Rare Bird Surveys at McGregor Preserve

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1.0 INTRODUCTION

The Blanton & Associates, Inc. Team (B&A Team), composed of Blanton & Associates, Inc., and Turner Collie & Braden Inc., was contracted by the Lower Colorado River Authority (LCRA) to perform rare bird surveys on McGregor Preserve for the 2001 nesting year. McGregor Preserve lies to the east of the Cypress Creek Arm of Lake Travis in Travis County, Texas (**Figure 1**). The purpose of the surveys was to estimate territory boundaries of golden-cheeked warblers (*Dendroica chrysoparia*) (GCWA) and black-capped vireos (*Vireo atricapillus*) (BCVI) utilizing the site. The B&A Team performed eight site visits between March 20 and July 15. Using the data collected, it is estimated that 29 male GCWAs and no BCVIs utilized the McGregor Preserve for nesting territories in 2001.

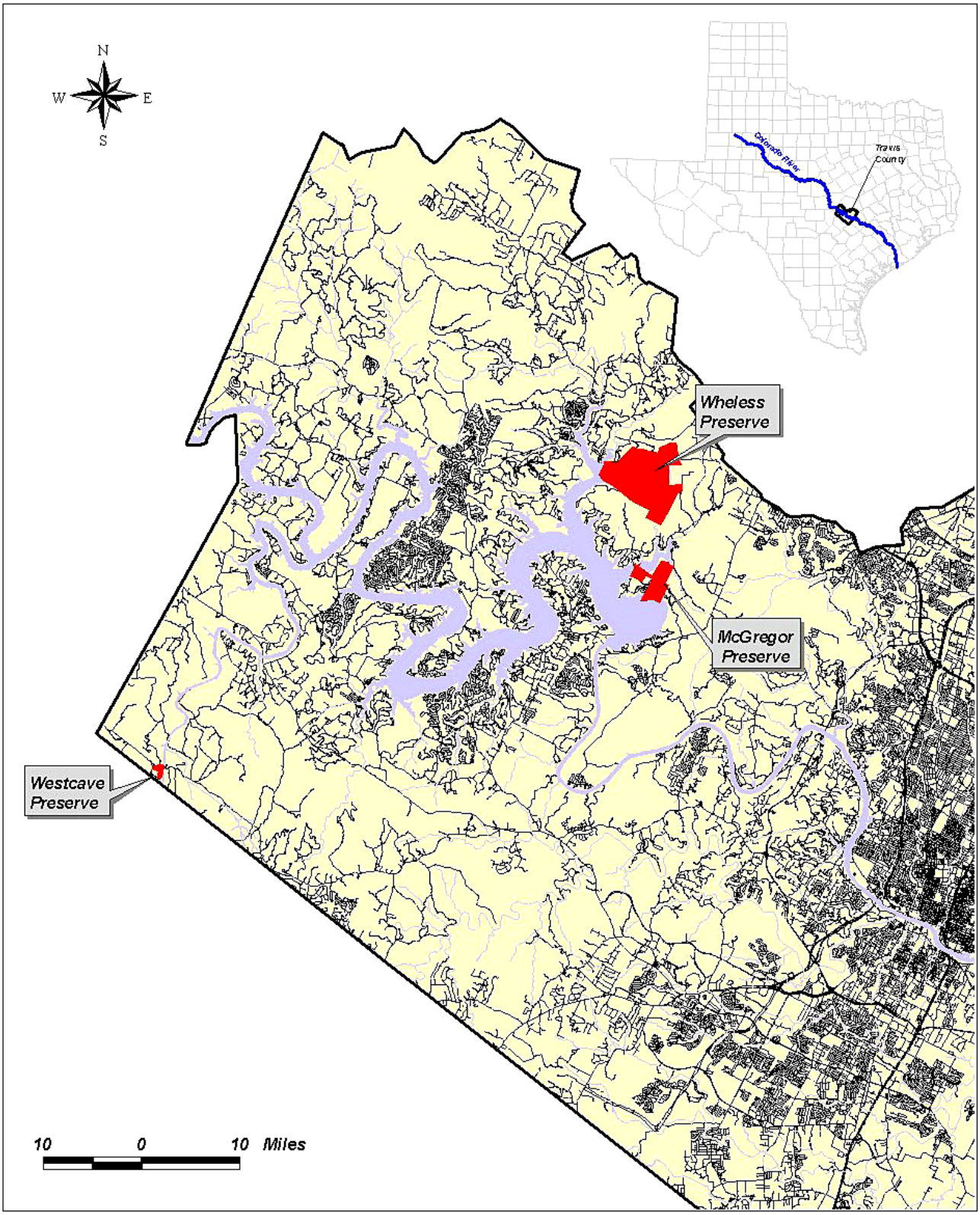
The purpose of this effort was to satisfy the LCRA's requirements under the Balcones Canyonlands Conservation Plan to monitor rare bird activity in selected tracts within the Balcones Canyonlands Preserve system. In this case, monitoring focused solely on territory mapping for each of these species and did not address habitat quality, habitat quantity, or the productivity of the site. The report includes the following:

