FY 2023 Summary of Wildlife Management Activities on

Travis County-managed Tracts of the Balcones Canyonlands Preserve



Two white-tailed deer bucks fighting on the 35 acres tract of the Jollyville Unit.
Game camera photo.

Travis County
Department of Transportation and Natural Resources
Natural Resources and Environmental Quality Division

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Table of Contents

Introduction 3

Brown-headed cowbirds 4

Feral hogs 6

White-tailed deer 8

Literature Cited 10

List of Tables

Table 1. Summary of Brown-Headed Cowbird Trapping Effort, FY23, Travis County BCP, Texas..... 5

Table 2. Results of Brown-Headed Cowbird Trapping Effort, FY23, Travis County BCP, Texas..... 6

Table 3. Results of Feral Hog Trapping Effort, FY23, Travis County BCP, Texas..... 7

Table 4. Results of White-tailed Deer Population Survey, FY23, Travis County BCP, Texas..... 9

Table 5. Results of White-tailed Deer Harvest, FY23, Travis County BCP, Texas..... 9

INTRODUCTION

The Balcones Canyonlands Preserve (BCP) was created in May 1996 to protect the endangered golden-cheeked warbler (*Setophaga chrysoparia*) and seven other federally endangered species. As specified in the Balcones Canyonlands Conservation Plan (USFWS 1996; hereafter BCCP), the City of Austin and Travis County developed and implemented a Land Management Plan (LMP) to provide guidelines for managing the BCP. The LMP Tier IIA-10 chapter (BCP 2007) describes the responsibilities and guidelines for wildlife management activities on the BCP, including controlling populations of non-native, exotic, feral, and nuisance animals.

Non-native, exotic, and feral animals are species that are not indigenous to an area and were typically brought in by human activity, either intentionally or unintentionally. Examples of non-native animals in Travis County include red-imported fire ants (*Solenopsis invicta*), tawny crazy ants (*Nylanderia fulva*), and feral hogs (*Sus scrofa*). These species may directly or indirectly negatively impact protected species in the form of habitat degradation, displacement, depredation, and reducing available foods. To meet the species protection and enhancement goals required under the terms and conditions of the BCCP, BCP land managers strive to remove non-native, exotic, and feral species, where feasible.

Nuisance animals on the BCP are native species that may present threats to public health and safety, property, habitat quality, or other natural resources due primarily to high population densities. Examples of nuisance animals on the BCP include brown-headed cowbirds (*Molothrus ater*) and white-tailed deer (*Odocoileus virginianus*). Management to control nuisance animals has been directed by the USFWS as part of the recovery plans for protected species (BCP 2007).

In Fiscal Year 2023 (01 October 2022 - 30 September 2023; hereafter FY23), wildlife management activities on Travis County-managed tracts of the BCP focused on five species of non-native, exotic, feral, and/or nuisance animals. Monitoring and control of brown-headed cowbirds, feral hogs, and white-tailed deer are described in their respective sections in this report. Monitoring and control of red-imported fire ants and tawny crazy ants are described in Appendix I-Karst Chapter: and Appendix V1-LeBrun Report of the FY23 BCCP Annual Report.

BROWN-HEADED COWBIRDS

Introduction

Brown-headed cowbirds (hereafter cowbird) are known to parasitize the nests of the golden-cheeked warbler and the black-capped vireo (*Vireo atricapilla*), in addition to many other avian hosts (TPWD No Date *a*). Historically on Travis County BCP, there have been few, documented instances of parasitism for either species. Frequency of parasitism is higher for vireos as a more systematic effort to monitor all nests is conducted annually The BCP (2007) LMP suggests that assessing and reducing cowbird parasitism should be a primary concern for the BCP and population management options should include physical removal of cowbirds or their eggs.

Cowbird trapping has been the subject of considerable research and management effort and is believed to be an important technique for the conservation of both species. At the U.S. Army Fort Cavazos (formerly Fort Hood) military base, cowbird trapping has been credited for drastically reducing parasitism rates of black-capped vireos from 91% before cowbird management, to below 20% after a cowbird management program was implemented (Kostecke *et al.* 2005). Population modelling data from Fort Cavazos suggests that sustained cowbird management is required to maintain viable black-capped vireo populations (Wilsey *et al.* 2014). Cowbird management success has contributed to the recovery effort and subsequent 2018 delisting of the black-capped vireo, and continued management is necessary to maintain black-capped vireo populations (USFWS 2018).

Methods

Cowbird trapping in FY23 was conducted exclusively in the western half of the county. Travis County Natural Resources and Parks staff operated four metal hybrid cowbird traps (6'x8') and one mega trap (16'x16'). To maximize trap effectiveness, traps on the BCP were distributed near golden-cheeked warbler and black-capped vireo breeding habitat. Hybrid traps were operated on the Nootsie tract (Nootsie), Reimers Ranch Park (Reimers Ranch 1), Kotrla tract (Kotrla-Upper) and on the Flying K Conservation Easement (CE) (Kotrla-Lower). The mega trap was operated at Hamilton Pool (Hamilton Pool Mega).

