

2003 Rare Bird Survey Report

Westcave Preserve
Travis County

Lower Colorado River Authority

Melanie Pavlas
Environmental Services

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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. It is managed as a preserve for the endangered golden-cheeked warbler (*Dendroica chrysoparia*) (GCWA), a songbird that nests exclusively in the Texas Hill Country. The entire preserve provides nesting and foraging habitat for the GCWA. Westcave is also managed as part of the Balcones Canyonlands Preserve system. During the 2003 breeding season, territory level surveys were performed at Westcave Preserve by LCRA Community Services employee, Melanie Pavlas.

METHODS

Survey methods followed minimum guidelines as suggested in the United States Fish and Wildlife Service's (USFWS) protocol for conducting presence/absence surveys of GCWAs. The protocol calls for a minimum of 4 hours of survey time per 100 acres of habitat per visit, or a minimum of 5 visits per site. Surveys were conducted with at least 5 days between visits.

Because Westcave Preserve is a 29-acre property, the property was surveyed 5 times, with a minimum of 30 hours spent on site for the season, providing sufficient time for territory mapping surveys. A total of 30.16 hours were spent surveying the preserve (Table 1). Two site visits were completed in both March and April, and one in May. The bulk of the property was surveyed during each visit, although topography limited direct access to certain areas. Minimally, these areas were observed from nearby locations.

Weather conditions were noted at the beginning and end of each survey (Table 2). All bird species observed during each survey were also noted (Table 5). Field data were documented the week of or the week following each survey (Appendix).

The property was surveyed visually and aurally. No tapes or vocalizations were used to attract birds. When birds were observed singing, they were followed and observed throughout their territory, as long as they were detectable. Emphasis

was made on collecting data on singing birds and revisiting areas where birds were previously seen but where little data had been acquired.

During each field visit, trees or areas where birds were observed singing were mapped as well as locations marked on maps where birds were previously found. Mapping was conducted using Magellan handheld GPS units and field maps. Territory boundaries were estimated in areas where topography prohibited mapping with a GPS unit. At the end of the field season, GPS data was compiled and territory boundaries were estimated using ArcView 3.2 mapping software and reference to hand drawn field maps.

FINDINGS

The majority of the warbler territories include an upland portion adjacent to a steep canyon. Territories were found along both canyons at Westcave Preserve. The Pedernales River canyon runs along the eastern edge of the preserve while the grotto canyon runs along the northern arm of the property and empties into the Pedernales River. Canyon vegetation is dominated by Texas oak (*Quercus buckleyi*), bald cypress (*Taxodium distichum*), cedar elm (*Ulmus crassifolia*) and other woody species. A high diversity of forbs, grasses and vines construct the understory vegetation. Dominant vegetation along the uplands include ashe juniper (*Juniperus ashei*), plateau live oak (*Quercus fusiformis*) and Texas persimmon (*Diospyros texana*) in motts interspersed with open areas that include vegetation such as little bluestem (*Schizachyrium scoparium*), prickly pear (*Opuntia* sp.) and various forbs.

Golden-cheeked warblers were observed on all five site visits at Westcave Preserve. Three to five males were observed singing during each survey (Appendix). Six territories were found during the 2003 breeding season (Figure 1). Territory size ranged from 0.4 acres to 4.2 acres (Table 3). Several of these territories were only partially located on LCRA property. Counter singing was observed between males two and three, males two or three and five, and males four and two.

Four territories were occupied with both males and females (Table 4). No juveniles were observed during the survey, although nesting behavior was observed (adults carrying nesting material, etc.). Brown-headed cowbirds

(*Molothrus ater*) were observed on each site visit; however, no GCWA was observed feeding cowbird nestlings.

DISCUSSION AND RECOMMENDATIONS

The number of golden-cheeked warbler territories found this survey season corresponds with previous years' findings, including the locations of most of these territories.

Current management practices at Westcave Preserve should be continued. Because population trends on the property seem to be stable, it may not be necessary to spend six hours each visit when conducting territory-level surveys at Westcave. Six hours a visit with a minimum of five visits a season is recommended by USFWS, however this recommendation is per 100 acres. Since Westcave Preserve is 29 acres and has several years of data collected on endangered bird populations, six hours per visit may not be necessary. Still, some level of monitoring should be conducted in order to maintain current information about warbler occupation on the property, whether it is presence-absence level or territory level surveys.