2.0 Brief discussion of the survey objectives
3.0 Methods used for surveying and estimating territory boundaries
4.0 General habitat description
5.0 Presentation and brief discussion of the findings, including additional information not associated with the target species
6.0 Recommendations

Figures include a general location map and a digital orthophoto map delineating estimated rare bird territories.

2.0 SURVEY OBJECTIVES

McGregor Preserve is a component of the Balcones Canyonlands Preserve system and therefore subject to the requirements of the Balcones Canyonlands Conservation Plan. The LCRA is required to monitor rare bird recovery on the tract. The objective of the survey was to assist LCRA's efforts by recording rare bird activities within tract boundaries in order to estimate the number of GCWA and BCVI territories on the property. LCRA requested surveys to be performed throughout the entirety of the preserve. No habitat assessments or vegetation characterizations were performed for this survey.



Estimated Golden-cheeked Warbler Territory Boundaries **Figure 2**
Wheless Unit 1

3.0 METHODS

3.1 Survey Methods

Of the total 548 acres comprising the McGregor Tract, the LCRA has dedicated 362.5 acres as the McGregor Preserve for endangered species protection under the Balcones Canyonlands Conservation Plan. Using the protocol established by the U.S. Fish and Wildlife Service (USFWS) in *Minimum Procedures for Determining the Presence/Absence of Golden-cheeked Warblers and Black-capped Vireos* (1999) and by Bibby *et al.* in *Bird Census Techniques* (1992), the B&A Team surveyed the preserve for GCWAs during eight visits between March 21 and May 15 and for BCVIs during six visits between April 10 and May 15.

For survey purposes, two biologists from the B&A Team divided the tract and surveyed the same side during each visit. The total number of survey hours spent at McGregor for the year 2001 is provided in **Table 3-1**, along with the number of surveyors and survey dates.

Table 3-1 Total Survey Time

Field Visit No.	Date	Survey Time x No. of Surveyors	Total Survey Hrs (Rounded)
1 GCWA	3-21-01	6 hours 25 min x 2	12.75 hours
2 GCWA	3-29-01	6 hours 8 minutes x 2	12.25 hours
3 GCWA/BCVI	4-05-01	6 hours 40 minutes x 2	13.25 hours
4 GCWA/BCVI	4-13-01	7 hours 0 minutes x 2	14.00 hours
5 GCWA/BCVI	4-24-01 4-26-01	7 hours 6 minutes x 1 7 hours 4 minutes x 1	14.25 hours
6 GCWA/BCVI	5-03-01	8 hours 30 minutes x 1	8.50 hours
7 GCWA/BCVI	5-09-01 5-14-01	7 hours 4 minutes x 1 7 hours 0 minutes x 1	14.00 hours
8 GCWA/BCVI	5-15-01	6 hours 54 minutes x 2	13.75 hours
		Total Survey Time	***102.75 hours***

The biologists surveyed the 362.5-acre area in its entirety. They recorded locations of GCWA and BCVI by varying the route traveled and by listening for characteristic calls of each species. As requested by LCRA, no recorded GCWA or BCVI calls were played during the survey. Sight verification was attempted when the target birds were heard within the preserve boundaries. Flagging was tied to vegetation or fence posts in these locations when possible in order to facilitate global positioning system (GPS) mapping of the territory

boundaries, which would occur at a later date. Movements of each male and counter-singing between birds were noted in order to validate the number and location of territories on the tract.

