

**BALCONES CANYONLANDS PRESERVE
LAND MANAGEMENT PLAN**

TIER III

**THE WESTCAVE FOUNDATION AND LCRA
WESTCAVE PRESERVE
PEDERNALES MACROSITE**



August 2007

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1.0 BACKGROUND INFORMATION ON TRACT

The Westcave Resource Area is a 25.796 acre preserve, all of which is dedicated as preserve land for the Balcones Canyonlands Preserve (BCP) system. Westcave is the smallest of the three preserves owned and managed by the Lower Colorado River Authority (LCRA) for the BCP. The preserve is located within the Pedernales River Macrosite as established by the BCP system.

1.1 Description of Tract

1.1.1 Location of Tract

The Westcave Preserve is located in Travis County along the Pedernales River, 14 miles west of the community of Bee Cave (see Figure No. 1). From State Highway 71, turn south on Hamilton Pool Road (RR 3238) and continue west past Hamilton Pool Preserve, over the Pedernales River, turning right into the preserve. From the west, take Cypress Mill Road (RR 962) heading east from Cypress Mill. Hamilton Pool Road is paved, while the entrance road and parking area within the preserve are gravel.

1.1.2 Tract Features

The preserve has a headquarters/manager's residence; environmental learning center, composting toilet, classroom, trail, paved parking area, and fencing on all sides (see Figure No. 2).

1.1.3 Land Status

- **Rights-of-Way and Easements**

A boundary line agreement was signed on May 6, 1982 by the LCRA and W.D. Nickolson to establish a common boundary line between the two properties.

- **In-Holdings**

There are no in-holdings within the preserve.

- **Boundary Disputes**

There are no known boundary disputes.

- **Regulatory Requirements**

Compliance with the federal Endangered Species Act of 1973 and subsequent amendments is necessary due to the presence of the golden-cheeked warbler. Moreover, this property is included in the Balcones Canyonlands Conservation Plan (BCCP), a regional habitat conservation plan, and must meet the requirements and

conditions as set forth in the permit (City of Austin and Travis County Permit PRT-788841). These requirements are covered in Tier II-B, Plan Administration.

Compliance with the federal endangered species regulation necessitates compliance with all relevant sections of the Texas Parks and Wildlife Department Code and amendments and the rules adopted by the Parks and Wildlife Commission in the Texas Administrative Code.

- **Deed Restrictions**

There are no deed restrictions.

- **Special Agreements**

The property is leased to the Westcave Preserve Corporation for management as a natural science preserve. The lease term is for 99 years and will expire in 2082.

- **Mineral Rights**

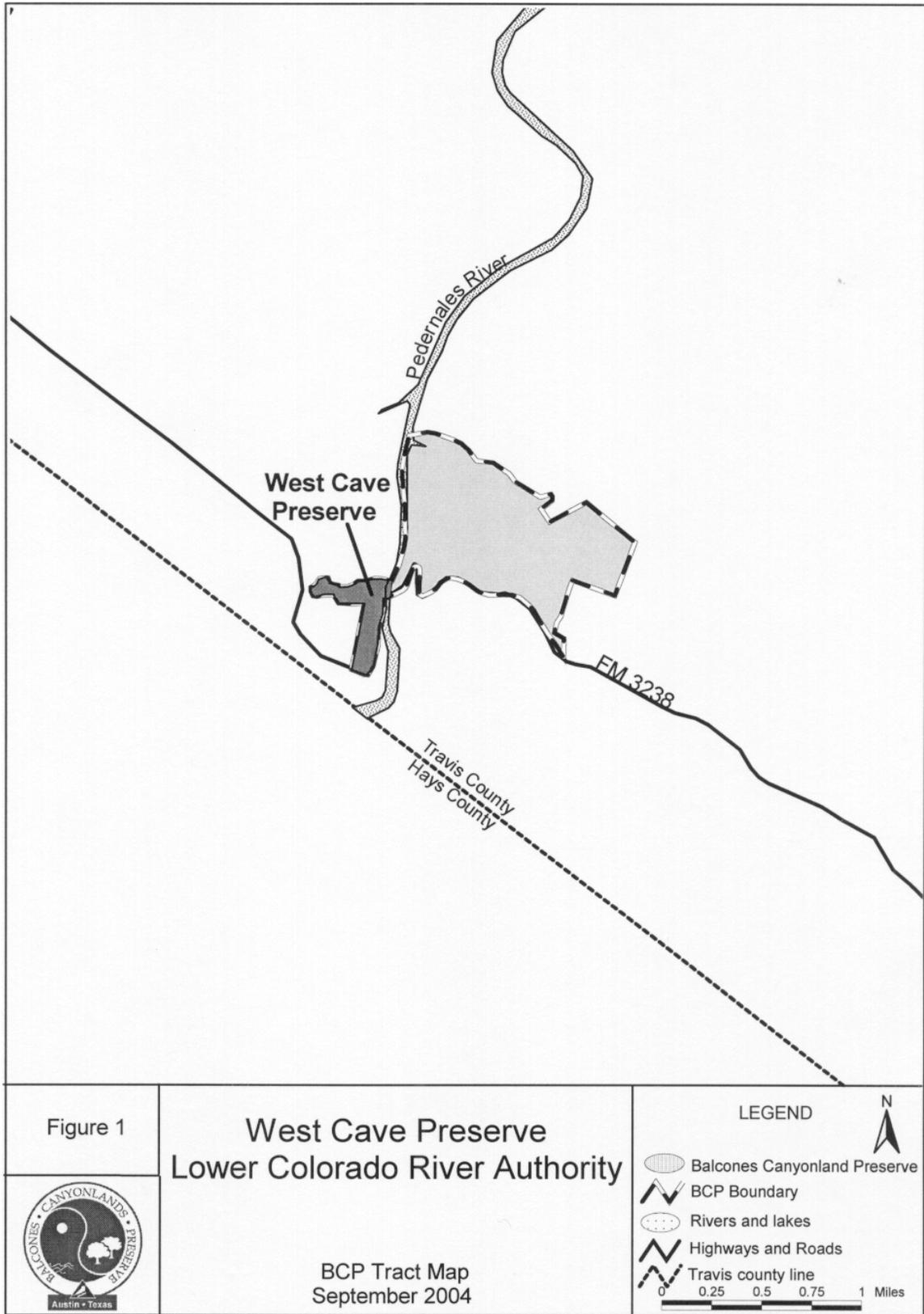
LCRA owns the mineral rights to Westcave Preserve.

- **Legal Issues**

Legal issues for this site include endangered species regulation compliance, covered under section 1.1.3.

- **Financial issues**

No debts or other financial issues remain on this property. Full title to the land was conveyed to the LCRA in 1982.



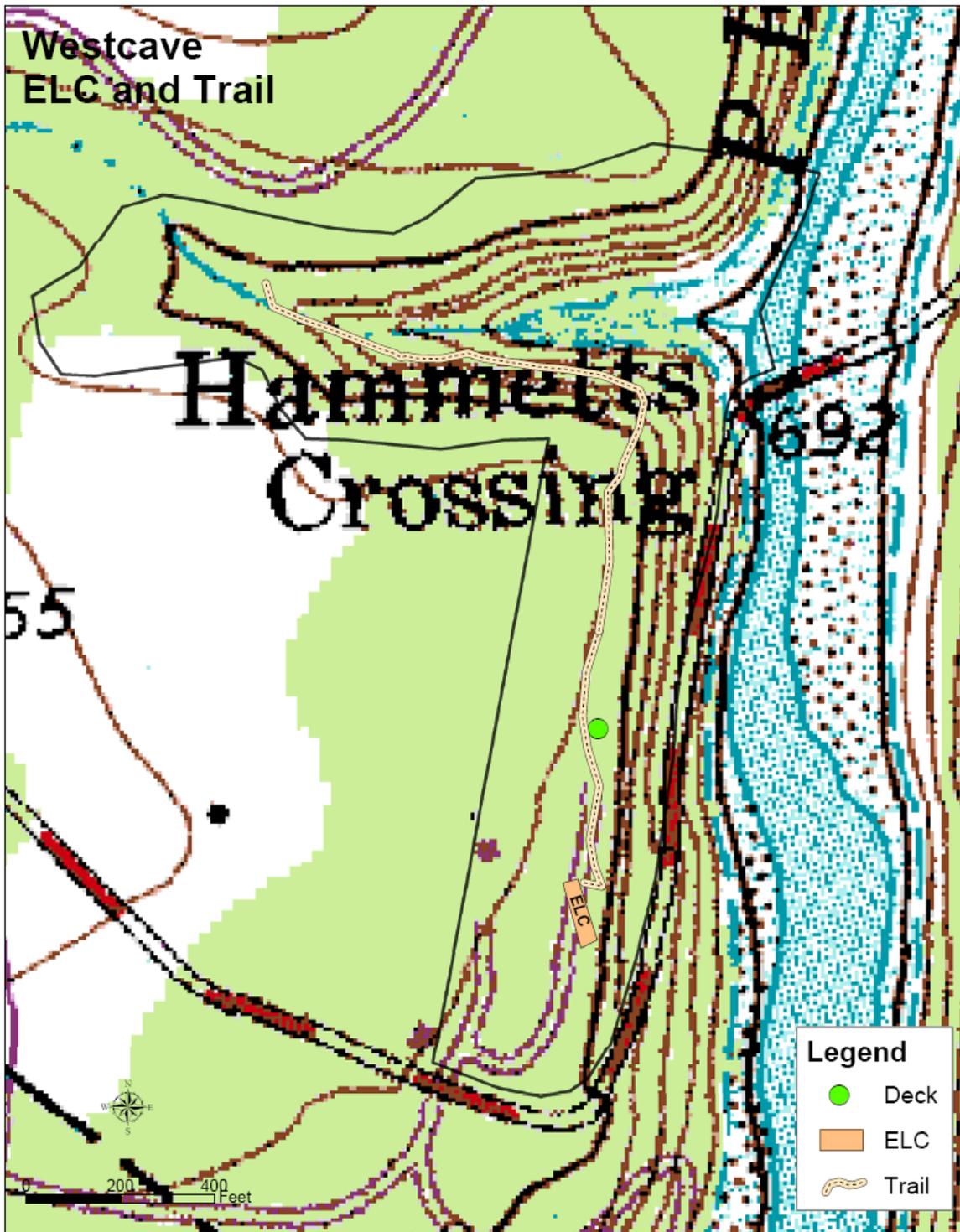


Figure 2. Westcave ELC and Trail Map

1.2 Physical Characteristics

1.2.1 Geology

Westcave is a collapsed rock grotto near the Pedernales River. Three types of formations, two soft and one hard, form the walls of Westcave. Erosion of the soft formations (Hammett Shale and Sycamore Sand) below caused the canyon walls to recede faster than the canyon rim and created a shallow pool 60 feet below the surrounding land surface. Bedrock walls at the head of the canyon (Cow Creek Limestone) are covered with travertine. As travertine has accumulated on the walls, it has closed off some recessed areas forming grotto- like enclosures. The grotto has been completely collapsed for over 100,000 years.

1.2.2 Hydrology

The springs at Westcave Preserve discharge from the Cow Creek Limestone, which is recharged by infiltration of surface water in the Heinz Branch watershed. Heinz Branch is an intermittent stream in a small, enclosed watershed of about 1,400 acres. The watershed is bounded on the south by a ridge near the Travis/Hays county line, and on the north by a parallel ridge bounding the Cypress Creek watershed.

Groundwater occurrence in Westcave Preserve is controlled by the geology of the area. The lowest unit of concern is the Sycamore Sandstone beneath the Pedernales River. The next unit upward is the Hammett Shale, which forms a confining layer for groundwater. Above that lies the Cow Creek Limestone, that is a coquina, consisting of numerous small sea shells and beach sand. Some of the shells have dissolved to form a “honeycomb” structure which is fragile and highly permeable. As the groundwater dissolves the limestone, the water becomes saturated with calcium carbonate. This accounts for the springs and travertine deposits in the grotto of Westcave Preserve. Overlying the Cow Creek Limestone is the Hensell Sand; a thin, poorly sorted, red-colored conglomerate of silt, sand, pebbles and cobbles. The Hensell Sand occurs at the surface in the Heinz Branch valley upstream from Westcave Preserve. The limestone ridges enclosing the valley are formed by the Glen Rose Formation.