The new environmental learning center at Westcave was completed in 2002 and officially opened to the public in March 2003. It would be important to continue to monitor the effects the new center may have on warblers, especially any increased visitation to the preserve by school groups and the public. Data collected in 2002 and 2003 indicate the warblers found near the environmental learning center have not been impacted. Data from subsequent years would be an important tool in determining possible impacts.

Figure 1

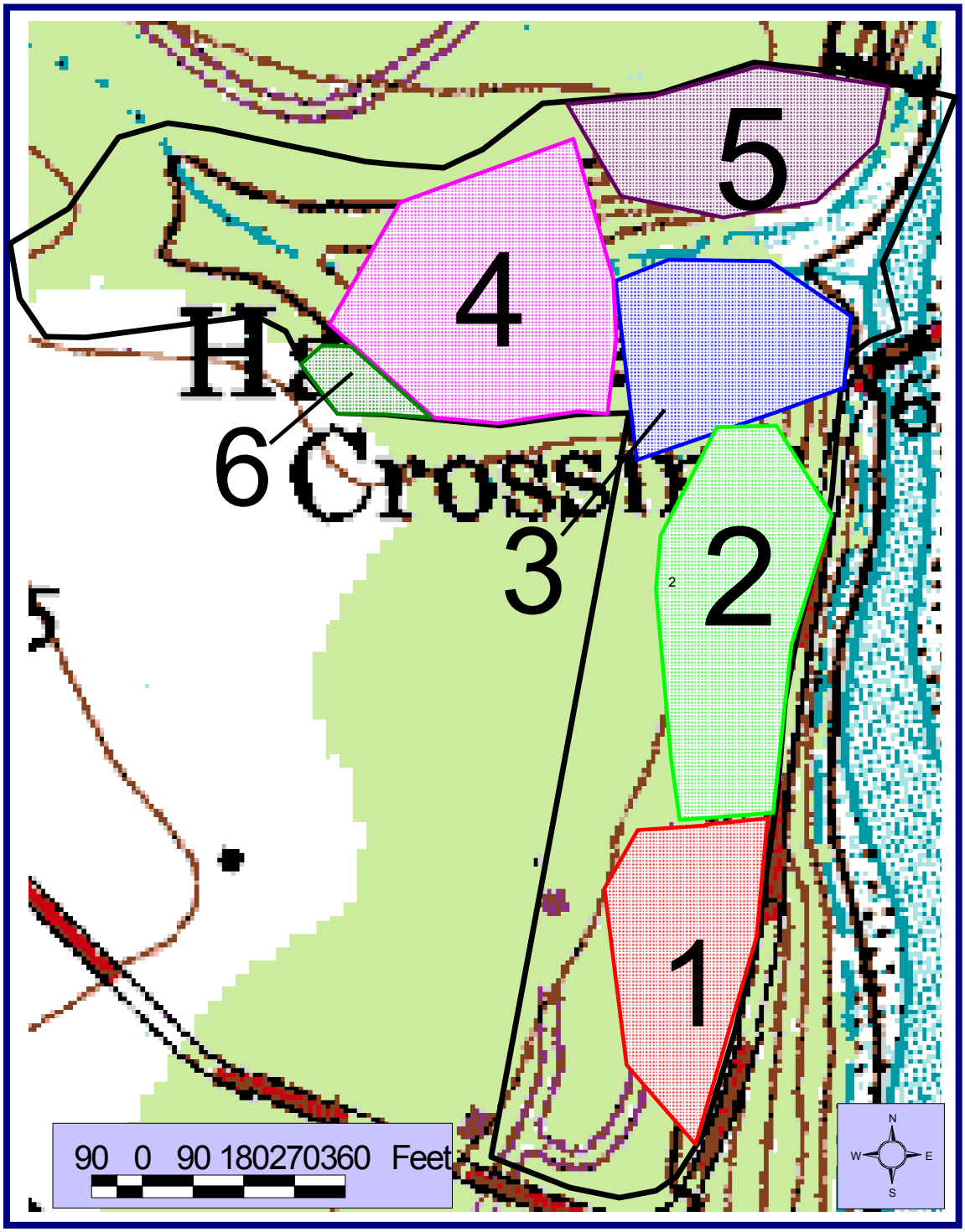

Table 1. Survey Hours

Date	Surveyor	Start Time	End Time	Total Hours
03/24/03	Pavlas	0640	1244	6.07
04/03/03	Pavlas	0624	1252	6.47
04/11/03	Pavlas	0657	1307	6.17
05/02/03	Pavlas	0630	1215	5.75
05/08/03	Pavlas	0625	1207	5.70
			TOTAL HRS.	**30.16**

