

2004 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 2004 breeding season, territory level surveys were performed at Westcave Preserve by LCRA Community Services employees, Melanie Pavlas and Beth Banks.

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.

Special permission was granted by USFWS to survey the property 5 times, with a minimum of 20 hours spent on site for the season, providing sufficient time for territory mapping surveys of a property this size. A total of 20.91 hours were spent surveying the preserve (Table 1). Two site visits were completed in March April, and 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. An additional survey day was added in order to verify data collected from previous surveys.

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 seen or heard early in the season but where little data had been acquired.

During each field visit, trees or areas where birds were observed singing were mapped. Mapping was conducted using Magellan handheld GPS units and hand-drawn 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 ArcGIS 9 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 every site visit at Westcave Preserve. Three to five males were observed singing during each survey (Appendix). Six territories were found during the 2004 breeding season (Figure 1). Territory size ranges from approximately 1.9 acres to 4.03 acres (Table 3) (Please note that territory size is an estimate only and was estimated using data collected and transcribed onto maps). Two to three of these territories were partially located on LCRA property and partially located on adjacent property. Counter singing was observed between males one and two, males four, five and six, and males two and three.

Three 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. Cowbird activity seemed to have increased this year versus other survey years.

DISCUSSION AND RECOMMENDATIONS

The number of golden-cheeked warbler territories found this survey season corresponds with previous years' findings, including the locations of several of these territories. However, overall bird activity seemed to be less this year. On at least two occasions, it was observed that singing stopped when visitors were located along the grotto trail. It was discovered that trail maintenance activity, including the use of hand tools (rock pick, breaker bars, hammers, etc.) and power tools (handheld auger, chainsaws, etc.) by a group of approximately 10 individuals, was the source of observed changes in behavior on at least one occasion. When approached, this group was not aware that such activities might disturb nesting warblers. They were hired by staff prior to the breeding season (under compliance with BCP regulations) and work continued throughout the majority of the season. **It should be noted that in the future, such activities should not occur during breeding season at Westcave Preserve.**

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 from increased visitation. Data collected in 2002 and 2003 indicate the warblers found near the environmental learning center have not significantly moved their territories. It is difficult to determine warbler activity near the learning center in 2004 due to probable impacts from the trail maintenance activities. Data from subsequent years would be an important tool in determining possible impacts. It should be considered, though, that the presence of a male's territory does not mean reproductive success, nor that human activities near that territory did or did not impact that individual.

