

2007 GOLDEN-CHEEKED WARBLER SURVEY REPORT

WESTCAVE PRESERVE
TRAVIS COUNTY, TEXAS

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1.0 INTRODUCTION

Westcave Preserve located in Travis County, Texas is a 30-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 federally and state listed endangered Golden-cheeked Warbler (GCWA) (*Dendroica chrysoparia*), a songbird that nests exclusively in the Texas Hill Country. The entire preserve provides nesting and foraging habitat for the GCWA and is managed as part of the Balcones Canyonlands Preserve (BCP) system. During the 2007 breeding season, four surveys were performed at Westcave Preserve by LCRA Transmission Services employee, Jennifer Leeper and one by William Bergquist, an LCRA Community Services employee.

2.0 METHODS

U.S. Fish and Wildlife Services (FWS) "Minimum Procedures for Determining the Presence/Absence of Golden-cheeked Warblers" were used as guidance for this survey, although special permission was previously granted by FWS to survey fewer hours than recommended for this property, with a recommended 20 hours for the season, due to this property's size.

A total of five site visits were conducted averaging 2.5 hours per visit (Table 1). One site visit was conducted at the end of March, two in April and two in May. Wind speed, temperature and precipitation were noted during each site visit (Table 2). The survey was conducted visually and aurally only. No taped or play back recordings of GCWA or screech owl calls were used during the visits. Aerial and topographic maps were used to mark where GCWA were heard or seen. A Global Positioning System (GPS) Unit was also used during three of the five visits.

During the first site visit the area around the existing hiking trail that leads to the grotto was surveyed as well as the area surrounding the observation deck and the Environmental Learning Center. The western fence line of the preserve was followed starting at the entrance of the preserve to the furthest northeastern part of the preserve that the topography allowed was surveyed during the second site visit. This visit covered the upland portion of the preserve. The existing hiking trail, observation deck and area surrounding the Environmental Learning Center were surveyed again during the third site visit. During the fourth visit the trail was surveyed again by Mr. Bergquist. The last site visit consisted of Ms. Leeper surveying the same area surveyed during the second site visit as well as exploring the trail to the grotto and the area surrounding the observation deck.

Field notes were taken during each site visit (see Appendix) and a Global Positioning System (GPS) unit was used during three of the five visits to record the location of GCWA observed in the preserve (Figure 1). GCWA territories were estimated and added to a map of the preserve by hand (Figure 1). A list of other bird species seen or heard while conducting GCWA surveys were also noted (Table 4). Identifying other birds on the preserve was not the primary focus of the surveys. Therefore, Table 4 is not inclusive of all bird species that could possibly be found at the preserve.

3.0 FINDINGS

A total of five site visits were conducted at Westcave Preserve in the spring of 2007 and five territories were identified. One territory included the southern portion of the preserve up to the area where the gate to the trail begins just north of the Environmental Learning Center. This territory most likely

extends south onto the land on the south side of Hamilton Pool Road. The second territory included the area of the preserve just north of the territory discussed above to the area just south of where the trail begins to drop in elevation toward the grotto. From the second area to approximately where the western edge of the preserve boundary sharply turns west marked the third territory. The upland area along the western side of the preserve was the location of the fourth territory. Lastly, the northeastern upland portion of the preserve just west of the Pedernales River as well as the canyon side to the grotto was the boundaries of the fifth territory. All of the territories identified include part of the upland and canyon region of the preserve. An estimation of the acreage of each GCWA territory within the preserve boundaries are listed in Table 3.

The vegetation of the preserve 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.

