BALCONES CANYONLANDS CONSERVATION PLAN

Annual Report
FY 2001

Background

On May 2, 1996, the City of Austin and Travis County were jointly issued a U.S. Fish and Wildlife Service (USFWS) regional permit (the Permit) referred to as the Balcones Canyonlands Conservation Plan (BCCP) that allows incidental "take" of eight locally occurring endangered species under Section 10(a)1(b) of the Endangered Species Act (U. S. Department of the Interior, Fish and Wildlife Service, 1996a). The thirty-year permit covers western Travis County outside of proposed Preserve boundaries identified in the Habitat Conservation Plan and Final Environmental Impact Statement (HCP/FEIS) (U. S. Department of the Interior, Fish and Wildlife Service, 1996b). The permit also covers incidental take of 27 species of concern should any become listed as threatened or endangered during the life of the permit.

Table 1. Federally listed species covered by the BCCP.

Common name	**Scientific name**	**Status**
Black-capped vireo	*Vireo atricapillus*	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 Permit Requirements

The City of Austin and Travis County (the Permit Holders) are required by the terms of the Permit 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 implement management agreements on 35 karst features supporting populations of endangered invertebrates and 27 features known to harbor species of concern. This system of managed and protected habitats is known as the Balcones Canyonlands Preserve (BCP). The locations of habitat areas and specific karst features proposed for protection are delineated in the HCP/FEIS (U. S. Department of the Interior, Fish and Wildlife Service, 1996)

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. The sole BCP Managing Partner is the Lower Colorado River Authority (LCRA) which has contributed 2,707 acres to the preserve acreage total. As a Managing Partner, LCRA may mitigate for its capital improvement and infrastructure development projects through the mitigation credit system established by the BCCP.

Though 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 as no formal agreements with the Permit Holders have been finalized.

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 is a voluntary, streamlined alternative for agencies and landowners seeking to comply with the federal 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 for land acquisition
- 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

Development throughout the western half of Travis County continued at a rapid pace through FY01. Though economic indicators began to show the effects of national slowing in the pace of growth, new construction and ongoing development continued to demonstrate the relative strength of the local economy. A summary of development permit applications received by the Travis County Permitting office is compiled and forwarded to the USFWS Ecological Services office on a quarterly basis. A compilation of Development Permits issued within the Permit area is attached as Appendix A.

No separate City of Austin development activity report has been compiled for FY2001. City staff responsible for handling the various stages of development reviews were reorganized and consolidated into the Watershed Protection and Development

Department over the previous year. During the reorganization process, City staff responsible for the various stages of development reviews recognized that the City's Balcones Canyonlands Preserve Program would need to be consulted and advised of development projects that are to proceed in the Permit area. The new review structure will allow for the development of an annual reporting process in the near future.

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 (PCs) for cooperating landowners within the Permit area. Over the past year, 24 PCs were issued (Table 2): one for commercial use, six under the terms of the Single Family Residential Lot Provision, and 17 for subdivisions. 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 (Interlocal and Shared Vision) (City of Austin and Travis County, 1995).

Table 2. FY2001 Participation Certificate summary.

BCCP Application #	Date Issued	Name	Category	Amount Paid
# 0212-4	2/14/01	Brown	Subdivision	$10,127.00
# 0212-11	12/15/00	Marshall	Subdivision	$7,812.00
# 0228	1/10/01	Prewitt	Subdivision	$152,700.00
# 0239	1/10/01	Fowler	Subdivision	$96,300.00
# 0245	1/18/01	Steiner Ranch	Subdivision	$0*
# 0257	4/26/01	Emerald Builders	Subdivision	$162,300.00
# 0280	6/7/01	Birdlip Partners	Subdivision	$97,500.00
# 0281	10/10/00	Angel Bay	Subdivision	$14,550.00
# 0282	10/11/01	Mulcahy	Single Family	$1,500.00
# 0289	11/9/00	Nail	Single Family	$1,500.00
# 0290	3/22/01	CCNG	Subdivision	$156,600.00
# 0292	12/7/00	Turner	Subdivision	$1,200,000.00
# 0294	1/5/01	Chen	Commercial	$55,200.00
# 0295	7/16/01	Standard/Morrison	Subdivision	$122,151.00
# 0298	1/29/01	Magee	Subdivision	$75,000.00
# 0299	1/29/01	Redbird Investors	Subdivision	$72,900.00
# 0300	2/16/01	Carrasco	Subdivision	$92.50

# 0302	2/16/01	Redbird Investors	Subdivision	$9,450.00
# 0308	5/30/01	Redbird Investors	Subdivision	$6,900.00
# 0315	5/29/01	Birkey	Single Family	$1,500.00
# 0318	6/22/01	Hoover	Single Family	$1,500.00
# 0329	10/10/01	Redbird Investors	Subdivision	$5,400.00
# 0331	9/25/01	Chappell	Single Family	$1,500.00
# 0332	9/10/01	Weekley Homes	Single Family	$1,500.00

*= Conservation Easements on 819 acres of habitat were donated in lieu of mitigation payments. Though outside of the USFWS prescribed Preserve boundaries, Travis County manages this habitat in accordance with the Permit and the BCP Land Management Plan.

As required by the terms of the regional Permit, copies of each PC and Habitat Determination map are provided to USFWS Ecological Services office on a quarterly basis. Copies of these documents are attached as Appendix B.

In addition to PC activity, four USFWS directed mitigation payments were received in FY2001. These mitigation payments are received as the result of landowner requested alternative habitat determinations as permitted through the BCCP or in accordance with the terms of an individual 10(a) permit.

Table 3. USFWS Directed mitigation payments received in FY2001.

BCCP Application #	Date Received	Name	Category	Amount Paid
# 0301	3/28/01	Sweat/Bell	per USFWS	$3,000.00
# 0305	2/12/01	Douglas	per USFWS	$97,500.00
# 0310	4/4/01	Girl Scouts	per USFWS	$1,500.00
# 0328	9/10/01	Schleifer-Cances	per USFWS	$3,000.00

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.

Table 4. Projects mitigated through the use of mitigation credits during FY01 by participating agency.

City of Austin	
Starting City of Austin Balance	11,528.15 acres
New preserve additions (credits)	30.0 acres
CCNG/Bohls land exchange	(12.3) acres
Morgan Sediment Filters on WQPL	(0.6) acres
Regional Trunked Radio Project – Lots 11929 and 11941	(0.5) acres
Regional Trunked Radio Project – 21490 1/2 Nameless Rd	(0.3) acres
Remaining Mitigation Credits	***11,544.45 acres***
Travis County	
Starting Travis County Balance	1103.3 acres
New preserve additions (credits)	425.0 acres
Pace Bend Park Ranger Residence	(0.3) acres
Remaining Mitigation Credits	***1528.0 acres***
Lower Colorado River Authority (LCRA)	
Starting LCRA Balance	2538.2 acres
PEC Utility Line Maintenance along FM 620	(6.1) acres
LCRA/CCNG Regional Wastewater Interceptor Lines Near Little Barton Creek	(0.6) acres
Expansion of LCRA Precinct 2 Facility at Mansfield Dam	(2.2) acres
AE Corridor Maintenance at Barton Substation and West Transmission Line	(0.1) acres
Remaining Mitigation Credits	***2529.2 acres***

Land Acquisition Funds Collected

A total of $2,253,982 was collected through the sale of PCs, and $105,000 was received as the result of USFWS directed payments in FY01. These land acquisition funds are disbursed between the Permit Holders on a quarterly basis. Travis County's Tax Increment Financing Plan (TIF), a funding mechanism outlined in the Interlocal and Shared Vision (City of Austin and Travis County, 1995) and directed by the Travis County Commissioners Court to support Preserve land purchases, generated $491,194 in FY2001.