Table 2. Weather

Date	Time (start-end)	Temp (°F, start-end)	Wind (mph, start-end)	Sky (start-end)
03/24/03	0640 1244	55 73	0 0-7	3% cloud cover 2% cloud cover
04/03/03	0624 1252	66 82	0-3 5-15	100% cloud cover, intermittent drizzle 80% cloud cover
04/11/03	0657 1307	54 76	0-2 0-10	overcast partly cloudy
05/02/03	0630 0845 1215	73 na 80	0 0-4 0-4	100% overcast with light rain partly cloudy with sunshine partly cloudy
05/08/03	0625 1207	73 80	0-8 with gusts to 12 0-10	100% overcast with light rain partly cloudy

Table 3. Territory Sizes

Territory	Square Feet	Acres	Square Kilometers
1	111779.122	2.566	0.0104
2	155012.470	3.559	0.0144
3	108107.276	2.482	0.0100
4	181157.687	4.159	0.0168

Territory	Square Feet	Acres	Square Kilometers
5	105363.851	2.419	0.0098
6	15601.859	0.358	0.0015

Table 4. Females by Territory

Territory	Female	Notes
2	1	3/24: WP105; 4/3: WP120?; 4/11
3	2	4/3: WP124; 4/11: ?
5	3	4/3: WP122; 4/11: ?
4	4	5/2: gathering nesting material from dry stems of sacahuista (*Nolina texana*).

Table 5. Bird Species

Common Name	Species Name	Notes
Barn Swallow	*Hirundo rustica*	
Belted Kingfisher	*Ceryle alcyon*	
Bewick's Wren	*Thryomanes bewickii*	
Black Vulture	*Coragyps atratus*	
Black-and-white Warbler	*Mniotilta varia*	
Blue-gray Gnatcatcher	*Polioptila caerulea*	
Brown-headed Cowbird	*Molothrus ater*	
Bushtit	*Psaltriparus minimus*	
Canyon Wren	*Catherpes mexicanus*	
Carolina Chickadee	*Parus carolinensis*	
Carolina Wren	*Thryothorus ludovicianus*	
Chimney Swift	*Chaetura pelagica*	
Chipping Sparrow	*Spizella passerina*	
Cliff Swallow	*Hirundo pyrrhonota*	
Common Grackle	*Quiscalus quiscula*	
Common Raven	*Corvus corax*	
Cooper's Hawk	*Accipiter cooperii*	
Eastern Meadowlark	*Sturnella magna*	
Eastern Phoebe	*Sayornis phoebe*	
Field Sparrow	*Spizella pusilla*	
Golden-cheeked Warbler	*Dendroica chrysoparia*	
Golden-fronted Woodpecker	*Melanerpes aurifrons*	

Great Blue Heron	*Ardea herodias*	
Great-crested Flycatcher	*Myiarchus crinitus*	
Greater Roadrunner	*Geococcyx californianus*	
House Finch	*Carpodacus mexicanus*	
Hummingbird Species	*Archilochus* spp.	
Inca Dove	*Columbina inca*	
Killdeer	*Charadrius vociferus*	
Ladder-backed Woodpecker	*Picoides scalaris*	
Lark Sparrow	*Chondestes grammacus*	
Lesser Goldfinch	*Carduelis psaltria*	
Louisiana Waterthrush	*Seiurus motacilla*	4/11: observed a pair carrying nesting material
Mourning Dove	*Zenaida macroura*	
Nashville Warbler	*Vermivora ruficapilla*	
Northern Bobwhite	*Colinus virginianus*	
Northern Cardinal	*Cardinalis cardinalis*	
Northern Parula	*Parula americana*	
Painted Bunting	*Passerina ciris*	
Purple Martin	*Progne subis*	
Red-eyed Vireo	*Vireo olivaceus*	Nesting between cave and pool
Red-shouldered Hawk	*Buteo lineatus*	
Ruby-crowned Kinglet	*Regulus calendula*	
Rufous-crowned Sparrow	*Aimophila ruficeps*	
Scrub Jay	*Aphelocoma coerulescens*	
Summer Tanager	*Piranga rubra*	
Tufted Titmouse	*Parus bicolor*	
Turkey Vulture	*Cathartes aura*	
Verdin	*Auriparus flaviceps*	
White-eyed Vireo	*Vireo griseus*	
Wild Turkey	*Meleagris gallopavo*	
Yellow-billed Cuckoo	*Coccyzus americanus*	
Yellow-throated Vireo	*Vireo flavifrons*	
Yellow Warbler	*Dendroica petechia*	migrant

