SECTION 1
INTRODUCTION

This report documents results of bird surveys conducted at Camp Stanley Storage Activity (CSSA) by Parsons Infrastructure and Technology (Parsons) between March 28 and June 6, 2005. The surveys were conducted to document the presence or absence of the golden-cheeked warbler (GCWA) (*Dendroica chrysoparia*) and black-capped vireo (BCVI) (*Vireo atricapillus*), both federally listed endangered species.

1.1 PURPOSE AND NEED

These surveys were needed to comply with the Endangered Species Act (ESA) of 1973 and Chapter 11 of Army Regulation (AR) 200-3, *Environmental Quality - Natural Resources – Land, Forest, and Wildlife Management*, which implements requirements of the ESA within the Army.

AR 200-3 requires Army installations to conduct a 100 percent inventory of suitable habitat for listed, proposed, and candidate species that may occur on the installation. Identifying and documenting the location of listed species on an installation is crucial to effectively balancing mission and conservation requirements. Failure to properly inventory listed species can lead to violation of the ESA and costly disruption of military operations and construction activities upon discovery of such species.

In addition, AR 200-3 requires installations to prepare Endangered Species Management Plans (ESMP) for each listed species and critical habitat present at an installation. ESMPs are typically included in an installation's Integrated Natural Resource Management Plan (INRMP), which CSSA is currently updating. Therefore, the survey findings will be used in the INRMP development process to determine the need for preparation of an ESMP. The INRMP will help coordinate management activities at CSSA and establish protocols for consultation with regulatory agencies, including the U.S. Fish and Wildlife Service (USFWS) and Texas Parks and Wildlife Department (TPWD). Further, this survey will provide baseline information for future surveys, as needed.

1.2 RESULTS SUMMARY

This survey determined the presence of both GCWA and BCVI at CSSA. A detailed description of results may be found in Section 3. Results are summarized below:

Nineteen GCWA were detected in habitat areas typical of the species. Of these, 18 GCWA were detected through both visual sightings and audible calls, while one GCWA detection was through only counter singing. Some detections were mated pairs, formulating an estimated total of 16 GCWA territories. Four fledglings were observed, but are not included in the total count.

One BCVI was identified through audible song heard in a habitat area typical of this species.

1.3 PROJECT LOCATION

The surveys were conducted at CSSA, Boerne, Texas (Figure 1.1 – Project Location). CSSA is located in northern Bexar County (Camp Bullis and Van Raab U.S. Geological Survey Quadrangles). The installation occupies 4,004 acres, bounded to the north by Dietz-Elkhorn/Old County Road, to the west by Ralph Fair Road, and to the south and east by Camp Bullis Military Training Reservation. Directions to the facility follow:

- From Austin:
  South on Interstate 35S for 62 miles, west on Loop 1604W for 17.5 miles, west on Interstate 10W/ US 87 for 15 miles. Exit 550 Ralph Fair Road.
- From San Antonio:
  North on Interstate 10W US for 20 miles. Exit 550 Ralph Fair Road.

The installation is typical of the Balcones Canyon lands portion of the Edwards Plateau, encompassing a complex of karst features including: limestone hills, drainages, valleys, intermittent streams, springs, and karst cave features. Elevations range between approximately 1,200 feet to 1,400 feet above mean sea level.

1.4 PREVIOUS SURVEY WORK

In December 1992, Stewardship Services conducted a habitat evaluation for CSSA. Potential habitat areas were mapped for both the GCWA and BCVI. In the spring and summer survey season of 1993, Stewardship Services detected one male GCWA and a pair of BCVIs at CSSA (Stewardship Services 1993). The detections occurred in the northeastern portion of the facility.

Adjacent to CSSA, Camp Bullis implements a robust survey regime for BCVI and GCWA. Annual surveys are conducted along fixed transects, with point count stations along each transect (Cooksey 2005, personal communication). A small population of GCWA on Camp Bullis decreased between 1991 and 1997, but increased significantly during 1999 and 2000. As of 2001 the population of GCWA was holding at approximately 230 individuals (Fischer and Guilfoyle 2001). Populations of BCVI also increased on Camp Bullis between 1991 and 1997 perhaps due to a range fire that created suitable early successional habitat (Baccus 2005, personal communication).

1.5 SPECIES INFORMATION

1.5.1 Golden-cheeked Warbler

The GCWA is a small migratory songbird, approximately 5 inches long, with a wingspan of approximately 8 inches. Key identification features of the bird include a black back, throat, and cap; yellow cheeks with a black stripe through the eye; and black streaks on the flanks of a white breast and belly. Males are more colorful than females. Male calls are described as a hurried, buzzy "*zrr zooo zeedl zeeeee twip*," when a nesting territory is encroached upon (Sibley 2003). Sharp "chipping" calls are heard while GCWAs are foraging. The GCWA diet consists almost entirely of spiders, caterpillars, beetles, and other foliage-dependent insects.

Nesting season begins in mid-March and lasts through late June, and may extend through late July. Earliest arrival dates for males are in the first week of March (USFWS 1992). Upon arrival to suitable breeding habitat in Texas, males quickly select territories and begin vocal displays from prominent perches. Females usually arrive a few days to a week after males. GCWAs begin migration in late June from Texas to wintering grounds in the pine-oak woodlands of southern Mexico (most notably in the State of Chiapas), Guatemala, Honduras, and Nicaragua. Banding studies show that males will return to the same territories in the subsequent breeding season (Guilfoyle 2002).

