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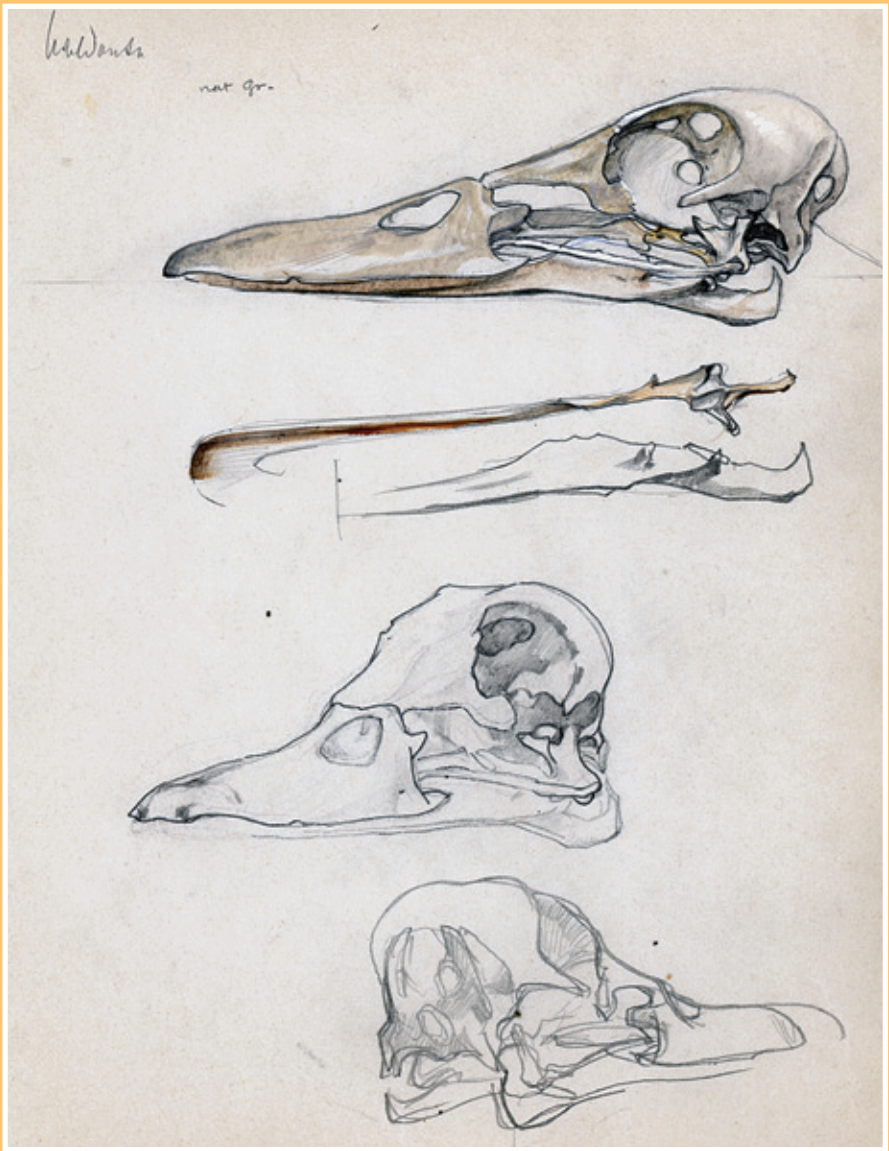

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Frontispiece. Northern Bobwhite (*Colinus virginianus*). Art compliments of Lynn Delvin..

BULLETIN OF THE

TEXAS ORNITHOLOGICAL SOCIETY

ESTIMATES OF IMMIGRATION AND EMIGRATION FOR TWO NORTHERN BOBWHITE POPULATIONS IN TEXAS

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ABSTRACT.—Estimating emigration and immigration has not been well documented and is generally assumed to be equal in Northern Bobwhite (*Colinus virginianus*) populations because of the complexity of documenting movement and defining population size. In the winters (20 Oct to 29 Feb) of 2007-08 and 2008-09 we used mark-recapture techniques to sample bobwhites in the Rolling Plains and South Texas Plains and develop capture histories for each individual. We used the "Pradel λ" model in Program MARK to estimate finite population growth rate (λ) and then inferred emigration and immigration rates from these estimates. We found that in the Rolling Plains, λ in 2007-08 was 0.999 (95% CI = 0.996–1.002, n = 112) and in 2008-09 was 0.998 (95% CI = 0.995–1.002, n = 106). This was the same as the South Texas Plains in 2007-08 with 1.003 (95% CI = 0.998–1.008, n = 174) and 0.993 (95% CI = 0.983–1.004, n = 49) in 2008-09. With λ being essentially 1, it implies that bobwhites were either sedentary or emigration and immigration occurred at the same rate. This concludes that previous assumptions of emigration and immigration being equal during the winter are true.

INTRODUCTION

Immigration is the movement of new individuals into a population. Emigration is the movement of individuals out of a population. Immigration and emigration are seldom estimated for northern bobwhite populations because of the difficulty quantifying movements with current research tools such as band returns or radiotelemtery. However immigration and emigration are potentially important population parameters for examining how wildlife populations fluctuate through both space and time.

Even though radiotelemetry has been used to monitor upland game birds for nearly 40 years (Brander 1968) problems with recording movements still exist due to the relatively weak frequencies emitted by small transmitters. In this chapter, we present an approach to quantifying immigration and emigration based on mark-recapture of banded bobwhites. This approach was developed by Pradel (1996) where he stated that by reversing the capture history of an individual it is possible to determine seniority and calculate finite population growth rate (λ) based on the probability of an individual being present in the past and being present in the future. This advice was then incorporated into Program MARK (White and Burnham 1999) where direct estimates of λ can be obtained for a population over

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a given time period. Lambda = 1 indicates a stable population (no ingress or egress); $\lambda < 1$ indicates a decreasing population (emigration); and $\lambda > 1$ indicates an increasing population (immigration).

STUDY AREA

This research was conducted in 2 ecoregions of Texas: Rolling Plains and South Texas Plains (Gould 1975). These ecoregions experience high annual and seasonal variability in rainfall amount (Correl and Johnston 1979); thus, bobwhite populations therein exhibit irruptive behavior (Jackson 1969, Lehmann 1984:8).

Rolling Plains

The Rolling Plains study area was located in Fisher County near Roby, Texas. Land uses were primarily cattle production and lease hunting. Soils in the area are Paducah loam (55.0%) and Woodward loam (32.0%) (NRCS Web Soil Survey 2008). Average annual precipitation for this region is 55.9 cm with an average snowfall of 25.4 cm (National Climate Data Center 2007). Average winter temperature (Nov–Mar) is 7.7°C and summer temperature (Apr-Aug) is 23.3°C (National Climate Data Center 2007). The study pasture was approximately 400 ha in size. The vegetation community was predominantly honey mesquite (*Prosopis glandulosa*), lotebush (*Ziziphus obtusifolia*), netleaf hackberry (*Celtis reticulata*), prickly pear (*Opuntia* spp.), silver bluestem (*Bothriochloa saccharoides*), threeawns (*Aristida* spp.), sideoats grama (*Bouteloua curtipendula*), and buffalo grass (*Buchloe dactyloides*) (Rollins 2007).

South Texas Plains

The South Texas Plains study area was located in Brooks County south of Falfurrias, Texas on the Encino Division of the King Ranch. Also known as the coastal sand plain of the Tamaulipan Biotic Province, this region is characteristic of semi-arid, sub-tropical climate. Land use on the study area includes commercial hunting, ecotourism, and cattle production (Hernández et al. 2007). Soils in the area are Falfurrias fine sand (84.5%), Sauz fine sand (13.2%), and Sarita fine sand (2.3%) (NRCS Web Soil Survey 2008). Rainfall varies considerably from year to year making this region's climate and habitat very dynamic. Average annual rainfall is 63.5 cm, mean winter (Nov–Mar) temperature is 16.6°C, and summer (Apr-Aug) temperature is 30°C (National Climate Data Center 2007). This site was approximately 400 ha in size. The vegetation community was dominated by honey mesquite, oaks, huisache (*Acacia minuata*), granjeno (*Celtis pallida*), brazil (*Condalia hookeri*), prickly pear (*Opuntia lindheimeri*) doveweed (*Croton* spp.), sunflower (*Helianthus* spp.), gulf cordgrass (*Spartina spartinae*), sandbur (*Cenchrus incertus*), and purple threeawn (*Aristida purpurea*)(Teinert 2009).

METHODS

Trapping

Trapping took place from 20 October 2007 to 29 February 2008 and 20 October 2008 to 1 March 2008. This time period coincided with the bobwhite hunting season and the winter period although some variation occurred due to logistic restraints. To properly sample a defined population, we sampled evenly across the population of interest. We placed funnel-type traps (Stoddard 1931:442) baited with milo >250 m apart on a trapping grid (grid created using ARC GIS 9.2, ESRI, Inc., Redlands, CA). Individuals were classified by sex and age (Rosene 1969:44–54) and all bobwhites captured were banded. Bobwhites captured the first season were banded on the left leg, and second season on the right. Each time a bobwhite was captured or recaptured we recorded time and date of capture.

Data Analysis

With this information we built an encounter history to use in the "Pradel Survival and Lambda" (Pradel 1996) platform in Program MARK. This platform uses binary data to represent encounter histories in LLLL format (White and Burnham 1999). Finite population growth rate is calculated by the equation λ = (Births − Deaths) + (Immigration − Emigration). During the winter period we assumed that there was no reproduction, based known bobwhite life history (Lehmann 1984:86). Along with λ we can calculate a survival parameter in Program MARK which will account for any mortality that occurs, taking it out of the equation. Therefore, we calculated λ and from this we inferred immigration and emigration. The encounter histories included an identification number and capture history. For example, the encounter history for an individual looked like this: /*7856*/0000001000000001110101111; where (/*7856*/) was the identification number, (0000001000000001110101111) capture history. We built only the constant Phi(.) p(.) λ(.) model to

Table 1 Sample size (n) and winter population rate of change (λ) of northern bobwhites estimated using mark-recapture Pradel λ models in Program Mark in Fisher County (i.e., Rolling Plains; 29 Oct 2007– 29 Feb 2008) and in Brooks County (i.e., South Texas; 12 Dec 2007– 29 Feb 2008, Texas, USA.

County						
Year	n^a	o^b	λ	SE	Lower 95% CI	Upper 95% CI
Brooks						
2007-08	174	17	1.003	0.003	0.998	1.008
2008-09	49	30	0.993	0.005	0.983	1.004
Fisher						
2007-2008	112	33	0.999	0.002	0.996	1.002
2008-2009	106	23	0.998	0.002	0.995	1.002

[a] Number of marked (either banded or radiomarked) bobwhites in the sample.
[b] Number of tapping occasions (days) where baited traps were set with the intention of capturing bobwhites.

describe the data and derive parameter estimates. In this model Phi = apparent survival, p = probability of recapture, and λ = finite population growth rate.

RESULTS

In South Texas 2007–08, we spent 17 days trapping which resulted in 174 captured bobwhites. During the 2008–09 winter, we spent 30 days trapping and captured 49 bobwhites. South Texas λ estimates ranged from 0.993 to 1.003 (Table 1). In the Rolling Plains 2007–08, 33 days were spent trapping and resulted in 112 captured bobwhites. During the 2008–09 winter 23 days were spent trapping which provided 106 captured bobwhites. In the Rolling Plains λ estimates ranged from 0.998 to 0.999 (Table 1). Estimates of λ were similar between years within each region and similar between regions in both years (Table 1).

DISCUSSION

There is only scant literature that quantifies emigration and immigration of any species of Galliformes, much less bobwhites. Most of the present literature on galliform movements usually focuses on dispersal (Townsend et al. 2003, Hornell-Willebrand 2005, Liu and Zhang 2008), or short range movement (Dixon et al. 1996). There is no definitive method for measuring emigration and immigration. Researchers have to develop methods for quantifying emigration and immigration to fulfill specific project needs. This approach obtained estimates of λ and derived emigration and immigration which are generally difficult to estimate. In each year, at each site, λ estimates were bounded around 1 and all estimates were 1 or near 1 indicating that neither emigration nor immigration were occurring, or if they were, they were most likely equal. The majority of bobwhite movements occur during the fall and spring (Townsend et al. 2003). During fall, bobwhites move to form coveys in what is known as the fall shuffle (Lehmann 1984:33, Townsend et al. 2003). During spring, coveys disperse into male and female pairs prior to nesting (Lehmann 1984:67, Townsend et al. 2003). During the winter bobwhites are generally less mobile and dispersion is less likely to occur (Townsend et al. 2003). Our results support these conclusions. During other times of the year this approach would not be applicable without modification due to the additional parameter of reproduction that cannot be easily quantified. In these instances it would be appropriate to have 2 populations of radiomarked bobwhites. Then, movement of quail in and out of the population would be known, and one could calculate the rate or probability of emigration and immigration. However, the inability to properly define a bobwhite population, and the large scale needed to accomplish this research is one of the leading factors why emigration and immigration are hard to quantify, even for a relatively sedentary species such as the northern bobwhite.

MANAGEMENT IMPLICATIONS

For managers it appears that the effects of immigration and emigration are probably less important, when developing harvest strategies, than other aspects of population demographics such as survival and reproduction. During winter,

bobwhites can be considered sedentary and their movements can probably be attributed to daily activates within a winter home range. Further investigation should be made during times when bobwhites are known to move with high frequency, such as during the fall shuffle and spring breakup.

ACKNOWLEDGMENTS

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EXPLORING RADIOTELEMETRY BIAS WITH NORTHERN BOBWHITES ON THE ROLLING PLAINS AND SOUTH TEXAS PLAINS

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ABSTRACT.—Radiotelemetry is one of the most common techniques used to study northern bobwhite (*Colinus virginianus*). However, this method has received criticism because of concerns that it is handicapping bobwhites and lowering survival. We examined mark-recapture data in Program MARK for influence of radiotelemetry, mass (g), and time on bobwhite winter survival in the Rolling Plains and South Texas Plains during the winters (Oct–Feb) of 2007-08 and 2008-09. We found that banded bobwhites did not experience different survival than radiomarked bobwhites. Mass affected survival during times when mortality was high due to ice and snow events. Survival was not shown to vary in time. These results draw the same conclusions as that of previous research, that radiotelemetry can, and will continue, to provide reliable estimates of bobwhite survival estimates.

INTRODUCTION

Radiotelemetry has been used to monitor game birds and estimate aspects of their population and habitat ecology for about the past 40 years (Brander 1968). Recently, there has been concern over possible biases with data collected by radiotelemetry (Guthery and Lusk 2004). Osborne et al. (1997) Guthery and Lusk (2004), Hernández et al. (2004), Abbott et al. (2005), Palmer and Wellendorf (2007), and Terhune et al. (2007) examined potential ill effects caused by radiotelemtery in lipid mass, body mass, feed consumption, energy expenditure, muscular damage, and decreased survival, but questions regarding radiotelemetry bias remain. Recent studies (Burger et al. 1995, Hernández et al. 2005, Terhune et al. 2007) have made placement of a radio transmitter on bobwhites conditional on the mass of the bird being equal to or greater than a threshold, such as ≥150 g.

This study had 3 objectives: (1) determine if overwinter survival estimates of bobwhites marked with radio packages were similar to survival estimates from bobwhites that were marked only with aluminum leg bands; (2) determine if mass at time of capture influences the overwinter survival of bobwhites; and (3) determine if survival varies over time.

STUDY AREA

This research was conducted in 2 ecoregions of Texas: Rolling Plains and South Texas Plains (Gould 1975). These ecoregions experience high annual and seasonal variability in rainfall amount (Correl and Johnston 1979); thus, bobwhite populations therein exhibit irruptive behavior (Jackson 1969, Lehmann 1984:8).

Rolling Plains

The Rolling Plains study area was located in Fisher County near Roby, Texas. Land uses were primarily cattle production and lease hunting. Soils in the area are Paducah loam (55.0%) and Woodward loam (32.0%) (NRCS Web Soil Survey 2008). Average annual precipitation for this region is 55.9 cm with an average snowfall of 25.4 cm (National Climate Data Center 2007). Average winter temperature (Nov–Mar) is 7.7°C and summer temperature (Apr-Aug) is 23.3°C

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(National Climate Data Center 2007). The study pasture was approximately 400 ha in size. The vegetation community was predominantly honey mesquite (*Prosopis glandulosa*), lotebush (*Ziziphus obtusifolia*), netleaf hackberry (*Celtis reticulata*), prickly pear (*Opuntia* spp.), silver bluestem (*Bothriochloa saccharoides*), threeawns (*Aristida* spp.), sideoats grama (*Bouteloua curtipendula*), and buffalo grass (*Buchloe dactyloides*) (Rollins 2007).

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The South Texas Plains study area was located in Brooks County south of Falfurrias, Texas on the Encino Division of the King Ranch. Also known as the coastal sand plain of the Tamaulipan Biotic Province, this region was characteristic of semi-arid, sub-tropical climate. Land use on the study area includes commercial hunting, ecotourism, and cattle production (Hernández et al. 2007). Soils in the area are Falfurrias fine sand (84.5%), Sauz fine sand (13.2%), and Sarita fine sand (2.3%) (NRCS Web Soil Survey 2008). Rainfall varies considerably from year to year making this region's climate and habitat very dynamic. Average annual rainfall is 63.5 cm, mean winter (Nov–Mar) temperature is 16.6°C, and summer (Apr-Aug) temperature is 30°C (National Climate Data Center 2007). This site was approximately 400 ha in size. The vegetation community was dominated by honey mesquite, oaks, huisache (*Acacia minuata*), granjeno (*Celtis pallida*), brazil (*Condalia hookeri*), prickly pear (*Opuntia lindheimeri*) doveweed (*Croton* spp.), sunflower (*Helianthus* spp.), gulf cordgrass (*Spartina spartinae*), sandbur (*Cenchrus incertus*), and purple threeawn (*Aristida purpurea*) (Teinert 2009).

METHODS

Trapping

Trapping took place from 20 October 2007 to 29 February 2008 and 20 October 2008 to 1 March 2009 and was performed continuously throughout these periods. The number of trapping occasions varied between sites and years due to logistical constraints. To sample evenly across each study site, we placed traps >250 m apart on randomly selected points on the trapping grid for each study area (trapping grid was created using ARC GIS 9.2, ESRI, Inc., Redlands, CA). We used funnel-type traps (Stoddard 1931:442) baited with milo. Due to continuous use of milo (~0.05 kg/ha/wk) when trapping throughout the winter it is necessary to classify these populations as lightly-supplemented. Captured bobwhites were aged and sexed (Rosene 1969:44–54), all birds captured were banded and their mass measured in grams. Captured bobwhites with a mass ≥150 g were fitted with a 5-6 g neck-loop radio transmitter (Shields et al. 1982) (American Wildlife Enterprises, Tallahassee, Florida, USA) until sample size (≥30) was reached. Periodic radiomarking was necessary throughout the study period to replace bobwhites that were lost or died.

Radiotelemetry

Radiotelemetry data were not used for survival estimation. However, tracking methods are described to account for any influence on survival. Radiomarked bobwhites were located ≥2 times a week during the study period with a hand-held receiver (Communication Specialties, Orange, California, USA or Advanced Telemetry Solutions, Incorporated, Isanti, Minnesota, USA) and a 3-element yagi antenna. Each time a radiomarked bobwhite was relocated the date, location, status (e.g., alive or dead), and suspected cause of mortality was recorded.

Data Analysis

We developed multiple candidate models (Table 1) ranked by Akaike's information criterion (AIC) (Akaike 1973) to evaluate the potential extent to which radiomarking, mass at time of capture, and varation in time influenced overwinter survival of bobwhites. By using Program MARK we were able to evaluate which model explained the most variation in the data we collected and provided estimates of population parameters expressed by each model. This allowed us to evaluate each model in 2 ways. First, we determined which model was most likely to explain variation in the data. Each model was in essence a biological hypothesis (example: banded bobwhites had different survival than banded and radiomarked bobwhites). This presented an advantage by allowing us to evaluate multiple candidate models simultaneously accounting for each model based on its likelihood. Second, we used model averaging to obtain survival estimates which account for each model based on its support. Then we compared apparent survival estimates for banded and radiomarked bobwhites (example: survival for

Table 1 Hypothesis descriptions for 7 candidate models compared using the recapture platform in Program MARK to look for telemetry bias between northern bobwhites marked with aluminum leg bands and those marked with 5–6 g bib-style radio transmitters.

Model ID	Model Description Justification	Model Notation
1	Survival is constant over time and between groups. Recapture is constant over time and between groups. This model states that bobwhite survival is independent of all other model parameters including whether a bobwhite is banded or radiomarked (Hernández et al. 2004, Terhune et al. 2007, Palmer and Wellendorf 2007).	φ(.) p(.)
2	Survival is constant over time and among groups. Recapture is different among groups. This model evaluates whether the marking technique of banding or radiomarking influences recapture rates (Palmer and Wellendorf 2007).	φ(.) p(g)
3	Survival is different among groups. Recapture is constant over time and among groups. This model evaluates whether survival is different between banded and radiomarked bobwhites (Osborne et al. 1997, Guthery and Lusk 2004).	φ(g) p(.)
4	Survival is different among groups. Recapture is different among groups. This model evaluates whether banded and radio marked bobwhites have different survival and recapture probility(Osborne et al. 1997, Guthery and Lusk 2004).	φ(g) p(g)
5	Survival is time dependent. Recapture is constant over time and among groups. This model states that bobwhite survival varies over time (Terhune et al. 2007).	φ(t) p(.)
6	Survival is dependent on mass at initial capture. Recapture is constant over time and among groups. This model states that mass at time of initial capture influences survival rate (Robel and Linderman 1966, Robel 1969).	φ(w) p(.)
7	Survival is dependent on time and mass. Recapture is constant over time and among groups. This model is a combination of the two previous models and states that bobwhite survival varies through time and depends on mass (Terhune et al. 2007, Robel and Linderman 1966, Robel 1969).	φ(t+w) p(.)

banded bobwhites was 0.971 [95% CI = 0.953–0.982] and survival for banded and radiomarked bobwhites was 0.973 [95% CI = 0.957–0.983]). Apparent survival is different from true survival in that apparent survival is confounded by site fidelity which is unknown. Apparent survival accounts for true survival and site fidelity.

We used the "recaptures only" platform in Program MARK. This platform uses binary data to represent encounter histories in LLLL format (White and Burnham 1999). If an individual was captured it received a 1 for that trapping occasion and if it was not captured it received a 0 for that occasion. Encounter histories were built for individual bobwhites based on the record of captures and recaptures from the trapping data. Encounter histories included an identification number, capture history, group membership (banded only or banded and radiomarked), and mass as an individual covariate. For example, the encounter history for an individual looked like this: /*7856*/0000001000000001110101111 0 1 192; where (/*7856*/) was the identification number, (0000001000000001110101111) capture history, (0 1) group membership banded or banded and radiomarked respectively, and (192) mass.

Some model groups had similarly ranked models and had AIC_c weights near the same value. This means both models were equally as likely to explain the data. We based selection criteria for competing models at <2 ΔAIC_c (Burnham and Anderson 2002:446), that all other models do not have substantial support.

We compared apparent survival estimates using 95% confidence intervals (Johnson 1999) between sites and years for banded and radiomarked bobwhites. Instead of using only the top model, which varied in support, we used model averaging in Program MARK (White et al. 2001, Burnham and Anderson 2002:448) which averaged estimates from all 7 models to obtain survival estimates for banded and radiomarked individuals for each site and year. Model averaging used a weighted average to derive estimates based on the likelihood of the

model, accounting for apparent survival estimates from all models.

RESULTS

In the Rolling Plains during the 2007-08 trapping season we captured 126 bobwhites over 36 days of trapping effort. In the 2008-09 trapping season we captured 126 bobwhites during 30 days of trapping effort. In South Texas during the 2007–08 trapping season we captured 240 northern bobwhites over 30 days of trapping effort. In the 2008-09 trapping season 73 bobwhites were captured over 55 days of trapping effort. Apparent survival rate estimates during the winter period were similar between banded and radiomarked bobwhites (Table 2). Survival rate estimates were similar between years within each county (Table 2).

Brooks County 2007-2008

During the 2007-2008 winter in Brooks County, Model 1 was ranked at the most parsimonious model, indicating that survival was constant over time and between groups (banded only and banded and radiomarked) and that recapture probability was constant over time and between groups (Table 3). This provided support that bobwhites marked with radio transmitters and leg bands did not have different survival or recapture probabilities than bobwhites marked only with leg bands.

Model 2 was selected as the second most parsimonious model being 1.8 times less likely to explain the data than Model 1 (Table 3). Model 2 also supported the hypothesis that survival was constant over time and between groups with no difference between banded and radiomarked bobwhites. However, Model 2 stated that there was a group effect in the recapture parameter, meaning that banded and radiomarked bobwhites had different probabilities of recapture.

Models 6 and 3 had almost the same ΔAIC_c and were selected as the third and fourth most parsimonious models being 2.5 and 2.6 times less likely, respectively, to explain the data as the top selected model (Table 3). Model 6 stated that survival was dependent upon mass at initial capture and probability of recapture was constant. This model provided support that survival is not based on whether a bobwhite was radiomarked or banded, but rather on mass. Probability of recapture in Model 6 was constant also supporting no difference between banded or radiomarked bobwhites. Model 3 stated that there was a difference in survival between banded and radiomarked bobwhite but probability of recapture was the same and constant over time.

Brooks County 2008-2009

During the 2008-2009 winter in Brooks county Model 2 was chosen as the most parsimonious model, indicating that bobwhite survival was constant and that there was no difference between survival of banded and radiomarked quail (Table 3). However, the model also indicated that banded and radiomarked bobwhites had different probability of recapture, once again alluding to a potential bias in sampling methods.

Model 1 was the second most parsimonious model being 1.7 times less likely to explain the data then the top model (Table 3). Therefore, it supported that bobwhites with radio packages had the same survival as banded bobwhites.

Table 2. Number of trapping occasions (*o*), sample size (n), estimated winter apparent survival per trapping interval (S_w) of northern bobwhites, estimated with mark recapture model averaging in Program MARK. Estimated from 29 October 2007 to 29 February 2008 in Fisher (Rolling Plains) and 12 December 2007 to 29 February 2008 in Brooks Counties (South Texas), Texas, USA.

County		Banded					Radiomarked				
Year	*o*	*n*	S_w	SE	Lower 95% CI	Upper 95% CI	*n*	S_w	SE	Lower 95% CI	Upper 95% CI
Brooks											
2007-08	17	104	0.971	0.007	0.953	0.982	74	0.973	0.006	0.957	0.983
2008-09	30	17	0.953	0.017	0.907	0.977	32	0.951	0.016	0.910	0.974
Fisher											
2007-08	33	52	0.991	0.003	0.985	0.997	60	0.991	0.003	0.985	0.997
2008-09	23	63	0.987	0.005	0.971	0.994	43	0.991	0.003	0.985	0.996

Table 3. Ranking of the 7 candidate models based on number of parameters in the model (K), number of trapping occasions (n), Akaike's information criteria, and model mass (w_i) for northern bobwhite overwinter survival in Brooks County (12 Dec–29 Feb) and Fisher County (29 Oct–29 Feb), Texas.

County Year	Model ID	Model	Rank	K[a]	o[b]	AIC_c	ΔAIC_c	w_i[c]	Model Likelihood	-2log(L)
Brooks										
2007–08	1	φ(.) p(.)	1	2	17	519.719	0.000	0.375	1.000	515.665
	2	φ(.) p(g)	2	3		520.870	1.151	0.211	0.562	514.762
	6	φ(w) p(.)	3	3		521.567	1.848	0.149	0.397	515.459
	3	φ(g) p(.)	4	3		521.658	1.939	0.142	0.379	515.550
	4	φ(g) p(g)	5	4		521.973	2.253	0.122	0.324	513.792
	5	φ(t) p(.)	6	17		534.328	14.608	0.000	0.001	497.385
	7	φ(t+w) p(.)	7	35		572.372	52.652	0.000	0.000	489.109
2008–09	2	φ(.) p(g)	1	3	30	197.317	0.000	0.401	1.000	190.969
	1	φ(.) p(.)	2	2		198.389	1.072	0.235	0.585	194.217
	4	φ(g) p(g)	3	4		199.550	2.233	0.131	0.327	190.962
	6	φ(w) p(.)	4	3		199.652	2.336	0.125	0.311	193.304
	3	φ(g) p(.)	5	3		199.955	2.639	0.107	0.267	193.608
	5	φ(t) p(.)	6	23		227.724	30.408	0.000	0.000	159.194
	7	φ(t+w) p(.)	7	61		959.125	761.809	0.000	0.000	149.489
Fisher										
2007–08	6	φ(w) p(.)	1	3	33	561.106	0.000	0.886	1.000	554.959
	1	φ(.) p(.)	2	2		566.983	5.877	0.047	0.053	562.910
	3	φ(g) p(.)	3	3		568.378	7.272	0.023	0.026	562.231
	4	φ(g) p(g)	4	4		568.417	7.311	0.023	0.026	560.170
	2	φ(.) p(g)	5	3		568.563	7.458	0.021	0.024	562.416
	5	φ(t) p(.)	6	33		628.776	67.670	0.000	0.000	545.903
	7	φ(t+w) p(.)	7	67		763.313	202.207	0.000	0.000	537.272
2008–09	2	φ(.) p(g)	1	3	23	707.029	0.000	0.523	1.000	700.901
	4	φ(g) p(g)	2	4		707.762	0.733	0.362	0.693	699.548
	3	φ(g) p(.)	3	3		710.260	3.231	0.104	0.199	704.133
	1	φ(.) p(.)	4	2		715.538	8.509	0.007	0.014	711.475
	6	φ(w) p(.)	5	3		716.944	9.915	0.004	0.007	710.817
	5	φ(t) p(.)	6	23		755.410	48.381	0.000	0.000	702.839
	7	φ(t+w) p(.)	7	47		817.013	109.984	0.000	0.000	691.680

[a] Number of parameters in each model.
[b] Number of trapping occasions in each data set.
[c] AIC_c weight.

Fisher County 2007-2008

During the 2007-2008 winter in Fisher county Model 6 was the most parsimonious model indicating that mass at initial capture had the largest influence on bobwhite survival (Table 3). Support for model 6 also means that probability of recapture was constant and not based on whether a bobwhite was banded or radiomarked. No other models fell within the $<2\ \Delta AIC_c$ cutoff.

Fisher County 2008-2009

During the 2008-2009 winter in Fisher County Model 2 was chosen as the most parsimonious model indicating that survival was constant over time and independent of whether a bobwhite was banded or radiomarked (Table 3).

Model 4 was chosen as the second most parsimonious model, but was 1.4 times less likely to explain the data as the top model. Model 4 stated that survival and probability of recapture are both dependent on weather a bobwhite is banded or radiomarked. This means that bobwhites that were radiomarked likely had different survival than banded bobwhites.

DISCUSSION

Our results indicated only weak evidence for potential bias in survival estimates derived from radiotelemetry. Apparent survival estimates derived by model averaging for all models for each site and year showed no differences between banded and radiomarked bobwhites. Our analysis consistently found support that radiomarked bobwhites did not experience different survival from bobwhites that were only marked with leg-bands. This supports findings from Florida (Palmer and Wellendorf 2007) that determined gender and year had a strong influence on bobwhite survival and found no difference between survival of banded and radiomarked bobwhites. Terhune et al. (2007) determined that bobwhites in Georgia were affected by spatial (site) and temporal (season and year) factors, as well as gender. They also found that, like our study, survival estimates of banded and radiomarked bobwhites were similar. Radiotelemetry may not just provide estimates that are biased low but estimates that are biased high. Sisson et al. (2009) found that radiomarked bobwhites had slightly higher survival 30 days post-capture but also concluded no negative effects of radiomarking. Parry et al. (1997) also found that radiomarked bobwhites had higher survival than banded bobwhites. Our results do not support Osborne et al. (1997) who stated that radiomarking negatively affects bobwhites although they based their conclusions on lipid mass, which may be more sensitive than survival to detect a difference.

There was evidence that radiomarked bobwhites had different recapture probabilities from those marked with leg bands. This finding may not be related to radiomarking but may simply be an artifact of the sampling method. As mentioned in the methods, new bobwhites were radiomarked throughout the study to compensate for birds lost to mortality. Naturally, individuals with repeated recaptures were more likely to be radiomarked since they were being captured more often. Palmer and Wellendorf (2007) also showed different recapture probability of radiomarked bobwhites, however, they reported higher recapture in banded opposed to radiomarked bobwhites and attributed this to hunter avoidance by radiomarked quail due to acclimation associated with repeated telemetry disturbance. Our analysis showed virtually no support for variation in time meaning that survival rate was unchanged throughout each sample period. This makes inherent sense because bobwhites are known to exhibit differences in survival between seasons (Burger et al. 1995) and years (Lehmann 1984:8) but survival is generally considered similar within season.

Mass was found to have the most impact on survival in the Rolling Plains 2007-08. This was the only time period in which survival was impacted by mass. During that year a winter storm in November produced 25.4 cm of ice and snow (National Climate Data Center 2008) and coincided with a 16% decrease in survival (Figure 2.1) in which some of the bobwhite carcasses were found intact with no obvious cause of mortality. This would rule out the possibility that the decline was attributed to predation as experienced by Jackson (1947). This decrease in survival is possibly attributed to increased energy needs during colder temperatures (Case 1973), and bobwhites with greater mass likely have more fat reserves enabling them to withstand colder temperatures (Robel and Linderman 1966, Robel 1969). However, the snowfall events were relatively mild, lasting less than three days with temperature only a few degrees below 0°C. Another possibility is that cold stress decreased the bobwhites immune system capabilities to fight

bacterial infection (Dabbert et al. 1997) resulting in death.

MANAGEMENT IMPLICATIONS

Bobwhites studied using radiotelemetry seem to provide estimates of survival that are representative of their population, at least from the standpoint of comparisons with estimates derived from banded only birds. Studies like this that incorporate a radio package that is less than 3% of a bobwhite's mass can be deemed reliable. However, it is important to consider that potentially negative effects of capture stress alone, whether the captured birds were radiomarked or banded only, remains a potential source of bias for demographic parameters derived from either of these methods.

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FRED NYC, JR. AND THE LAST YEARS OF THE EGG COLLECTORS IN TEXAS

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ABSTRACT.—Frederick Francis Nyc, Jr., was born on 26 February 1906 in Kerrville, Texas. His first documented eggs were taken in 1917, and he continued collecting for the next 61 years mainly in Texas and Mexico, but in other parts of the United States and Canada as well. During this time, he made the acquaintance of several Texas and out-of-state oologists with whom he did field work and exchanged or sold egg sets. Nyc's correspondence, egg data books and museum specimens provide information about his field activities, association with other collectors and views regarding scientific permits. Nyc published four articles in *The Oologist* the most important being on the breeding birds of Washington County, Texas, and surrounding areas. His state-wide records are cited in Oberholser's typescript of *The Bird Life of Texas* and have been used to document brood parasitism of several species of Texas and Mexican birds by cowbirds. Fred Nyc is believed to have been the last active egg collector in Texas. His activities and those of his fellow enthusiasts provide an insight into the last years and legacy of the old time egg collectors in Texas.

EARLY LIFE AND EDUCATION

Frederick 'Fred' Francis Nyc, Jr., son of Frederick and Maude Bruge Nyc, was born on 26 February 1906 at Kerrville, Texas, where his father, an immigrant from Czechoslovakia, worked at various times as a bank cashier and public accountant. The mental capabilities of young Fred became apparent at the age of twelve when he was described as a "chess prodigy" (Anon. 1917). Given this recognition and the fact that his father had a college degree, it was decided early on that Fred Jr. would attend college and pursue a professional career.

The Nycs were Roman Catholics, and when young Fred was 16 years old he enrolled in the preparatory academy at St. Mary's College in San Antonio. He was quickly recognized as a "man of exceptional ability" serving in the 1923-1924 school year as vice-president of his class, exchange editor of the school paper, line captain for the football team as well as playing a leading role in a two-act comedy. His intellectual capabilities were further evident in his graduation from St. Mary's in June 1924 as valedictorian of his class (Anon. 1924 a,b,c).

In October 1925, Fred married Amellia Durant Claiborne (1908-1985), a member of a pioneer family of Bastrop County (Anon. 1925b, 1985). It was a good match, and Fred later remarked that it was a comfort to have a companion and helpmate who was interested in his hobby (Nyc 1941). To support his new wife, who he affectionately called by the nickname 'Billie', Nyc began working for the Texas Power and Light (TP&L) Company in Kerrville. Their first child, Billie Ruth, was born the following year but died as an infant.

It was Fred's goal to become a doctor, and he was accepted into the medical school at St. Louis University in St. Louis, Missouri (Anon. 1926b). However, ill health of an undetermined nature forced him to give up his medical studies and to return to his home in Kerrville where he continued working for TP&L (Anon. 1929a).

Fred and Amellia 'Billie' Nyc moved from Kerrville to Sherman, Texas, in October 1929 where Fred worked as sales manager for TP&L (Anon. 1929b). While employed with TP&L his job was that of a salesman of specialty electrical products, a position that required him to move every few months (Nyc 1941). During following years, Nyc lived in Gainesville, Sulphur Springs, Brenham, Rockwall, Taylor, Corpus Christi and Eagle Lake before taking a job with the government during WWII in Laredo and Brownsville. During his last working years, he was a store manager for Sears & Roebuck in San Angelo and Brownsville, living at various times in Pharr and McAllen before retiring to live in New

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Figure 1. Fredrick Francis Nyc, February 1943. Photograph courtesy of Raymond J. Quigley and the Western Foundation of Vertebrate Zoology.

Braunfels and Bastrop before his final residence in Smithville. In addition to collecting in the vicinity of his home, Nyc often made longer collecting excursions to distant locations both within and out-of-state, as well as into Mexico.

EARLY COLLECTION OF EGGS

Fred Nyc, Jr. had his first exposure to egg collecting under the tutelage of the English naturalist Howard Lacey who lived on Turtle Creek about seven miles southwest of Kerrville. Lacey and Fred's father were friends, and the Nyc family often visited at the Lacey Ranch. Eggs of the Cliff Swallow (WFVZ 6962) and Wild Turkey (WFVZ 12831) taken by Lacey during May 1912 list Nyc, then only 6-years old, as a co-collector. Lacey later took the young boy on collecting trips during the nesting seasons of following years, as well as giving him several of his egg sets or "clutches" as they were called by the Englishman (Nyc 1941a).

When Fred was about 10 years old he and three other neighborhood boys began collecting eggs on their own. Their technique was unconventional.

Figure 2. Howard George Lacey (1856-1929). Texas rancher, distinguished naturalist, member of the American Ornithologists' Union, authority on the birds of the Kerrville area and a mentor to Fred Nyc, Jr. The sketch of Lacey is from a Photograph in the Kerrville Mountain Sun, 28 March 1929.

A hole was punched in each end of the egg and the contents blown out. A string was then passed through the egg and between adjacent eggs a tab of paper was placed with the presumed identity of the bird from which it had been obtained. Each boy finding something new divided his find with the other members of the group. Within two or three years, Nyc's string held the eggs of what he believed to be around 60 species of birds. It was, therefore, somewhat of a shock when he learned from Howard Lacey that many of his eggs were duplicates (Nyc 1941a).