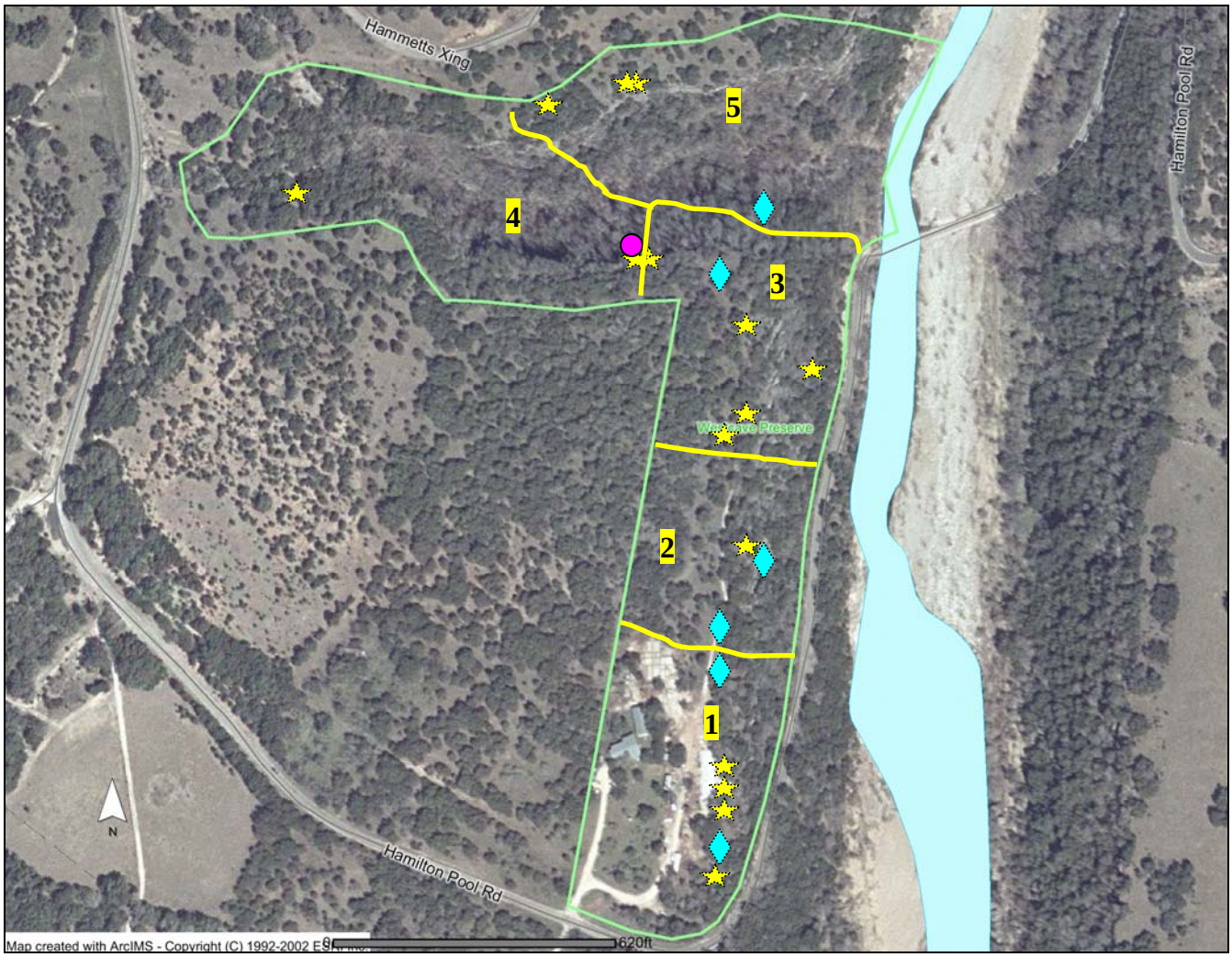
Five territories occupied with males were observed during the site visits. One female was observed near the estimated territory boundary for GCWA three and four (see Figure 1). Counter singing of song B was observed between males one and two near the gate were the trail begins. Males three and four were seen chasing each other while a female foraged near by in an oak tree. The same two males were also seen chasing each other up the cliff. After they stopped chasing each other, one male was seen sitting on top of a tree softly singing Song B. The second male was then heard near by singing song A. No juveniles or nests were observed during the site visits. See the field notes in the Appendix for further details.

4.0 DISCUSSION AND RECOMMENDATIONS

The number of territories for the GCWA found during this survey season corresponds with the findings in the 2003 Rare Bird Survey Report for Westcave Preserve. Current management practices at Westcave Preserve should continue since the GCWA population is stable. It is unlikely that the number of territories at the preserve will increase by more than one territory due to acreage limitations. Even with development pressures on land surrounding the preserve, Westcave has ideal GCWA habitat and thus the potential for at least one additional territory or partial territories.