Funds Expended for Land Acquisition

The City of Austin continued land acquisitions for the Balcones Canyonlands Preserve (BCP). During FY2001, the City of Austin concluded a land exchange negotiation with a private developer representing the Lower Colorado River Authority. The negotiation resulted in the exchange of 12.3 acres of City of Austin BCP land from the Bohls tract of the South Lake Austin Macrosite for 16.87 acres of land in the Bull Creek Macrosite and 12.9 acres of land in the South Lake Austin Macrosite. Additionally, approximately $300,000 was placed in escrow by the developer to be used to purchase additional land for the Austin BCP in the Bull Creek Macrosite. The land exchange resulted in an addition of 17.47 acres of land to the City of Austin's BCP holdings. The escrowed funds will be used to purchase additional acreage that will value the exchange at a ratio of 5.1:1. The land was added to the BCP at no cost to the City of Austin and without the use of Participation Certificate revenue.

Since the inception of the BCCP, the Permit Holders have successfully competed for USFWS Habitat Conservation Plan grants each year. To date, five Section 6 land acquisition awards totaling over $30,500,00 have been completed or are in progress (see Table 5). To date, one-half of Travis County's Preserve acreage has been acquired through a combination of federal grant, locally generated Participation Certificate fees and TIF funding.

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

Year	Federal Grant Funds	Minimum Local Match (25%)	Total Grant	Local Recipient
1997	$1,000,000	$333,333	$1,333,333	City of Austin
1998	$2,000,000	$666,666	$2,666,666	Travis County
1999	$1,500,000	$500,000	$2,000,000	Travis county
2000	$4,140,000	$1,380,000	$5,520,000	Travis County
2001	$14,362,500	$4,787,500	$19,150,000	City of Austin, Travis County
Totals	**$23,002,500**	**$7,667,499**	**$30,669,999**	

In 2001, Travis County expended $4,220,192 on land acquisition, including the addition of the 263-acre phase one of Grandview Hills, and the 141-acre Bunten tract. An

additional $10,462 for survey and appraisal services was spent while finalizing the purchase of the 170-acre Toops tract which was acquired in early FY2002. Travis County acquired 819 acres of habitat at no cost through donated Conservation Easements at Steiner Ranch.

Funds Expended for Operations and Maintenance

The City of Austin spent a total of $802,790 for FY 00-01 to fund preserve management expenditures by the Parks and Recreation Department's Natural Resources Division, Balcones Canyonlands Program. The approved budget for FY 00-01 was $614,425 (see Table 6). The expenditure above the approved budget figure was one-time costs associated with the relocation of the BCP Program office to Reicher Ranch and law enforcement needs. This figure understates the City's total expenditures on this program since it does not include (1) work by other staff in the Natural Resources Division on program administration and support; (2) operations and maintenance expenditures by PARD's Park Operations on BCP-designated parkland; or (3) land management expenditures by the Water and Wastewater 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 FY2000 and FY2001 BCP budgets for Permit Holders, the Managing Partner, and cooperating entities with summary of total budgets since plan inception.

BCP Partner	2000	2001	Total Budget: 1996 to Present
City of Austin	$579,080	$614,425	$2,353,505
Travis County	$240,000	$540,582	$1,639,582
LCRA	$192,150	$172,557	$512,907
TNCTX	$118,000	$118,000	$574,000
TAS	$14,000	$6,900	$43,400
TOTALS	**$1,143,230**	**$1,452,464**	**$5,123,394**

The Travis County Parks and Natural Resources budget for the BCP Program in FY2001 was $540,582. This includes Travis County General Fund expenditures as well as developer funds negotiated to support ongoing operations and maintenance of County managed Conservation Easements. Note that this figure does not include expenditures by

the Committee for Wild Basin Wilderness, Inc., which holds a contract to conduct educational programming and management of the County owned Wild Basin Wilderness Preserve, or funds expended by the Travis County Parks Department for non-habitat related operations and maintenance of Hamilton Pool Preserve.

Updated Map of Lands Dedicated to the Balcones Canyonlands Preserve

With the addition in FY2001 of 421.47 acres to the Preserve, 25,569 of the 30,428 acres required by the Permit (84%) have been assembled by the Permit Holders and cooperating entities. A map illustrating the current status of the Balcones Canyonlands Preserve is enclosed as Appendix C. A summary of BCP lands by managing entity is enclosed as Appendix D.

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

The City of Austin

The City of Austin's preserve units and responsible management entities are identified in Table 7. Five biologists within PARD's Natural Resources Division currently manage 9601 acres of the BCP and assist PARD Park Operations on the other 3339 acres of designated parks and preserves. Management of the two tracts owned by the Water and Wastewater Utility (156 acres) has been internally transferred from the Water Treatment operations group to the land manager handling the Proposition 2 water quality and conservation lands.

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)	PARD/BCP	608
Middle Bull Creek Unit (Ivanhoe, Beard Trust)	PARD/BCP	996
Lower Bull Creek Unit (St. Edward's Park, Jester, Forest Ridge, 3M, Hilltop, Gibson/Nott, Hiller	PARD/BCP	1045
Lime Creek (inc. 100 acres of Austin-Simon, Ltd.)	PARD/BCP	594
Park West, Coldwater I & II, Long Canyon	PARD/BCP	1345
Cortaña	PARD/BCP	1752
Double J&T	PARD/BCP	1729
Reicher Ranch	PARD/BCP	820

Bohls Ranch	PARD/BCP	450
Sansom	PARD/BCP	13
Senna Hills	PARD/BCP	35
Vireo Research Area	PARD/BCP	214
	PARD/BCP Subtotal	**9601**
Bull Creek District Park, Barton Creek Greenbelt	PARD Operations*	25
Spicewood Springs Preserve	PARD Operations	8
Barrow Preserve	PARD Operations	8
Emma Long Metro Park	PARD Operations	950
Commons Ford Park	PARD Operations	115
Barton Creek Wilderness	PARD Operations	999
Barton Creek Greenbelt	PARD Operations	813
Friesenhahn	PARD Operations	62
Mt. Bonnell	PARD Operations	3
Ullrich Water Treatment Plant	W&WW	18
Water Treatment Plant #4	W&WW	138
	Other City of Austin Subtotal	**3339**
	TOTAL ACREAGE	**12,940**

***** PARD Operations does not manage for Endangered Species; they perform regular maintenance, i.e. mowing, trash pickup, and some trail management activities. Species management assistance is provided by PARD's BCP staff.