During the next few years, Lacey instructed Nyc on the identification of birds and the technique for blowing eggs and recording data. Their association, however, ended in 1919 when Lacey returned to

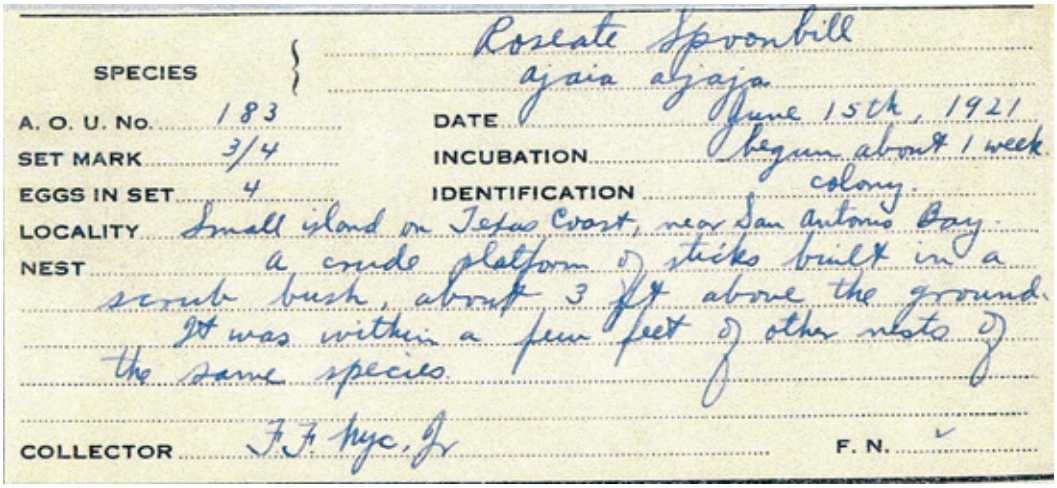
SPECIES Roseate Spoonbill
ajaia ajaja
A. O. U. No. 183 DATE June 15th, 1921
SET MARK 3/4 INCUBATION begun about 1 week
EGGS IN SET 4 IDENTIFICATION colony.
LOCALITY Small island on Texas Coast, near San Antonio Bay.
NEST a crude platform of sticks built in a scrub bush, about 3 ft above the ground. It was within a few feet of other nests of the same species.
COLLECTOR F. F. Nyc, Jr. F. N.

Figure 3. Data card describing nest construction and incubation status of the eggs of a Roseate Spoonbill taken in June 1921 by F. F. Nyc, Jr. on a small island near San Antonio Bay on the Texas coast.

England. In retrospect, Lacey's influence was undoubtedly a major factor in stimulating Fred's fascination with birds and his passion for collecting and studying their eggs.

The first known record of Nyc as a solo collector is a set containing two Dickcissel and two cowbird eggs taken at Brenham during May 1917 (WFVZ, EN-14278). Another early record is the collection with William Brown at San Antonio during April 1918 of the eggs of a Cactus Wren (WFVZ 14640). Eggs of a Roseate Spoonbill (WFVZ 149075, Fig. 3) were taken on a coastal island in San Antonio Bay during June 1921 and three sets of the Common Grackle, presumably taken at San Antonio, during May 1923 are in the Richter Museum of Natural History (RMNH 5698, 5699 & 5700).

OBTAINING A SCIENTIFIC COLLECTING PERMIT

A "certificate" to take and ship the nests and eggs of Texas birds for scientific purposes was required by the game law of 1903 (Gammel 1906). Anyone 15 years of age could be granted a collecting certificate after providing testimonials from two well-known scientific men certifying to the good character and fitness of the applicant. The intent of the law was to restrict the collection and shipment out-of-state of nests and eggs taken in Texas.

The game law passed in 1903 was reaffirmed in 1907 and remained in effect until the passage of the Boyd-Hubby Game Bill in 1925 (Gammel 1925). This new law required the applicant to submit an affidavit to the Texas Game, Fish and Oyster Commission setting forth the birds, eggs and nests to be collected accompanied by affidavits from two well-known ornithologists stating that the applicant was a fit person to be entrusted with such a permit and that they had known him for a least five years. A federal scientific collecting permit was also required if the applicant intended to collect migratory birds. A yearly report was required detailing the number of skins, eggs or nests of each species collected as well as the disposition of all specimens. The requirements of the law were reprinted in several Texas newspapers (e.g. Anon. 1925b) and would have certainly been known to Nyc and other collectors.

Nyc collected for several years after passage of the 1925 law without a Texas permit (Nyc 1941a). He also claimed to have been personally interviewed several times during the early 1930s before his permit was finally granted. Nyc admitted that the officials knew he had been collecting for years, but both his name and that of Albert J. B. Kirn, with whom he occasionally collected, went on every data sheet that he gave the Texas Memorial Museum in Austin (Nyc 1976). Kirn had state and federal permits and, by using his name, Nyc was able to circumvent the letter of the law.

Nyc and his fellow enthusiasts were highly critical of the regulations governing scientific collecting since the law prohibited the out-of-state shipment of natural history specimens and thus hindered the exchange of eggs with other collectors.

Their solution to this legality, which Nyc referred to as "a damn fool law," was for neither party of the exchange to report the transaction on their end-of-the-year report. Nyc claimed to have this arrangement with several out-of-state collectors (Nyc 1941c).

Another method of circumventing the law was also used. The eggs of Roseate Spoonbills, according to Nyc, were selling in 1941 for $30-35 per egg and were in high demand by collectors. However, the spoonbills nested on an Audubon protected island, and it was illegal to disturb them during their nesting season. Nyc was, however, able to obtain a few sets while "fishing and bringing the sets back in a tackle box," an activity he admitted would cost him his "neck, permit and reputation" if he were caught (Nyc 1941c).

In spite of Nyc's criticism and efforts to circumvent the regulations governing the collection of eggs, he remained on good relations with state officials. After obtaining his permit, he claimed that he and the head of the department that issued permits became very good friends, and that he cooperated with the Game, Fish and Oyster Commission on bird checks all over Texas. He had also won the trust of local game wardens who provided his family a tour of the Attwater Prairie Chicken Refuge where he found a "deserted" nest and set of eggs of the chicken that he proudly added to his collection (Nyc 1941a).

ASSOCIATION WITH OTHER TEXAS COLLECTORS

There were five egg collectors in south Texas with whom Fred Nyc had an ongoing relationship. Details of these relationships are found in his short biography titled "Ramblings" (Nyc 1941a) and in his letters to Raymond 'Ray' J. Quigley (1918-2009), a collector from California and later associate curator of the egg collection at the Western Foundation of Vertebrate Zoology (WFVZ). Quigley was interested in the history of oology in North America, and he often queried Nyc about collectors who lived in Texas. Nyc's responses to these inquiries are the basis for much of the information contained in this article.

The association of Nyc with other collectors is also found in his correspondence with Lloyd Francis Kiff, the curator and later director of the WFVZ. Although the Nyc-Kiff correspondence describes, for the most part, the donation of eggs to the foundation, there are also references to the activities of collectors with whom Nyc had a personal relationship.

The first of these collectors was Albert Joseph Bernard Kirn (1885-1950), a farm boy from Kansas who quit school after the 8th grade but continued to educate himself in the natural sciences. Kirn was employed in the oil industry, and in 1923 he moved to Somerset, Texas, where he soon became acquainted with other naturalists in the area (Messerly 1998). In later years, he was a special lecturer in zoology at St. Mary's University, and it is perhaps here that he and Nyc became acquainted. During May 1928 the two men made a joint trip to Corpus Christi where they collected eggs on a small, offshore island. Nyc, then only 22 years old and relatively inexperienced, undoubtedly profited greatly from his association with Kirn, and in following years they would occasionally collect together. Nyc did not have a collecting permit during these early years, and in his yearly reports he always listed Albert J. Kirn as the primary collector.

Many of the eggs collected by Al Kirn are now found at the WFVZ, USNM and the Corpus Christi Museum of Science and History. Fifty-nine of Kirn's bird skins are in the Texas A&M Biodiversity Research and Teaching Collection (BRTC), and another 436 of his eggs, skins and bird skeletons at

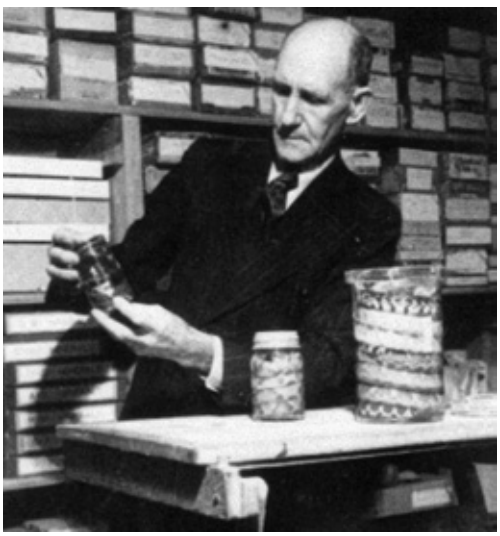

Figure 4. Albert J. B. Kirn, a collector of birds' eggs, skins, skeletons and other naturalia, shown here with part of his herpetological collection. Photograph courtesy of Roy Kendall and Horace Burke.

the University of Kansas Biodiversity Institute. The checklist, *Birds of Bexar County, Texas*, published in 1927 by Al Kirn and Roy Quillin is believed to be the first vest-pocket checklist of birds published in Texas. Kirn was a member of several professional organizations including the San Antonio Scientific Society, American Ornithologists' Union and the Texas Academy of Science where he served as treasurer and chairman of the committee promoting publication of Oberholser's monograph on the bird life of Texas (Casto 2013).

Nyc was transferred in late 1931 from Sherman to Gainesville where two note-worthy events took place. Dr. Claude Herbert Hall (1877-1949), a dentist in Gainesville, heard of Nyc's hobby and gave him "lock, stock and barrel" his egg collection representing around 50 or 60 species (Nyc 1941a). A few of Hall's eggs, collected in Cooke County during 1894, are now at the Western Foundation of Vertebrate Zoology, Yale Peabody Museum and the Delaware Museum of Nature and Science. Hall was a minor player in the history of ornithology in Texas. He is listed in *Davis' Standard Collectors Directory* (Davis 1895) but not in the exhaustive list of collectors given by Oberholser (1974). More important than the receipt of Dr. Hall's eggs was Nyc's introduction to Travis Charles Meitzen (1916-1976) who became a life-long friend and fellow collector.

Meitzen was born in Denison, Texas, and collected eggs in that area before entering medical school at the University of Texas in Austin. Meitzen and Nyc first met around 1931 or 1932 while Fred was living at Gainesville in nearby Cooke County. Although there was a 10-year difference in their ages, it was a friendship of like-minded individuals. Years later, Nyc provided the following chronicle of Meitzen's war-time service—"he [Meitzen] had just finished internship in El Paso in 1941 when the army got him. He did a little collecting in the states while in training and was then sent to N. Africa where he went all through the campaign fighting Rommel, treating the wounded and collecting eggs on the side. He's in one of the base hospitals in Italy & still collecting and blowing eggs & sending them home (to remain packed) until he gets back" (Nyc 1945).

Meitzen established a medical practice in Refugio, Texas, following his discharge from the army. Shortly thereafter, Nyc and John Peterson took Meitzen on his first collecting trip to Mexico

Figure 5. Travis Charles Meitzen. Photograph from the 1938 University of Texas Yearbook. Meitzen was a member of Phi Chi fraternity for medical students. Photograph from Ancestry.com.

during which Nyc instructed Meitzen on the do's and don'ts of working south of the border (Nyc 1976a). Meitzen continued in following years to collect in both Texas and Mexico, sometimes by himself or with Nyc or other collectors. Meitzen's records were published in three short papers dealing with the breeding ranges of several species in south Texas (Meitzen 1963, 1967, 1968). Meitzen also became a charter and sustaining member of the Texas Ornithological Society at the time of its organization in 1953.

Nyc was envious of Meitzen's ability to close his office and refer his patients to other doctors and leave on a collecting trip whereas he had to "work for a living" and couldn't get off but two weeks a year. However, he gave high praise to Meitzen's collection which he believed to be "one of the finest and most complete of Texas and Mexican birds, in existence" (Nyc 1976b).

Meitzen was a contributor to Sibley's 1970 study of the egg-white proteins of passerine birds and, shortly before his death, he donated his egg collection of 1,768 sets, as well as his catalogue, field notes, correspondence and Figuregraphy to the WFVZ. Eggs of Bat and Aplomado Falcons collected by Meitzen in Veracruz, Mexico, were later used in a study of eggshell thinning and organochlorine residues by Kiff, Peakall and Hector (1980). A collection of his Photographs of birds' eggs and nests (Box 4W214) is also archived with

the typescript of Oberholser's *The Bird Life of Texas* at the Briscoe Center for American History at the University of Texas in Austin. A few of Meitzen's study skins are found in the United States National Museum of Natural History.

Travis Meitzen was a smart, amiable man with a great sense of humor (L. Kiff, pers. comm.). He was a member of the American Academy of General Practice, as well as serving as president of the Tri-County Medical Association. He was much loved by the locals, who in 1972 elected him "Citizen of the Year" for his service to the community. Education was one of his priorities, and he was a strong advocate for higher standards in medical training while also serving on the Refugio school board. Notably, his obituary makes specific mention of his interest in ornithology and the donation of his eggs to the WFVZ (Anon. 1976).

Nyc was transferred in the fall of 1934 from Gainesville to Brenham, Texas, where he began to collect on a regular basis with John Thomas Peterson (1904-1982). Little is known of Peterson other than that he was a house painter, and that he and Nyc had sporadically collected together before Nyc moved to Brenham. Nyc described Peterson as his "pal and collector friend," and they shared several collecting expeditions in both Texas and Mexico. Egg sets collected by Peterson are at the Western Foundation of Vertebrate Zoology, Richter Museum of Natural History and the James R. Slater Museum of Natural History.

Peterson sold eggs to some of the best known oologists of the time. Many of the eggs collected by Peterson were later acquired by donation to the WFVZ from prominent oologists including John Cruttenden, Walter Sampson, George Brem, Jr., Fred Truesdale, W. Plass Owens, Willett Griffee, Sidney Peyton, Raymond Quigley, Cletus Reis, Byron Knoblock, Franklin Smith, Dan Bull and Richard Crossin. No evidence has been found that Peterson published any of his egg data, and, although he was a major player, his name is not included in the exhaustive list of Texas collectors given by Oberholser (1974).

Another close associate of Nyc was Col. Lloyd Raymond 'Lobo' Wolfe (1891-1989), a veteran of World Wars I, II and Korea and a recipient of the Legion of Merit (Anon. 1952a). Wolfe was born in Oberlin, Decatur County, Kansas, and grew up on a farm in the western part of the state. He began collecting around 1905 and later published an article on the nesting of the Montana Horned Owl that was used by A. C. Bent in his book *Life Histories of North American Birds of Prey*, Part 2 (Wolfe 1912). In 1961, while living at Kerrville, Texas, he published a list of 66 species of birds breeding in Decatur County based on notes taken from 1908-1914 (Wolfe 1961). Wolfe attended Washburn University in Topeka and at the time of his enlistment in the military, he was working as a chemist for American Zinc Company in Illinois. His passion for collecting is clearly evidenced in the "thrill of excitement" he experienced when taking the eggs of species he had never before personally collected (Wolfe 1923).

Wolfe published several articles in the *Auk* and *Condor* during and after his military career. In 1951, he retired from military service and took up residence in Fred Nyc's childhood home town of Kerrville. In 1956, Wolfe published a *Check-List of the Birds of Texas* in which he acknowledged Fred Nyc and Travis Meitzen for their contributions. Wolfe was a member of the American Ornithologists' Union, Cooper Ornithological Society, a charter member of the Texas Ornithological Society, and a contributor to Peterson's *Field Guide to the Birds of Texa*s, as

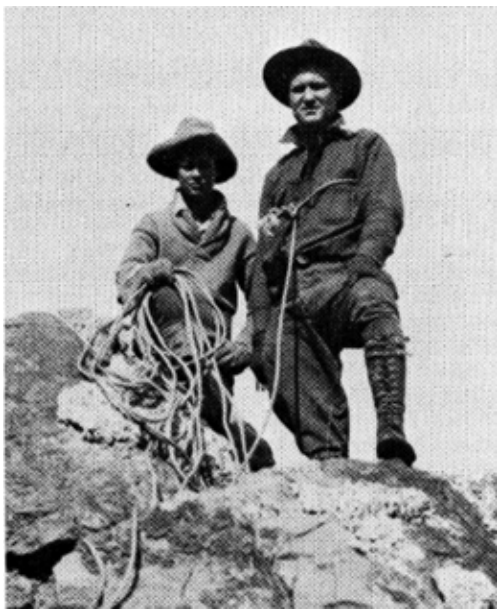

Figure 6. Lloyd R. Wolfe (right) and helper on top of cliff with Prairie Falcon nest, 10 April 1927, Tooele County, Utah. Photograph courtesy of Wolfe and Raymond J. Quigley as published in Utah Birds (Behle 1990).

well as being a director of the Western Foundation of Vertebrate Zoology to which he donated his egg collection, field notes and personal library (Kiff 2000). Study skins of birds collected by Wolfe while stationed in Japan, Philippines and Korea, as well as other foreign duty stations are found in the National Museum of Natural History. Sibley (1970) acknowledged Wolfe as a contributor to his study of the egg-white proteins of passerine birds. A summary of Wolfe's ornithological contributions has been published by William H. Behle (1990).

Arthur Merritt, Jr. (1916-1999) was another talented individual with whom Nyc collected on a few occasions. Merritt was born in San Antonio but his family moved to Robstown in 1919 where they had purchased a farm. Arthur attended Texas A&M University and in later years was active in community affairs and the Methodist Church, as well as being a member of the Gem and Mineral Society and several conservation organizations (Anon. 1999). Merritt was also an amateur plant breeder who developed a new variety of grain sorghum (Anon. 1952b). He was described by Nyc as being a big land owner with some cattle, as well as being a hunter and "rock hound" who cut and polished semi-precious stones (Nyc 1970a). Merritt had been fined $300.00 for exchanging and collecting without a federal or Texas permit and, although formally censured, he was allowed to keep, but not dispose of, his collection of around 100 sets (Nyc 1970b). However, the Western Foundation for Vertebrate Zoology has 81 egg sets collected by Merritt in Nueces County, and an egg and nest of a Great-tailed Grackle taken at Robstown is in the Yale Peabody Museum. Merritt was a frequent contributor to *The Oologist* in which he published twelve notes on observations made between 1932 and 1941 (Oberholser, n.d.).

There were three other egg collectors in Texas with which Nyc had some interaction. While working at Gainesville, he drove to Vernon, Texas, to meet Robert Lee More (1873-1941) whose collection he described as "the most elaborate" he had ever imagined. More's collection consisted of 12,000 to 15,000 eggs representing around 750 species, some of which were extinct. More not only presented Nyc with several sets but also gave advice on how to obtain collecting permits (Nyc 1941). R. L. More published seven articles in *The Oologist* between 1912 and 1927 but is best remembered for his publication with J. K. Strecker on the summer birds of Wilbarger County, Texas (More and Strecker 1929).

Figure 7. Arthur Merritt, Jr., while serving on the school board at Robstown, Texas. Robstown High School Yearbook, 1958. Photograph from Ancestry.com

Nyc also claimed to have met Roy Quillin (1894-1974) from San Antonio whose collection of around 10,000 eggs representing 400 species is now at the Welder Wildlife Refuge (Casto 2013). And, on one occasion he met Edmond Floyd Pope (1870-1952) a collector from Colmesneil, Texas. Pope was no longer collecting at this time but is remembered for having collected the only eggs of a Passenger Pigeon ever taken in Texas (Casto 2001, 2008).

COLLECTING IN WASHINGTON COUNTY

Nyc was transferred to Brenham, Washington County, in the fall of 1934 where he remained through 1938. He collected extensively in the local area during this time as well taking trips to other locations including Corpus Christi, Aransas Pass, Matagorda, Little Bird Island, Fredericksburg, Austin, Houston and Bastrop. Egg sets at the WFVZ taken in Washington County by Nyc during 1917, 1923, 1924, 1925, 1927 and 1928 indicate that he was well-acquainted with the birds of the area before being transferred to Brenham.

Nyc published four articles in *The Oologist*, the major one confusingly titled "Nesting observations out-side of Washington County, Texas—Brenham"

thus suggesting that most of the observations were made "out-side" Washington County rather than in the vicinity of Brenham which is the county seat of Washington County. Then, without explanation, the 8-page article was published in three parts in the June, July and August issues of the journal (Nyc 1939). In spite of the confused title and drawn-out sequence, the article was declared by the editor of the journal to be a "fine contribution."

The observations "out-side" of Washington County were made in San Antonio, Kerrville, Matagorda, Sealy, Bellville and Blanco County. This was followed by a list of non-resident birds observed in Brenham including first records for the Cactus Wren and Long-billed Curlew. Nesting data were then given for 36 species and subspecies nesting in Washington County during 1938. Also included was a the description of a "freak" Scissor-tailed Flycatcher of "a dark color with plumage exactly like that of a female Redwing" with the exception of under the wings which were of normal pink and white coloration.

TRAVELING ASSIGNMENT AND EXCHANGE OF EGGS

On 13 September 1938, Nyc was sent by TP&L on a six months "traveling assignment" covering the top half of Texas. Every two weeks, he returned to Brenham to pick up egg sets for exchange and, while on the road, corresponded with collectors with whom he wished to do business. Nyc later estimated that by the end of his travel assignment he had exchanged about 150 egg sets with individuals in both the United States and Canada. Some of the persons with whom Nyc exchanged or sold eggs during this time and in later years include George R. Brem, Jr., Martin C. Badger, Edward M. Hall, John G. Tyler, Fred 'Kelly' Truesdale, Ray Quigley, Sidney B. Peyton and William P. Owen from California, as well as John R. Cruttenden and Byron W. Knoblock from Illinois and Logan H. Meitzen from Texas.

Nyc was transferred from Brenham at the end of his traveling assignment. He was first sent to Rockwall County for about three months and then to Taylor, Texas, where he was visited by John Cruttenden, a well-known egg collector from Quincy, Illinois (Nyc 1941a). A list of 17 species known to breed in Kaufman, Rockwall and Collin counties was also published while Nyc was living in Taylor (Nyc 1940).

In May 1940, Nyc moved to Corpus Christi where he made the acquaintance of Arthur Merritt, Jr. from nearby Robstown, Texas. Although Merritt was 20 years younger than Nyc, it was an immediate friendship, and the two men made weekly visits in each other's homes where they examined eggs and talked about birds for hours. Nyc later declared that it was a "pleasure" when two men could get together who "spoke the same language" (Nyc 1941a). Nyc was later moved to Edinburg where on 1 February 1941 he and Merritt excitedly took their first set of Crested Caracara eggs (WFVZ 145403). Nyc later published a list in *The Oologist* of 23 species of which he had taken eggs during the spring of that year (Nyc 1941b).

Nyc was living in Eagle Lake when the Japanese bombed Pearl Harbor in December 1941. In that same month, *The Oologist*, the major trade journal in which Nyc and his friend, Arthur Merritt, Jr., had published their records, ceased publication. The declaration of war affected Nyc greatly, and he later confessed that he "forgot about eggs for a while." Then, believing that he needed to be a part of the war effort, he resigned from TP&L and began working for the federal government first at Laredo and later Brownsville (Nyc 1938).

WORK WITH THE FEDERAL GOVERNMENT

How Nyc obtained his position with the federal government is unknown. He was first posted to Laredo with the "Office of Censorship" where he remained for about a year. He liked this work and felt like he was doing something to help Uncle Sam but expressed a desire to join the navy and get a crack at the Japanese whom he greatly disliked (Nyc 1942). However, he was considered for some reason to be ineligible for military service. While stationed at Laredo he collected eggs in Webb County and surrounding areas.

Nyc was transferred to Brownsville sometime in late 1942 or early 1943 where he began work as a customs officer inspecting baggage and passengers on shifts of two weeks each covering the seaport, airport, railroad yards and the two international bridges (Nyc 1946). In February of 1944, Nyc considered leaving his work as a customs officer and taking a job with Firestone Tire & Rubber Company. Give his knowledge of Spanish, it was his hope that he would be given a position as a store manager somewhere in the Rio Grande Valley (Nyc 1944).

The plan to work for Firestone did not materialize, and Nyc continued working as a customs officer while also collecting around Brownville and occasionally crossing the Rio Grande to collect in the vicinity of Matamoros. He generally ventured into the field alone but was sometimes accompanied by his wife who was credited as a co-collector. During the nesting seasons of 1944 through 1946, Nyc also collected with his friend, John Peterson, from Brenham.

Nyc left his government job sometime in early 1947 for employment with Sears and Roebuck Company in Brownsville (Nyc 1958). He would continue to be associated with this company for the remainder of his work life while collecting each spring in Texas or some out-of-state location.

COLLECTING IN MEXICO AND FLORIDA, 1948-1950

Nyc and Travis Meitzen collected around Tampico, Panuco, Ebano, El Monte and Victoria, Tamaulipas, during May 1948. Nyc returned to the Mexican states of Morelos and Hidalgo in August 1949 and 1950. However, instead of just collecting eggs, he also took several small mammals including the vampire bat, gray long-tongued bat, Mexican long-tongued bat, big brown bat, hairy fruit-eating bat, Mexican spiny mouse, southern pigmy mouse, plateau mouse and hispid cotton rat. These specimens are now in the Biodiversity Research and Teaching Collection (BRTC) at Texas A&M University. Fred's son, F. F. Nyc, III, was at this time majoring in wildlife and forestry at Texas A&M, and it is assumed that the mammals were collected as part of an educational requirement. The collection at Texas A&M also contains the skins of 27 birds collected by Fred Nyc between the years 1928 and 1977.

During May 1950, Nyc vacationed in Florida where he visited the well-known ornithologists Donald and Wray Nicholson at Orlando. The eggs of several local species were collected the most significant being those of the Dusky Seaside Sparrow which, even that time, was becoming increasingly rare.

THE MOVE TO SAN ANGELO

In the spring of 1952, Nyc and his wife and John Peterson spent two weeks collecting in the Mexican states of Tamaulipas, San Luis Potosi and Nuevo Leon. Several species could not be identified in the field and Nyc had taken the eggs, nests and skins of these questionable species and was working to identify them (Nyc 1952).

Figure 8. Fred and Amellia 'Billie' Nyc at their home in Brownsville, TX, 25 December 1952. Photograph courtesy of Raymond J. Quigley and the Western Foundation of Vertebrate Zoology.

Nyc continued to live in Brownsville until December 1952 when he accepted a position at the Sears store in San Angelo. It was 500 miles from Brownsville to San Angelo, and during the move several of Nyc's egg sets were badly broken (Nyc 1953a). The bird life at San Angelo was not nearly as good as in the Rio Grande Valley but Nyc was eager to learn their nesting places and add new species to his cabinet (Nyc 1953b). His egg data book indicates that he collected extensively during the breeding seasons of 1953 and 1954, often at locations 30-40 miles distant from San Angelo.

RETURN TO THE RIO GRANDE VALLEY

Nyc moved back to the Rio Grande Valley sometime during late 1954 or early 1955. His first excursion of 1955 was taken during mid-April with Lobo Wolfe to the vicinity of Tampico, Mexico. The remainder of the 1955 season was spent in Texas collecting on Padre Island, and at Mission, Sullivan City and Bentsen-Rio Grande Valley State Park. The 1956 membership directory of the Texas Ornithological Society lists Nyc as a charter member living in McAllen, Texas.

Bentsen-Rio Grande Valley State Park was a favorite location to collect, and during April

and May 1956 Nyc made five trips to the park. Although the park land was deeded to the State of Texas in 1944, it was not yet fully developed and would not be opened to the general public until 1962. Years later, Nyc recalled that he took 90% of his 483 sets before the park was even half developed (Nyc 1975).

During late May 1956, Fred and 'Billie' crossed the Rio Grande for a week-long collecting trip around Cuidad Victoria, Gomez Farias, Valles, Cuidad Monte and Tampico. The eggs of a Plain Chachalaca (WFVZ 145393) taken near Gomez Farias list Dr. Prentis Townsend Burtis, Jr. (1913-1994), an internist from Contra Costa County, California, as a co-collector. In mid-May 1957, Nyc again collected around Cuidad Victoria and Veracruz taking among others the eggs of the Grey-breasted Wood-Wren, Derby and Social Flycatchers, and Rose-breasted Becard. The field conditions were nearly intolerable with the temperature on one day reaching 112° F. Sometime in 1958, Nyc moved from Brownsville to Pharr where he lived until 1964.

COLLECTING WITH SID PEYTON, 1958-1960

Nyc had relatives living in California that he visited on a regular basis. During these visits, he made the acquaintance of Sidney Burns 'Sid' Peyton (1892-1978), a citrus farmer and egg collector from Fillmore, California. Nyc was planning to collect in the vicinity of Patagonia, Arizona, and was warned by Peyton to be on his guard since the wardens of that area had earlier fined Peyton and Edward M. Hall $25.00 each and confiscated all of their eggs (Nyc 1957). Around this time, Nyc apparently invited Peyton to visit and collect in Texas. It is perhaps worth noting that during World War II, Sid Peyton's son, Leonard James Peyton (1924-2010) was stationed in Texas where he collected eggs for his father. Leonard Peyton later achieved notoriety as an Alaskan bird bander and recorder of birds' songs.

Sid Peyton arrived in Texas during mid-April 1958, and he and Nyc headed west to Big Bend National Park. On the 13th of April, Nyc took his first set of the eggs of a Mexican Jay about a mile east of "The Window." Several incomplete nests were found the following day. Peyton did not obtain any eggs of the Mexican Jay but Nyc declared that he and Peyton would return the following year and get him a set. No mention is made of the eggs of other species being taken.

Peyton returned to Texas in April 1959, and he and Nyc headed upriver. Ten miles east of Eagle Pass the nest of a Harris's Hawk was spotted and Peyton took the eggs, the first he had ever seen. Peyton "was really excited" at this find. Then, instead of continuing on to Big Bend National Park, they turned east to the Rocksprings area to search for nests of Cave Swallows only to find that, although nests had been built, no eggs were to be found. Eggs of Woodhouse's Scrub-Jay, Rufous-crowned Sparrow and House Finch were taken at the E. T. Prade Ranch in Real County and Vermilion Flycatchers and Chipping Sparrows were seen building nests.

Nyc and Sid Peyton met again in early May 1960 in the basin of Big Bend National Park where Peyton finally took eggs of a Mexican Jay. Eggs of a Cactus Wren were also taken, and the nest of an Elf Owl was found in the hole of a yucca near a horse corral. After collecting in the park, the two men left for the ranch of Adam Wilson, Jr. about 40 miles southwest of Kerrville where they were met by Lobo Wolfe and his wife, Suzie. About 150 pairs of Cave Swallows were found but only 3 of 40 nests examined contained eggs.

Nyc's collecting came to an abrupt halt the day after leaving the Wilson Ranch. The entry is his data book reads "Broke my leg—fishing at Garner State Park." How this injury occurred is unknown.

THE END OF A FAMILY TRADITION

Nyc's data book contains no record of eggs taken during 1961. He was doing more fishing and rock hunting and no longer had a permit. However, he guessed that the lack of a permit didn't make much difference since he knew several others who were collecting and exchanging without one (Nyc 1961). He was also disappointed that his son no longer seemed to have an interest in birds.

Frederick Francis Nyc, III, (1930-2017) was born in Sulphur Springs, Texas. As a youngster, he helped his father collect and his name was often included on data slips as a "co-collector." Undoubtedly, it was Fred's hope that his son would come to love birds and carry on his father's legacy as a collector. However, this was not to be.

Fred Nyc, III graduated from Texas A&M with a major in wildlife and forestry and immediately went

into the air force. He had opportunities to collect eggs in Alaska, India and Pakistan but sent only a few sets home to his father. By 1961, Fred, III was married with four kids and his father had finally accepted the fact that his son was "just not cut out for birds, so I may just as well forget it!" (Nyc 1961). Later, after retiring from the air force, Fred, III, returned to Texas where he became a highly respected hospital administrator in Smithville. It is also worthy of note that none of the descendants of Nyc's fellow collectors—Meitzen, Wolfe, Kirn, Merritt or Peterson—exhibited any interest in egg collecting or ornithology.

DECREASE IN COLLECTING, 1962-1968

Nyc was 56 years old in 1962 and his passion for collecting seems to have cooled. The only records for that year are two sets of Barn Swallow eggs taken in Arkansas while he and Amellia were on vacation. The only record for 1963 is of Nyc and Lobo Wolfe taking the eggs of a Common Black Hawk during mid-March at Monte Gordo, Veracruz, Mexico.

Nyc was working full time at Sears during 1964 while spending his free time with grandchildren. It was also a time of reflection during which Nyc laid out his plans for the future. "Yes egging—that is real hard climbing & for the birds, and they can have it." However, he did not plan to totally give up collecting since there were "plenty of ground nests and nests not over 20 or 30 ft. high that I can get to, and I still need about 40 species (in Texas) that I'm going to work for when I can really spend the time" (Nyc 1964).

Nyc took one long trip to southern Mexico during April 1964. He arrived in the Mexican state of Campeche too early for the nesting of motmots. At Villahermosa, Tabasco, he saw young jacanas. Later, in a lake filled with "wild cabbage" near Coatzacoalas, Veracruz, he tried wading and by boat to obtain the eggs of jacanas but was unsuccessful. His conclusion after this experience was that he would need a partner on his next attempt.

Nyc had planned to retire in 1965 but was informed by his company that he must continue working until February 1966. His spring vacation was taken visiting relatives and fishing around Kerrville, Uvalde and Rocksprings (Nyc 1965). There is no record in his data book of eggs taken during 1965 and 1966.

Only a few records for 1967 are found in Nyc's data book. On 13 May, the eggs of a Common Nighthawk were taken at San Angelo by Nyc and Edward McDonald, a fireman in San Angelo. Over 100 pairs of Cave Swallows were found a week later nesting near Concan in Uvalde County. The eggs of Cave Swallows and Common Raven were also taken near Vanderpool in Bandera County. No records have been found of Nyc collecting during 1968.

COLLECTING IN MEXICO WITH WOLFE AND MEITZEN

Nyc began making plans in late 1968 for a three weeks collecting trip into Mexico and British Honduras with Lobo Wolfe and Travis Meitzen. The necessary permits were obtained and all was in readiness. Nyc was hoping for sets of the Snail Kite, King Vulture and Short-tailed Hawk, as well as a sampling of some of the other hawks and a dozen or so smaller birds. It was a time of high excitement and Nyc declared that he had "lots to look forward to" and could "hardly wait!" (Nyc 1969a).

The plan was to depart on March 4th. However, Meitzen, fearing another coronary episode, withdrew before the departure date leaving Nyc and Wolfe to make all of the arrangements (Nyc 1969b). The first eggs taken were those of Snail Kites nesting 20 miles south of Frontera in the State of Veracruz. During later days the eggs of Common Black Hawk and Roadside Hawk were taken.

Things then turned bad. The 3-week trip lasted only half that time due to Wolfe becoming ill. By Nyc's account "Lobo folded up—couldn't take it! We turned back [on the] 18th" (Egg data book #3). The cause of Lobos illness was later explained in a letter to Ray Quigley. The two men had been wading in waist-deep water searching for nests of the Snail Kite, and Lobo developed what seemed to be pneumonia. He was taken to an airport 75 miles away to fly home leaving Nyc with all of the specimens and permits to return alone to Texas.

The disappointing experience with Wolfe in Mexico did not stop Nyc from additional collecting during 1969. On April 18th, he and an assistant, Pedro Nova, collected eggs of a Bat Falcon 30 miles south of Tampico. Later, during the 3rd week of May, he was visited at Brownsville by Wray Hamilton Nicholson (1911-1977), a talented Figuregrapher and citrus grower from Orlando, Florida. Working together over 4-5 days, the two men collected the eggs of several local species.

FINAL YEARS OF COLLECTING, 1970-1978

Nyc returned to Mexico in March and April 1970 to collect in the vicinity of Horoncitos, Naranjo, Tampico and La Laja. The eggs taken during these trips are not recorded in his data book but sets of the following species taken in Mexico are found at the WFVZ: Common Black Hawk, Gray-lined Hawk, Bicolored Hawk, Short-tailed Hawk, Gray-necked Wood-rail and Brown Jay. At the age of 64 years, Nyc probably did not want to take any chances climbing trees to retrieve eggs while fighting off the parent birds. He therefore hired two Mexicans, Pedro Nova and Ezequiel Reyes, to assist in the more strenuous work. The only other collecting during 1970 was at Falcon Lake where eggs of Pyrrhuloxia, Least Tern, and Snowy Plover were taken.

Another trip was made to Horoncitos, Mexico, during May 1971 where eggs of the Northern Beardless-Tyrannulet were taken. The nest was found 4 feet up in a small palm tree in fronds next to the trunk. Nyc watched the nest for 2-1/2 hours as the parents changed positions on the nest every 10 or 12 minutes with the one outside darting to catch small bugs or gnats. Their feeding behavior reminded Nyc very much of that of the Vermilion Flycatcher.

In June 1971, Nyc and his wife went on an extended vacation stopping to visit Carl Richter in Ocono, Wisconsin. Richter, one of the foremost collectors in Wisconsin, eventually donated his private collection of 10,500 egg sets to the museum that now bears his name. Nyc had sold or exchanged eggs with Richter in previous years, and Richter had also obtained a large number of eggs from Nyc's friend, John Peterson. When Nyc visited Richter in 1971, he was surprised to find that all of Peterson's sets still packed in the boxes just as they had been shipped 5 or 6 years prior (Nyc 1976a). The Richter Museum of Natural History, University of Wisconsin—Green Bay, presently has 53 egg sets collected by Fred Nyc from locations in Texas and Mexico dating from 1923 to 1957.

Fred and Billie continued on into Canada where they visited Robert Pickering in Waterloo, Ontario. Little is known of Pickering other than that he collected in Waterloo, Wellington, Oxford and Simcoe Counties, Ontario, and that the WFVZ has around 130 of his egg sets. A few of his sets are also found at the Canadian Museum of Nature and the U. S. National Museum of Natural History. Study skins of male and female Willow Flycatchers taken by Pickering in Oxford County in June 1957 are also found in a small collection that Nyc donated to the Bastrop, Texas, County Historical Museum.

There are no records of Nyc collecting during 1972 and only three records of sets taken the following year. While camped at Chalk Bluff trailer park 12 miles north of Uvalde during the first week of June 1973, he took sets of the Bewick's Wren, Canyon Towhee and Sage Thrasher. The following year (1974) was somewhat better with sets of several species being taken at Blanco, Smithville, Kerrville, Palmetto State Park, Johnson City, Canyon Lake and Lockhart. This pattern of local collecting continued during 1975 at sites near Blanco, Caldwell, Taylor, Canyon Lake and New Braunfels.

The eggs of a Gray Vireo (TCWC 22266) taken during at Boquillas Canyon represent the only record for 1976. In 1977, while passing the Pentecostal Church in New Braunfels, Nyc noticed the nest of a Blue Jay about 20 feet up in a cedar tree [Ashe juniper]. Attesting to his determination and physical ability at the age of 70 years, he climbed the tree and retrieved four eggs.

Fred Nyc's last collecting adventure came in June 1977 when he was visited by Lyle DeVern Miller (1898-1996), an egg collector and science teacher from Youngstown, Ohio. The two men had known each other for years, and had planned a trip lasting 3 to 4 weeks extending from the Lower Rio Grande Valley to West Texas. As it turned out, the trip was not what Nyc expected.

Nyc later described the trip as "quite a disappointment" (Nyc 1977). Miller arrived in Texas around the last of May and immediately announced that he had a lecture to attend and needed to depart by June 6th or 7th. In spite of this turn of events, the two men left New Braunfels the following day for the Lower Rio Grande Valley where Lyle added several species to his life list, but it was too late in the season to find eggs.

The next stop was Falcon Dam where Miller began complaining about the heat. They were up at daylight and in the field returning to the trailer around 10:30 a.m. for a few drinks before lunch followed by a short nap. Lyle refused to go out again until around 4:30 p.m. when it had started to cool. On the 6th day, Miller announced that it was time to think about heading back. Nyc was irritated at this suggestion since he anticipated collecting in the Big Bend region. The following morning they

left for San Antonio where Miller boarded a plane for Ohio. Although Miller expressed appreciation of the time Nyc had spent with him and all of the things he had shown and explained to him, Nyc's final judgement was "never again with him" (Nyc 1977).

