

**SUMMARY OF SEASONAL WILDLIFE SURVEYS AT THE  
VICTORIA COUNTY STATION SITE, VICTORIA COUNTY, TEXAS,  
2007-2008**



**(Scissor-tailed Flycatcher)**

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**11 November 2008**

## INTRODUCTION

This report summarizes five seasonal surveys of terrestrial wildlife observed on the Victoria County Station (VCS) site from October of 2007 through October of 2008. Terrestrial wildlife observed during this period included mammals, reptiles, and birds. Mammals, reptiles, and amphibians were also surveyed during species-specific surveys during the spring/summer months, their peak period of activity. The results of the species-specific studies are reported in BioWest 2008 and summarized in the VCS Combined License Application Environmental Report.

Wildlife use of the VCS site is influenced by a multitude of factors, but three of the most important factors include the types of available habitats, climatic (rainfall) impacts on habitat, and (for birds) seasonal presence due to migratory status. Many wildlife species, especially mammals and reptiles, do not migrate, but apparent differences among seasons for these animals are often due to changes in activity patterns (if they are less active, they are less likely to be observed).

### VCS Habitats

The VCS site is located on a slightly elevated plain adjacent to the Guadalupe River basin in southern Victoria County, Texas. The terrain is relatively flat on the western side of the site, becoming more hilly toward the eastern side of the site. The northeastern site boundary slopes sharply downward to the Guadalupe River basin, specifically Black Bayou and Linn Lake (Figure 1). The site consists primarily of rangeland (generally bluestem grasslands) with scattered oak mottes and encroaching thickets of invasive/nuisance shrubs, predominantly huisache. A relatively low number of mottes are sufficiently large to appear in Figure 1, but many smaller mottes occur on the VCS landscape. This rangeland receives varying levels of use by livestock, as approximately 1100 cattle and 150 horses are rotated among fenced parcels for grazing. Some portions of this rangeland have not been grazed in 3–4 years, and thus they can appear as tall “old field vegetation.” This rangeland is interspersed with ephemeral/intermittent streams and low-lying depression wet areas. The largest ephemeral stream is Dry Kuy Creek, which originates in the northwest corner of the site and exits the south-central site boundary. Several other un-named ephemeral/intermittent streams occur on the site as tributaries of Dry Kuy Creek, Linn Lake, Black Bayou, and Kuy Creek. The slope from the rangeland down to the Guadalupe River basin is typified by live oak forests transitioning into bottomland forest along the open water sites and the Guadalupe River. Linn Lake and Black Bayou are the open water sites with forested wetland edges along the eastern boundary of the VCS site. All depressional wetlands and water bodies on the VCS site, including those adjacent to Linn Lake and Black Bayou, are subject to major fluctuations in water levels due to climatic factors.

## Climate/Rainfall Effects

The hydrologic status of wetlands, streams, and water bodies throughout and adjacent to the VCS site during the period of study was largely determined by local rainfall amounts/patterns. For example, the March survey occurred shortly after heavy rains impacted Victoria County and the site and all of the depression wetlands had standing water and the ephemeral/intermittent streams had flowing water (Table 1). The region then experienced a sustained dry period from May through October of 2008, which included the last two seasonal surveys. All on-site streams were therefore subject to considerable water level/flow fluctuations (Table 1). As a result, none of the ephemeral/intermittent streams on the VCS site contained any water during the last two surveys. All depression wetlands were dry during the latter surveys, the only exception being depressions managed to hold water for livestock (using supplemental pumps). Linn Lake was largely dry during the latter two surveys. Similarly, the riverine bottomlands in the southeastern corner of the site were typically very dry during those surveys, with only a few persistent, isolated pools of water.

## Avian Migration

Potential avian species found on the VCS site consist of “year-round” species and wintering/migratory birds. Of the 629 species of birds documented for Texas, 333 species (53%) are considered neartic-neotropical migrants, essentially those birds that breed in the temperate latitudes but leave to winter in the more tropical latitudes to the south (Shackleford *et al.* 2005). Avian migration is triggered by external factors such as day length and temperature, but is also influenced by weather patterns, flowering of plants, and the availability of food. The timing of migration is relatively fixed for some species (e.g., swallows, swifts), but is flexible for most others, being dependent on environmental conditions. Migratory birds often follow specific, well-defined routes over long distances. The Texas coastal region is situated at the conjunction of two migration routes, the Central and Mississippi flyways, resulting in large numbers of a wide diversity of species migrating through the region in the fall and spring months (Shackleford *et al.* 2005). Some migrants fly to Texas and “winter” in this region whereas others fly through the region en route to/from more tropical wintering areas.

