2002 SUMMARY OF

WILDLIFE MANAGEMENT ACTIVITIES

ON TRAVIS COUNTY MANAGED TRACTS OF THE

BALCONES CANYONLANDS PRESERVE





Travis County Parks and Natural Resources

Projects 0905-0220, 0905-0226

November 2002

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. Department of the Interior, Fish and Wildlife Service, 1996a). The thirty-year permit covers western Travis County outside of proposed Preserve boundaries identified in the Habitat Conservation Plan and Final Environmental Impact Statement (HCP/FEIS) (U. S. Department of the Interior, 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 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 BCP Land Management Plan, approved by the USFWS on September 08, 1999 directs management of the BCP, including control of non-native, nuisance and invasive species. In response to the potential human health and safety, economic, and environmental impacts, Travis County drafted general guidelines to direct management of these species in FY2002. The purpose of the *Travis County Parks and Preserves Wildlife and Vegetation Management Guidelines* (Guidelines) 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 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.

Animal management activities approved under the Guidelines may include reducing, relocating or eliminating individuals or populations of specifically identified species. Variations in management objectives for each property may dictate different management actions for the same species on different tracts.

Exotic animals are defined by the Texas Parks and Wildlife Department as grass-eating or plant-eating, single hoofed or cloven-hoofed mammals (ungulates) that are not indigenous or native to Texas, including animals from the deer and antelope families. Ranch and game managers throughout Texas have introduced such animals for various reasons. Animals considered exotic include Axis deer, Blackbuck antelope, Elk, Fallow deer, Nilgai antelope, Russian boars, and Sika deer. Non-native animals 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 English sparrows, European starlings, red-imported fire ants, and rock doves (or pigeons).

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, to County property, or to 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, coyotes, opossum, and white-tailed deer.

Wildlife management activities on Travis County managed portions of the BCP in FY2002 focused on three species: brown-headed cowbirds (*Molothrus ater*), feral hogs (*Sus scrofa*), and white-tailed deer (*Odocoileus virginianus*).

BROWN-HEADED COWBIRDS

INTRODUCTION

Both black-capped vireos (*Vireo atricapillus*) and golden-cheeked warblers (*Dendroica chrysoparia*) are parasitized by the brown-headed cowbird (hereafter cowbird). Cowbird trapping is an important management technique for both species. This report summarizes the results of the 2002 Travis County brown-headed cowbird-trapping program. Traps were operated at four sites within Travis County's Balcones Canyonlands (BCP) preserve lands: Hamilton Pool Preserve, the Vireo Ridge tract, the Grandview Hills tract and on a private ranch adjacent to the Jollyville Unit on FM 2769.

BACKGROUND

Cowbird trapping was previously conducted in Travis County for the Balcones Canyonlands Preserve by Espey Huston and Associates and DLS Associates (1989), and Texas Animal and Damage Control (1990-1996). In 1997 Travis County Natural Resources Department initiated its own cowbird trapping program. This program was co-managed with the City of Austin until 2001, at which time the City of Austin began operating a program independently. Since 1997,

trap locations have been added and removed according to trap success or failure and access availability.

METHODS

Cowbird trapping in 2002 was conducted exclusively in the western half of the county (where black-capped vireo and golden-cheeked warbler habitats occurs). Travis County operated one Mega Trap (16'x16'), one wooden Hybrid trap and two Texas Parks & Wildlife Metal Hybrid traps (both types, 6'x8'). Two new trap sites, on the Vireo Ridge and Grandview Hills tracts, were added to the program. The trap opened at Lake Perspectives in 2001 was moved to Vireo Ridge due to low success there the previous year. A Mega Trap was erected at Hamilton Pool Preserve in an improved location and the wooden Hybrid trap used there in 2001 was moved to Grandview Hills. New trap locations were based on observed cowbird activity during the 2001 field season.

Decoy birds (28 males, 4 females) were obtained from a private consultant. These birds were placed in the FM 2769 trap and used to capture bait birds for the remaining traps. The FM 2769 trap, first put into operation in 2001, is located adjacent to the Jollyville Unit on a private ranch.