Figure 1

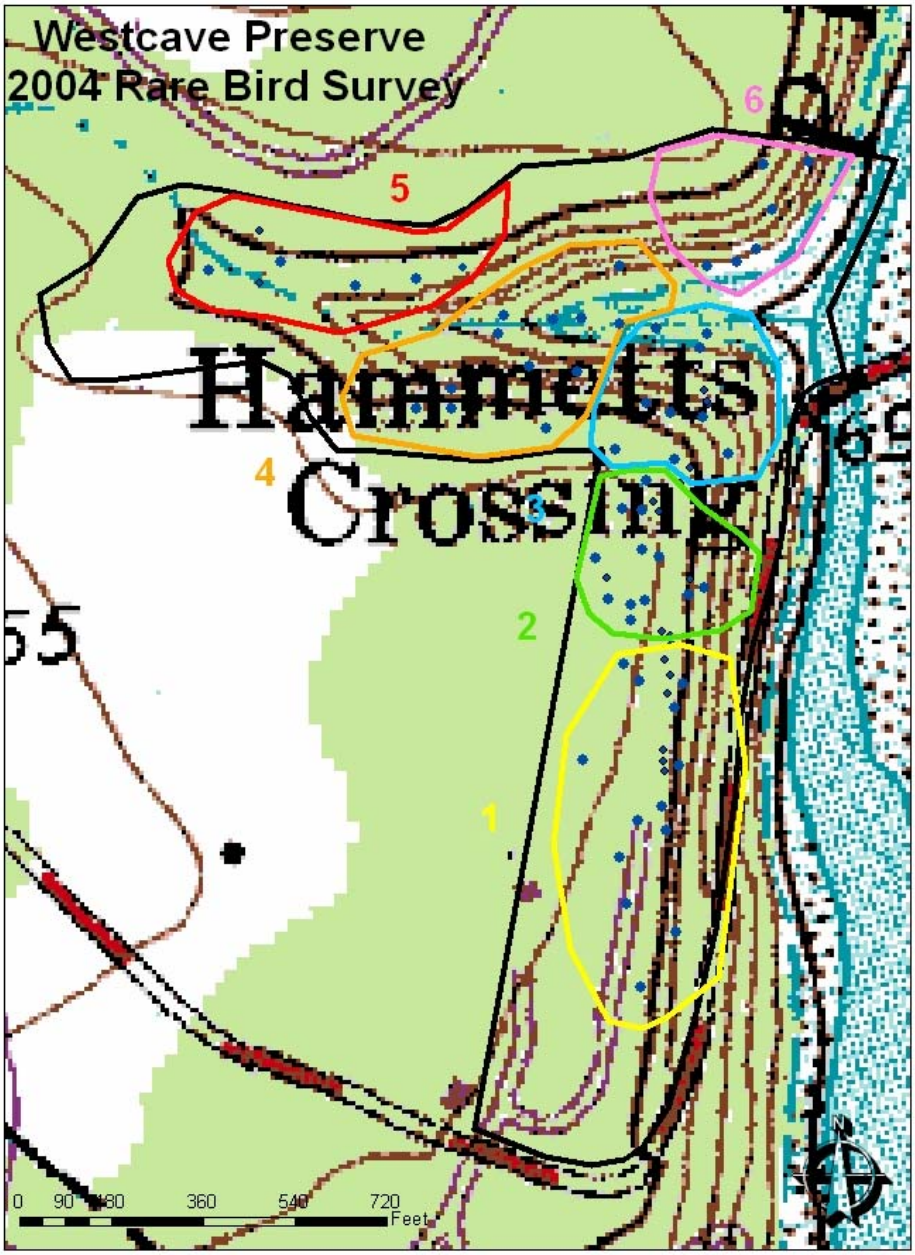
Westcave Preserve
2004 Rare Bird Survey
Hammetts
Crossing
6
5
4
3
2
1
0 90 180 360 540 720
Feet

Table 1. Survey Hours

Date	Surveyor	Start Time	End Time	Total Hours
03/18/04	Pavlas and Banks	0821	1222	4.02
03/25/04	Pavlas and Banks	0806	1116	3.17
04/09/04	Pavlas	0654	1121	4.45
04/22/04	Pavlas and Bauer	0652	1109	4.28
05/07/04	Pavlas	0817	1045	2.47
05/13/04	Pavlas	0734	1005	2.52
			TOTAL HRS.	**20.91**

Table 2. Weather

Date	Time (start-end)	Temp (°F, start-end)	Wind (mph, start-end)	Sky (start-end)
03/18/04	0821 1222	67° 74°	0-10 0-7	overcast mostly cloudy
03/25/04	0806 0850 0923 1116	70° 74°	0-7 0-7	overcast drizzle sunshine partly cloudy
04/09/04	0654 1121	54° 71°	0-2 0-2	clear clear and sunny
04/22/04	0652 0850 1109	62° 65°	0-6 gusts to 15 mph 0-8	100% cloud cover, humid 100% cloud cover
05/07/04	0817 1045	70° 72°	0-4 0-4	partly cloudy 100% cloud cover
05/13/04	0734 0807 0825 0850 0858 0948 1005	75° 75°	0-4 0-6	overcast, rained overnight intermittent sprinkling break in clouds intermittent light rain heavier intermittent rain, but birds still singing thunder overcast with intermittent sprinkling