## **METHODS**

Tetra Tech conducted five (5) wildlife surveys on the proposed Victoria County Station site: 23-24 October 2007, 11-13 March 2008, 28-29 May 2008, 15-16 July 2008, and 7-8 October 2008. The October and March surveys included fall and spring avian migrants, respectively.

Each survey consisted of approximately 20 hours of observations over a two or three day period by two biologists. All habitat types present on the site were visited during each survey: bluestem grasslands, oak mottes, oak forest, bottomland forests, as well as ephemeral streams and wetlands, stock watering ponds, and Linn Lake (shoreline

surveys only). Time spent in each habitat was roughly proportional to habitat abundance within the site (e.g., biologists spent considerably more time surveying the grasslands than the oak mottes).

The surveys consisted of a combination of vehicular and pedestrian surveys (Figure 1), although frequent stops were made during the vehicular component to get out and identify and count wildlife by both direct observation, observation of signs (e.g., tracks), and sound (calls). Approximately 22 miles of routes were surveyed by vehicle during all five seasonal visits (“permanent”); portions of other routes (“occasional”; approximately 9 miles total) were surveyed if time allowed.

For birds, the relative abundance of individual species was estimated after each seasonal survey, with each recorded species classified as abundant (> 50 individuals observed), common (10 to 50 observed), or uncommon (< 10 observed), based on their frequency of occurrence. Additionally, avian species were documented by biologists involved in other surveys (e.g., small mammal and herpetological surveys) during the October 2007 through October 2008 period of study. These birds were recorded on the avian species list, but were not included in the seasonal survey estimates.

The observed bird species were also classified as to their expected occurrence in the region. They were classified as:

- year-round - indicates the species can be found year-round in this region, although winter and summer populations may involve different individual birds
- summer - these are birds in their breeding range
- winter - the normal winter distribution of the species
- migration - main migration routes, as well as areas of normal dispersal and post-breeding wandering

These classifications were made based on range maps in avian field guides (NGS 1987, Sibley 2000).

## **SUMMARY OF WILDLIFE SURVEYS**

### Avian Surveys

One hundred and six (106) avian species were observed on or near the VCS site during the twelve-month period of seasonal surveys (Table 2). Of these, 25 species (24%) were not documented during the seasonal surveys, but rather during other surveys (e.g., small mammal trapping). Sixteen (16) of the 25 species were water birds/shorebirds observed during extensive herpetological/small mammal surveys in or adjacent to site wetlands.

The remaining 81 avian species were observed during one or more of the five seasonal surveys. For discussion purposes, these species were classified into avian “groups” including wading birds, shorebirds, other water birds, game birds, birds of prey/soaring

birds, and passerines and other birds. Occurrence of federal or state-listed species is mentioned within each avian group.

### *Wading Birds*

Twelve species of wading birds were observed during the five surveys (Table 2). Of these, four species were observed during every survey: great egret (*Ardea alba*), great blue heron (*Ardea herodias*), little blue heron (*Egretta caerulea*), and white ibis (*Eudocimus albus*). No wading bird species were classified as “abundant” during these surveys, although several were classified as “common.”

Climatic impacts on site wetlands influenced wading bird use of the site and locations within the sites. Drying conditions during the May and July surveys tended to concentrate wading birds in the shrinking wetlands, resulting in 9 species observed during each of those surveys and increased presence of tactile-foraging species (stork, spoonbill, and ibis species) in July. The sustained dry conditions of the October 2008 survey (all ephemeral wetlands dry, Linn Lake essentially dry) resulted in only five wading bird species and these were observed in generally low numbers.

The wood stork (*Mycteria americana*) is a state-listed (threatened) species that was observed during the latter two surveys of the VCS site. This species is federally listed as endangered in five southeastern states (AL, FL, GA, SC, NC), but is not federally listed in Texas. This large piscivorous bird is a tactile forager, requiring shallow waters to effectively catch prey. Wood storks are not known to breed on a regular basis in Texas and most sightings in the state are presumed to be birds dispersing from Mexican breeding populations to forage in drying Gulf Coast wetlands. A single stork was observed in a drying bottomland pool in the southeastern corner of the VCS site (near the Guadalupe River) in July and 30 storks were observed flying over a dry Linn Lake in October 2008.

White-faced ibis (*Plegadis chihi*) is a state-listed (threatened) species that is very similar in appearance to non-listed glossy ibis (*Plegadis falcinellus*). Although we presumed the birds we observed were glossy ibises, some sightings were made at distances that precluded accurate identification and thus it is possible that some white-faced ibis were present on the site.