Nyc never had the opportunity to collect again with any of his old friends. His passion for collecting was over. The last eggs taken by Nyc were those of a Say's Phoebe on 25 May 1978 at Montell, Uvalde County, Texas. His data book remained empty until its last entry on 3 May 1984 when it was noted that White-winged Doves were "nesting 100 miles farther north & nesting in Austin and Bastrop."

DONATION TO ST. MARY'S UNIVERSITY

Nyc was very loyal to his alma mater and he strongly supported education in the natural sciences. In 1929, the Garni Nature Club named for Brother Louis Garni (1886-1914), a member of the Marianist Order, was founded at St. Mary's University. Garni was a former science teacher at the university and a respected herpetologist and naturalist. Al Kirn, himself a Catholic, was the speaker at the first meeting of the club and a frequent guest and field trip leader in following years (1929c). Kirn soon began to make small donations of birds' eggs and other naturalia to the club, and it is probably through his influence that Nyc decided to make a donation of his own.

Nyc's gift, announced in the university newspaper in March 1934, noted that the eggs had been obtained by personal collecting and exchange with local and foreign oologists, the adjective "foreign" perhaps referring to collectors from Canada. It was further noted, perhaps with some hyperbole, that the donation was "one of the most complete in this section of the country, covering several hundred species and subspecies" (Anon. 1934). Nyc's donation was supplemented later that same year by the donation of a large number of eggs by Al Kirn. And, when Kirn died in 1950, he left his collection of eggs and other natural history specimens to St. Mary's University.

Nyc learned in 1958 that the university had more eggs and other specimens than could be properly displayed, and that he was welcome to take back any duplicates that he and Kirn had donated. The following year, he returned to campus and reclaimed an estimated 300 sets in what he described as the "biggest single day's haul of eggs, I've ever made" (Nyc 1959). What remained of Nyc's eggs and Kirn's natural history collection was later donated to the Natural Science for Youth Foundation (NSYF) and distributed among their affiliate museums (Messerly 1996). According to Nyc, the collection was taken first to Fort Worth and then to New York where it was split into 75 or 100 smaller units and placed in "grade schools" all over the country. Nyc was appalled by this transaction which he described as "a crime!!!" However, Nyc seems to have been mistaken since it is now known that Kirn's eggs were transferred in 1969 to the Corpus Christi Museum of Science and History where they are presently located (Heck 2001).

NEGOTIATIONS WITH THE WESTERN FOUNDATION OF VERTEBRATE ZOOLOGY

In 1968, Lloyd Kiff, curator at the WFVZ, entered into negotiations with Nyc for acquisition of his collection. Their first face-to-face contact occurred in June 1971 when Kiff arrived in Brownsville to examine what Nyc described as his "modest collection" (Nyc 1971a). A financial agreement regarding the tax exemption that Nyc would receive was also discussed at this time.

By October 1971, Nyc had made a list of the sets with which he was willing to part, holding back those of around 65 species that he wanted to keep for personal and nostalgic reasons. He further promised that the sets he was keeping, as well as any others that might be added during the next few years, would not be offered to anyone else (Nyc 1971b).

The offer made by WFVZ was received during late October and found to be agreeable. Nyc was to report $2,200 to the IRS as a donation of the eggs to the WFVZ. It was further agreed that Nyc would receive $700 as a "gift" for the egg data, in installments of $100 per month beginning in January 1972.

Three boxes of eggs were shipped during the first week of January 1972. Subsequent letters indicate that the final payment was made in December. In an undated letter presumably written in early 1973, Nyc revealed that he had a heart attack about two months earlier. His condition was under control but he was "grounded" as far as heavy exercise was concerned. He would no longer be able to climb high trees but there were still "plenty of low nests that might be 'robbed'—especially by an assistant."

Once again, he reiterated his promise that should he decide to relinquish any of his Texas and Mexican sets, he would offer the WFVZ first chance at them.

The last transfer of eggs took place in the fall of 1984, and arrangements were made to visit Nyc at his home in Bastrop. Kiff and WFVZ curator, Clark 'Sam' Sumida, arrived in Texas on November 3rd to pick up the eggs and left with a promise that a check would be in the mail within a few days. The check did not arrive as quickly as planned leaving Nyc distraught but payment was received before the end of the month much to everyone's relief.

THE LAST YEARS

Nyc became increasingly introspective as he grew older. In the summer of 1976, he complained that the "birds won't nest but a few months in the year, and the fish don't bite every day" and that if he didn't keep busy, he would "go nuts." His angina problem had stopped his partaking of anything but vodka or scotch and he didn't like scotch. He was also worried about his friend, Travis Meitzen, who was drinking heavily, and he feared that Travis would soon succumb to a fatal heart attack (Nyc 1976c). In fact, Meitzen died a few days after Nyc's letter was written.

In 1981, Nyc sold his property in Pharr and moved to Bastrop to be close to his extended family. He and Billie had given up traveling except for short excursions, and he opined that he was "not a collector anymore" although he still had a little interest in hunting and fishing (Nyc 1981). He complained about "getting older" and it taking "longer to accomplish things." He had recently visited "poor old Lobo" who was just "hanging on" and, it was Lobo's hope that it wouldn't be "much longer" (Nyc 1984). In his last letter dated 19 July 1989, Nyc lamented that he didn't hear from many of the former collectors anymore. In fact, most of his collecting friends were dead. Kirn died in 1950, Meitzen in 1976, Peterson in 1982 and Wolfe died a few days before Nyc's letter was written. Arthur Merritt, Jr. was still alive but had quit collecting years earlier. The other major collectors in Texas had also passed from the scene—Bob Moore in 1941, Floyd Pope in 1952, Emmett Maxon in 1957 and Roy Quillin in 1974. The glory days of the old-time Texas egg collectors were now only a memory of the past.

THE LEGACY OF FRED NYC, JR. AND HIS FRIENDS

Public opinion had already turned against the taking of birds' eggs when Fred Nyc began collecting in 1917. Collectors were vilified as "nest robbers" and their activities were viewed as having little or no scientific value. This negative perception grew stronger in the following decades but it did not affect Nyc's dedication to his chosen avocation. He was a compulsive collector not only of birds' eggs but also of coins, stamps and semi-precious stones. However, Nyc and his fellow collectors also recognized the scientific value of their records which they published or otherwise shared with professional ornithologists. And, before their deaths, Nyc, Wolfe and Meitzen, donated their collections to the WFZV. The only major egg collection of Nyc's era still privately owned is in the possession of the grandson of Robert Lee More in Vernon, Texas (Casto 2009).

The egg sets, nests, data books and correspondence of Fred Nyc at the WFVZ have been used by researchers investigating the breeding biology of the birds of Texas and northern Mexico, as well as the history of egg collecting in Texas. Many of his records were used by Lloyd Wolfe and Harry Oberholser in their respective publications, *Check-List of the Birds of Texas and The Bird Life of Texas*. Nyc's records were also used by Herbert Friedmann (1963) and Friedmann, Kiff and Rothstein (1977) in their publications on brood parasitism by cowbirds. Although not accepted by the Texas Bird Records Committee, Nyc's claim that the Gray-breasted Martin nested at Brownsville is noted by Peterson (1963) and Oberholser (1974). Nyc was well-acquainted with this species having collected its eggs near Valles, San Luis Potosi, Mexico (WFZV 67152, 145381, 84692 and PSM 15387) during 1952 and 1953.

The legacy of Fred Nyc and his associates is also evident in the egg sets, nests and study skins they collected that are now in museums throughout the United States. These physical remains are not just relics of a bygone age but rather objects for future research. Nyc, Merritt, Wolfe and Peterson lived long enough to learn that the thinning of egg shells was an indicator of the harmful effects of DDT. However, they would be amazed at recent advances by which chemical analysis of egg shells

and their dried membranes can reveal the presence of pesticides and certain heavy metals and, even more astonishing, that DNA can be extracted from the egg shells of long-extinct species. Other studies have shown the value of eggs and shell fragments in the study of evolution, taxonomy, archaeology, as well as changes in the historical distribution of a species (Kiff 2005).

Nyc and his contemporaries experienced an intense thrill when they first took the eggs of a long sought after species. This field experience cannot be duplicated today but an acceptable substitute is available. Many of the egg sets at the WFVZ taken by Nyc and his associates have been Photographed and can be viewed online. These exquisite Photographs clearly show the size, shape, texture, color and patterning of the eggs and vicariously create for the viewer what must have been the original experience of the collector. Many of these same Photographs, including that of an intricately woven cup nest of a Red-winged Blackbird taken by Nyc in 1940, have been used by Purcell, Hall and Corado (2008) in their beautifully illustrated book *Egg & Nest*. Nyc and his friends would undoubtedly be gratified to know that their eggs are now valued both by scientists, as well as those laypeople who marvel at the beauty of nature.

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CARCASS USE BY CRESTED CARACARAS (*CARACARA CHERIWAY*) AND INTERACTIONS WITH BLACK VULTURES (*CORAGYPS ATRATUS*) AND TURKEY VULTURES (*CATHARTES AURA*) IN SOUTH TEXAS

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ABSTRACT.—Between 1988 and 1992, I collected data in South Texas on the foraging behavior and carcass use of Crested Caracaras (*Caracara cheriway*) and their interactions with Black Vultures (*Coragyps atratus*) and Turkey Vultures (*Cathartes aura*). Caracaras were regular visitors to carcasses of large mammals that I kept under continuous observation, being seen at 10 of 31 carcasses, although only in small numbers. Caracaras were clearly dominant over both species of vulture in aggressive interactions. They regularly displaced vultures from feeding positions at carcasses, and on one occasion, I observed a caracara kleptoparasitize a Turkey Vulture, which it forced to regurgitate food while in flight. However, despite their dominance over vultures, caracaras appeared not to be significant competitors for carrion because of their relative rarity. In addition to seeing them engage in agonistic interactions, I also observed caracaras and Black Vultures interact non-aggressively by allopreening each other. On 4 occasions, I saw individual caracaras solicit preening and be preened by 1 or 2 Black Vultures and twice reciprocate by preening a vulture in return.

The Crested Caracara (*Caracara cheriway*) is widely distributed in Central and South America, but in the United States is limited almost entirely to Florida, Arizona, and Texas (Morrison and Dwyer 2012). Caracaras prey on a variety of small mammals, reptiles, insects, and birds, but also regularly eat carrion (Morrison and Dwyer 2012). Because of their restricted distribution, relatively little has been written about how caracaras in the U.S. interact with the two more common specialized avian carrion eaters that share their U.S. range, the Black Vulture (*Coragyps atratus*) and the Turkey Vulture (*Cathartes aura*), species that I studied extensively during my dissertation research (Buckley 1996, 1997). During my fieldwork studying vultures in South Texas, I also opportunistically gathered data on caracaras' use of carrion, their behavior when feeding at carcasses, and their interactions with vultures. However, at the time I did not carry out a comprehensive analysis of the data since my focus was primarily on vulture behavior. Recently, however, while revising my Birds of North America account of the Black Vulture (Buckley 1999), I reviewed my field notes on caracara-vulture interactions and realized that I had accumulated a substantial amount of material on caracara behavior. Given the relative scarcity of published information on caracaras in Texas, I felt that this information would perhaps be of value, and I have summarized it in this manuscript.

METHODS

Data were collected between 1988 and 1992 on and around the 3160-ha Rob and Bessie Welder Wildlife Refuge, Sinton, Texas (28° 06' N, 97° 22' W). The refuge is flat and, except for some small stands of trees along the Aransas River, is covered with a mix of thorn scrub and grassland (Box et al. 1978). During the period of the study, two or three pairs of caracaras and their young were present on the refuge.

I made most of my observations of caracaras feeding at carcasses of large mammals. These included white-tailed deer (*Odocoileus virginianus*), feral hogs (*Sus scrofa*), coyotes (*Canis latrans*), and domestic cattle (*Bos taurus*) that I had provided for vultures as part of experiments designed to

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investigate the selective basis for communal roosting in these birds (Buckley 1996, 1997). Each carcass was kept under continuous observation from a nearby blind until it had been consumed, a process that usually took several days. All birds that visited the carcasses, including caracaras, were recorded. Individual caracaras were classified as adults or immatures based on plumage characteristics.

During my four years of fieldwork, I also made observations of caracaras and vultures whenever the opportunity presented itself. In addition, whenever I came across vultures or caracaras feeding, or apparently feeding, on carrion, I recorded the number and species of birds present and stopped to investigate what the birds were eating. In all, I documented birds feeding on 74 identified food items (on another three occasions I was unable to identify the item beyond it being a small mammal (Buckley 1996).

RESULTS

I observed scavenging vultures or caracaras feeding on a total of 77 different naturally occurring food items (i.e., items not provided by me) that ranged in size from cattle to mice (Buckley 1996; this study). Caracaras were present on 8 occasions. A single caracara was seen at 4 carcasses, and 2, 3, and 4 birds, respectively, occurred at 3 other carcasses. The outlier was a group of 9 caracaras, an unusually large group for the area, that I saw feeding together without any vultures being present. In this instance, the birds were feeding in a field littered with the remains of a large number of Northern Bobwhite (*Colinus virginianus*), presumably a site where a shooting party had dressed their birds. With the exception of this large group of caracaras, vultures (mean = 25.4, range 3-67) were present at all of the carcasses at which caracaras occurred. The carcasses at which caracaras were observed were all medium-sized to very large mammals, specifically 2 armadillos (*Dasypus novemcinctus*), 2 raccoons (*Procyon lotor*), a coyote, and 2 cattle. Overall, caracaras occurred at 7 of 51 carcasses of armadillo size or larger (13.7%), but at only 1 of 26 smaller items (3.8%).

Caracaras occurred at 10 of the 31 large carcasses I provided that were visited by birds and on 18 of the 59 days that the carcasses were available. On only one occasion was a caracara the first bird to locate a carcass, most carcasses being located first by the much more abundant Turkey Vultures. On 7 occasions a carcass was visited by caracaras on more than one day. The first caracara always arrived at bait sites earlier on the second day than the first, and on three of these second days, birds arrived at dawn, which suggests they remembered the location of the food and came directly to it from their roost site.

There were 56 time periods on the 18 days that caracaras occurred at large carcasses when at least one individual was present (although the number of individuals varied within a period due to birds coming and going). The greatest number of birds recorded at once was 6 (2 adults and 4 immatures: 1/56), but most frequently only 1 (30/56, 53.6%) or 2 (17/56, 30.4%) individuals were present. I never saw more than 2 adult caracaras simultaneously at a carcass, and the synchronous arrival and departure of adults suggested they were a mated pair. Adult caracaras were not seen to feed immatures at carcasses, as Black Vultures sometimes did, but adults and immatures sometimes arrived together at carcasses, which would suggest they were members of a family group.

Feeding caracaras exhibited rapid peck rates (mean of 15.6 pecks per min (SE 1.5, N = 27, range 4-32). Individuals made extensive use of their feet while feeding, tearing at the skin with their talons and holding items with their feet while they pulled pieces off with their bill. I did not record how long individuals spent feeding, but I did record the duration of some visits to carcasses. Duration of stay was highly variable, ranging from 3 to 176 min, with a mean of 36.3 min (SE 6.0, N = 43). Individual birds certainly made multiple visits to carcasses, but because birds were not marked it was impossible to tell how many any particular bird made.

Caracaras were greatly outnumbered at carcasses by vultures. Up to 98 Black Vultures and as many as 16 Turkey Vultures were recorded simultaneously (for more details on patterns of occurrence of vultures, see Buckley 1996, 1997). However, caracaras were unintimidated by the presence of large numbers of vultures, and both adult and immature caracaras were dominant in aggressive interactions with both species of vulture. Caracaras frequently displaced vultures from feeding positions at carcasses, and vultures generally moved away when a caracara approached. Vultures that did not give way when approached were usually pecked, but were sometimes kicked. In 153 aggressive interactions between caracaras and Black Vultures where one or other species clearly won (i.e., the loser moved away or yielded a feeding position) caracaras won 145 (94.8%). Caracaras similarly

were dominant over Turkey Vultures, winning 64 of 70 interactions (91.4%).

The relative ages of the birds involved did not affect the outcome of aggressive interactions. Immature caracaras won 110 of 114 interactions with Black Vultures (96.5%) and adult caracaras won 35 of 39 (89.7%). Similarly, immature caracaras won 50 of 55 interactions with Turkey Vultures (90.9%), and adult caracaras won 14 of 15 interactions (93.3%). I saw few aggressive interactions between adult and immature caracaras, but adults won 10 of 11 interactions I observed.

Caracaras not only displaced vultures from carcasses, but also engaged in kleptoparasitism. While driving south on Hwy77 from the Welder Wildlife Refuge towards Sinton on 25 November 1991, I saw an adult caracara swoop down at an adult Turkey Vulture that had just taken off from the roadside where it had been feeding (apparently on a small animal, because I could not subsequently find a carcass). The caracara flew at the vulture, which was flapping hard to gain height, and pursued it for about 10 seconds, at which point the vulture regurgitated 2 pieces of meat that fell into a ploughed field. By the time I was able to turn my vehicle around and return to the spot, the caracara was on the ground feeding, and the Turkey Vulture had disappeared.

Despite their regular conflict over food, not all interactions between caracaras and vultures were agonistic. On 4 occasions, I observed interspecific allopreening between caracaras and Black Vultures at carcasses. In each instance the caracara approached a Black Vulture, stopped in front of it, lowered its head slightly, and the Black Vulture then proceeded to preen the caracara's head, neck, and throat. The duration of preening varied from 15 sec to 11 min and the caracara reciprocated by preening the vulture's head and neck on 2 of the 4 occasions, but both times for less time than the vulture had preened. In one instance 2 adult Black Vultures together preened an immature caracara for 15 seconds.

DISCUSSION

My observations showing Crested Caracaras being dominant over Black and Turkey vultures in interactions at carcasses are consistent with previous reports from both Florida (Morrison and Dwyer 2012, Dwyer 2014) and Mexico (Rodríguez-Estrella and Rivera-Rodríguez 1992). Because of their dominance over vultures, caracaras can feed at carcasses at will in South Texas. However, I only recorded them feeding at relatively large carcasses, almost always ones that had first been discovered by vultures. This suggests that caracaras were opportunistic scavengers, which as they do in other parts of their range (Morrison and Dwyer 2012), probably obtained most of their food by hunting. Although they may have occasionally appropriated small carcasses, the relative rarity of caracaras, coupled with their catholic diet, suggests that they were not important competitors with vultures for carrion. Such competition as there was, however, probably disproportionately affected Turkey Vultures. There are two reasons to suspect this. First, Turkey Vultures depend more on small (less shareable) carcasses than do Black Vultures (Buckley 1996) and second, Turkey Vultures are vulnerable to kleptoparasitism by caracaras (Glazener 1964; Rodríguez-Estrella and Rivera-Rodríguez 1992; this study).

Caracaras historically were much more common on the Welder Wildlife Refuge with an estimated 35 pairs being present in the 1950's (Porter and White 1977). Inevitably, competition between caracaras and vultures for carrion must then have been significantly more intense. Glazener's (1964) note describing how in South Texas in the 1940's he commonly saw caracaras scavenging roadkill, and in which he also documents 4 instances of kleptoparasitism of Turkey Vultures by caracaras, is consistent with this interpretation.

Although adult caracaras did not feed young at carcasses, the lack of aggression between adult and immature caracaras coupled with the occasional arrival of adult and young birds together to carcasses, suggests that the young were offspring of the adults. Since in Texas most eggs are laid between January and March (Morrison and Dwyer 2012), and I observed adult and immature caracaras together at carcasses in November, it appears that in South Texas adults and immatures associate for several months after fledging. This is consistent with observations from Florida where most offspring remained on their parents' territory for 4 to 6 months after fledging (Morrison and Dwyer 2012), with a few remaining until the following year's breeding season.

Intraspecific allopreening (in which one individual preens another; Cullen 1963) is common in birds, being a regular part of courtship and pair-bond maintenance (Harrison 1965). However,

interspecific allopreening is much less common. Interspecific allopreening between Crested Caracaras and Black Vultures was first reported by Ng and Jasperson (1984) who observed a single occurrence of the behavior in South Texas between a perched Crested Caracara and a Black Vulture. Subsequently there have been other published reports of interspecific allopreening involving Black Vultures and caracaras (both the Crested Caracara and the closely related Southern Caracara *C. plancus*), so the behavior appears to be relatively widespread (Palmeira 2008; Souto et al. 2009). Ng and Jasperson (1984) suggested that the behavior might enable caracaras to join Black Vultures for foraging and roosting. However, this explanation seems unlikely since in four years of fieldwork in South Texas I never observed caracaras and vultures engaging in either of these behaviors together. Perhaps, a simpler alternative, given that the caracaras I observed did reciprocate the Black Vulture's preening in 2 of 4 cases, is that the behavior is a mutually beneficial interaction between members of two species both of which commonly engage in intraspecific allopreening.

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TRENDS IN ABUNDANCE, SPECIES RICHNESS, AND DEMOGRAPHICS OF NEARCTIC-NEOTROPICAL MIGRANTS FROM A LONG-TERM BIRD BANDING EFFORT IN NORTH TEXAS

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ABSTRACT.—Long-term bird banding efforts contribute valuable data to understanding changes in avian abundance, species richness, and population demographics; however, there is a lack of regional-scale studies in the published literature. My objective was to analyze 37 years of bird banding data to examine seasonal patterns in abundance, species richness, and intraspecific demographics of Nearctic-Neotropical migrants. Central Flyway migrants were mist-netted in a fragmented landscape matrix during spring and fall migration from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas. A total of 64 species were banded during the study with greater species richness in spring (62 species, mean = 23.8 species/yr) than fall (50 species, mean = 17.2 species/yr). A total of 12,135 individual birds were banded with greater abundance in spring (7,121) than fall (5,014). Nine species accounted for 75% of all individuals banded. Among the 20 most abundant species, the general trend in abundance was greater for more species in spring than fall, males were more abundant than females in both seasons, and adults were more abundant than hatch-year birds for a majority of species. Abundance and species richness both declined throughout the study; however, net effort declined in the last 8 years of the study. Data from this long-term banding project provides a baseline for future comparisons of avian abundance, species richness, and intraspecific demographics.

Large-scale monitoring efforts such as the U. S. Fish and Wildlife Service's Breeding Bird Survey (BBS), the National Audubon Society's Christmas Bird Count, and the Institute for Bird Populations' Monitoring Avian Productivity and Survivorship (MAPS) program provide both short- and long-term abundance and species richness indices; however, there is a lack of published long-term, regional studies on species richness and abundance using bird banding data in the Central Flyway. Long-term bird banding stations contribute a wide variety of demographic data (Karr 1990, Wang and Finch 2002, Dunn and Ralph 2004, Ruiz-Gutierrez et al. 2012).

Mist netting provides valuable data on annual and seasonal population trends. In Alaska, Bailey (1974) used short-term mist netting to document passerine species richness and abundance in spring migration. Similarly, in southern Michigan, Dunn et al. (1997) used longer-term mist netting in the fall to examine population changes relative to population index methods such as the BBS. Other studies combined spring and fall migration to understand annual demographic changes. In Massachusetts, Lloyd-Evans and Atwood (2004) used long-term spring and fall migration banding to document significant population declines among migrant bird species. Ballard et al. (2003) reported similar long-term declines in resident and migrant birds using constant effort mist-netting in coastal California. Published studies focused on coastal migration stopover sites (Ballard et al. 2003, Lloyd-Evans and Atwood 2004, Osenkowski et al. 2012); however, Rimmer et al. (2004) compared a coastal site to an inland site in New England because inland sites and sub-regional sites are often understudied.

Some short-term banding studies on seasonal migration have been conducted in the Central Flyway. At the Tishomingo National Wildlife Refuge in southern Oklahoma, Wood and Tucker (2010) documented species richness (53), abundance (765 individuals), and 0.4 birds captured/mist net hour of migrant and resident bird species over a 4-yr period. Their study occurred on a federally-

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managed landscape and exhibited a high degree of habitat fragmentation. Among long-distance migrants, the 6 most abundant species, including Indigo Bunting (*Passerina cyanea*), Swainson's Thrush (*Catharus ustulatus*), White-eyed Vireo (*Vireo griseus*), Prothonotary Warbler (*Protonotaria citre*a), Painted Bunting (*Passerina ciris*), and Blue-gray Gnatcatcher (*Polioptila caerulea*) accounted for 69% of all captures (Wood and Tucker 2010). Another 24 long-distance migrant species were banded in these small stopover habitat patches. Although small and isolated, habitat fragments still serve as vital stopover habitat for migrant songbirds for food and cover (Moore and Simons 1992, Winker et al. 1992).

Due to urban sprawl, suburban landscapes also are subject to habitat fragmentation, leaving isolated patches of stopover habitat. Evans et al. (2015) used 12 years of bird banding data to estimate annual survival of bird species in a transition zone between urban and rural landscapes in Washington, D. C. Although small habitat fragments can be ecological traps (Robertson and Hutto 1996), Evans et al. (2015) documented higher annual survival for some long-distance migrants including Gray Catbird (*Dumatella carolinensis*) within small habitat fragments. In southern Louisiana, Wolfe et al. (2013) documented short-term avian survival using bird banding in an isolated habitat fragment surrounded by an urban landscape. Survival estimates for some migrants, such as White-eyed Vireo, were similar to regional-scale estimates from MAPS data. However, resident species such as Carolina Chickadee (*Poecile carolinensis* and Northern Cardinal (*Cardinalis cardinalis*) exhibited lower annual survival in the isolated fragment.

In the 2010s, the Prairie and Timbers Audubon Society brought to the author's attention that they had conducted a 37-yr bird banding effort at the Heard Natural Science Museum & Wildlife Sanctuary (hereafter referred to as the Heard) in North Texas. The landscape context of the Heard was similar to Wolfe et al.'s (2013) study site in Louisiana in that both sites were habitat fragments isolated by urban sprawl and tract development due to human population growth north of Dallas.

The Heard's long-term bird banding data set offered an opportunity to examine population and species richness trends, intraspecific demographics, avian morphometrics (Wood et al. 2016), and species-level longevity (Wood 2017). This data can be used as a baseline for future studies in avian use of the Central Flyway in North Texas within the context of local landscape changes due to sprawl and large-scale factors such as anthropogenic climate change.

This study addressed the dearth of published studies of long-term changes in populations of Nearctic-Neotropical migrant bird species in the North Texas zone of the Central Flyway. My specific objectives were to 1) summarize bird banding data from a long-term mist netting effort, 2) examine trends in annual species richness, and 3) examine seasonal abundance and 4) examine interseasonal and intraseasonal aspects of species-level demographics.

METHODS

Study Site

All banding occurred at the Heard located in McKinney, Collin County in North Texas (33° 09'N, 96° 36'W; elevation 192 m) from 1978-2014. Birds were netted in a variety of habitats within the 117-ha study site. Habitats included: mid-successional prairie grassland, green ash (*Fraxinus pennsylvanica*)-black willow (*Salix nigra*) forest, intermittently-flooded mid-successional forest with sugarberry (*Celtis laevigata*), Osage orange (*Maclura pomifera*), cedar elm (*Ulmus crassifolia*), and honey locust (*Gleditsia triacanthos*). Savanna-like forest of scattered pecan (*Carya illinoinensis*) and escarpment live oaks (*Quercus fusiformis*) interspersed with Bermuda grass (*Cynodon dactylon*) also were sampled. Successional habitat changes at the Heard progressed, which could have influenced capture rates by changing habitat composition and structure (Remsen and Good 1996).

Field Methods

Spring migrants occurred from mid-March to early June and fall migrants occurred from early August to early November. This study focused exclusively on Nearctic-Neotropical migrants that nest in North America and winter in Central or South America. Table 1 includes all species included in the analysis by common and scientific names. Overall banding effort was similar between seasons with 577 banding days in the spring and 560 banding days in the fall; however, the number of banding days varied annually with fewer banding days in the last 8 yr of the study (Fig. 1). No fall banding occurred in 1978 or 2004.

Volunteer banders operated 10 to 25 12-m nylon mist nets (2.6-m height, 36 mm mesh size) depending on variable numbers of banding personnel available. Nets were only placed in the understory, therefore netting efforts under-sampled mid- and high-canopy species such as Summer Tanager (*Piranga rubra*) and Northern Parula (*Setophaga americana*) (Mallory et al. 2004). Netting and handling protocols followed Ralph et al. (1993) and Gustafson et al. (1997). All birds received a uniquely-numbered band; aging and sexing criteria followed Pyle (1997). Owing to the difficulty in separating Alder Flycatcher (*Empidonax alnorum*) and Willow Flycatcher (*E. traillii*), these species were lumped as "Traill's Flycatcher". Ruby-throated Hummingbirds (*Archilochus colubris*) were not banded and excluded from analysis.

Statistical Analysis

Species abundance results include initial capture plus interannual recaptures. Intraseasonal recaptures were omitted from analysis due to redundancy. No records of recaptures were available prior to 1994, so recapture data were only included post-1994. For some species, insufficient sample size occurred for meaningful abundance and demographic analysis; however, they were included in species richness analysis. Mean species richness was analyzed between seasons using an independent samples t-test with an a priori alpha level = 0.05. Abundance, age, and sex data were examined for each species. Species-specific abundance from the Heard was compared with population trends from 1966-2015 for the BBS Oaks and Prairies region if the species nested in the vicinity of the Heard or from the BBS Central region if a passage migrant to determine if trends were similar (Sauer et al. 2017). Age categories included Hatch Year (HY), Second Year (SY), After Hatch Year (AHY), and After Second Year (ASY) that could be examined independently or combined with sex. Sexes included male (M), female (F), and unknown (U).

RESULTS AND DISCUSSION

Species Richness

From 1978-2014, 64 species were banded with more species banded in the spring (62) than fall (50) (Table 1). Prairie Warbler (*Setophaga discolor*) and Worm-eating Warbler (*Helmitheros verimvorum*) were banded only in the fall, whereas 14 species were banded only in spring. A total of 48 species were banded in both spring and fall. Mean species richness was greater in spring (23.8 species/yr $\pm$ 5.0 SD) than fall (17.2 species/yr $\pm$ 6.6 SD) ($t = -6.89$, $df = 36$, $p < 0.001$; Fig. 1). Peak spring species richness occurred in 2003 (29 species) and spring species richness was consistent among years except for declines in 2000 and the early 2010s as the number of seasonal banding days decreased (Fig. 1). Peak fall species richness occurred in 1985 (27 species) and fall species richness was consistent among years except for declines in 1991 and 1995 (Fig. 1). Species richness was greater in spring than fall for 32 of 35 years. Conversely, species richness was only greater in fall than spring in 3 years. Only 20% (13/65) of species were captured in >90% of years of the study, 14% (9/65) of species were captured in 20-33 years of the study, and 66% (43/65) of species were captured in <20 years of study (Table 1).

Several species were not captured over the 37 years of netting that likely should have been netted, but due to random chance were not. Olive-sided Flycatcher (*Contopus cooperi*) migrates through North Texas annually, but no captures were recorded (Altman and Sallabanks 2020). Yellow-throated Vireo (*Vireo flavifrons*) migrates through the Central Flyway and nest locally in North Texas (Rodewald and James 2020), but were not netted, although this upper canopy species was less likely to be caught in understory nets. Small sample size for Northern Parula, Summer Tanager, and Scarlet Tanager also may be explained by their use of mid- and high canopy, resulting in lower probability of capture. Blackpoll Warbler (*Setophaga striata*) was not netted during the study. This species is at the western periphery of its migration corridor, yet is present during spring migration in this region of the Central Flyway (DeLuca et al. 2020). Similarly, Cerulean Warbler (*Setophaga cerulea*) is at the western periphery of its migration corridor; however, it is uncommon in this flyway (Buehler et al. 2020). Prairie Warblers and Kentucky Warblers nest in the vicinity of the Heard and frequently use understory vegetation, but surprisingly low sample size was obtained for each species (McDonald 2020, Nolan et al. 2020). Yellow-throated Warbler (*Setophaga dominica*) nests south and north of the Heard, yet were not netted (McKay and Hall 2020).

Abundance

From 1978-2014, 12,135 birds were banded or recaptured with more individuals banded in spring

Table 1. Common name, scientific name, total captures, seasonal captures, and number years banded by species at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas from 1978-2014.

Common Name	Scientific Name	Total Captures	Total Spring	Total Fall	# Years Captures
Nashville Warbler	*Leiothlypis ruficapilla*	1948	431	1517	37
Common Yellowthroat	*Geothlypis trichas*	1555	1253	302	37
Least Flycatcher	*Empidonax minimus*	1086	726	360	35
Traill's Flycatcher	*Empidonax alnorum/traillii*	1048	677	371	35
Wilsons' Warbler	*Cardellina pusilla*	745	343	402	36
Mourning Warbler	*Geothlypis philadelphia*	736	373	363	37
Swainson's Thrush	*Catharus ustulatus*	713	704	9	37
Indigo Bunting	*Passerina cyanea*	662	335	327	38
House Wren	*Troglodytes aedon*	659	162	497	37
Gray Catbird	*Dumatella carolinensis*	328	252	76	35
Painted Bunting	*Passerina ciris*	306	285	21	37
White-eyed Vireo	*Vireo griseus*	265	144	121	32
Northern Waterthrush	*Parkesia noveboracensis*	259	238	21	35
Ovenbird	*Seiurus aurocapilla*	240	192	48	33
Yellow Warbler	*Setophaga petechia*	192	152	40	29
Yellow-breasted Chat	*Icteria virens*	186	51	135	32
Blue-headed Vireo	*Vireo solitarius*	128	27	101	29
Magnolia Warbler	*Setophaga magnolia*	106	102	4	27
Black-and-white Warbler	*Mniotilta varia*	97	50	47	34
Prothonotary Warbler	*Protonotaria citrea*	97	92	5	19
Acadian Flycatcher	*Empidonax virescens*	75	63	12	9
American Redstart	*Setophaga ruticilla*	61	40	21	25
Yellow-bellied Flycatcher	*Empidonax flaviventris*	59	31	28	24
Tennessee Warbler	*Leiothlypis peregrina*	54	47	7	18
Red-eyed Vireo	*Vireo olivaceous*	47	36	11	24
Canada Warbler	*Cardellina canadensis*	47	39	8	16
Gray-cheeked Thrush	*Catharus minimus*	43	43	0	19
Warbling Vireo	*Vireo gilvus*	41	15	26	19
Bell's Vireo	*Vireo bellii*	38	11	27	16
Blue-gray Gnatcatcher	*Polioptila caerulea*	37	18	19	19
Orchard Oriole	*Icterus spurius*	28	28	0	6
Yellow-billed Cuckoo	*Coccyzus americanus*	27	16	11	15
Veery	*Catharus fuscescens*	27	27	0	17
Blue Grosbeak	*Passerina caerulea*	27	4	23	14
Black-throated Green Warbler	*Setophaga virens*	25	5	20	11
Great Crested Flycatcher	*Myiarchus crinitus*	22	17	5	15

Table 1. (*Continued*).

Common Name	Scientific Name	Total Captures	Total Spring	Total Fall	# Years Captures
Chestnut-sided Warbler	*Setophaga pensylvanica*	15	14	1	8
Dickcissel	*Spiza americana*	14	14	0	7
Eastern Wood-Pewee	*Contopus virens*	12	9	3	9
Baltimore Oriole	*Icterus galbula*	7	2	5	6
Hooded Warbler	*Setophaga citrina*	6	5	1	5
Summer Tanager	*Piranga rubra*	6	2	4	5
Black-billed Cuckoo	*Coccyzus erythropthalmus*	5	4	1	4
Louisiana Waterthrush	*Parkesia motacilla*	5	4	1	4
Golden-winged Warbler	*Vermivora chrysoptera*	5	4	1	4
Blue-winged Warbler	*Vermivora cyanoptera*	5	4	1	5
MacGillivray's Warbler	*Geothlypis tolmiei*	5	4	1	5
Rose-breasted Grosbeak	*Pheuticus ludovicianus*	5	1	4	4
Chimney Swift	*Chaetura pelagica*	4	3	1	4
Northern Parula	*Setophaga americana*	4	3	1	4
Kentucky Warbler	*Geothlypis formosa*	3	2	1	3
Lazuli Bunting	*Passerina amoena*	3	3	0	3
Eastern Kingbird	*Tyrannus tyrannus*	2	2	0	1
Philadelphia Vireo	*Vireo philadelphicus*	2	1	1	2
Barn Swallow	*Hirundo rustica*	2	2	0	1
Swainson's Warbler	*Limnothlypis swainsonii*	2	2	0	2
Bay-breasted Warbler	*Setophaga castanea*	2	2	0	2
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	1	1	0	1
Wood Thrush	*Hylocichla mustelina*	1	1	0	1
Worm-eating Warbler	*Helmitheros vermivorum*	1	0	1	1
Cape May Warbler	*Setophaga trigina*	1	1	0	1
Blackburnian Warbler	*Setophaga fusca*	1	1	0	1
Prairie Warbler	*Setophaga discolor*	1	0	1	1
Scarlet Tanager	*Piranga olivacea*	1	1	0	1

(7,121/12,135 = 58.7%) than fall (5,014/12/135 = 41.3%). Approximately 75% (48/64) of species occurred in greater abundance in spring than fall, whereas 23% (15/64) of species occurred in greater abundance in fall than spring (Table 1). Only 2% (1/64) of species were equal in abundance among seasons. The 9 most abundant species included 4 warblers, 2 flycatchers, 1 thrush, 1 bunting, and 1 wren accounted for 75% of all individuals banded in the study, 11 species accounted for 18% of total abundance, and 44 species accounted for 7% of total abundance (Table 1).

The 6 most abundant species at the Heard (Nashville Warbler, Common Yellowthroat, Least Flycatcher, Traill's Flycatcher, Wilson's Warbler, and Mourning Warbler) accounted for 59% of all birds banded during the study. This was 10% less than the 6 most abundant species from another regional study in southern Oklahoma (Wood and Tucker 2010). Surprisingly, there was no overlap

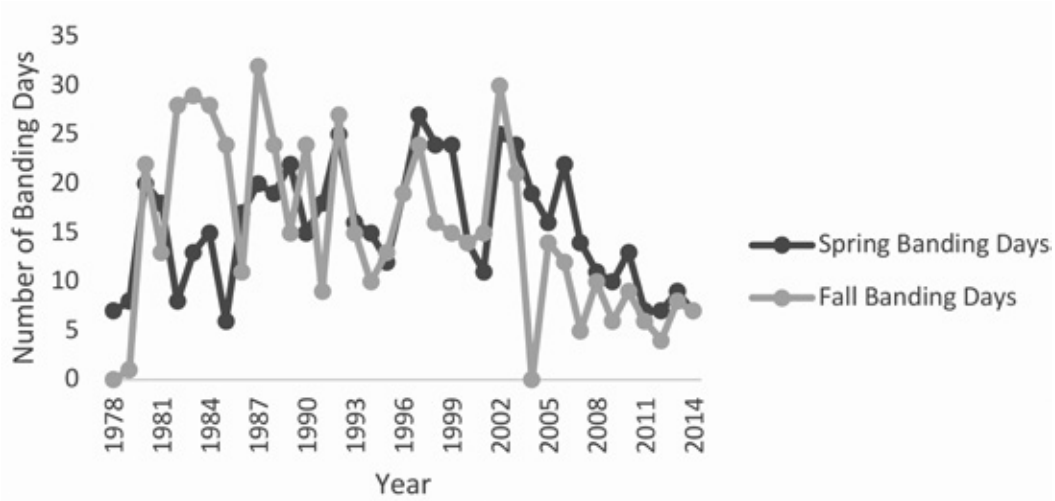

Figure 1. Number of spring and fall banding days by year from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas.

in the 6 most abundant species between the Heard and Wood and Tucker's (2010) site only 105 km due north. Habitat difference and spring only netting effort in Wood and Tucker (2010) likely account for the lack of species overlap between these sites.