Symbols used for mapping and record keeping followed information presented in *An International Standard for a Mapping Method in Bird Census Work Recommended by the International Bird Census Committee* (1970) in Audubon Field Notes 24(6):722-726. The information gathered from each visit is presented in attached Field Information Forms (**Appendix A**), and bird locations and field observations are plotted on a digital orthophoto map (**Section 5.1**, **Golden-cheeked Warbler**).

Throughout the course of the surveys, the biologists recorded additional points of interest such as unique biological features, rare plants and animals (in addition to the target species), and any unauthorized trespass tracks/activities observed. These additional points of interest are presented in **Section 5.3**, **Additional Information**, and in the attached Field Information Forms.

3.2 Territory Estimation Methods

After all surveys were completed, maps and notes for each site visit were consolidated in order to delineate territories and estimate the number of males for each species. The methods used to evaluate territory boundaries were taken from protocol provided in *An International Standard for a Mapping Method in Bird Census Work Recommended by the International Bird Census Committee* (1970) in Audubon Field Notes 24(6):722-726.

Using GPS units provided by the LCRA survey and mapping staff, the team went back to the site, located flags left during the season, and recorded data points to estimate territory boundaries. The data points are intended to "ground-truth" the placement of observations on field maps and to provide the LCRA with a management tool for more accurately depicting the location of rare bird activity.

4.0 GENERAL HABITAT DESCRIPTION

McGregor Preserve lies to the east of the Cypress Creek Arm of Lake Travis in Travis County, Texas. The area surveyed is to the north of Comanche Trail and Hippie Hollow Park and to the east of Mountain Trail. Vegetation on the tract ranges from Ashe juniper-deciduous woodland ravines and slopes to grassy meadow upland that is bordered by a dense shrub community on the steep slope on the southern edge of the property. Land use adjacent

to the tract includes Hippie Hollow Park, Travis County preserve property, and a growing residential community. Due to winter and spring rains, the pond located on the western portion of the property was full during the first month of surveys. By the end of the season, very little water was left in the pond.

5.0 RESULTS AND DISCUSSION

5.1 Golden-cheeked Warbler

Typical nesting habitat for the GCWA can be found throughout the preserve. Tall, dense, mature stands of Ashe juniper (*Juniperus ashei*) mixed with trees such as Texas oak (*Quercus texana*), shin oak (*Q. sinuata* var. *breviloba*), live oak (*Q. fusiformis*), Texas ash (*Fraxinus texensis*), cedar elm (*Ulmus crassifolia*), and hackberry (*Celtis laevigata*) provide prime habitat for the GCWA. GCWA territories were observed to be evenly distributed throughout the property with the exception of west-facing slopes, which tend to have fewer deciduous trees and are drier due to their alignment with the sun.

Eight visits (102.75 hours) were spent surveying McGregor Preserve. Twenty-nine male GCWAs were observed on the tract (**Table 5.1**). Approximate territory boundaries are noted on **Figure 2**. Three male GCWAs were located outside the study area boundary and were not monitored; however, these contacts are noted in the Field Information Forms. Two females and three fledglings were observed during the season. However, since LCRA directed that no additional time would be spent on nest and productivity data, this number should not be used to estimate the productivity of the tract.

