FY 2017 Summary of

Wildlife Management Activities on

Travis County's Balcones Canyonlands Preserve and Select Parks



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

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INTRODUCTION

On May 2, 1996, the City of Austin and Travis County were jointly issued a U.S. Fish and Wildlife Service (USFWS) regional permit (the Permit) referred to as the Balcones Canyonlands Conservation Plan (BCCP) that allows incidental "take" of eight locally occurring endangered species under Section 10(a)1(b) of the Endangered Species Act (U. S. Fish and Wildlife Service 1996a). The thirty-year permit covers Travis County outside of proposed Preserve boundaries identified in the Habitat Conservation Plan and Final Environmental Impact Statement (HCP/FEIS) (U. S. Fish and Wildlife Service, 1996b). The permit also covers incidental take of 27 species of concern should any become listed as threatened or endangered during the life of the Permit. The City of Austin and Travis County (the Permit Holders) are required by the terms of the Permit to assemble and manage a minimum of 30,428 acres of suitable habitat for the benefit of these species. This series of protected lands is known as the Balcones Canyonlands Preserve (BCP).

The negative impacts of non-native, nuisance and invasive species have been well documented throughout Texas and around the world. The 2007 BCP Land Management Plan (2007), approved by the USFWS, directs management of the BCP, including control of non-native, nuisance and invasive species.

Beginning in 2002 and updated annually, a *Travis County Parks and Preserves Wildlife Management Permit* is drafted which serves as a general guideline for Travis County staff to direct management of these species in response to the potential human health and safety, economic, and environmental impacts. The purpose of this permit is to recognize that threats may be posed by these species, outline appropriate management strategies, and provide management authority to implement measures to minimize these threats. The guidelines in this permit are intended to provide direction to managers for lands throughout the County system and are anticipated to represent a continually updated and flexible set of directives that are able to meet the needs of a changing environment. As new species or conditions are discovered, this information will be incorporated to provide current status of the conditions and challenges faced by County Park and Preserve land managers.

The Texas Parks and Wildlife Department (TPWD) define exotic animals as herbivorous single-hoofed or cloven-hoofed mammals (ungulates) that are not indigenous or native to Texas, including animals from the deer, antelope, and swine families. Ranch and game managers throughout Texas have introduced such animals for various reasons.

Animals found on Travis County-managed portions of the BCP meeting the definition of exotic include Russian boars (*Sus scrofa*), which freely interbreed with feral hogs.

Non-native animals are species not indigenous to Texas, but which fall outside of the TPWD definition of "exotic". Examples of non-native animal species in Travis County include house sparrows (*Passer domesticus*), European starlings (*Sturnus vulgaris*), red-imported fire ants (*Solenopsis invicta*), tawny crazy ants (*Nylanderia fulva*), and rock doves (*Columba livia*).

Feral animals are wild populations of otherwise domesticated species that have through release or escape reverted to a wild condition. Feral species found in Travis County include house cats, dogs, goats, and hogs.

Nuisance animals are native species that present threats to human health and safety, County property, or other natural resources due to population densities, by providing a disease reservoir or other threat. Nuisance animals may include species such as brown-headed cowbirds (*Molothrus ater*), coyotes (*Canis latrans*), and white-tailed deer (*Odocoileus virginianus*).

In Fiscal Year 2017 (FY17, Oct. 1-Sept. 30), wildlife management activities on Travis County-managed portions of the BCP focused on five species: brown-headed cowbirds (*Molothrus ater*), feral hogs (*Sus scrofa*), white-tailed deer (*Odocoileus virginianus*), tawny crazy ant (*Nylanderia fulva),* and red imported fire ants (*Solenopsis invicta*). Monitoring and control of cowbirds, hogs, and deer are described in their respective sections in this report. Fire ant control and Tawny crazy ant monitoring efforts are described in *Appendix H: Balcones Canyonlands Preserve Karst Monitoring and Management FY2017 Annual Report* of the FY 2017 BCCP Annual Report.

BROWN-HEADED COWBIRDS

Introduction

In addition to many other avian hosts, brown-headed cowbirds (cowbird) parasitize the nests of two Central Texas endangered avian species; the black-capped vireo (*Vireo atricapilla*) and golden-cheeked warbler (*Setophaga chrysoparia*). 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 Fort Hood, 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. Fort Hood currently meets local and regional

recovery goals for the black-capped vireo and attributes this success to cowbird management (Kostecke et al. 2005).

This report summarizes the results of the FY17 Travis County cowbird trapping program. Five traps were operated within, or near, Travis County's BCP properties: the Hamilton Pool Preserve (HP), the Nootsie tract, and on private land adjacent to the Toops, Vireo Ridge, and Kotrla tracts.