UPPER BULL CREEK UNIT

Canyon Creek

Illegal trespass from Canyon Creek development remains an ongoing problem. The primary trespass routes appear to come from the adjacent Canyon Creek conservation easements. Management activities for this tract during FY 00-01 included:

- Filling in low spots on key ranch roads that are prone to holding water, using fill dirt.
- Repair road by removing fallen trees which were damaged by an ice storm.
- Repair of damaged perimeter fence and gates due to unauthorized trespass
- Cowbird trapping was conducted on this site with a megatrap with decoys. See City of Austin's Brown-headed Cowbird Report for more detail and results, attached as Appendix J.
- Hog trapping was conducted on site with 2 traps. See report attached as Appendix N.
- 3 deer census counts were taken (see attached Appendix K).

- Monitoring activities continued at the 100-acre study plots for golden-cheeked warblers. This locale is one of the 100-acre plots established for transitional warbler habitat Details are available in the City's 2001 Golden-cheeked Warbler and Black-capped Vireo Monitoring Program report, attached as Appendix E

Hanks Tract and Gardens of Bull Creek Tract

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

- Fixed chain-link fencing that was vandalized.
- Completed installation of 4200 linear feet of 6 foot high chain-link fence (9 gauge) with an additional foot of barbed wire for a total height of 7 feet.
- Completed installation of approximately 2500 linear feet of 8-foot high game fence around a native plant restoration area.
- Staff will continue to monitor the health of 229 trees (planted Nov. 2000) and make sure the contractor abides by the contract. Staff also set up photo monitoring points to help monitor the success of the restoration project.
- With the help of volunteers, planted 201 native plants grown at Reicher Ranch greenhouse.
- Removed trash dumps from Gardens at Bull Creek.
- Repaired access road on Hanks by removing fallen trees. These trees were damaged by a recent ice storm.
- Met with neighbors and PARD personnel and explained why no uncontrolled pedestrian-access trail would be constructed through these tracts.
- Repaired vandalized and ice damaged perimeter fence and deer exclosure.
- Repaired vandalized signs.
- Put out seed in deer exclosure to aid in GCW restoration.
- Erosion problems from adjacent development. This erosion and sedimentation is adversely affecting Bull Creek water quality as well as Jollyville salamander habitat. Staff continue to report all erosions problems associated with adjacent development to the City of Austin's environmental inspectors. On occasion some remediation is required.
- Staff are currently operating one hog trap on this site.
- Several types of biological monitoring continued during FY 00-01 at Hanks. Monthly monitoring of the presence of the aquatic Jollyville Plateau Salamander was conducted on both tributaries as a joint City effort involving both Watershed

Protection and BCP staff. Staff conducted surveys following protocol established in the City of Austin's Watershed Protection Department (WSPD) report "Jollyville Plateau Water Quality and Salamander Assessment". At set stations, staff measured flow, water and air temperature and counted all salamanders observed. Salamanders counted were further broken down into 3 categories based on observed size. WSPD staff periodically take water samples at these sites to determine current status on water quality. Staff will continue to conduct monthly surveys at this site until there is a minimum of 5 years of data. Five years of data should allow for an accurate assessment of the populations dynamics at this site. Monitoring at this site will continue beyond the 5 years because Watershed Protection Department must continue to monitor this area to determine if the recently constructed dam has any adverse affect on the salamanders and their habitat.

- During the nesting season, golden-cheeked warbler observations and enumeration were made monthly by both sight and sound. The warbler territories noted here are not mapped precisely as those within study plots are. See Appendix E. During both the 1999 and 2000 fall deer seasons, deer census activity included portions of the Hanks tract as part of the Upper Bull Creek route. See attached Appendix K.

Lanier tract

Important management activities for this tract include:

- Routine patrol of the area for evidence of trespass and preserve damage.
- Within the last year there have been 3 large apartment complexes built nearby without adequate barriers to stop illegal trespass onto adjacent preserve land. Most of the illegal trespass on Lanier originates from WTP# 4 which originates from Schlumberger preserve land. Currently there is only an old 5 strand barbed wire fence separating Lanier and WTP # 4. As with Hanks and Canyon Creek, we may need to construct perimeter fences in between our preserve land and adjacent "private" preserve land.
- One hog trap was maintained on this tract. See attached Appendix N.
- Deer surveys are conducted on Lanier, as part of the five mile Upper Bull Creek census route. See Appendix K.
- Removed non-native invasive vegetation.
- Repaired road, both erosion and vegetation removal of downed trees damaged by a recent ice storm.

Franklin tract

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

- Feral hog trapping, 2 traps were maintained. See Appendix N.
- Sedimentation and erosion work along Bull Creek.
- With help of volunteers, planted 85 native plants grown at Reicher Ranch greenhouse
- Routinely patrolled main roads and perimeter fencing to look for signs of trespassing, vandalism or illicit dumping.
- Deer surveys are conducted on Franklin tract, as part of the five mile Upper Bull Creek census route. Report attached as Appendix K.
- Repaired access road both from ice damage and erosion problems.
- Applied for a grant from USFWS to restore Jollyville salamander habitat.
- Removed trash dumps from this site.
- Removed non-native invasive vegetation.
- Monthly monitoring of the presence of the aquatic Jollyville Plateau Salamander was conducted on both tributaries as a joint City effort involving both Watershed Protection and BCP staff.
- Note: Staff conducted surveys following protocol established in the City of Austin's Watershed Protection Department (WSPD) report "Jollyville Plateau Water Quality and Salamander Assessment". At set stations, staff measured flow, water and air temperature and counted all salamanders observed. Salamanders counted were further broken down into 3 categories based on observed size. WSPD staff periodically take water samples at these sites to determine current status on water quality. Staff will continue to conduct monthly surveys at this site until there is a minimum of 5 years of data. Five years of data should allow for an accurate assessment of the populations dynamics at this site. Rescued stranded salamanders and released them downstream where there was adequate habitat.

LOWER BULL CREEK UNIT

Forest Ridge

The Forest Ridge area is subject to continuing heavy public use by mountain bikers, runners and dog-walkers – activities that are generally prohibited elsewhere in the Preserve. BCP staff conducted a number of projects aimed at informing and redirecting public access here in anticipation of a multi-year recreational impact study. The official closure of this site to mountain-biking occurred February 15, 2001.

- Installed "bike dodgeways" to prevent illegal bicycle and horse access.
- Installed informational signs regarding access and Endangered Species issues.
- Repaired fence, dodgeway, and sign vandalism.
- Conducted educational "permit classes on this site. See Public Outreach Efforts Report, attached as Appendix O.

- Erosion and access road repair work.
- Golden-cheeked warbler surveys at the 100-acre prime study plot on Forest Ridge were conducted by BCP staff for the fourth consecutive year. More details regarding warblers onsite are available from the attached 2001 Golden-cheeked Warbler and Black-capped Vireo report, attached as Appendix E.

