BALCONES CANYONLANDS PRESERVE
LAND MANAGEMENT PLAN

TIER III

CITY OF AUSTIN
UPPER BULL CREEK
BULL CREEK MACROSITE

August 2007

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1.0 BACKGROUND INFORMATION

There are eight contiguous Balcones Canyonlands Preserves (BCP) tracts within Upper Bull Creek, an area thought to hold the largest contiguous area of golden-cheeked warblers (GCWA) in Travis County. Six of the eight tracts are owned by the City of Austin (COA), including Water Treatment Plant No.4, management of which is addressed in a separate Tier III section.

City of Austin holdings within the Bull Creek watershed are grouped into three management areas: these are Lower Bull Creek, Upper Bull Creek (excluding COA- Water Treatment Plant No.4), and Eastern Bull Creek, all of which lie in western Travis County.

Upper Bull Creek is 608 total acres, northwest of Lower Bull Creek. Upper Bull Creek consists of the following tracts:

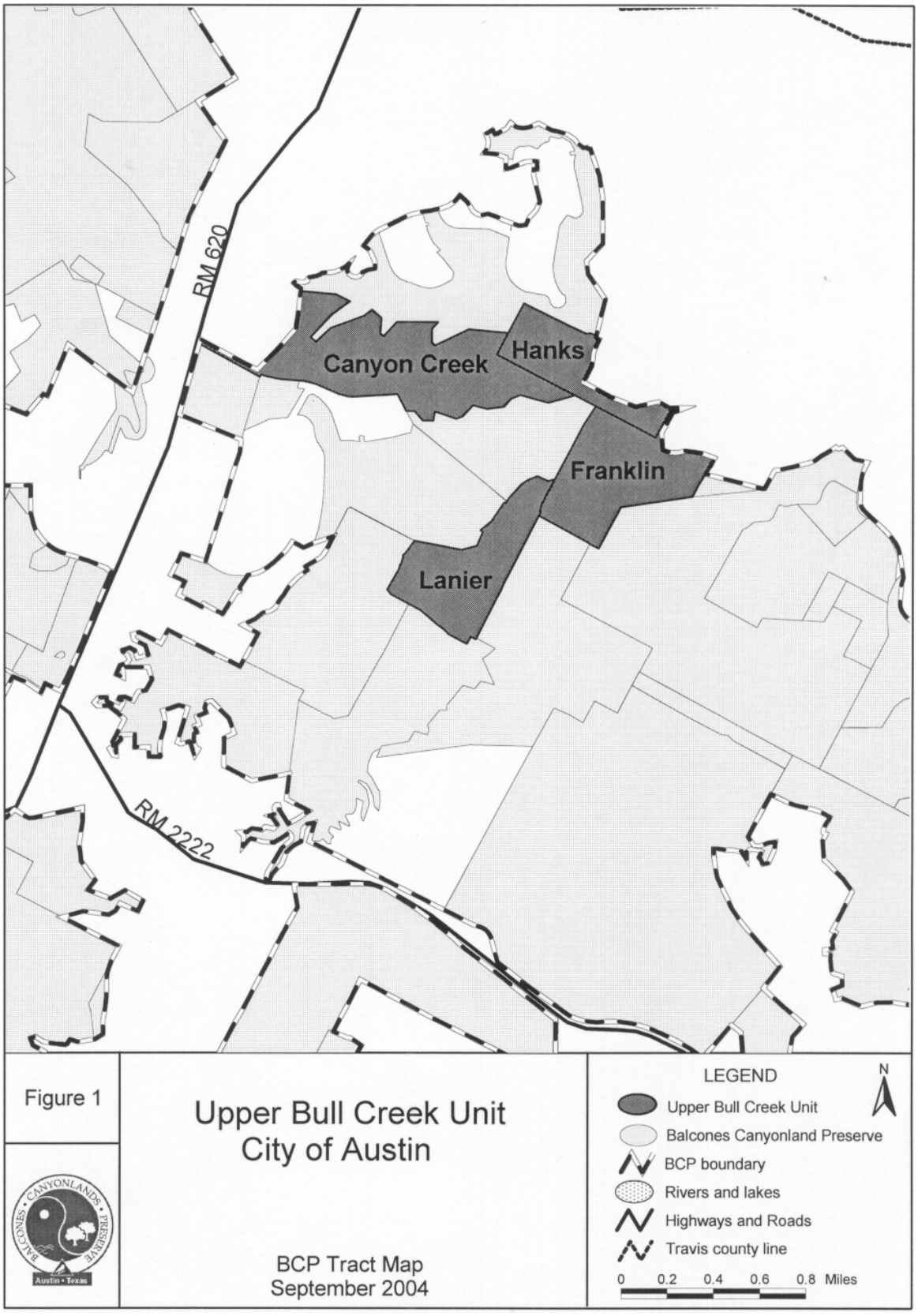
FRANKLIN - 151 acres (61.1 ha) of parkland
HANKS - 88 acres (35.67 ha)
LANIER - 133 acres (54.04 ha)
CITY OF AUSTIN – CANYON CREEK - 236 acres (95.6 ha)

GARDENS AT BULL CREEK – 42 acres (16.997 ha). The acreage of this tract is not counted as Preserve acreage, but is managed according to the requirements of the BCP.