The Nootsie trap was opened on April 5, 2023, and baited with a group of live decoy birds (6 males, 9 females) acquired from a trapping effort on private land in Hays County (Table 1). The other four traps were opened between April 13 and May 1,

2023, as additional cowbirds were trapped and could be relocated to provide decoy birds. Traps were closed for the season by June 9, 2023.

Table 1. Summary of Brown-Headed Cowbird Trapping Effort, FY23, Travis County BCP, Texas.

Trap	Date Opened	Date Closed	Initial Stocking Numbers (Male/Female)
Nootsie	April 5	June 8	6/9
Kotrla-Lower	April 13	June 9	6/5
Kotrla-Upper	May 1	June 9	6/2
Hamilton Pool Mega	April 28	June 7	8/8
Reimers Ranch 1	April 21	June 7	4/8

Traps were inspected and maintained daily throughout the trapping period and any non-target species were removed and released. If staff was unavailable to conduct trap checks, the trap was shut by placing a board over the opening. Water and feed (white proso millet and whole milo) were refreshed three times per week, and as needed. Plastic water baths and shade cloth were added to the traps to offset the impact of rising air temperatures on bird health and survivability. Some traps were reinforced with poultry fencing along the outer base edges to prevent attempted predation. The traps were shut down in June and cowbirds were euthanized by placing them in a container with carbon dioxide gas following Texas Parks and Wildlife Department (TPWD) protocol (TPWD No Date *a*).

Results

In FY23, a total of 86 individual cowbirds were captured (58 males, 28 females, 0 immature) across 247 days in operation. In FY22 a total of 162 individual cowbirds were captured (108 males, 50 females, 4 immature) across 371 days in operation. The decrease in total capture from FY22 can be attributed to 1) a decrease in trap operational days, 2) several traps being opened later in the season and, 3) abnormally high temperatures in Central Texas led to traps being closed early.

While care is taken to seal outer base edges against predators, there was a predation event by a Texas rat snake (*Elaphe obsoleta lindheimeri*) gaining entry from the top opening at one of the traps. Additionally, one non-target species, a painted bunting (*Passerina ciris*), was captured. It was released some distance away from the trap.

Table 2 summarizes cowbird capture at each trap by sex, days in operation, and trapping efficiency (or capture rate). Overall trap efficiency was calculated by dividing the number of females captured by the number of days in operation (x 100).

Travis County Natural Resources aims to maintain a minimum goal of 20% trap efficiency for the program. The overall trap efficiency was 11.34% in FY23, a decrease from 13.48% in FY22, with only Reimers Ranch 1 exceeding the 20% threshold.

Table 2. Results of Brown-Headed Cowbird Trapping Effort, FY23, Travis County BCP, Texas.

Trap	Days in Operation	Males Captured	Females Captured	Immature Captured	Total Captured	Overall Trap Efficiency %
Nootsie	64	8	4	0	12	6.25
Kotrla-Lower	57	11	4	0	15	7.02
Kotrla-Upper	39	6	3	0	9	7.69
Hamilton Pool Mega	40	12	5	0	17	12.50
Reimers Ranch 1	47	21	12	0	33	25.53
Grand Totals	**247**	**58**	**28**	**0**	**86**	**11.34**

None of the 48 black-capped vireo nests found during the FY23 nesting season showed signs of cowbird parasitism (cowbird eggs or nestling in nest). Additionally, staff did not observe any instances of golden-cheeked warbler adults feeding a cowbird fledgling while conducting enumeration surveys in FY23.

While only one trap (Reimers Ranch 1) was operated on Reimers Ranch Park due to staffing constraints in FY23, it had a capture rate three times higher than Kotrla-Lower, which has historically been one of the most productive traps due to its proximity to rural areas and livestock. Staff will continue to assess the needs and resources of cowbird management and future trapping efforts prior to the FY24 trapping period.

FERAL HOGS

Introduction

The BCP (2007) LMP directs land managers to control populations of feral hogs to minimize negative impacts to the native wildlife protected within the BCP. Feral hogs degrade wildlife habitats and may compete directly with native wildlife for resources. They are omnivorous, primarily consuming vegetation, mast, roots and tubers, and to a lesser degree a wide range of animal species, including invertebrates, reptiles,

amphibians, small mammals, and birds (Bradley and Schmidly 2016; Hellgren 1993). Their rooting habits create severely disturbed areas, which may lead to a localized shift in plant succession and increase the potential for soil erosion (Bradley and Schmidly 2016). Feral hogs also destabilize wetland areas, springs, creeks and other riparian areas through excessive rooting and wallowing. Their threat to humans and livestock through the spread of disease has also been documented (Miller 1993; U.S. Department of Agriculture 1999). Potentially producing two litters a year, with an average litter size of four to eight piglets, feral hog numbers can expand rapidly if left unmanaged (Wildlife Services 2012).