Heinz Branch is normally dry except during rain events. Rainfall and streamflow in the valley readily infiltrates into the sandy soils, eventually getting into the Cow Creek Limestone aquifer. Downward flow is inhibited by the underlying Hammett Shale, so the

groundwater moves laterally until it finds an outlet. The nearest outlets are the springs at Westcave Preserve.

The hydrologic regime at Westcave Preserve is a unique, enclosed system. Water quality at the springs is dependent on environmental conditions in the small Heinz Branch watershed. The springs flow from porous limestone which makes a poor filter for pollutants. Therefore, protection of the springs requires management of the watershed. The best management practice is establishment of a conservation plan to avoid extensive development of the contributing watershed (Saunders, 1996).

1.2.3 Soils

The Soil Survey of Travis County, Texas defines the soil on the Westcave tract to be Tarrant Soils, rolling (TaD). This soil is described as shallow to very shallow, well-drained, stony, clayey soils overlying limestone. Random outcrops of limestone typically cover 30-60 percent of the surface area. In a representative profile, a layer of about eight inches of dark grayish-brown stony clay is underlain by limestone. These soils are moderately slowly permeable, and the available water capacity is low (USDA Soil Conservation Service & Texas Agricultural Experiment Station, 1974).

1.2.4 Caves and Subsurface Features

No information is currently available on caves or subsurface features for this site other than the grotto-like enclosures and hydrological discussion in sections 1.2.1 and 1.2.2 above.

1.3 Biological Features

1.3.1 Vegetation

The upper level of the preserve hosts an Ashe juniper/live oak savannah, while vegetation at the lower levels enjoys a cooler, more humid environment. On average, the temperature of the grotto is 10 to 20 degrees cooler than the upper trail. There are over 30 indigenous tree species including a 600 year-old cypress tree and some species, such as the red bay tree, that are usually found in east Texas. Wildflowers are abundant and there are two species of wild orchid, the chatter box (*Epipactis gigantean*) and coral root (*Corallorhiza striata*) orchids.

1.3.2 Animal Species

The endangered golden-checked warbler nests on the tract and about 150 bird species have been observed (see Table 1). More than 14 mammal species are found at Westcave including the eastern swamp rabbit.

Table 1. Bird List (taken from Westcave Preserve website)

Common Fall Birds		
Great Blue Heron	Scrub Jay	Northern Cardinal
Black Vulture	Carolina Chickadee	Painted Bunting
Turkey Vulture	Tufted (Black-crested) Titmouse	Rufous-crowned Sparrow
Red-shouldered Hawk	Canyon Wren	Chipping Sparrow
Red-tailed Hawk	Carolina Wren	Field Sparrow
Mourning Dove	Bewick's Wren	Lark Sparrow
Eastern Screech Owl	Ruby-crowned Kinglet	Lincoln Sparrow
Great Horned Owl	Blue-gray Gnatcatcher	White-crowned Sparrow
Belted Kingfisher	Hermit Thrush	Harris's Sparrow
Ladder-backed Woodpecker	Northern Mockingbird	Dark-eyed Junco
Northern Flicker	Cedar Waxwing	Brown-headed Cowbird
Bob-white	White-eyed Vireo	Orchard Oriole
Killdeer	Yellow-throated Vireo	Northern Oriole
Black-chinned Hummingbird	Red-eyed Vireo	House Finch
Ruby-throated Hummingbird	Orange-crowned Warbler	Pine Siskin
Olive-sided Flycatcher	Yellow-rumped Warbler	American Goldfinch
Eastern Phoebe	Summer Tanager	House Sparrow
Barn Swallow		
Common Winter Birds		
Great Blue Heron	Scrub Jay	Yellow-rumped Warbler
Black Vulture	Carolina Chickadee	Northern Cardinal
Turkey Vulture	Tufted (Black-crested) Titmouse	Rufous-sided Towhee
Red-shouldered Hawk	Canyon Wren	Rufous-crowned Sparrow
Red-tailed Hawk	Carolina Wren	Chipping Sparrow
Mourning Dove	Bewick's Wren	Field Sparrow
Eastern Screech Owl	Ruby-crowned Kinglet	Lincoln Sparrow
Great Horned Owl	Hermit Thrush	Dark-eyed Junco
Belted Kingfisher	American Robin	House Finch
Ladder-backed Woodpecker	Northern Mockingbird	American Goldfinch
Northern Flicker	Cedar Waxwing	House Sparrow
Eastern Phoebe	Orange-crowned Warbler	

Table 1. Bird List, continued

Common Spring Birds		
Great Blue Heron	Yellow-billed Cuckoo	Nashville Warbler
Black Vulture	Great-crested Flycatcher	Yellow-rumped Warbler
Turkey Vulture	Cliff Swallow	Golden-cheeked Warbler
Red-shouldered Hawk	Barn Swallow	Summer Tanager
Red-tailed Hawk	Scrub Jay	Northern Cardinal
Cooper's Hawk	Carolina Chickadee	Blue Grosbeak
Mourning Dove	Tufted (Black-crested) Titmouse	Painted Bunting
Eastern Screech Owl	Canyon Wren	Rufous-crowned Sparrow
Great Horned Owl	Carolina Wren	Chipping Sparrow
Belted Kingfisher	Bewick's Wren	Field Sparrow
Ladder-backed Woodpecker	Ruby-crowned Kinglet	Lark Sparrow
Northern Flicker	Blue-gray Gnatcatcher	Lincoln Sparrow
Bob-white	Swainson's Thrush	White-crowned Sparrow
Killdeer	Hermit Thrush	Harris's Sparrow
Black-chinned Hummingbird	Northern Mockingbird	Dark-eyed Junco
Ruby-throated Hummingbird	Cedar Waxwing	Brown-headed Cowbird
Olive-sided Flycatcher	White-eyed Vireo	Orchard Oriole
Ash-throated Flycatcher	Yellow-throated Vireo	Northern Oriole
Chuck-will's-widow	Red-eyed Vireo	House Finch
Eastern Phoebe	Orange-Crowned Warbler	American Goldfinch
		House Sparrow

Common Summer Birds		
Great Blue Heron	Chuck-will's-widow	White-eyed Vireo
Black Vulture	Eastern Phoebe	Yellow-throated Vireo
Turkey Vulture	Yellow-billed Cuckoo	Golden-cheeked Warbler
Red-shouldered Hawk	Ash-throated Flycatcher	Red-eyed Vireo
Red-tailed Hawk	Great-crested Flycatcher	Summer Tanager
Cooper's Hawk	Cliff Swallow	Northern Cardinal
Mourning Dove	Barn Swallow	Blue Grosbeak
Eastern Screech Owl	Scrub Jay	Painted Bunting
Great Horned Owl	Carolina Chickadee	Rufous-crowned Sparrow
Belted Kingfisher	Tufted (Black-crested) Titmouse	Field Sparrow
Ladder-backed Woodpecker	Canyon Wren	Lark Sparrow
Bob-white	Carolina Wren	Brown-headed Cowbird
Killdeer	Bewick's Wren	House Finch
Black-chinned Hummingbird	Blue-gray Gnatcatcher	House Sparrow
Acadian Flycatcher	Northern Mockingbird	

1.3.3 Endangered Species and Species of Concern

The Westcave Preserve supports a small population of golden-cheeked warblers (GCW).

- **Golden-Cheeked Warbler**

Most of Westcave's 25.796 acres can be considered to be prime nesting habitat for the GCW. The manager of the preserve reported that four or five pairs of GCW nested on the preserve in 1992 and 1993 (Ahrns, personal communication to LCRA staff, 1993). Observations during the 2003 survey indicate there were six occupied nesting territories on the property.

Table 2. Golden-Cheeked Warbler Survey Summary

Survey Year	Number of Occupied Nesting Territories
1994	4
2000	6
2001	6
2002	4-6
2003	6
2004	6
2005	5-6
2006	Not surveyed

- **Black-capped Vireo**

The Westcave Preserve is not considered to have habitat for black-capped vireos (BCV) nor have any been sighted during bird surveys.

- **Karst Species**

No listed invertebrate species are known to exist at this location. Numerous informal investigations have not found any unusual species of invertebrates.

- **Plants**

Canyon Mock-Orange has been transplanted to this site and is well established in the general vicinity of the waterfall. An updated plant list is attached in Appendix C.

- **Other Species of Concern**

None observed during previous site investigations.

1.4 Land Uses

1.4.1 Pre-Historical

There are four known cultural resource sites within the area. They are representative of prehistoric (prior to A.D. 1500) land use along the Pedernales River. The four prehistoric sites contain evidence of Native American hunter-gatherer use of indeterminate age. Chert chips and flakes from the manufacture of stone tools, a projectile point, stone tools, and ash from hearths are the only evidence of their presence. Prehistoric people were using the natural rock shelters and uplands at Westcave for camps from which to procure food and stone for tools. Two sites were documented in the 1930s during the Works Progress Administration/UT Austin Anthropology Department surveys of Marshall Ford Reservoir (Lake Travis) and Lake Buchanan.

The entire Westcave Preserve has been surveyed for cultural resource sites on several occasions (Jackson and Girard 1984). As a result of these investigations, four archeological sites, 41TV56, 41TV57, 41TV244, and 41TV877, have been recorded within this tract. All four sites are said to have prehistoric components, although no actual prehistoric artifacts have ever been found at one site, 41TV57, which is the limestone solution cavity known as Westcave. Additionally, one of the archeological sites, 41TV244, also includes a portion of a historic wagon road.

Based on the results of the intensive cultural resource survey conducted by Jackson and Girard, the four archeological sites were assessed as insignificant. The Texas Historical Commission concurred with those assessments in 1984. Thus, none of these archeological sites merit formal designation as State Archeological Landmarks.

1.4.2 Historical

The tract's first known owner, Julius Rhomberg, gave it to the state in the 1880's. It was later sold in 1937 to a UT law professor who then sold it to a land speculator in 1959. Word spread about its beauty, and with that came abuse. Trespassers were rampant, the vegetation had been trampled and trash littered the canyon floor. In 1974, John Covert Watson, along with other concerned individuals, bought the land to preserve what was left. In the early 1980's, LCRA assumed the debt, leased the land back to the Westcave Preserve Board of Directors for one dollar per year, constructed a new security fence and made other facility improvements.

1.4.3 Current

▪ On-Site Usage

The tract is operated as a natural science preserve. Public use of the property is by guided tour only on weekends, and special group tours are offered on weekdays by reservation. The preserve hosts over 400 public tours and approximately 150 group tours annually. Approximately 10,000 to 12,000 people visit the preserve annually.

▪ Adjacent Land Usage

Adjacent land usage consists of the Pedernales River and Hamilton Pool road to the east and south, and some expanding tracts of residential development to the north, northeast and west. Travis County operates Hamilton Pool Preserve, located across Hamilton Pool road, as part of the BCP preserve system. Hamilton Pool Preserve

provides habitat for both the GCW and the BCV. A significant number of grazing operations exist in the general vicinity of the preserve.

2.0 MANAGEMENT PROGRAM

2.1 Plan Administration

2.1.1 Description of Managing Entity

The Westcave Preserve is leased to the Westcave Preserve Corporation for management as a natural science preserve and is managed by personnel from the Corporation. The lease term is for 99 years and will expire in 2082. Mr. John Ahrns is the principal site manager for the Westcave Preserve Corporation and lives on the property. LCRA staff members coordinate limited management activities as requested by the site manager or specified in the lease.

It is the mission of the Lower Colorado River Authority to provide reliable, low-cost utility and public services in partnership with our customers and communities and to use our leadership role and environmental authority to ensure the protection and constructive use of the area's natural resources. The Act which created the LCRA in 1934 specifically charged the organization with the responsibility to "...develop and manage parks, recreational facilities, and natural science laboratories, and to promote the preservation of fish and wildlife within the boundaries of the district." LCRA has no taxing authority and relies on revenues from producing electrical power to fund its land and environmental service activities.

2.1.2 Staffing

Staffing will be provided by the Westcave Preserve Corporation and currently consists of a site manager, John Ahrns, and David Bennett, assistant manager. LCRA staff will assist with limited management activities as requested by the site manager or specified in the lease.