Seasonal Demographic Trends Among 20 Most Abundant Species (Table 2)

The trend in seasonal abundance at the intraspecific level included 11 species more abundant in spring than fall (ratio range = 2:1-70:1), 5 species were equally abundant between seasons, and 4 species were more abundant in fall than spring (ratio range = 2.5:1-5:1). In spring, adults were more abundant than SY birds (ratio range = 2:1-20:1) as expected, although proportions were highly variable. In spring, males were more abundant than females for 8 species (ratio range = 1.5:1-16:1), males and females were equally abundant for 3 species, females were more abundant than males for 2 species (both 2:1 ratio), and 7 species had insufficient sample size or the majority of individuals could not be reliably sexed during migration. In fall, males were more abundant than females for 5 species (ratio range = 1.5:1-5:1), males and females were equally abundant for 1 species, females were more abundant than males for 3 species (ratio range 2:1-3:1), and 11 species had insufficient sample size or the majority of individuals could not be reliably sexed in migrations. In fall, adults were more abundant than HY birds for 5 species (ratio range = 1.5:1-4:1), adults and HYs were equally abundant for 7 species, HYs were more abundant than adults for 4 species (ratio range = 2:1-5:1), and 4 species had insufficient sample size for analysis.

Species-Specific Analysis—Sample Size Range = 97-1948

Least Flycatcher (n = 1086) was more abundant in spring than fall by a 2:1 ratio and adults were more abundant than SY birds by a 10:1 ratio (Table 2). Sex ratio was skewed slightly greater than 1:1 for males over females and reversed in fall, although with small sample size (Table 2). Adults were slightly more abundant than HY birds in fall (Table 2). At the Heard, HY Least Flycatchers comprised 44% of the fall population compared to 80.3% HY proportion in fall migration in South Dakota (Dean et al. 2004). Although this is not a direct comparison, HY birds on their first fall migration may be subject to higher mortality rates than adults and is reflected in lower proportions of HY birds as latitude decreases. In spring, Least Flycatcher showed peaks in abundance during the first 20 years of the study particularly in 1983 (49), 1989 (90), and 1997 (74), followed by a steady decline through the last third of the study (Fig. 2). In fall, Least Flycatcher abundance remained low and consistent with only 2 peaks in 1984 (31) and 1999 (31; Fig 2). The seasonal declines of Least Flycatcher at the Heard contrast with BBS Central region trend

Table 2. Age and sex combinations by season for species banded at the Heard Natural Science Museum and Sanctuary in North Texas from 1978-2014.

Species	Age-Sex	Spring	Fall
Acadian Flycatcher			
	ASY-F	1	0
	AHY-F	2	1
	AHY-U	51	7
	SY-U	7	1
	HY-U	0	2
	U-U	2	1
	Total	63	12
American Redstart			
	ASY-F	1	0
	ASY-M	8	0
	AHY-F	22	9
	AHY-M	4	1
	AHY-U	2	0
	SY-M	3	0
	HY-F	0	4
	HY-M	0	5
	HY-U	0	1
	U-U	0	1
	Total	40	21
Baltimore Oriole			
	AHY-M	1	1
	SY-M	1	0
	HY-M	0	2
	U-F	0	2
	Total	2	5
Barn Swallow			
	ASY-U	1	0
	SY-U	1	0
	Total	2	0
Bay-breasted Warbler			
	AHY-F	1	0
	AHY-M	1	0
	Total	2	0
Bell's Vireo			
	ASY-U	1	0
	AHY-U	7	9

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Bell's Vireo			
	SY-U	3	0
	HY-U	0	13
	U-U	0	5
	Total	11	27
Black-and-white Warbler			
	ASY-F	6	0
	ASY-M	9	0
	AHY-F	14	13
	AHY-M	8	9
	SY-F	3	0
	SY-M	9	0
	SY-U	1	0
	HY-F	0	17
	HY-M	0	3
	U-F	0	2
	U-U	0	3
	Total	50	47
Black-billed Cuckoo			
	AHY-F	3	0
	AHY-U	1	0
	HY-U	0	1
	Total	4	1
Blackburnian Warbler			
	AHY-M	1	0
	Total	1	0
Black-throated Green Warbler			
	ASY-M	2	0
	AHY-F	1	2
	AHY-M	1	0
	AHY-U	1	0
	HY-F	0	5
	HY-M	0	5
	HY-U	0	2
	U-F	0	2

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Black-throated Green Warbler			
	U-M	0	4
	Total	5	20
Blue-gray Gnatcatcher			
	ASY-M	1	0
	AHY-F	5	1
	AHY-M	7	0
	AHY-U	2	3
	SY-F	1	0
	SY-U	2	0
	HY-F	0	2
	HY-U	0	13
	Total	18	19
Blue Grosbeak			
	ASY-M	1	0
	AHY-F	0	6
	SY-F	2	0
	SY-M	1	0
	HY-F	0	1
	HY-M	0	1
	HY-U	0	4
	U-F	0	2
	U-U	0	9
	Total	4	23
Blue-headed Vireo			
	ASY-U	2	0
	AHY-F	2	1
	AHY-U	16	17
	SY-U	*7*	*0*
	HY-U	*0*	*21*
	U-U	*0*	*62*
	Total	*27*	*101*
Blue-winged Warbler			
	AHY-U	1	0
	SY-F	1	0

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Blue-winged Warbler			
	SY-M	2	0
	HY-U	0	1
	Total	4	1
Canada Warbler			
	ASY-M	1	0
	AHY-F	18	2
	AHY-M	19	2
	AHY-U	1	0
	HY-F	0	1
	HY-M	0	1
	U-U	0	2
	Total	39	8
Cape May Warbler			
	AHY-F	1	0
	Total	1	0
Chestnut-sided Warbler			
	ASY-M	1	0
	AHY-F	2	0
	AHY-M	8	0
	SY-U	3	0
	HY-U	0	1
	Total	14	1
Chimney Swift			
	AHY-U	2	0
	U-U	1	1
	Total	3	1
Common Yellowthroat			
	ASY-F	34	0
	ASY-M	124	0
	AHY-F	408	45
	AHY-M	503	78
	AHY-U	8	1
	SY-F	10	0
	SY-M	159	0

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Common Yellowthroat			
	SY-U	4	0
	HY-F	0	21
	HY-M	0	67
	HY-U	0	36
	U-F	1	1
	U-M	0	11
	U-U	2	42
	Total	1253	302
Dickcissel			
	ASY-F	2	0
	ASY-M	2	0
	AHY-F	2	0
	AHY-M	7	0
	SY-U	1	0
	Total	14	0
Eastern Kingbird			
	ASY-M	1	0
	AHY-F	1	0
	Total	2	0
Eastern Wood-Pewee			
	AHY-F	1	0
	AHY-M	1	0
	AHY-U	7	0
	HY-U	0	2
	U-U	0	1
	Total	9	3
Golden-winged Warbler			
	AHY-F	4	0
	U-F	0	1
	Total	4	1
Gray Catbird			
	ASY-U	36	0
	AHY-F	3	0
	AHY-M	11	0

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Gray Catbird			
	AHY-U	180	22
	SY-U	21	0
	HY-F	0	3
	HY-M	0	3
	HY-U	0	45
	U-U	1	3
	Total	252	76
Gray-cheeked Thrush			
	ASY-U	13	0
	AHY-U	30	0
	Total	43	0
Great Crested Flycatcher			
	ASY-F	2	0
	ASY-U	1	0
	AHY-F	1	0
	AHY-U	13	3
	HY-U	0	1
	U-U	0	1
	Total	17	5
Hooded Warbler			
	ASY-F	1	0
	ASY-M	1	0
	AHY-M	1	1
	AHY-U	1	0
	SY-F	1	0
	Total	5	1
House Wren			
	ASY-U	5	0
	AHY-F	1	1
	AHY-M	4	1
	AHY-U	143	204
	SY-U	8	0
	HY-M	0	1
	HY-U	0	230

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
House Wren	U-M	0	1
	U-U	1	59
	Total	162	497
Indigo Bunting			
	ASY-F	34	0
	ASY-M	54	0
	ASY-U	1	0
	AHY-F	84	16
	AHY-M	63	21
	AHY-U	5	2
	SY-F	23	0
	SY-M	64	0
	SY-U	1	0
	HY-F	0	13
	HY-M	0	15
	HY-U	0	197
	U-F	0	3
	U-M	0	16
	U-U	6	44
	Total	335	327
Kentucky Warbler			
	AHY-M	1	0
	SY-M	1	0
	HY-F	0	1
	Total	2	1
Lazuli Bunting			
	AHY-F	1	0
	AHY-M	1	0
	SY-M	1	0
	Total	3	0
Least Flycatcher			
	ASY-F	1	0
	ASY-M	3	0
	ASY-U	23	0

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Least Flycatcher			
	AHY-F	184	51
	AHY-M	202	32
	AHY-U	243	109
	SY-F	12	1
	SY-M	21	0
	SY-U	33	3
	HY-F	0	31
	HY-M	0	19
	HY-U	0	101
	U-F	0	3
	U-M	0	2
	U-U	4	8
	Total	726	360
Louisiana Waterthrush			
	ASY-F	1	0
	ASY-U	2	0
	AHY-M	1	0
	AHY-U	0	1
	Total	4	1
Magnolia Warbler			
	ASY-F	2	0
	ASY-M	11	0
	AHY-F	13	0
	AHY-M	57	0
	AHY-U	7	0
	SY-F	4	0
	SY-M	7	0
	HY-U	0	1
	U-U	1	3
	Total	102	4
MacGillivray's Warbler			
	ASY-M	1	0
	AHY-F	2	0
	AHY-U	0	1

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
MacGillivray's Warbler			
	SY-F	1	0
	Total	4	1
Mourning Warbler			
	ASY-F	11	0
	ASY-M	26	0
	ASY-U	1	0
	AHY-F	113	103
	AHY-M	185	68
	AHY-U	5	4
	SY-F	5	0
	SY-M	25	1
	HY-F	0	86
	HY-M	0	27
	HY-U	0	48
	U-F	1	12
	U-M	1	4
	U-U	0	10
	Total	373	363
Nashville Warbler			
	ASY-F	13	0
	ASY-M	27	0
	ASY-U	1	0
	AHY-F	78	110
	AHY-M	218	225
	AHY-U	19	9
	SY-F	22	0
	SY-M	43	0
	SY-U	7	0
	HY-F	0	284
	HY-M	0	370
	HY-U	0	66
	U-F	0	180
	U-M	0	250
	U-U	3	23
	Total	431	1517

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Northern Parula			
	ASY-F	1	0
	ASY-M	2	0
	AHY-F	0	1
	Total	3	1
N. Rough-winged Swallow			
	AHY-M	1	0
	Total	1	0
Northern Waterthrush			
	ASY-F	1	0
	ASY-M	2	0
	ASY-U	39	0
	AHY-F	2	0
	AHY-M	1	1
	AHY-U	167	14
	SY-U	26	0
	HY-U	0	5
	U-U	0	1
	Total	238	21
Orchard Oriole			
	ASY-F	1	0
	ASY-M	10	0
	AHY-F	4	0
	AHY-M	4	0
	SY-F	3	0
	SY-M	6	0
	Total	28	0
Ovenbird			
	ASY-M	1	0
	ASY-U	20	0
	AHY-F	6	1
	AHY-M	13	3
	AHY-U	132	25
	SY-M	3	0
	SY-U	17	0

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Ovenbird			
	HY-M	0	2
	HY-U	0	13
	U-U	0	4
	Total	192	48
Painted Bunting			
	ASY-F	58	0
	ASY-M	22	0
	ASY-U	1	0
	AHY-F	87	6
	AHY-M	31	0
	AHY-U	18	0
	SY-F	29	1
	SY-M	24	0
	SY-U	13	0
	U-F	0	1
	U-M	1	0
	U-U	1	1
	HY-F	0	5
	HY-U	0	7
	Total	285	21
Philadelphia Vireo			
	AHY-U	1	0
	U-U	0	1
	Total	1	1
Prairie Warbler			
	HY-F	0	1
	Total	0	1
Prothonotary Warbler			
	ASY-F	27	0
	ASY-M	38	0
	AHY-F	4	0
	AHY-M	4	2
	SY-F	5	0
	SY-M	13	0

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Prothonotary Warbler			
	U-M	1	0
	HY-F	0	2
	HY-M	0	1
	Total	92	5
Red-eyed Vireo			
	ASY-F	*3*	*0*
	ASY-M	*2*	*0*
	ASY-U	*1*	*0*
	AHY-F	*3*	*0*
	AHY-M	*7*	*0*
	AHY-U	*16*	*2*
	SY-U	*4*	*0*
	HY-F	*0*	*1*
	HY-U	0	7
	U-U	0	1
	Total	36	11
Rose-breasted Grosbeak			
	AHY-F	1	1
	AHY-M	0	1
	HY-F	0	2
	Total	1	4
Scarlet Tanager			
	AHY-M	1	0
	Total	1	0
Summer Tanager			
	ASY-M	1	0
	U-U	1	0
	HY-M	0	1
	HY-U	0	3
	Total	2	4
Swainson's Thrush			
	ASY-F	2	0
	ASY-M	9	0
	ASY-U	207	0

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Swainson's Thrush			
	AHY-F	6	0
	AHY-M	120	0
	AHY-U	291	5
	SY-F	1	0
	SY-M	18	0
	SY-U	49	0
	U-U	1	0
	HY-F	0	1
	HY-U	0	3
	Total	704	9
Swainson's Warbler			
	AHY-U	2	0
	Total	2	0
Tennessee Warbler			
	ASY-M	1	0
	AHY-F	16	1
	AHY-M	17	1
	AHY-U	10	0
	SY-M	1	0
	HY-U	0	1
	U-F	2	0
	U-M	0	3
	U-U	0	1
	Total	47	7
Traill's Flycatcher			
	ASY-U	20	0
	AHY-F	1	0
	ASY-U	0	4
	AHY-M	6	3
	AHY-U	593	197
	SY-U	57	3
	HY-U	0	154
	U-U	0	10
	Total	677	371

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Veery			
	ASY-U	6	0
	AHY-F	1	0
	AHY-U	19	0
	SY-U	1	0
	Total	27	0
Warbling Vireo			
	ASY-U	1	0
	AHY-U	13	4
	SY-U	1	0
	HY-U	0	18
	U-U	0	4
	Total	15	26
White-eyed Vireo			
	ASY-F	2	0
	ASY-M	5	0
	ASY-U	29	1
	AHY-F	8	1
	AHY-M	2	1
	AHY-U	48	28
	SY-F	15	0
	SY-M	7	0
	SY-U	24	0
	HY-U	0	71
	U-U	4	19
	Total	144	121
Wilson's Warbler			
	ASY-F	2	0
	ASY-M	36	0
	AHY-F	8	25
	AHY-M	255	174
	AHY-U	12	6
	SY-F	4	2
	SY-M	22	0
	SY-U	2	0

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Wilson's Warbler			
	HY-F	0	32
	HY-M	0	80
	HY-U	0	15
	U-F	0	8
	U-M	1	51
	U-U	1	9
	Total	343	402
Wood Thrush			
	AHY-U	1	0
	Total	1	0
Worm-eating Warbler			
	HY-U	0	1
	Total	0	1
Yellow-bellied Flycatcher			
	ASY-U	2	1
	AHY-F	4	6
	AHY-M	10	5
	AHY-U	9	5
	SY-F	1	0
	SY-M	1	0
	SY-U	4	0
	HY-F	0	3
	HY-M	0	1
	HY-U	0	5
	U-F	0	1
	U-U	0	1
	Total	31	28
Yellow-billed Cuckoo			
	ASY-U	2	0
	AHY-F	2	0
	AHY-U	11	1
	SY-U	1	0
	HY-U	0	9
	U-U	0	1
	Total	16	11

Table 2. (*Continued*).

Species	Age-Sex	Spring	Fall
Yellow-breasted Chat			
	ASY-F	1	0
	ASY-M	6	1
	ASY-U	3	0
	AHY-F	14	13
	AHY-M	16	17
	AHY-U	6	40
	SY-F	1	0
	SY-M	2	0
	SY-U	2	0
	HY-F	0	4
	HY-M	0	12
	HY-U	0	35
	U-U	0	13
	Total	51	135
Yellow Warbler			
	ASY-F	4	0
	ASY-M	21	0
	AHY-F	37	11
	AHY-M	60	6
	AHY-U	8	1
	SY-F	7	0
	SY-M	13	0
	SY-U	2	0
	HY-F	0	13
	HY-M	0	2
	HY-U	0	2
	U-F	0	3
	U-U	0	2
	Total	152	40

of Least Flycatchers increasing +0.73%/yr (Sauer et al. 2017).

Traill's Flycatcher (n = 1048) was more abundant in spring than fall by a 2:1 ratio and a 10:1 adult to SY ratio in spring (Table 2). Although Traill's Flycatcher is a combination of 2 sibling species, aging criteria are similar and lumping them for aging analysis is viable (Pyle 1997, Lowther 2020). Sex ratio could not be determined since Traill's Flycatcher cannot be sexed in migration. In fall, adults were more abundant than HY birds by a 4:1 ratio. At the Heard, HY Traill's Flycatchers comprised 43% of the fall population compared to 72.9% in fall in South Dakota (Dean et al. 2004).

White-eyed Vireo (n = 265) abundance was similar for spring and fall with a 1:1 ratio (Table 2). In spring, adults were more abundant than SY vireos

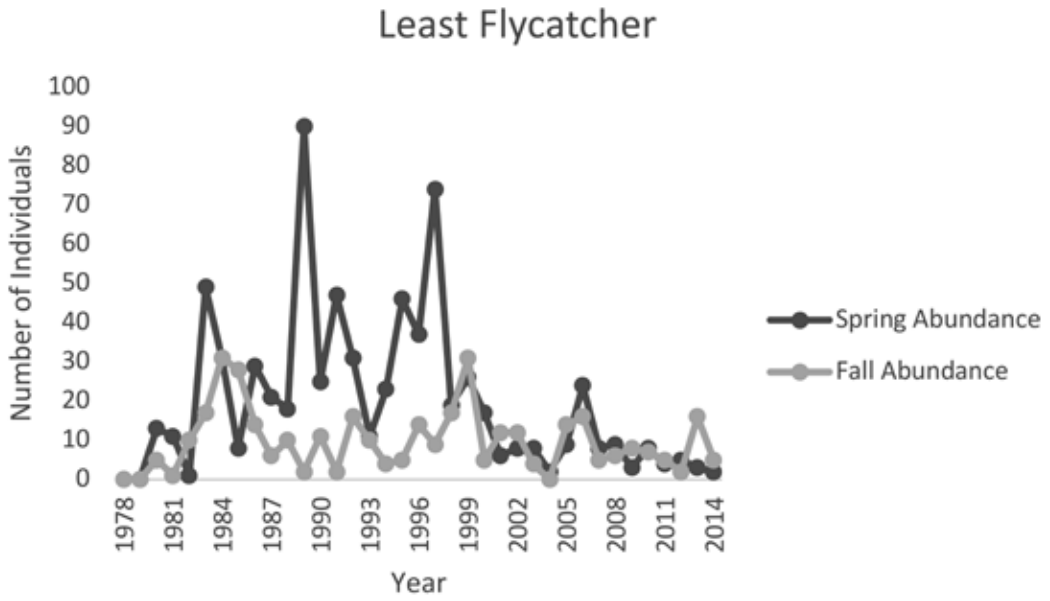

Figure 2. Least Flycatcher abundance by season from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas.

by a 2:1 ratio and females were more abundant than males by a 2:1 ratio, but with small sample size (Table 2). In fall, almost all White-eyed Vireos netted could not be sexed, but HY vireos were more abundant than adults by a 2:1 ratio (Table 2). Blue-headed Vireo (n = 128) was more abundant in fall than spring by a 5:1 ratio, which was expected since Blue-headed Vireos typically have a longer fall migration window (Morton and James 2020; Table 2). In spring, adults were more abundant than SY vireos by a 3:1 ratio and no sex ratios were available due to inability to identify sexes in either season (Table 2). In fall, adult and HY Blue-headed Vireos were similar in abundance with a 1:1 ratio (Table 2).

House Wren (n = 659) was more abundant in fall than spring by a 3:1 ratio (Table 2). In spring, adults were more abundant than SY wrens by almost a 20:1 ratio and no sex ratios were available since few wrens could be sexed in migration (Table 2). In fall, adult and HY House Wren abundance were similar with a 1:1 ratio (Table 2). In fall, House Wrens exhibited high initial abundance with a peak abundance of 57 in 1987, but abundance steadily declined through the 1990s followed by moderate peaks in 1998 (21) and 2005 (25; Fig. 3). The declining fall abundance trend contrasted with BBS Central region population trend of House Wrens increasing +0.56%/yr (Sauer et al. 2017).

Gray Catbird (n = 328) was more abundant in spring than fall by a 3:1 ratio and adults were more abundant than SY catbirds by a 10:1 ratio (Table 2). Sex ratios could not be determined for either season due to inability to sex Gray Catbirds in migration. In fall, HY catbirds were more abundant than adults by a 2:1 ratio (Table 2).

Swainson's Thrush (n = 713) abundance was greater in spring than fall by a large 70:1 ratio, with few fall captures (Table 2). This reflects an elliptical migration strategy where Swainson's Thrush migrate north via the Central Flyway in spring, migrate east and then south from their nesting grounds in fall (Ralph 1981, Mack and Yong 2020). In spring, adults were more abundant than SY thrushes by a 10:1 ratio and a 16:1 male to female sex ratio, although most Swainson's Thrushes were not able to be sexed in migration (Table 2). In spring, Swainson's Thrush abundance had an early high peak in 1980 (43) and 1981 (59) followed by approximately 19/yr on average with cyclical peaks and valleys throughout the remainder of the study (Fig. 4). This decreasing trend in Swainson's Thrush abundance contrasted with the BBS Central region increasing population trend of +1.77%/yr for Swainson's Thrush (Sauer et al. 2017).

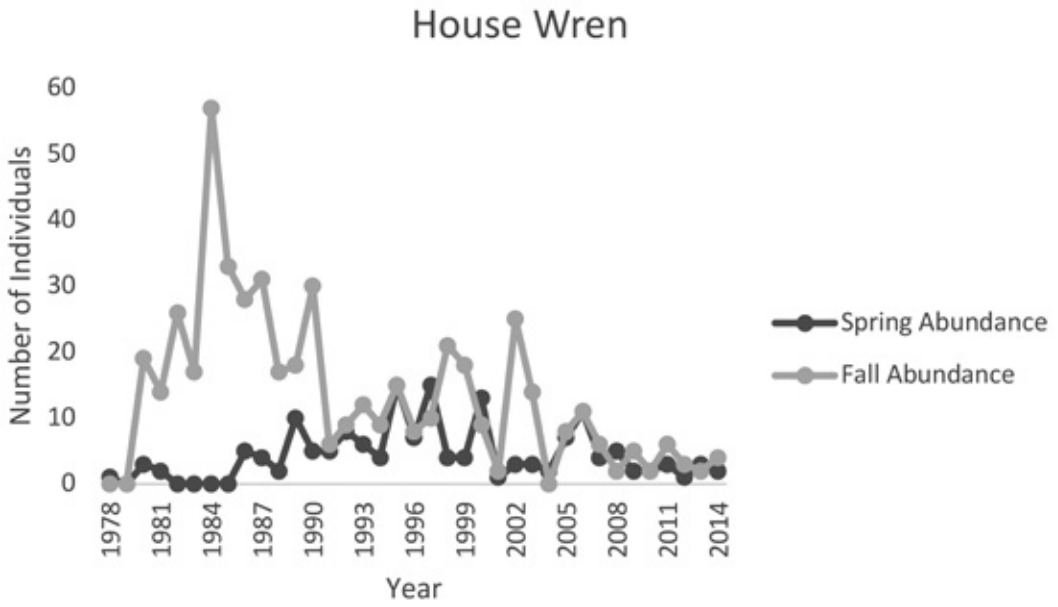

Figure 3. House Wren abundance by season from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas.

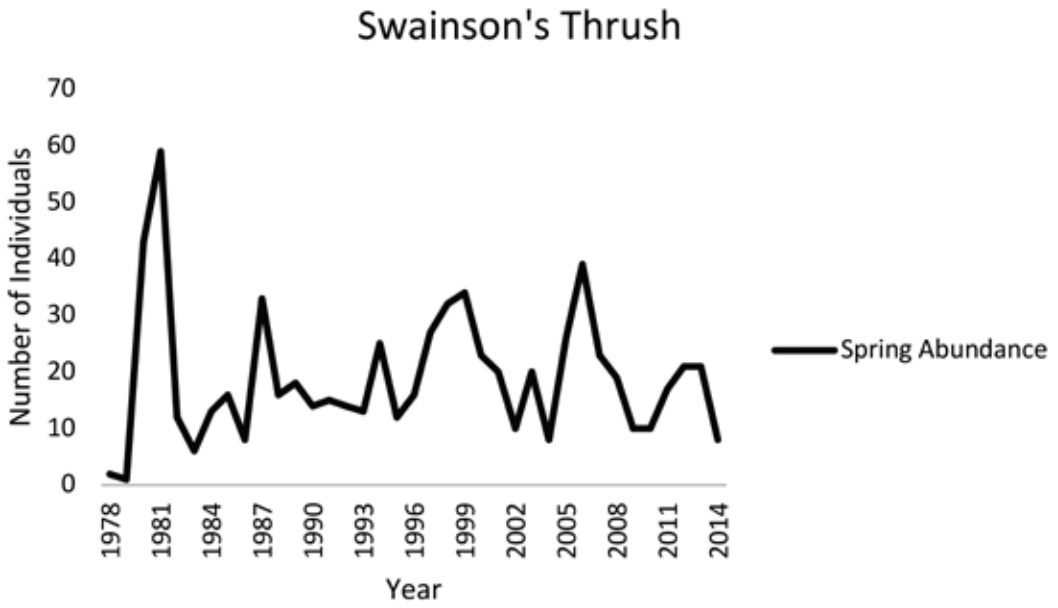

Figure 4. Swainson's Thrush abundance by season from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas.

Yellow-breasted Chat (n = 186) was more abundant in fall than spring by a 2.5:1 ratio and a 9:1 adult to SY spring abundance ratio (Table 2). In spring, male abundance was slightly greater than female abundance, but close to a 1:1 ratio (Table 2). In fall, adults were more abundant than HY chats by a 1.5:1 ratio and a 2:1 male to female sex ratio, although with small sample size (Table 2). The ratio of spring to fall abundance was 1:1 for both female and male chats (Table 2).

Ovenbird (n = 240) abundance was greater in spring than fall by a 4:1 ratio and adults were more abundant than SY birds by an 8:1 ratio (Table 2). The high sample size for this species was unexpected given that the Heard is located along the southwestern periphery of the Ovenbird's migration corridor (Porneluzi et al. 2020). Most Ovenbirds were sexed U in both seasons, and in fall, adults were more abundant than HY birds by a 2:1 ratio (Table 2). In a fall study of avian mortality at a television tower in Illinois, Brewer and Ellis (1958) documented 16% of Ovenbirds killed were HY birds, which was lower than the 34% HY composition for Ovenbirds at the Heard. Conversely, Ralph (1981) and Morris et al. (1994) reported a range of 77-100% HY composition in fall studies on the East Coast. Similarly, Dean et al. (2004) documented 90% HY fall composition for Ovenbirds in South Dakota.

Northern Waterthrush (n = 259) was more abundant in spring than fall by a 10:1 ratio and adults were more abundant than SY birds in spring (Table 2). Sample size for this species was high given its reputation for being uncommon in fall in this migration corridor (Whitaker and Eaton 2020). Mist-netting can often detect species not detected or undercounted by sight methods (Derlindati and Caziani 2005). Northern Waterthrush is difficult to sex in migration, so sex ratios were unknown. In fall, adults were more abundant than HY waterthrushes by a 3:1 ratio, but with small sample size (Table 2).

Black-and-white Warbler (n = 97) was similar in abundance in spring and fall with a 1:1 ratio and 3:1 ratio of adult to SY warblers (Table 2). In fall, females were more abundant than males by almost a 3:1 ratio (Table 2). Adult and HY Black-and-white Warblers occurred at a 1:1 ratio (Table 2). At the Heard, HY Black-and-white Warblers comprised 48% of the fall population compared to 81.0% in fall in South Dakota (Dean et al. 2004).

Prothonotary Warbler (n = 97) was more abundant in spring than fall by a 19:1 ratio and adults were more abundant than SY warblers by a 4:1 ratio (Table 2). Males were more abundant than females by a 1.5:1 ratio in spring (Table 2). Only 1 Prothonotary Warbler was netted in the first 20 years of the study, but exhibited a peak in abundance in the mid-2000s, followed by a steep decline in the last 6 years of study (Fig. 5).

Nashville Warbler (n = 1948) abundance was greater in fall than spring by a 3:1 ratio (Table 2). In spring, adults were more abundant than SY warblers by a 5:1 ratio and males were more abundant than females by a 2.5:1 ratio (Table 2). In fall, males were more abundant than females by a 1.5:1 ratio and HY birds were more abundant than

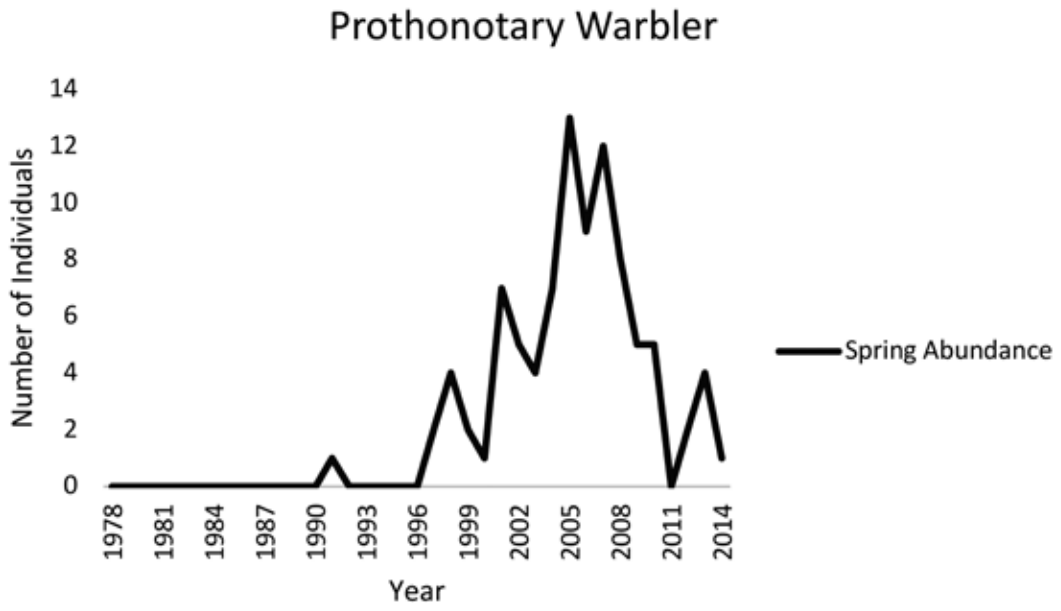

Figure 5. Prothonotary Warbler abundance by season from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas.

adults by a 2:1 ratio, indicating a high proportion of young birds in fall migration ((Table 2; Lowther and Williams 2020). At the Heard, HY Nashville Warblers comprised 68% of the fall population compared to 90.1% in fall in South Dakota (Dean et al. 2004). Fall females occurred at a greater ratio (5:1) than spring females and fall males occurred at a greater ratio (2.5:1) than fall males (Table 2). In fall, Nashville Warbler abundance was initially high with peaks in 1988 (30), 1989 (28), 1997 (30) and later in 2006 (36), however it was followed by a rapid decline in abundance throughout the rest of the study (Fig 6). This decline contrasts with a strong increasing trend of +4.66%/yr for Nashville Warbler in the BBS Central region (Sauer et al. 2017).

Mourning Warbler (n = 736) was similar in abundance in spring and fall with a 1:1 ratio and adults were more abundant than SY warblers by a 10:1 ratio (Table 2). In spring, males were more abundant than females by a 2:1 ratio, but reversed in fall migration with females greater in abundance than males by 2:1 ratio (Table 2). In fall, adult and HY Mourning Warblers were similar in abundance with a 1:1 ratio (Table 2). Morris et al. (1996) documented a coast effect during fall migration in Maine for Mourning Warbler. They reported that 95% of fall Mourning Warblers along the Maine coast were aged HY. At the Heard in fall migration, only 48% of Mourning Warblers were HY. This is still lower than the 79.1% HY proportion of fall Mourning Warblers from another inland migration site in South Dakota (Dean et al. 2004). Fall females occurred at a higher ratio (1.5:1) than spring females and spring males occurred at a higher ratio (2:1) than fall males (Table 2). In spring, Mourning Warbler abundance was relatively modest except for 4 peaks in 1980 (26), 1989 (29), 1990 (29), and 1997 (43), followed by low abundance in remaining spring migrations (Fig. 7). In fall, Mourning Warblers demonstrated a high initial abundance with a major peak in 1985 (72), but lower abundance throughout the remainder of the study (Fig.7). The declining abundance trend for both seasons parallels the −2.02%/yr population trend for Mourning Warbler for the BBS Central (Sauer et al. 2017).

Common Yellowthroat (n = 1555) was more abundant in spring than fall by a 4:1 ratio and adults were more abundant than SY yellowthroats by a 10:1 ratio (Table 2). In spring, males were more abundant than females by a 2.5:1 ratio and similarly, in fall, males were more abundant than females by a 2:1 ratio (Table 2). Adult and HY Common Yellowthroats had similar abundance in fall with a

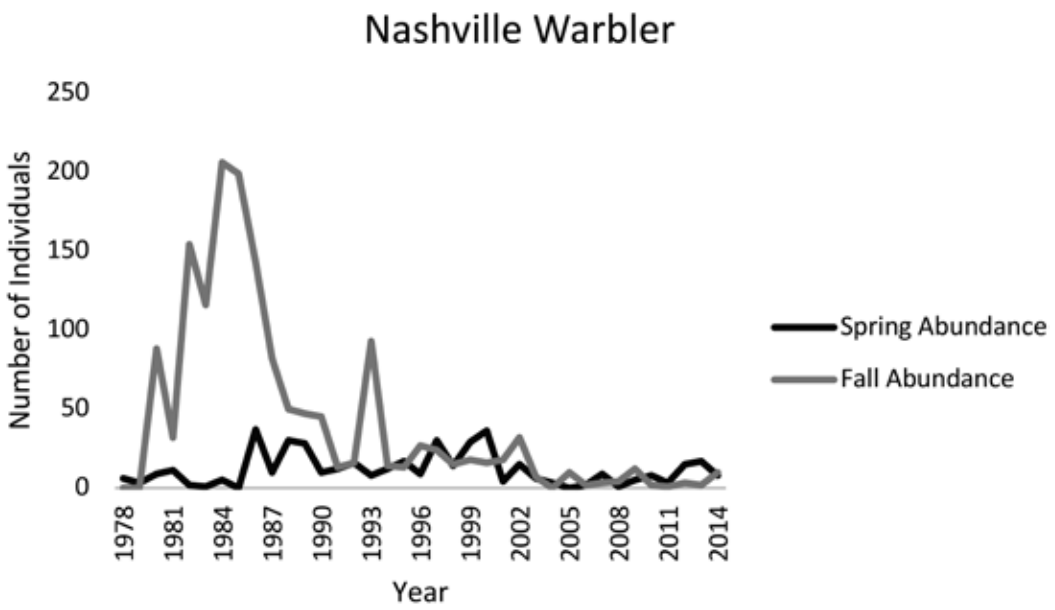

Figure 6. Nashville Warbler abundance by season from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas.

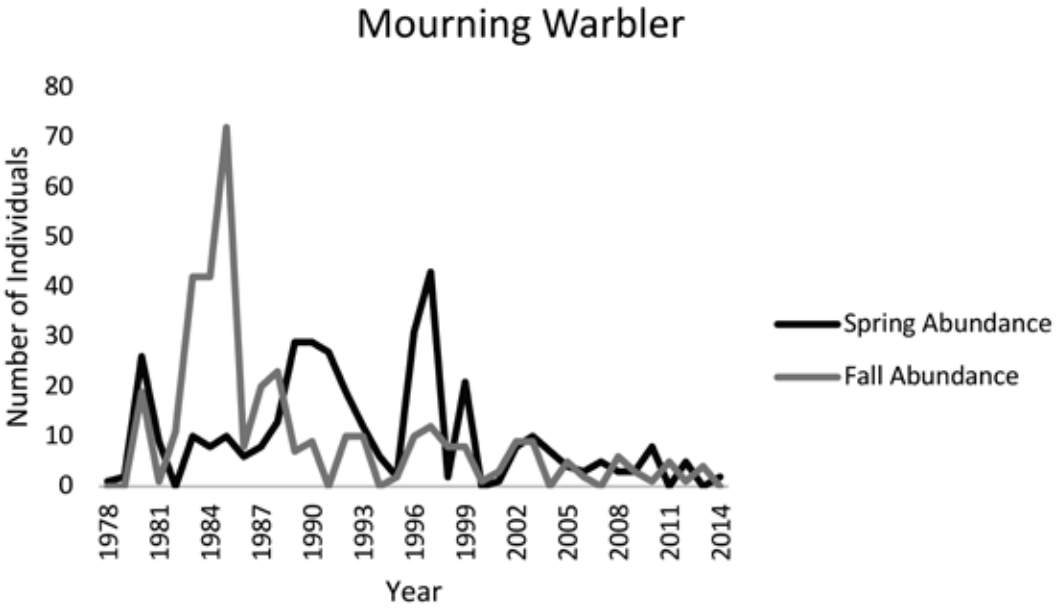

Figure 7. Mourning Warbler abundance by season from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas.

1:1 ratio (Table 2). Spring females occurred at a higher ratio (6:1) than fall females and spring males occurred at higher ratio (5:1) than fall males (Table 2). Spring abundance was consistent among years with abundance peaks in 1989 (101), 1996 (104), 1997 (140), and 2006 (76; Fig. 8). Conversely, fall abundance was low and consistent among years, except for peaks early in the study in 1980 (44), 1984 (45), and 1993 (29; Fig. 8). The declining fall abundance trend follows the −1.06%/yr population

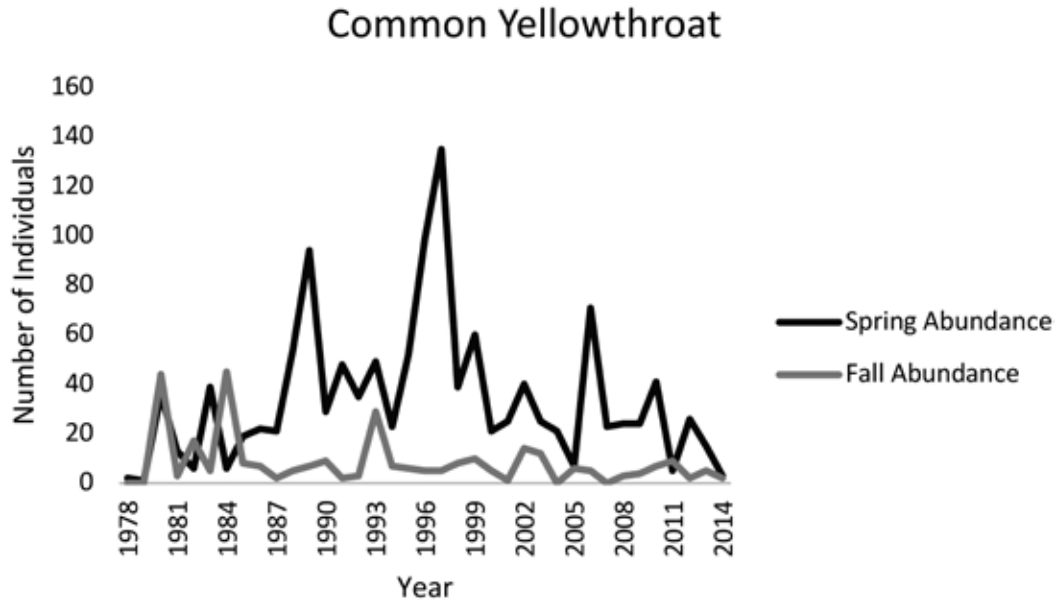

Figure 8. Common Yellowthroat abundance by season from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas.

trend for Common Yellowthroat within the Oaks and Prairies BBS region (Sauer et al. 2017). Although Common Yellowthroat spring abundance exhibits a bell-shaped distribution, it also parallels the wider population decline in the last 10 years of the study (Sauer et al. 2017).

