2008 SUMMARY OF

WILDLIFE MANAGEMENT ACTIVITIES

ON TRAVIS COUNTY MANAGED TRACTS OF THE

BALCONES CANYONLANDS PRESERVE

Travis County Natural Resources and Environmental Quality Division

January 2009

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 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.

Wildlife management activities approved under the Guidelines may include reducing; relocating or eliminating individuals or populations of specifically identified species. Management objectives or other constraints for each property may dictate different actions for the same species on different tracts.

The Texas Parks and Wildlife Department define exotic animals 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 found on Travis County managed portions of the BCP meeting the definition of exotic include Russian boars, 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 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 FY2008 focused on three species: brown-headed cowbirds (*Molothrus ater*), feral hogs (*Sus scrofa*), and white-tailed deer (*Odocoileus virginianus*).

BROWN-HEADED COWBIRDS

INTRODUCTION

In addition to many other avian biological hosts, Brown-headed cowbirds (*Molothrus ater,* hereafter cowbird) parasitize the nests of two Central Texas endangered avian species, the Black-capped vireo (*Vireo atricapilla*) and Golden-cheeked warbler (*Dendroica chrysoparia*). Cowbird trapping has been the subject of considerable research and management activities 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. Ft. 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 2008 Travis County cowbird trapping program. Four traps were operated within, or near, Travis County's Balcones Canyonlands Preserve (BCP) properties: within Hamilton Pool Preserve, the Nootsie tract, and on private land

adjacent to the Toops and Vireo Ridge tracts (both off FM 2769). A fifth trap was operated at Travis County's Milton Reimers Ranch County Park.

BACKGROUND

Cowbird trapping was previously conducted in western Travis County 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 (Travis County, 1998). 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 or removed according to trap success or failure and access availability. Trapping did not occur in 1998 due to staff shortage (See Appendix A).

METHODS

Cowbird trapping in 2008 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 are on loan from Texas Parks and Wildlife. The mega traps are located at Hamilton Pool Preserve and on private property adjacent to the Vireo Ridge tract on FM 2769 (hereafter the FM 2769 trap). The three hybrid traps were operated at Milton Reimers Ranch County Park (referred to as the Reimers trap), within the Nootsie tract (referred to as the Nootsie trap) and on private property adjacent to the Toops tract (hereafter, Toops trap).

Decoy birds (44 males, 5 females) were obtained from Texas Parks and Wildlife. Because of the unusually high number of bait birds acquired, four of the five traps were put into operation immediately. Cowbirds captured in these traps were eventually transferred to the remaining trap to serve as bait. Table 1 summarizes the 2008 cowbird trapping schedule and initial stocking numbers of decoy birds.

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

Trap	Date Opened	Date Closed	Initial Stocking Numbers
FM 2769	March 13	May 27	11 Males, 0 Females
Reimers	March 13	June 5	13 Males, 1 Females
Hamilton Pool Preserve	March 13	June 5	11 Males, 4 Females
Toops	March 13	June 13	9 Males, 0 Females
Nootsie	April 24	May 30	6 Males, 4 Females

Traps were routinely inspected and maintained at least three times per week throughout the season until juvenile cowbirds began appearing in traps. Traps were then checked more frequently. Juveniles were immediately euthanized to deter any further care by the host species.

Water and feed (whole milo) were refreshed on each visit. 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. Non-target species found in traps were removed unharmed unless otherwise noted (**Table 2**).

Table 2. Non-target species found in Travis County operated traps, 2008.

Common Name	Species Name	Trap(s)	Comments
Yellow-headed blackbird	*X. xanthocephalus*	RR	released
Red-winged blackbird	*Agelaius phoeniceus*	RR	released
Northern cardinal	*Cardinalis cardinalis*	RR	released
Bronzed cowbird	*Molothrus aeneus*	FM 2769, RR, NT, HP	released (8 instances), dispatched (2 instances)
Northern mockingbird	*Mimus polygottos*	HP	released
Broad-banded copperhead	*Agkustrodon contortrix*	FM 2769	released

RR= Reimers HP= Hamilton Pool Preserve NT= Nootsie

RESULTS AND DISCUSSION

In 2008, a total of 218 male, 251 female and one juvenile cowbird were captured (470 total). Table 3 summarizes cowbird captures at each trap by class (male, female, and juvenile), month, and trap efficiency (or capture rate) during the 2008 trapping season. Trap efficiency is calculated by dividing the number of females captured by the number of days in operation (x 100). Capture rates in 2008 were the highest since the program's inception (**Appendix**), with the program's highest recorded overall trapping efficiency rate of 65.7%. Travis County Natural Resources maintains a minimum goal of 20% trap efficiency for the program.