Jester tract

Public access has been allowed on a portion of this tract; however, dodgeways have been installed to curtail prohibited mountain bike and horse use of this area. Education programs to permit preserve hikers during the bird season continued. Other management activities on Jester have included:

- Sedimentation and erosion control.
- Trail work and repair.
- Routine patrol of site.
- Repaired boundary fences and installed no trespassing signs.
- Removal of non-native invasive plants.
- Close illegal trails.
- Installed informational signs regarding access and Endangered Species issues.
- Repaired fence, dodgeway, and sign vandalism.

Hilltop

This property continues to experience some trespass from horseback riders and mountain bikers. Management activities on Hilltop included:

- Routine patrol of site.
- Closure of illegal trails and installation of no trespassing signs.

Hiller

This newly acquired City tract (17 acres) lies adjacent to Forest Ridge, Hilltop, and Gibson/Nott tracts.

- Periodic patrolling of site

Gibson /Nott Tract

- Periodic patrolling of site

3M Mitigation Tract

Horse-back riders and motorcyclists continue to trespass onto 3M from trails on the privately owned Kruger tract, and wandering mountain-bikers also stray from the path which had been designated for them to use. The closure of Forest Ridge and Jester to biking was initiated in the spring of 2001.

- With the help of volunteers, native hardwood trees (208) grown at the Reicher Ranch greenhouse have been planted at the "enclosure" located at the Spicewood Springs Road entrance.
- Installed informational signs regarding access and Endangered Species issues.
- Installed dodgeways to prevent illegal bicycle and horse access.
- Repaired fence, dodgeway, and sign vandalism.
- Met with City of Austin Electric officials regarding clearing of vegetation under electric lines for safety reasons, and made sure that only minimal damage was done to GCW habitat.
- Monitoring for GCW is conducted by COA staff on a 100-acre plot (designated as a prime plot). See attached Appendix E.
- A small cowbird trap has been situated on 3M and cowbird trapping is conducted in the spring and early summer. Report is attached as Appendix J.
- Routine patrolling of main roads and perimeter fencing to look for signs of trespassing, vandalism or illicit dumping.

St. Edwards Park

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

- Installed informational signs regarding Endangered Species and access issues.

MIDDLE BULL CREEK UNIT

Ivanhoe

Management activities included the following:

- Endangered bird monitoring activities at Ivanhoe concentrated on the 100-acre study plot for golden-cheeked warblers. Details are available in the City's 2001 Golden-cheeked Warbler and Black-capped Vireo Monitoring Program report, attached as Appendix E.

- Staff operated a trap filled with live decoys to capture brown-headed cowbirds dispersing through Ivanhoe during the 2000 bird season. See City of Austin's Brown-headed Cowbird Report for more details (Appendix J).
- Maintained 2 hogs traps, and removed several hogs. See attached report, Appendix N.
- Conducted routine patrols at this site.
- Erosion repair on access road.
- Reported the theft of a deer feeder.

Beard Family Trust

Management activities for this tract include:

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

CYPRESS CREEK TRACTS

Lime Creek

Management activities for this tract include:

- Monitoring: Lime Creek has two caves which harbor endangered karst species. Biannual monitoring of these caves has been conducted for karst fauna and red important fire ant infestations. See Karst Report, Appendix W.
- Periodic patrolling

NORTH LAKE AUSTIN TRACTS

Emma Long Park

City management activities during FY 00-01 include:

- Working with Park Manager to insure that any grant-funded improvements done within the existing motocross track and mountain biking area did not harm warbler habitat.
- Routinely patrolling main roads and perimeter fencing to look for signs of trespassing, vandalism or illicit dumping.
- Monitoring activities for golden-cheeked warblers continued for the fourth year on the Emma Long 100-acre plot. Staff also spent time enumerating warblers throughout the rest of the park. Detailed data is available in the City's 2001 Golden-cheeked Warbler and Black-Capped Vireo Monitoring Program (See attached Appendix E).

- Deer surveys are conducted over a five-mile route through Emma Long Park. See Appendix K.

Coldwater

Management activities on Coldwater during FY 00-01 include:

- During the hot dry summer months six live oak trees were watered. These trees were planted by Austin Energy to remediate vegetation removed while installing underground utilities.
- Routinely patrolled main roads and perimeter fencing to look for signs of trespassing, vandalism or dumping.
- A hardwood protection project that began in 2000 Continued in 2001. This project, which was funded by a Partners for Wildlife grant, involved placing individual wire enclosures around existing hardwood seedlings to protect them from deer browse. Tree species protected included Texas oak, live oak, Texas mulberry, shin oak and escarpment black- cherry. To date nearly 250 trees have been protected.
- Monitoring activities for golden-cheeked warblers continued for the fourth year on the Coldwater tract. Detailed data is available in the City's 2001 Golden-cheeked Warbler and Black-Capped Vireo Monitoring Program (see attached Appendix E).

Long Canyon

City management activities at the Long Canyon tract during FY 00-01 involve the following:

- Routine Patrols: Main roads and perimeter fencing were visited to look for signs of trespassing, vandalism or dumping.

Park West

A variety of management activities were conducted during FY 00-01 at the Park West Tract. Key work efforts included:

- Investigation of areas surrounding cave mouths for presence of red imported fire ants. Active fire and mounds were treated by pouring boiling water over the top of them. See attached Appendix W.
- Routinely patrolled main roads and perimeter fencing to look for signs of trespass, vandalism or dumping.
- Cleared ice storm damage to trees from chain-link fence on the west side of the property.
- Repaired perimeter fencing along RR 2222 that had been damaged by a car accident.
- Removed trash dump that included an old freezer.

Cortaña

This tract continues to be a magnet for trespassing by mountain bikers and motorcyclists. Travis County has installed fencing on a portion of its Steiner Ranch Conservation Easement which is contiguous with Cortaña's western boundary, near Portofino Road. This new fencing will help to curtail some of the trespassing which occurs in the central part of Cortaña.

- Staff conducted monitoring and initiated communication with two new developments on the east side of Cortaña (Cortaña Shores and a development north of Merrywing Circle) this fiscal year to ensure that home builders and realtors are aware that Cortaña is not a public park for homeowner's usage.
- Monitoring: The COA has not been conducting avian monitoring of Cortaña. However, because of a federal Section 7 permit, Sierra Development Corp. (River Place) has been conducting studies (every other year) to determine GCW and BCV territories and reproductive success on adjacent properties within 3,000 ft of the River Place boundaries. These studies include almost the entire portion of Cortaña (as well as portions of Park West). The studies have included the years 1994, 1996, 1998, and 2000 and will continue until three years after complete buildout of River Place. River Place is also responsible for monitoring 100 acres of manipulated BCV habitat, a portion of which is at the northern tip of Cortaña. The monitoring includes both avian and plant monitoring studies, and has been conducted every year since 1996. All of these studies have been presented to USFWS, via SWCA, Inc, which is conducting the surveys.
- City of Austin staff conducted cowbird trapping on Cortaña with one trap, located at the northern end of the property. See attached Appendix J.
- Routinely patrolled main roads and perimeter fencing to look for signs of trespass, vandalism or dumping.