### *Shorebirds*

Only four species of shorebirds were observed during the seasonal surveys (Table 2). The most common bird in this group was the killdeer (*Charadrius vociferus*), which was present in low numbers during most of the surveys. The American avocet (*Recurvirostra americana*) is a year-round species more common to tidal mud flats and the remaining two species are migrants.

The low shorebird numbers and species diversity were likely due to overall lack of shore line habitat (VCS is dominated by grasslands) and the timing of the drawdown of the

few site water bodies due to rainfall. Extensive drying/ drawdown of site wetlands and Linn Lake occurred between the March and July surveys (9 additional species of shorebirds were observed during non-avian surveys [see Table 2], which occurred in April and May). Shorebirds frequently forage on aquatic invertebrates along the drying edge of water bodies and the primary water body, Linn Lake, was relatively dry during both the July and October 2008 surveys.

#### *Other Water Birds*

This group consists of waterfowl, diving birds, and marsh birds. Eight species were observed during the five seasonal surveys (Table 2). Of these, white pelicans (*Pelecanus erythrorhynchos*) were the most common, typically seen on Linn Lake when water levels were higher. Two of the diving birds, anhingas (*Anhinga anhinga*) and cormorants (*Phalacrocorax* spp.), were relatively common in the first two surveys but were absent during the latter drier surveys. Waterfowl species were relatively sparse and tended to shift from depression wetlands to the more persistent stock watering ponds in the drier months.

#### *Game Birds*

Two of the five game species, bobwhite quail (*Colinus virginianus*) and mourning dove (*Zenaidura macroura*), were present and occasionally abundant throughout all five seasonal surveys (Table 2). Although common ground doves (*Columbina passerina*) and wild turkeys (*Meleagris gallopavo*) were not observed during all surveys, these species probably occur year-round on the site in very low numbers. The sandhill crane (*Grus canadensis*) is a seasonally abundant migratory species that winters in the region. These cranes were abundant during the March surveys, when they were observed foraging in the recently-burned parcels of the rangeland on the VCS site prior to their northward spring migration.

#### *Birds of Prey/Soaring Birds*

Most of the ten species in this group likely reside on the VCS site or in the region, only the merlin (*Falco columbarius*) and northern harrier (*Circus cyaneus*) are migratory species (Table 2). Turkey vultures (*Cathartes aura*) were common to abundant throughout the year and were seen roosting in large numbers (>300) on the dried-out Linn Lake “mud flats” in October 2008. The remaining species were seen in low numbers throughout the year.

The white-tailed hawk (*Buteo albicaudatus*) is a state-listed (threatened) species that forages in the rangeland habitats common to the VCS site. This species was seen in low numbers ( $\leq 5$ ) throughout the year, but no evidence of nesting on the VCS site has been found.

Single bald eagles (*Haliaeetus leucocephalus*), another state-listed (threatened) species that was recently de-listed as a federally-endangered species, were observed on three

occasions during the year (once in October, 2007 and twice in October of 2008). All sightings were in the eastern portion of the site, near Linn Lake. Multiple bald eagle nest sites are documented in the Guadalupe River basin (Dr. Brent Ortego, TPWD, pers. comm.), but none occur on the VCS site or Linn Lake.

### *Passerines and Other Birds*

Fifty-one passerine/other bird species have been seen on the VCS site, of which 42 were observed during the seasonal surveys. Thirty-one of the 42 (74%) are classified as year-round or summer (breeding season) species and the remaining 26% (11 species) are classified as winter or migratory species. Several species were seasonally abundant: northern cardinal (*Cardinalis cardinalis*), mockingbird (*Mimus polyglottos*), eastern meadowlark (*Sturnella magna*), scissor-tailed flycatcher (*Tyrannus forficatus*), barn swallow (*Hirundo rustica*), and cliff swallow (*Petrochelidon pyrrhonata*); although all are classified as year-round or summer species.

None of the avian species within this group are federally or state listed.

### Mammal and Reptile Surveys

Eleven different mammal species or their sign were observed during the seasonal surveys (Table 3). All 11 of these species, as well as 5 rodent species captured during live-trapping activities, were reported during mammal surveys (BioWest 2008). Three species (white-tail deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), and feral pigs (*Sus scrofa*)) or their sign were observed during all five surveys. There are an estimated 1,000 deer on the VCS site, based on hunter reports and census efforts (Kirke Fuerbacher, McCann Ranch biologist, pers. comm.). Tracks of coyotes and/or dogs, which are identical, were observed during two surveys.

Twenty-two (22) total species of amphibians and reptiles were reported in the combined herpetological surveys (BioWest 2008) which included minnow trapping and other active aquatic sampling methods. However, only three species of reptiles were observed during the 2007-2008 seasonal wildlife surveys (Table 3).