The two traps located in far western Travis County (Hamilton Pool Preserve and Reimers traps) continued to perform well, primarily due to the proximity of livestock and the Pedernales River corridor. The mega-trap at Hamilton Pool Preserve was the most successful trap in 2008 with an overall efficiency of 111.90%. The trap at Milton Reimers Ranch Park

was again very successful in its third year of operation, posting nearly an 80% efficiency rate.

Table 3. Results of the 2008 Travis County cowbird trapping season.

Trap	Month	Days in Operation	Males captured	Females captured	Juveniles Captured	Total Captured	Trap Efficiency (%)
FM 2769	March	19	4	0	0	4	0
	April	30	6	7	0	13	23.33
	May	26	3	5	0	8	19.23
	Total	75	13	12	0	25	16.00
Hamilton Pool	March	19	40	23	0	59	100.00
	April	30	25	62	0	87	206.66
	May	31	6	9	0	15	29.03
	June	4	0	0	0	0	0
	Total	84	71	94	0	165	111.90
Nootsie	April	7	2	6	0	8	85.71
	May	31	12	9	0	21	29.03
	June	23	0	3	0	3	13.04
	Total	61	14	18	0	32	29.50
Reimers	March	19	38	39	0	77	205.26
	April	30	17	17	0	34	56.66
	May	31	16	11	0	28	35.48
	June	4	0	0	1	1	0
	Total	84	71	67	1	139	79.76
Toops	March	19	10	1	0	14	6.89
	April	30	27	29	0	55	96.66
	May	29	12	30	0	42	103.44
	Total	78	49	60	0	109	76.92
Grand Totals		**382**	**218**	**251**	**1**	**470**	**65.70**

The 2769 mega trap performed below expectations for the second consecutive year, although trap efficiency was higher than last year. This is likely the result of a shorter operational duration for this trap. It remains unclear why the trap is less effective than it was prior to 2007. As speculated in 2007, area land use changes could be a factor with nearby cattle pastures having been converted into neighborhoods and a golf course. Regardless of low trapping numbers, cowbirds remain a problem in the area as indicated by the discovery of a white-eyed vireo (*Vireo griseus*) nest found parasitized approximately one mile from this trap.

In 2008, two traps (Nootsie and Toops) exceeded low expectations. The Nootsie trap was moved from its 2007 power line corridor location, to a site adjacent to the Travis County Natural Resources field office on the Nootsie tract. This trap operated at a 29.5% trapping efficiency rate, compared to 7.4% in 2007. The Toops trap, which was only operated for a short duration in 2007 and only had a 4.9% trapping efficiency rate, benefited from a full trapping season, with a result of a 76.9% trapping efficiency rate. Additionally, livestock (horses, goats) in the immediate area of this trap clearly served as a cowbird attractant.

In general, optimal trapping locations, particularly those in or near livestock or agricultural areas that serve as feeding and congregation sites, are difficult to locate. As the conversion of farms and ranches into subdivisions and other suburban development continues in much of western Travis County, areas that may concentrate cowbird numbers that are easily accessible are becoming uncommon. Regardless, cowbirds continue to disperse into the preserve in smaller numbers, often along power-line corridors that crisscross the preserve system, searching for optimal breeding sites. As a result, traps are routinely placed along, or near these corridors as well as in endangered species habitat (particularly near the small population of black-capped vireos) with full knowledge that these locations might not trap an abundant number of cowbirds, however could serve as a buffer for endangered avian species breeding in the area.

The cowbird trapping program was again a success, greatly exceeding the internal 20% overall trapping efficiency goal. This is largely due to the very efficient traps located at Hamilton Pool Preserve and Milton Reimers Ranch Park, as well as the success and management of several of the remaining traps. Trapping sites in and around the other County managed BCP properties are limited, but as additional tracts are acquired, more optimum trap sites may be made available. Staff will continue monitoring the presence of cowbirds in endangered avian species habitat each season and adjust trap placement when necessary.

