RESULTS OF THE GOLDEN-CHEEKED WARBLER SURVEY FOR GAINES CONSERVATION AREA CITY OF SUNSET VALLEY, TRAVIS COUNTY, TEXAS

SPRING 2009



Prepared by:

Shelley Lovell, M.S.
137 Bellair, Kyle, TX 78640
281-300-8156
sdlovell@yahoo.com
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Summary

Five site visits were conducted by field biologist Shelley Lovell, M.S. (the writer) to determine the presence/absence of the endangered Golden-cheeked Warbler (*Dendroica chrysoparia*) in the Gaines Conservation Area (GCA) during the spring of 2009 on behalf of the City of Sunset Valley (See Figure 1). The survey methodology followed U.S. Fish and Wildlife Service (FWS) minimum procedures for determining the presence/absence of Golden-cheeked Warblers with the exception that taped recordings were not used to verify negative results. Golden-cheeked Warblers were detected during three of the five site visits as in the Spring of 2008.

Background

The Golden-cheeked Warbler (GCWA) is a small Neotropical migrant songbird that breeds exclusively in the juniper-oak woodlands of Central Texas. The species uses the shredded bark of mature Ashe juniper (*Juniperus Ashei*) to construct basket-like nests and forages for insect prey on various oak (*Quercus*) species and other hardwoods, such as cedar elm (*Ulmus crassifolia*), walnut (*Juglans* spp.), hackberry (*Celtis* spp.), and Texas ash (*Fraxinus texensis*). GCWAs typically nest on steep slopes, canyon heads, draws, and adjacent ridge tops and uplands, but may be found in other landscapes with mature juniper-oak woodlands (Ladd and Gass 1999).

The U.S. Fish and Wildlife Service published an emergency listing of the GCWA as endangered in May 1990, and the final listing was published in December 1990. Texas Parks

and Wildlife Department has also listed the species as endangered. Primary threats to the species are reduction and fragmentation of habitat due to land clearing for agricultural use, land development, and reservoir construction. Cowbird parasitism, effects of urbanization (e.g. increased noise, introduced predators), oak wilt fungus, and excessive deer browsing are other factors that threaten GCWA habitat and populations (U.S. Fish and Wildlife 1992).

Methodology

Protocols developed by FWS for determining the presence or absence of GCWAs were utilized, including the following guidelines:

- Surveys were conducted between March 25 and May 15.
- A minimum of 5 visits were made with at least a 5 day separation between visits.
- Survey time met a minimum of 4 hours per 100 acres of habitat per visit with a minimum of 1 hour per visit regardless of site size.
- Surveys were conducted between 30 minutes before sunrise and 11:00 a.m.
- Surveys were conducted on days when weather conditions were suitable for detection of birds singing with little to no precipitation.

There were two exceptions to FWS guidelines, and they were that playback tapes were not used to confirm negative results (absence of the target species) and a small amount of precipitation occurred during the count on April 26, 2009.

Five visits were made to the site beginning March 29 and concluding on May 2. Each visit lasted a minimum of 1.5 hours. At each visit, the length of the main trail was walked from the east entry (behind Sam's Club Warehouse) to the northwest end of the site, and back again. The higher elevations on the eastern and southern boundaries of the site were traveled at least once during the visits. Frequent listening stops were made to increase the possibility of hearing

warbler and other passerine bird vocalizations. All other bird species seen and heard during the surveys were recorded and are included in this report (See Table 2). Habitat observations and weather observations were noted during the survey (See Table 1).

Results

The GCA is a narrow peninsula of woodland totaling approximately 20 acres. An additional approximately 20 acres of greenbelt is adjacent to the north and east boundaries. The west end connects to the Barton Creek Greenbelt. Two major roadways, Loop 1 (Mopac) and Highway 290/71, along with commercial and residential developments, surround the area to the north, east and south (see Figure 1). The GCA follows the drainage of Gaines Creek, sloping from southeast (687 feet above mean sea level) to northwest (572 feet above mean sea level). Steep slopes rise on either side of the drainage (Sperry 2007).

The dominant vegetation in GCA included Ashe juniper in upland areas and slopes, including mature trees with notable shredding bark and younger trees. The hardwoods noted most frequently included cedar elm and shin oak (*Quercus sinuata*), with occasional plateau live oak (*Q. fusiformis*). The overstory canopy cover was generally 70 percent or above. The understory canopy was fairly open during the study with various shrubs including: Texas persimmon (*Diospyros texana*), Texas ash, agarito (*Berberis trifoliolata*), Lindeheimer silk-tassel (*Garrya Lindhiemeri*), twisted-leaf yucca (*Yucca rupicola*), and turk's cap (*Malvaviscus arboreus*). In the lower drainage level, Ashe juniper thickets were predominant and the canopy cover was denser than at higher elevations. Other overstory plants along the creek bed included Texas ash, shin oak, Texas oak, walnut, and escarpment black cherry (*Prunus serotina*). Understory trees and shrubs include deciduous holly (*Ilex decidua*), red buckeye (*Aesculus Pavia*), eve's necklace (*Sophora affinis*), Lindeheimer silk tassel, rough-leafed dogwood (*Cornus Drummundii*), and turk's cap. Two exotic invasive species, Japanese privet (*Ligustrum japonicum*) and nandina (*Nandina domestica*), were noted frequently along the creek drainage (Sperry 2007).