Since the population at Westcave has remained stable, annual spring surveys may no longer be necessary. According to the USFWS guidelines and following BCCP minimal monitoring guidelines, surveys could be limited to every three years rather than every single year. Even with surrounding development pressures and limited development on the preserve, it seems the number of males present has not been adversely affected. If resources allow, it is recommended that annual spring surveys continue at the preserve to ensure the current GCWA population continues to be stable. There were concerns about the development of a small portion of the preserve for the Environmental Learning Center. However, there seems to be no impact to overall GCWA numbers at Westcave Preserve. This is most likely due to green building practices and the resulting small environmental footprint created by the center.

5.0 FIGURE 1. Golden-Cheeked Warbler Locations and Territories (estimation)



GCWA Heard/Seen (GPS location)

GCWA Heard/Seen (GPS not used)

Female GCWA Seen (GPS location)

6.0 TABLES

TABLE 1. SURVEY HOURS

Date	Surveyor	Observer	Start Time	End Time	Total Hours
3/29/2007	J. Leeper	I. Granada	0715	0945	2.5
4/9/2007	J. Leeper	J. Stanush	0710	0940	2.5
4/23/2007	J. Leeper	I. Granada	0650	0900	2.1
5/1/2007	W. Bergquist	NA	0830	1230	4
5/7/2007	J. Leeper	NA	0715	0945	2.5
				Total Hours	**13.6**

TABLE 2. WEATHER CONDITIONS

Date	Time (start to end)	Average Temperature	Average Wind Speed (mph)	Sky
3/29/2007	0715 – 0945	65	15	100% cloud cover
4/9/2007	0710 – 0940	55	5	100% cloud cover
4/23/2007	0650 – 0900	70	6	100% cloud cover with intermittent drizzle
5/1/2007	0830 – 1230	71	< 5 (increased during late morning hours)	100% cloud cover with early drizzle
5/7/2007	0715 – 0945	73	< 5	100% cloud cover

TABLE 3. ESTIMATION OF TERRITORY SIZES IN WESTCAVE PRESERVE*

Territory	Square Feet	Acres
1	163,154	3.75
2	145,327	3.34
3	186,273	4.28
4	268,493	6.16
5	160,248	3.68

**These estimations do not include the areas of the GCWAs territories that extend beyond the preserve boundaries.*

TABLE 4. OTHER BIRD SPECIES OBSERVED

Common Name	Scientific Name
Carolina Chickadee	*Poecile carolinensis*
Northern Cardinal	*Cardinalis cardinalis*
Eastern Phoebe	*Sayornis phoebe*
Turkey Vulture	*Cathartes aura*
Great Blue Heron	*Ardea herodias*
White-eyed Vireo	*Vireo griseus*
Ruby-crowned Kinglet	*Regulus calendula*
Bewick's Wren	*Thryomanes bewickii*
Cooper's Hawk	*Accipiter cooperii*
Canyon Wren	*Catherpes mexicanus*
Black-chinned Hummingbird	*Archilochus alexandri*
Carolina Wren	*Thryothorus ludovicanus*
Blue-gray Gnatcatcher	*Polioptila caerulea*
Black-crested Titmouse	*Baeolophus atricristatus*
Common Raven	*Corvus corax*
Mourning Dove	*Zenaida macroura*
Black Vulture	*Coragyps atratus*
Chipping Sparrow	*Spizella passerina*
Chimney Swift	*Chaetura pelagica*
Summer Tanager	*Piranga rubra*
Purple Martin	*Progne subis*
Ladder-backed Woodpecker	*Picoides scalaris*
Lesser Goldfinch	*Carduelis psaltria*
Painted Bunting	*Passerina ciris*
Green Kingfisher	*Chloroceryle americana*
Brown-headed Cowbird	*Molothrus ater*
Northern Mockingbird	*Mimus polyglottos*

7.0 APPENDIX

7.1 FIELD DATA REPORTS

Property & County: Westcave Preserve Travis County, Texas

LCRA Bird Surveys Data Sheet

Observer(s)	Jennifer Leeper (and Ixchel Granada)
Date (mo-da-yr)	3-29-2007
Time (military, begin – end, hrs)	0715 – 0945
Site Visit #	1
Conditions (temp, wind, cloud cover, other)	Windy (approximately 15 mph), cloudy and humid (approximately 75%)
Acres Surveyed	Approximately 10

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	Eastern Phoebe is nesting on the east side of the Environmental Learning Center under the awning.