Methods

Cowbird trapping in FY17 was conducted exclusively in the western half of the county. Travis County operated two mega traps (16'x16') and three metal hybrid traps (6'x 8'), two of which were on loan from TPWD. The mega traps are located at Hamilton Pool (hereafter, HP trap) and on private property adjacent to the Vireo Ridge tract on FM 2769 (hereafter, FM 2769 trap). The three hybrid traps were operated within the Nootsie tract (hereafter, Nootsie trap), on private property adjacent to the Toops tract (hereafter, Toops trap), and on private property adjacent to the Kotrla tract (hereafter, Kotrla trap).

A group of decoy birds (9 males, 5 females) were acquired from the Balcones Canyonlands National Wildlife Refuge in the beginning of March which allowed the Kotrla and Nootsie traps to open on March 6, 2017. Birds captured in the Kotrla trap were relocated to open other traps on March 15th (FM 2769) and March 16th (Toops). The HP trap was opened on April 1th with birds that were relocated from the Nootsie trap. Table 1 summarizes the FY17 cowbird trapping schedule and initial stocking numbers of decoy birds.

Table 1. FY17 Cowbird trap locations, trapping period dates, and initial cowbird stocking numbers.

Trap	Date Opened	Date Closed	Initial Stocking Numbers
Nootsie	March 6	May 31	3 Males, 2 Females
Kotrla	March 6	May 31	6 Males, 3 Females
FM 2769	March 15	May 10	6 Males, 4 Females
Toops	March 16	May 10	7 Males, 2 Females
HP	April 1	May 26	7 Males, 5 Females

Traps were inspected and maintained every day of the week throughout the season, and any non-target species were removed. If no one was available to check for non-target species on the weekend, the trap was shut down by placing a board over the opening. Water and feed (whole millet seed) were refreshed three times per week. To offset the impact of rising air temperatures on bird health and survivability, plastic water baths and shade cloth were added to the traps. Some traps were reinforced with poultry

fencing along the outer base edges to prevent digging by predators attempting to gain access. Cowbirds were euthanized by placing them in a container with carbon dioxide gas following TPWD protocol (TPWD No Date).

Results and Discussion

In FY17, a total of 109 male and 84 female cowbirds were captured. This year's grand total of 193 individuals was a large reduction from the previous year's total of 427. Table 2 summarizes cowbird captured at each trap by sex, days of operation, and trapping efficiency (or capture rate). Trap success was calculated by dividing the number of females captured by the number of days in operation (x 100).

Travis County Natural Resources maintains a minimum goal of 20% trap efficiency for the program. In FY17, the Nootsie and Kotrla traps were the only ones to exceed this threshold (20.65% and 65.52% respectively), and overall trapping efficiency was at 24.14%. Kotrla continues to be the most productive trapping location since it is in close proximity to rural areas and cattle ranches. However, the Kotrla trap was less successful this year than during the previous year, probably due to the landowners removing cattle from the property in 2017.

Table 2. Results of the FY17 Travis County cowbird trapping season.

Trap	Days in Operation	Males Captured	Females Captured	Total Captured	Overall Trap Efficiency %
FM 2769	57	2	1	3	1.75
Toops	56	3	4	7	7.14
Nootsie	92	16	19	35	20.65
Kotrla	87	75	57	132	65.52
Hamilton Pool	56	13	3	16	5.36
Grand Totals	**348**	**109**	**84**	**193**	**24.14**

FERAL HOGS

Introduction

The BCP Land Management Plan (2007) directs land managers to control populations of feral hogs in order to minimize negative impacts to the native wildlife protected within the preserve system. Feral hogs degrade wildlife habitat and compete directly with native wildlife for food. Hogs 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 (Davis 1994, Hellgren 1997). Their rooting habits create severely disturbed areas, which may lead to a localized shift in plant succession and increase the potential for soil erosion (Davis 1994). 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 1997, U.S. Department of Agriculture 1992). Producing two litters a year, with an average litter size of four to eight piglets, hog numbers can expand rapidly if left unmanaged (Texas Wildlife Damage Management Service 1998).

Methods

Standard operation for Travis County staff included setting and baiting stock panel traps with feeders filled with dry corn. In FY17, a proposed budget was accepted that bolstered trapping materials and improved technology which increased trapping efficiency. This advanced technology provided the user with the ability to monitor images received to their cell phone from a wireless camera. In response to the images, the user could choose the precise moment to close the trap door. This method improved success because the trapper could make sure that all hogs in the sounder were in the trap before closing the door. It also eliminated false triggers caused by non-target animals. Trapped hogs were humanely dispatched and carcasses were taken to be composted.