The following table summarizes the 2002 cowbird-trapping schedule and initial stocking numbers (decoy birds).

Trap location	Date opened	Date closed	Initial stocking numbers
FM 2769	February 28	July 12	28 males, 4 females
Grandview Hills tract	March 13	July 23	12 males, 3 females
Vireo Ridge tract	March 20	July 12	15 males, 5 females
Hamilton Pool Preserve	April 16	June 25	20 males, 6 females

Traps were checked at least 3 times a week throughout the season until juvenile cowbirds began appearing in traps on a regular basis. Traps were then checked more frequently. Juveniles were immediately euthanized to deter any further care by the host species. Cowbird euthanasia techniques included thoracic compression and carbon monoxide poisoning. Water and feed (milo) were refreshed on each visit. Plastic baths were added to the traps after mid-April to help offset rising temperatures. Traps were reinforced with poultry fencing along the outer base edges to prevent digging by predators attempting to gain access. Non-target species, including snakes, were removed unharmed.

RESULTS AND DISCUSSION

During the 2002 season a total of 144 male, 105 female and 35 juvenile cowbirds were captured (284 total). Total cowbird captures by class (male, female, and juvenile), captures by month, captures by trap and trap efficiency (capture rate) for 2002 are in the following table. Trap efficiency is calculated by dividing the number of females captured by the number of days in operation (x 100).

Trap location	Month	Days in operation	Males captured	Females captured	Immatures captured	Total	Trap efficiency (%)
FM 2769	Feb.	1	0	0	0	0	0
	March	31	15	12	0	27	38.7
	April	30	25	21	0	46	70.0
	May	31	16	3	0	19	9.7
	June	30	4	2	4	10	6.7
	July	15	0	1	8	9	6.7
	Total	**138**	**60**	**39**	**12**	**111**	**28.3**
Grandview Hills tract	March	19	12	8	0	20	42.1
	April	30	4	16	0	20	53.4
	May	31	3	9	0	12	29.1
	June	30	2	0	9	11	0
	July	23	3	3	6	12	13.1
	Total	**133**	**24**	**36**	**15**	**75**	**27.1**

Trap location	Month	Days in operation	Males captured	Females captured	Immatures captured	Total	Trap efficiency (%)
Vireo Ridge tract	March	7	7	7	0	14	100
	April	30	11	9	0	20	30.0
	May	31	8	7	0	15	22.6
	June	30	1	0	6	7	0
	July	12	0	0	1	1	0
	Total	**110**	**27**	**23**	**7**	**57**	**20.9**
Hamilton Pool Preserve	April	15	18	4	0	22	26.7
	May	31	7	0	0	7	0
	June	25	8	3	1	12	12.0
	Total	**71**	**33**	**7**	**1**	**41**	**9.9**
Total		**452**	**144**	**105**	**35**	**284**	**23.2**

Although several non-target species were trapped, most (86%) avian species and all snakes were released unharmed. The following list notes all non-target species, including snakes, which were found in association with the traps.

Common name	Species name	Trap	Comments
Carolina wren	*Thryothorus ludovicianus*	FM2769	Juvenile, released unharmed
Greater roadrunner	*Geococcyx californianus*	VR	Observed on top of trap 2 times
Ladderbacked woodpecker	*Picoides scalaris*	VR	Juvenile, found dead
Eastern meadowlark	*Sternella magna*	GVH	Juvenile, released unharmed
Northern cardinal	*Cardinalis cardinalis*	VR	Juvenile, released unharmed
Northern mockingbird	*Mimus polyglottus*	GVH, VR	Juveniles, 2 released unharmed, 1 found dead
Red-shouldered hawk	*Buteo lineatus*	FM2769	Observed multiple times, perched on trap
Sharp-shinned hawk	*Accipiter striatus*	GVH	Observed flying from the top of trap
Yellow-headed blackbird	*X. xanthocephalus*	GVH, VR, FM2769	Females, released unharmed, 7 instances including several re-traps
Texas ratsnake	*Elaphe obsoleta lindheimeri*	GVH	Released unharmed, 7 instances

Overall, the greatest cowbird capture rate occurred at the FM 2769 (28.3%). This trap also had the highest single monthly (entire) capture rate (April, 70.0%). The Vireo Ridge trap had 100% success rate in the seven days it was in operation in March, catching 7 females in 7 days.