Table 3. Territory Sizes

Territory	Square Feet	Acres	Square Kilometers
1	175499.40	4.03	0.016
2	97379.71	2.24	0.009
3	82941.20	1.90	0.008
4	151587.60	3.48	0.014
5	134234.51	3.08	0.013
6	94983.22	2.18	0.009

Table 4. Females by Territory

Territory	Female	Notes
1	1	Chipping and being fought over by two males
2	2	Chipping
4	3	Chipping

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*	
Blue-gray Gnatcatcher	*Polioptila caerulea*	
Brown-headed Cowbird	*Molothrus ater*	4/22/04: Lots of activity - rec. trapping.
Canyon Wren	*Catherpes mexicanus*	
Carolina Chickadee	*Parus carolinensis*	
Carolina Wren	*Thryothorus ludovicianus*	
Cedar Waxwing	*Bombycilla cedrorum*	
Chimney Swift	*Chaetura pelagica*	
Chipping Sparrow	*Spizella passerina*	
Cliff Swallow	*Hirundo pyrrhonota*	
Common Grackle	*Quiscalus quiscula*	
Common Ground-dove	*Columbina passerina*	
Common Raven	*Corvus corax*	

Eastern Phoebe	*Sayornis phoebe*	
Golden-cheeked Warbler	*Dendroica chrysoparia*	3/7/04: First observed by JA
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*	
Ladder-backed Woodpecker	*Picoides scalaris*	
Lesser Goldfinch	*Carduelis psaltria*	
Louisiana Waterthrush	*Seiurus motacilla*	
Mourning Dove	*Zenaida macroura*	
Nashville Warbler	*Vermivora ruficapilla*	
Northern Bobwhite	*Colinus virginianus*	
Northern Cardinal	*Cardinalis cardinalis*	
Northern Parula	*Parula americana*	
Osprey	*Pandion haliaetus*	migrant
Painted Bunting	*Passerina ciris*	
Purple Martin	*Progne subis*	
Red-eyed Vireo	*Vireo olivaceus*	
Red-shouldered Hawk	*Buteo lineatus*	
Ruby-crowned Kinglet	*Regulus calendula*	
Rufous-crowned Sparrow	*Aimophila ruficeps*	
Song Sparrow	*Melospiza melodia*	
Summer Tanager	*Piranga rubra*	
Tufted Titmouse	*Parus bicolor*	
Turkey Vulture	*Cathartes aura*	
White-eyed Vireo	*Vireo griseus*	
White-throated Sparrow	*Zonotrichia albicollis*	
Wild Turkey	*Meleagris gallopavo*	'04: with 4+ poults
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 and Beth Banks
Date (mo-da-yr)	3/18/04
Time (military, begin – end, hrs)	0821-1222
Site Visit #	1
Conditions (temp, wind, cloud cover, other)	67°, overcast, wind 0-10 mph 74° , mostly cloudy, wind 0-7 mph
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	Lots of fire ants 2 white-tailed deer Lots of juniper saplings/regrowth on upland – should it be cleared? John Ahrns reported first GCW on 3/7 and everyday sightings since then. Need to hand trim juniper along fenceline to create easier access to north side of property upland.

Male	Song Type	Female #	Juv #	Notes
1	A	1		Eating worm, countersinging with 2, lots of interaction with 2 and travel at edge of territories and within these edge, chasing, at one point physical contact, clasping and spiraling down through air
2	A, B			Countersinging with 1
3	A			
4	A			Flew across canyon
5	A			

LCRA Bird Surveys Data Sheet

Observer(s)	Melanie Pavlas and Beth Banks
Date (mo-da-yr)	3/25/04
Time (military, begin – end, hrs)	0806-1116
Site Visit #	2
Conditions (temp, wind, cloud cover, other)	70°, overcast, wind 0-7 mph 0850: drizzle 0923: sunshine 74° , partly cloudy, wind 0-7 mph
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	2 white-tailed deer