Table 5-1 Golden-cheeked Warbler Territories on McGregor Preserve

Number of Male Territories Completely on Preserve	18
Number of Male Territories Partially on Preserve	11
Total Number of Male Territories on Preserve	*29*
Number of Males Off Preserve	3
Number of Females Observed	4
Number of Juveniles Observed	3

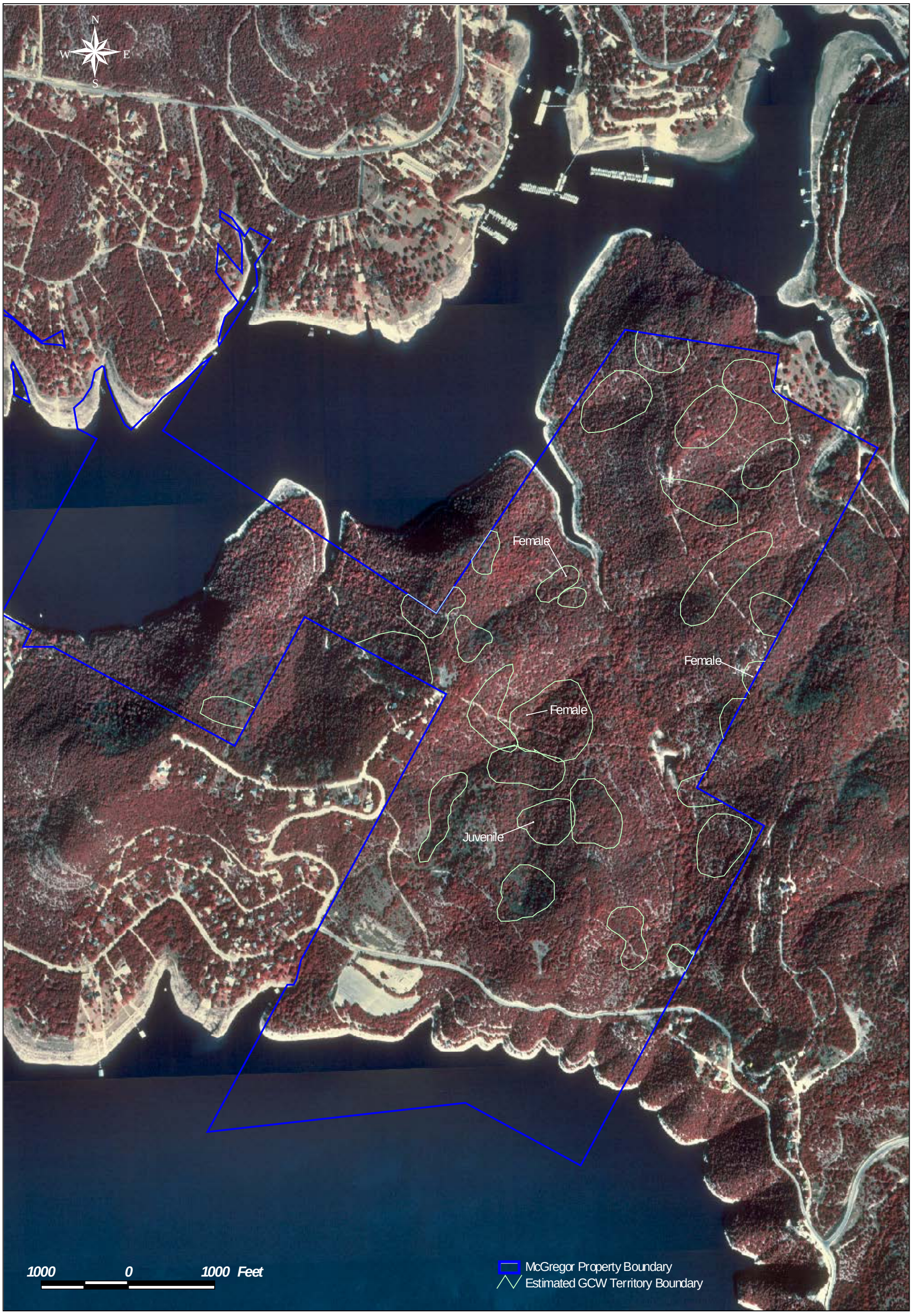


Figure 2

Estimated Golden-cheeked Warbler Territory Boundaries
McGregor Preserve

5.2 Black-capped Vireo

According to the DLS report titled *The Black-capped Vireo Monitoring Program, Travis County, Texas and Vicinity, 1991*, breeding BCVIs were last observed on the site in 1991. The birds historically used the southwest portion of the tract from just north of Comanche Trail to the top of the escarpment (1000 ft msl). The top of the escarpment is a meadow of tall grasses bordered by a steep ridge to the south and more gradual slopes to the east and west. The birds historically utilized both the escarpment and meadow areas. They were also observed directly to the north of Comanche Trail using edaphic shrub communities, which eventually grew too tall to provide habitat for BCVIs. Six visits were spent surveying the McGregor Preserve for BCVIs. No BCVIs were observed in or around the tract during these visits.

5.3 Additional Information

As outlined in the scope of work for this project, the B&A Team agreed to notify appropriate LCRA staff of unauthorized trespass tracks/activities on the preserve study areas. No such tracks or activities were observed on the property during the survey. Two *Hexalectris* plants were observed on the tract on the eastern edge of the main drainage through the property, just to the north of the trail that runs east to west across the tract. It was determined that the plants were not *Hexalectris nitida* but were probably *H. spicata.* Besides the target species, no additional endangered or threatened species were observed on the property. A list of bird species observed during field surveys is provided in **Appendix A**.

6.0 RECOMMENDATIONS

- No additional management for GCWAs is recommended at this time.