## **CONCLUSIONS**

Five seasonal wildlife surveys of the VCS site in Victoria County, Texas, were conducted from October 2007 through October 2008. Eighty-one avian species were documented during these surveys. Species occurrence on the site was impacted by the habitats available (primarily grasslands) and climatic conditions which impacted those habitats. Sustained dry conditions in the latter portion of the year eliminated shallow wetland habitats available to the birds and literally removed Linn Lake as an aquatic open-water habitat. Seasonal differences in bird occurrence, which were expected, were impacted by annual migration patterns of the various species. Approximately one-

fourth of all avian species observed on or near the VCS site were wintering or migratory species.

Eleven mammal and three reptile species also were observed during the seasonal surveys. All of these species also were documented during the specific mammal and herpetological surveys, which, as expected, found other, more secretive species. Also, as with the avifauna, sustained dry conditions reduced habitat (wetlands) availability for some species and likely impacted the numbers of mammal and reptile species observed during seasonal surveys.

Wildlife species observed during the seasonal surveys were typical for the region and the timing of the surveys.

## **References**

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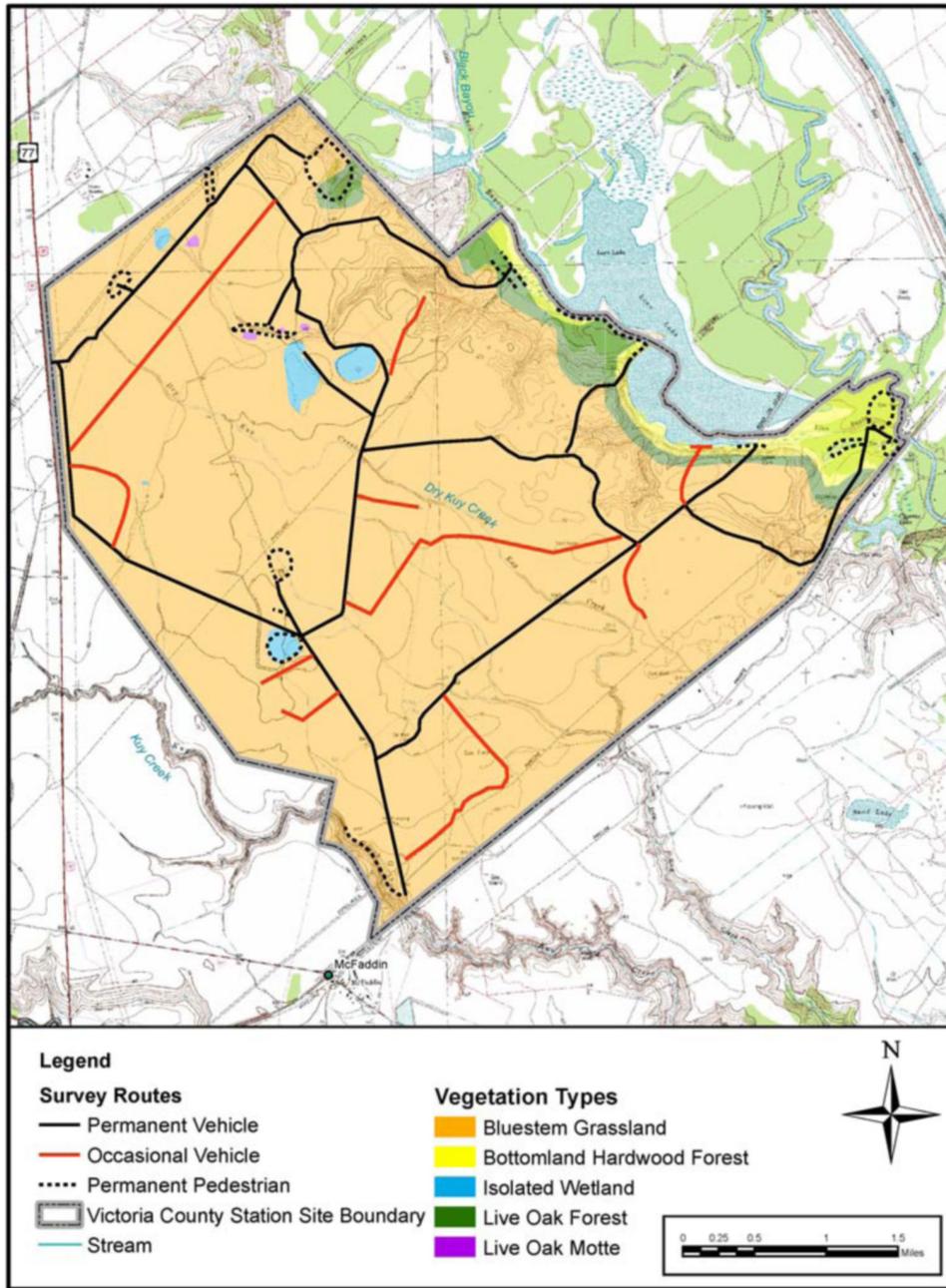
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Figure 1. Wildlife survey routes on the VCS site: 2007-2008.