Magnolia Warbler (n = 106) abundance was heavily biased towards spring by a 25:1 spring to fall ratio and adults were greater than SY warblers by a 9:1 ratio (Table 2). This aligns with previous documentation that Magnolia Warblers exhibit an elliptical migration pattern (Dunn and Hall 2020) resulting in extremely low capture probability at the Heard. In spring, males were more abundant than females by a 4:1 ratio, there was insufficient sample size for fall sex or age ratio analysis (Table 2).

Yellow Warbler (n = 192) was more abundant in spring than fall by a 4:1 ratio and adults had greater abundance than SY by a 6:1 ratio (Table 2). In spring, males were more abundant than females by a 2:1 sex ratio; however, in fall, females were more abundant than males by a 3:1 ratio (Table 2). In fall, adult and HY Yellow Warblers were similar in abundance with a 1:1 ratio (Table 2). At the Heard in fall migration, 49% of Yellow Warblers were HY, which was greater than 23% HY proportion reported from tower kill data in western Minnesota (Raveling and Warner 1978). Between seasons, spring females occurred at a 2:1 ratio to fall females, whereas spring males occurred at a 10:1 ratio to fall males (Table 2).

Wilson's Warbler (n = 745) was slightly more abundant in fall than spring, although close to a 1:1 ratio (Table 2). In spring, adults were more abundant than SY warblers by a 10:1 ratio and heavily biased towards males than females by a 30:1 ratio (Table 2). In fall, males were more abundant than females by a 5:1 ratio and adults were more abundant than HY warblers by a 2:1 ratio (Table 2). Ralph (1971) hypothesized a coast effect for Wilson's Warbler with high percentages of HY birds along coastal migration routes and decreasing proportion of HY birds using inland migration routes. A meta-analysis approach appears to confirm this hypothesis. A sliding scale of HY percentages exist with the highest percentage of HY Wilson's Warblers on an island off California (95.3%), decreasing slightly at 2 coastal sites in California and Virginia (92.9%, 92.2%), and declining to 53.8% at inland sites in California, South Dakota (82.3%), and at the Heard (38%) (Stewart et al. 1974, Stewart 1986, Dean et al. 2004). Between seasons, fall females occurred at a greater rate (4:1) than spring females, whereas fall to spring male ratio was 1:1 (Table 2).

In spring migration, Wilson's Warbler abundance exhibited a bell-shaped distribution with the highest peak in 1997 (50), followed by a steady decline throughout the remainder of the study (Fig. 9).

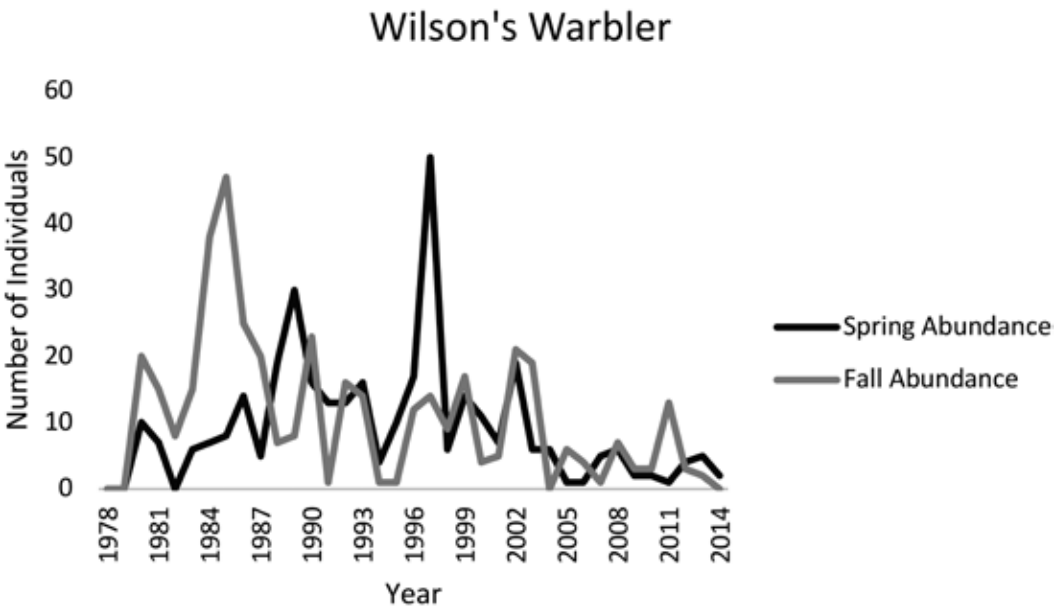

Figure 9. Wilson's Warbler abundance by season from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas.

In fall, Wilson's Warbler abundance followed a similarly shaped distribution as spring migration, but with an earlier peak in 1985 (47), followed by steady decline to the end of the study (Fig. 9). Although Wilson's Warbler abundance declined over time at the Heard, the BBS Central region population trend indicated a +2.6%/yr increase for this species (Sauer et al. 2017).

Indigo Bunting (n = 662) was equally abundant in spring and fall with a 1:1 ratio and adults were more abundant than SY buntings by a 2.5:1 ratio in spring (Table 2). Males were slightly more abundant than females in spring than fall, but close to a 1:1 ratio (Table 2). In fall, HY buntings were more abundant than adults by a 5:1 ratio and males were more abundant than females by a 2:1 ratio, although most buntings could not be sexed reliably in fall. Between seasons, spring males occurred at a higher ratio (3:1) than fall males and spring females occurred at a higher ratio (4:1) than fall females (Table 2). In spring, Indigo Bunting exhibited variable abundance with peaks in 1989 (19), 1996 (17), 1999 (18), and 2006 (24, Fig. 10). In fall, abundance was highly variable in the first 20 years with peaks in 1984 (35), 1990 (20), and 1993 (29), but then dropped steadily in the second half of the study (Fig. 10). The decline in abundance contrasts with the +0.49%/yr population trend for Indigo Bunting in the BBS Oaks and Prairies region (Sauer et al. 2017). Painted Bunting (n = 306) abundance was greater in spring than fall by a 13:1 ratio and adults were more abundant than SY buntings by a 3:1 ratio (Table 2). In spring, females were more abundant than males by a 2:1 ratio and fall sample size was too small for any meaningful comparisons (Table 2).

Species-Specific Analysis—Sample Size Range = 14-75

Yellow-billed Cuckoo abundance was similar between spring and fall with a 1:1 ratio and adults predominated in spring migration with a 15:1 ratio over SY cuckoos (Table 2). In fall, there was a 9:1 ratio of HY to adult cuckoos, albeit with small sample size (Table 2).

For Yellow-bellied Flycatcher, the spring to fall abundance ratio was close to 1:1 and adults predominated in spring migration with a 4:1 adult to SY ratio (Table 2). Approximately 2:1 male to female sex ratio in spring migration, but with small sample size. In fall, adults outnumbered HY flycatchers by a 2:1 ratio (Table 2). Acadian Flycatcher was more abundant in spring than fall by a 6:1 ratio and 7:1 ratio of adults to SY birds in spring (Table 2). No sex ratio differences could be examined since this species cannot be reliably sexed

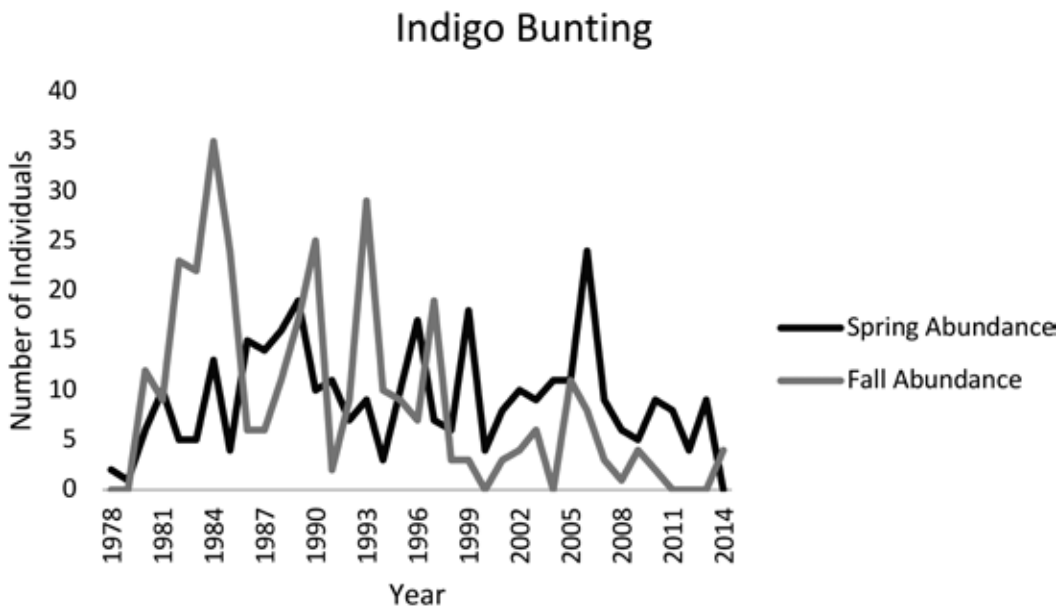

Figure 10. Indigo Bunting abundance by season from 1978-2014 at the Heard Natural Science Museum and Wildlife Sanctuary in North Texas.

in migration. Adults were more abundant than HY flycatchers by a 4.5:1 ratio in fall (Table 2). Great Crested Flycatchers were more abundant in spring than fall by 3:1 ratio (Table 2). Although sample size was small, only adult birds were banded in the spring with no SY birds netted (Table 2).

Bell's Vireo was more abundant in fall than spring by a 2:1 ratio (Table 2). Sample size was small for both seasons, although there was a slight bias towards HY birds in the fall migration (Table 2). Similar to Bell's Vireo, Warbling Vireo was more abundant in fall than spring by a 2:1 ratio (Table 2). Adult vireos were more abundant than SY vireos in spring than fall by a 14:1 ratio (Table 2). In fall migration, HY Warbling Vireos were more abundant than adult birds by a 4:1 ratio (Table 2). Red-eyed Vireo was more abundant in spring than fall by a 3:1 ratio (Table 2). Adult Red-eyed Vireos were more abundant than SY birds by an 8:1 ratio (Table 2). Although small fall sample size, HY birds were more abundant than adult birds by a 2:1 ratio (Table 2).

Blue-gray Gnatcatcher abundance exhibited a 1:1 spring to fall ratio, and in spring, adults were more abundant than SY gnatcatchers by a 5:1 ratio (Table 2). No difference in sex ratio occurred in spring migration (Table 2), which correlates with data showing male and female Blue-gray Gnatcatchers migrate synchronously (Fehon 1955, Root 1969). In fall, HY gnatcatchers were more abundant than adults by a 4:1 ratio (Table 2).

Veery and Gray-cheeked Thrush were only banded in spring migration, and Swainson's Thrush mirrored the same capture pattern except for 9 fall captures (Table 1). The absence of fall captures was due to elliptical or orthodramic migration patterns exhibited by Veery and Gray-cheeked Thrush (Gratto-Trevor and Dickson 1994, Wilson and Watts 1997, Hobson and Kardynal 2015). They migrate north along the Central Flyway in spring; however, post-nesting both species fly to the East Coast, then fly south to tropical wintering grounds via the Atlantic Flyway (Heckscher et al. 2020, Whitaker et al. 2020).

Orchard Orioles were only banded during spring migration with a 2:1 adult to SY ratio and females were more abundant than males by a 2:1 ratio in spring (Table 2). The lack of fall captures was surprising given that Orchard Oriole uses this part of the Central Flyway in fall migration (Scharf and Kren 2020).

Tennessee Warbler was more abundant in spring than fall by a 7:1 ratio (Table 2). In spring, almost all Tennessee Warblers were adults, with only 1 SY bird banded (Table 2). Tennessee Warblers are known to migrate primarily through the southeastern US during fall migration, rarely occurring in North Texas (Rimmer and McFarland 2020). Sample size was too small in both seasons for any meaningful comparisons regarding sex ratio. American Redstart was more abundant in spring than fall by a 2:1 ratio with adults more abundant than SY redstarts by a 12:1 ratio (Table 2). A small bias towards greater female abundance occurred in spring migration (Table 2). In fall, adult and HY redstarts occurred at a 1:1 ratio and approximately a 2:1 female to male ratio (Table 2).

Chestnut-sided Warbler was more abundant in spring than fall by a 14:1 ratio, a 3:1 adult to SY ratio, and a 2:1 male to female sex ratio in spring (Table 2). Black-throated Green Warblers were more abundant in fall than spring by a 4:1 ratio (Table 2), which was unusual because Black-throated Green Warblers typically have lower abundance in North Texas in fall (Morse and Poole 2020). Although small sample size, fall sex ratio was 1:1 with HY birds more abundant than adults in fall by a 6:1 ratio (Table 2). Canada Warbler was more abundant in spring than fall by a 5:1 ratio (Table 2). No SY birds were banded in spring (Table 2), which fits prior research that documented SY and HY Canada Warblers using coastal migration along the Atlantic Flyway (Morris et al. 1996). Canada Warblers exhibited a 1:1 sex ratio in spring (Table 2).

Blue Grosbeak was more abundant in fall than spring by a 5:1 ratio (Table 2), which was unusual since Blue Grosbeaks are usually less common in fall than spring in the Central Flyway (Lowther and Ingold 2020). Adult to HY ratio was 1:1 in fall for Blue Grosbeak (Table 2). Dickcissels were only banded in spring and 93% were adults with a 2:1 male to female sex ratio (Table 2).

Species-Specific Analysis—Sample Size Range = ≤12

Numerous species were banded, albeit with small samples sizes insufficient to conduct meaningful analysis. The reasons for small sample sizes varied. Small sample sizes were obtained for 2 species (MacGillivray's Warbler, Lazuli Bunting) that typically use the Western Flyway, but strayed east during migration (Table 1). Other species banded in

small sample sizes included species using the Heard that occur at the western periphery of their nesting range, migrate along the western half of the Eastern Flyway, or have low population size such as Black-billed Cuckoo, Philadelphia Vireo, Wood Thrush, Worm-eating Warbler, Louisiana Waterthrush, Golden-winged Warbler, Blue-winged Warbler, Swainson's Warbler, Kentucky Warbler, Hooded Warbler, Prairie Warbler, and Rose-breasted Grosbeak (Table 1).

Several infrequently banded species inhabit the mid- to high-canopy or forest openings, thus reducing capture probability. These species included Eastern Wood-Pewee, Eastern Kingbird, Baltimore Oriole, Cape May Warbler, Northern Parula, Bay-breasted Warbler, Blackburnian Warbler, Summer Tanager, and Scarlet Tanager (Table 1). Other infrequently banded species such as Chimney Swift, Barn Swallow, and Northern Rough-winged Swallow were considered incidental captures since they rarely use the habitats sampled.

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SHORT COMMUNICATIONS

OBSERVATION OF GROOVE-BILLED ANI MATING BEHAVIOR IN THE LOWER RIO GRANDE VALLEY OF TEXAS

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The Groove-billed Ani (Crotophaga sulcirostris) is a tropical member of Cuculidae from northern South America to South Texas (Bowen 2020). Despite being a charismatic, unique species among North American birds, little is known about its behavior and ecology, especially in the northern part of its range. Indeed, Bowen (2020) describes Groove-billed Anis as preferring open and partly open habitat, however in South Texas the species can be found in dense thickets near water, as well as drier thorn forest and thorn scrub (Brush 2005). Most of the research on Groove-billed Ani biology has been conducted in Central America (Skutch 1959, Smith 1971, Vehrencamp et al. (1986) demonstrating a dearth of information on the species in Texas. Here I describe an incidental observation of two Groove-billed Anis copulating in the Rio Grande Valley of Texas.

OBSERVATION

At approximately 11:15 CST on 24 Jun 2020 I observed two Groove-billed Anis partake in mating behavior, including a copulation event and courtship feeding. I do not definitively knowthe sexes of the birds, but I refer to them as male (the one that performed the mounting) and female (the one that was mounted) based on information from Bowen et al. (1991) which I will discuss later. This observation took place at the Arroyo Colorado Unit of Las Palomas Wildlife Management Area near Rio Hondo, Cameron County, Texas (26° 18 'N, 97° 31'W). The unit is approximately 342 ha of dense Tamaulipan thorn forest (Leslie 2016).

I was made aware of the presence of the birds by a soft series of contact calls (Bowen 2020). I observed two groove billed anis perched approximately 3 m up in a huisache (Vachellia farnesiana) tree next to each other. 10 sec after hearing the calls, the male mounted the female while carrying an insect in its bill. The male stayed mounted for 3 sec total, dipping its tail downward towards the female for the last 1 sec of the mount. The male then dismounted while still holding the insect in its bill. The female turned away from the male and hopped to a nearby branch approximately 1 m away. The female's demeanor appeared calm with feathers laying down. The male then turned and followed the female. After a brief 2 sec pause, the male mounted the female again. This time the male mounted the female for 2 sec, lowering its tail for the last 1 sec. The male then dismounted, and the female hopped back to the original branch. As the female hopped away, the male began a series of quiet but persistent contact calls. The male followed the female back to the original branch and offered the insect gift. The female accepted and consumed the insect. The male's calling then grew in volume and frequency matching an alarm call and it flew away from the female off into nearby dense vegetation. I did not observe any wing flapping, spread wings, or tail wagging during copulation as noted in Bowen et al. (1991). I also did not observe any other Groove-billed Anis in the vicinity.

I believe the bird that performed the mounting and was carrying an insect gift was the male for two reasons. First, Bowen et al. (1991) describe a shift from reverse mounting (i.e., females mounting males) to expected mounting (i.e., males mounting females) during early summer (June) onwards through the breeding season. My observation occurred well into the likely breeding season. Second, females and males have been observed offering gifts before or after copulation, but only females have been observed accepting and

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consuming those gifts (Bowen et al. 1991). The bird that was mounted clearly accepted and consumed the insect gift it was given.

DISCUSSION

Although little is known about the Groove-billed Ani overall, less is known about the population living in the United States. From the little that is known, we see differences in habitat preferences between the populations, indicating a need for comprehensive studies of the species outside of Central America. This observation offers some small insight into the breeding behavior of the species in the United States.

ACKNOWLEDGMENTS

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WHITE-WINGED DOVE NESTING ATOP A LIGHT POLE

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White-winged Doves (*Zenaida asiatica*) are New World columbids that have colonized many urban areas far north of their historical breeding grounds in the Lower Rio Grande Valley (Small et al. 2006). In recent decades, breeding populations of White-winged Doves have established colonies throughout most of Texas with the largest population occurring in San Antonio (Schwertner et al. 2002, West 1993). White-winged Doves prefer to build nests in shaded areas, particularly dense foliage such as pecan (*Carya illinoinensis*), hackberry (*Celtis occidentalis*), live oak (*Quercus virginiana*), and ash (*Fraxinum berlandieriana*) (Cottam and Trefethen 1968, Schwertner et al. 2002, Small et al. 2006) including Mexican fan palm (*Washingtonia robusta*) (Alamia 1970, Eitniear 2008). These trees provide shade from the sun and shelter from predators. Urban neighborhoods offer a wide variety of vegetation that fills this role.

Even though they have become an urban species over the past 50 years, no published articles have reported White-winged Doves building nests on artificial structures. Other dove species, including Eurasian Collared Dove (*Streptopelia decaocto*) and Mourning Dove (*Zenaida macroura*), a close relative of the White-winged Dove, have been documented utilizing artificial structures (Sayre and Silvy 1993, Ludwick 2008). Herein, we report evidence for the first recorded White-winged Dove nest on a light pole in South Texas.

The White-winged Dove nest was observed during the 2017 breeding season in Corpus Christi, TX (27° 41’ 25.77” N, 97° 22’ 11.72” W) in the Wooldridge subdivision. The nest was approximately 9 m above the ground constructed atop a wi-fi router (Earthlink ®) connected to the light pole (Fig. 1). The nest appeared to be constructed of twigs and leaves and was positioned between the router’s antennae.

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Figure 1. Adult White-winged Dove in nest with 2 nestlings atop light pole during June 2017 in Corpus Christi, Texas.

The nest was first observed on 20 Jun 2017 with one adult sitting on the nest; no nestlings were observed. On 23 Jun 2017, two nestlings were observed being fed by the nesting adult. Based on Colson (2012), the larger nestling was aged at 4–5 days. On 30 Jun 2017, the fully developed tail feathers of at least one of the nestlings was observed protruding from the nest; however, the whole of its body was obscured by the edge of the nest. The following day, 1 Jul 2017, the nest was empty but still intact atop the router. No carcasses were observed on the area below the pole. Based on findings presented by Colson (2012), it is possible the nestlings successfully fledged though no additional re-nesting was observed in 2017. The light pole, as well as other light poles, in the Wooldridge subdivision were monitored during 2018 and 2019. No additional nests were observed on light poles.

This observation is interesting considering light poles offer none of the protective benefits that dense vegetation provides. There was no shade directly above or to the sides of the nest to block the sun from shining directly on the nestlings. Furthermore, the openness of the nest had no advantages against predators such as hawks or other raptors. Red-tailed Hawks (*Buteo jamaicensis*) and Great Horned Owls (*Bubo virginianus*) nest near the neighborhood (WCC pers. obs.). The nest site was unusual, particularly since there appeared to be an abundance of desirable nesting vegetation in the area. We encourage bird watchers to document any atypical nesting sites being used by White-winged Doves to further our understanding about this species nesting behavior.

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NOTES ON THE CRANIAL OSTEOLOGY OF MASKED AND RUDDY DUCKS

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Ducks of the tribe Oxyrini are distinguished externally from all other waterfowl by their elongated and pointed tail feathers and stiffened shafts (Johnsguard and Carbonell 1996). Internally *Oxyura* possesses the following unique features. (1) The surface for the external head of the triceps is deep, and broadly excavated. (2) The distal portion of the external tuberosity is elevated so that the surface for pectoral attachment lies in a plane that almost parallels the plane of the shaft. (3) The shaft is thin (5.2 to 6.0 per cent of the total length) . (4) The facet for the anterior articular ligament is only slightly elevated from the shaft, and is distinctly turned towards the internal edge of the element. (5) The external condyle has a ridge extending toward the brachial depression (Woolfenden 1960). Livezey (1995) proposed the generic addition of Nomonyx (originally proposed by Salvadori 1895) differentiating the Masked Duck (*Nomonyx dominicus*) from other *Oxyura* based on a variety of characters including gross morphology, post-cranial oselology and behavioral traits. Considering the premise that morphology represents aspects of the relationships between the organism and its environment (Bock 1977), we explored cranial traits of Masked and Ruddy Ducks (*Oxyura jamaicensis*) (Fig.1).

METHOD

Furthering the comparison of mandibles of Ruddy and Masked Ducks (Eitniear and Ryander 2008), I compared 10 cranial characters, including the following: lacrimonasal hinge vertically to base, tip of bill to lacrimonasal hinge, length of skull, length of orbit, height of orbit, preoccipital process, length of nares, frontonasal hinge to tip of bill, width of skull and width of bill. All measurements were made with dial calipers.

RESULTS AND DISCUSSION

Once considered part of the Oxyurina the Masked Duck was reclassified in the 1998 AOU 7th edition checklist as Nomonyx based on the derived loss of a speculum in Oxyura and Biziura, which is retained in Nomonyx (Delacour 1959, Livezey 1986); and the species' short bill (maximum length , 36 millimeters), which is less than half the length of its relativity long tail (maximum length, 74 millimeters). Unlike the Oxyura species, the Masked Duck's outer toe is shorter than the

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Figure 1 (Top) Ruddy Duck (left) Figure Lincoln Park Zoo and Masked Duck (right) Figure Mike Morel, (Bottom) Ruddy Duck skull (left) Figure skullsite.com and Masked Duck skull (right) Figure author

middle toe, and the nail of the bill is not directly narrowed above (Johnsgard and Carbonell 1996). In their study of mandibular structure, Eitniear and Rylander (2008) noted that the Ruddy Duck had longer lamellae and slightly broader bill than the Masked Duck. In addition, most bill characters were greater in length or width in the Ruddy Duck as opposed to the Masked Duck.

Cranial characters indicated a longer nail in the Masked Duck (Table 1.) and a larger orbit (both width and height). While a 1 mm longer nail does not likely have any obvious foraging significance

Table 1. Eleven characters measured (mm) in Masked and Ruddy Duck skulls

	MADU	RUDU
Lacrimonasal hinge vertically to base	14.5	10.9
Width of skull	12.9	18.3
Length of skull	71.5	79.2
Preoccipital Process	21.5	22.6
Height of orbit	13.0	11.0
Length of orbit	13.8	12.9
Length of nail	6.	5.
Length of nares	10.0	10.0
Frontonasal hinge to tip of bill	34.0	45.0

the larger orbit (MADU 13 x.0 x 13.8 versus Ruddy Duck 11.0 x 12.9) supports field observations by Goodman et al (2009) that Masked Ducks spend a higher percentage of nocturnal time feeding (males: 29.5%; females 41.0) than either West Indian Ruddy Ducks or Northern Ruddy Ducks). Ruddy Ducks feed by sifting for invertebrates and are reported to have longer dive lengths and intervals that Masked Ducks (Goodman et al 2017). The more massive body and musculature and sloping head likely facilitates longer periods of time underwater. On the other hand, the Masked Duck feeds mainly on vegetation that it excises from the bottom during in a relatively brief dive.

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This study benefited greatly from the comments of Kent Rylander. Appreciation is also given to David Zebroski who provided the Ruddy Duck specimen (#MB15575D, USFWS form 3-186) subsequently donated to LSUMNH. The Masked Duck skull was on loan from the Louisiana State University Museum of Natural History (#125641) courtesy of Steve Cardiff, collection manager.

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PREDATION ATTEMPTS ON WEATHER STRESSED PURPLE MARTINS BY GREAT-TAILED GRACKLES

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The Great-Tailed Grackle (*Quiscatus mexicanus*) is an opportunistic feeder and its diet includes a variety of grains and seeds; fruits and berries; vegetative matter; invertebrates; amphibians; reptiles; small fish; small mammals; and birds and bird eggs (Davis and Arnold 1972, Ray 2015, Ray 2016). Testimony to elasticity in feeding strategies, Great-Tailed Grackles are known to feed on grains in agricultural settings, scavenge carrion and dropped or discarded human foods on highways and in and around human settlements, capture and consume vertebrate and invertebrate prey from aquatic habitats, and opportunistically prey on small birds. I previously described incidences of predation by Great-Tailed Grackles on fledgling Purple Martins (*Progne subis subis*; Ray 2015). Grackles nesting in trees adjacent to provisioned housing would knock young fledglings to the ground as the new-to-flight youngsters departed the housing. The grackles seemed to recognize the "clumsiness" of the fledglings, because we did not observe any attempts to knock down adult martins that were busy feeding nestlings in the houses. These attacks continued over the next few days and consumption of the martins occurred when humans did not intervene.

During April 15-18, 2020, I observed daily attacks on weather-stressed adult Purple Martins by female Great-Tailed Grackles at a colony located at a residence in Randall County of the Texas Panhandle. Three colonies of Great-Tailed Grackles occurred within 248 m of the colony of martins and one was only 104 m distant. Here I describe four tactics that were used by the grackles in attempts to capture adult Purple Martins.

COLONY SITE AND WEATHER CONDITIONS

This colony of Purple Martins was established in 2006 by two pairs of martins and has grown to >50 pairs, annually. Located between Amarillo and Canyon (35° 2'22.13"N, 101°56'0.02"W), the housing consisted of wood and aluminum bird houses and plastic gourds. Only 2-3 dozen Purple martins had returned by this mid-spring cold spell. Those that were paired off had begun nest-building.

A pair of cold fronts impacted the region on 10 and 14 April, and daytime highs remained below 8.9 C from 840 a on 12 April and 1050 a 15 April (JDR pers. weather station). The Purple Martins did not attempt to feed during this period, likely due to the weather's effect on the abundance of their insect prey. Energetically, martins require larger type flying insects in their diet (e.g., dragonflies, damselflies, grasshoppers, butterflies, moths, beetles, flies, etc.). In general, martins do not spend much time on-the-wing feeding during cold spells where daily high temperatures remain ≤8.9 C (Ray 2012; JDR pers. records, various sources). During cold spells, losses of martins can occur when they are unable to feed or find their prey for more than 3-4 d.

ATTACKING WEATHER-STRESSED PURPLE MARTINS

Basking on Roadway–During the a.m. of 15 April I observed >8 Purple Martins on the surface of a paved driveway adjacent to the martin housing. This behavior is common during windy, rainy or cold conditions, where they cannot feed, but can take advantage of the heat generated from sunlight on the black asphalt driveway (Fig. 1). The martins were in obvious stress, appearing light in weight and sitting around with wings drooping (Fig.2).

A female Great-Tailed Grackle landed approximately 2 m from the Purple Martins and seemed to display great curiosity (watching them). The martins seemed to not view the grackle as a threat. The grackle left, only to return a few minutes

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Figure 1. Weather-stressed Purple Martins (Progne subis subis) taking advantage of the heat associated with a black asphalt driveway.

Figure 2. A weather-stressed Purple Martin (Progne subis subis) displaying the drooping wings and slumping posture typical of starving swallows. Purple Martins can typically survive 3-4 days without food.

later. Again, the grackle stared at the martins, but this time made a dash for the nearest martin; hitting it a few feet off the ground as the martin sprung into the air. The martin was able to escape. I observed these predation attempts four times that morning. However, I intervened on several more attempts, by running towards the housing when the grackle arrived. Some attempts involved the grackle landing next to the group of martins, whereas for others it landed in the middle of them.

Gathering Nest Material (Ground)–Temperatures recovered on the afternoon of 15 April (19.1 C) and the Purple Martins spent considerable time foraging for insects away from the colony site. The following morning some pairs of martins resumed nest building. Pairs of martins would glide to the ground from the housing and search for stems of weeds and grass to carry back to their nests. On three occasions I observed a female Great-Tailed Grackle launch from a nearby tree snag and attempt to knock a martin to the ground. Upon seeing the grackle, or hearing an alarm call, the targeted martin would spring into the air only to be met by the arriving grackle. During my observations, the grackle was not successful in catching a martin. I did not observe any further attempts by the grackle to take a martin in this manner.

Gathering Leaves (tree top)–Purple Martins bring in leaves to line the bowl of their nests. On 16 April, I observed several pairs of martins landing in the tops of a nearby small tree. A female Great-Tailed Grackle flew in and landed on an adjacent tree and watched the comings and goings of the martins. The grackle made an attempt to knock a martin down and then stayed in the tree that the martins were focused on for gathering leaves. Two other female grackles had seen the commotion and flew in to join the first grackle. There was one additional attempt to knock down a martin but the grackles were again unsuccessful.

From Provisioned Bird Housing–On 18 April, I observed three attempts of a female Great-Tailed Grackle to knock down adult Purple Martins at their provisioned housing. The grackle would fly in and perch on the housing or on the associated perch. She would then leap towards a martin in an attempt to knock it to the ground. Once again, I did not observe a successful attack.

During April 15-18, 2020, I observed daily attacks on weather-stressed adult Purple Martins by female Great-Tailed Grackles. Although these attacks might seem trivial given these were unsuccessful, there are several considerations to bear in mind. First, another day or two of cold weather would likely have further weakened the martins and they would have been even more vulnerable, not only on the ground but on and within their housing. Second, I interrupted the grackle's attempts when the martins were most vulnerable (on the ground and weather-stressed). Third, had other grackles had a similar interest in the martins that the ones I observed had, the odds of catching a martin might have increased, or with continued harassment, martins might have begun abandoning the colony (Ray 2015). Lastly, continued interest in the colony by the neighborhood grackles may have led to

predation on young fledgling martins later in the nesting cycle. After 18 April, there were no further attempts of predation observed at this colony site.

Susan Ray provided the Figures for this note.

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TEXAS BIRD RECORDS COMMITTEE REPORT FOR 2020

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The Texas Bird Records Committee (hereafter "TBRC" or "committee") of the Texas Ornithological Society requests and reviews documentation on any record of a TBRC Review List species (see TBRC web page at http://www.texasbirdrecordscommittee.org). Annual reports of the committee's activities have appeared in the Bulletin of the Texas Ornithological Society since 1984. For more information about the Texas Ornithological Society or the TBRC, please visit www.texasbirds.org. The committee reached a final decision on 136 records during 2020: 113 records of 48 species were accepted and 23 records of 20 species were not accepted, an acceptance rate of 83.1% for this report. A total of 226 observers submitted documentation (to the TBRC or to other entities) that was reviewed by the committee during 2020.

The TBRC accepted 2 first state records in 2020: White Wagtail and Blue-and-white Swallow. These two additions plus the addition of Mexican Duck (Anas diazi) due to a split bring the official Texas State List to 655 species in good standing. This total does not include the 5 species on the Presumptive Species List, nor the 2 species on the Supplemental List.

In addition to the review of previously undocumented species, any committee member may request that a record of any species be reviewed. The committee requests written descriptions as well as photographs, video, and audio recordings if available. Information concerning a Review List species may be submitted to the committee secretary, Eric Carpenter, 674 Goodnight Trail, Dripping Springs, Texas 78620 (email: ecarpe@gmail.com). Guidelines for preparing rare bird documentation can be found in Dittmann and Lasley (1992) or at http://www.greglasley.net/document.html. Online submission forms can be found at https://www.texasbirdrecordscommittee.org/home/forms.

The records in this report are arranged taxonomically following the AOS Check-list of North American Birds (AOU 1998) through the 61st supplement (Chesser et al. 2020). A number in parentheses after the species name represents the total number of accepted records in Texas for that species at the end of 2020. Species added to the Review List because of population declines or dwindling occurrence in recent years do not have the total number of accepted records denoted as there are many documented records that were not

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subjected to review (e.g. Brown Jay, Pinyon Jay, Tamaulipas Crow, and Evening Grosbeak). All observers who submitted written documentation or photographs/recordings of accepted records are acknowledged by initials. If known, the initials of those who discovered a particular bird are in boldface but only if the discoverer(s) submitted supporting documentation. The TBRC file number of each accepted record will follow the observers' initials. If photographs or video recordings are on file with the TBRC, the Texas Photo Record File (TPRF) (Texas A&M University) number is also given. Specimen records are denoted with an asterisk (*) followed by the institution where the specimen is housed and the catalog number. The information in each account is usually based on the information provided in the original submitted documentation; however, in some cases this information has been supplemented with a full range of dates the bird was present if that information was made available to the TBRC. All locations in italics are counties. Please note that the county designations of offshore records are used only as a reference to the nearest point of land.

TBRC Membership—Members of the TBRC during 2020 who participated in decisions listed in this report were: Tony Frank, Chair; Keith Arnold, Academician; Eric Carpenter, (non-voting) Secretary; Sheridan Coffey, Greg Cook, Mel Cooksey, Mary Gustafson, Petra Hockey, Dan Jones, Stephan Lorenz, Chris Runk, and Willie Sekula.

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Additional Abbreviations—A.O.S. = American Ornithologists' Society; A.O.U. = American Ornithologists' Union; N.P. = National Park; N.S. = National Seashore; N.W.R. = National Wildlife Refuge; S.H.S. = State Historic Site; S.N.A. = State Natural Area; S.P. = State Park; W.M.A. = Wildlife Management Area.

ACCEPTED RECORDS

Garganey (*Spatula querquedula*) (5). One at Aransas N.W.R., Calhoun/Aransas on 11-21 April 2020 (**KB**, BF, TF, PF, MC, MA; 2020-36; TPRF 3716).

Eurasian Wigeon (*Mareca penelope*) (59). One at San Angelo, Tom Green on 6-21 March 2019 (**SJ**, JM, RH, TJA, LW; 2019-85; TPRF 3670). One at Balmorhea Lake, Reeves on 9-18 December 2019 (**RP**, SC; 2019-88; TPRF 3703). One ~5 miles north-northwest of Cross Plains, Callahan on 5 January 2020 (**SG**; 2020-05; TPRF 3705).

King Eider (*Somateria spectabilis*) (3). One at Eagle Lake, Colorado on 18 December 2019 (**RG**, CS; 2020-24; TPRF 3694).

Masked Duck (*Nomonyx dominicus*) (97). One at North Padre Island, Kleberg on 13 February 1977 (**JG**; 2020-72; TPRF 3748). Two at San Bernard N.W.R., Brazoria on 21 April 2004 (**MD**; 2020-06; TPRF 3678).

Red-necked Grebe (*Podiceps grisegena*) (31). One at Imperial Reservoir, Pecos on 20 November 2014 (**SF**; 2020-54). One at Hubbard Creek Lake, Stephens on 14 January 2020 (**ToF**; 2020-13; TPRF 3706).

White-crowned Pigeon (*Patagioenas leucocephala*) (4). One near Lafitte's Cove, Galveston Island, Galveston on 4 September 2019 (**KOH**, DS; 2019-56; TPRF 3662).

Mexican Violetear (*Colibri thalassinus*) (94). One at Harper, Gillespie on 27 April 2019 (**MH**; 2020-75; TPRF 3740). One at Kerrville, Kerr on 13 May - 20 August 2019 (**LL**; 2019-48; TPRF 3654). One at Reagan Wells, Uvalde on 24 May - 19 June 2019 (BR, JH, CG, TH; 2019-43; TPRF 3655). One at Mountain Home, Kerr on 20 June 2019 (**AB**; 2020-71; TPRF 3741). One at south-southeast of Concan, Uvalde on 23 July - 11 August 2019 (**TD**, TH, HF; 2019-54; TPRF 3657).

Green-breasted Mango (*Anthracothorax prevostii*) (24). One at Edinburg Scenic Wetlands, Hidalgo on 29-30 October 2019 (KW, AD; 2019-80; TPRF 3688). One at Weslaco, Hidalgo on 27 July - 3 August 2020 (**BS**; 2020-62; TPRF 3746).

White-eared Hummingbird (*Basilinna leucotis*) (47). One west of Fort Davis, Jeff Davis on 4 July - 5 September 2019 (**LoL**, BM; 2019-46; TPRF 3698). One west of Fort Davis, Jeff Davis on 6-21 August 2019 (CR, BM, ML; 2019-50; TPRF 3701). One at Davis Mountains Preserve, Jeff Davis on 9-24 August 2019 (JS, RK, LS; 2020-32; TPRF 3702). One west of Fort Davis, Jeff Davis on 30 June - 12 September 2020 (**BM**, CF, KZ, TH, WS, LoL; 2020-49; TPRF 3760).

Violet-crowned Hummingbird (*Leucolia violiceps*) (26). One west of Fort Davis, Jeff Davis on 8-29 July 2019 (**LoL**, BiS, BM; 2019-49; TPRF 3699). One at Limpia Crossing, Jeff Davis on 25 July - 17 September 2019 (**CR, MG**; 2020-31; TPRF 3700). One west of Fort Davis, Jeff Davis on 20 July - 25 August 2020 (**LoL**, SH, BM; 2020-68; TPRF 3761). One northwest of Fort Davis, Jeff Davis on 27 July - 22 August 2020 (**CR**, BL, BrS, MG, JeH, SC; 2020-69; TPRF 3763).

