2005 Survey Report

Westcave Preserve
Travis County

Lower Colorado River Authority

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Introduction

Westcave Preserve is a 29-acre nature preserve owned by the Lower Colorado River Authority (LCRA) and jointly managed by LCRA and the Westcave Preserve Foundation. Managed for the Golden-cheeked warbler (*Dendroica chrysoparia*) (GCWA), which nests solely in the Texas hill country, the entire preserve provides nesting and foraging habitat. Westcave is also managed as part of the Balcones Canyonlands Preserve (BCP) system. Westcave is located next to Hamilton Pool Preserve along the Pedernales River at Hammett's Crossing in the western corner of Travis County. As it is a fragile and rare ecosystem, admission is limited and by appointment only.

Westcave consists of a small box canyon dropping suddenly from the surrounding plateau. The upper region is a typical Texas hill country habitat. It is composed primarily of juniper (*Juniperus ashei*, cedar), live oak (*Quercus fusiformis*), Texas oak (*Q. buckleyi*), shin oak (*Q. sinuate* var. *breviloba*) and cedar elm (*Ulmus crassifolia*). Inside the canyon many different plant species thrive along the waterfall and creek. Towering trees of bald cypress (*Taxodium distichum*), pecan (*Carya illinoinensis*), Texas ash (*Fraxinus texensis*) black willow (*Salix negra*) and walnut (*Juglans microcarpa*) thrive in the lush microcosm. Some of these plants are seldom seen in the hill country, such as chatterbox orchid (*Epipactis gigantia*), Carolina basswood (*Tilia Caroliniana,* linden) and chinquapin oak (*Q. muhlenbergii*).

Methods

Westcave Preserve was surveyed in 2005 to census the population of GCWA that are breeding there. No behavior studies or nest searches were conducted. Surveys were conducted by LCRA personnel and a volunteer surveyor.

Survey methods followed minimum guidelines as suggested in the United States Fish and Wildlife Service's (USFWS) protocol for conducting presences/absence surveys for the GCWA. This calls for a minimum of four hours of survey time per 100 acres of habitat surveyed, or a minimum of five site visits with at least five day intervals between visits. Westcave Preserve was surveyed five times with a total survey time of 21 hours (table 1). One interval between surveys was only four days. Special permission was previously granted by USFWS to survey fewer hours than recommended for this property, with a recommended 20 hours for the season, due to this property's size.

As the preserve is only 29 acres it was entirely examined. Surveys were conducted mostly by walking slowly while looking and listening for the

birds. The route varied little as the area is fragile and an established trail is the lone access, especially in the canyon. No bird recordings or vocalizations were employed. When a warbler was found it was either plotted on a topographic map there in the field or recorded on a hand-held G.P.S. unit. These G.P.S. waypoints were plotted later using computer software. All other bird species were also recorded and a list of these can be found in Table 3. Weather conditions were taken at the start and end of each survey (Table 2).

Results

Golden-cheeked warblers were easily found on every visit to the preserve. They utilized both the upper plateau and the canyons. At least three males were located on each visit. As the territories were close together, contemporaneous singing was common. This helped to determine if a new bird was heard singing or one already heard had merely moved to a different spot. Females were seen on three of the five surveys. Two females were seen on two of those surveys. They were on April 13 and April 20.

On April 20, a female was seen being fed by a male in a large elm on the ledge of the river canyon. The female then flew about ten or twelve meters to a small (5 m high) and thin cedar elm growing less than a meter off of the main trail that leads into Westcave canyon, where she seemed to vanish. A scan of the tree with binoculars revealed her tail poking out of her nest in a fork of the tree half a meter from the top. Many groups of visitors use this trail, especially on weekends. Some groups are 40 noisy school children, yet the female still nested in that tree. Later the surveyor saw another female warbler gathering nest material only sixty meters from the tree with the incubating female. On May 13 a male was observed bringing food to three full sized juveniles, just west of where the nest tree was. The nest was found abandoned on that date.

Although male and female Brown-headed cowbirds (*Molothrus ater*) were seen throughout the preserve, no predation was observed.

Discussion

It appears that there were five to six GCWA territories on or partly on the Westcave Preserve. Two territories appear to lap over the county road and onto adjacent habitat. One of these is near the preserve's entrance on the south end of the property, and the other is from the visitor center to the east. Two territories are between the center and Westcave canyon, and at least one is in the canyon itself. Each territory seems to use some portion of the plateau top and as well as parts of the steep canyon slopes. It must be pointed out that the topography on Westcave is such that a slope or

cliff runs through half the property. The narrow strip of plateau top on Westcave Preserve is never very far from a drastic incline. The size of a GCWA territory almost makes inclusion of some flat top land inevitable.