Terrestrial Survey Routes

**Table 1. Presence and flow of water in Kuy Creek and Dry Kuy Creek on the Victoria County Station site during 2007-2008 seasonal surveys.**

	Kuy Creek	Dry Kuy Ck (north rd)	Dry Kuy Ck (mid-site rd)	Dry Kuy Ck (south rd)
October 23-24, 2007	continuous low flow	isolated pools no flow	isolated pools no flow	isolated pools no flow
March 11-13, 2008	continuous high flow	continuous moderate flow	continuous moderate flow	continuous moderate flow
May 28-29, 2008	isolated pools no flow	isolated pools no flow	isolated pools no flow	isolated pools no flow
July 15-16, 2008	isolated pools no flow	dry no flow	dry no flow	dry no flow
October 7-8, 2008	dry no flow	dry no flow	dry no flow	dry no flow

**Table 2. Avian Species Observed During Wildlife Surveys of the Proposed Victoria County Station Site<sup>1</sup> in Victoria County, Texas: 2007-2008.**

Occurrence			Survey Period <sup>2</sup> /Abundance <sup>3</sup>				
Avian Group	Status <sup>4</sup>	Species	OCT. 2007	MAR. 2008	MAY 2008	JULY 2008	OCT. 2008
<b>Wading Birds</b>	S	Roseate spoonbill ( <i>Ajaia ajaja</i> )	Uncom	Uncom	Uncom	Com	-
	Y	Great egret ( <i>Ardea alba</i> )	Com	Com	Uncom	Com	Uncom
	Y	Great blue heron ( <i>Ardea herodias</i> )	Com	Com	Uncom	Uncom	Uncom
	W	American bittern ( <i>Botaurus lentiginosus</i> )*	-	-	-	-	-
	Y	Cattle egret ( <i>Bubulcus ibis</i> )	-	-	Com	Uncom	-
	Y	Green heron ( <i>Butorides virescens</i> )*	-	-	-	-	-
	Y	Little blue heron ( <i>Egretta caerulea</i> )	Uncom	Uncom	Uncom	Uncom	Uncom
	Y	Snowy egret ( <i>Egretta thula</i> )	Uncom	-	Uncom	-	-
	Y	Tricolored heron ( <i>Egretta tricolor</i> )	Uncom	-	Uncom	-	-
	Y	White ibis ( <i>Eudocimus albus</i> )	Com	Com	Com	Com	Uncom
	Y	Least bittern ( <i>Ixobrychus exilis</i> )*	-	-	-	-	-
	M	Wood stork ( <i>Mycteria americana</i> )	-	-	-	Uncom	Com
	Y	Yellow-crowned night-heron ( <i>Nyctanassa violacea</i> )	-	Uncom	Uncom	-	-
	Y	Black-crowned night-heron ( <i>Nycticorax nycticorax</i> )	-	-	-	Uncom	-
	Y	Whitefaced or glossy ibis ( <i>Plegadis chihi or falcinellus</i> )	-	Com	-	Uncom	-
<b>Shorebirds</b>	W	Spotted sandpiper ( <i>Actits macularia</i> )*	-	-	-	-	-
	W	Western sandpiper ( <i>Calidris mauri</i> )*	-	-	-	-	-
	W	Least sandpiper ( <i>Calidris pusillus</i> )*	-	-	-	-	-
	W	Mountain plover ( <i>Charadrius montanus</i> )	-	Uncom	-	-	-
	Y	Killdeer ( <i>Charadrius vociferus</i> )	Com	Com	Uncom	-	Com
	Y	Black-necked stilts ( <i>Himantopus mexicanus</i> )*	-	-	-	-	-
	W	Short-billed dowitcher ( <i>Limnodromus griseus</i> )*	-	-	-	-	-
	W	Long-billed dowitcher ( <i>Limnodromus scolopaceus</i> )*	-	-	-	-	-

**Table 2. Avian Species Observed During Wildlife Surveys of the Proposed Victoria County Station Site<sup>1</sup> in Victoria County, Texas: 2007-2008 (continued)**