Northern Jacana (*Jacana spinosa*) (44). One at Estero Llano Grande S.P., Hidalgo on 28 October 2019 (**HH**, MS; 2019-81; TPRF 3687).

Ruff (*Calidris pugnax*) (42). One at Anahuac N.W.R., Chambers on 14 April - 4 May 2013 (DaS, ZP; 2020-07; TPRF 3679). One at Magnolia Beach,

Calhoun on 25 April 2020 (**JM**; 2020-39; TPRF 3728). One at Lake Lewisville, Denton on 13 May 2020 (**WC**; 2020-38; TPRF 3729).

Red Phalarope (*Phalaropus fulicarius*) (51). One at Grapevine Lake, Tarrant on 31 August - 2 September 2015 (**CA**, BT, MiS; 2020-56; TPRF 3733). One at Port Aransas, Nueces on 12 October 2019 (AO; 2020-57; TPRF 3738).

Long-tailed Jaeger (*Stercorarius longicaudus*) (28). One at Balmorhea Lake, Reeves on 31 August - 8 September 2019 (**WM**, ML, AW, TH, SK; 2019-53; TPRF 3661).

Heermann's Gull (*Larus heermanni*) (5). One at Benbrook Lake, Tarrant on 2-6 December 2019 (**JA**, BSh, RP, BoS, BD, LB, SL; 2019-78; TPRF 3691).

Mew Gull (*Larus canus*) (44). One at McNary Reservoir, Hudspeth on 4 December 2013 (**BZ**; 2020-73; TPRF 3759). One at Port Aransas, Nueces on 12 January - 6 April 2020 (**JoM**, MaL, MC, DSi, BH, MaS, PS, KT, PH, MR, MiA, TF, DaS, JH, WS; 2020-11; TPRF 3710). One at Hans Suter W.M.A., Corpus Christi, Nueces on 4 February 2020 (**NB**; 2020-17; TPRF 3707).

Western Gull (*Larus occidentalis*) (6). One at Corpus Christi, Nueces on 22-26 November 2019 (**SS**, JoM, JR, AH, MC; 2019-75; TPRF 3690).

Glaucous-winged Gull (*Larus glaucescens*) (2). One at Lake Wichita, Wichita/Archer on 8-13 June 2020 (**SL**, DaS, CA, EW, TF, PF; 2020-45; TPRF 3739).

Brown Noddy (*Anous stolidus*) (24). One at Boca Chica, Cameron on 21 August 2019 (**JeS**; 2019-52; TPRF 3659).

Red-billed Tropicbird (*Phaethon aethereus*) (15). One at Port Aransas, Nueces on 26 July 2020 (**NoB**; 2020-61; TPRF 3745).

Leach's Storm-Petrel (*Hydrobates leucorhoa*) (40). One in pelagic waters offshore from Port Isabel, Cameron on 27 August 2011 (**GH, TD, BrT**; 2020-51; TPRF 3730). Five in pelagic waters offshore from Port Isabel, Cameron on 8 August 2015 (**DJ, TD, AM, BrM**; 2020-52; TPRF 3732). One in pelagic waters offshore from Port Isabel, Cameron on 19 September 2015 (**AnD**; 2020-53; TPRF 3734). Two ~72 miles southeast of Matagorda Island, Calhoun on 24 August 2019 (**EC, RP, PH, JB**; 2019-51; TPRF 3660).

Sooty Shearwater (*Ardenna grisea*) (21). One at Padre Island National Seashore, Kenedy on 7 July 2012 (**JiH**; 2020-58; TPRF 3731).

Great Shearwater (*Ardenna gravis*) (28). One along beach, South Padre Island, Cameron on 24 September 2019 (JaG, ScC; 2019-61; TPRF 3663). One at Mustang Island, Nueces on 2 October 2019 (AO; 2020-77; TPRF 3742). One at Mustang Island, Nueces on 4 October 2019 (**BrH**; 2020-78; TPRF 3743). One at Padre Island National Seashore, Kleberg on 23 October 2019 (**AO**; 2019-71; TPRF 3676). One at Matagorda Nature Park and Jetty, Matagorda on 16 December 2019 (**EC, PH**; 2019-91).

Manx Shearwater (*Puffinus puffinus*) (10). One near jetty, Mustang Island S.P., Nueces on 27 July 2020 (**AO**; 2020-63; TPRF 3747).

Short-tailed Hawk (*Buteo brachyurus*) (61). One at Chisos Mountains, Big Bend N.P., Brewster on 23 April 2019 (**CB**; 2019-87; TPRF 3673). One 5 miles east of Mico, Medina on 17 March 2020 (**LK**; 2020-34; TPRF 3715). One at El Paso, El Paso on 16 April 2020 (**JP**; 2020-40; TPRF 3727).

Rose-throated Becard (*Pachyramphus aglaiae*) (73). One at Santa Ana N.W.R., Hidalgo on 7-9 May 1977 (**BoR**; 2020-83; TPRF 3757). One at Santa Ana N.W.R., Hidalgo on 19-20 July 2013 (**DJ**, MaG; 2020-44; TPRF 3718). One at Santa Ana N.W.R., Hidalgo on 19 October 2015 (**MM**; 2020-27). One at Sabal Palm Sanctuary, Cameron on 19-21 March 2019 (**AdH**, FR, JoH, MaH; 2019-84; TPRF 3671). One at Frontera Audubon, Weslaco, Hidalgo on 3 August 2019 (**AJ**, AM; 2019-57; TPRF 3658). One at National Butterfly Center and Bentsen-Rio Grande S.P., Mission, Hidalgo on 24 November 2019 - 21 March 2020 (**MaG**, JHe, RS, WS, KD, JT, MBS, KG, AnM; 2019-79; TPRF 3724). One to two at Resaca de la Palma S.P., Cameron on 1 February - 21 March 2020 (**JL, PaH**, MiC, HT, JS, JoM, DB, WW; 2020-14; TPRF 3726).

Dusky-capped Flycatcher (*Myiarchus tuberculifer*) (52). One at Sabal Palm Sanctuary, Cameron on 1 February 1996 (**WiC**; 1996-37). The TBRC no longer reviews Dusky-capped Flycatchers at a species level (see next) but this was a resubmission of a previously rejected record during a period when the (full) species was on the Review List.

Dusky-capped Flycatcher (*lawrenceii*) (*Myiarchus tuberculifer lawrenceii*) (22). One at Anzalduas County Park, Hidalgo on 8-9 November 2015 (JK, JaG, KO, CyB; 2020-43; TPRF 3719). One at Resaca de la Palma S.P., Cameron on 16

February 2016 (**CC**; 2020-42; TPRF 3720). One northwest of Hebbronville, Jim Hogg on 5 January - 25 February 2019 (**ShC**, AW, WS, GC; 2019-04; TPRF 3721). One at Salineno, Starr on 1 March 2019 (**BHa**; 2020-41; TPRF 3722). One at Resaca de la Palma S.P., Cameron on 31 January - 4 March 2020 (**WeS**, ME, WS, RN, MBS, BrM; 2020-21; TPRF 3725).

Sulphur-bellied Flycatcher (*Myiodynastes luteiventris*) (35). One at Boy Scout Woods, High Island, Galveston on 8-9 April 2015 (**MK, LoS, JS**; 2020-67; TPRF 3751). One at Alamito Creek, Presidio on 10 June - 5 July 2019 (**SW**, ML, ClB; 2019-42; TPRF 3656).

Fork-tailed Flycatcher (*Tyrannus savana*) (47). One northwest of Texas City, Galveston on 16 November 2016 (**PB**; 2020-76; TPRF 3752). One at Smith Oaks, High Island, Galveston on 13-15 April 2019 (**SaS**, KiW, SM; 2020-82; TPRF 3754). One ~7 miles southwest of Taft, San Patricio on 2 October 2019 (**SkC**, AO; 2019-64; TPRF 3675). One at Sacahuistale Flats, Willacy on 5 October 2019 (**MaC**; 2019-86; TPRF 3685). One 10 miles west of Raymondville, Willacy on 1 November 2019 (**ReH**; 2019-77). One at Riviera, Kleberg on 27 November - 14 December 2019 (**AO**, JoM, TH, DA, WS; 2019-76; TPRF 3692). One at Eagle Lake, Colorado on 11-18 December 2019 (**FP**, ChB, CiG; 2019-90; TPRF 3693). One near main entrance, Aransas N.W.R., Aransas on 20-22 December 2019 (**RL**, KeD, MR; 2019-92; TPRF 3695). One near Gregory, San Patricio on 3 January 2020 (**EG**; 2020-01; TPRF 3696). One west of Santa Rosa, Hidalgo on 12 January - 5 February 2020 (DJ, VS, RB, GeC, MSn, LD; 2020-12; TPRF 3711). One at southeast of San Manuel-Linn, Hidalgo on 17 March 2020 (**KC, DA**; 2020-30; TPRF 3714).

Tufted Flycatcher (*Mitrephanes phaeocercus*) (6). One west of Fort Davis, Jeff Davis on 13-14 August 2020 (**JS, CL**; 2020-84; TPRF 3756).

Greater Pewee (*Contopus pertinax*) (35). One at Bear Creek Park, Houston, Harris on 27 August 2015 - 4 March 2016 (**JHi**, DSh,LS,DW,KH; 2020-19; TPRF 3680). One at Alpine, Brewster on 20 August 2020 (**CoS, MeS**; 2020-94; TPRF 3764).

Black-whiskered Vireo (*Vireo altiloquus*) (45). One at Smith Oaks, High Island, Galveston on 9 May 2012 (**BrT**; 2020-65; TPRF 3749). One near 'The Willows' at Sea Rim S.P., Jefferson on 30 April - 2 May 2014 (StM, TeD, MiD; 2020-66; TPRF 3750). One at High Island - Smith Oaks, Galveston on 29 April - 1 May 2017 (DH, MOS, PeH; 2018-16; TPRF 3697). One at Sabine Woods, Jefferson on 24 April 2020 (BiM, BN; 2020-37; TPRF 3717).

Pinyon Jay (*Gymnorhinus cyanocephalus*) (3). One at Davis Mountains S.P., Jeff Davis on 26 October 2017 (**JuS**; 2020-09; TPRF 3682).

Tamaulipas Crow (*Corvus imparatus*) (20). One near Port Mansfield, Willacy on 14 May 2019 (**AmB**; 2020-18; TPRF 3723).

Blue-and-white Swallow (*Pygochelidon cyanoleuca*) (1). One south of Progreso, Hidalgo on 20-21 July 2020 (**DJ**, MBS; 2020-59; TPRF 3762). This represents the first documented record for Texas and for the ABA region (pending ABA acceptance).

Northern Wheatear (*Oenanthe oenanthe*) (3). One at Saxet Lake Park, Victoria, Victoria on 26-29 September 2019 (**TJA**, DaS, JH, MaS, SL; 2019-63; TPRF 3674).

Rufous-backed Robin (*Turdus rufopalliatus*) (27). One at South Unit, San Angelo S.P., Tom Green on 6 January 2017 (**VS**; 2020-25; TPRF 3681). One west-southwest of Uvalde, Uvalde on 4 January 2020 (**TD**; 2020-04; TPRF 3704).

Varied Thrush (*Ixoreus naevius*) (51). One at San Saba Nature Park, San Saba, San Saba on 25-26 October 2019 (**BP**, JH; 2019-72; TPRF 3677).

White Wagtail (*Motacilla alba*) (1). One at Roy Guerrero Park, east Austin, Travis on 8 February - 5 April 2020 (**JD, JO**, DaS, JH, EC, RP, PH, TF, PF, MR, TiF, EW, TH, BrM, SL, MC, TJA; 2020-22; TPRF 3712). This represents the first documented record for Texas.

Evening Grosbeak (*Coccothraustes vespertinus*) (24). Two at McKittrick Canyon, Guadalupe Mountains N.P., Culberson on 27 October 2012 (**KL**; 2020-79; TPRF 3758). Up to three at Frijole Ranch, Guadalupe Mountains N.P., Culberson on 28 October - 2 November 2018 (**DC**, DR, RC; 2018-86; TPRF 3736). One at San Antonio, Bexar on 15 December 2018 (**TG**; 2019-23; TPRF 3737).

Yellow-eyed Junco (*Junco phaeonotus*) (9). One at El Paso, El Paso on 26-28 September 2020 (**BZ**; 2020-88; TPRF 3765).

Golden-crowned Sparrow (*Zonotrichia atricapilla*) (47). One at Bill Rogers Arroyo Park, El Paso, El Paso on 5 March 2020 (**KeL**; 2020-28; TPRF 3713). One at Amarillo, Randall on 30 September - 1 October 2020 (**DoS**; 2020-86; TPRF 3766).

Rufous-capped Warbler (*Basileuterus rufifrons*) (37). One at Fort Clark Springs, Brackettville,

Kinney on 13-28 October 2019 (**GC**, TH, JC; 2019-70; TPRF 3686). One at Benavides, Duval on 28 March - 12 May 2020 (**BF**, WS; 2020-35; TPRF 3744).

Golden-crowned Warbler (*Basileuterus culicivorus*) (29). One at San Benito, Cameron on 13 October 2018 - 7 January 2019 (**KiC**; 2018-81; TPRF 3683). One at Arroyo Colorado Unit, Las Palomas W.M.A., Cameron on 3 November 2019 (**JL, MaC**; 2019-74; TPRF 3689).

Slate-throated Redstart (*Myioborus miniatus*) (17). One to two at Boot Canyon, Chisos Mountains, Big Bend N.P., Brewster on 19 April - 13 September 2019 (**ST**, RoS, ML, JW, LyW, DaS, TJA; 2019-29; TPRF 3672). One at Boot Canyon, Chisos Mountains, Big Bend N.P., Brewster on 16-19 June 2020 (**CH**, ML; 2020-46; TPRF 3755).

Flame-colored Tanager (*Piranga bidentata*) (15). One at Pinnacles Trail, Big Bend N.P., Brewster on 25 July 2016 (**JaM**; 2020-26; TPRF 3735).

Crimson-collared Grosbeak (*Rhodothraupis celaeno*) (46). One at Resaca de la Palma S.P., Cameron on 6 February 2019 (**NS**; 2020-64; TPRF 3753). One at Bentsen-Rio Grande S.P., Hidalgo on 9 December 2019 (**PH**, RS; 2019-89; TPRF 3708). One at South Shore Unit, Choke Canyon S.P., Live Oak on 20 December 2019 (**JeM, CiC**; 2020-08). One at Santa Ana N.W.R., Hidalgo on 22 December 2019 - 13 January 2020 (**MaM**, GB, DeB, HeH, JE, SE; 2019-93; TPRF 3709).

Blue Bunting (*Cyanocompsa parellina*) (52). One at visitor center, Laguna Atascosa N.W.R., Cameron on 7 January - 24 February 2019 (**NM**, KLL, BB; 2020-20; TPRF 3684).

NOT ACCEPTED

A number of factors may contribute to a record being denied acceptance. It is quite uncommon for a record to not be accepted due to a bird being obviously misidentified. More commonly, a record is not accepted because the material submitted was incomplete, insufficient, superficial, or just too vague to properly document the reported occurrence while eliminating all other similar species. Also, written documentation or descriptions prepared entirely from memory weeks, months, or years after a sighting are seldom voted on favorably. It is important that the simple act of not accepting a particular record should by no means indicate that the TBRC or any of its members feel the record did not occur as reported. The non-acceptance of any record simply reflects the opinion of the TBRC that the documentation, as submitted, did not meet the rigorous standards appropriate for adding data to the formal historical record. The TBRC makes every effort to be as fair and objective as possible regarding each record. If the committee is unsure about any particular record, it prefers to err on the conservative side and not accept a good record rather than validate a bad one. All records, whether accepted or not, remain on file and can be re-submitted to the committee if additional substantive material is presented.

Eurasian Wigeon (*Mareca penelope*). One at Cayo del Infiernillo, Alazon Bay, Kleberg on 5 January 2020 (2020-02). One at Rio Bosque Park, Socorro, El Paso on 2 February 2020 (2020-16).

Mexican Violetear (*Colibri thalassinus*). One northwest of Boerne, Kendall on 16-17 July 2019 (2019-47).

Costa's Hummingbird (*Calypte costae*). One northwest of Fort Davis, Jeff Davis on 30 September 2017 (2017-48).

Curlew Sandpiper (*Calidris ferruginea*). One at Calallen, Nueces on 6 October 2019 (2019-73).

Brown Noddy (*Anous stolidus*). One ~3 miles offshore from Mustang Island, Nueces on 15 August 2020 (2020-81).

Arctic Tern (*Sterna paradisaea*). One at Red Bluff Lake, Reeves on 15 June 2018 (2020-33).

Leach's Storm-Petrel (*Hydrobates leucorhoa*). One in pelagic waters offshore from Port Isabel, Cameron on 16 July 2011 (2020-50).

Great Cormorant (*Phalacrocorax carbo*). One at Manvel, Brazoria on 14 December 2019 (2020-10).

Northern Goshawk (*Accipiter gentilis*). One at Hazel Bazemore, Calallen, Nueces on 26 October 2019 (2019-82).

Short-tailed Hawk (*Buteo brachyurus*). One at Bentsen-Rio Grande S.P., Hidalgo on 11 September 2015 (2020-55).

Northern Pygmy-Owl (*Glaucidium gnoma*). One at The Bowl, Guadalupe Mountains N.P., Culberson on 14 March 2020 (2020-29).

Red-breasted Sapsucker (*Sphyrapicus ruber*). One at Chisos Basin, Big Bend N.P., Brewster on 28 December 2019 (2020-03).

Rose-throated Becard (*Pachyramphus aglaiae*). One at Salineno, Starr on 24 January 2020 (2020-15). One at Salineno, Starr on 11 June 2020 (2020-60).

Fork-tailed Flycatcher (*Tyrannus savana*). One northwest of Texas City, Galveston on 15 February 2017 (2020-70).

Eurasian Tree Sparrow (*Passer montanus*). One ~8 miles east-northeast of Lake Jackson, Brazoria on 9 February 2020 (2020-23).

Golden-crowned Sparrow (*Zonotrichia atricapilla*). One at Lake McClellan, Gray on 23 March 2019 (2019-83).

Streak-backed Oriole (*Icterus pustulatus*). One at Fort Pena Colorado Park, Marathon, Brewster on 9-10 June 2019 (2019-41). One at Fort Pena Colorado Park, Marathon, Brewster on 8-23 Jun 2020 (2020-47).

Flame-colored Tanager (*Piranga bidentata*). One at Boot Canyon, Big Bend N.P., Brewster on 2 May 2015 (2015-35).

Yellow Grosbeak (*Pheucticus chrysopeplus*). One at Glenn Springs, Big Bend N.P., Brewster on 13 August 1997 (2019-15).

Blue Bunting (*Cyanocompsa parellina*). One 4.5 miles northeast of Hondo, Medina on 20 September 2019 (2019-62).

LITERATURE CITED

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A MUTATION OF THE BLACK-BELLIED WHISTLING DUCK (*DENDROCYGNA AUTUMNALIS*) IN HOUSTON (HARRIS COUNTY, TEXAS)

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Mutations are a random genetic expression in a population of a given species, and are extremely rare in nature. Part of the reason for rarity of mutations is predators often discover them easier, resulting in subsequent predation, or removal from the gene pool. While pure white albinism (loss of all pigmentation) is extremely rare in nature due to increased risk of discovery and predation, leucism (partial loss of pigmentation) is more commonly expressed phenotypically (Hill 2010, Cortes-Avizanda et al. 2010).

Herein I describe a leucistic Black-bellied whistling duck (*Dendrocygna autumnalis*) from an urban pond in Houston (Harris County, Texas). As discussed below, this appears to be not only the first recorded mutation of this species, but the first recorded example in the genus, which includes eight species globally (Madge and Burn 1988).

I have surveyed waterfowl and other aquatic birds by walking the perimeter (approximately 1 mile) of McGovern Lake (Herman Park, Houston) weekly since 10 November 2010. Details of the study site and methodology are provided in Mikulas et al. (2017), but briefly the surveys occur mid-week, beginning approximately 1 hr post-dawn.

While surveying McGovern Lake on 20 January 2021 at 08:45 hrs, I observed a lighter than normal colored Black-bellied whistling duck among a

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flock of 15 on the peninsula along the south-central bank of the lake (Fig 1). The bird essentially had a normal colored black belly, with light pink legs and a red mandible, but the deep chestnut brown color along the back and chest was replaced with a washed out amber anteriorly, becoming even lighter on the chest, and fading to grey on the lower back. Additionally the face was a lighter ash-grey than the normal color dark grey.

The chance for this to be another species of whistling duck was ruled out since the overall plumage pattern matched Black-bellied whistling duck. Similarly, the possibility of this bird being a sub-adult was ruled out since the red mandible, as well as the plumage pattern, matched that of an adult.

The chance observation of this individual was extremely rare. It was not observed during the next survey 1 week later (27 January 2021). While the precise number of unique individual whistling ducks observed at McGovern Lake during the decade of surveys is unknown, > 30,000 birds have been counted during that time, with 425 being the maximum number of unique birds counted during a given survey, and mean number/survey = 61.5 (N = 529 surveys).

Figure 1. The mutation Black-bellied whistling duck (*Dendrocygna autumnalis*) observed at McGovern Lake (Houston, Harris County, Tx) on 20 January 2021 (photos by D.M. Brooks).

While aberrantly colored waterfowl mutations (e.g., Conn and Brooks 2012) and physiologically defective waterfowl (Mikulas and Brooks 2013) undoubtedly occur in nature, this is possibly the first record of a whistling duck mutation. No mention was made of mutations in the Birds of North America account (James and Thompson 2020), or the exhaustive whistling duck monograph by Bolen and Rylander (1983). Moreover, while mutations of whistling ducks cultivated in captivity exist, Google image searches using "mutation whistling/tree ducks in nature" failed to reveal any relevant photos, as did searches for "whistling/tree duck" in the Facebook groups "Waterfowl mutations" and "The Waterfowl color mutations group", both of which focused on waterfowl mutations cultivated in captivity.

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SPECIAL FEATURE …

VICTORIA COUNTY BIRDS—AN AVIAN CROSSROADS

VICTORIA COUNTY BIRDS—AN AVIAN CROSSROADS

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Abstract.—Victoria County's rich avian diversity of 356 species is enabled by its position at the junction of four great ecosystems: Coastal Prairie, Coastal Marshes and Bays, Post Oak Savannah, and South Texas Plains. Bird communities in these areas have been described in the "Classic" *The Bird Life of Texas* and *The Texas Ornithological Society Handbook of Texas Birds.* Eubanks et al. described areas north of Matagorda County, and Rappole and Blacklock south of Calhoun and Victoria Counties, but not Victoria County. Elwonger contributed greatly to the development of a checklist for the area but did not go into any detail on population status. This paper will expand on these earlier works by providing population and banding data along with life history information for all avian species known to have occurredt in the County.

Figure 1. Victoria County Coastal Prairie.

The plant communities in Victoria County are greatly influenced by rainfall patterns. Rainfall in excess of 100 cm is generally considered the minimum needed to support a forest and this level of rain occurs along the Guadalupe River in the middle of the County. Rainfall increases 1 cm for every 9 km traveled east towards Houston and decreases 1 cm for every 9 km traveling west to Goliad. This creates drier, mostly shrub/grasslands communities to the west, and forested/prairie settings to the east.

Victoria County is 2302 km^2 in area and formerly had 2205 km^2 of Coastal Prairie. The remaining

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4% of the County was mostly riparian forests along the rivers and creeks. Most of the Coastal Prairie has been converted to rice, small grains, cotton, and pasturage in the County. A few ranches of > 4 km^2 retained their historic grazing practices on native grasslands and still exist today. Most of the smaller ranches converted their grasslands to exotic grasses or did not stop the encroachment of brush. Over many decades of not burning the prairies and grasslands, woody vegetation like mesquite, huisache and running liveoak have successfully invaded them and have drastically changed the avian community.

The U.S.D.A. Natural Resource Conservation Service estimated in 1979 (Jurries 1979) that 23% of the County remained in prairie, 3% had been converted to rice, 19% to other crops, 4% to improved pasture, 47% shrub/woodland communities, and 4% riparian forests.

Today, there are even fewer acres of prairie and many more km^2 of residential development. The Coastal Prairie still dominates the eastern and southern portions of the County while the Post-Oak Savannah is prevalent to the north. Coastal Marshes and Bays touch the southeastern corner at the junction of Garcitas and Placedo Creeks. South Texas Plains start at the San Antonio River on the western boundary. Riparian forests consisting mainly of bottomland hardwoods historically dominated the Guadalupe and San Antonio Rivers floodplains which run through the heart of the County. While 10's of km^2 have been converted to crops and pasturage, significant patches remain today.

Linn Lake on private property in the Guadalupe River bottom in near the McFaddin area is the only natural lake within the County. Coleto Creek Reservoir was constructed as a cooling water reservoir for a power plant. The Guadalupe-Blanco River Authority has developed a park in conjunction with the reservoir for public recreation. A small portion of this park is in Victoria County with most of it being in Goliad County. Numerous gravel pits have been excavated in the Guadalupe River floodplain. The City of Victoria and the County each own several. The County's Saxet Lakes is the only one available for public recreation.

The city of Victoria and its 67,000+ residents dominate the center of the County and satellite communities of Bloomington, Coletoville, Inez,

Figure 2. Guadalupe River Bottom Overflow Basin near McFaddin is an Important Waterbird Site.

McFaddin, Mission Valley, Nursery, Placedo and Raisin (to name a few) support a widespread ranchette lifestyle. There were over 92,000 residents in Victoria County as of 2019. Major petrochemical industry occurs along the Victoria Barge Canal, that connects to the Intracoastal Waterway. Victoria's position between Houston, Corpus Christi and San Antonio serves as a hub supporting industry and commerce between these major Texas cities by barge, rail and truck.

Most birding opportunities are along public roads like Highways 59, 77, 87 and 185 where perched raptors are common. More rural roads like Boehm (turf farm), Coletoville, Fordtran, J-2 Ranch, River, Menke, Upper and Lower Mission Valley, Nursery, San Antonio River and Salem allow one to drive slower in search of birds. Victoria's Riverside Park which contains the Athey Nature Trail is the best-known public birding area. The Victoria County Saxet Lakes attracts birds and birders. The Guadalupe-Blanco River Authority Coleto Creek Park and Reservoir occurs in Victoria County on its western side, and the Texas Parks and Wildlife Department (TPWD) San Antonio River Unit of the Guadalupe Delta Wildlife Management Area occurs on the southern end and is generally only open to birding for Christmas Bird Counts and special tours.

The Invista chemical plant's educational wetland in association with the Victoria Independent School District is a great place to visit to observe waterbirds if permission can be obtained. The Victoria Landfill south of Victoria is dangerous to scope from the highway, but you can pay a fee to dump trash and drive close to the many gulls and scavengers on top of the landfill.

Creeks and rivers which provide high quality birding are underutilized by birders. If one has a boat, kayak or canoe, Garcitas and Placedo Creeks

Figure 3. Victoria County Vicinity Map

Figure 4. Rookery at Invista Wetlands—Victoria Independent School District.

Figure 5. Kayaking the Guadalupe River offers Quality Birding.

access tidal salt marshes and riparian woodlands with their associated species, while Guadalupe and San Antonio Rivers, and Coleto Creek and Reservoir access riparian bottomland and uplands.

The major birding events for Victoria County are the two Christmas Bird Counts (CBCs) held every December. The two counts compete at the National level for the highest tallies of species **(National Audubon Society 2020)**.

The Victoria Christmas Bird Count (TXVI) was established in 1977 by Bob Friedrichs. It has been conducted 43 times and has reported 260 species with a high of 158 in 1995. The city of Victoria occupies most of the southeastern portion of the Count Circle and contains the 2.7 km^2. **Riverside Park,** which is one of the best public birding areas in the County. The Count Circle contains remnant Coastal Prairie to the north as well as areas farmed for rice and managed for waterfowl hunting. Post Oak Savannah dominates the western portion. **Saxet Lakes** (gravel pits) are on the south side of the Circle. Eight km of Coleto Creek and 4.8 km of Coleto Creek Reservoir are included along the western boundary, and 32 km of the Guadalupe River runs North-South through the middle of the Circle. Waterways in this count are under-explored and volunteers are welcome. This CBC is annually held on the Saturday immediately preceding Christmas Eve.

The Guadalupe River Delta—McFaddin Family Ranches CBC (TXGF) was established in 2004 by Brent Ortego with collaboration with Mark Elwonger. It has reported 297 species during its 16 years, with a high of 225 species in 2007 and 2011. TXGF once placed 2nd in the Nation for Total Species. The CBC occurs in Victoria (21%), Calhoun and Refugio counties.

The Victoria County portion of TXGF occurs mostly in the McFaddin area and is managed by very conservation minded private landowners. A 2.4-km^2 unit of the Guadalupe Delta Wildlife Management Area also occurs in the count circle in Victoria County. The CBC contains 10.8 km of the Guadalupe River and 11.2 km of the San Antonio River along with associated man-made and natural wetlands. Bottomland hardwoods and upland liveoak woodlands form a pleasing mosaic with a variety of pasturage and native grasslands. The count is conducted on the first Thursday of the CBC season every year.

SPECIES ACCOUNT

Species accounts are developed from **banding data** from the **Ortego Home (private)** and **McFaddin Area**, **Breeding Bird Survey (BBS)**, **Christmas Bird Counts (CBCs)**, **eBird** (Sullivan et al. 2009), **eBird Hotspots**, Oberholser (1974) data, **Skimming the Sightings (SKIMMINGS)** data base from the Golden Crescent Nature Club (Elwonger 1994, 1995 and 2002), and a variety of references to describe the avian community.

Each species account is divided into 11 sections: Status, HotSpots, eBird, CBCs, BBS, Habitat, Seasonality, eBird Frequency, Banded, Recaptures/ Recoveries and References. When ***no information exists for a section, it is omitted from the species account***.

STATUS—describes the primary occupancy of the County, i.e., seasonal resident, migrant, vagrant, etc. Status does not normally reference abundance because the other sections provides numerical data which should be viewed for seasonal abundance.

Year-Round Resident (26% of species)—occurs year-round in the County each year, and a portion of the population might be migratory.

Summer Resident (6%)—occurs during the summer months each year and might also migrate during other seasons.

Winter Resident (28%)—occurs during the winter months each year and might also migrate during other seasons.

Migrant (23%)—migrates through County in spring and fall and is not a resident.

Visitor (2%)—occurs annually but not likely to stay for an entire season.

Irregular (9%)—does not occur every year.

Extralimital (1%)—appears to be potentially expanding its range.

Vagrant (5%)—is not expected, visits County for a brief period and is not expected to return.

EBIRD and HOTSPOTS—eBird HotSpots and eBird user checklist information are used to report highest tallies and provide a high-level view of temporal and spatial distribution. Of 21 eBird HotSpots in the County only the Top 10 (by species

count) are referenced. For ease of communications, the following **Hotspots Legend** is used in the species accounts below.

Hotspots Legend:

AN Athey **N**ature Area
DT Dacosta **T**urf Farm
IW Invista **W**etlands
MF McF**addin Area
OH Ortego **H**ome (private) at Raisin
RP Victoria **R**iverside **P**ark
SA San **A**ntonio River Road
SI Schroeder **I**sland Sanctuary
SL Saxet **L**akes
SR Salem **R**oad

Loop Highways 59, 77 and 463 which forms a highway loop around Victoria.

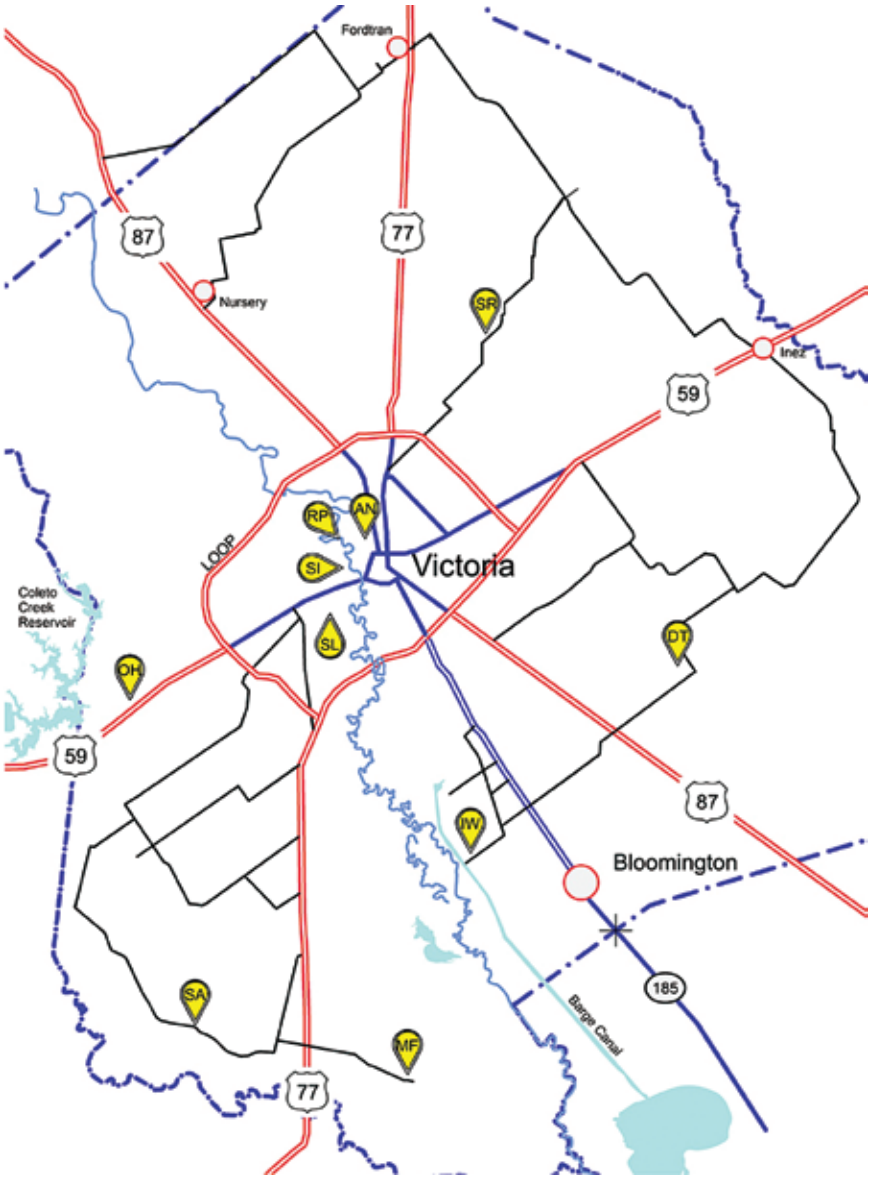


Figure 6. Victoria County eBird Hotspots Map

SKIMMINGS—avian database compiled from sighting by members of the Golden Crescent Nature Club before the advent of eBird. Bird sightings in this database will be used when they exceed counts or expands dates posted to eBird.

CBCs—average and highest tally will be reported for each species by CBC. (Data from TXGF will be restricted to the 21% of the count circle which occurs in Victoria County.) Frequency of occurrence of a species will be given if it occurs in <75% of the counts. If a species does not occur in a count, the CBCs section will be omitted**.**

BBS—average, highest count and number of years tallied on the 11 years of the McFaddin Breeding Bird Survey (U.S.G.S. Breeding Bird Survey 2020) will be reported for each species found on the route. The route starts in the McFaddin Community and mostly travels along the San Antonio River Road with 50-stops of 3-minutes spaced at 0.8-km intervals. The route was surveyed during one morning in May each year.

HABITAT—brief description of habitat used by species.

SEASONALITY—description of seasonal species occurrence and anecdotal accounts using all data. Not all species will include SEASONALITY notes.

EBIRD FREQUENCY—eBird frequency graphs for each species were copied from the eBird website (www.ebird.org) on 1 August 2020.

BANDED—birds were mist-netted or trapped and banded under the U.S.G.S. Bird Banding Lab permit issued to Ross Dawkins (U.S.G.S. Bird Banding Lab 2020). Mist-netting offered an opportunity to catch birds moving through the dense brush that would not have been observed by normal birding means. It also offered the opportunity to determine if the individual captured was the same one from previous years or a new bird. Banding data were summarized to provide information on seasonal occurrence, site fidelity and survivorship at **OH** and at **MF** where relevant.

Banding was conducted at the **Ortego Home** near Raisin from 1995 through 2010 where 44,000 individuals from 155 species were banded. Banding was conducted by attempting to consistently operate mist-nets to catch birds during 3-days per week periods from March—May, and August—October, and once every two-weeks during the remainder of the year. Mist-netting was periodically augmented with the use of funnel traps when large concentrations of seedeaters like blackbirds, goldfinches and Chipping Sparrows were present. We would like to thank **Shawn Ashbaugh, Maggie Baker, Susan Beree, Charlie and Olivia Brower, Brad Lirette, Robert and Kay Lookingbill, Sue Ortego, Sumita Prasad, Bron Rorex, Glenn Swartz and Craig Zalk** for helping with this banding project.

Mist-netting was also conducted 62 times in the **McFaddin** Area from 1996 through 2010 to band 4,000 individuals of 119 species during fall and spring (Ortego 2010). Focus was primarily on mist-netting shorebirds about 50% of the time for a research project, and passerines to monitor migration during the remainder.

A Life Table was created for species banded at **OH** with adequate sample size displaying: **TOTAL** (total individuals banded for a species), **# RECAP** (number of individuals of a species recaptured at least once), **% RECAP** (percent of individuals banded that were recaptured), **1 MON** (percent of individuals that were known to be alive one month after banding), **6 MON** (percent of individuals that were known to be alive 6 months after banding), **1 YEAR** (percent of individuals that were known to be alive one year after banding), etc. **LONGEVITY** (longest known life of an individual of a species during this study). Life Table data was also compiled for the more abundant birds banded at **MF**. The National Longevity Record of a banded bird by 1 August 2020 is given as a comparison for 46 species which we recaptured more than one year after banding.

Example:

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
1,579	937	59%	35%	31%	22%	11%	8%	5%	1 year 10 months

The Life Table is a useful display of the site fidelity and/or survivorship of species banded during this project. Since many individuals banded were just passing through the 2.4-ha banding station, not recapturing

them was very common and would not indicate they died. However, if the individual was recaptured at least one month later, then form of residency was assumed. Dividing the percent recaptured after one year by the percent recaptured after one month provided a gauge as to the level of **site fidelity.** The Percent at 1-Year will be referenced as a standard **survivorship** of a species. These percentages will be reported as rates of site fidelity and survivorship for a species throughout the report. The average site fidelity for a species in this project that lingered beyond one month at **OH** was 30%. The highest site fidelity of 63% was produced by the Buff-bellied Hummingbird. The Site Fidelity for Northern Cardinal which is a common year-round resident was 32% and the Site Fidelity for the Lincoln's Sparrow which is a common winter resident was 11%.

FOREIGN RECAPTURES AND/OR RECOVERIES—will be reported for 91 individuals of 18 species of banded birds. A foreign recapture is when a banded individual is reported as being caught and released alive at a site where it was not banded to the USGS Bird Banding Lab, and a foreign recovery is when a banded bird is reported as dead at a site where it was not banded..

References—will be inserted periodically as needed. The OH banding station and methods used to catch hummingbirds are described by papers referenced in the following citations: describe the **OH** banding station and the methods used to catch hummingbirds.

Ortego and Rorex (2016), and Ortego et al. (2018).

BLACK-BELLIED WHISTLING-DUCK

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 300 occurred at Coleto Creek Reservoir in November of 1994 and August of 2016 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported from 33 eBird locations with 14 locations occurring inside the **Loop.** It is generally associated with water, but not always, and some reports are flyovers. Most reports are of 20-30 birds.