APPENDIX

Field Data Forms

LCRA Bird Surveys Data Sheet

Observer(s)	Melanie Pavlas
Date (mo-da-yr)	3/24/03
Time (military, begin – end, hrs)	0640-1244
Site Visit #	1
Conditions (temp, wind, cloud cover, other)	0640: 55º F, W: 0 mph, 3% cloud cover 1244: 73º F, W: 0-7 mph, 2% cloud cover
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	WP112: *Viola missouriensis* J. Ahrns reported 6 GCWs, 3 singing at once previously.

Male	Song Type	Female #	Juv #	Notes
1	A			WP98-101 and 119
2	A	1		WP102-104, 106-108, 117?; WP105 is female
3	A			WP109-111, 113-116 (WP114 in lg. bald cypress in WC creek; WP116 across canyon (delete?), 117?, 118? (across canyon)

LCRA Bird Surveys Data Sheet

Observer(s)	Melanie Pavlas
Date (mo-da-yr)	4/3/03
Time (military, begin – end, hrs)	0624-1252
Site Visit #	2
Conditions (temp, wind, cloud cover, other)	0624: 66º F, W: 0-3 mph, 100% cloud cover, intermittent drizzle 1252: 82º F, W: 5-15 mph, 80% cloud cover
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	Fencing down in two spots behind residence. 2 white-tailed deer.

Male	Song Type	Female #	Juv #	Notes
1	B			WP125
2	A, chipping	1		WP120 (w/female?)
3	A	2		WP124 (w/female)
4	A, chipping			WP121
5	A, chipping	3		WP122 (w/female), 123

LCRA Bird Surveys Data Sheet

Observer(s)	Melanie Pavlas
Date (mo-da-yr)	4/11/03
Time (military, begin – end, hrs)	0657-1307
Site Visit #	3
Conditions (temp, wind, cloud cover, other)	0657: 54º F, W: 0-2 mph, Overcast 1307: 76º F, W: 0-10 mph, Partly cloudy
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	2 school groups arrived at 0930 2 white-tailed deer GPSd ELC (WP35-38), deck (WP34)and trail (WP39-50, 53, 55-73)

Male	Song Type	Female #	Juv #	Notes
1	A			WP31, but farther down canyon
2	B, chipping	1		WP32, 33, 51 (countersinging w/G3)
3	A, B, chipping	2?		WP52, 54, 74; female may have been G2 flying in for a confrontation; countersinging w/G2
5	B, chipping	3?		WP75 (countersinging w/G2 or G3), 76 (towards Ped. Rv.); defending territory against NOCAs

LCRA Bird Surveys Data Sheet

Observer(s)	Melanie Pavlas
Date (mo-da-yr)	5/2/03
Time (military, begin – end, hrs)	0630 - 1215
Site Visit #	4
Conditions (temp, wind, cloud cover, other)	0630: 73°F; Wind 0 mph, 100% overcast with light rain 0845: partly cloudy with sunshine, wind 0-4 mph 1215: 80°F, Wind 0-4 mph, partly cloudy
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	Two white-tailed deer observed.

Male	Song Type	Female #	Juv #	Notes
1	A, B			WP45 (deck), 46 (ELC)
2	A, B			
3	A, B chipping			WP42, 43
4	A	4		WP41, 44; female gathering nesting material from dry stems of devil's shoestrings.
6	A			Partial territory

LCRA Bird Surveys Data Sheet

Observer(s)	Melanie Pavlas
Date (mo-da-yr)	5/8/03
Time (military, begin – end, hrs)	0625 - 1207
Site Visit #	5
Conditions (temp, wind, cloud cover, other)	0625: 73°F; Wind 0-8 mph, with some gusts to 12 mph, 100% overcast with light rain 1207: 80°F, Wind 0-10 mph, partly cloudy
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	E. Phoebes nesting on grotto ceiling behind waterfall. WE Vireo bathing by perching on branch above a pool of water and diving in. **Vitex found along creek above main waterfall. Recommend removing.** Fencing across mouth of Westcave Creek to Ped. Rv. Down. 1130: Loud group arrives.

Male	Song Type	Female #	Juv #	Notes
1	B			
2	Chipping			WP49, 54
3	A/B			WP50
4	A			Countersinging w/G2? WP51
6	A			WP52