Occurrence			Survey Period <sup>2</sup> /Abundance <sup>3</sup>				
Avian Group	Status <sup>4</sup>	Species	OCT. 2007	MAR. 2008	MAY 2008	JULY 2008	OCT. 2008
<b>Shorebirds</b> - Cont'd	M	Stilt sandpiper ( <i>Micropalma himantopus</i> )*	-	-	-	-	-
	Y	American avocet ( <i>Recurvirostra americana</i> )	Uncom	-	-	-	-
	W	Lesser yellowlegs ( <i>Tringa flavipes</i> )*	-	-	-	-	-
	W	Greater yellowlegs ( <i>Tringa melanocleuca</i> )	-	Uncom	-	-	Uncom
	W	Solitary sandpiper ( <i>Tringa solitaria</i> )*	-	-	-	-	-
<b>Other</b> <b>Waterbirds</b>	Y	Wood duck ( <i>Aix sponsa</i> )*	-	-	-	-	-
	W	Northern shoveler ( <i>Anas clypeata</i> )	-	Uncom	-	-	-
	Y	Blue-winged teal ( <i>Anas discors</i> )	-	-	-	-	Uncom
	Y	Mottled duck ( <i>Anas fulvigula</i> )*	-	-	-	-	-
	Y	Anhinga ( <i>Anhinga anhinga</i> )	Com	Com	-	-	-
	W	Yellow rail ( <i>Coturnicops novaboracensis</i> )*	-	-	-	-	-
	Y	Black-bellied whistling duck ( <i>Dendrocygna autumnalis</i> )	-	-	Uncom	Uncom	-
	S	Fulvous whistling duck ( <i>Dendrocygna bicolor</i> )	Uncom	-	-	-	-
	Y	White pelican ( <i>Pelecanus erythrorhynchos</i> )	Com	Com	Uncom	-	-
	Y	American coot ( <i>Fulicia americana</i> )	-	Uncom	-	-	-
	W	Sora ( <i>Porzana carolina</i> )*	-	-	-	-	-
	Y	Cormorant ( <i>Phalacrocorax spp.</i> )	Uncom	Uncom	-	-	-
<b>Game</b> <b>Birds</b>	Y	Northern bobwhite quail ( <i>Colinus virginianus</i> )	Uncom	Uncom	Abun	Abun	Uncom
	Y	Common ground dove ( <i>Columbina passerina</i> )	-	-	Uncom	Uncom	Uncom
	W	Sandhill crane ( <i>Grus canadensis</i> )	Com	Abund	-	-	-
	Y	Wild turkey ( <i>Meleagris gallopavo</i> )	Uncom	Uncom	Uncom	-	-
	Y	Mourning dove ( <i>Zenaida macroura</i> )	Com	Com	Abun	Com	Abun

**Table 2. Avian Species Observed During Wildlife Surveys of the Proposed Victoria County Station Site<sup>1</sup> in Victoria County, Texas: 2007-2008 (continued)**

Occurrence			Survey Period <sup>2</sup> /Abundance <sup>3</sup>				
			OCT. 2007	MAR. 2008	MAY 2008	JULY 2008	OCT. 2008
Avian Group	Status <sup>4</sup>	Species					
<b>Birds of Prey/ Soaring Birds</b>	Y	White-tailed hawk ( <i>Buteo albicaudatus</i> )	Uncom	Uncom	Uncom	Uncom	Uncom
	Y	Red-tailed hawk ( <i>Buteo jamaicensis</i> )	Com	Com	Uncom	Uncom	Uncom
	Y	Red-shouldered hawk ( <i>Buteo lineatus</i> )	-	Uncom	Uncom	Uncom	Uncom
	Y	Crested caracara ( <i>Caracara plancus</i> )	Uncom	Com	Uncom	Uncom	Uncom
	Y	Turkey vulture ( <i>Cathartes aura</i> )	Com	Com	Com	Abun	Abun
	W	Northern harrier ( <i>Circus cyaneus</i> )	-	Uncom	-	-	-
	Y	Black vulture ( <i>Coragyps atratus</i> )	Uncom	Uncom	Uncom	Uncom	Uncom
	W	Merlin ( <i>Falco columbarius</i> )	Uncom	-	-	-	-
	Y	Kestrel ( <i>Falco sparverius</i> )	Com	Com	-	-	Com
	Y	Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Uncom	-	-	-	Uncom
<b>Passerines &amp; Other Birds</b>	Y	Red-winged blackbird ( <i>Agelaius phoeniceus</i> )	-	Uncom	Com	Uncom	-
	S	Ruby-throated hummingbird ( <i>Archilochus colubris</i> )	-	-	-	Uncom	-
	Y	Tufted titmouse ( <i>Baeolophus bicolor</i> )	-	Uncom	Uncom	Uncom	Uncom
	Y	Great horned owl ( <i>Bubo virginiana</i> )*	-	-	-	-	-
	Y	Northern cardinal ( <i>Cardinalis cardinalis</i> )	Com	Com	Abun	Abun	Com
	S	Chimney swift ( <i>Chaetura pelagica</i> )*	-	-	-	-	-
	Y	Lark sparrow ( <i>Chondestes grammacus</i> )*	-	-	-	-	-
	S	Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	-	-	Uncom	Uncom	-
	Y	Northern flicker ( <i>Colaptes auratus</i> )	-	Uncom	-	-	-
	M	Eastern wood pewee ( <i>Contopus virens</i> )	-	-	-	-	Uncom
	Y	American crow ( <i>Corvus brachyrhynchos</i> )	-	Uncom	Uncom	Uncom	Com
	W	Yellow-rumped warbler ( <i>Dendroica coronata</i> )	-	Uncom	-	-	-
	M	Yellow-throated warbler ( <i>Dendroica dominica</i> )*	-	-	-	-	-
	W	Palm warbler ( <i>Dendroica palmarum</i> )	-	-	-	-	Uncom
	Y	Pileated woodpecker ( <i>Dryocopus pileatus</i> )	-	-	-	Uncom	-
	W	Gray catbird ( <i>Dumetella carolinensis</i> )	-	-	-	-	Uncom