Male	Song Type	Female #	Juv #	Seen/Heard Both?	Notes *(see Figure 1 for locations)*
1	A			Heard	Male singing on the east side of the Environmental Learning Center and again near Hamilton Pool Road
2	A			Heard and Seen	Male located off of the trail just north of the observation deck.
3	A			Heard	Male heard singing across the preserve (on the west side) from GCWA #2.

LCRA Bird Surveys Data Sheet

Observer(s)	Jennifer Leeper (and Julie Stanush)
Date (mo-da-yr)	4-9-2007
Time (military, begin – end, hrs)	0710 – 0945
Site Visit #	2
Conditions (temp, wind, cloud cover, other)	Cool (approximately 55 degrees), Cloudy and Humid (approximately 70%). Wind Speed approximately 5 mph.
Acres Surveyed	Approximately 13

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	None

Male	Song Type	Female #	Juv #	Seen/Heard Both?	Notes *(see Figure 1 for locations)*
3	A	4a		Heard and Seen	Two males (3 & 4) were seen chasing each other in the presence of a female. We observed the female foraging. The males continued to chase each other and finally stopped. One of the males perched at the top of a nearby tree and softly sang song B. Then song A was heard from both males.
4	A&B			Heard and Seen	
5	A&B			Heard and Seen	Male singing and chipping at the northern upland area of the preserve almost directly across the grotto from where #4 & #5 were seen.
1	B			Heard and Seen	Males singing Song B in an oak tree located on the southeast side of the Environmental Learning Center.

LCRA Bird Surveys Data Sheet

Observer(s)	Jennifer Leeper (and Ixchel Granada)
Date (mo-da-yr)	4-23-2007
Time (military, begin – end, hrs)	0650 – 0900
Site Visit #	3
Conditions (temp, wind, cloud cover, other)	Very humid, cloudy, cool (temperature approximately 70 degrees) and low wind (wind speed approximately 6 mph)
Acres Surveyed	Approximately 10

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	None

Male	Song Type	Female #	Juv #	Seen/Heard Both?	Notes *(see Figure 1 for locations)*
1	B			Heard and Seen	Two males (1 & 2) singing Song B and chipping heavily. Both were heard singing just on the north side of the gate located at the trail head.
2	B			Heard and Seen	This male was observed from the Environmental Learning Center deck. He was sitting on top of an ashe juniper singing Song B and chirping in between singing (see also comment above under male #1).
3	A			Heard	Heard male singing to the west while hiking in the canyon.
5	A			Heard	Heard male singing to the northeast while hiking in the canyon.

LCRA Bird Surveys Data Sheet

Observer(s)	William Bergquist
Date (mo-da-yr)	5-1-2007
Time (military, begin – end, hrs)	0830 – 1230
Site Visit #	4
Conditions (temp, wind, cloud cover, other)	Low 70s, no wind, early rain and overcast. Wind picked up in the late morning.
Acres Surveyed	Approximately 10

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	None

Male	Song Type	Female #	Juv #	Seen/Heard Both?	Notes
1				Heard and Seen	Male was seen by the Environmental Learning Center. Bird flew across Hamilton Pool Road.
2				Heard	Heard male on trail near bluff.

LCRA Bird Surveys Data Sheet

Observer(s)	Jennifer Leeper
Date (mo-da-yr)	5-7-2007
Time (military, begin – end, hrs)	0715 – 0945
Site Visit #	5
Conditions (temp, wind, cloud cover, other)	Very humid (approximately 80%), low wind (approximate wind speed of 5 mph) and cloudy
Acres Surveyed	Approximately 25

General Notes (trespass, public contact, stewardship issues, fencing or signage, other wildlife observations, oak wilt, storm damage, etc.)	Saw a raccoon and two cottontails on the west side of the upland ridge.

Male	Song Type	Female #	Juv #	Seen/Heard Both?	Notes
4	B			Heard	Heard male singing on northwest side upland portion of the preserve.
3	B			Heard	While on the trail heading up the stairs a male was heard singing Song B and chipping.
2	B			Seen and Heard	From the observation deck, a male was observed foraging in an oak tree and singing.
1	B			Heard	Heard a male singing just east of the Environmental Learning Center.