And it seems that the warblers can tolerate a certain amount of human activity from the fact that a female chose a busy trail for her nest site.

On another note the surveyor was given two dead Ruby-throated hummingbirds (*Archilochus colubris*) by the Westcave manager on April 20. These were killed by flying into the large glass door panels of the visitor center. Another ruby-throat revived and flew off. All this was in a few hours. The manager and his helper spoke of how birds flew into the glass frequently. The surveyor was told that fire ants will often swarm a hummingbird before it can recover enough to fly away. And if three hummingbirds hit the glass in four hours, how many are killed in the two or three months of hummingbird migration and the three more months of resident hummingbirds? Will a Golden-cheeked warbler or other species die by flying into the many large glass panels that side half the center? LCRA needs to address this. How can it be a called a preserve when so many birds are killed there needlessly? The impact of increased human activity from the visitor center pales when compared to the mortality rate of these protected migrating birds.

Table 1. Survey Hours

Date	Surveyor	Start Time	End Time	Daily Total
March 23, 2005	Wilynn Zickler	0700	1100	4.00 hrs.
April 13, 2005	Wilynn Zickler	0615	1015	4.00 hrs.
April 20, 2005	Ben Archer	0700	1230	5.50 hrs.
April 24, 2005	Wilynn Zickler	0700	1100	4.00 hrs.
May 13, 2005	Ben Archer	0730	1100	3.50 hrs.
		Total Observation		21.00 hrs.

Table 2. Weather

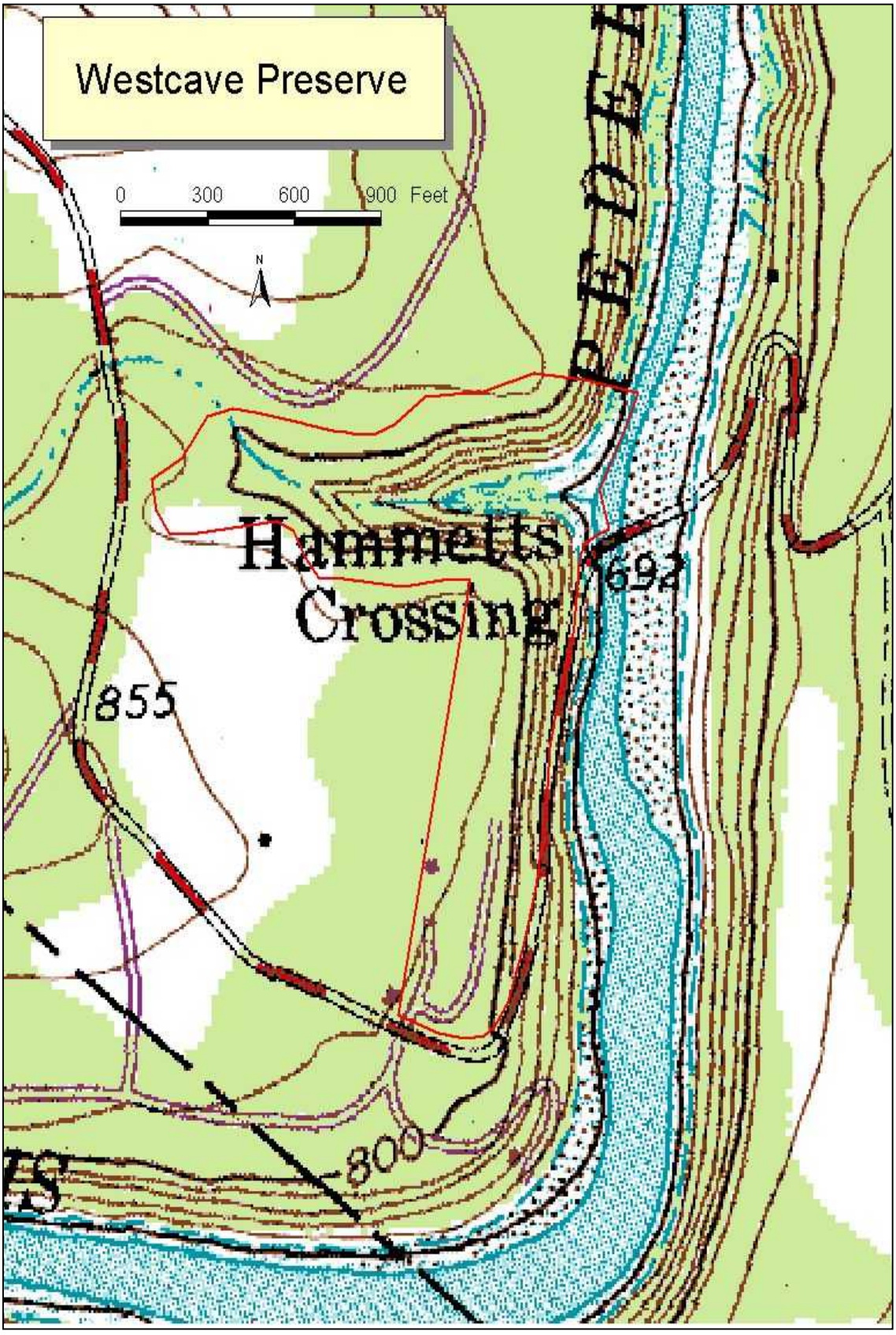
Date	Time (start-end)	Temp. F (start-end)	Wind mph (start-end)	Sky (start-end) % cloud cover
March 23, 2005	0700-1100	65 - *	0 0	0% *
April 13, 2005	0615-1015	70 - *	0-5 0-5	0% *
April 20, 2005	0700-1230	64 - *	0 0	100% * drizzle
April 24, 2005	0700-1100	70 - *	0-5 0-5	50% *
May 13, 2005	0730-1100	70 - 77	5-10 5-20	80% 80%