**Table 2. Avian Species Observed During Wildlife Surveys of the Proposed Victoria County Station Site<sup>1</sup> in Victoria County, Texas: 2007-2008 (continued)**

Occurrence			Survey Period <sup>2</sup> /Abundance <sup>3</sup>				
Avian Group	Status <sup>4</sup>	Species	OCT. 2007	MAR. 2008	MAY 2008	JULY 2008	OCT. 2008
<b>Passerines &amp; Other Birds - Cont'd</b>	S	Blue grosbeak ( <i>Guiraca caerulea</i> )	-	-	-	Uncom	-
	S	Barn swallow ( <i>Hirundo rustica</i> )	Com	-	-	-	Abun
	Y	Loggerhead shrike ( <i>Lanius ludovicianus</i> )	Com	Com	-	Uncom	Com
	Y	Red-bellied woodpecker ( <i>Melanerpes carolinus</i> )	-	Uncom	Uncom	Uncom	Uncom
	W	Song sparrow ( <i>Melospiza melodia</i> )	-	Com	-	-	-
	Y	Mockingbird ( <i>Mimus polyglottos</i> )	Com	Com	Abun	Com	Com
	S	Black-and-white warbler ( <i>Mniotilta varia</i> )	-	-	-	Uncom	-
	Y	Brown-headed cowbird ( <i>Molothrus ater</i> )	-	Uncom	Com	Uncom	-
	M	Great crested flycatcher ( <i>Myiarchus crinitus</i> )	-	-	Uncom	-	-
	Y	Ladder-backed woodpecker ( <i>Picoides scalaris</i> )	-	-	Uncom	-	Uncom
	S	Painted bunting ( <i>Passerina ciris</i> )	-	-	Uncom	Uncom	-
	M	Indigo bunting ( <i>Passerina cyanea</i> )*	-	-	-	-	-
	W	Savannah sparrow ( <i>Passerculus sandwichensis</i> )	-	Com	-	-	Uncom
	S	Cliff swallow ( <i>Petrochelidon pyrrhonata</i> )	-	-	Com	Abun	Com
	W	Vesper sparrow ( <i>Pooecetes gramineus</i> )*	-	-	-	-	-
	Y	Carolina chickadee ( <i>Poecile carolinensis</i> )	-	Uncom	Uncom	Uncom	Uncom
	Y	Blue-gray gnatcatcher ( <i>Polioptila caerulea</i> )	-	Uncom	-	-	Uncom
	M	Prothonotary warbler ( <i>Prothonotaria citrea</i> )*	-	-	-	-	-
	Y	Great-tailed grackle ( <i>Quiscalus mexicanus</i> )	-	-	-	Uncom	-
	Y	Common grackle ( <i>Quiscalus quiscula</i> )	-	Uncom	-	-	-
Y	Eastern phoebe ( <i>Sayornis phoebe</i> )	-	Com	-	-	-	
Y	Eastern bluebird ( <i>Siala sialis</i> )	-	Uncom	-	-	-	
W	Yellow-bellied sapsucker ( <i>Sphyrapicus varius</i> )	-	-	-	-	Uncom	
Y	Dickcissel ( <i>Spiza americana</i> )	-	-	Uncom	-	-	
W	Field sparrow ( <i>Spizella pusilla</i> )	-	Uncom	-	-	-	
Y	Northern rough-winged swallow ( <i>Stelgidopteryx serripennis</i> )	-	-	-	-	Uncom	
Y	Barred owl ( <i>Strix varia</i> )	-	Uncom	Uncom	Uncom	Uncom	