The Franklin parcel was purchased with parkland acquisition funds. The Hanks and Lanier parcels were acquired with BCP funds. The City of Austin’s Canyon Creek parcel (called COA-Canyon Creek) was donated to the City of Austin's Balcones Canyonlands Preserves. The Gardens at Bull Creek was purchased by WPDRD. A portion of the property was used as a 100 year flood retention facility with the remaining property assessed as mitigation by the USFWS and is managed by the City of Austin’s Balcones Canyonlands Preserve.

All other previous background information for Upper Bull Creek can be found in the first five-year set of three volumes entitled *Balcones Canyonlands Preserve Land Management Plans* (August 1999).

Figure 1: Location Map



2.0 MANAGEMENT PROGRAM

2.1 Plan Administration

See Tier II-B Plan Administration for the description of City of Austin's Austin Water Utility as a managing entity, staffing levels, equipment inventory, budget and annual reports as they pertain to the City of Austin's management of the BCP,

2.2 Management Goal

2.2.1 Primary Management Goal

- Protect, maintain and improve habitat for GCWA.
- Conduct quarterly faunal surveys of the Jollyville Plateau salamander population in addition to protecting, and enhancing Jollyville Plateau salamander habitat.
- Protect and improve the watershed's water quality and quantity characteristics.

2.2.1.1 Golden-cheeked Warbler

The City will protect and manage GCWA by limiting access to the preserve tracts, monitoring the populations per BCP protocols, managing 533 acres of habitat, reducing the evident over-browsing by reducing deer populations, working with adjacent property owners, restoring approximately 40 previously cleared acres, and by controlling problems such as wildfire, oak wilt, brown-headed cowbirds, and non-native species, including red imported fire ants.

2.2.1.2 Black-capped Vireo

-Not Applicable

2.2.1.3 Federally listed Karst Species

-Not Applicable

2.2.1.4 Species of Concern

City of Austin staff will continue to monitor the Jollyville Plateau salamander population at the springs. In addition, BCP staff will work with WPDRD to develop and implement an educational outreach program to inform the public of their potential impacts on the preserve. In addition, staff will attempt to increase populations of canyon mock-orange by transferring some seeds into appropriate areas of honey comb rock.

2.2.2 Secondary Management Goals

The City of Austin will manage this property for water quality and quantity benefits by improving native habitats and reducing erosion.

2.3 Issues

The same non-point source and point source pollution problems faced by Spicewood Springs Park pertain to this management unit. Portions of the hydro-geological area feeding the springs and upper reaches of these tributaries of Bull Creek are either developed or developing. Point and non-point sources of pollution have the potential to degrade the currently high water quality which supports the Jollyville Plateau salamander and the integrity of Bull Creek. Declines in Jollyville Plateau salamander populations are correlated with declines in water quality.

Some trash dumping occurred previously on this unit, but all trash and debris have been removed.

BCP staff has noticed an increase in blue jay and American Crow populations. The increase is thought to be tied to the recent land use changes including the development of subdivisions on adjacent properties. These birds are aggressive nest predators. Educational outreach about the impacts of Blue Jays on nesting songbirds may help decrease the population.

Given the presence of several horse barns adjacent to the Lower Bull Creek Unit, cowbird trapping should benefit GCWA populations in this portion of the preserve. In an effort to reduce cowbird populations, BCP staff has used cowbird traps on Canyon Creek and the Franklin tracts.

2.4 Management Objectives

Tier II objectives for the Bull Creek Macrosite include protection of endangered species, species of concern and their habitats, enforcing regulations, management of public access, habitat, and water quality; monitoring, and public education/outreach. The goals and objectives of the Macrosite and Upper Bull Creek will be implemented through the objectives and activities listed below.

1. Protect natural resources from direct human impacts.

a. Restrict public access to staff-guided educational and service activities.
b. Secure the boundaries as needed with fencing and signs.
c. Patrol the perimeter and interior of the unit routinely.
d. Develop and maintain a contact list for adjacent and nearby property owners.
e. Annually provide education to preserve neighbors about how to reduce their impacts on the preserve through educational programs and materials.
f. Conduct at least two volunteer service outings per year.
g. House BCP staff at the Franklin house to provide evening and weekend presence, routine patrols and maintenance of the site.