SOUTH LAKE AUSTIN TRACTS

Double J&T

Management activities include:

- Along Murfin Road, there is the continual problem of trespassing and dumping of trash onto Double J&T., as well as cutting of fence along various portions of the road. At the Cardinal Hills neighborhood, the western-boundary fence was cut and removed, and illegal dumping has occurred.
- Inspected illegally bulldozed road off of Kollmeyer Dr and reported this to both USFWS and to City of Austin environmental inspectors.

- Perimeter fence repair work.
- Monitoring for GCW is conducted by City BCP staff on a 100-acre plot (designated as a transitional plot (see Abbruzzese, October 2000 for details). 2001 Report is attached as Appendix E.
- Deer surveys are conducted on Double J&T, as part of the five mile SLAM census route (see attached deer census report, Appendix K).
- Routinely patrolled main roads and perimeter fencing to look for signs of trespass, vandalism and/or dumping.

Sansom Tract

Newly acquired, 13-acre tract, adjacent to west side of Double J&T.

Reicher Ranch

- A portable building (800 sq.ft.) was purchased and installed next to the gatehouse building, to provide additional office and work space for the BCP staff. A variety of young native trees and shrubs were planted on the grounds around the office buildings. An ice storm, which occurred in December of 2000, damaged many mature trees on the grounds where the main buildings are located. PARD Forestry cleared away the downed trees.
- Closed illegal roads, which prevented illegal access into GCW habitat.
- Trash/dump removal.
- Deer surveys are conducted on Reicher Ranch, as part of the five mile SLAM census route (see deer report, Appendix K).

Bohls Ranch

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

- Initiated vegetation transect work by SWT grad students.
- Deer surveys are conducted on Bohls Ranch, as part of the five mile SLAM census route (see deer report, attached as Appendix K).
- Monitoring for GCW is conducted by City BCP staff on a 100-acre plot (designated as a prime plot (See attached warbler and vireo report by C. Abbruzzese, October, 2001 for details). See attached 2001 report, Appendix E.
- Evidence of feral hogs has been observed. See report, Appendix N.
- Routine patrolling.

Commons Ford Ranch Park

- Routine patrolling

Senna Hills

- Routine patrolling

BARTON CREEK TRACTS

Barton Creek Wilderness Park

FY 2000-01 management highlights for the B.C. Wilderness Park include:

- Fire ant boiling treatments at Cave Y and Substation Sink during the spring. See Appendix W.
- Looked in to an illegal encroachment by a neighbors fence. The fence was removed from BCP property.
- Repaired vandalized perimeter fence to prevent illegal access into GCW habitat.
- Golden-cheeked warbler monitoring continued at the 100-acre prime GCW study plot near Barton Creek, while GCW enumerations throughout this unit were also conducted. See Appendix E.
- Existing *Streptanthus* populations in the Wilderness Park were monitored early in the spring.
- Routine patrolling

Barton Creek Greenbelt

- BCP staff joined with Barton Springs Pool staff members to clear non-native vegetation from the south side of the pool.
- BCP staff conducted control of the imported red fire ant mounds near Greenbelt caves, such as Substation Sink, Cave Y, and Seibert Sink, using boiling water techniques. Cave entrances were checked periodically for signs of human visitation, trash, and damage. Biannual karst fauna monitoring was conducted at Airman's Cave. See attached Appendix W.

Friesenhahn Tract

- Routine patrolling

WEST AUSTIN PROPERTIES

Vireo Research Area

- BCP staff conducted a spring survey to look for black-capped vireo presence. None were found.
- Routine patrolling

Mount Bonnell Park

This small hilltop park overlooking Lake Austin continues to receive high visitation rates, especially by out-of-town visitors seeking a panoramic view of the lake and scenic Texas Hill Country. Over the past year, several clean-ups of trash (mostly beverage bottles and cans) thrown into the native vegetation by park visitors were performed by preserve staff.

- Volunteers did extensive monitoring of the rare *Streptanthus bracteatus*. The volunteer also found a new population on nearby lands, and made inquiries regarding adjacent private lands which were being cleared for potential development.

Ullrich Water Treatment Plant

Managed by W&WW

Water Treatment Plant #4

- Deer surveys are conducted on WTP#4, as part of the five mile Upper Bull Creek census. See Appendix K.
- New illegal trespass from adjacent newly built apartments.
- Monitored Jollyville Salamander on "Moss Gulley".
- Maintained a hog trap, see Appendix N.

Barrow Preserve

Management activities include:

- Routine patrol and monitoring adjacent new development (Canyon Rim).
- The main spring on this tract was monitored quarterly by the Watershed Protection Department (WPD) for the presence of the Jollyville Plateau salamander. WPD staff also tested the water for certain pollutants.
- Controlled exotic woody species. Species controlled included Tree of Heaven, Chinaberry, Japanese Ligustrum and *Photinia* sp.

Spicewood Springs Preserve

Management activities include:

- Erosion and sedimentation control.
- Repair of security fence around Cotterell Cave

- Red-imported fire ant control (boiling water). See Karst Management Report, Appendix W.
- Trail work and repair
- Trash removal
- Escorting trespassers back to the trail.
- Put out seed of locally collected native plants in areas where erosion is occurring to aid in erosion control.
- Added a new rules sign which covered all illegal activities occurring in the preserve.
- Put together a plant list for the preserve. This list will be used by WSPD staff in educational efforts to protect this and adjacent lands.
- Replaced and repaired rules signs in preserve.

Three research monitoring studies are underway at Spicewood Springs Park involving non-BCP investigators. They involve:

- **(1)** Jollyville Plateau salamander: Monthly surveys are conducted on this preserve and the land immediately downstream. This site is the type locality for the Jollyville Plateau salamander. This population crashed in 1994 and has never really recovered. Some of the remaining salamanders have notable spinal deformities. Watershed Protection Department staff helps monitor this site and at the same time take regular water quality samples for analysis.
- Staff conducted surveys following protocol established in the City of Austin's Watershed Protection Department (WSPD) report "Jollyville Plateau Water Quality and Salamander Assessment". At set stations, staff measured flow, water and air temperature and counted all salamanders observed. Salamanders counted were further broken down into 3 categories based on observed size. WSPD staff periodically take water samples at these sites to determine current status on water quality. Staff will continue to conduct monthly surveys at this site until there is a minimum of 7 years of data. As of 1/01 this site is surveyed quarterly. Up until then this site was surveyed monthly since 1994. It is uncertain how much longer City of Austin BCP and WSPD staff will continue to survey this site. However, staff from both departments will continue to try to determine why salamanders are disappearing from this site and why some are deformed.
- Salamanders on this site carry the chytrid fungus which is lethal to frogs. All equipment and clothing must be either dedicated to this site and none other or sterilized with a 10% solution of bleach before accessing any other sites

- **(2)** Dye Test: WSPD staff conducted a dye test on site. They released dye into Central Sink and a nearby well, and the dye released on Central Sink emerged from both springs on the preserve within hours.
- **(3)** Native tree water uptake rates: BCP staff surveys Cotterell Cave yearly, and inspects the entrance at least monthly. See attached Appendix P. Cotterell Cave is the home of the endangered bone cave harvestman. Rob Jackson at Duke University and Will Pockman with the University of New Mexico are currently conducting research on the uptake of water from certain species of trees. They have set up scientific probes on some of the roots inside the cave. This monitoring does not require access into the cave and is only done under staff supervision. See attached Appendix M.