2.1.3 Inventory of Major Equipment

The Westcave Preserve Corporation does not own any "major equipment." However, the LCRA will obtain the equipment necessary to maintain the preserve either from purchase of new equipment or from the use of existing equipment already being used by park maintenance personnel. This equipment includes four-wheel drive vehicles equipped with winches, a backhoe, a small tractor, and an all-terrain vehicle. Trucks, specialized and heavy construction equipment are also available from other LCRA departments.

2.1.4 Current Budget

The Westcave Preserve Corporation budgeted \$50,000 for 2004. Funding for proposed activities is provided from guided tour revenues, grants, donations, and from a proposed future endowment.

2.1.5 Interagency Cooperation, Management Contracts & Agreements

See BCP Managing Partner Agreement.

2.1.6 Annual Reports

LCRA will provide annual reports on management and maintenance activities on a date agreed upon between LCRA, USFWS and the BCP Coordinating Committee.

2.2 Management Goals

The Westcave Preserve is managed by the Westcave Preserve Board of Directors and its staff to meet its primary mission as a natural science preserve. Pursuant to this mission, the preserve is managed to protect its unique and sensitive ecosystem and to provide natural science educational resources. This mission is consistent with the maintenance, preservation and encouragement of the species targeted for protection by the BCCP. The LCRA will coordinate with the Westcave Preserve Board in the management, monitoring and reporting requirements.

2.2.1 Primary Management Goals

- Offer guided tours during GCW breeding season.
- Control use of the preserve to avoid disturbance of the GCWs using the property.
- Monitor, maintain or improve vegetation quality and coverage to provide habitat for the GCW.
- Participate in the development and implementation of the BCP biological monitoring program.
- Manage the Preserve in accordance with the BCP Managing Partner Agreement.
- Golden-checked Warbler

Management will control human impacts on GCW, maintain or improve existing habitat, and participate in a monitoring program in order to identify the success of these activities.

2.2.2 *Secondary Management Goals in partnership with Westcave Foundation*

- Build an endowment fund that ensures the preservation of Westcave for future generations.
- Acquire additional buffer land in cooperation with Westcave Foundation to protect the Preserve from the impact of surrounding land development
- Expand educational and environmental awareness programs.
- Upgrade facilities to keep pace with increased public use.

2.3 Management Objectives

The main objectives for this macrosite (Pedernales River Macrosite) are, in order of priority:

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

The Tier II-C Pedernales River Macrosite land management plan provides more detail as to how activities are grouped under the above priority objectives.

- **Vegetation:** Control vegetation with low impact methods and prescribed fire (no grazing). Wildfires will be prevented and suppressed. Preserve special plant communities and restore areas as needed. Implement fire management plan (Appendix B).
- **Wildlife/Animal:** Monitor, protect and aid in the recovery of endangered species (GCWA). Manage pest species, including animals and insects, on a case-by-case basis in accordance with a specialized management plan. Treatments for fire ants will be limited to public use areas only.
- **Natural/Cultural:** Control erosion, especially along gravel roads, trails, and bare, steep slopes. Protect the springs and hydrology of the area.
- **Visitor Issues & Projects:** Monitor and repair perimeter fencing where necessary to achieve access control. Improve and expand visitor programs. Continue to offer guided wildlife/nature tours. Offer conservation/restoration workshops and classes.

2.4 Specific Implementation Strategies

All implementation strategies will follow the applicable guidelines as set forth in the BCP Tier I document. Where specified, implementation strategies will also follow guidelines set by other regional, state, and/or federal agencies.

2.4.1 Vegetation Management Procedures

- Control Methods (mechanical/physical)
- Plant species and communities of concern

The Westcave Preserve is managed to preserve and encourage all rare and sensitive species found on the preserve. Management policies related to this mission are consistent with the objectives of the BCCP.

All methods employed by preserve managers to control vegetation will abide by the applicable parts of the following: USDA Natural Resources Conservation Service's (NRCS) Conservation Practice Standards on vegetative management; the Texas State Soil and Water Conservation Board's Best Management Practices; the Texas Cooperative Extension publications on mechanical/chemical vegetative management; and applicable state, federal and local laws on the use of pesticides. Pesticide applications must be under the supervision of a licensed pesticide applicator. Pesticides and other chemical treatments that are applied on BCP lands will be least toxic and used at the discretion of the BCP land manager according to site location.

Oak Wilt

Oak wilt prevention and suppression guidelines will follow the applicable guidelines as set forth in the BCP Tier I document and the Texas Forest Service (TFS) procedures stated in the "Texas Forest Service Cooperative Oak Wilt Suppression Project Operation Procedures and Technical Guidelines." (Found in Tier II Oak Wilt Plan). Suppression project plans will be developed in cooperation with the BCP coordinating committee and TFS. Control of oak wilt will be designed around resource management objectives and managed with consideration of wildlife needs.

Prescribed Fire & Wildfires

Should a prescribed burn be necessary, guidelines will follow the Fire Control Protocol as written in the Tier I document of the BCP as well as the NRCS's Conservation Practice Standard "Prescribed Burning," Code number 338. A USDA -NRCS "Prescribed Burning

Management Plan” (TX-BC S-E-D) for each burn will be prepared. They will be prepared with the assistance and review of the Tier I protocol and the NRCS.

Wildfire pre-suppression and suppression guidelines will be the applicable parts of U.S. Department of the Interior National Park Service “Wildfire Management Guidelines,” guideline number 18. LCRA has developed a wildfire management plan in coordination with the appropriate fire control district. The plan is attached to this document in Appendix B.

Restoration & Protection Efforts

The LCRA will coordinate with the Board and management of the Westcave Preserve in the development and implementation of vegetation restoration and protection efforts.

Species of Concern

Guidelines will follow established U.S. Fish and Wildlife Service and Texas Parks and Wildlife Department procedures. Any rare or sensitive plant communities found will be protected from browsing pressure, human impact, and other disturbances.

2.4.2 Animal Management Procedures

Endangered Species

Guidelines for activities on lands inhabited by endangered species will follow the Balcones Canyonlands Conservation Plan Environmental Impact Statement’s Management Standards and Guidelines.

Habitat restoration, along with management and control of browsing animals, fire ants, oak wilt, cowbirds, nest predation, and wild fire will be detailed in the fiscal year management plan updates as referenced in Tier II documents.

A. Golden-Cheeked Warbler

Baseline data: The golden-cheeked warbler population is monitored by LCRA staff, conducting surveys from 1994 to 2004. Baseline data for the golden-cheeked warbler for this property are considered adequate for planning purposes. Refer back to section 1.3.3 for specific monitoring results.

Problem Animal Control

A. Browsing Animals

Browsing pressure from white-tailed deer and herbivores may inhibit regeneration of desirable woody species in existing or developing golden-cheeked warbler habitat. Browsing pressure could also impede efforts to improve golden-cheeked warbler habitat. The LCRA will coordinate with the Board and manager of the Westcave Preserve to monitor browsing pressure and, if necessary, develop procedures to control browsing pressure as required to protect the natural features of the preserve. Fencing or enclosures may be used to protect sensitive plants or habitats.

B. Feral Animals

When necessary, trapping and other means may be used to reduce feral animal populations.

C. Predation and Parasitism

Westcave management personnel will control fire ants and other insect pests according to the guidelines in the Texas Cooperative Extension (TCE) publications on pest management; applicable state, federal and local laws on the use of pesticides (application of pesticides must be under supervision of licensed applicator .

Cowbird trapping may be beneficial to the local GCW and BCV populations. The LCRA will work to partner with other BCP managers within the macrosite to develop a cowbird trapping program and to share its costs.

2.4.3 Physical and Cultural Management Procedures

Hydrology and Water Quality

Conservation land treatment practices will be carried out to control erosion and NPS pollution problems. All practices will be in accordance with all applicable parts of the USDA NRCS's Conservation Practice Standards, TAES's publications on erosion/NPS pollution control, LCRA's Lake Travis NPS Pollution Ordinance and state, federal and local laws and regulations.

Roads, parking areas, and selected problem areas, such as steep road banks, will require permanent erosion/NPS pollution controls and monitoring.

Geology

Areas containing significant karst formations will be kept in their natural state and any access routes found in close proximity to these features will be re-routed. The preserve manager will treat fire ant infestations near karst openings with boiling water only unless other methods are approved by the BCP Management Committee. Disturbance of soil and vegetation is prohibited in the drainage areas surrounding significant karst features.

Soils

Areas surrounding trail or road maintenance will use temporary erosion/NPS controls as needed. The preserve manager will periodically monitor and maintain service roads, parking areas, and selected problem areas such as steep road banks with permanent erosion/NPS controls.

Guidelines for erosion/NPS pollution controls include the following: all applicable parts of the USDA Natural Resources Conservation Service (NRCS) Conservation Practice Standards, Texas Cooperative Extension publications on erosion/NPS control, LCRA's Lake Travis NPS Pollution Ordinance and state, federal, and local laws and regulations.

Cultural Resource Protection

Where significant cultural resources have been identified or are found in further investigations within Westcave Preserve, their protection and preservation will be maintained by LCRA staff archaeologist(s).

2.4.4 Visitor Management Procedures**Access Control**

Preserve boundaries will be fenced with a minimum of a five strand barbed-wire built to LCRA's "Boundary Fence Specifications" or equivalent fencing specified in USDA NRCS's Conservation Practice Standards. Motor vehicle access will be limited to the established parking area.

Individual or independent Group Use

Both individuals and groups are encouraged to visit the site. Access to the site is by guided tour only. Tours are by appointment with the site manager during the weekdays and at 10AM, 12PM, and 2PM on Saturdays and Sundays. Tours are designed to avoid possible harm to the sensitive ecological features of the park.

User/Resource Conflicts

User/resource conflicts are infrequent due to the remoteness and inaccessibility of the site.

2.5 Issues

To prevent encroachment from domestic livestock and unauthorized users, the perimeter fencing and water gaps on Westcave Preserve's boundaries will need to be replaced. With the presence of domestic livestock on surrounding properties, brown headed cowbird numbers will be monitored, as numbers may be increasing based on the 2004 bird survey conducted by LCRA staff. Trapping should be implemented as a management tool for brown headed cowbirds.

The Preserve would benefit from additional funding for road and trail maintenance.

3.0 MANAGEMENT PROGRAM MONITORING

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

4.0 LITERATURE CITED

Balcones Canyonlands Conservation Plan: Environmental Impact Statement.

City of Austin and Lower Colorado River Authority. 1996. Managing Partner Agreement.
Austin, TX.

Lower Colorado River Authority. 1995.
Rare, Threatened and Endangered Species on LCRA Lands.
Lower Colorado River Authority, Austin, TX.

Lower Colorado River Authority. 1996. Land Management Plan.
Lower Colorado River Authority, Austin, TX.

Lower Colorado River Authority. 1996. Land Inventory and Utilization Plan.
Lower Colorado River Authority. Austin, TX.

Poole, J. M. and D. Riskind. 1987.
Endangered, Threatened, or Protected Native Plants of Texas.
Texas Parks and Wildlife Department. Austin, TX.

Saunders, Jeff. 1996. Report: Hydrogeology of the Westcave Preserve Recharge Area.
Lower Colorado River Authority. Austin, TX.

Lower Colorado River Authority. 2004. Cultural Resource Study.
Lower Colorado River Authority. Austin, TX.

Soil Conservation Service. 1974. Soil Survey of Travis County, Texas.
United States Department of Agriculture.

Texas Parks and Wildlife Department. 1992. Golden-Cheeked Warbler Recovery Plan.
U.S. Fish and Wildlife Service, Region 2. Albuquerque, NM.

Texas Parks and Wildlife Department. 1994.
Endangered Karst Invertebrates Recovery Plan. U.S. Fish and Wildlife Service,
Region 2. Albuquerque, NM.

Veni, George and Associates. 1991. Geologic Controls on Cave Development and the Distribution of Cave Fauna in the Austin, Texas Region.
U.S. Fish and Wildlife Service, Ft. Worth, TX.

Westcave Preserve website – www.westcave.org

APPENDIX A

LCRA Land and Water Use Regulations

1. APPLICABILITY

These regulations apply to all water under the jurisdiction of the Lower Colorado River Authority (“LCRA water”) and to all land owned by the Lower Colorado River Authority (“LCRA land”).