2. Monitor endangered species and species of concern per established BCP protocols. Obtain baseline vegetation data and monitor vegetation changes.

a. Continue monitoring woody species every five years established transects using Land Condition Trend Analysis methodology.
b. Establish a vegetation transect at the newly fenced "Cistern Spring" site. The vegetation transect will be a modified line intercept transect, 50% will be inside the deer enclosure and 50% will be outside of the deer enclosure. Monitor the transect every five years.
c. Annually survey for and suppress ok wilt.
d. Control brown-headed cowbirds and nuisance animals as needed.
e. Survey annually for aggressive non-native plant species and remove as needed.
f. At least once every autumn survey for red imported fire ants and control them as needed, using Integrated Pest Management methods.
g. Annually monitor populations of wildlife and plant species of concern to measure responses to land management techniques per BCP protocols.

3. Manage various plant/wildlife communities appropriately.

a. Using the most cost-effective means available, limit numbers of white-tailed deer in order to control over-browse of vegetation, such that recruitment of Quercus buckleyi increases yearly.
b. Increase and improve GCWA habitat per BCP protocols.
c. Plant and protect canyon mock orange in selected areas.
d. Annually survey for and suppress ok wilt.
e. Control brown-headed cowbirds and nuisance animals as needed.

f. Survey annually for aggressive non-native plant species and remove as needed.
g. At least once every autumn, survey for red imported fire ants and control them as needed, using Integrated Pest Management methods.
h. Annually monitor populations of wildlife and plant species of concern to measure responses to land management techniques per BCP protocols.

These objectives and activities are grouped into four categories (vegetation, animal, physical and visitor-related) and assigned action dates in the following five-year timeline.

2.5 Specific Implementation Strategies

All implementation will follow applicable BCP guidelines and other accepted procedures in use by USFWS, Texas Parks and Wildlife Department, Texas Forest Service, Natural Resources Conservation Service, Structural Pest Control Board of Texas, City of Austin Watershed Protection and Development Review Department, and the City of Austin's Austin Water Utility .. All pesticide applications are performed under the direction of a licensed non-commercial pesticide applicator.

Staff will monitor plant populations of special concern, such as canyon mock- orange, following BCP protocols. Staff will limit browse impacts on deciduous woody plants such that survivorship of *Quercus buckleyi* seedlings and saplings increases significantly throughout the unit within five years.

Fire ant control efforts in this area include survey and identification efforts, followed by chemical control as needed. In general, the higher densities of imported fire ants tend to be in riparian areas which were previously converted to pasturage. Blue jays, raccoons, and opossums are predators whose populations increase in suburban areas. Informational materials may be provided to adjacent residents regarding how they can reduce their impacts on the preserve by reducing available food for blue jays and raccoons.

TABLE 1: OBJECTIVES

Objectives	04	05	06	07	08
Vegetation Management					
Improve/increase GCWA habitat	X	X	X	X	X
Control non-native plant species	X	X	X	X	X
Survey for and suppress oak wilt	X	X	X	X	X
Monitor vegetation	X	X	X	X	X
Increase *Q. Buckleyi* recruitment	X	X	X	X	X
Plant canyon mock-orange seeds and protect them from herbivory		X	X	X	X
Animal Management					
Monitor and control white-tailed deer population	X	X	X	X	X
Control red imported fire ants as needed	X	X	X	X	X
Monitor GCWA, BCVI and other species of concern per BCP protocols	X	X	X	X	X
Monitor Jollyville Salamanders per BCP protocols	X	X	X	X	X
Control Brown-headed Cowbirds and nuisance animals	X	X	X	X	X
Physical and Cultural Management Procedures					
Continue to monitor for and improve upon the Cistern Spring Restoration project.	x	x	X	X	X
Monitor springs and major seeps	X	X	X	X	X
Develop and implement fire control plan	X	X	X	X	X
Visitor Management					
Develop and implement educational, research and service activities for adjacent neighbors and nearby schools		X	X	X	X
Restrict access to monitoring and staff-guided education/service events	X	X	X	X	X
Secure/maintain boundaries with fences, signs, and patrols	X	X	X	X	X
Coordinate with adjacent land owners regarding mutual line issues	X	X	X	X	X
Maintain BCP staff in the Franklin house	X	X	X	X	X

COA staff will monitor water quality of Bull Creek tributaries and springs in the Upper Bull Creek Unit using biological, physical, and organic indicators, such as the presence of Jollyville Plateau salamanders, and measures of macro-invertebrates and various other parameters. The unit is posted and closed to unauthorized personnel, and unescorted public uses are not allowed. The area is patrolled by BCP staff. Authorized staff may access the preserve by the most appropriate method, including by foot, motorized vehicle, on horseback or bicycle. Vehicles are restricted to existing roads unless specifically approved by the land manager. Springs and spring runs are restricted to foot access only.

Only authorized personnel are permitted to access portions of creeks and springs with Jollyville Plateau salamander populations, and access is permitted only for monitoring.

3.0 MONITORING

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