Male	Song Type	Female #	Juv #	Notes
1	A			
2	A			
3	A			
4	A			Countersinging with GCW5
5	A			Countersinging with GCW4 and 6
6	A			Countersinging with GCW5

LCRA Bird Surveys Data Sheet

Observer(s)	Melanie Pavlas
Date (mo-da-yr)	4/9/04
Time (military, begin – end, hrs)	0654-1121
Site Visit #	3
Conditions (temp, wind, cloud cover, other)	54°, clear, wind 0-2 mph 71°, clear and sunny, wind 0-2 mph
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	1 white-tailed deer 1 young black buck Ped Rv flowing well from recent rains A lot of silt deposited at mouth of Ped. Rv Suggest cleaning brush from fenceline and old fencing at the first ravine that leads to the grotto One GCW male singing off property.

Male	Song Type	Female #	Juv #	Notes
1	B, A	1, chipping		WPTs164-166 Countersinging with GCW2
2	B, A, chipping	2, chipping		WPTs167 (across ravine ~20' towards Ped Rv), 168, 169, 171 (in ashe juniper, Bsong and chipping) Countersinging with GCW1
3	B, A, chipping			WPT170 Countersinging with GCW2
4	A	3, chipping		
6	A			

LCRA Bird Surveys Data Sheet

Observer(s)	Melanie Pavlas and Rachel Bauer
Date (mo-da-yr)	4/22/04
Time (military, begin – end, hrs)	0652-1109
Site Visit #	4
Conditions (temp, wind, cloud cover, other)	0652: 62°, wind=0-6 mph, 100% cloud cover, humid 0850: wind gusts to 15 mph 1109: 65°, wind=0-8 mph with 100% cloud cover
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	Trail Maintenance: used cement along trail near grotto to create a mini-canal for runoff from cliffs to south. Cement is running off into Westcave Creek and pooling near grotto. Photos were taken. Red squirrel Lots of BHCO activity – recommend trapping program here

Male	Song Type	Female #	Juv #	Notes
1	A			
2	A			WPT180
3	A, B			
4	A			

LCRA Bird Surveys Data Sheet

Observer(s)	Melanie Pavlas
Date (mo-da-yr)	5/7/04
Time (military, begin – end, hrs)	0817-1045
Site Visit #	5
Conditions (temp, wind, cloud cover, other)	0817: 70°, wind=0-4 mph, partly cloudy 1045: 72°, wind=0-4 mph with 100% cloud cover
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	Youthworks group arrived and began work at 1005. Birds stopped singing. Group was using chainsaws, a small motorized auger and rock picks. A few stands of Vitex found (WPTs 185-187) with old seeds. CNWR with nest and young along ravine above grotto.

Male	Song Type	Female #	Juv #	Notes
1	B then A			
3	A, B, chipping			
4	A			
6	B			

LCRA Bird Surveys Data Sheet

Observer(s)	Melanie Pavlas
Date (mo-da-yr)	5/13/04
Time (military, begin – end, hrs)	0734-1005
Site Visit #	6
Conditions (temp, wind, cloud cover, other)	0734: 75°, wind=0-4 mph, overcast, rained overnight 0807: intermittent sprinkling 0825: break in clouds 0850: intermittent light rain 0858: heavier intermittent rain but birds still singing 0948: thunder 1005: 75°, wind=0-6 mph, overcast with intermittent sprinkling
Acres Surveyed	27

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	Youthworks group arrived at 945. Cattle across Ped. Rv. Recommend recording BHCO numbers during next survey. **Recommend 6, 4-hour surveys next year.** **Coordinate better with JA to avoid tours and workers next year also.** WITU hen with 4+ poults.

Male	Song Type	Female #	Juv #	Notes
1	A, B, chipping			Saw
3	B			
7	A, chipping			Saw; not a new bird but not given a number before due to confusion about territory locations