2. AUTHORITY

These regulations are adopted and promulgated under authority vested in the Board of Directors of the LCRA by the laws of the State of Texas including, but not limited to, the LCRA Act, Chapter 51 of the Texas Water Code, and Chapter 31 of the Texas Parks and Wildlife Code.

3. DEFINITION OF TERMS

The following words in these regulations have the definitions attached to them in this paragraph:

- a. “General Manager” means the general manager or the acting general manager of the Lower Colorado River Authority or his designee.
- b. “Watercraft” means any boat, vessel, personal watercraft, barge or similar floating craft used or capable of being used for transportation on water.
- c. “Motorboat” means any vessel propelled or designed to be propelled by machinery, whether or not the machinery is permanently or temporarily affixed or is the principal source of propulsion.

4. WATERCRAFT

- a. A motorboat operating on LCRA water must have an exhaust water manifold or a factory-type muffler installed on the engine.
- b. Watercraft on LCRA water shall be equipped and operated in accordance with all provisions of the Water Safety Act and all water safety rules and regulations adopted by the Texas Parks and Wildlife Department
- c. The operator of any watercraft involved in an accident shall immediately report the accident to an LCRA ranger or other law enforcement official.

- d. Any watercraft being operated on Lake Travis that is equipped with an optional exhaust noise suppression device shall be operated with the device engaged when in a “No Wake” area.
- e. No person may operate a motorized watercraft on the Highland Lakes at a speed greater than the minimum speed necessary to maintain steerageway and headway within 50 feet of the shoreline, structures, swimmers or restricted areas.
- f. No person may operate a watercraft on the Highland Lakes at a noise level greater than 92 decibels, measured using the Society of Automotive Engineers’ standard J-2005 (stationary test).
- g. It is unsafe for watercraft to operate faster than 20 miles per hour or the minimum planning speed at night on the Highland Lakes.

5. RESTRICTED AREAS

The general manager is authorized to designate certain areas in LCRA water as fishing, swimming, or otherwise restricted areas. Such areas shall be marked by buoys or signs. No person shall engage in any activity which violates a posted prohibition or restriction. This paragraph shall not apply to maintenance, patrol, or rescue watercraft.

6. EMERGENCY RESTRICTIONS

In the case of extreme flooding, water contamination, or other emergency or natural disaster, the general manager is authorized to declare restrictions on the use of all or any portion of LCRA water for a period not to exceed 30 days, as deemed necessary and convenient for purposes of public health, safety and welfare. If deemed necessary by the general manager because of continued emergency conditions, the general manager may extend the restrictions for a successive period not to exceed 30 days. No person shall engage in any activity which violates such restrictions.

7. SWIMMING

Swimming is prohibited within 50 feet of any public boat ramp.

8. OBSTRUCTION OF NAVIGATION AND WATER FLOW

No person shall anchor any watercraft or construct or maintain any floating or fixed structure on LCRA water that unreasonably prevents, impedes or interferes with safe navigation or access to the water by the public. No person shall construct or maintain in LCRA water any fence or similar device for the purpose of diverting water and/or wind currents or interfere with the normal movement of water and floating debris. All floating

or fixed structures of any type on LCRA water shall be adequately marked or lighted so as not to create a safety hazard for the public. This paragraph shall not apply to breakwater structures permitted under the Highland Lakes Marina Ordinance.

9. DREDGING AND FILLING

Any excavation, discharge or fill of materials in LCRA water shall be performed in accordance with all applicable regulations and permits of the U.S. Army Corps of Engineers (Fort Worth or Galveston Districts) and LCRA's Nonpoint Source Pollution Control Ordinances.

10. BUOYS

No person shall place any buoy or marker on LCRA water.

11. CAMPING AND PICNICKING

- a. Picnicking and camping are allowed on LCRA land only in those public areas so designated.
- b. No person shall camp on any LCRA land for more than five consecutive days or camp on LCRA land for more than 10 days within any calendar month.
- c. No person shall litter or contaminate any camping, picnic or other areas of LCRA land or LCRA water. Garbage and waste may be disposed of only in trash barrels provided by the LCRA. In areas where there are no trash barrels, campers and picnickers shall collect and remove their garbage and waste from LCRA land for lawful disposal.
- d. Campfires are permitted only in established fire rings or in contained camp stoves. During times of extreme fire hazard conditions, the general manager may declare a ban on all ground fires on all or any part of LCRA land, as necessary for purposes of public health, safety and welfare. No person shall light, build or maintain a ground fire on LCRA land while such a ban is in effect. No person shall at any time burn trash, garbage, brush or other refuse on LCRA land.
- e. All pets must be kept on leashes at all times while in the designated camping and picnicking areas; outside the designated camping and picnicking areas, pets must be kept under their owners' direct control. In no case shall a pet be allowed to constitute a nuisance. Livestock shall not be allowed to range or graze on LCRA land. No horses shall be allowed in designated camping or picnicking areas.

- f. No person shall destroy or remove from LCRA land any timber, shrubs, other vegetation, rock, sand, gravel, caliche, or any other substance, material or geologic feature.
- g. No person shall place, construct, erect or occupy any temporary or permanent structure for human habitation or other purposes on LCRA land. This provision does not apply to the use of normal camping equipment. No person shall install or construct any electric, water, wastewater or other utility line or service upon, over or under LCRA land.
- h. No person shall bring or use any glass container on LCRA land.
- i. No person shall cause, create or contribute to excessive noise on LCRA land between the hours of 10 p.m. and 6 a.m. Noise that unreasonably disturbs other visitors is considered excessive. Generators and amplified music shall be turned off between the hours of 10 p.m. and 6 a.m.

12. PROHIBITED AREAS

To ensure the safety and health of the public and to provide for the security, safeguarding and preservation of property and improvements, the general manager is authorized to designate areas of LCRA land from which the public shall be prohibited to enter or in which certain activities shall be prohibited. Such areas shall be clearly marked by signs indicating the prohibition. No person shall enter into such prohibited areas or engage in prohibited activities.

13. FIREARMS, HUNTING AND TRAPPING

The transportation, possession or use of firearms, or any other type of weapon, and any and all types of hunting on LCRA land or LCRA water are illegal under state law and are strictly prohibited. No person shall place poisons or mechanical devices such as traps and snares on LCRA land.

14. FIREWORKS AND EXPLOSIVES

Possession or discharge of fireworks or explosives on LCRA land or LCRA water is prohibited.

15. METAL DETECTORS

No person shall use or operate a metal detector on LCRA land.

16. ARCHAEOLOGICAL AND HISTORICAL FEATURES

Archaeological and historical features of every character located in, on or under LCRA land or LCRA water are protected by state law and may not be disturbed or removed without a permit from the Texas Antiquities Committee, or successor agency, and without having obtained prior written permission from the LCRA.

17. SANITATION

No person shall dump or otherwise dispose of trash, garbage, hazardous materials, unsightly matter, junk, or other solid waste on LCRA land or into LCRA water. No person shall discharge wastewater, sewage, or effluent from holding tanks, sinks, toilets, or other plumbing fixtures on LCRA land or in LCRA water. Nonhazardous waste may be disposed of only in designated trash barrels.

18. ABANDONED PROPERTY

Abandonment of personal property on or in LCRA land or LCRA water is prohibited. Personal property left unattended on or in LCRA land or LCRA water for more than 24 hours shall be considered abandoned property. Abandoned property may be removed and disposed of in any manner deemed appropriate by the general manager. LCRA is not responsible for personal property left on LCRA land or LCRA water.

19. MOTOR VEHICLES

Except in special-use areas designated by the general manager, all motor vehicle operation on LCRA land shall be confined to designated roads and parking areas. All motor vehicles operated on LCRA land shall be licensed for street use and shall be operated only by persons with valid driver's licenses in a reasonable and prudent manner to prevent environmental damage and to ensure public safety. No motor vehicle may be operated in excess of a posted speed limit.

20. PROTECTION OF LCRA PROPERTY

No person shall damage, def or destroy any LCRA property, including equipment and facilities provided for outdoor recreational purposes. No person shall, in any manner, alter or remove any LCRA sign, survey marker, boundary fence, cross fence, gate, cattle guard, or wire gap. No person shall construct any road, trail, path, or other avenue on, over or across LCRA land or cross LCRA land to reach adjacent property.

21. GROUPS

Prior written permission shall be obtained from the LCRA for any organized group activity on LCRA land involving 20 or more individuals. At the sole discretion of the general manager, a particular site may be designated by the LCRA and reserved for any group activity.

22. SOLICITATION OF BUSINESS

No person shall engage in or solicit any business on LCRA land or LCRA water.

23. ADVERTISEMENTS

No commercial notices, signs or advertisements shall be placed on LCRA land. Private messages may be posted only in areas designated by the general manager for such messages.

24. PARK REGULATIONS

In addition to these regulations, the LCRA may enact regulations specifically for certain LCRA parks and adjacent LCRA water and may approve park regulations enacted by other political subdivisions for LCRA land leased to them for public parks. In case of conflict between specific park regulations and these general use regulations, the specific park regulations shall govern.

25. WAIVER AND PERMITS

Except when prohibited by state law, any provision of these regulations may be waived in whole or in part as deemed necessary and appropriate in the sole discretion of the general manager. A waiver shall be evidenced by a permit or other prior written permission issued by the general manager.

26. VIOLATIONS

Any person who, without the prior written permission of the general manager, knowingly or intentionally violates or fails to comply with any provision of these regulations is guilty of a misdemeanor. Upon conviction, the violator is subject to punishment by a fine not to exceed \$500. In addition, such violator(s) may be barred from use of LCRA land and facilities for a period of 30 days for the first offense and 60 days for any subsequent offense.

27. VALIDITY

If any part of these regulations should be held by a court of competent jurisdiction to be invalid or unconstitutional, the validity of the remainder hereof shall not be affected.

The purpose of these regulations is to ensure a safe and enjoyable stay for all visitors of our parks.

APPENDIX B

WILDFIRE MANAGEMENT PLAN

Wildfire Plan Westcave Preserve Lower Colorado River Authority

INTRODUCTION

Westcave Preserve is one of the lands dedicated to the Balcones Canyonlands Preserve (BCP) System by the Lower Colorado River Authority (LCRA). It encompasses over 26 acres of steep uplands that is habitat for the golden-cheeked warbler. Two species of wild orchid have been found on the property. The preserve is bordered on two sides by residential development.

General Information

Location: Along the Pedernales River, 11 miles west of the community of Bee Cave.

Acreage: 26 above normal pool elevation

Administered by: LCRA
Conservation Services
P.O. Box 220
Austin, Texas 78767

EMERGENCY CONTACT LIST

Regional 911 Center	911
Hudson Bend Fire Department	(512) 266-2533 administration office
(512) 266-1775 emergencies only	
Volente Volunteer Fire Department	(512) 258-1114 non-emergencies
	(512) 926-4188 emergencies only

Jarrold Depew* (LCRA)	(512) 473-3200	Work
	(210) 383-0923	Cell

Melanie Pavlas (LCRA)	(512) 473-3200	Work
	(512) 913-4453	Mobile
	(512) 398-5735	Home

Rusty Ray (LCRA)	(512) 473-3356	Work
	(512) 663-6795	Cell
	(512) 288-4353	Home

* primary contact

WILDFIRE SUPPRESSION PLAN

GOALS

To minimize the spread of wildfire while producing the least possible impact on the resource and insuring that firefighter safety remains the highest priority. Minimum Impact Suppression Tactics (MIST) will be used at all times if possible. Special attention will be focused upon the urban/wildland interface situation, with the potential for fires moving out of wildland vegetation and into developed areas, or vice versa. Policies and procedures will be developed that result in the conservation of habitat, while protecting adjacent urban interface from wildlife.

SUPPRESSION RESPONSE

Initial contact should be made with the Regional 911 Center to insure that the appropriate fire departments and other emergency agencies are dispatched immediately. The agency or individual reached by calling 911 will depend on location and type of phone being used. Response agencies included under the Regional 911 number are the Austin Fire Department, numerous Travis County Volunteer Fire Departments, Travis County Emergency Services, Austin Emergency Medical Services, the Texas Forest Service, the Travis County Fire Resource Coordinator, the Lower Colorado River Authority, and other Central Texas fire emergency response agencies. Westcave Preserve lies within the Hudson Bend Fire Department jurisdictional. Emergency response is coordinated by the Regional 911 Center.