The greatest number of female cowbirds were captured during the months of March and April (27 and 50 respectively). During April, 58 males and 50 females (108 total) were trapped. As expected, juvenile cowbirds were captured only during June and July. A total of 35 juveniles were captured, with the FM 2769 and Grandview Hills traps catching the majority (77.1%).

Low trap success at Hamilton Pool Preserve over the past three seasons seems counterintuitive considering the abundance of cowbirds observed in the area. In 2002, a Mega Trap was built near a power-line corridor where cowbirds frequently had been observed. Higher trap success was anticipated due to the improved trap location and higher initial stocking rate. Unfortunately, extenuating circumstances prevented the trap from being built and operated until mid-April. This trap had the lowest success rate (9.9%) in the control program, but the increase in the number of

birds trapped from 2001 to 2002 (4 to 41) is promising. Interestingly, the Hamilton Pool trap caught 2 female and one male bronzed cowbirds (*Molothrus aeneus*). An earlier start date in 2003 should increase the trap's overall success.

Trap placement continues to be a primary limiting factor in the cowbird control program. Coordinating with neighboring landowners, especially those with livestock, may provide opportunities for optimal trap sites. The FM 2769 trap once again was the most successful, likely due to the presence of nearby livestock. Coordination with neighboring properties around Hamilton Pool Preserve will be a priority 2003 due to the abundance of nearby livestock, high density of cowbirds, and the high incidence of parasitism observed.

Data on nest parasitism rates, primarily of black-capped vireos (and when possible, golden-cheeked warblers), will continue to be collected to assess the program's effectiveness. No evidence of nest parasitism of black-capped vireos was noted during the 2002 field season. Golden-cheeked warblers were observed tending to cowbird young at the Vista Point tract and Hamilton Pool Preserve (one instance each). Nest parasitism at Hamilton Pool Preserve was also witnessed, with Northern cardinals (*Cardinalis cardinalis*) and painted buntings (*Passerina ciris*) tending to cowbird young (one instance each) as well as the discovery of cowbird eggs in two white-eyed vireo (*Vireo griseus*) nests. A white-eyed vireo was also observed tending to a cowbird young at the Vireo Ridge tract in an area adjacent to several black-capped vireo territories.

FERAL HOGS

INTRODUCTION

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).

BACKGROUND

From 1998 to 2002, Travis County began acquiring tracts managed as the Jollyville Unit of the Balcones Canyonlands Preserve (BCP). Comprised of the Lake Perspectives, Grandview Hills, Vireo Ridge, Vista Point, Toops and Bunten tracts, the Jollyville Unit currently covers over 1600 acres. The acquisition of this land, along with the agreement to manage the Steiner Ranch Preserve (819 acres), introduced Travis County Natural Resources Department to the challenge of feral hog management.

Travis County Natural Resources Department is responsible for the management of feral hogs on County properties and conservation easements. However, the Steiner Ranch Preserve benefits from independent hog-trapping programs conducted on the Steiner Ranch development and also on the adjacent City of Austin BCP Cortaña tract. It was therefore determined that hog-trapping efforts would be focused on the Jollyville Unit.

In October 2001, Travis County contracted with a volunteer hog-trapper to begin removing hogs from the Jollyville Unit. Signs of hogs, including large wallows, rooted areas and well-worn trails indicated that the Jollyville Unit contained an extremely healthy hog population. Trap placement and baiting began in late 2001 and the first hogs were removed in January 2002. The contractor also had access to private property adjacent to the Jollyville Unit and benefited from being able to remove hogs there.

METHODS AND RESULTS

Trapping of feral hogs on the Jollyville Unit and an adjacent private property began in January 2002 and continued through mid-July 2002. A pause in trapping occurred during the hottest summer months (July-September) to avoid unnecessary heat stress on trapped hogs. Trapping resumed in late September, but only at a minimum effort. Trapping was focused primarily in areas near the Cypress Creek valley along FM 2769. Beginning in September 2002, traps were moved to higher areas on the plateau and along an intermittent creek that bisects the Unit. Traps were set, baited and left in operation until activity subsided. They were then moved to more suitable locations.