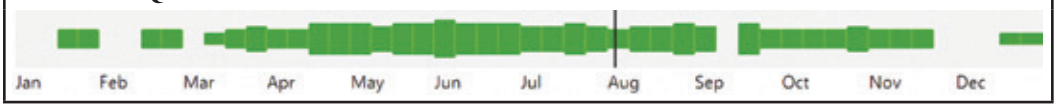
CBCs: TXGF reported 12 individuals during 3 of 16 seasons with a high of 9. TXVI average 14 birds per season with a high of 95. The species was first reported during 1997 and was found during 15 of the 23 remaining years.

BBS: Occurred 11 years with a high count of 29 and an average of 7.

HABITAT: Shallow freshwater wetlands.

SEASONALITY: Most abundant from spring through fall. Regularly forages at night and shifts to small wetlands/ponds for daytime roosts. Nests in tree cavities, nest boxes, and brush piles. Does respond to handouts and will raid feeders designed for other species. A large flock can be found most evenings at The Club at Colony Creek in Victoria.

EBIRD FREQUENCY:



FULVOUS WHISTLING-DUCK

STATUS: Summer Resident.

HOTSPOTS: Maximum of 45 occurred at **MF** in July of 1996 and has been reported from 3 eBird Hotspots with **IW** being the most reliable spot.

EBIRD: Reported from 5 eBird locations (11 checklists total) with 2 locations occurring inside the **Loop.** Most reports involve less than 10 birds.

CBCs: Not reported during either CBC within Victoria County. However, it has been found on the TXGF in Calhoun County.

HABITAT: Lakes, shallow freshwater wetlands, marshes, and rice fields.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 151) spring and summer.

SNOW GOOSE

STATUS: Winter Resident.

HOTSPOTS: Maximum of 32,500 occurred at **SR** in December of 1995 and has been reported from 9 of the top 10 eBird Hotspots.

EBIRD: Reported at over 40 eBird locations with 9 locations occurring inside the **Loop.** Sixty percent of eBird lists involve less than 100 birds and only 2 lists contain more than 1,000.

CBCs: TXGF reported an average of 2,492 with a high of 16,421. TXVI reported an average of 566 with a high of 5,282.

HABITAT: Forages mostly on roots in rice and ag fields, wet pastures/grasslands and shallow wetlands.

SEASONALITY: The calls of the Snow Goose used to be the main sound of nature we associated with the winter season. The species arrived with major cold fronts in October and their calls were heard daily until they departed with the strong southerly winds of March. Their calls are heard less frequently, due to declining populations in Texas. Rice fields in the eastern portion of the County periodically support large numbers of geese.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 144) winter.

ROSS'S GOOSE

STATUS: Winter Resident.

HOTSPOTS: Maximum of 45 flew over **OH** in November of 1996 and has been reported from **SR** and **RP** (flyover).

EBIRD: Reported from 11 eBird locations with 3 locations occurring inside the **Loop**. Most eBird lists contain less than 10 birds, and these were usually mingling with Snow Geese.

CBCs: Occurred on 31% of the TXGF counts and averaged 8 with a high of 75. Occurred on 47% of the TXVI counts and averaged 8 with a high of 98. They were first detected on the CBCs in 1987 and became a regular in occurrence in 1994.

HABITAT: Forages on fresh greens in rice and other ag fields, wet pastures/grasslands and shallow wetlands.

EBIRD FREQUENCY:

GREATER WHITE-FRONTED GOOSE

STATUS: Winter Resident.

HOTSPOTS: Maximum of 5,000 occurred at **MF** in November of 1996 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported from 30 eBird locations with 5 locations occurring inside the **Loop.** Most lists involve less than 100 birds while 5 lists contained more than 100.

CBCs: TXGF reported an average of 67 with a high of 256. TXVI reported an average of 463 with a high of 7,500.

HABITAT: Rice and ag fields, wet pastures/grasslands and shallow wetlands.

EBIRD FREQUENCY:

CACKLING GOOSE

STATUS: Winter Visitor.

HOTSPOTS: Maximum of 18 occurred at **SR** in December of 1997.

EBIRD: One other eBird record for this species, also at **SR**, in 1998.

CBCs: Each of the CBCs only reported this species once since it was split from the Canada Goose. TXGF had 27 and TXVI 16. Species has declined greatly in the County attributed mostly to changes in its migration pattern.

HABITAT: Rice and ag fields, wet pastures/grasslands and shallow wetlands.

EBIRD FREQUENCY:

CANADA GOOSE

STATUS: Winter Visitor.

HOTSPOTS: Maximum of 6 occurred at **SR** in December of 1996.

EBIRD: One other eBird record for this species from the Bloomington area in 1991.

CBCs: TXGF reported the species only 3 times and had a high of 58. TXVI reported the species on 54% of the counts and averaged 208 with a high of 8,200. The large high count was an anomaly. The 2nd highest tally was 153. This species has become rare in the County after 2002 which is believed to be due to changes in migration patterns.

HABITAT: Rice and ag fields, wet pastures/grasslands and shallow wetlands.

SEASONALITY: Victoria was mentioned in *The Sportsman's Guide to the Hunting and Shooting Grounds of the United States and Canada* in the late 1800's for its volume of Mallards, Wood Ducks, Canada Geese and cranes (Sawyer 2012; p. 346). Canada Goose was reported as common in the area as recent as 1993.

EBIRD FREQUENCY:

REFERENCES: Sawyer (2012).

WOOD DUCK

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 76 occurred at **MF** in December of 2018 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 27 eBird locations with 10 locations occurring inside the **Loop.** Most lists contain less than 10 birds though 8 lists do contain more than 10.

CBCs: TXGF reported an average of 29 with a high of 116. TXVI reported an average of 26 with a high of 82.

HABITAT: Swamps, flooded river bottoms, rivers and creeks. The forested river bottoms of this County are well suited for wintering of this species. Will use freshwater wetlands with tall emergent vegetation. Nest in tree cavities or nest boxes.

SEASONALITY: Breeds in low density. Numbers increase along with other ducks in the fall.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 173) nesting.

BLUE-WINGED TEAL

STATUS: Migrant.

HOTSPOTS: Maximum of 560 occurred at **SA** in August of 2017 following heavy rains from Hurricane Harvey. Storm flooded pastures attracted many individuals for a few days. Species has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 55 eBird locations with 15 locations occurring inside the **Loop**. Numbers of birds per list is highly variable though 8 lists contain more than 100.

CBCs: TXGF reported an average of 39 with a high of 244. Species occurred on 72% of the TXVI counts and had an average of 26 with a high of 82.

HABITAT: Shallow freshwater wetlands.

SEASONALITY: Species primarily migrates through County with high numbers during spring and fall. Small numbers over-winter.

EBIRD FREQUENCY:

BANDED: 4 at **MF** while attempting to catch shorebirds. No recaptures or recoveries.

REFERENCES: Oberholser (1974; p. 167) winter.

CINNAMON TEAL

STATUS: Migrant.

HOTSPOTS: Maximum of 7 occurred at a private residence in the southern part of the County in 1972, though 6 were reported at **MF** in March of 2020. Species has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 9 eBird locations with one location occurring inside the **Loop**. Most lists contain 1 or 2 birds, with **IW** having been the most reliable location.

CBCs: Occurred on 25% of the TXGF counts and averaged one with a high of 4. Occurred on 14% of the TXVI counts and averaged <1 with a high of 4.

HABITAT: Shallow freshwater wetlands.

EBIRD FREQUENCY:

NORTHERN SHOVELER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 360 occurred at **SR** in 1997 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 34 eBird locations with 7 locations occurring inside the **Loop**. Many lists contain less than 10 birds though 4 lists contain more than 100, with **IW** having been the most reliable location.

CBCs: TXGF reported an average of 34 with a high of 105. Occurred on 63% of the TXVI counts and averaged 47 with a high of 372.

HABITAT: Shallow freshwater wetlands. Skims surface for plankton, algae and other foods.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 170) spring.

GADWALL

STATUS: Winter Resident.

HOTSPOTS: Maximum of 290 occurred at **IW** in March of 1998 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 37 eBird locations with 11 locations occurring inside the **Loop.** Many lists contain less than 10 birds though 2 lists contain more than 100 with **IW** having been the most reliable location.

CBCs: TXGF reported an average of 152 with a high of 1,200. TXVI reported an average of 33 with a high of 124.

HABITAT: Primarily forages on submerged aquatics and will also frequent flooded river bottoms.

EBIRD FREQUENCY:

AMERICAN WIGEON

STATUS: Winter Resident.

HOTSPOTS: Maximum of 96 occurred at Guadalupe Delta WMA in November 2016 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 21 eBird locations with 4 locations inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred on 63% of the TXGF counts and averaged 10 with a high of 34. Occurred on 70% of the TXVI counts and averaged 74 with a high of 615.

HABITAT: Primarily forages on submerged aquatics and accesses food in deep water by stealing from diving ducks.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 162) winter.

MALLARD

STATUS: Winter Resident.

HOTSPOTS: Maximum of 30 occurred at **MF** in December of 2014 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 30 eBird locations with 14 locations occurring inside the **Loop** with many of these at 'duck ponds' in **RP**. Most lists contain less than 10 birds.

CBCs: Occurred on 56% of the TXGF counts and averaged 37 with a high of 430. TXVI reported an average of 20 with a high of 116.

HABITAT: Rice fields, shallow wetlands, and flooded timber.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 152) winter.

MOTTLED DUCK

STATUS: Year-round Resident.

HOTSPOTS: Maximum of 350 occurred at **MF** in 1996 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 26 eBird locations with 4 locations occurring inside the **Loop**. All but 2 lists contain less than 10 birds.

CBCs: Occurred on 69% of the TXGF counts and averaged 7 with a high of 41. Occurred on 72% of the TXVI counts and averaged 12 with a high of 82.

HABITAT: Vegetated shallow wetlands. Nest in tall grasslands in the vicinity of wetlands.

SEASONALITY: Species forms pair bonds in fall and nests in early spring. Molting of flight feathers occurs during summer. The 350 at **MF** were observed undergoing wing molt on 8/17/96 and were flightless. Concentrations of this size during molting are rare.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 158) spring.

NORTHERN PINTAIL

STATUS: Winter Resident.

HOTSPOTS: Maximum of 7,106 occurred at **SR** in 1998 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 20 eBird locations with only one location occurring inside the **Loop**. Many lists contain more than 10 birds and one list from **MF** contains 3,000 birds.

CBCs: TXGF reported an average of 44 with a high of 200. TXVI reported an average of 328 with a high of 7,110.

HABITAT: Rice fields and large shallow wetlands.

SEASONALITY: The 3,000 reported in **MF** feeding on millet in the river bottom demonstrates the species' ability to concentrate in large numbers when adequate food is available.

EBIRD FREQUENCY:

GREEN-WINGED TEAL

STATUS: Winter Resident.

HOTSPOTS: Maximum of 405 occurred at **MF** in December of 2017 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 30 eBird locations with 5 locations occurring inside the **Loop**. Many lists contain less than 10 birds though 3 lists contain more than 100.

CBCs: TXGF reported an average of 61 with a high of 430. Occurred on 70% of the TXVI counts and averaged 79 with a high of 1,830.

HABITAT: Shallow vegetated wetlands.

EBIRD FREQUENCY:

CANVASBACK

STATUS: Winter Resident.

HOTSPOTS: Maximum of 5 occurred at **IW** in January of 1998 and has been reported from **MF, SA** and **IW** eBird Hotspots.

EBIRD: The species has been reported at 3 eBird locations with none occurring inside the **Loop.** These 3 eBird lists contain only 1 or 2 birds each.

CBCs: Occurred on 13% of the TXGF counts and averaged <1 with a high of 4. Occurred on 37% of the TXVI counts and averaged 17 with a high of 200.

HABITAT: Lakes, ponds, and large freshwater wetlands with submergent plant communities.

SEASONALITY: If there were 2 waterfowl species that once defined the Hynes Bay shoreline next to the Guadalupe Delta, it would be Canvasbacks and Greater Canada Goose (Sawyer 2012; p. 218). Victoria County is on the north end of the Guadalupe Delta and this reference describes how some bird communities were much more abundant in the early 1900's. Both Canada Goose and Canvasback are rare in the County today.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 178) spring.

REDHEAD

STATUS: Winter Resident.

HOTSPOTS: Maximum of 100 occurred along Hwy 77 SW of Victoria in January of 2016 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 22 eBird locations with 6 locations occurring inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred on 25% of the TXGF counts and averaged 4 with a high of 37. Occurred on 26% of the TXVI counts and averaged 4 with a high of 65.

HABITAT: Lakes, ponds, and large freshwater wetlands with submergent plant communities.

SEASONALITY: Scarcity of diving ducks is mostly related to few Lakes in Victoria County.

EBIRD FREQUENCY:

RING-NECKED DUCK

STATUS: Winter Resident.

HOTSPOTS: Maximum of 45 occurred at **IW** in November of 1997 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 18 eBird locations with 10 locations occurring inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred on 19% of the TXGF counts and averaged one with a high of 20. TXVI averaged 8 with a high of 66.

HABITAT: Large freshwater wetlands, swamps, and flooded timber.

SEASONALITY: Favors lakes with large beds of lily pads.

EBIRD FREQUENCY:

GREATER SCAUP

STATUS: Irregular.

HOTSPOTS: Maximum of 2 occurred at **IW** in March of 2019.

EBIRD: Only one Victoria County record in eBird. See **HOTSPOTS**.

CBCs: Occurred twice on the TXVI count and had a high of 3.

HABITAT: Large wetlands and lakes.

EBIRD FREQUENCY:

LESSER SCAUP

STATUS: Winter Resident.

HOTSPOTS: Maximum of 50 occurred at **MF** in December of 2018 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 18 eBird locations with 5 locations occurring inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred on 50% of the TXGF counts and averaged 8 with a high of 104. TXVI reported an average of 28 with a high of 125.

HABITAT: Large wetlands with submerged vegetation and/or clam communities, lakes and ponds.

SEASONALITY: Abundant in nearby Hynes Bay where rafts of 10,000+ are expected annually.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 181) winter.

BUFFLEHEAD

STATUS: Winter Resident.

HOTSPOTS: Maximum of 6 occurred along Hwy 77 north of Victoria in November of 2011 and has been reported at **SR** and **IW.**

EBIRD: Reported at 6 eBird locations with one location occurring inside the Loop. All records contain less than 10 birds.

CBCs: Occurred on 19% of the TXGF counts and averaged <1 with a high of 2. Occurred on 16% of the TXVI counts and averaged <1 with a high of 7.

HABITAT: Large wetlands, lakes, and ponds.

EBIRD FREQUENCY:

COMMON GOLDENEYE

STATUS: Winter Resident.

HOTSPOTS: Maximum of 2 occurred at **IW** in February of 1998 and 1999.

EBIRD: Only 2 Victoria County records in eBird.

CBCs: Occurred on 13% of the TXGF counts and averaged <1 with a high of 1. Occurred on 9% of the TXVI counts and averaged <1 with a high of 2.

HABITAT: Large wetlands associated with clams, lakes, and ponds.

EBIRD FREQUENCY:

HOODED MERGANSER

STATUS: Winter Resident. One breeding record.

HOTSPOTS: Maximum of 7 occurred at **OH** in April of 2001 and has been reported from **MF** and **SR**.

EBIRD: Reported at 5 eBird locations with none occurring inside the **Loop**. All records contain less than 10 birds.

CBCs: Occurred on 44% of the TXGF counts and averaged one with a high of 3. Occurred on 12% of the TXVI counts and averaged <1 with a high of 3.

HABITAT: Wetland communities.

SEASONALITY: Typically, a wintering species that occurs on the same dates as other wintering species. One brood of species flushed in an oxbow bordering Coleto Creek was a big surprise.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 196) winter.

RED-BREASTED MERGANSER

STATUS: Winter Visitor.

HOTSPOTS: Maximum of 11 occurred at Garcitas Cove in December of 2014.

EBIRD: Only one Victoria County record in eBird. See **HOTSPOTS**.

CBCs: Occurred on 13% of the TXGF counts and averaged <1 with a high of 2. Occurred on 12% of the TXVI counts and averaged <1 with a high of one.

HABITAT: Large wetlands, lakes and ponds.

SEASONALITY: Feeds on fish on large bodies of water which occurs mostly in the bays. Suspected to be in the County throughout the winter season in Lavaca Bay, but the site is seldom birded.

EBIRD FREQUENCY:

RUDDY DUCK

STATUS: Winter Resident.

HOTSPOTS: Maximum of 43 occurred at **IW** in 2000 and has been reported from **RP** and **SR.**

EBIRD: Reported at 12 eBird locations with 4 occurring inside the **Loop**. Most lists contain less than 10 birds, with **IW** having been the most reliable location.

CBCs: Occurred on 31% of the TXGF counts and averaged 4 with a high of 51. Occurred on 35% of the TXVI counts and averaged 2 with a high of 21.

HABITAT: Wetlands, lakes, and ponds.

SEASONALITY: Prefers larger wetlands and will form rafts of single species.

EBIRD FREQUENCY:

NORTHERN BOBWHITE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 43 occurred at **MF** in May of 2015 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 43 eBird locations with 8 occurring inside the Loop. Most lists, except for those in **SA** and **MF** areas, contain less than 10 birds. **MF** and **SA** have been the most reliable locations.

CBCs: Occurred on 44% of the TXGF counts and average 4 with a high of 22. Occurred on 42% of the TXVI counts and averaged 18 with a high of 67.

BBS: Occurred 11 years with a high count of 41 and an average of 31.

HABITAT: Native grasslands and savannahs.

SEASONALITY: Sadly, the call of this species is becoming a rare sound that is mostly restricted to the larger ranches which are managed for the species. There are still reports of hunters flushing 20 coveys in a day in most years, but those days are special. We grew up regularly hearing the call of this species and taking it for granted. We now need to make special efforts to locate species during CBCs. The easiest way to locate the bobwhite is to listen for the "covey call" which is made 45 minutes before sunrise and after sunset.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 270) resident.

GREATER (ATTWATER'S) PRAIRIE-CHICKEN

STATUS: Extirpated Year-Round Resident.

HOTSPOTS: Maximum of 3 occurred at the historical lek at Aloe Field in February of 1975.

EBIRD: The species has been extirpated from Victoria County and there is only the 1975 historical record in eBird

CBCs: Five were reported during the 1987 TXVI CBC.

HABITAT: Dense and tall native Coastal Prairie.

SEASONALITY: When the species occurred within the County, breeding activity occurred on or near booming grounds in the vicinity of dense native grasslands. Natural booming sites were hard clay pan flats which supported little vegetation. Chickens also took advantage of man-made openings in the prairie, for example, pipe-line rights-of-way, windmills, parking lots, plowed fields, etc. Roosters started to gather near these booming sites in January. Booming commenced in February. Hens showed up from late February with most mating in early March. Another peak of breeding might have occurred in April if there was a need to re-nest. Males started leaving the booming grounds in May because of lack of hens and concentrated on foraging for the remainder of the year. Females dispersed to nest and raise young. Most daily movements were <0.8 km. During fall/winter chickens sometimes would gather at grain fields for feeding. TPWD estimated the 1977 population in Victoria County was 2080.

EBIRD FREQUENCY:

REFERENCES: Jurries (1979).

WILD TURKEY

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 23 occurred at **OH** in November of 2018 and has been reported at 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 37 eBird locations with 4 occurring inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 11 with a high of 36. Occurred on 43% of the TXVI counts and averaged 9 with a high of 59.

HABITAT: Oak woodlands and grassland savannahs. Readily forages at game feeders.

SEASONALITY: Species becoming very acclimated to ranchettes in the County and commonly visit game feeders. It is not unusual to see species in pastures or yards in rural areas.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 265) resident.

LEAST GREBE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 19 occurred at **IW** in March of 2000 and has been reported from **SL**, **MF** and **SR**.

EBIRD: Reported at 15 eBird locations with 4 locations occurring inside the Loop. All records except **IW**, contain 1 or 2 birds, with **IW** having been the most reliable location.

CBCs: Occurred on 44% of the TXGF counts and averaged one with a high of 7. Occurred on 21% of the TXVI counts and averaged one with a high of 9.

HABITAT: Densely vegetated freshwater wetlands. Feeds mostly on insects.

EBIRD FREQUENCY:

PIED-BILLED GREBE

STATUS: Year-Round Resident.

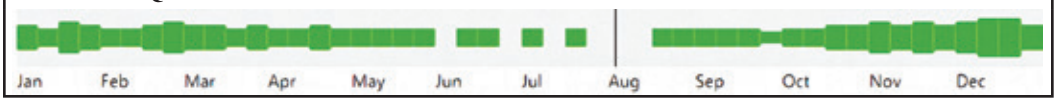
HOTSPOTS: Maximum of 24 occurred at **IW** in September of 1997 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 47 eBird locations with 16 locations occurring inside the **Loop**. All records except the **IW** high count, contain less than 10 birds.

CBCs: TXGF reported an average of 12 with a high of 23. TXVI reported an average of 17 with a high of 160.

HABITAT: Wetlands.

EBIRD FREQUENCY:



EARED GREBE

STATUS: Winter Resident.

HOTSPOTS: Maximum of 9 occurred at **IW** in March of 1999 and has been reported from **SR**.

EBIRD: Reported at 4 eBird locations with 2 being inside the Loop. All records contain 1 or 2 birds.

CBCs: Occurred on 14% of the TXVI counts and average <1 with a high of 2.

HABITAT: Large wetlands, lakes, and ponds.

EBIRD FREQUENCY:

ROCK PIGEON

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 119 occurred at **MF** in August of 2016 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 118 eBird locations with 57 occurring inside the **Loop**. Many of the lists contain more than 10.

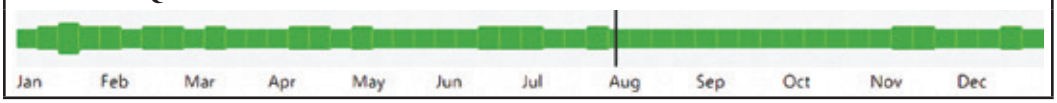
CBCs: TXGF reported 1 once. TXVI reported an average of 66 with a high of 194.

BBS: Occurred one year with a high count of one and an average of 0.

HABITAT: Urban and agricultural facilities.

SEASONALITY: Convenient roost for day-listers is at Hwy 77 intersection with the SW corner of the **Loop**.

EBIRD FREQUENCY:



EURASIAN COLLARED-DOVE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 21 occurred at **SA** in May of 2013 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 100 eBird locations with 43 locations occurring inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred on 44% of the TXGF counts and averaged 3 with a high of 7. TXVI first reported this species in 2004 and averaged 7 with a high of 27 afterwards.

BBS: Occurred 10 years with a high count of 21 and an average of 7.

HABITAT: Residential, commercial, industrial sites, and agriculture facilities.

SEASONALITY: First reported in Victoria County at **RP** in March 1996 and population has expanded greatly since then.

EBIRD FREQUENCY:

INCA DOVE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 29 occurred at **OH** in November of 2018 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 72 eBird locations with 26 occurring inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred in 50% of the TXGF counts and averaged 2 with a high of 5. TXVI reported an average of 56 with a high of 182.

BBS: Occurred 11 years with a high count of 17 and an average of 9.

HABITAT: Residential woodlands and shrub savannah. Uses bird/game feeders and baths.

SEASONALITY: Common bird in residential areas. Flocks of up to 20 birds form from November through March which are made up mostly by birds from off-site. Groups split up into pairs and small family assemblages for nesting during remainder of year. Species has average site fidelity of 30% and a low survivorship of 11% for 1-Year. Attracted to bird feeders and bird baths.

EBIRD FREQUENCY:

BANDED: Site Fidelity 30% at **OH**. 1-Year Survivorship 11%. Capture of 9% or more per month occurred from November through March. National Longevity Record is 10 years and 10 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
369	181	49%	37%	17%	11%	8%	6%	5%	5 years 4 months

COMMON GROUND-DOVE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 97 occurred at **MF** in July of 2014 flying into watering sites in the heat of the summer and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 38 eBird locations with 8 occurring inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 7 with a high of 40. TXVI reported an average of 12 with a high of 96.

BBS: Occurred 11 years with a high count of 26 and an average of 13.

HABITAT: Grassland savannahs.

SEASONALITY: Nests were found multiple times at the **OH** banding station in February which is an early nesting date for species. Species is heavily dependent on open water in range land during hot days. Species was found infrequently at bird feeders and baths in residential areas.

EBIRD FREQUENCY:

BANDED: Site Fidelity 31% at **OH**. 1-Year Survivorship 4%. Seventy-five percent of captures at **OH** occurred from January through March. National Longevity Record is 7 years and 2 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
24	4	17%	13%	8%	4%	0%	0%	0%	1 year 4 months

REFERENCES: Oberholser (1974; p.424) winter—spring.

WHITE-TIPPED DOVE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 5 occurred at **MF** in April of 2013.

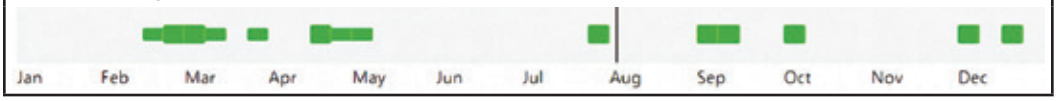
EBIRD: Reported at 5 eBird locations with 2 occurring inside the **Loop.** All records except **MF** contain 1 or 2 birds.

CBCs: Occurred in 56% of the TXGF counts and averaged 2 with a high of 6. One individual was reported on the TXVI in 2007.

HABITAT: Riparian forests.

SEASONALITY: We first started noticing species in the late 1990's in **MF**. Birds were singing along bluffs of the floodplain during the breeding season and would join White-winged Doves feeding on Chinese tallow during winter along the river.

EBIRD FREQUENCY:



WHITE-WINGED DOVE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 350 occurred in the **FM 2615** area in August of 2015 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 100 eBird locations with at least that many occurring inside the **Loop**. Number of birds per list ranges from one to many dozens.

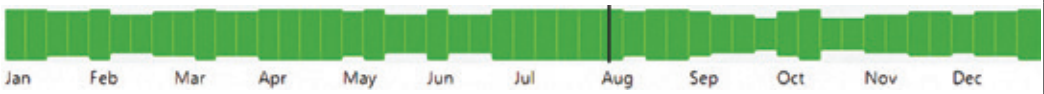
CBCs: TXGF reported an average of 102 with a high of 445. TXVI reported an average of 212 with a high of 1,302.

BBS: Occurred 3 years with a high count of 5 and an average of one.

HABITAT: Prefers to nest in trees in urban and residential areas. Disperses widely to agricultural areas for grain/weed seeds and woodlands with tree seeds.

SEASONALITY: Species expanded its nesting range to Victoria after 1970 (Small et al. 2006). Nesting is mostly associated with trees in residential areas. White-wings are common visitors to bird feeders and will dominate most species present. They access water in bird baths and irrigation run-off. Large feeding flocks are formed in late summer to forage in ag fields and natural crops of fruit/seeds. They are social and will likely follow other doves in search for food resulting in long distance travels from breeding areas. (See banding results below). Large foraging flocks also gather in winter in river bottoms to feed on Chinese tallow fruit.

EBIRD FREQUENCY:



BANDED: A banding project was conducted within Victoria from 1995-2015 by Lyndon Schatz (pers. commun.) in assistance to the TPWD to meet their annual banding quota in which to set hunting regulations. Data below represents age of birds that were either recaptured or recovered. Site Fidelity 43%. 1-Year Survivorship 7%. National Longevity Record is 21 years and 9 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
2,769	199	7%	7%	4%	3%	2%	2%	1%	7 years 5 months

FOREIGN RECOVERIES: White-winged Doves from Victoria regularly forage outside the city limits in ag fields and are subject to hunter harvest. Distribution of 44 harvested from 1976 birds banded within the city limits from 1995-2005 were examined. Fifty-seven percent of the harvest occurred within 80 km of Victoria. The remaining 43% were widely dispersed. Fourteen percent flew >80 km SW, 11% NW, 7% W, 4% E and 7% out-of-state with one each recovered in Florida, Mexico, and Guatemala.

REFERENCES: Small et al. (2006).

MOURNING DOVE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 485 occurred at **MF** in November of 2015 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 100 eBird locations with at least that many occurring inside the **Loop**. Number of birds per list ranges from one to many dozens.

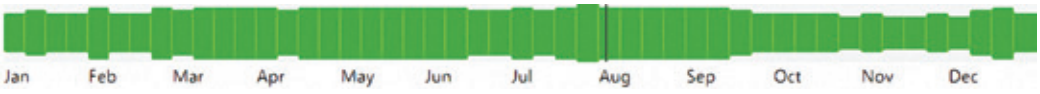
CBCs: TXGF reported an average of 173 with a high of 535. TXVI reported an average of 529 with a high of 1,561.

BBS: Occurred 11 years with a high count of 131 and an average of 74.

HABITAT: Species uses a variety of habitats including residential, ag fields, grasslands, and brushlands. Needs water in the form of bare ground bordering ponds, creeks, etc. Will use bird baths and feeders.

SEASONALITY: Species establishes territories for nesting in earnest in spring and continues nesting through August. Small numbers nest in every month of the year. Species forms large foraging flocks when harvest of grain begins in July. Most local birds migrate out of County in fall and are replaced by more northern doves.

EBIRD FREQUENCY:



BANDED: Basket et al. (1993; p. 68) reported that half of the doves harvested in Texas were produced in states from the north based on National banding results. We banded 10 at **OH** with no recoveries/recaptures. National Longevity Record is 30 years and 4 months.

REFERENCES: Oberholser (1974; p. 414) resident; Baskett et al. (1993).

GROOVE-BILLED ANI

STATUS: Irregular.

HOTSPOTS: Maximum of 8 occurred in **MF** in August of 1996.

EBIRD: Reported in eBird from **MF** twice in 1996, from Victoria in 1993 and 1999, and from **RP** in 1992.

CBCs: Three were reported on the TXVI in 1981.

HABITAT: Hedge rows and woodland edges in uplands. Cane thickets and tall marsh at the edge of wetlands in the riverbottom.

SEASONALITY: Anis show up in late summer and linger into the fall. Some years they will stay into winter. They are sometimes over looked when birders presume they are the more abundant grackle.

EBIRD FREQUENCY:

GREATER ROADRUNNER

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 2 each occurred at **SR** in May of 2006 and at **SA** in April of 2015. Single birds have been also reported from **MF** and **OH**.

EBIRD: Reported at 12 eBird locations with 3 occurring inside the **Loop.** All records are of 1 or 2 birds.

CBCs: Occurred on 30% of the TXVI counts and averaged <1 with a high of 3.

BBS: Occurred 10 years with a high count of 29 and an average of 7.

HABITAT: Brushlands, and shrub savannah.

SEASONALITY: Widespread in small numbers throughout County. Species is generally found in upland range habitat of grasslands mixed with brush. Roadrunners seem to be easier to observe in summer because of the density of the grass forcing birds to roadways. They move off roads during winter because of more open space. Species readily found vocalizing during spring and summer.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 437) resident.

YELLOW-BILLED CUCKOO

STATUS: Summer Resident.

HOTSPOTS: Maximum of 28 occurred at **MF** in May of 2015 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 49 eBird locations with 21 occurring inside the **Loop**. Most lists, except for **SA** and **MF**, contain less than 10 birds.

BBS: Occurred 11 years with a high count of 28 and an average of 18.

HABITAT: Forest canopy.

SEASONALITY: Arrives on the breeding ground in April and lingers into late October. Birds are more conspicuous during spring when they sing on territory.

EBIRD FREQUENCY:

BANDED: Challenging species to catch because of its large size and occupancy of the canopy above mist-net height. Seventeen were caught between April and October at **OH** with 60% being in July and August. Six were banded at **MF**. No recaptures at either site.

REFERENCES: Oberholser (1974; p. 434) summer.

Figure 7. Black-billed Cuckoo at Riverside Park on 5/10/2016.

BLACK-BILLED CUCKOO

STATUS: Migrant.

HOTSPOTS: Maximum of one occurred at **RP** on 10 separate occasions between 1993 and 2020 and once at **SL** in May of 2020.

EBIRD: The species has been reported at 3 eBird locations which were all inside the **Loop**. All records are of single birds and most are from late April or early May with one occurring in September.

HABITAT: Woodlands.

SEASONALITY: Migrates through County from mid-April through mid-May.

EBIRD FREQUENCY:

LESSER NIGHT-HAWK

STATUS: Vagrant.

HOTSPOTS: Maximum of one occurred at **SA** in May of 2011 and a private location inside the **Loop** in September of 2000.

EBIRD: Both eBird reports of this species are of single birds.

HABITAT: Dry Savannahs.

SEASONALITY: Little known about species in area. Species likely passes through County more frequently by blending with the more abundant Common Nighthawk.

EBIRD FREQUENCY:

COMMON NIGHTHAWK

STATUS: Summer Resident.

HOTSPOTS: Maximum of 27 occurred at **RP** in September of 2010 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 67 eBird locations with 33 being inside the **Loop**. Most lists contain less than 10 birds.

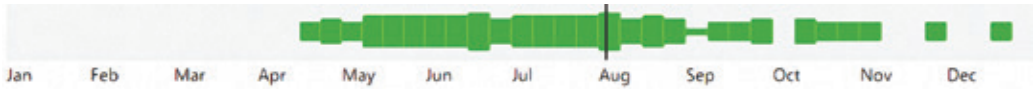
CBCs: Occurred on 16% of the TXVI counts and averaged <1 with a high of 2.

BBS: Occurred 10 years with a high count of 4 and an average of 2.

HABITAT: Natural habitat is Coastal Prairie with some areas of bare ground for nesting. Nests on roadways, ag fields and other bare ground settings. Nests on flat gravel roof tops and bare ground sites in cities. Forages over native prairie and ag fields. Also forages in towns in the vicinity of lighted areas at night, i.e., ball parks, shopping centers and residential areas.

SEASONALITY: Migrates in flocks. Arrives in April and typically leaves by November. Some birds linger in winter. Search for winter birds in the vicinity of gravel roofed buildings with well-lighted parking lots.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 470) nester.

COMMON PAURAQUE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 6 occurred at **MF** in May of 2017 and has been reported from **SA**.

EBIRD: Reported at 12 eBird locations with 3 inside the **Loop.** Most lists, except for **MF**, contain 1 or 2 birds.

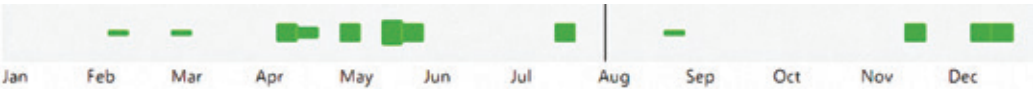
CBCs: Occurred on 25% of the TXGF counts and averaged <1 with a high of one. One was reported from TXVI in 1988.

BBS: Occurred 5 years with a high count of 3 and an average of one.

HABITAT: Riparian bluff forest, live oak mottes, oak savannah, and mesquite savannah.

SEASONALITY: Resident, but some might migrate. Nocturnal forager. Not as active during cold temperatures. Species frequents roads just before dawn and their red reflective eyes make them conspicuous.

EBIRD FREQUENCY:



CHUCK-WILL'S-WIDOW

STATUS: Migrant.

HOTSPOTS: Maximum of 9 occurred at **MF** in August of 2015 and has been reported from **RP, SI, OH** and **SL**.

EBIRD: Reported at 7 eBird locations with 3 inside the **Loop.** All records, except for **MF**, are of single birds.

HABITAT: Woodlands.

SEASONALITY: Calls infrequently at night when it migrates through County. Large, red, reflective eyes assist in locating species.

EBIRD FREQUENCY:

BANDED: 2 at **MF** and one at **OH**. No recaptures.

REFERENCES: Oberholser (1974; p. 462) spring.

WHIP-POOR-WILL

STATUS: Migrant.

HOTSPOTS: Maximum of 2 occurred at **SI** in October of 2015 and has been reported from **OH** and **MF**.

EBIRD: The species has been reported at 4 eBird locations with one being inside the **Loop.** Most lists are of single birds.

HABITAT: Woodlands.

SEASONALITY: Reports are mostly single birds calling at night.

EBIRD FREQUENCY:

BANDED: One in March with no recaptures.

CHIMNEY SWIFT

STATUS: Summer Resident.

HOTSPOTS: Maximum of 100 occurred at Colony Creek area inside the **Loop** in July of 2018 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 54 eBird locations with 33 being inside the **Loop.** Most lists, except for the Colony Creek area, contain less than 10 birds.

CBCs: TXGF reported 2 *Chaetura* type swifts in 2005 and 3 in 2010 but species was not identified.

BBS: Occurred 2 years with a high count of 2 and an average of 0.

HABITAT: Aerial forager. Nest and roost in chimneys.

SEASONALITY: Arrives in March and typically migrates south in October. Single birds have been reported in December during 1993 and 1995. Unknown swifts have also been reported in 2005 and 2010.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 475) summer.

RUBY-THROATED HUMMINGBIRD

STATUS: Migrant.

HOTSPOTS: Maximum of 106 occurred at **OH** in September of 2009 and the species has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 56 eBird locations with 25 being inside the Loop. Most lists except for **OH** contain less than 10 birds.

CBCs: Occurred on 25% of the TXGF counts and averaged <1 with a high of 1. Occurred on 47% of the TXVI counts and averaged <1 with a high of 5.

BBS: Occurred one year with a high count of 4 and an average of 0.

HABITAT: Woodland edges and shrub habitat with residential flower beds and feeders. Migrates across all habitats and will use rivers, creeks, bay shores and beaches as migration corridors during daylight.

SEASONALITY: Starts arriving in late July. Numbers build to a peak in mid-September and most birds depart by late October. Some might linger to winter, but there is little evidence that individuals survive. Spring migrants arrive in March, peak in abundance in late April and most will depart by June. Some individuals stay for summer, but there is no evidence of successful nesting.

EBIRD FREQUENCY:

BANDED: Data indicates most individuals banded at **OH** do not linger. A small % will stay a few days with males more frequent than females (Ortego et al. 2018). Twenty-three (0.1%) of 16,000 banded Ruby-throats were recaptured after one migration cycle. One individual was recaptured 7 years after banding which is very impressive. The National Longevity Record is 9 years and 2 months. Recoveries of banded Ruby-throats indicated that the hummingbirds migrating through Victoria came from most regions of the eastern United States.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
16,084	2,449	16%	0%	0%	0%	0%	0%	0%	7 years 2 months

FOREIGN RECAPTURES AND RECOVERIES:

Banded 8-26-2001 in Rockport, TX	Recaptured 8-29-2010 at Raisin, TX
Banded 4-8-2002 at Raisin, TX	Recaptured on 6-3-2002 in Rutledge, GA
Banded 8-23-02 at Raisin, TX	Recaptured on 6-4-2002 at Tomcat Hill, IL
Banded 10-8-2002 in Angleton, TX	Recaptured on 10-13-2002 at Raisin, TX
Banded 5-26-2005 in Tunica, LA	Recaptured on 3-30-2006 at Raisin, TX
Banded 9-6-2005 in Illinois	Recaptured on 5-8-2006 in Raisin, TX
Banded 9-11-2005 in Raisin, TX	Recaptured on 9.28.2010 Wabash, IN
Banded 10-6-2005 in Raisin, TX	Found dead during 2006 in Sherman, CT
Banded 5-3-2006 in Raisin, TX	Recaptured on 4-29-2007 in Comfort, TX
Banded 9-18-2006 in Sweeny, TX	Recaptured on 9-3-2007 in Raisin, TX
Banded 9-21-2006 in Raisin, TX	Recovered on 8-19-2007 in Clarkridge, AR
Banded 10-5-2006 in Raisin, TX	Recovered in May 2007 in Wither, WI
Banded 8-31-2008 in Coburn, PA	Recovered on 10-6-2009 in Raisin, TX

REFERENCES: Oberholser (1974; p. 482) summer.