The preferred response to any wildfire situation on LCRA lands will be one of minimum impact direct suppression with the use of hand tools and water, utilizing secure fire lanes. If fire behavior is such that direct suppression is not safe, indirect suppression will be implemented, using natural barriers and pre-existing manmade fire lanes to keep the fire away from facilities on the area and out of developed area. The implementation of backfires can then be done along these lines to remove the remaining fuel.

If these lines cannot contain the fire, relocation to the next line and improving it is preferred over the creation of new lines. If fire behavior requires a newly constructed fire lane, the Land Resource Coordinator will assist in line location. Constructed fire lanes should only be wide and deep enough to check the fire spread. During Golden-cheeked Warbler nesting season, between March and June, the preferred response will be to keep

the fire to minimum using direct attack. If necessary, new firelanes will be constructed around those areas which may be nesting habitat to protect surrounding properties.

If the wildfire leaves the preserve, it will be suppressed by the local fire departments, using the techniques that they prefer. At that time, LCRA staff members should continue to monitor fire behavior and management on the preserve, unless they are needed to assist the local agency. Staff members should assist the Emergency Response Agencies with information, maps, aerial photos, and other site specific information.

Using MIST will make site restoration much less time-consuming and less problematic. Restoration work should begin as soon as mop-up is complete, in order to restore the impacts from suppression activities.

FIRE MANAGEMENT CONSIDERATIONS

SPECIAL ELEMENTS AND SENSITIVE AREAS

The LCRA Westcave Preserve provides habitat for the Golden-cheeked Warbler. Vehicle travel should be restricted to established roads for land management practices. Foam additives or wetting agents should be approved by LCRA staff members, prior to their use, in order to insure that the additives are compatible to aquatic system and existing vegetation.

POTENTIAL PROBLEMS TO SUPPRESSION

The amounts of fine, flashy volatile fuels such as grasses and forbs could make suppression difficult and time consuming. Unauthorized campsites may serve as sources of ignition. Catalytic converters from unauthorized vehicles, negligent visitor use or carelessness from cigarettes may also represent potential ignition sources.

POTENTIAL AIDS TO SUPPRESSION

The road system within the Westcave Preserve will serve as adequate access for suppression equipment. This road system may also serve as anchor points in controlling the wildfire. Firebreaks along newly constructed/upgraded fence lines should provide sufficient equipment access as well as serve as perimeter fire protection. The northern and southern boundary of the area rests directly in contact with the Colorado River which serves as a natural fire break.

Frequent patrols conducted by the LCRA Rangers, LCRA Conservation staff, and neighbors will provide a means to spot and report wildfires. Voluntary programs conducted to provide neighbors of the preserve with phone numbers and area information should also aid the detection and reporting of wildfires (Refrigerator Magnets).

In addition to the resources available from the LCRA and Travis County Fire Departments have the following equipment available to assist in major wildland fire suppression:

- Travis County Emergency Service helicopters with water drop buckets (Starflight)
- Texas Army National Guard helicopters with water drop buckets
- Water tankers and bulldozers from Travis County Transportation and Natural Resources

SAFETY

There are a number of safety concerns which firefighters should be made aware of. In addition of the “Ten Standard Fire Fighting Orders,” the 18 “Watch Out Situations,” and the L.C.E.S. system (Lockout, Communications, Escape Routes, and Safety), firefighters should be aware of overhead power lines, venomous snakes and arthropods, heat stress, the potential problems of catalytic converters causing a vehicle to catch fire when driven in high grass, and the wildland urban interface situations that presents itself around the area.

PRE-SUPPRESSION PLAN

The following activities will help to insure that when a wildfire occurs, the resources will be protected and that the LCRA staff will be able to perform efficiently. Trained LCRA employees can provide valuable resources to emergency response teams as needed. This will allow the cooperative use of equipment and personnel, and should also enhance all those involved by providing knowledge gained from learning about the fire suppression/prescription techniques and types of equipment used by other agencies.

FUEL REDUCTION

As often as is necessary, fuel will be removed from the perimeter of all LCRA properties, structures, and facilities. Proper shredding techniques will be conducted along all interior roads to reduce the chance for a catalytic converter caused fire.

FIRELANES

The Pedernales River and Hamilton Pool Road serves as a natural firebreak that runs along the entire western boundary of the preserve. In order to provide better firebreaks on the perimeter of the preserve, a tractor and shredder should be used to mow around the interior of all accessible preserve fencelines as needed.

APPENDIX C

WESTCAVE PLANT LIST

THE PLANTS OF WESTCAVE PRESERVE

by

Dr. Marshall Johnston, Dr. David Lemke,
Margaret Campbell, John Gee, and John Ahrnes

1992

ACANTHACEAE*Ruellia drummondii*
Ruellia humilis
*Siphonoglossa pilosella***ACANTHUS FAMILY**Drummond Wild Petunia
Low Wild Petunia
Tube-tongue**AMARYLLIDACEAE***Cooperia drummondii***AMARYLLIS FAMILY**

Rain Lily

ANACARDIACEAE*Rhus virens*
*Toxicodendron radicans***SUMAC FAMILY**Evergreen Sumac
Poison Ivy**AQUIFOLIACEAE***Ilex decidua***HOLLY FAMILY**

Deciduous Holly

ARACEAE*Arisaema dracontium***ARUM FAMILY**

Green Dragon

ASCLEPIADACEAE*Asclepias asperula*
Asclepias oenotheroides
Cynanchum sp.
Matelea edwardsensis
Matelea gonocarpa
Matelea reticulata
*Sarcostemma crispum***MILKWEED FAMILY**Antelope Horas
Hierba de Zizotes
Milkweed Vine
Plateau Milkvine
Milkweed Vine
Green Milkweed Vine
Milkweed Vine**BERBERIDACEAE***Berberis swaseyi*
*Berberis trifoliolata***BARBERRY FAMILY**Texas Barberry
Agarito**BORAGINACEAE***Ehretia anacua***BORAGE FAMILY**

Anacua

BROMELIACEAE*Tillandsia recurvata*
*Tillandsia usneoides***PINEAPPLE FAMILY**Ball Moss
Spanish Moss

CACTACEAE

Coryphantha missouriensis
Coryphantha sulcata
Echinocactus texensis
Echinocereus reichenbachii
Echinocereus triglochidiatus
Ferocactus setispinus
Opuntia engelmannia
Opuntia leptocaulis
Opuntia phaeacantha

CACTUS FAMILY

Missouri Cory Cactus
 Furrowed Cory Cactus
 Horse-crippler
 White Lace Cactus
 Claret Cup
 Hedgehog Cactus
 Lindheimer Prickly Pear
 Pencil Cactus; Tasajillo
 Brownspine Prickly Pear

CAMPANULACEAE

Triodanis perfoliata
Triodanis sp.

BLUEBELL FAMILY

Venus' Looking Glass
 Venus' Looking Glass

CAPRIFOLIACEAE

Viburnum rufidulum

HONEYSUCKLE FAMILY

Southern Black-haw

CARYOPHYLLACEAE

Stellaria sp.

PINK FAMILY

Chickweed

COMMELINACEAE

Commelina erecta
Commelinantia anomala
Tradescantia gigantea

SPIDERWORT FAMILY

Widow's Tears
 False Dayflower
 Giant Spiderwort

COMPOSITAE

Achillea millefolium
Amblyolepis setigera
Ambrosia psilostachya
Ambrosia trifida
Amphiachrys dracunculoides
Aphanostephus riddellii
Aster texanus
Baccharis neglecta
Brickellia cylindracea
Calyptocarpus vialis
Centaurea melitensis
Chaetopappa asteroides
Chaptalia texana
Cirsium texanum
Conyza canadensis
Dyssodia pentachaeta
Erigeron modestus
Eupatorium coelestinum

SUNFLOWER FAMILY

Yarrow
 Huisache Daisy
 Western Ragweed
 Giant Ragweed
 Broomweed
 Lazy Daisy
 Texas Aster
 Roosevelt Weed
 Brickell-bush
 Hierba del Caballo
 Star Thistle
 Slender Bristletop
 Silverpuff
 Texas Thistle
 Horseweed
 Dogweed
 (Shrinking) Fleabane
 Mist-flower

COMPOSITAE

Eupatorium havanense
Eupatorium serotinum
Evax prolifera
Gaillardia pulchella
Grindelia squarrosa
Gutierrezia texana
Hymenopappus scabiosaeus
Hymenoxys scaposa
Lindheimera texana
Lygodesmia texana
Melampodium leucanthum
Palafoxia callosa
Ratibida columnaris
Senecio obovatus
Solidago altissima
Sonchus asper
Sonchus oleraceus
Thelesperma filifolium
Thelesperma simplicifolium
Verbesina virginica
Vernonia lindheimeri
Viguiera dentata
Wedelia hispida
Xanthium strumarium

SUNFLOWER FAMILY (cont)

Shrubby Boneset
 Boneset
 Rabbit Tobacco
 Indian Blanket
 Camphor Weed
 Broomweed
 Old Plainsman
 Slender-stem Bitterweed
 Yellow Texas Star
 Skeleton Plant
 Blackfoot Daisy
 Palafoxia
 Mexican Hat
 Golden Groundsel
 Tall Goldenrod
 Rough Sow Thistle
 Soft Sow Thistle
 Greenthread
 Navajo Tea
 Frostweed
 Woolly Ironweed
 Goldeneyes
 Hairy Zexmania
 Cocklebur

CONVOLVULACEAE

?*Convolvulus equitans*
Dichondra carolinensis
Ipomoea lindheimeri
 ?*Ipomoea sinuata*

MORNING GLORY FAMILY

Texas Bindweed
 Ponyfoot
 Lindheimer Morning Glory
 Alamo Vine

CORNACEAE

Cornus drummondii
Garrya ovata

DOGWOOD FAMILY

Rough-leaf Dogwood
 Silk Tassel

CRUCIFERAE

Arabis petiolaris
Capsella bursa-pastoris
Draba cuneifolia
Lepidium virginicum
Lesquerella recurvata
Nasturtium officinale

MUSTARD FAMILY

Rock Cress
 Shepherd's Purse
 Whitlow-grass
 Peppergrass
 Slender Bladderpod
 Watercress

CUCURBITACEAE*Cucurbita foetidissima*
*Ibervillea lindheimeri***GOURD FAMILY**Buffalo Gourd
Balsam Gourd**CUPRESSACEAE***Juniperus ashei***CYPRESS FAMILY**

Ashe Juniper

CYPERACEAE*Carex amphibola*
Carex cephalophora
Carex microdonta
Carex planostachys
Dichromena nivea
Eleocharis sp.**SEDGE FAMILY**Band Sedge
Head Sedge
Plateau Sedge
Cedar Sedge
White-top Sedge
Spike Sedge**EBENACEAE***Diospyros texana***EBONY FAMILY**

Mexican Persimmon

EQUISETACEAE*Equisetum laevigatum***HORSETAIL FAMILY**

Horsetail

EUPHORBIACEAE*Acalypha lindheimeri*
Bernardia myricifolia
Cnidoscolus texanus
Croton fruticulosus
Croton monanthogynus
Euphorbia cyathophora
Euphorbia dentata
Euphorbia longicurvis
Euphorbia villifera
Phyllanthus polygonoides
Stillingia texana
Tragia ramosa
*?Tragia volubilis***SPURGE FAMILY**Three-seeded Mercury
Oreja de Raton
Texas Bull Nettle
Shrubby Croton
Prairie Tea
Wild Poinsettia
Dogtooth Spurge
Plateau Spurge
Hairy Euphorbia
Knotweed Leaf-flower
Queen's Delight
Noseburn
Stinging Nettle Vine**FAGACEAE***Quercus buckleyi*
Quercus fusiformis
Quercus muhlenbergii
Quercus sinuata var. *breviloba***BEECH FAMILY**Texas Oak
Scrub Live Oak
Chinkapin Oak
Shin Oak**FUMARIACEAE***Corydalis curvisiliqua***FUMITORY FAMILY**

