numerous groups volunteering at the preserve over the past year. Projects included trash pickup along the highway frontage, fence removal, trail maintenance/ extension, bird surveys, habitat management and vegetation surveys.

We had a total of 786 volunteer hours and approximately 775 people at the preserve for volunteering, educational purposes, and research.

THE CITY OF LAKEWAY

Schramm Ranch

The City of Lakeway's written report submitted to comply with the terms of USFWS permit #PRT-812696 is attached as Appendix D.

TRAVIS AUDUBON SOCIETY

Baker Sanctuary

Access and trail maintenance

- The Sanctuary opened on February 2nd. The Sanctuary was closed on October 19th in preparation for our annual White-tailed deer hunt, at which time the gates were locked and the Sanctuary Steward, John Wilcox, posted closure notices.
- On February 9th, the Baker Sanctuary hosted a BCP Hike. TAS Sanctuary Chair Terri Siegenthaler and Volunteer Guide Kathy McCormack led approximately twenty people on a tour of the Sanctuary.
- On February 9th, the Baker Sanctuary also hosted a Stewardship Day. Three volunteers assisted Marcie and John line-trimming the tall grass out of the Blue Trail in preparation for our annual Open House.
- The annual Open House was held on March 29th from 9:00 AM until 4:00 PM. In all, 51 people signed in.
- On May 10th, the Baker Sanctuary hosted a BCP Hike. Volunteer Guide Cindy Sperry led 13 people on a tour of the Sanctuary.
- On June 7th, the Baker Sanctuary hosted "Brunch with the Birds". Victor Emanuel, Marshall Johnston and Barry Lyon guided a tour of the Sanctuary for eight guests.
- John Wilcox trimmed low hanging and encroaching brush from six miles of trails, access and service roads and hunter's shooting alleys.
- During the 2008 visitor season, the Sanctuary had 229 visitors, including those visitors that attended special events. Of the visitors that signed in at the Registration Box, 57 % were TAS members and 43 % were non-members.

Boundary control

- John Wilcox monitored the Sanctuary boundaries and visitor access.

General maintenance

- John Wilcox picked up trash on the Sanctuary right-of-way 26 times and called Travis County work crews out five times to pick up trash dumped on the right-of-way,
- John Wilcox mowed and trimmed the Headquarters Area, Parking Lot and around the Baker Cabin eight times.
- John Wilcox loaded, hauled and spread the remaining 5.3 tons of limestone road base on hand to fill in rough spots on the hunter's access roads, the Steward's driveway and trails.
- John Wilcox gathered, hauled and placed 980 rocks for landscape borders around the Jackie Arnold Education Center and the Kutac/Harris Plaque.
- John and Marcie watered the landscape at the JAEC 60 times.
- John Wilcox caged 16 Spanish Oak seedlings to protect them from browsing WTD, I then suspended caging operations due to the drought.
- John Wilcox hauled 3 tons of crushed granite for walkways and parking areas at the JAEC.

Problem animal control

- During the 2008-2009 WTD season, John Wilcox managed 6 deer hunting leases for gun hunters. At the end of the Special Antlerless and Spike season on January 18, 2009, 18 deer (five bucks three points or more, three spike bucks and ten antlerless deer) have been harvested. 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.
- John Wilcox began the BHCO trapping season on March 1st with six BHCO decoys (four males and two females) in Trap #1. On March 14, the City of Austin BCP staff donated a used BHCO trap to the Sanctuary that needed repair. After repairing the trap, which I designated as Trap #2, I stocked it with five male and three female BHCO from Trap #1 on March 28th. I caught four male and six female BHCO in Trap #1 and seven male and four female BHCO in Trap #2. Less initial decoy stock, I trapped a total of 21 BHCO. I had no non-target captures and no non-target fatalities.

- Over the last several years, John has observed little feral hog activity on the Sanctuary other than an occasional track, however, on 11/16/08 I removed a boar that weighed approximately 400#.