FERAL HOGS

INTRODUCTION

The BCP Land Management Plan directs land managers to control populations of feral hogs to ensure minimal negative impacts to the native wildlife protected by 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).

BACKGROUND

Travis County Natural Resources Department is responsible for the management of non-native wildlife on County owned and managed portions of the BCP. Preserve areas showing signs of significant feral hog populations included Steiner Ranch Preserve, the Canyon Vista tract, the Jollyville Unit, the Ribelin Ranch tract and the Concordia University Preserve tract.

The Steiner Ranch Preserve benefited from independent hog-trapping programs conducted by the managers of the Steiner Ranch communities as well the efforts by the City of Austin on the adjacent BCP Cortaña tract.

Large wallows, rooted areas, well-worn trails, and first-hand staff encounters in the field verified the significant hog population on the Canyon Vista, Ribelin Ranch, the Jollyville Unit and on the Concordia University Preserve tract.

Travis County continued to coordinate efforts with surrounding landowners and the City of Austin to implement management actions adjacent to these BCP lands.

Travis County removed feral hogs incidental to white-tailed deer management activities and contracted with independent hog-trappers in an attempt to manage feral hog populations in 2008.

METHODS

Trapping of feral hogs on County managed BCP tracts continued in October of 2007. No trapping is attempted during the hottest summer months (July-September) to avoid unnecessary heat stress to trapped animals. The contracted trappers utilize stock panel and heavy welded-wire traps of their own design as well as commercially produced traps provided by the County. Travis County worked with a private contractor to construct a portable gate and trigger mechanism that could be easily transported and deployed on the preserve. Initial testing of this new trap is underway.

Trapping effort was focused in areas showing significant hog damage. Standard operation included setting and baiting traps with corn and occasionally rotten fruit. Traps were routinely baited in the late afternoon and checked late at night or early the following morning. Traps were operated in a given location until signs of hog activity in the area subsided, at which point they were relocated and re-set in new trapping sites.

Travis County staff was authorized to shoot feral hogs while engaged in deer management actions if shots were deemed to be safe.

RESULTS AND DISCUSSION

Four feral hogs were taken by County staff incidental to the deer management actions detailed below.

Trappers employed by the County reported removing two hogs from County properties in FY08. Drought conditions through the spring and summer resulted in low incidence of hog activity and trappers reported curtailing their unsuccessful efforts for a significant portion of the year.

Travis County Natural Resources is in the process of drafting a Feral Hog Management Plan with standardized operating procedures in an effort to increase the effectiveness of the County's hog management efforts. Proposed changes include varying trapping equipment, methods and locations employed by contractors and staff and employing year-round daytime and nighttime "spotlight" harvest actions in accordance with TPWD regulations to increase chances of management success.

WHITE-TAILED DEER

INTRODUCTION

The BCP Land Management Plan 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). Recent research indicating that little or 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 for Travis County BCP properties.

Under the terms and condition of the BCCP, Travis County is also charged with managing populations of Texabama croton (*Croton alabamensis var. texensis*) that occur at Pace Bend Park. Under the guidance and assistance of Texas Parks & Wildlife Department (TPWD) and in cooperation with the Lower Colorado River Authority (LCRA), Travis County staff has collected deer population data at Pace Bend Park since FY1997. TPWD permitted various Wildlife Co-ops, under Travis County guidance, to conduct trap-and-release programs in an attempt to manage the population in the park. Deer densities after five consecutive years of this strategy, however, continued to exceed healthy and sustainable levels.

The trap and relocation efforts previously employed are no longer a viable option at Pace Bend Park. According to Conservation Scientists with TPWD, release sites are becoming scarcer and the effectiveness of these highly labor intensive control methods are minimal. Although the public may have a positive perception of trap and release efforts, TPWD scientists indicate that deer mortality rate within the first year of release may be considerably high (up to 80%).

Immuno-contraception (IC) methods have been reviewed and deemed unsuitable as a method to control populations of white-tailed deer. These actions require capture, tagging, and annual administration of injected contraceptive drugs to each doe in a population. The long-term effectiveness and health implications of these methods are currently unknown. Furthermore, once injected with the contraceptive drug these animals are unsuitable for human consumption. TPWD currently has no permitting process that allows the use of IC drugs to reduce white-tailed deer populations.