- If surveys for territory mapping are performed in subsequent years, the B&A Team recommends the following: 1) The use of hand-held GPS units *during* the surveys instead of following the completion of the season. The team feels that this would provide a higher level of accuracy for territory mapping and would alleviate the need for additional visits. 2) In 2001, the B&A Team divided the subject tract in half and surveyed each half separately. Because there were no banded birds observed, there was some difficulty in distinguishing between birds when no counter-singing was heard. For future surveys, the team recommends surveying the entire tract in teams while using radios to relay bird locations. This method might be a more accurate means for locating and counting bird territories.

3) The B&A Team suggests that more time should be allotted for gathering information on fledgling activities. Because dispersing fledglings sometimes use upland and grassland areas for foraging, it may be beneficial for management purposes to research these movements whenever a fledgling group is discovered.

APPENDIX A

Field Information Form

Birds Observed during 2001 Field Surveys - McGregor Preserve

Black and White Warbler	*Mniotilta varia*
Bewick's Wren	*Thryomanes bewickii*
Blue-gray Gnatcatcher	*Polioptila caerulea*
Brown-headed Cowbird	*Molothrus ater*
Carolina Chickadee	*Parus carolinensis*
Carolina Wren	*Thryothorus ludovicianus*
Cedar Waxwing	*Bombycilla cedrorum*
Field Sparrow	*Spizella pusilla*
Great-crested Flycatcher	*Myiarchus crinitus*
Golden-crowned Kinglet	*Regulus satrapa*
Greater Roadrunner	*Geococcyx californianus*
House Finch	*Carpodacus mexicanus*
Lesser Goldfinch	*Carduelis psaltria*
Northern Cardinal	*Cardinalis cardinalis*
Northern Mockingbird	*Mimus polyglottus*
Painted Bunting	*Passerina cirus*
Purple Martin	*Progne subis*
Red-bellied Woodpecker	*Melanerpes carolinus*
Ruby-crowned Kinglet	*Regulus calendula*
Ruby-throated Hummingbird	*Archilochus colubris*
Rufous-crowned Sparrow	*Aimophila ruficeps*
Scrub Jay	*Aphelocoma coerulescens*
Summer Tanager	*Pirangua rubra*
Tufted Titmouse	*Parus bicolor*
Turkey Vulture	*Cathartes aura*
White-eyed Vireo	*Vireo griseus*
White Pelican	*Pelecanus occidentalis*