Scrambled Eggs

GENTIANACEAE*Centaurium texense***GENTIAN FAMILY**

Lady Bird's Centaury

GERANIACEAE*Erodium texanum**Geranium texanum***GERANIUM FAMILY**

Stork's-bill

Texas Cranesbill

GRAMINEAE*Andropogon glomeratus**Aristida purpurea**Bothriochloa ischaemum**Bothriochloa saccharoides**Bouteloua curtipendula**Bouteloua hirsuta**Bouteloua pectinata**Bouteloua rigidiseta**Bromus pubescens**Buchloe dactyloides**Cenchrus incertus**Chasmanthium latifolium**Chloris cucullata**Dichanthelium lindheimeri**Dichanthelium oligosanthes**Elymus canadensis**Elymus virginicus**Eragrostis curtipedicellata**Eragrostis intermedia**Eragrostis secundiflora**Erioneuron pilosum**Hilaria belangeri**Leptoloma cognatum**Leptoloma dubia**Melica nitens**Muhlenbergia involuta**Muhlenbergia lindheimeri**Muhlenbergia reverchonii**Muhlenbergia shreberi**Oplismenus hirtellus**Panicum hallii**Panicum rigidulum**Panicum virgatum**Paspalum distichum**Poa annua**Schizachyrium scoparium**Setaria scheelei***GRASS FAMILY**

Bushy Bluestem

Purple Three-awn

King Ranch Bluestem

Silver Bluestem

Sideoats Grama

Hairy Grama

Tall Grama

Texas Grama

Chess

Buffalo Grass

Sandbur

Inland Sea Oats

Hooded Windmill Grass

Lindheimer Dichanthelium

Scribner's Dichanthelium

Canada Wildrye

Virginia Wildrye

Gummy Lovegrass

Plains Lovegrass

Red Lovegrass

Hairy Tridens

Curly Mesquite

Fall Witchgrass

Green Sprangletop

Three-flower Melic

Canyon Muhly

Lindheimer Muhly

Seep Muhly

Nimblewill

European Basketgrass

Hall's Panicum

Redtop Panicum

Switchgrass

Knotgrass

Annual Bluegrass

Little Bluestem

Southwestern Bristlegrass

GRAMINEAE

Sorghastrum nutans
Sorghum halepense
Sporobolus asper
Sporobolus vaginiflorus
Stipa leucotricha
Tridens flavus
Tridens muticus
Tridens texanus
Tripsacum dactyloides
Vulpia octoflora

GRASS FAMILY (cont)

Indian Grass
 Johnson Grass
 Tall Dropseed
 Poverty Dropseed
 Texas Speargrass
 Purpletop
 Slim Tridens
 Texas Tridens
 Eastern Gamagrass
 Six-weeks Fescue

HIPPOCASTANACEAE

Aesculus pavia var. *flavescens*
Aesculus pavia var. *pavia*

BUCKEYE FAMILY

Yellow Buckeye
 Red Buckeye

HYDROPHYLLACEAE

Nemophila phacelioides
Phacelia congesta

WATERLEAF FAMILY

Baby Blue-eyes
 Blue Curls

JUGLANDACEAE

Carya illinoensis
Juglans major
Juglans microcarpa

WALNUT FAMILY

Pecan
 Arizona Walnut
 Little Walnut

JUNCACEAE

Juncus interior
Juncus marginatus

RUSH FAMILY

Inland Rush
 Common Rush

KRAMERIACEAE

Krameria lanceolata

RATANY FAMILY

Ratany

LABIATAE

Hedeoma acinoides
Hedeoma drummondii
Lamium amplexicaule
Leonurus sibiricus
Marrubium vulgare
Monarda punctata
Physostegia angustifolia
Salvia coccinea
Salvia roemeriana
Scutellaria drummondii
Scutellaria ovata
Stachys crenata

MINT FAMILY

Annual Pennyroyal
 Mock Pennyroyal
 Henbit
 Motherwort
 Horehound
 Spotted Horsemint
 False Dragon-head
 Scarlet Sage
 Cedar Sage
 Drummond Skullcap
 Heartleaf Skullcap
 Shade Betony

<u>LABIATAE</u>	<u>MINT FAMILY (cont)</u>
<i>Teucrium canadense</i>	American Germander
<u>LAURACEAE</u>	<u>LAUREL FAMILY</u>
<i>Lindera benzoin</i>	Spicebush
<u>LEGUMINOSAE</u>	<u>LEGUME FAMILY</u>
<i>Acacia roemeriana</i>	Catclaw
<i>Cercis canadensis</i>	Redbud
<i>Desmodium paniculatum</i>	Panicled Tickclover
<i>Desmodium psilophyllum</i>	Tick Trefoil
<i>Eysenhardtia texana</i>	Texas Kidney Wood
<i>Lespedeza texana</i>	Texas Bushclover
<i>Lupinus texensis</i>	Bluebonnet
<i>Medicago minima</i>	Small Bur-clover
<i>Mimosa borealis</i>	Pink Mimosa
<i>Pediomelum latestipulata</i>	Scurf-pea
<i>Prosopis glandulosa</i>	Mesquite
<i>Rhynchosia senna</i>	Snoutbean
<i>Senna lindheimeri</i>	Lindheimer Senna
<i>Sesbania drummondii</i>	Rattlebush
<i>Sophora affinis</i>	Eve's Necklace
<i>Sophora secundiflora</i>	Texas Mountain Laurel
<i>Vicia ludoviciana</i>	Deer Pea Vetch
<u>LILIACEAE</u>	<u>LILY FAMILY</u>
<i>Nolina texana</i>	Sacahuista
<i>Nothoscordum bivalve</i>	Crow Poison
<i>Smilax bona-nox</i>	Catbriar
<i>Smilax rotundifolia</i>	Common Greenbriar
<i>Yucca rupicola</i>	Twisted-leaf Yucca
<i>Yucca treculeana</i>	Spanish Dagger
<i>Zigadenus nuttallii</i>	Death Camus
<u>LINACEAE</u>	<u>FLAX FAMILY</u>
<i>Linum rupestre</i>	Rock Flax
<u>LOGANIACEAE</u>	<u>LOGANIA FAMILY</u>
<i>Buddleja racemosa</i>	Wand Butterfly Bush
<u>MALVACEAE</u>	<u>MALLOW FAMILY</u>
<i>Abutilon</i> sp.	Indian Mallow
<i>Allowissadula holosericea</i>	Velvetleaf
<i>Callirhoe involucrata</i>	Winecup
<i>Malvaviscus arboreus</i>	Turk's Cap

MALVACEAE*Pavonia lasiopetala*
*Sida abutifolia***MALLOW FAMILY (cont)**Rose Pavonia
Creeping Sida**MELIACEAE***Melia azedarach***MAHOGANY FAMILY**

Chinaberry

MENISPERMACEAE*Cocculus carolinus***MOONSEED FAMILY**

Red-berried Moonseed

MORACEAE*Ficus carica*
Maclura pomifera
Morus microphylla
*Morus rubra***MULBERRY FAMILY**Common Fig
Osage Orange
Texas Mulberry
Red Mulberry**NYCTAGINACEAE***Boerhavia coccinea*
Mirabilis (lindheimeri?)
*Mirabilis linearis***FOUR O'CLOCK FAMILY**Scarlet Spiderling
Wild Four O'Clock
Linearleaf Four O'Clock**OLEACEAE***Forestiera pubescens*
Fraxinus texensis
*Ligustrum japonicum***OLIVE FAMILY**Elbow Bush
Texas Ash
Japanese Privet**ONAGRACEAE***Gaura suffulta*
*Oenothera speciosa***EVENING PRIMROSE FAMILY**Lizard Tail
Showy Evening Primrose**ORCHIDACEAE***Epipactis gigantea***ORCHID FAMILY**

Giant Helleborine

OXALIDACEAE*Oxalis dillenii*
*Oxalis drummondii***WOOD SORREL FAMILY**Yellow Wood Sorrel
Violet Wood Sorrel**PALMAE***Sabal minor***PALM FAMILY**

Dwarf Palmetto

PASSIFLORACEAE*Passiflora affinus*
Passiflora lutea
*Passiflora tenuiloba***PASSION FLOWER FAMILY**Yellow Passion Flower
Yellow Passion Flower
Passion Flower

<u>PHYTOLACCACEAE</u>	<u>POKEWEED FAMILY</u>
<i>Phytolacca americana</i>	Pokeweed
<i>Rivina humilis</i>	Pigeon Berry
<u>PLANTAGINACEAE</u>	<u>PLAINTAIN FAMILY</u>
<i>Plantago rhodosperma</i>	Red-seeded Plantain
<u>PLATANACEAE</u>	<u>SYCAMORE FAMILY</u>
<i>Platanus occidentalis</i>	Sycamore
<u>POLEMONIACEAE</u>	<u>PHLOX FAMILY</u>
<i>Gilia incisa</i>	Cutleaf Gilia
<i>Phlox roemeriana</i>	Yellow-eye Phlox
<u>POLYGALACEAE</u>	<u>MILKWORT FAMILY</u>
<i>Polygala alba</i>	White Milkwort
<i>Polygala lindheimeri</i>	Lindheimer Milkwort
<u>POLYGONACEAE</u>	<u>BUCKWHEAT FAMILY</u>
<i>Eriogonum annuum</i>	Annual Wild Buckwheat
<i>Rumex</i> sp.	Dock
<u>POLYPODIACEAE</u>	<u>TRUE FERN FAMILY</u>
<i>Adiantum capillus-veneris</i>	Maidenhair Fern
<i>Asplenium resiliens</i>	Little Ebony Spleenwort
<i>Cheilanthes alabamensis</i>	Alabama Lipfern
<i>Cheilanthes horridula</i>	Rough Lipfern
<i>Cheilanthes integerrima</i>	Lipfern
<i>Notholaena dealbata</i>	Powdery Cloakfern
<i>Pellaea atropurpurea</i>	Purple Cliff Brake
<i>Pellaea ovata</i>	Cliff Brake
<i>Thelypteris kunthii</i>	Southern Shield Fern
<u>PORTULACACEAE</u>	<u>PURSLANE FAMILY</u>
<i>Portulaca pilosa</i>	Chisme
<u>PRIMULACEAE</u>	<u>PRIMROSE FAMILY</u>
<i>Samolus ebracteatus</i>	Water Pimpernel
<i>Samolus parviflorus</i>	Thinleaf Water Pimpernel
<u>RANUNCULACEAE</u>	<u>CROWFOOT FAMILY</u>
<i>Anemone heterophylla</i>	Ten-petal Anemone
<i>Aquilegia canadensis</i>	Columbine
<i>Clematis drummondii</i>	Old Man's Beard
<i>Clematis pitcheri</i>	Purple Leather-flower

RANUNCULACEAE*Clematis texensis*
*Delphinium carolinianum***CROWFOOT FAMILY (cont)**Scarlet Leather-flower
Prairie Larkspur**RHAMNACEAE***Colubrina texensis*
Condalia hookeri
Rhamnus caroliniana
*Ziziphus obtusifolia***BUCKTHORN FAMILY**Snakewood
Brasil
Carolina Buckthorn
Lotebush**ROSACEAE***Geum canadense*
Prunus mexicana
Prunus serotina
Pyrus ioensis
*Rubus trivialis***ROSE FAMILY**White Avens
Mexican Plum
Wild Cherry
Wild Crab
Southern Dewberry**RUBIACEAE***Cephalanthus occidentalis*
Galium aparine
Galium circaezans
Galium texense
*Galium virgatum***MADDER FAMILY**Buttonbush
Catchwood Bedstraw
Woods Bedstraw
Texas Bedstraw
Southwest Bedstraw**RUTACEAE***Ptelea trifoliata*
*Zanthoxylum hirsutum***CITRUS FAMILY**Wafer Ash
Prickly Ash**SALICACEAE***Salix nigra***WILLOW FAMILY**

Black Willow

SAPINDACEAE*Sapindus saponaria*
*Ungnadia speciosa***SOAPBERRY FAMILY**Soapberry
Mexican Buckeye**SAPOTACEAE***Bumelia lanuginosa***SAPODILLA FAMILY**