METHODS

Travis County staff collects annual population census data to estimate white-tailed deer populations on select tracts in accordance with TPWD guidelines. Census results indicate that the preserve currently hosts a population exceeding the carrying capacity for songbird habitats. These surveys estimate deer densities on County BCP tracts of approximately 1 deer per 9.1 acres. Census results for Pace Bend Park estimate deer densities of 1 deer per 8.9 acres. TPWD currently recommends population levels of 1 deer to 15-20 acres for effective songbird habitat management, and some research indicates population targets of 1 deer per 30 to 40 acres for successful hardwood forest regeneration.

Mike Reagan, Technical Guidance Biologist with TPWD, provided harvest recommendations based upon the County's population census data. Mr. Reagan advised that large-scale management harvests would 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.

Travis County obtained TPWD Managed Lands Deer Control Permits (MLDP) for selected tracts of the BCP and Pace Bend Park in early FY08. These permits allowed Travis County to implement a lethal cull of specified numbers of both male and female deer by approved harvesters. In all cases, animal removal was discreet and as humane as possible. Any animals taken were dispatched in a swift, effective and humane manner. The safety of the public and staff was Travis County's top priority as efforts focused on effective management of the deer population. Arrangements were made to donate all venison to a local charity for use in providing nutritious meals for needy Travis County citizens.

RESULTS AND DISCUSSION

White-tailed deer management activities were performed under the terms and conditions of the MLDP and the constraints related to weather variables in FY08. A total of 50 deer were safely and humanely removed from the BCP and Pace Bend Park, resulting in an approximate net gain of 25 tons of forbs and browse on these properties.

Overall population trends on these tracts have begun to reflect the lethal harvest management strategies implemented by Travis County in FY03. This is best illustrated at Pace Bend Park, since deer data collection has been underway continuously at this site since FY97, and the relative impacts of five years of trap and transport programs (FY97 through FY01) can be compared to the current lethal cull strategy (FY03 to present, See Table 4).

The population trend data indicate that the lethal cull strategy has successfully increased from 2.7 to 8.9 the total acreage available per deer while also reducing the total estimated population on the park. TPWD no longer issues Trap-and-Transport permits as a deer management tool, and the lethal harvest strategy currently in place has been demonstrated to be an effective management option to control deer populations.

Table 4. White-tailed deer population trends at Pace Bend Park FY1997 through FY2008.

YEAR	AC/ DEER	ESTIMATED COMPOSITION BY BUCK/DOE/FAWN	ESTIMATED POPULATION	TOTAL REMOVED
FY1997	4.9	70/117/57	244	85
FY1998	3.7	40/167/63	270	80
FY1999	3.8	53/156/55	264	111
FY2000	4.5	61/119/45	225	92
FY2001	5.7	29/97/28	326	19
FY2002	3.6	61/86/43	519	0
FY2003	2.7	29/139/30	464	18
FY2004	3.6	110/232/83	425	74
FY2005	2.5	154/329/133	616	91
FY2006	3.4	183/181/79	443	96
FY2007	6.2	86/134/25	245	59
FY2008	8.9	61/91/20	172	34

A total of 26 deer were removed from the BCP in FY08. Since implementing the lethal cull strategy on these tracts in FY03, the total population on the BCP Jollyville Unit has been reduced and the numbers of acres per deer has almost doubled (see Table 5).

In addition to successfully managing the overpopulation of deer, this program has also generated significant public support for County management efforts. This is largely due to the better than 6.5 tons of processed ground venison that has been directed to Caritas of Austin to provide high quality low fat protein to needy local residents in cooperation with the Texas Association of Community Action Agencies' Hunters for the Hungry program.

Table 5. White-tailed deer population trends on the BCP Jollyville Unit FY03 through FY08.

YEAR	AC/ DEER	ESTIMATED COMPOSITION BY BUCK/DOE/FAWN	ESTIMATED POPULATION	TOTAL REMOVED
FY03	5.6	46/162/82	290	9
FY04	5.5	61/158/78	297	12
FY05	7.2	35/127/63	225	22
F006	9.6	33/103/33	169	20
FY07	10.0	44/142/55	241	12
FY08	9.1	29/122/46	197	26

Travis County will continue monitor deer populations on these tracts 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 Pace Bend Park and the tracts of the BCP.