PRESERVE-WIDE ACTIVITIES

- Brown-headed Cowbird Control Program: See attached report, Appendix J.
- Feral Hog Control Efforts: See attached report, Appendix N.
- White-tailed Deer Survey Program: See attached report, Appendix K Also, co-operative, joint effort with Water Quality and Protection Lands to write paper on problems associated with deer over-population and preferred methods for reducing the population, to be presented to COA Manager Jesus Garza ("Environmental Evaluation of Proposed Reduction of White-tailed Deer Populations on City of Austin Balcones Canyonlands Preserves & Water Quality Protection Lands"). See Executive Summary attached to White-tail Deer Survey Program report.
- Public Outreach Efforts: See attached report, Appendix O.
- GCW/BCV Monitoring Surveys: See attached report, Appendix E.
- Greenhouse and Revegetation Projects: Ongoing utilization of Reicher Ranch greenhouse to propagate native trees and shrubs from seeds collected on BCP tracts. For fiscal year 2000-01, transplanted approximately 500 of the following plants on the 3M, Gardens of Bull Creek, Franklin, and Reicher Ranch tracts: Arizona walnut, Carolina buckthorn, cedar elm, Eve's necklace, Mexican buckeye, Mexican plum, red buckeye, Texas mulberry, Texas mountain laurel, and Turk's cap. Some of the other native species propagated in the greenhouse, but not yet planted in the field: agarito, American beautyberry, shin oak, soapberry, Texas oak, Texas persimmon, Texas redbud, and twisted-leaf yucca. Since its inception in early 2000 through September, 2001, this project has planted approximately 650 hardwood saplings on BCP tracts. Through funding from a U.S. Fish & Wildlife Partners for Wildlife grant, a 525-gallon water tank and trailer were purchased in June 2001. The water tank enables more efficient field watering of young plants during hot, dry summer months.
- Karst Protection: See report, attached as Appendix W.

Travis County

Hamilton Pool Preserve

Public uses permitted prior to Hamilton Pool Preserve's dedication as a portion of the BCP continued through FY2001. The 232-acre site 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.

- Travis County Parks and Natural Resources staff actively engage the public in education and outreach efforts related to endangered species and the BCP.
- 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, 2001 Field Season* report, attached as Appendix T.
- The results of the County's brown-headed cowbird trapping at Hamilton Pool Preserve are found in Appendix V.
- The Hamilton Pool Preserve population of canyon mock-orange, a species of concern covered under the Permit, continues to be protected and monitored. A discussion of management activities related to this species may be found in the *2001 Botanical Report for Balcones Canyonlands Preserve*, attached as Appendix R.
- A browse study was performed in FY2001 to quantify Hamilton Pool Preserve's white-tailed deer population and direct population management efforts. This data is reported in the *Assessment of White-tailed Deer (Odocoileus virginianus) Impacts on the Woody Plant Community on Selected Travis County BCP Properties*, attached as Appendix Q.

Lake Perspectives Tract

The 124-acre Lake Perspectives tract is not open to the public.

Habitat management activities in FY2001 included:

- boundary delineation
- regular site visits by BCP Law Enforcement staff
- white-tailed deer browse studies (see Appendix Q)
- non-native invasive plant species assessment and control activities (report attached as Appendix R)
- endangered species surveys (see Appendix T)
- brown-headed cowbird trapping (reported in attached Appendix V)

Jollyville Unit

In FY 2001, the Jollyville Unit (two contiguous tracts totaling 722 acres) were not open to the public with exception of guided access for educational and outreach activities scheduled outside of nesting season.

Habitat management activities on these tracts included:

- boundary fence delineation and construction
- regular patrols by Travis County BCP Rangers
- intensive endangered species surveys (see attached Appendices T and U)
- assessment and control of non-native and invasive plant species (see Appendix R)
- browse studies to guide white-tailed deer management efforts (attached as Appendix Q)
- preliminary investigations of known and newly discovered karst features (see Appendix W)
- surveys to verify presence of the Jollyville Plateau salamander (see Appendix S)
- Travis County staff trapped brown-headed cowbirds on private property immediately adjacent to the Jollyville Unit. A summary of these activities is attached was Appendix V.

Steiner Ranch

The Preserve tracts of Steiner Ranch are comprised of 819 acres in five separate parcels. Conservation Easements on these tracts were transferred to Travis County as partial mitigation required by the USFWS for impacts resulting from the associated development. Under the terms of the Conservation Easement, the Steiner Ranch Master Association (SRMA) maintained access to a limited number of approved nature trails within the Preserve areas. The use of these trails is restricted to hiking, jogging, and nature viewing from maintained trails, and the trails are for the sole use of residents of the development. A plan illustrating proposed trails and usage regulations was under revision by SRMA at the end of the fiscal year. Travis County staff is cooperating with SRMA to develop trail plans and usage regulations that minimize impacts to the covered species.

Habitat management activities taking place on the Steiner Ranch tracts included:

- boundary fencing and delineation
- routine BCP Ranger patrols
- endangered species monitoring
- A discussion of the endangered species surveys performed is found in the *Monitoring of the Golden-cheeked Warbler, 2001 Field Season* report, attached as Appendix T.

Romberg Tract

The 40-acre Romberg tract is not open to the public.

Habitat management activities in FY2001 included:

- boundary delineation
- BCP Ranger patrols
- site visits
- The tract was not intensively surveyed in FY2001 due to the absence of warbler breeding territories in recent years. Though warblers have been documented foraging and dispersing juveniles at this location in the past, site visits did not provide any evidence of such use during this nesting season.

Wild Basin Wilderness Preserve

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

Wild Basin Wilderness Preserve contains approximately 2.5 miles of maintained nature trails and provides environmental education and outreach programs for the public. Over 2500 public and private school children and 115 organizations (Girl Scouts, community groups, retirement associations, etc.) participated in tours or programs at the Preserve in FY2001. The Committee for Wild Basin Wilderness Preserve has developed relationships with area organizations and businesses, and has become an important meeting place for local community, conservation, governmental and corporate groups.

Habitat management activities at Wild Basin Wilderness Preserve in FY2001 included:

- trail maintenance
- erosion control
- re-vegetation projects
- control of non-native and invasive plant species

A summary of activities is presented in the Wild Basin Wilderness Annual Report, attached as Appendix I. Golden-cheeked warbler surveys were performed on the Preserve by a consultant and reported in attached Appendix L.