Gum Elastic

SAXIFRAGACEAE*Philadelphus ernestii***SAXIFRAGE FAMILY**

Mock-orange

SCROPHULARIACEAE*Agalinis edwardsiana*
Maurandya antirrhiniflora
Mecardonia vandellioides
*Verbascum thapsus***FIGWORT FAMILY**Plateau Agalinis
Snapdragon Vine
Prostrate Mecardonia
Common Mullein

SOLANACEAE

Chamaesaracha edwardsiana
Nicotiana repanda
Physalis cinerescens
Solanum americanum
Solanum elaeagnifolium
Solanum rostratum
Solanum triquetrum

NIGHTSHADE FAMILY

Plateau False Nightshade
 Fiddle-leaf Tobacco
 Ground Cherry
 American Nightshade
 Silver-leaf Nightshade
 Buffalo Bur
 Texas Nightshade

TAXODIACEAE

Taxodium distichum

TAXODIUM FAMILY

Bald Cypress

ULMACEAE

Celtis laevigata
Celtis reticulata
Ulmus americana
Ulmus crassifolia

ELM FAMILY

Texas Sugarberry
 Net-leaved Hackberry
 American Elm
 Cedar Elm

UMBELLIFERAE

Chaerophyllum tainturieri
Conium maculatum
Hydrocotyle umbellata
Sanicula canadensis
Torilis arvensis

PARSLEY FAMILY

Wild Chervil
 Poison Hemlock
 Water Pennywort
 Black Snakeroot
 Beggar-ticks

URTICACEAE

Parietaria pensylvanica
Urtica chamaedryoides

NETTLE FAMILY

Cucumber Pellitory
 Stinging Nettle

VERBENACEAE

Aloysia gratissima
Callicarpa americana
Lantana horrida
Phyla nodiflora
Verbena canescens
Verbena officinalis
Verbena pumila
Vitex agnus-castus

VERVAIN FAMILY

Whitebrush
 American Beauty Bush
 Texas Lantana
 Frog Fruit
 Bracted Vervain
 Texas Vervain
 Pink Verbena
 Common Chaste-tree

VIOLACEAE

Viola missouriensis

VIOLET FAMILY

Missouri Violet

VISCACEAE

Phoradendron tomentosum

MISTLETOE FAMILY

Mistletoe

VITACEAE

Ampelopsis arborea

Cissus incisa

Parthenocissus quinquefolia

Vitis berlandieri

Vitis mustangensis

GRAPE FAMILY

Peppervine

Cow-itch Vine

Virginia Creeper

Spanish Grape

Mustang Grape

FAMILY?

Photinia serrulata

common name?

APPENDIX D

BCCP MANAGING PARTNER AGREEMENT

**MANAGING PARTNER
AGREEMENT
BETWEEN THE BALCONES
CANYONLANDS COORDINATING COMMITTEE
AND THE LOWER COLORADO
RIVER AUTHORITY**

**ARTICLE I.
Preamble**

A. Authority

1. This Managing Partner Agreement ("Agreement") is entered into pursuant to the Interlocal Cooperation Act, Tex. Gov. Code, Chapter 791 and other applicable law, and in accordance with the Endangered Species Act Section 10(a) Permit Application for a thirty (30) year permit, Permit No. 788841 P.R.T., filed by the City of Austin and Travis County, March 19, 1995 ("Permit").
2. This Agreement does not establish a partnership or joint venture under Texas statutory or common law.
3. Expenditures under this Agreement shall be made from current revenues available to the parties.

B. Parties

The Parties to this Agreement are the Lower Colorado River Authority, a conservation and reclamation district established by the State of Texas, acting by and through its duly authorized General Manager or designee ("LCRA") and the Balcones Canyonlands Coordinating Committee, an administrative agency created by the City of Austin and Travis County, by and through its duly authorized Secretary or designee ("Coordinating Committee").

C. Purpose

The purposes of this Agreement are:

1. To assist the Coordinating Committee in implementing the terms of the Permit by designating and managing land as part of the habitat preserve system.
2. To provide a mechanism whereby the LCRA and its wholesale electric customers may proceed with public capital improvement or other construction projects in compliance with the Endangered Species Act.

3. To promote the preservation of fish and wildlife and to protect water quality in the LCRA statutory district.

ARTICLE II. Obligations of LCRA

- A. LCRA agrees that by its execution of this Agreement, it designates 2,565 acres of its current lands as preserve system lands as illustrated in Exhibit "A" to this Agreement. LCRA agrees to thereafter continue said designation for the life of the Permit.
- B. LCRA agrees to manage its designated preserve system lands in a manner which will not jeopardize the Permit and in accordance with its land management plan adopted pursuant to Section II. C. of this Agreement. LCRA agrees to provide reasonable access to its designated preserve system lands to Coordinating Committee representatives for inspection and monitoring.
- C. No later than twelve (12) months after receipt of land management guidelines from the Coordinating Committee, LCRA shall produce land management plans for its designated preserve system lands and submit the plans to the Coordinating Committee Secretary for approval. The plans shall be approved only if they are in compliance with the land management guidelines. No substantial revision to the approved plans may be required by the Coordinating Committee without the concurrence of LCRA.
- D. LCRA shall submit an annual report regarding management of its designated preserve system lands during the previous year to the Coordinating Committee Secretary no later than March 31 of each year.
- E. LCRA does not by this Agreement assume any responsibility or liability for management of preserve system lands which are not included in Exhibit "A" to this Agreement. LCRA does not by this Agreement assume any responsibility for enforcement actions regarding compliance with the Endangered Species Act.
- F. This Agreement shall not restrict LCRA from conveying by lease, sale, or other transaction, any interest in its preserve system lands included in Exhibit "A" to this Agreement to a third party; provided, however, the Coordinating Committee or its designated representative be given prior notice and opportunity to review the documentation necessary to ensure that the preserve system lands remain designated in accordance with Article II. A. of this Agreement, and that LCRA shall remain responsible for managing such lands in accordance with this Agreement.

ARTICLE III. Obligations of Coordinating Committee

- A. No later than six (6) months after the effective date of this Agreement, the Coordinating Committee shall provide approved land management guidelines to the LCRA, and shall provide LCRA with any subsequently approved amendments to the land management guidelines.
- B. The Coordinating Committee shall credit LCRA with 2,565 acres in mitigation value, that being the mitigation value associated with the 2,565 acres designated as preserve system lands. The mitigation value may only be used in accordance with paragraph C below. The mitigation value may not be sold by either LCRA or the Coordinating Committee.
- C. The Coordinating Committee shall account for LCRA's mitigation value, and shall allow it to be used in accordance with the Endangered Species Act by LCRA for its capital improvements or other construction projects or, upon LCRA's approval, by LCRA wholesale electric customers; provided that use of the mitigation value must be within Travis County except as otherwise provided in this paragraph and must be included in LCRA's annual land management report. Mitigation value may be used by LCRA or by its wholesale electric customers for capital improvements or other construction projects in counties adjacent to Travis County only to the extent such use does not jeopardize the validity of the Permit and has been authorized by the United States Fish and Wildlife Service or its successor agency.
- D. The Coordinating Committee shall, upon LCRA's request, provide LCRA with results of any inspection or monitoring of LCRA's designated preserve system land.

ARTICLE IV. General Provisions

- A. Term, Termination.
 - 1. This Agreement becomes effective on the date it is executed by all parties and terminates upon termination of the Permit, unless terminated earlier pursuant to Sections IV. A. 2, 3, 4 or 5 of this Agreement.
 - 2. Notwithstanding anything to the contrary within this Agreement, if at any time during the term of this Agreement, the LCRA Board fails to provide funding for all or any part of its obligations herein for the following fiscal year, LCRA shall give

notice to the Coordinating Committee of such failure to fund and upon delivery of such notice shall no longer be liable for said unfunded obligations. Upon receipt of such notice, the Coordinating Committee may elect to terminate this Agreement as its sole recourse.

3. If a party defaults in the performance of any of the terms or conditions of this Agreement, other than by failure to fund, the defaulting party shall have 30 days after receipt of written notice of such default within which to cure the default. If the default is not cured within such period of time, then the non-defaulting party shall have the right without further notice to terminate this Agreement and to seek relief as specified in Section IV. A. 4. below.
4. The parties agree the preserve system land to be designated pursuant to Section II. A. of this Agreement is unique and irreplaceable, and that the failure of LCRA to designate property as preserve system land and to continue said designation pursuant to the terms of this Agreement would result in damage to the party seeking to maintain the Permit that could not be adequately compensated by a monetary award. The parties therefore agree that if LCRA fails to perform the covenant incumbent on it due under the terms of this Agreement, i.e. designate preserve system land and continue said designation pursuant to Section II. A. of this Agreement, the other party may appropriately seek an order from a court of appropriate jurisdiction requiring the defaulting party to specifically perform that covenant. Such order shall not require LCRA to maintain, repair, or otherwise expend funds associated with the land, but only to designate the land in question and to thereafter continue said designation for the life of the Permit. In such an event, LCRA shall bear no further responsibility or liability for the management of its designated preserve system land and the Coordinating Committee shall, to the extent authorized by law, indemnify and hold harmless LCRA, its officers, employees, and agents, against any and all demands, claims, liability, loss, or damages which directly result from the management of LCRA's preserve system land by the Coordinating Committee or its agents.
5. Either party may terminate this Agreement upon thirty (30) days notice if changes in federal laws or regulations obviate the need for the Permit.

B. Notice to Parties

1. Notice to be effective under this Agreement must be in writing and received by the party to whom it is directed. Notice is received by a party: (1) when it is delivered to the party personally; (2) on the date shown on the return receipt if mailed by registered or certified mail, return receipt requested, to the party's address specified

in subsection 2 below and the receipt is signed on behalf of the party; or three (3) calendar days after its deposit in the United States mail, with first-class postage affixed, addressed to the party's address specified in subsection 2 below.

2. Each party's address is set out following its signature line on this Agreement.

C. Miscellaneous

1. This Agreement states the entire Agreement of the parties and it may be amended only by written instrument signed by both parties.
2. This Agreement is binding on the successors in interest to the parties.
3. This Agreement is performable in Travis County, Texas, and Texas law governs its interpretation and application.
4. Regardless of the actual drafter of this Agreement, this Agreement shall, in the event of any dispute over its meaning or application, be interpreted fairly and reasonably, and neither more strongly for or against either party.
5. This Agreement may be executed in multiple counterparts.
6. This Agreement replaces and supersedes the Interagency Plan adopted by LCRA, Travis County, and the City of Austin in September 1992.
7. In any action to enforce the terms of this Agreement, no party shall be entitled to recovery of attorneys' fees from the other party.