**Table 2. Avian Species Observed During Wildlife Surveys of the Proposed Victoria County Station Site<sup>1</sup> in Victoria County, Texas: 2007-2008 (continued)**

Occurrence			Survey Period <sup>2</sup> /Abundance <sup>3</sup>				
Avian Group	Status <sup>4</sup>	Species	OCT. 2007	MAR. 2008	MAY 2008	JULY 2008	OCT. 2008
<b>Passerines &amp; Other Birds</b>	Y	Eastern meadowlark ( <i>Sturnella magna</i> )	Com	Com	Uncom	Abun	Uncom
	W	Tree swallow ( <i>Tachycineta bicolor</i> )	Com	Uncom	-	-	-
<b>Cont'd</b>	Y	Bewick's wren ( <i>Thryomanes bewickii</i> )	-	-	Uncom	-	-
	S	Scissor-tailed flycatcher ( <i>Tyrannus forficatus</i> )	Uncom	-	Abun	Com	Com
	S	Eastern kingbird ( <i>Tyrannus tyrannus</i> )*	-	-	-	-	-
	W	Orange-crowned warbler ( <i>Vermivora celata</i> )	-	-	-	-	Uncom
	S	White-eyed vireo ( <i>Vireo griseus</i> )	-	Com	Com	Com	-
	M	Red-eyed vireo ( <i>Vireo olivaceus</i> )*	-	-	-	-	-

<sup>1</sup> The site surveys included the Victoria County Station Site, Black Bayou, and Linn Lake.

<sup>2</sup> Survey periods were October 23-24, 2007; March 11-13, 2008; May 28-29, 2008, July 15-16, 2008, and October 7-8, 2008.

<sup>3</sup> Relative abundance (within expected habitats) was classified as Abun = Abundant; Com = Common; and Uncom = Uncommon/Rare, based on number observed in typical habitats relative to time surveyed. "-" indicates birds were not observed during the specified survey and thus relative abundance was not determined.

<sup>4</sup> Occurrence Status: birds were classified as year-round (Y), summer (S), winter (W), or migration (M) - see description in Methods.

\* These species were not seen during the five seasonal surveys but were seen during other site visits/surveys.

**Table 3. Mammal and Reptile Species Observed During Wildlife Surveys of the Proposed Victoria County Station Site<sup>1</sup> in Victoria County, Texas: 2007-2008.**

Group	Species	Survey Period <sup>2</sup> /Presence <sup>3</sup>				
		OCT.	MAR.	MAY	JULY	OCT.
<b>Mammals</b>	Coyote/dog ( <i>Canis latrans/domesticus</i> )	P	-	-	-	P
	Armadillo ( <i>Dasypus novemcinctus</i> )	-	P	P	-	-
	Opposum ( <i>Didelphis virginiana</i> )	-	P	-	-	-
	Attwater's pocket gopher ( <i>Geomys attwateri</i> )	-	P	P	P	P
	Bobcat ( <i>Lynx rufus</i> )	-	P	-	-	-
	White-tail deer ( <i>Odocoileus virginianus</i> )	P	P	P	P	P
	Raccoon ( <i>Procyon lotor</i> )	P	P	P	P	P
	Gray squirrel ( <i>Sciurus carolinensis</i> )	-	P	P	P	P
	Fox squirrel ( <i>Sciurus niger</i> )	-	P	P	-	-
	Feral pig ( <i>Sus scrofa</i> )	P	P	P	P	P
Rabbit ( <i>Silvilagus floridanus</i> or <i>S. aquaticus</i> )	-	P	-	-	-	
<b>Reptiles</b>	Alligator ( <i>Alligator mississippiensis</i> )	-	-	-	P	-
	Eastern garter snake ( <i>Thamnophis sirtalis sirtalis</i> )	P	-	P	-	-
	Broad-banded water snake ( <i>Nerodia fasciata confluens</i> )	-	-	P	P	-

<sup>1</sup> The site surveys included the Victoria County Station Site, Black Bayou, and Linn Lake.

<sup>2</sup> Survey periods were October 23-24, 2007; March 11-13, 2008; May 28-29, 2008, July 15-16, 2008, and October 7-8, 2008.

<sup>3</sup> Presence: "P" = species observed; "-" = species not observed.