In an effort to begin creating golden-cheeked warbler population trend data for the Preserve, the Permit Holders compiled and analyzed information collected on the 100-

acre study plots (see tables 8 and 9). See BCP Land Management Plan (City of Austin and Travis County 1999) for survey protocol.

Table 8. Number of golden cheeked warbler territories and territory density on Balcones Canyonlands Preserve 100-acre plots.

	No. of Territories[1]	**Territory Density/ac (ha)** [2]
Prime Habitat Plots		
Barton Creek	5	0.05(0.13)
Emma Long	18.5	0.19(0.47)
Ivanhoe	9	0.09(0.23)
St. Eds / 3M	6	0.06(0.15)
Forest Ridge	12.5	0.13(0.32)
Bohls Hollow	6.5	0.07(0.16)
Hamilton Pool	8	0.08(0.20)
LCRA Plot #2	10	0.10(0.28)
Transitional Plots		
Double J and T	3	0.03(0.08)
Canyon Creek	7.5	0.08(0.19)
LCRA Plot #1	4	0.04(0.10)

[1] Each edge territory was calculated as a half (0.5) territory.
[2] Territory density equals number of territories divided by 100 acres.
Prime plots contain > 75% excellent warbler habitat.

Table 9. Golden-cheeked warbler pairing success, breeding success and productivity on Balcones Canyonlands Preserve 100-acre plots.

	Pairing Success[1]	**Breeding Success**[2]	**Productivity**[3]
Prime Habitat Plots			
Barton Creek	1	1	2
Emma Long	0.79	0.57	1.14
Ivanhoe	1	1	3
St. Eds / 3M	0.25	0	0
Forest Ridge	0.78	0.56	1.6
Bohls Hollow	0.6	0.4	1.2
Hamilton Pool	0.78	0.44	1
LCRA Plot #2*	--	--	--
Transitional Plots			
Double J and T	N/A	N/A	N/A
Canyon Creek	N/A	N/A	N/A
LCRA Plot #1	N/A	N/A	N/A

*Productivity data not collected in 2001.
[1] No. of mated males divided by total number of full territories.
[2] No. of males that successfully fledged at least one young divided by total number of full territories.
[3] Highest number of fledglings observed at any one time for each territory divided by total number of full territories.

Prime plots contain > 75% excellent warbler habitat. Pairing success, breeding success, and productivity were calculated using data derived from full territories only.

Travis County's Balcones Canyonlands Preserve education and outreach efforts in FY2001 included:

- Interpretation of research data and information about the BCP and endangered species for the general public, school children, and special interest groups through preserve tours, workshops and exhibits.
- Continuing data collection and scientific study of the species protected by the BCCP, as well as impacts of land management practices. Research data is presented for interested groups and at professional scientific conferences.
- Participation at community events throughout the area, such as the Texas Parks and Wildlife Department's annual "Wildlife Expo", meetings of local chambers of commerce, and conferences for groups with mitigation needs such as real estate agencies and builders associations.
- Informing, evaluating, and problem-solving issues such as alternate mitigation opportunities, acquisition strategies, and land management planning with local landowners, developers, real estate associations, and scientific communities.
- The County 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.

The Lower Colorado River Authority

Management activities for the three LCRA preserves continued to focus on natural resource monitoring, access management, and stewardship promotion. LCRA contracted Blanton & Associates, Inc. (with Turner, Collie, and Braden, Inc. as a subcontractor) to perform rare bird surveys at Westcave, McGregor, and Wheless preserves. Surveys focused on territory delineation and documented female presence, nesting activity, and juvenile disbursement as encountered. Following the surveys, LCRA staff accompanied contracted biologists to map the territories with a GPS unit. Results by property are listed below, in addition to public outreach, grant, and other stewardship successes.

Westcave Preserve

- Territory level surveys for golden-cheeked warblers revealed six territories in six visits totaling 25.00 hours. Two females and no fledglings were observed during the season. Appendix G contains the report describing these surveys.
- Preserve staff hosted more than 5400 students, teachers, tourists, researchers, and nature-enthusiasts, and gave more than 450 on-site tours and off-site presentations.
- The LCRA was awarded $750,000 through a Texas Parks and Wildlife grant in support of a new environmental learning center. Plans and funding were finalized for construction. The ground-breaking ceremony is scheduled for Fall 2001.

McGregor Preserve

- Golden-cheeked warblers and black-capped vireos were surveyed for in eight visits totaling 102.75 hours. Twenty-nine GCWA territories were delineated. Two GCWA females and three fledglings were observed. No BCVIs were seen or heard. See Appendix F.
- As part of LCRA's access and land management strategies, an LCRA contractor continued to high-fence the perimeter. During this reporting period, the preserve boundary that borders Comanche Trail from the preserve's eastern edge to Mountain Trail was fenced, as well as the entire length of the boundary along Mountain Trail. Additional perimeter fencing will be constructed into the next reporting period. LCRA began work this year to resolve a minor encroachment issue with a neighboring landowner and gain permanent access to the southwestern border of McGregor.
- LCRA staff continued to work with the Comanche Trail Community Association to promote local support of land management, animal management, and stewardship efforts on the preserve. The first annual permit renewal meeting was held July 2001 for CTCA McGregor Good Neighbor Program permittees. Training for new permittees was held September 2001. There are currently 32 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.
- LCRA staff worked with the CTCA Dirt Club (local gardening club) to develop a conceptual plan for the creation of a wildscape at the corner of Mountain Trail and Comanche Trail. The 60' x 60' corner restoration will serve as a

demonstration site for the local community, highlighting the benefits of landscaping with native plants and the active role that the CTCA has taken with the LCRA to promote stewardship of McGregor Preserve. Site preparation for planting will begin Fall 2001.

- 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 Preserve

- Twenty-four visits totaling 101.5 hours were spent surveying for golden-cheeked warblers at Wheless Preserve. Survey time was split among three 100 acre plots: two previously established BCP plots (one prime and one transitional), as well as one near a proposed BCVI habitat manipulation area. In total, thirty-two territories were delineated among the three study areas. Six GCWA territories were delineated on the transitional plot. This included two females and one juvenile. Twelve GCWA territories, four females, six juveniles, and one nest were recorded on the prime habitat plot. Fourteen GCWA territories, two females, four juveniles, and one nest were documented on the third plot at the edge of the BCVI habitat manipulation area. See Appendix H. Prior to manipulation of the upland area for BCVI, territory boundaries and other sensitive features will be delineated for protection.
- On June 13, 2001 City of Austin biologists conducted an introduction to Jollyville Plateau salamander survey methods in Long Hollow Creek for several LCRA staff and contract biologists. The spring and creek were flowing and many salamanders were observed at the surface expression of the spring and outflow along the creek. Numbers were not documented on this visit, as this was a training exercise.
- 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. Mountain bike tracks are seen frequently on upland sections of the preserve. Points of entry have been identified through the property surveys. Fence repair and additional signage at these locations may help alleviate the problem.
- In anticipation of manipulating a 100+ acre area in Fall 2001 on a north ridge of the preserve to encourage black-capped vireo habitat development, LCRA staff

archeologists surveyed the area to ensure that no cultural features will be harmed. No significant cultural features which could be harmed by the planned activity were identified during the survey and a report was prepared for the Texas Historical Commission.