A variety of traps were used to capture hogs, however all were built of stock paneling and heavy wire and utilized one-way swing gates. The trapper used both his own traps and traps owned by the County. Traps were baited primarily with corn and occasionally rotten fruit. Construction of a larger pen trap is near completion on the Bunten tract and may allow the capture of larger quantities of hogs at one time. Operation of this trap may begin in the winter of 2002.

A total of 103 hogs were removed during the FY2002-trapping season. Seventy-five hogs were removed directly from the Jollyville Unit and an additional 28 were taken off the neighboring private property. Because the hogs removed from this private property probably originated from the Jollyville Unit, they were included in trap totals. Of the 103 hogs trapped, 91 were euthanized and their meat was donated or sold, while the remaining 12 (8 sows and 4 boar) were relocated to a private ranch in southern Travis County.

The following table summarizes 2002 hog-trapping data showing the breakdown by sex and weight class. Hog weight was measured only on hogs trapped on preserve property.

Age / Class	Weight Range	# Removed from JV Unit	# Removed off property	Total
Sow piglets	10-40 lbs	28	12	40
Boar piglets	10-40 lbs	19	8	27
Mature sows	40-180 lbs*	18	4	22
Mature boars	40-158 lbs*	10	4	14
Totals		**75**	**28**	**103**

*denotes heaviest per sex

WHITE-TAILED DEER

INTRODUCTION

The BCP Land Management Plan directs that deer populations be monitored and maintained at a level that allows for successful recruitment of plant species supporting the species listed in the permit (e.g. the golden-cheeked warbler and the black-capped vireo). Recent research indicating that no regeneration of vital habitat components is occurring on some Preserve tracts (Russell and Fowler, 1999; Russell and Fowler 2002; Russell, et. al. 2001) has generated an effort to design and implement a white-tailed deer population monitoring and control program.

METHODS

Under the guidance of the Texas Parks & Wildlife Department (TPWD), Travis County staff collected data in the summer and fall of 2002 to determine the current status of the white-tailed deer population on select BCP tracts. Census results indicate that the preserve currently hosts a population exceeding the carrying capacity for songbird habitats. These surveys estimate deer densities of approximately 1 deer per 5.6 acres. TPWD currently recommends population levels of 1 deer to 15-20 acres for effective songbird habitat management. Without changes in future

management practices, the deer population will continue to cause habitat deterioration within the preserve.

Travis County will secure a TPWD Antlerless and Spike White-tailed Deer Control Permit (ADCP) in early FY2003. An ADCP will allow Travis County to implement a lethal cull of antlerless and spike deer by approved harvesters from September 28, 2002 through January 19, 2003. In all cases, animal removal will be discreet and as humane as possible. Any animals taken will be dispatched in a swift, effective and humane manner. No cruelty will be tolerated. The safety of employees, patrons and neighbors is Travis County's top priority as efforts are focused on appropriate management of the deer population. Arrangements have been made to donate all venison to a local charity for use in providing nutritious meals for needy Travis County citizens.

Mike Reagan, Technical Guidance Biologist with TPWD, provided harvest recommendations based upon annual census data. Mr. Reagan's harvest recommendation of 12 bucks and 61 antlerless deer would reduce the estimated deer population from the current 5.6 acres per deer to 7.5 acres per deer. Mr. Reagan has advised that large-scale management harvests will be necessary for several years to prevent additional habitat destruction due to the current deer overpopulation. Overall quality and health of the deer herd, wildlife habitats, and other wildlife species on the preserve should begin to recover once these management actions are successfully implemented.

RECCOMENDATIONS

Implementation of a monitoring and management program will allow the Natural Resources Program staff to appropriately manage populations of white-tailed deer on the BCP. Commissioner's Court is expected to take action on the Natural Resources Program deer permit enabling management activities during the first quarter of FY03.

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