Endangered species

- TAS member Cindy Sperry surveyed the TAS-BS 100 acre GCW plot again in 2008. Based on her compiled observations, including patterns of movement, counter-singing and the presence of females and fledglings, Cindy estimated at least 14 GCWA males established territories within plot boundaries and another seven occupied territories partially within or immediately adjacent to the plot. This is fewer territories than Cindy estimated for the last two years (22 in-plot and four edge in 2006; 20 in-plot and seven edge for 2007). For unknown reasons (perhaps due to predation by Texas Rat Snakes), this year no males occupied territory in the southwest corner of the plot where three to four territories have been located in the past. Other areas of the plot were generally occupied much the same as the last two years. Cindy's estimates may be more conservative this year as she detected less counter-singing than in the past two years, resulting in the possibility that she had grouped two males into a single territory in some areas. However, she feels it is preferable to err on the side of undercounting territories in the absence of clear evidence of separate male identities. On the other hand, Cindy was more successful in confirming pairing and mating success this year than last year. Females were confirmed in eight in-plot and two edge territories, while 16 fledglings were detected in 10 territories (nine in-plot and one edge). Altogether, 11 of the 14 in-plot territories and two of the seven edge territories had confirmed female and/or fledglings.

Research

- On February 4th, Lisa O'Donnell (City of Austin BCP) and Nate Bendik conducted a Jollyville Plateau Salamander (JPS) survey at the Baker Springs. In spite of low flow from the Baker Spring and detritus in the creek, four salamanders were found in the pool below the spring.
- On May 7th, Nate Bendik with the City of Austin conducted a Jollyville Plateau Salamander survey at the Baker Springs. Nate noted that the spring flow was low, found that the water in the pool below the spring run was anoxic and found no salamanders.

Copies of research or investigative reports prepared during FY08

The City of Austin development activity report for FY2008 detailing a compilation of Development Permits issued within the City's jurisdiction of the Permit area is attached as Appendix A.

Travis County Permitting. 2008. A summary of development permits issued by the Travis County Permitting office within the BCCP Permit area in FY2008. Appendix B.

Map of the Balcones Canyonlands Preserve. Appendix C.

City of Lakeway. 2007. Annual Report. See Appendix D.

City of Austin. 2008. City of Austin 2008 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.

Travis County Natural Resources and City of Austin BCP-AWU. 2008. Balcones Canyonlands Preserve Karst Management 2008 Annual Report. See Appendix F.

City of Austin. 2008. Estimation of Jollyville Plateau Salamander Populations Using Surface Counts and Mark-Recapture. See Appendix G.

Weckerly, Floyd W. and James R. Ott. Spot Mapping, Occupancy Methods, and Monitoring Golden-Cheeked Warbler Populations. See Appendix H.

Travis County Natural Resources. 2008. Monitoring of the Golden-cheeked Warbler in Western Travis County, 2008 Field Season. See Appendix I.

Travis County Natural Resources. 2008. Vegetation Management Activities on Travis County Balcones Canyonlands Preserve during FY2008. See Appendix J.

Hicks and Company. 2008. Spring 2008 Avian Survey of Travis County's Ribelin Ranch BCP Parcel. See Appendix K.

Travis County Natural Resources. 2008. Monitoring of the Jollyville Plateau Salamander in Travis County, 2008 Field Season. See Appendix L.

Travis County Natural Resources. 2008. Monitoring of the Black-capped Vireo (*Vireo atricapilla*) in Western Travis County, 2008 Field Season. See Appendix M.

Travis County Natural Resources. 2008. 2008 Summary of Wildlife Management Activities on Travis County Managed Tracts of the Balcones Canyonlands Preserve. See Appendix N.

Hicks and Company. 2008. Spring 2008 Avian Survey Pace Bend Park. See Appendix O.

Lower Colorado River Authority. 2008. 2008 Survey Report McGreggor Preserve, Travis County. See Appendix P.

Lower Colorado River Authority. 2008. 2008 Survey Report Wheless Preserve, Travis County. See Appendix Q.

Chippendale, Paul. Interim reports: Genetic analyses of the Texas blind salamander (Eurycea rathbuni) and Jollyville Plateau salamander (Eurycea tonkawae). See Appendix R.

City of Austin Watershed Protection. 2008. Bull Creek Water Quality, Benthic Macroinvertebrate and Stream Habitat Survey 2008. See Appendix S.