Travis Audubon Society

Baker Sanctuary

Access and trail maintenance

- The Sanctuary was open from January 27 until October 28 at which time the gates were locked and the Sanctuary Managers, Marcie and John Wilcox, posted a closure notice.
- On March 24, we began closing and latching the parking lot gate and the North Trail entry gate due to vandalism and non-member trespass. We communicated these changes to the TAS membership via the Signal Smoke.
- On March 24, the Travis Audubon Society held their annual open house at the Sanctuary with guided tours from 9:00 AM until noon. Fifty-four visitors toured the Sanctuary.
- Six workdays were held at the Sanctuary in 2001. Volunteers cleaned up around the Baker Cabin, removed non-native plant species, planted and caged 6 oak trees and gathered acorns.
- John Wilcox maintained the trails by removing fallen limbs, removing rocks and installing water bars.
- The Sanctuary Managers gave programs about the Sanctuary to the Sun City Nature Club in Georgetown, Texas and the Liberty Hill Lions Club.
- During the 2001 visitor season, the Sanctuary had 281 registered visitors of which 55% were members. The non-member visitors had prior permission to enter the Sanctuary.

Boundary control

- John Wilcox repaired breaks in the boundary fences.
- The Sanctuary Managers continued to monitor neighboring development.

General maintenance

- John Wilcox picked up trash on the Sanctuary right-of-way 18 times.
- The TAS acquired additional land management tools including a riding lawnmower.
- The Sanctuary Managers hauled 184 bags of trash to the Travis County Solid Waste Transfer Station.

- John Wilcox mowed and trimmed the Headquarters Area, Parking Lot and around the Baker Cabin 12 times.
- John Wilcox continued to upgrade existing Sanctuary facilities.

Problem animal control

- The Sanctuary Managers managed nine deer hunting leases: five for gun hunters and four for archers. As of January 1, 2002 eleven deer including 2 - 4 point bucks, 2 spike bucks and 7 antlerless were taken. 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 killed two hogs early in 2001 however: no hogs were seen during the General Hunting season.
- John Wilcox trapped 39 cowbirds in 2001 and had no non-target captures or fatalities.

Endangered species

- John Kelly surveyed the TAS-BS 100-acre GCW plot in 2001 and found 6 warbler territories.

Restoration

- The Sanctuary Managers planted 3600 acorns.
- John Wilcox planted and caged 24 oak trees.

Cultural resources

- John Wilcox and a volunteer continued the archaeological survey of the Sanctuary and filed the results with the Texas Archaeological Research Lab.
- The TAS received Historical Cemetery designation for the Baker Family Cemetery from the Texas Historical Commission.

Copies of all research or investigative reports prepared during FY01

Abbruzzese, Carlo. 2001 Golden-cheeked Warbler and Black-capped Vireo Monitoring Program. December 2001. City of Austin PARD Natural Resources Division Balcones Canyonlands Preserve Program. See Appendix E.

Blanton and Associates, Inc. and Turner Collie and Braden, Inc. Rare Bird Surveys at McGregor Preserve. Prepared for the Lower Colorado River Authority, November 2001. See Appendix F.

Blanton and Associates, Inc. and Turner Collie and Braden, Inc. Rare Bird Surveys at Westcave Preserve. Prepared for the Lower Colorado River Authority, November 2001. See Appendix G.

Blanton and Associates, Inc. and Turner Collie and Braden, Inc. Rare Bird Surveys at the Wheless Tract. Prepared for the Lower Colorado River Authority, November 2001. See Appendix H.

The Committee for Wild Basin Wilderness, Inc. Annual Report for the period Jan.1 2001 – Dec. 31, 2001. January 2002. See Appendix I.

Davis, Jackie. City of Austin Brown-headed Cowbird Control Program. December 2001. City of Austin PARD Natural Resources Division Balcones Canyonlands Preserve Program. See Appendix J.

Davis, Jackie. City of Austin White-tailed Deer Survey Program, Balcones Canyonlands Preserve. December 2001. City of Austin PARD Natural Resources Division Balcones Canyonlands Preserve Program. See Appendix K.

Druid Environmental. Wild Basin Wilderness Preserve, Spring 2001, Golden-cheeked warbler (*Dendroica chrysoparia*) Survey. May 2001. See Appendix L.

Jackson, R. B., L. A. Moore, W. A. Hoffmann, W. T. Pockman and C. R. Linder. 1999. Ecosystem rooting depth determined with caves and DNA. Proceedings of the National Academy of Science. Vol. 96, pp.11387-11392, September 1999. See Appendix M.

Lytle, Melody. City of Austin Feral Hog Control Efforts. December 2001. City of Austin PARD Natural Resources Division Balcones Canyonlands Preserve Program. See Appendix N.

Lytle, Melody. City of Austin Public Outreach Efforts. December 2001. City of Austin PARD Natural Resources Division Balcones Canyonlands Preserve Program. See Appendix O.

Pockman, W. T., J. Martinez-Vilalta and R. B. Jackson. 2001. The contribution of deep root functioning to whole-plant water relations and xylem transport in *Juniperus ashei*. Unpublished manuscript. See Appendix P.

Travis County Natural Resources Division. Assessment of White-tailed Deer (*Odocoileus virginianus*) Impacts on the Woody Plant Community on Selected Travis County BCP Properties, 2001, Project Number 0905-01915. November 2001. See Appendix Q.

Travis County Natural Resources Division. 2001 Botanical Report for Balcones Canyonlands Preserve, Project Number 0905-01907. December 2001. See Appendix R.

Travis County Natural Resources Division. Ecological note confirming a locality of the Jollyville Plateau Salamander (*Eurycea tonkawae*) on the Balcones Canyonlands Preserve, Project Number 0905-01904. January 2002. See Appendix S.

Travis County Natural Resources Division. Monitoring of the Golden-cheeked Warbler, 2001 Field Season, Project Number 0810-01001. October 2001. See Appendix T.

Travis County Natural Resources Division. Status of the Black-capped Vireo on the Vireo Ridge Tract, Travis County, Texas, 2001 Field Season, Project Number 0810-00001. January 2002. See Appendix U.

Travis County Natural Resources Division. Summary of the Travis County 2001 Brown-headed Cowbird Trapping Program, Project Number 0905-01909. September 2001. See Appendix V.

Travis County Natural Resources Division and City of Austin PARD Natural Resources Division Balcones Canyonlands Preserve Program. Balcones Canyonlands Preserve Karst Management, 2001 Annual Report, Project Number 0905-01910. January 2001. See Appendix W.

Literature Cited

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.

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. 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.