Methods

Standard feral hog trapping operation for staff includes setting up corral style stock panel traps baited with game feeders filled with dry feed corn. Staff can operate up to six traps at a time. Each trap utilizes a wireless camera system that sends real-time images to a trapper's cell phone. The trapper monitors feral hog activity inside the trap and chooses when to remotely close the trap door. The trapper strives to trap the entire sounder at the same time. Trapped feral hogs are humanely dispatched, and carcasses are composted on the BCP.

Results

In FY23, a total of 46 feral hogs were trapped and removed by staff, while management efforts in FY22 resulted in the removal of 17 feral hogs. Increased trapping success in FY23 resulted from first-time trapping access to the Flying K Conservation Easement (CE). The Flying K CE is part of the Travis County Land Conservation Program and, while not part of the BCP, it is adjacent to the Kotrla Unit of the BCP. Table 3 summarizes the number of feral hogs harvested by staff in FY23 based on location and sex.

Table 3. Results of Feral Hog Trapping Effort, FY23, on the Travis County BCP and the Flying K Conservation Easement, Texas.

Tract	Sex (Male/Female)	Total
Kotrla Unit*	5/0	5
Flying K CE	21/20	41

*Includes Kotrla and Scott & White tracts

Since implementing a remotely monitored and triggered feral hog trapping system in FY17, staff have observed a steady decline in feral hog field observations after multiple years of high trapping success. There has been an overall decline in trapping

numbers and as feral hog populations have declined, staff have observed an increased hesitancy among feral hogs to enter traps, making it more difficult to trap the small remaining number of animals. While full eradication of feral hogs from the BCP is impossible, staff will continue to monitor for damage and target any remaining feral hogs to stop further expansion onto the preserve.

WHITE-TAILED DEER

Introduction

The BCP (2007) LMP directs that white-tailed deer populations be monitored and maintained at a level that allows for successful recruitment of plant species that make up habitat supporting BCP protected species. Central Texas historically has some of the highest population densities of white-tailed deer in the United States (Richards 2001). Past research in Central Texas (Russell and Fowler 1999, Russell and Fowler 2002, Russell *et al.* 2001) indicates that little or no regeneration of vital habitat components may occur in areas with an over-population of deer. This generated an effort to design and implement a white-tailed deer population monitoring and control program for Travis County BCP properties as specified in the LMP Tier IIA-10.

To stay within carrying capacity, TPWD recommends population levels in the Texas Hill Country of one deer per 8-35 acres (TPWD No Date *b*). Since a primary goal for the BCP is to maintain successful hardwood regeneration to provide long-term golden-cheeked warbler habitat, Travis County recommends a conservative density of one deer per 20-35 acres for the BCP.

Methods

Staff conducted nighttime spotlight deer surveys on the Kotrla Unit of the BCP and the Hamilton Pool Preserve/Reimers Ranch Park/Pogue Springs Preserve (hereafter HP/RR/Pogue Preserve). Additionally, camera surveys were operated as described in Oetgen *et al.* (2008) on the Jollyville Unit. This camera survey method provides a more accurate population estimation of white-tailed deer in areas where there is a lack of infrastructure needed to perform nighttime spotlight surveys (Roberts *et al.* 2006).

Deer harvest in FY23 was conducted by staff under the Managed Lands Deer Program (MLDP) through Texas Parks and Wildlife (TPWD). Deer were shot from stands located near game feeders baited with dry feed corn. Biological data was collected from all harvested deer and reported to TPWD at the conclusion of the

season. All meat from harvested deer was donated to Caritas of Austin through the Hunters for the Hungry Program.

Results

Deer population survey data gathered from August to October 2022 was used to estimate FY23 deer densities. Table 4 summarizes deer population data on the BCP collected from spotlight and camera surveys. Deer population densities on the BCP remained within the TPWD recommended population level and Travis County's management objective of one deer per 20-35 acres. A summary of the deer harvested on Travis County BCP properties in FY23 is shown in Table 5.

Table 4. Results of White-tailed Deer Population Survey, FY23, Travis County BCP, Texas.

Location	Estimated Acres/Deer	Estimated Composition (Buck/Doe/Fawn)
Jollyville Unit*	22	44/44/10
Kotrla Unit**	23	31/31/7
HP/RR/Pogue Preserve	17***	Not calculated due to no harvest

*Includes Snowden and Vireo Ridge tracts
**Includes Kotrla and Scott & White tracts
***Estimated based off one spotlight count

Table 5. Results of White-tailed Deer Harvest, FY23, Travis County BCP, Texas.

Location	Bucks	Does	Total
Jollyville Unit*	1	0	1
Kotrla Unit**	8	4	12
New Life	1	0	1
Volente	3	0	3
Total	13	4	17

*Includes Snowden and Vireo Ridge tracts
**Includes Kotrla and Scott & White tracts

Staff will continue to monitor the deer population on Travis County-managed tracts and work to implement TPWD recommendations concerning management strategies and harvest levels. Deer management should continue as population survey data indicates that deer herds exceed carrying capacity. Annual population surveys allow managers to evaluate the effectiveness of management strategies, determine whether desired deer densities have been attained, and calculate future harvest recommendations.

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