City of Austin Watershed Protection. 2008. Population Genetics, Species Boundaries and Conservation of the Jollyville Plateau Salamander, Project Status Report. See Appendix T.

Committee for Wild Basin Wilderness. 2008. Wild Basin Wilderness 2008 Annual Report. See Appendix U.

Cowin, Brian D., Michael C. Osborne and Jay L. Banner. 2008. Cave Air Carbon Dioxide: Temporal and spatial variations in Central Texas. See Appendix V.

Fowler, Norma. 2008. Habitat requirements of the bracted twistflower (*Streptanthus bracteatus*), a rare plant of central Texas. See Appendix W.

Gillespie, J. Hayley. 2008. Integrating behavioral ecology of endemic salamanders with community dynamics across trophic levels in native Texas springs. See Appendix X.

Glick, Roger. 2008. Storm Water Monitoring in Upper Bull Creek. See Appendix Y.

Green, Michael C. and William Simper. 2008. Natal and breeding dispersal of the Black-capped vireo (*Vireo atricapilla* Woodhouse, BCVI) to the structural composition of habitat and matrix landscapes. See Appendix Z.

Ott, James. 2008. Ecological Genetic and Molecular Genetic Evidence of Allochronic Speciation in a Specialized Insect Herbivore. See Appendix AA.

Paqin, Pierre; Nadine Duperre; James C. Cokendolpher; Kemble White and Marshal Hedin. 2008. The Fundamental Importance of Taxonomy in Conservation Biology: the Case of the Eyeless *Cicurina bandida* of Central Texas, including new synonyms and a description of the male of the species. See Appendix BB.

Shade, Beverly L., Lisa O'Donnell, George Veni and David Johns. 2008. Hydrogeologic delineation of habitat and management zones for the Jollyville Plateau Salamander in the Austin, Texas area. See Appendix CC.

Hollon, Tiffany and Sahotra Sarkar. 2008. *Croton alabamensis* var. *texanus* Records from Pace Bend Park, Travis County, Texas. Technical Note. See Appendix DD.

Fuller, Trevon, Tiffany Hollon and Sahotra Sarkar. 2008. Habitat suitability for the Black-capped Vireo in Travis County, Texas. Technical Note. See Appendix EE.

Literature Cited

Anders, A.D. 2001. Population trends of Golden-cheeked Warblers on Fort Hood: 1992-2001. In Endangered species monitoring and management at Fort Hood, Texas: 2001 annual report. Fort Hood Project, The Nature Conservancy, Fort Hood, Texas.

Anders, A.D. 2000a. Demography of Golden-cheeked Warblers on Fort Hood, Texas in 2000: productivity, age structure, territory density, and adult return rates. In Endangered species monitoring and management at Fort Hood, Texas: 2000 annual report. Fort Hood Project, The Nature Conservancy, Fort Hood, Texas.

Anders, A.D. 2000b. Population trends of Golden-cheeked Warblers on Fort Hood: 1999-2000 and an overview from 1992-2000. In Endangered species monitoring and management at Fort Hood, Texas: 2000 annual report. Fort Hood Project, The Nature Conservancy, Fort Hood, Texas.

City of Austin and Travis County. 1995. 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. 1999. Balcones Canyonlands Preserve Land Management Plan, Vol. I-III.

Travis County Transportation and Natural Resources Department. 1999. Balcones Canyonlands Preserve management handbook. VII. Golden-cheeked Warbler management. Travis County Transportation and Natural Resources Department, Austin, Texas.

U. S. Department of the Interior, Fish and Wildlife Service. 1996. Federal Fish and Wildlife Permit No. PRT-788841.

U. S. Department of the Interior, Fish and Wildlife Service. 1996. Federal Fish and Wildlife Permit No. PRT-812695.

U. S. Department of the Interior, Fish and Wildlife Service. 1996. Final Environmental Impact Statement / Habitat Conservation Plan for Proposed Issuance of a Permit to

Allow Incidental Take of the Golden-cheeked Warbler, Black-capped Vireo, and six karst invertebrates in Travis County, Texas.

Zar, J. H. 1996. Biostatistical analysis, third edition. Prentice Hall, Upper Saddle River, New Jersey.