* not recorded

Table 3. Bird List

Wild Turkey, *Meleagris gallopavo*
Northern Bobwhite, *Colinus virginianus*
Great Blue Heron, *Ardea herodias*
Black Vulture, *Coragyps atratus*
Turkey Vulture, *Cathartes aura*
Cooper's hawk, *Accipiter cooperii*
Red-shouldered Hawk, *Buteo lineatus*
Red-tailed Hawk, *Buteo jamaicensis*
Killdeer, *Charadrius vociferus*
Mourning Dove, *Zenaida macroura*
Inca Dove, *Columbina inca*
Yellow-billed Cuckoo, *Coccyzus americanus*
Chimney Swift, *Chaetura pelagica*

Ruby-throated Hummingbird, *Archilochus colubris*
Black-chinned Hummingbird, *Archilochus alexandri*
Ladder-backed Woodpecker, *Picoides scalaris*
Acadian Flycatcher, *Empidonax virescens*
Eastern Phoebe, *Sayornis phoebe*
Ash-throated Flycatcher, *Myiarchus cinerascens*
Great-crested Flycatcher, *Myiarchus crinitus*
Eastern Kingbird, *Tyrannus tyrannus*
Scissor-tailed Flycatcher, *Tyrannus forficatus*
White-eyed Vireo, *Vireo griseus*
Red-eyed Vireo, *Vireo olivaceus*
Western Scrub-Jay, *Aphelocoma californica*
Common Raven, *Corvus corax*
Purple Martin, *Progne suis*
Carolina Chickadee, *Poecile carolinensis*
Black-crested titmouse, *Baeolophus atricristatus*
Bushtit, *Psaltriparus minimus*
Canyon Wren, *Catherpes mexicanus*
Carolina Wren, *Thryomanes ludovicianus*
Bewick's Wren, *Thryomanes bewickii*
Ruby-crowned Kinglet, *Regulus calendula*
Blue-grey Gnatcatcher, *Polioptila caerulea*
Northern Mockingbird, *Mimus polyglottos*
Orange-crowned Warbler, *Vermivora celata*
Nashville Warbler, *Vermivora ruficapilla*
Northern Parula, *Parula americana*
Magnolia Warbler, *Dendroica magnolia*
Golden-cheeked Warbler, *Dendroica chrysoparia,*
Black and White Warbler, *Mniotilta varia*
Louisiana Waterthrush, *Seiurus motacilla*
Summer Tanager, *Piranga rubra*
Rufous-crowned Sparrow, *Aimophila ruficeps*
Northern Cardinal, *Cardinalis cardinalis*
Painted Bunting, *Passerina ciris*
Dickcissel, *Spiza Americana*
Red-winged Blackbird, *Agelaius phoeniceus*
Common Grackle, *Quiscalus quiscula*
Brown-headed Cowbird, *Molothrus ater*
Baltimore Oriole, *Icterus galbula*
Lesser Goldfinch, *Carduelis psaltria*


Westcave Preserve
0
300
600
900 Feet
N
Hammetts
Crossing
855
692
800