White-tailed deer management is generally agreed to be only marginally effective without “deer-proof” (i.e.: 8’ to 10’ high fencing completely surrounding managed areas) fencing of properties due to the ingress and egress of deer between populations on adjacent properties. As long as deer from surrounding properties can migrate into the preserve, management activities will be unable to maintain reduced herd populations which allow for regeneration of hardwood forest species.

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APPENDIX A. Travis County Natural Resources Cowbird Trapping Program History

Travis County Natural Resources Cowbird Trapping Program History, 1997-2007

Year	Trap location/name	Cowbirds trapped (M, F, HY)	Total trapped
1997	Vireo Preserve	14, 6, 3	23
	Riverplace	26, 7, 9	42
	Steiner Ranch 1	6, 4, 4	14
	Steiner Ranch 2	7, 2, 0	9
	Canyon Creek mega	26, 13, 6	45
	Satellite 2	17, 17, 0	34
	McGregor	0	0
1997 Total			**164***
1998	trapping did not occur this year		
1998 Total		0	**0**
1999	3M	13, 3, 3	19
	Riverplace	28, 11, 6	45
	Steiner Ranch	16, 4, 0	20
	Canyon Creek mega	57, 25, 21	103
	Ivanhoe mega	39, 13, 6	58
	Mansfield Dam	15, 11, 0	26
	Satellite 2	2, 0, 2	4
1999 Total			**275***
2000	Cortaña	24, 11, 2	37
	Riverplace	17, 10, 2	29
	Steiner Ranch	0	0
	Canyon Creek mega	48, 57, 13	118
	Ivanhoe mega	10, 5, 0	20
	Mansfield Dam	8, 8, 0	16
	Hamilton Pool Preserve	18, 8, 1	27
	3M #1	0	0
	3M #2	19, 23, 0	42
2000 Total			**284***
2001	Hamilton Pool Preserve	1, 3, 0	4
	Lake Perspectives tract	4, 0, 0	4
	FM2769	37, 41, 8	86
2001 Total			**94**

Year	Trap location/name	Cowbirds trapped (M, F, HY)	Total trapped
2002	Hamilton Pool Preserve mega	33, 7, 1	41
	FM2769 mega	60, 39, 12	111
	Grandview Hills North tract	24, 36, 15	75
	Vireo Ridge tract	27, 23, 7	57
2002 Total			**284**
2003	Hamilton Pool Preserve mega	115, 82, 0	197
	FM2769 mega	31, 58, 3	92
	Grandview Hills North tract	13, 24, 0	37
	Vireo Ridge tract #1	8, 4, 4	16
	Vireo Ridge tract #2	19, 12, 2	33
2003 Total			**375**
2004	Hamilton Pool Preserve mega	89, 128, 0	217
	FM2769 mega	56, 63, 4	123
	Grandview Hills North tract	11, 12, 0	23
	Vireo Ridge tract #1	10, 7, 3	20
	Steiner Ranch**	n/a	n/a
	Cuevas tract	1, 3, 0	4
2004 Total			**387**
2005	Hamilton Pool Preserve mega	38, 44, 0	82
	FM2769 mega	26, 45, 0	71
	Vireo Ridge tract #1	12, 4, 0	16
	Ribelin tract	13, 11, 7	31
2005 Total			**200**
2006	Hamilton Pool Preserve mega	83, 65, 0	148
	FM2769 mega	49, 45, 1	95
	Milton Reimers Ranch County Park	63, 49, 0	112
	Ribelin tract	20, 29, 1	50
	Nootsie tract	8, 3, 0	11
2006 Total			**416**
2007	Hamilton Pool Preserve mega	86, 73, 0	159
	FM2769 mega	14, 15, 1	30
	Milton Reimers Ranch County Park	90, 50, 3	143
	Nootsie tract	14, 6, 0	20
	Toops tract	3, 2, 0	5
2007 Total			**357**

Year	Trap location/name	Cowbirds trapped (M, F, HY)	Total trapped
2008	Hamilton Pool Preserve mega	71, 94, 0	165
	FM2769 mega	13, 12, 0	25
	Milton Reimers Ranch County Park	71, 67, 1	139
	Nootsie tract	14, 18, 0	32
	Toops tract	49, 60, 0	109
2008 Total			**470**

* Total adjusted to exclude cowbirds that escaped.

** This trap was vandalized and all cowbirds were released.