BALCONES CANYONLANDS COORDINATING COMMITTEE

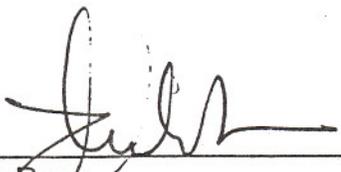
P. O. Box 1088
Austin, Texas 78767

By: Austan A. Librach
Austan Librach
Coordinating Committee Secretary

Date: 2 February 96

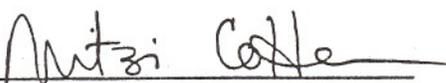
LOWER COLORADO RIVER AUTHORITY
P.O. BOX 220
Austin, Texas 78767-0220



By: 
Mark Rose
General Manager

Date: 1/29/96

APPROVED AS TO FORM:


City of Austin, Law Department

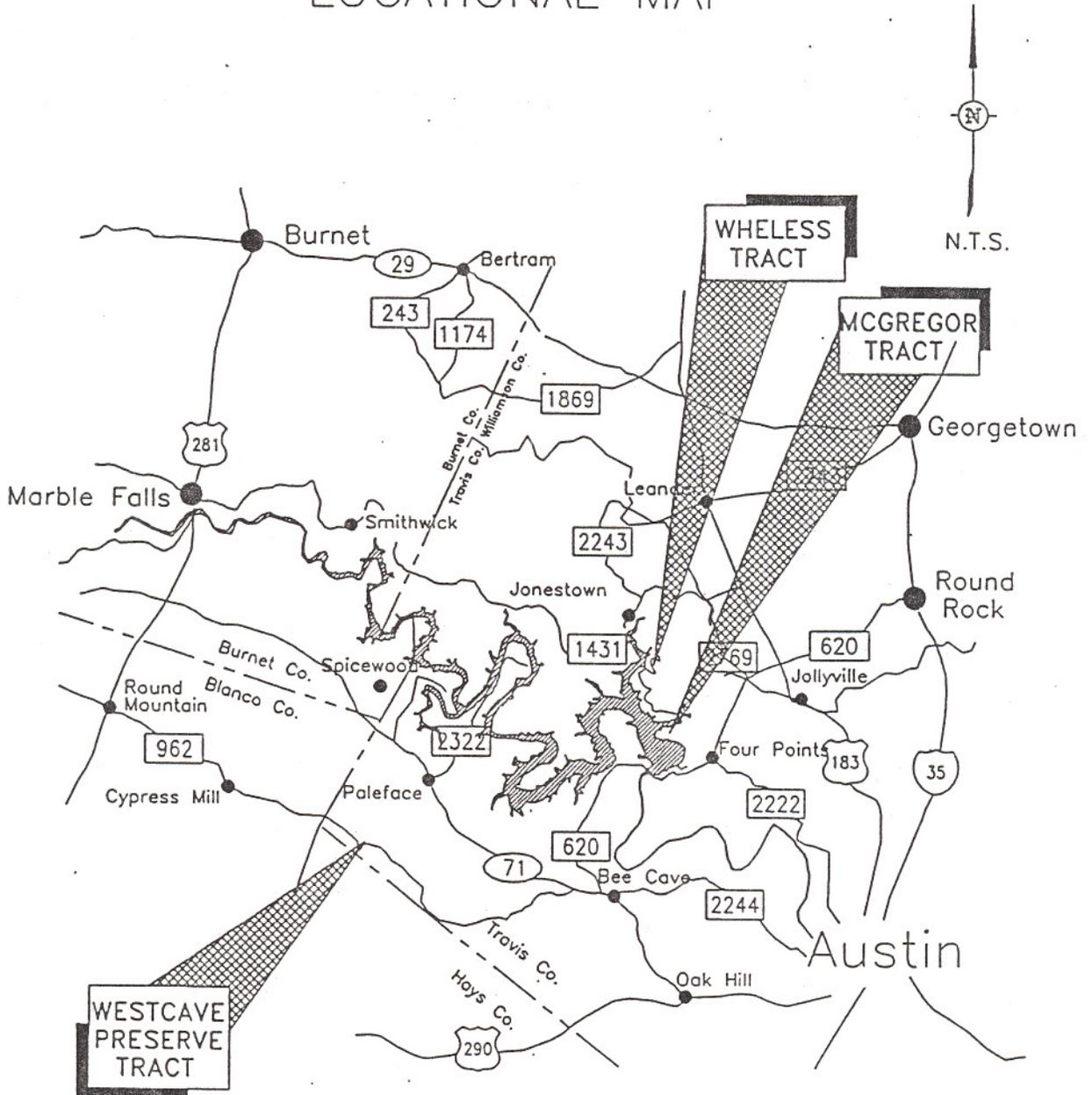
MC/HN/alch:LANDUSE\BCCPLCRA.B

EXHIBIT "A"

2,565 acres of preserve system lands

BCCP PRESERVATION LANDS

LOCATIONAL MAP





LAKE TRAVIS

SANDY CREEK
PARK

Appx 681'
CONTOUR

WATER TREATMENT
PLANT

Appx 715'
CONTOUR

LIME CREEK
ROAD

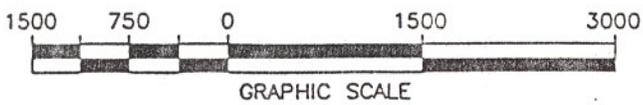
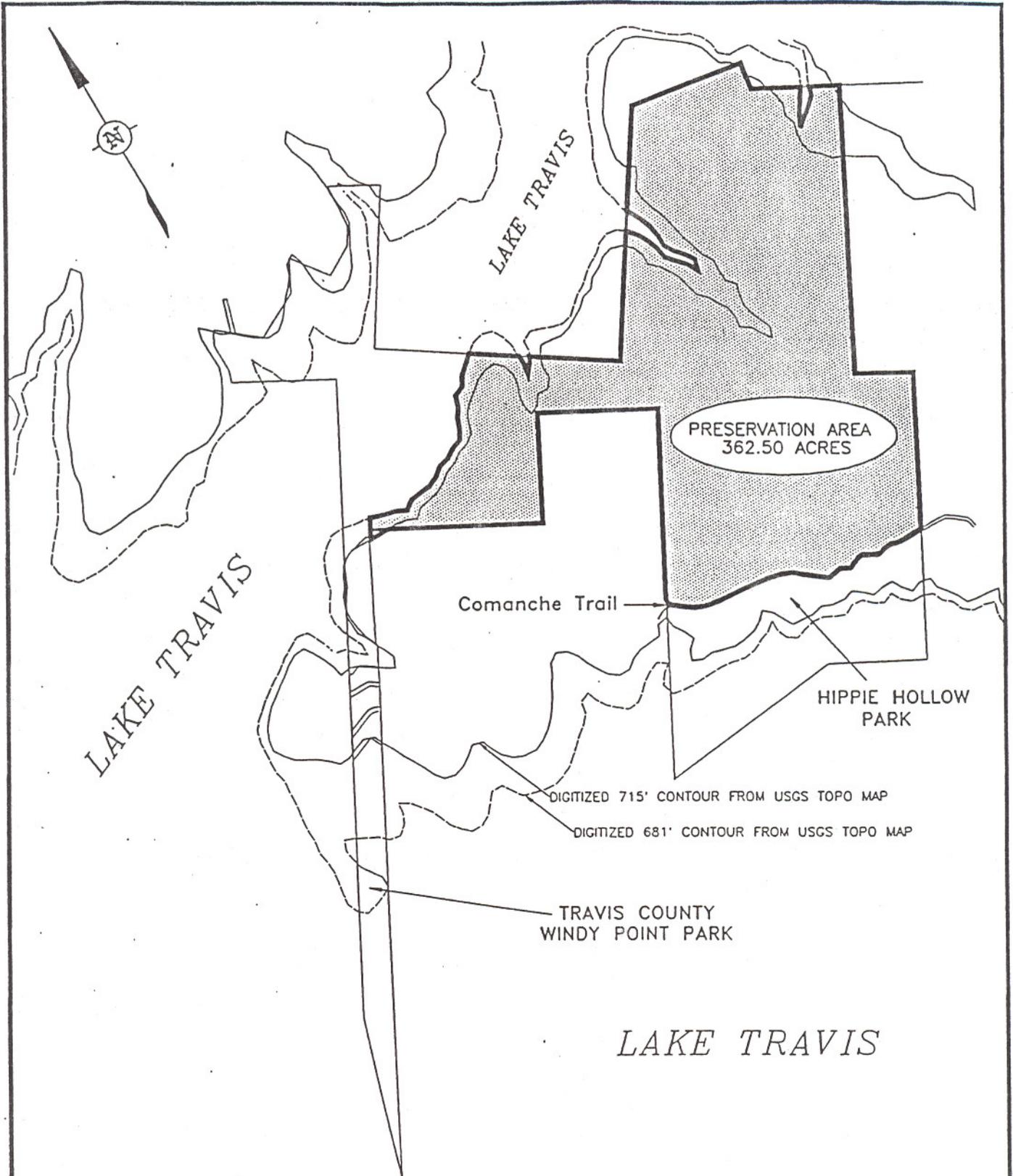
PRESERVATION AREA
2175.77 ACRES

714' CONTOUR

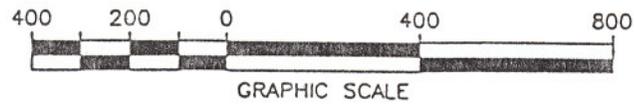
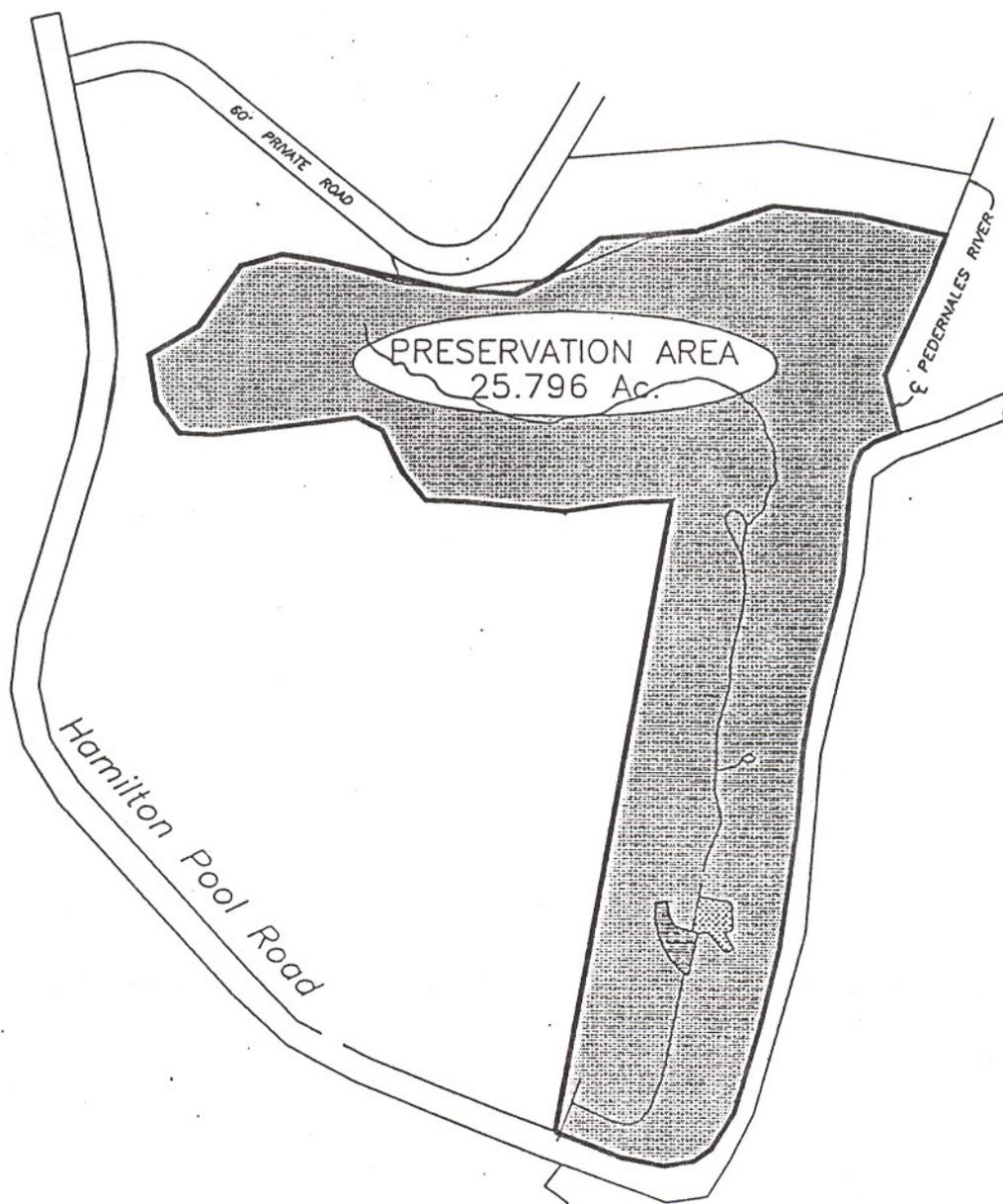
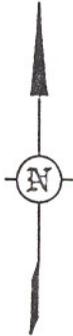
LAKE
TRAVIS



WHELESS RESOURCE AREA		
DRAWN BY: DMS		
SCALE: 1:2500'	01/09/96	WHEL1.DWG



MCGREGOR RESOURCE AREA		
DRAWN BY: DMS		
SCALE: 1:1500'	01/09/96	MCGREG1.DWG



GRAPHIC SCALE

WESTCAVE PRESERVE		
DRAWN BY: DMS		
SCALE: 1:400'	01/09/96	WESTCAVE.DWG