The terrain and vegetative growth in the area are characteristics of GCWA habitat. Male GCWAs were detected during three of the five surveys, just as in the Spring 2008. Two males

were heard in two separate locations; only Type A song was heard. One location was near the head of the trail one visit with a visual conformation. The second male was heard on three separate visits including April 4, 2009, April 19, 2009, and April 26, 2009. The location was at a about a third of the way down the trial, at a point in the trail where it runs parallel to a creek bed. The male GCWA traveled along the creek between the trail and the adjacent cliff side. The small number of GCWAs and their probable absence during two of the surveys may be due to paired status, failed nests or possibly human disturbance, similar to in Spring 2008.

Discussion

The Golden-cheeked Warbler Survey of GCA was successful in detecting the presence of this endangered passerine species for the second consecutive Spring. The implications of their presence remain to be seen. It may prove beneficial to implement certain conservation strategies to protect this 20 acre tract of GCWA habitat to provide a suitable location for GCWAs to return each breeding season. The trail is heavily used for recreational purposes, such as hiking and biking, and occasionally for bird watching. During the survey, the call of Brown-headed Cowbirds (BHCO) was heard on two occasions, which is so infrequent that there is little cause for concern of BHCO nest parasitism.

GCWAs have two song types, Type A and Type B, which have been used to indicate the paired and nesting status of male GCWAs in previous studies/ surveys. During the survey only Type A songs were observed. According to Bolsinger, GCWAs sing more frequently if unpaired. Therefore, the frequent Type A song from the male GCWAs on three visits could indicate that they were unpaired whereas the lack of song on two visits may have been due to paired status. Despite the fact that the GCWA song does not provide a complete evaluation of range, it can be a useful tool for territory monitoring and if carefully used in conjunction with other observations may be useful for determining territorial behaviors or nesting phases (Bolsinger 2000). In addition, no female GCWAs or GCWA nests were observed during the survey.

Table 1 (attached) displays field data for each survey date. Table 2 lists all bird species seen or heard during all field visits to the site. The format and background information of this report was developed and provided by Cindy Sperry, M.S.

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Table 1. Field data from presence-absence surveys in Gaines Conservation Area, Sunset Valley, Texas, during March – May 2009.

Date	Time Start/End	Temperature ° F	Wind Speed mph	% Cloud Cover	GCWAs Located
March 29	9:00/10:30	45	calm	0	0
April 4	9:30/11:00	63	6.9	100	2
April 19	9:27/10:57	64.9	10.4	0	1
April 26	9:15/10:30	73.4	5.8	100	1
May 2	9:30/11:00	78.1	8.1	100	0

Table 2. All bird species identified during presence-absence surveys in Gaines Conservation Area, Sunset Valley, Texas, during March – May 2009.

Common Name	Scientific Name [1]
Bewick's Wren	*Thryomanes bewickii*
Northern Cardinal	*Cardinalis cardinalis*
Black-crested Titmouse	*Baeolophus atricristatus*
Carolina Wren	*Thryothorus carolinus*
Blue Jay	*Cyanocitta cristata*
White-eyed Vireo	*Vireo griseus*
Blue-grey Gnatcatcher	*Polioptila caerulea*
Carolina Chickadee	*Poecile carolinensis*
Common Yellowthroat Warbler	*Geothlypis trichas*
Mourning Dove	*Zenaida macroura*
Black Vulture	*Coragyps atratus*
Nashville Warbler	*Vermivora ruficapilla*
Ruby-crowned Kinglet	*Regulus calendula*
Northern Mockingbird	*Mimus polyglottos*

Table 2 continued

Common Name	Scientific Name [1]
Great-tailed Grackle	*Quiscalus mexicana*
Cedar Waxwing	*Bombycilla garrulus*
Yellow-rumped Warbler	*Dendroica coronata*
Downy Woodpecker	*Picoides pubescens*
Canyon Wren	*Catherpes mexicanus*
Lesser Goldfinch	*Carduelis psaltria*
Summer Tanager	*Piranga rubra*
Chipping Sparrow	*Spizella passerina*
Chimney Swift	*Chaetura pelagica*
Eastern Wood Peewee	*Contopus virens*
Black and White Warbler	*Mniotilta varia*
Red-shoulder Hawk	*Buteo lineatus*
Great-crested Flycatcher	*Myiarchus crinitus*
Red-eyed Vireo	*Vireo olivaceus*

Table 2 continued

Common Name	Scientific Name [1]
House Finch	*Carpodacus mexicanus*
Ruby-throated Hummingbird	*Archilochus colubris*
Eastern Phoebe	*Sayornis phoebe*
Yellow-breasted Chat	*Icteria virens*
Common Grackle	*Quiscalus quiscula*
Clay-colored Sparrow	*Spizella pallida*
Brown-headed Cowbird	*Molothrus ater*
Eastern Towhee	*Pipilo erythrophthalumus*

[1] According to Sibley, 2003.



Figure 1. Satellite image of GCA obtained online at Mapquest.com.