Results and Discussion

FY17 marked a record year for the hog trapping program with a total of 174 hogs removed from Travis County preserve land. This year's success was undoubtedly attributed to the increased effort put forth by Natural Resources staff and the upgrade in trapping supplies and technology. Table 3 summarizes the number of hogs harvested based on tract and sex.

Table 3. Results of the FY17 hog trapping program.

Tract	Sex (M/F)	Total
Karnik	13/12	25
Canyon Vista	11/11	22
Ribelin	1/2	3
Sam Hamilton East	8/2	10
Woody Hollow	2/6	8
Kotrla	41/52	93
Scott & White	4/2	6
Vireo Ridge	1/0	1
Hamilton Pool	3/3	6
Grand Totals	**84/90**	**174**

WHITE-TAILED DEER

Introduction

The BCP Land Management Plan (2007) directs that white-tailed deer populations be monitored and maintained at a level that allows for successful recruitment of plant species which make up habitat supporting the species listed in the permit (e.g. the golden-cheeked warbler and the black-capped vireo). Central Texas currently has the highest population density of white-tailed deer in the United States (Richards 2000). Research indicates that little or no regeneration of vital habitat components occurred on some preserve tracts (Russell and Fowler, 1999; Russell and Fowler 2002; Russell et. al. 2001) which has generated an effort to design and implement a white-tailed deer population monitoring and control program for Travis County BCP properties.

In the past, Travis County staff operated a deer management program utilizing lethal harvest from the FY03 through the FY08 hunting seasons on the Jollyville Unit of the BCP. Beginning in FY09 and continuing through FY16, Travis County contracted the services of Orion Management and Research Sercices (Orion) to manage the population by lethal harvest on the Jollyville Unit and several other BCP tracts.

Under the terms and conditions of the BCCP, Travis County is also charged with managing populations of golden-cheeked warblers and Texabama croton (*Croton alabamensis var. texensis*) that occur at Pace Bend Park. Texabama croton is a rare plant that is usually not over-browsed, but is commonly subject to physical damage from rubbing by deer. In 2002, and continuing through the present, Travis County has utilized lethal harvest to manage deer at Pace Bend Park.

Methods

Travis County Natural Resources staff and volunteers conducted nighttime spotlight deer surveys during the fall of FY16 on the Kotrla Unit of the BCP and Hamilton Pool Preserve/Reimers Park/ Pogue Springs Preserve. Parks staff conducted all surveys at Pace Bend Park. In addition to nighttime spotlight surveys, Travis County staff implemented a camera survey technique. This method provides a more accurate population estimation of white-tailed deer in areas where there is a lack of infrastructure needed to preform nighttime spotlight surveys (Roberts et al. 2006). This technique was only conducted on the Jollyville Unit in FY17.

Due to limitations in conducting reliable censuses on other less accessible BCP tracts, Travis County biologists also utilized data collected by neighboring partner agencies on their properties (City of Austin and LCRA) for other County tracts (Volente, Lucas, Ribelin). Travis County staff analyzed the survey data to determine deer population estimates and make harvest recommendations.

TPWD currently recommends population levels in the Texas Hill Country of one deer to 15-20 acres for effective songbird habitat management, and some research indicates population targets of one deer per 30 to 40 acres for successful hardwood forest

regeneration. The goal on the BCP is to have a deer density of approximately one deer to 15-30 acres. At Pace Bend Park, the deer population goal is set at one deer to 12-15 acres in order to balance the needs of protecting habitat with the desire of the public to observe white-tailed deer in a park setting.

Results and Discussion

Survey data gathered in September and October 2016 were used to estimate deer densities for FY17, and can be found in Table 4. Overall population trends on the BCP are still positively reflecting the harvest management strategies implemented by Travis County, with the exception of Pace Bend, which is low for park standards.

Table 4. Results for the FY17 deer census.

Location	Acres/Deer	Est. Composition (Buck/Doe/Fawn)	Est. Population
Jollyville Unit	21	24/32/1	57
Kotrla Unit	23	10/28/3	41
Pace Bend	38	8/24/8	40
HP/RR/Pogue	16	36/105/21	162

Travis County staff will continue to monitor deer populations on Travis County-managed land and work to implement TPWD recommendations concerning appropriate management strategies and harvest levels. Annual censuses allow managers to evaluate the effectiveness of management strategies, determine whether desired deer densities have been attained, and calculate future harvest recommendations. As long as census data indicate that deer herds exceed the carrying capacity of County preserve or parklands, deer management should continue on select Travis County Parks and the tracts of the BCP.

The population trend data indicate that the lethal cull strategy has successfully increased the total acreage available per deer and is an effective management option to control deer populations. However, no harvest was conducted in FY17 since Orion did not enter into a contract with Travis County.

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