Typical nesting habitat is found in tall, dense, mature, closed-canopy stands of Ashe juniper (commonly called cedar), mixed with various oaks (USFWS 1992). Other associated tree types include Texas ash, cedar elm, hackberry, bigtooth maple, sycamore, Arizona walnut, escarpment cherry, and pecan. Combined with a sloping topography, this habitat is generally seen as ideal habitat for the GCWA; however, GCWA occurrences have been reported in drier topographically flat upland juniper-oak woodlands (Grzybowski 1995).

Currently the nesting range of the GCWA is confined to 33 counties in Central Texas. Nesting territories range from 3 to 6 acres, and are vigorously defended by the males. Nest construction is primarily associated with females, as is incubation of eggs. Nests are cup-like and found at an average height of 15 feet above ground, ranging from 5 to 32 feet, and are constructed with shedding bark from mature Ashe junipers. Eggs are laid in single clutches, usually in April. A single clutch usually contains three to four eggs. The incubation period is approximately 12 days, and both parents care for the hatchling. After eight or nine days, young birds fledge (TPWD 2002).

1.5.2 Black-capped Vireo

The BCVI is a small migratory songbird, 4-1/2 inches long, with a wingspan of approximately 7 inches. Key identification features of the mature male bird include a black upper crown, with a partial white eye ring; a brownish-red iris; a black beak; an olive-green back; and a white breast and belly. Female coloring is duller than the male, with a dark slate-gray head. Males sing to attract mates and defend territories; calls are described as hurried and harsh, composed of trills, squeaks, and swirls. Sibley (2003) describes the call as complex phrases containing "*grrtzeepidididid, pridid zeegrrt.*" Male BCVIs are vocal throughout the breeding season, but calls sharply decrease by July. The BCVI diet consists entirely of insects (Graber 1961).

Typical nesting habitat is found in early successional shrubland. Structure of vegetation is more important than species composition, where shrub vegetation extends from the ground to 6 feet. In the eastern portion of the BCVI nesting range (including Bexar County), the shrub layer is often combined with a sparse to moderate tree canopy. In these areas, open grasslands connect shrublands and woodlands. Common woodland species in BCVI habitat include various oaks, mountain laurel, various sumacs, redbud, Texas persimmon, mesquite, and agarita. Ashe junipers are often in this habitat; however, preferred areas usually have relatively lower Ashe juniper densities and cover (Guilfoyle 2002).

Nesting season for BCVIs begins in Central Texas by late March or early April. Typically, males arrive first and begin vocal displays to select territories. Females arrive later along with

first-year males (TPWD 2002; USFWS 1991). BCVIs begin migration to Mexico's western coast in July, but may leave as late as mid-September. Returning to Texas in late March, BCVIs are thought to return to the same territories, or adjacent territories (USFWS 1991).

Currently the nesting range is confined to 36 counties in Central and West Texas (USFWS 1991). Most territories are thought to be approximately 2 to 4 acres in size, but may range from 1 to 16 acres. Both the male and female select nest sites; however, the female completes nest construction. The typical nest is cup-shaped, and is suspended from the nest rim by a fork of a branch, about 1 to 6 feet off the ground. The female begins laying eggs usually within 1 day after completion of the nest, with one egg laid per day. A clutch usually contains three or four eggs. BCVIs have been observed to nest more than once in a season; however, later clutches contain two to three eggs. After the first nesting attempt, a new nest is constructed. Incubation of eggs is shared by the male and female, lasting 14 to 17 days. After 10 to 12 days after hatching, the young birds fledge (TPWD 2002).

1.6 CONTACT INFORMATION

Table 1.1 lists agency and organization contacts relevant to this survey project.

Table 1.1 Contact Information

Agency	Name	Contact Information	Role on the Project
USFWS	Christina Williams, Fish and Wildlife Biologist	10711 Burnet Road, Suite 200 Austin, Texas 78758 Phone: 512-490-0057 Fax: 512-490-0974 Christina_Williams@fws.gov	Consultation
TPWD	Dorinda Scott	3000 South IH-35 Suite 100 Austin, TX 78704 Phone: 512-912-7011	Consultation
CSSA	Jeff Aston	Camp Stanley Storage Activity 25800 Ralph Fair Road Boerne, TX 78015 210-295-7499	CSSA Environmental Manager
Parsons	Mark Collins	10521 ROSEHAVEN STREET Fairfax, VA 22030 Phone: 703-934-2383 Fax: 703 - 591-1305	Senior Project Manager
Parsons	Julie Burdey	8000 Centre Park Drive, Ste. 200 Austin, TX 78754 Phone: 512-719-6062 Fax: 512-719-6099	Senior Project Manager
Parsons	James Hinson	8000 Centre Park Drive, Ste. 200 Austin, Texas 78754 Phone: 512-719-6814 Fax: 512-719-6049	Senior Scientist
Parsons	Taylor Houston	8000 Centre Park Drive, Ste. 200 Austin, Texas 78754 Phone: 512-719-6014 Fax: 512-719-6049 Mobile: 512-299-0609	Scientist / Field Coordinator/Report writing and preparation