BLACK-CHINNED HUMMINGBIRD

STATUS: Winter Resident.

HOTSPOTS: Maximum of 9 occurred at **OH** in January of 2005 and has been reported from **AN, RP** and **SL**.

EBIRD: Reported at 22 eBird locations with 13 being inside the **Loop**. All records contain less than 10 birds.

CBCs: Occurred on 13% of the TXGF counts and averaged <1 with a high of one. Occurred on 42% of the TXVI counts and averaged one with a high of 9.

HABITAT: Shrub habitat with residential flower beds and feeders. Migrates across all habitats.

SEASONALITY: Black-chins arrive in small numbers in July, and peak in August and September during fall migration. Birds will keep arriving in small numbers through January. Spring arrivals will start in March with a peak in April. Numbers will decline in May and an occasional individual might linger in June. Most June birds are males.

EBIRD FREQUENCY:

BANDED: Above average Site Fidelity at 44% and 1-Year Survivorship of 8%. Forty-one percent of this species were caught in August and September. The strongest survivorship/Site Fidelity occurred for those Black-chins that were first banded in December. Twenty-eight percent of the 35 December birds made it to 1-year-old.

All 3 foreign band returns came from other banding stations with 2 from the Texas Hill Country. The National Longevity Record for species is 11 years and 2 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
393	114	29%	18%	13%	8%	7%	5%	3%	9 years 6 months

FOREIGN RECAPTURES:

Banded 7-11-2004 on the Burditt Ranch near Leakey, TX	Recaptured 8-27- 2004 in Raisin, TX
Banded 10-9-2005 in Raisin, TX	Recaptured 1-4-2006 in Grand Point, LA
Banded 10-5-2006 in Raisin, TX	Recaptured 6-28-2008 in Comfort, TX

REFERENCES: Oberholser (1974; p. 484) spring; Ortego et al. 2018.

ANNA'S HUMMINGBIRD

STATUS: Visitor.

HOTSPOTS: Maximum of 2 occurred at **OH** in December of 2015.

EBIRD: Reported 3 times at **OH**. These are the only eBird records.

CBCs: Occurred on 9% of the TXVI counts and averaged <1 with a high of 3.

HABITAT: Shrub habitat with residential flower beds and feeders.

SEASONALITY: Arrive in November and depart after a brief visit.

EBIRD FREQUENCY:

BANDED: Caught from 12 November through 31 January. Three lingered from 15—42 days. Site Fidelity 0%.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
13	4	31%	15%	0%	0%	0%	0%	0%	1 month

REFERENCES: Ortego et al. 2018.

BROAD-TAILED HUMMINGBIRD

STATUS: Winter Resident.

HOTSPOTS: Maximum of 4 occurred at **OH** in December of 2001.

EBIRD: Reported regularly at **OH** since 1995 and once from a private location.

CBCs: Occurred on 26% of the TXVI counts and averaged <1 with a high of 6.

HABITAT: Shrub habitat with residential flower beds and feeders.

SEASONALITY: Typically arrives from December through March. Forages at feeders and hawks insects at woodland edges and shrubbery. Dominated by Rufous and Buff-bellied in mixed species assemblages.

EBIRD FREQUENCY:

BANDED: Extreme dates of arrival 9 October to 30 March, and extreme dates of departure 15 October to 20 April. Average Site Fidelity at 31% and 16% 1-Year Survivorship. One-third of all Broad-tails were caught during January. December, February and March were tied for the 2nd highest month. National Longevity Record is 12 years and 2 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
31	19	61%	52%	16%	16%	6%	3%	0%	2 years 4 months

REFERENCES: Ortego et al. 2018

RUFOUS HUMMINGBIRD

STATUS: Winter Resident.

HOTSPOTS: Maximum of 13 occurred at **OH** in January of 2007 and has been reported from **RP** and **MF**.

EBIRD: Reported at 22 eBird locations with 11 being inside the **Loop**. All records except **OH** contain less than 10 birds.

CBCs: Occurred on 25% of the TXGF counts and averaged <1 with a high of 3. TXVI reported an average of 5 with a high of 37.

HABITAT: Shrub habitat with residential flower beds and feeders.

EBIRD FREQUENCY:

BANDED: Banded a low of 2 in 1998 and a high of 36 in 2006. Site Fidelity was 31% and 1-Year Survival 15%. 1-Year Survival varied for years with a minimum sample of 10 from 3% in 2001 (34 birds) to 31% (13 birds) in 2007.

The **OH** banding team attempted to catch all western hummingbird species reported when they first started banding hummers. Many of those individuals did not linger, and some landowners perhaps believed the banding caused their bird to leave. So, Brent stopped attempting to band off-site birds and examined data from **OH** to determine the likelihood individuals would linger long enough to be recaptured.

Rufous Hummingbird Recaptured By Month			
	Number Banded	Percent Captured	
		Once	2+
Aug	18	83	17
Sept	25	76	24
Oct	32	38	62
Nov	70	30	70
Dec	62	23	77
Jan	27	26	74
Feb	18	22	78
Mar	7	100	0

Over 75% of the Rufous Hummingbirds banded for the first time in August and September were not caught again, presumably were not ready to establish a winter territory, and left the area. Birds in October and November (62-70% recaptured) had a higher tendency to linger. Peak recapture of newly banded birds occurred with birds first banded from December through February. No individuals banded in March were recaptured.

Some data indicated that as an individual gets older, it will arrive at the wintering grounds sooner in subsequent years. There is some logic to this thought. A bird banded for the first time is probably a young of the year and it likely did not fly directly to where it was captured. Thus, surviving at that site would provide an incentive to the bird to return. With it knowing the route, there would be a high probability it could travel to its winter home sooner. Sounds good, but Nature is not always transparent. Only 70% of the Rufous Hummingbirds returning to the banding station arrived earlier the year following banding. The National Longevity Record is 8 years and 11 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
265	172	65%	49%	17%	15%	9%	7%	5%	6 years

FOREIGN RECAPTURE:

Banded 8-3-2000 in Wisconsin Recaptured 12-1-2002 in Raisin, TX

REFERENCES: Oberholser (1974; p. 489) winter; Ortego et al. 2018.

ALLEN'S HUMMINGBIRD

STATUS: Winter Resident.

HOTSPOTS: Maximum of 2 occurred at **OH** in December of 2010.

EBIRD: Reported regularly from **OH** since 1995 and once at a private location.

CBCs: Occurred on 28% of the TXVI counts and averaged <1 with a high of 4.

HABITAT: Shrub habitat with residential flower beds and feeders.

SEASONALITY: Allen's occurred from 18 August to 3 April with 66% arriving during November and December and 24% leaving in January, 20% in February and 16% in March.

EBIRD FREQUENCY:

BANDED: Site Fidelity was 31% and 1-Year Survivorship 17%. Eight Allen's wintered, left in the spring and were recaptured the following fall. All were recaptured earlier on their 2nd visit than their initial arrival date. This ranged from 8 to 214 days earlier. One individual was caught during each of 3 years. First capture occurred on 2 December. The following fall it was caught on 10 August (114 days earlier) and the last fall 8 August.

Allen's Hummingbirds are remarkably similar in appearance to Rufous. One of every 7 Allen's/Rufous Hummingbird ended up being an Allen's. We recommend listing all Allen's/Rufous as a *Selasphorus* unless there is proof of its identification to species. Allen's appear to be more timid than Rufous and Buff-bellied. A good strategy is to attract more wintering hummers by providing multiple feeders, and to always have at least one in a bush to provide some protection for the user. National Longevity Record is 5 years and 11 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
46	35	76%	54%	24%	17%	11%	2%	0%	2 years 8 months

FOREIGN RECAPTURE:

Banded 9-30-2008 in Raisin, TX Recaptured on 10-6-2008 in West Columbia, TX

REFERENCES: Ortego et al. 2018.

CALLIOPE HUMMINGBIRD

STATUS: Winter Resident.

HOTSPOTS: Maximum of 2 occurred at **OH** in November of 2009.

EBIRD: Reported regularly at **OH** since 2000 and once from a private location.

SKIMMINGS: 2/24/02 Victoria; 12/16/94 and 1/3-5/95 Mission Oaks subdivision.

CBCs: Occurred on 12% of the TXVI counts and averaged <1 with a high of 5.

HABITAT: Shrub habitat with residential flower beds and feeders.

SEASONALITY: Earliest arrival of an unbanded bird was 3 September with the average being 1 January. Latest departure was 22 April with the average being 22 February. Adults returning for their 2nd winter tended to arrive earlier than their first trip.

Calliopes are more timid than Rufous and Buff-bellied Hummingbirds. In their presence, Calliopes tend to stay in brush cover and only make brief trips to exposed feeders. Hummingbird managers should consider placing one or more feeders inside bushes for the timid individuals.

EBIRD FREQUENCY:

BANDED: Site-Fidelity 7% and 1-Year Survivorship 3%. National Longevity Record is 8 years and 1 month.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
29	20	69%	41%	3%	3%	3%	3%	3%	3 years 5 months

FOREIGN RECAPTURE:

Banded 12-24-2000 in Raisin, TX Recaptured 1-12-2002 in Houston, TX

REFERENCES: Ortego et al. 2018.

Figure 8. Broad-billed Hummingbird near Riverside Park 1/26/2020.

BROAD-BILLED HUMMINGBIRD

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **OH** in February of 2006 and December of 2010, and at **RP** in January 2020.

EBIRD: Reported twice at **OH** and once at **RP**.

HABITAT: Shrub habitat with residential flower beds and feeders.

SKIMMINGS: Single sightings were 4/17/94 and 3/24/96 at Nursery, and 11/16/96 at Inez.

EBIRD FREQUENCY:

BANDED: 2 at **OH**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
2	1	50%	0%	0%	0%	0%	0%	0%	1 week

BUFF-BELLIED HUMMINGBIRD

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 42 occurred at **OH** in June of 2009 and has been reported from **MF** and **RP.**

EBIRD: Reported at 20 eBird locations with 12 being inside the **Loop**. Most lists except for **OH** prior to 2010 contain less than 10 birds.

SKIMMINGS: Single sightings were 3/28/94 in Victoria, and 3/17/92 at Mission Valley.

CBCs: Occurred on 58% of the **TXVI** counts and averaged 12 with a high of 45.

HABITAT: Forest communities, residential woodlands, flower beds, and feeders.

SEASONALITY: Abundant at the bird banding station (**OH**) with its 50 feeders during spring prior to 15 May which is the date when many Turk's-caps start blooming. Species disperses afterwards to breed at low densities in woodland settings—likely in the vicinity of abundant Turk's-caps. Species returns to **OH** and its 50 feeders in August to undergo a complete wing molt. Molt is completed by November and then some individuals migrate to wintering areas which can be nearby or in distant locations like Louisiana or Mexico leaving behind the 75 feeders at **OH**. The return to the spring staging area at **OH** starts in March and the yearly cycle is repeated.

EBIRD FREQUENCY:

BANDED: 1,579 at **OH.** Site-Fidelity 63% and 1-Year Survivorship 22%. Five were banded at **MF** with no recaptures. Buff-bellied banded at **OH** made up 69% of all banded in Texas thru 2010 and resulted in 5 of the 7 foreign encounters.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
1,579	937	59%	35%	31%	22%	11%	8%	5%	10 years 10 months

FOREIGN RECAPTURES:

Banded 1-26-2002 in New Orleans, LA

Banded 5-19-2002 in Raisin, TX

Banded 12-9-2006 in Mandeville, LA

Recaptured 10-15-2004 in Raisin, TX

Recaptured 2-14-2007 in New Orleans, LA

Recaptured 4-23-2007 in Raisin, TX

Banded 5-12-2007 in Raisin, TX — Recaptured 1-4-2008 in Fairhope, AL

Banded 9-24-2009 in Raisin, TX — Recaptured 11-22-2009 in Picayune, MS

Buff-bellied banded from June to July (44) and November thru February (158) averaged >50% being recaptured one month after banding while those (1,377) in other months <38%. The months of higher recapture rates were periods of summer and winter residency. The other months were periods of migration. Many individuals migrating did not linger.

BUFF-BELLIED HUMMINGBIRDS BANDED in VICTORIA COUNTY

[Band Return Rate Calculated for Individuals Caught After 1 Month]

MONTH	TOTAL BANDED	% CAUGHT 2+ TIMES	% > 1 MO	1+ YR % BAND RETURN
JULY	18	61	56	40
AUGUST	250	68	37	55
SEPTEMBER	403	59	30	63
OCTOBER	155	54	32	48
NOVEMBER	68	76	62	55
DECEMBER	50	86	72	61
JANUARY	30	73	53	63
FEBRUARY	10	70	60	100
MARCH	107	47	26	71
APRIL	234	52	26	79
MAY	228	54	32	85
JUNE	26	54	54	64
TOTAL	1,579	59%	35%	65% (22% of all birds)

Thirty-five Buff-bellied survived at least 5 years with the oldest Buff-bellied observed being 10 years and 10 months. The 10-year old Buff-bellied was initially banded as an adult male on 11/18/1997 and last recaptured on 12/5/2006. It was observed through February and set the **National Longevity Record** for the species. Like the old Black-chinned reported previously, this bird was only caught at one site at the **OH** banding station.

REFERENCES: Ortego and Rorex (2016), and Ortego et al. (2018).

YELLOW RAIL

STATUS: Winter Resident.

HOTSPOTS: Maximum of 2 occurred at **IW** in September of 1997 and January of 1998.

EBIRD: No records.

SKIMMINGS: Two were reported 11/15/93 northeast of Victoria.

CBCs: One was reported on the TXGF in 2014.

HABITAT: Tall, dense, moist grasslands, and rice fields.

BLACK RAIL

STATUS: Irregular.

EBIRD: No records.

CBCs: One was heard calling on the TXGF in 2018.

HABITAT: Dense, shallow, emergent wetlands.

SEASONALITY: The Texas Coast has a local breeding population that is augmented in the fall with migratory populations from Colorado and Kansas. Individuals from the inland out-of-state breeding population might migrate through the County. The species has been documented twice in the County and needs further study to determine if it is a migrant and/or resident.

REFERENCES: Oberholser (1974; p. 300) specimen collected on 8/4/1938.

KING RAIL

STATUS: Irregular.

HOTSPOTS: Maximum of 2 occurred 5 times at **IW** in 2018 and 2019.

EBIRD: Reported at 4 eBird locations with none being inside the **Loop**. All records are of single birds.

SKIMMINGS: Twenty reported northeast of Victoria on 11/15/93 while viewing rice harvest.

CBCs: One was reported on the TXVI in 1998.

HABITAT: Tall emergent wetlands and rice fields.

SEASONALITY: Origin of population is not known. Birds either breed discretely at specific locations, or migrate into the area during fall—presumably from populations further north.

EBIRD FREQUENCY:

CLAPPER RAIL

STATUS: Year-Round Resident.

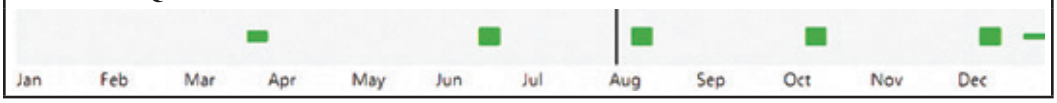
HOTSPOTS: Maximum of 43 identified by call at Placedo Creek in June of 2014.

EBIRD: Reported once more at Placedo Creek and 3 times from Garcitas Creek. Most lists contain less than 10 birds.

HABITAT: Brackish tidal marshes associated with Garcitas and Placedo Creeks.

SEASONALITY: Year-Round Resident in localized brackish marshes in the SE corner of the County.

EBIRD FREQUENCY:



VIRGINIA RAIL

STATUS: Winter Resident.

HOTSPOTS: Maximum of 7 occurred at **IW** in April of 2000 and has been reported from **SR** and **MF**.

EBIRD: Reported at 7 eBird locations with none inside the **Loop.** Most lists except **IW** contain single birds.

SKIMMINGS: 17 reports from **IW** with a max of 7 in April 2000.

CBCs: Occurred on 25% of the TXGF counts and averaged <1 with a high of 3. Occurred in 9% of the TXVI counts and averaged <1 with a high of 3.

HABITAT: Native and man-made dense, emergent wetlands, rice fields, and vegetation borders in waterfowl impoundments are also used.

SEASONALITY: Species does not respond to recordings as readily as King Rail and Sora, making detection difficult. Occurs in similar habitat as Sora.

EBIRD FREQUENCY:

SORA

STATUS: Winter Resident.

HOTSPOTS: Maximum of 51 occurred at **IW** in April of 2000 and has been reported at **SR, MF** and **SL**.

EBIRD: Reported at 17 eBird locations with 3 being inside the **Loop**. Most lists except for **IW** contain less than 10 birds.

SKIMMINGS: 65 reported 11/15/93 northeast of Victoria during rice harvest.

CBCs: TXGF reported an average of 3 with a high of 9. Occurred on 8% of the TXVI counts and averaged <1 with a high of 3.

HABITAT: Native and man-made dense, emergent wetlands, rice fields, waterfowl impoundment, and wet sites are also used.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 297) winter.

COMMON GALLINULE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 60 occurred at **IW** in April of 2011 and has been reported at **SR, MF** and **SL**.

EBIRD: Reported at 16 eBird locations with 3 being inside the **Loop**. Most lists except for **IW** contain less than 10 birds.

CBCs: Occurred on 50% of the TXGF counts and averaged 9. A high of 100 in 2004 was an anomaly. The 2nd highest tally was 18. TXVI reported 1 once.

HABITAT: Dense, emergent, freshwater wetlands.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 303) breeding.

PURPLE GALLINULE

STATUS: Summer Resident.

HOTSPOTS: Maximum of 9 occurred at **IW** in May of 2020.

EBIRD: Reported at 3 eBird locations with one being inside the **Loop.** Almost all records are from **IW** and contain less than 10 birds.

CBCs: TXVI reported one in 1993.

HABITAT: Dense, emergent freshwater wetlands.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 302) nesting.

AMERICAN COOT

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 680 occurred at **IW** in October of 1997 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 37 eBird locations with 12 being inside the **Loop**. Number of birds from recent lists varies widely from one to several hundred, with an average closer to 15.

CBCs: TXGF reported an average of 51 with a high of 329. TXVI reported an average of 169 with a high of 1,727.

HABITAT: Vegetated wetlands.

SEASONALITY: Small numbers summer and a few breed. Common to abundant in winter foraging on a variety of aquatic plants. Species typically arrives in large flocks over-night during fall. Coots are frequently hunted by Bald Eagles and Northern Harriers, and try to avoid predation by forming dense flocks on the water.

EBIRD FREQUENCY:

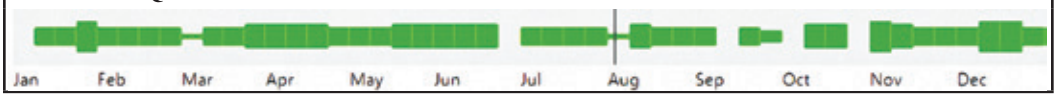


Figure 9. Sandhill Cranes In Rice Fields On Salem Road.

SANDHILL CRANE

STATUS: Winter Resident.

HOTSPOTS: Maximum of 1,845 occurred at **SR** in December of 1997 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 89 eBird locations with 17 being inside the **Loop**. Most recent lists except for **SR** contain less than 30 birds.

CBCs: TXGF reported an average of 112 with a high of 311. TXVI reported an average of 636 with a high of 3,404.

HABITAT: Ag fields and grasslands. Roost in large waterfowl impoundments and shallow wetlands.

SEASONALITY: Bugleing of cranes have replaced the honking of geese as the sound of winter following the decline of goose populations in the County. They arrive in October with loud, ringing calls which can be heard for long distances. The County becomes relatively quiet in March when they (sadly for us) depart for their breeding grounds.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 288) winter.

WHOOPING CRANE

STATUS: Migrant.

HOTSPOTS: Single bird reported near **DT** in January of 2015.

EBIRD: No eBird records.

SKIMMINGS: One report from the **MF** area foraging in a corn field during the 1980's.

HABITAT: Uses grain fields and pastures for foraging and shallow lakes for roosting.

SEASONALITY: County is in the direct path of migrating Whoopers to the Texas Coast and are suspected to stop occasionally during fall migration. Species is also known to forage inland near the Coast if crab resources in tidal waters are low.

REFERENCES: Oberholser (1974; p. 286-288) winter.

BLACK-NECKED STILT

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 186 occurred at **SA** in September of 2017 in flooded pastures and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 21 eBird locations with 2 being inside the **Loop**. **MF, SA** and **IW** have been the most reliable locations.

CBCs: Occurred on 50% of the TXGF counts and averaged 6 with a high of 49.

HABITAT: Shallow, freshwater wetlands.

EBIRD FREQUENCY:

BANDED: 8 at **MF** with no recaptures.

REFERENCES: Oberholser (1974; p. 365) spring.

AMERICAN AVOCET

STATUS: Migrant.

HOTSPOTS: Maximum of 43 occurred at **IW** in November of 2016 and has been reported at **MF, SA** and **RP**.

EBIRD: Reported at 10 eBird locations with one being inside the **Loop**. **MF, SA** and **IW** have been the most reliable locations.

SKIMMINGS: 5 were reported 5/07/94 at Inez.

CBCs: Occurred on 25% of the TXGF counts and averaged 2 with a high of 22. TXVI reported 15 in 2019.

HABITAT: Shallow wetlands.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 364) spring.

BLACK-BELLIED PLOVER

STATUS: Migrant.

HOTSPOTS: Maximum of 97 occurred at **SA** in August of 2017 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 9 eBird locations with one being inside the **Loop.** Most lists contain less than 10 birds.

CBCs: Occurred on 19% of the TXGF counts and averaged one with a high of 17.

HABITAT: Rice fields, short grasslands and plowed ag fields.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 321) migrant.

Figure 10. American Golden-Plover At Salem Road.

AMERICAN GOLDEN-PLOVER

STATUS: Spring Migrant.

HOTSPOTS: Maximum of 5,350 occurred at **SR** in April of 2016 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 13 eBird locations with 4 being inside the **Loop.** **DT** has been the most reliable location.

HABITAT: Rice fields, short or burned grasslands, and plowed ag fields.

SEASONALITY: Migrates through the County in large numbers from mid-March through May.

EBIRD FREQUENCY:

BANDED: One at **MF** with no recaptures.

REFERENCES: Oberholser (1974; p. 320) spring.

SEMIPALMATED PLOVER

STATUS: Migrant.

HOTSPOTS: Maximum of 13 occurred at **DT** in April of 2016 and has been reported from **IW** and **MF**.

EBIRD: Reported at 5 eBird locations with one being inside the **Loop.** Most lists contain 1 or 2 birds and **DT** has been the most reliable location.

CBCs: One was reported in 2010 on the TXGF.

HABITAT: Rice fields, short grasslands, and plowed ag fields.

EBIRD FREQUENCY:

BANDED: 11 at **MF** with no recaptures.

KILLDEER

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 449 occurred at **DT** in November of 2015 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 150 eBird locations with 44 being inside the **Loop.** Abundant and widespread.

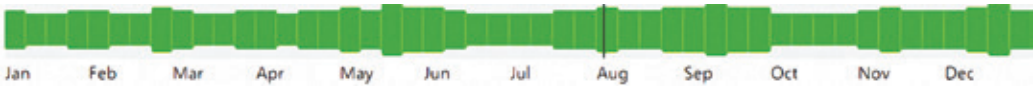
CBCs: TXGF reported an average of 96 with a high of 240. TXVI reported an average of 126 with a high of 387.

BBS: Occurred 10 years with a high count of 10 and an average of 3.

HABITAT: Short grasslands, ag fields, and wet fields.

SEASONALITY: Disperses widely to nest in bare areas in grasslands, road surfaces in ag or range land, gravel pads in residential/industrial areas. Post-breeding flocks frequent wet areas, short grasslands and ag fields.

EBIRD FREQUENCY:



BANDED: 8 at **MF** with no recaptures.

REFERENCES: Oberholser (1974; p. 316) resident.

MOUNTAIN PLOVER

STATUS: Visitor.

EBIRD: Not reported in eBird.

SKIMMINGS: Reported as Very Rare in spring by Golden Crescent Nature Club.

HABITAT: Plowed ag fields, and short grasslands.

SEASONALITY: Most likely to be found during migration.

REFERENCES: Oberholser (1974; p. 315) spring and Elwonger (1993).

NORTHERN JACANA

STATUS: Vagrant.

EBIRD: Not reported in eBird.

HABITAT: Heavily vegetated freshwater wetlands.

REFERENCES: Oberholser (1974; p.306) fall.

UPLAND SANDPIPER

STATUS: Migrant.

HOTSPOTS: Maximum of 93 occurred at **DT** in August of 2016 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 33 eBird locations with 8 being inside the **Loop**. **DT** has been the most reliable location.

HABITAT: Short grasslands, ag and rice fields.

SEASONALITY: Common migrant in County that can be regularly heard calling in flight overhead. Commonly found walking in roadside grasses, ag fields and pastures.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 335) migrant.

ESKIMO CURLEW

STATUS: Extirpated Spring Migrant.

SEASONALITY: Species "was hunted for the market from Canada to Argentina, and the flocks that migrated through the Lone Star State were similar in size to those of Passenger Pigeons. By a few accounts they were uncommon after 1875. Some of the last sightings were in Lampasas and in Calhoun and Victoria Counties between 1886 and 1905" (Sawyer 2013).

LONG-BILLED CURLEW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 50 occurred at a private location in February of 2001 and has been reported from **DT, SA** and **SR**.

EBIRD: Reported at 10 eBird locations with 5 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: Occurred on 44% of the TXGF counts and averaged 4 with a high of 26. Occurred on 58% of the TXVI counts and averaged 9 with a high of 88.

HABITAT: Short grasslands, plowed ag fields, and rice fields.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 329) winter.

HUDSONIAN GODWIT

STATUS: Migrant.

HOTSPOTS: Maximum of 58 occurred at **SR** in April 1993 and has been reported from **DT** and **IW**.

EBIRD: Reported at 3 eBird locations with none being inside the **Loop**.

HABITAT: Wetlands, flooded ag fields, rice fields, and waterfowl impoundments.

SEASONALITY: Migrates through County in spring and is likely to land if suitable wetlands are available.

EBIRD FREQUENCY:

MARBLED GODWIT

STATUS: Migrant.

HOTSPOTS: Maximum of 8 occurred at **SA** in August of 2017 and has been reported from **MF**.

EBIRD: Only 2 eBird records, one each from **MF** and **SA**.

HABITAT: Shallow wetlands.

EBIRD FREQUENCY:

RUDDY TURNSTONE

STATUS: Migrant.

HOTSPOTS: A single bird reported at **MF** in September of 2006.

EBIRD: Only a single eBird record from **MF**.

CBCs: Two were reported on the TXVI in 1977.

HABITAT: Beach, rocks, and mudflats.

EBIRD FREQUENCY:

BANDED: One banded in **MF** 9/2/2006 with no recaptures.

RUFF

STATUS: Vagrant.

EBIRD: One reported from River Road area near **SL** in February 2018.

HABITAT: Depressional wetland.

EBIRD FREQUENCY:

STILT SANDPIPER

STATUS: Migrant.

HOTSPOTS: Maximum of 239 occurred at **SR** in April of 2016 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 12 eBird locations with none being inside the **Loop. MF** and **IW** have been the most reliable locations.

SKIMMINGS: 170 reported on 5/12/93 NE of Victoria.

CBCs: Occurred on 13% of the TXGF counts and averaged 2 with a high of 25. Occurred on 5% of the TXVI counts and averaged <1 with a high of 14.

HABITAT: Mudflats, rice fields, wetlands, and shallow flooded fields

SEASONALITY: Primarily a migrant with a few wintering in association with dowitchers.

EBIRD FREQUENCY:

BANDED: 165 banded at **MF** with no recaptures. National Longevity Record is 11 years and 1 month.

SANDERLING

STATUS: Migrant.

HOTSPOTS: A single bird was reported from **IW** in May of 2014.

HABITAT: Beaches and mud flats.

EBIRD FREQUENCY:

DUNLIN

STATUS: Winter Resident.

HOTSPOTS: Maximum of 208 occurred at **MF** in March of 2006 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 10 eBird locations with 2 being inside the **Loop**. Most lists except for **MF** contain less than 10 birds.

CBCs: Occurred on 25% of the TXGF counts and averaged 21 with a high of 172. Occurred on 5% of the TXVI counts and averaged <1 with a high of 14.

HABITAT: Mudflats, wetlands, rice fields, and shallow flooded areas.

EBIRD FREQUENCY:

BANDED: 20 banded at **MF** with no recaptures.

BAIRD'S SANDPIPER

STATUS: Migrant.

HOTSPOTS: Maximum of 55 occurred at **SA** in April of 1996 and has been reported from **MF, IW** and **DT**.

EBIRD: Reported at 10 eBird locations with 2 being inside the **Loop**. All records contain less than 10 birds and **IW** and **DT** have been the most reliable locations.

HABITAT: Mudflats, rice fields, shallow flooded fields and wetlands.

EBIRD FREQUENCY:

BANDED: One banded at **MF** with no recaptures.

LEAST SANDPIPER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 400 occurred at **MF** in November of 2017 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 40 eBird locations with 6 being inside the **Loop**. **MF** and **IW** have been the most reliable locations.

CBCs: Occurred on 50% of the TXGF counts and averaged 19 with a high of 90. Occurred on 56% of the TXVI counts and averaged 15 with a high of 151.

HABITAT: Mudflats, rice fields, shallow flooded fields and wetlands.

SEASONALITY: Most common sandpiper in Victoria County. Utilizes all wetland types with a preference for exposed mudflats.

EBIRD FREQUENCY:

BANDED: 1,055 banded at MF. One recaptured 1.5 years, 2 years, and 6 years after banding. National Longevity Record is 15 years.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
1,055	14	1%	1%	0%	0%	0%	0%	0%	6 years

WHITE-RUMPED SANDPIPER

STATUS: Migrant.

HOTSPOTS: Maximum of 94 occurred at **MF** in May of 2018 and has been reported from **MF**, **DT**, **IW** and **RP**.

EBIRD: Reported at 10 eBird locations with 2 being inside the Loop. Most lists contain less than 20 birds.

SKIMMINGS: 300 reported on 5/3/93 NE of Victoria.

BBS: Occurred one year with a high count of 50 and an average of 5.

HABITAT: Mudflats, rice fields, shallow flooded fields, and wetlands.

SEASONALITY: Late spring migrant which uses wet fields in large flocks of mixed species of shorebirds. Number of birds "dropping-in" largely depends on the availability of shallow freshwater sites.

EBIRD FREQUENCY:

BANDED: 13 at **MF** with no recaptures.

Figure 11. Dacosta Turf Farm Is An Important Site For Buff-breasted Sandpipers.

BUFF-BREASTED SANDPIPER

STATUS: Migrant.

HOTSPOTS: Maximum of 1,100 occurred at **DT** in August of 2013 and has been reported from **MF** and **SR**.

EBIRD: Reported at 12 eBird locations with one being inside the **Loop**. **DT** has been the most reliable location.

BBS: Occurred one year with a high count of 30 and an average of 3.

HABITAT: Short grasslands, ag fields, and bare ground.

SEASONALITY: Regular spring and fall migrant. Tends to congregate at **DT** during dry periods because of available irrigation and Bermuda grass in a short grass setting. Species disperses widely across ag fields and short grasslands following rains. We have watched this species forage for hours and it is very challenging to be able to identify what it is eating because of the small size of invertebrates which it consumes. Worms are sometimes noticeable when eaten in rice fields because of their larger size.

EBIRD FREQUENCY:

BANDED: One at **MF** with no recaptures.

REFERENCES: Oberholser (1974; p. 357) fall.

PECTORAL SANDPIPER

STATUS: Migrant.

HOTSPOTS: Maximum of 220 occurred at **SR** in April of 2016 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 14 eBird locations with 2 being inside the **Loop**. **DT, IW** and **MF** have been the most reliable locations.

SKIMMINGS: 550 reported on 4/28/93 NE of Victoria.

HABITAT: Mudflats, and shallow wetlands.

EBIRD FREQUENCY:

BANDED: 81 at **MF** with no recaptures.

SEMIPALMATED SANDPIPER

STATUS: Migrant.

HOTSPOTS: Maximum of 60 occurred at **IW** in April of 2011 and has been reported from **DT, MF** and **SL**.

EBIRD: Reported at 6 eBird locations with one being inside the **Loop**. Most lists contain less than 10 birds with **IW** and **MF** having been the most reliable locations.

HABITAT: Mudflats, rice fields, shallow flooded fields, and wetlands.

EBIRD FREQUENCY:

BANDED: 258 at **MF** with 3 recaptures with none staying more than one month.

WESTERN SANDPIPER

STATUS: Migrant.

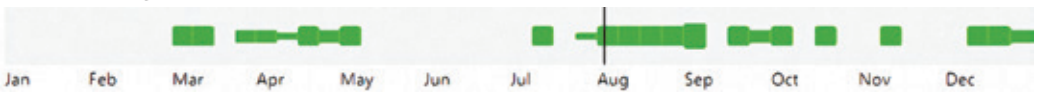
HOTSPOTS: Maximum of 322 occurred at **MF** in March of 2006 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 12 eBird locations with one being inside the **Loop**. Most recent lists contain less than 10 birds with **MF** and **IW** having been the most reliable locations.

CBCs: Occurred on 19% of the TXGF counts and averaged one with a high of 8. Occurred on 14% of the TXVI counts and averaged <1 with a high of 6.

HABITAT: Mudflats, rice fields, shallow flooded fields, and wetlands.

EBIRD FREQUENCY:



BANDED: One with 0 recaptures at **OH** and 373 at **MF** with a recapture of an individual in the fall that was originally banded in the previous spring at Indianola.

FOREIGN RECAPTURE:

Banded 4-8-2001 in Indianola, TX Recaptured 8-10-2001 in McFaddin Area, TX

SHORT-BILLED DOWITCHER

STATUS: Migrant.

HOTSPOTS: Maximum of 9 occurred at Garcitas Cove in December of 2014 and has been reported at **MF** and **IW**.

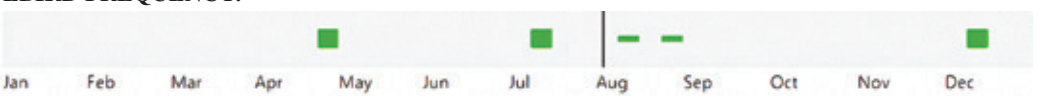
EBIRD: Reported at 5 eBird locations with none being inside the **Loop**. Except for the **Garcitas** record, all others have been single birds.

CBCs: TXGF reported 37 in 2005.

HABITAT: Mudflats, and shallow tidal water.

SEASONALITY: Primarily migrates through tidal marshes with small numbers venturing into freshwater areas. Not known if many winter in the area because of very little birding effort spent in tidal marshes within the County.

EBIRD FREQUENCY:



BANDED: One at **MF** with no recaptures.

LONG-BILLED DOWITCHER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 1,200 occurred at **MF** in October of 2014 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 27 eBird locations with 3 being inside the **Loop**. **MF, SR** and **IW** have been the most reliable locations.

CBCs: Occurred on 50% of the TXGF counts and averaged 41 with high of 307. Occurred on 49% of the TXVI counts and averaged 25 with a high of 208.

HABITAT: Mudflats, rice fields, shallow flooded fields and wetlands.

EBIRD FREQUENCY:

BANDED: 44 at **MF** with no recaptures.

AMERICAN WOODCOCK

STATUS: Winter Resident.

HOTSPOTS: Maximum of 5 occurred at **MF** in December of 2017 and has been reported from **RP** and **OH**.

EBIRD: Reported at 9 eBird locations with 3 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: Occurred on 56% of the TXGF counts and averaged 2 with a high of 9. Occurred on 60% of the TXVI counts and averaged one with a high of 11.

HABITAT: Moist and dense woody understories.

SEASONALITY: Occurs mid-November through February. Might shift wintering sites due to weather and ground conditions. Stays south of the freeze-line and prefers moist soils. Spends night in open fields and flies to dense thickets just before daybreak. Species occasionally shows up in flower beds in residential areas.

EBIRD FREQUENCY:

BANDED: One at **OH** with no recaptures.

REFERENCES: Oberholser (1974; p. 325) winter.

WILSON'S SNIPE

STATUS: Winter Resident.

HOTSPOTS: Maximum of 140 occurred at **MF** in March of 2020 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 45 eBird locations with 7 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 13 with a high of 46. Occurred on 48% of the TXVI counts and averaged 37 with a high of 242.

HABITAT: Shallow wetlands, and wet fields.

SEASONALITY: Arrives in mid-September and migrates north in April. Forages in small flocks and occasionally gathers in groups of hundreds. Wet, vegetated soil is necessary to provide worms near the surface which is its primary food.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 328) winter.

WILSON'S PHALAROPE

STATUS: Migrant.

HOTSPOTS: Maximum of 533 occurred at **IW** in May of 2017 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 9 eBird locations with none being inside the **Loop**. Most lists, except for **IW,** contain less than 10 birds, and **IW** has been the most reliable location.

HABITAT: Shallow wetlands, mudflats and rice fields.

SEASONALITY: Occurs in mixed flocks of species of shorebirds migrating through the County. They primarily forage on plankton and use a spinning technique on the surface to create a vortex that brings food up within reach of their beaks. They also forage behind ducks looking for opportunities to snatch prey stirred up by the swimming ducks.

EBIRD FREQUENCY:

BANDED: 8 at **MF** with no recaptures.

SPOTTED SANDPIPER

STATUS: Migrant.

HOTSPOTS: Maximum of 14 occurred at **MF** in August of 1999 and has been reported from 6 of the Top 10 eBird Hotspots.

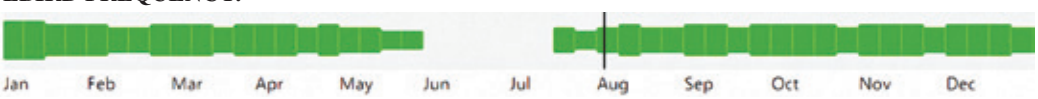
EBIRD: Reported at 36 eBird locations with 16 being inside the **Loop**. Many lists contain 1 or 2 birds, with **SL, IW, MF** and **RP** having been the more reliable locations.

CBCs: TXGF reported an average of 6 with a high of 17. TXVI reported an average of 12 with a high of 106.

HABITAT: Logs and shorelines in creeks and rivers are their natural habitats. Rock borders to man-made wetlands are also used.

SEASONALITY: Common migrant along the shores of creeks and rivers frequenting logs and exposed banks. A few over-winter in the County.

EBIRD FREQUENCY:



BANDED: 71 at **MF** with no recaptures.

REFERENCES: Oberholser (1974; p. 336) winter

SOLITARY SANDPIPER

STATUS: Migrant.

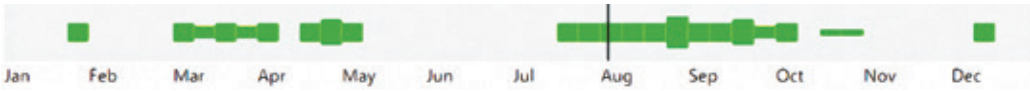
HOTSPOTS: Maximum of 5 occurred at **IW** and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 21 eBird locations with 5 being inside the **Loop**. Most lists contain 1 to 3 birds with **MF, RP** and **IW** having been the most reliable locations.

CBCs: Occurred on 25% of the TXGF counts and averaged <1 with a high of 4. Occurred on 21% of the TXVI counts and averaged <1 with a high of 9.

HABITAT: Wooded ponds, streams, rivers, and shallow wetlands.

EBIRD FREQUENCY:



BANDED: 2 at **OH** and 15 at **MF** with no recaptures.

REFERENCES: Oberholser (1974; p. 338) spring.

GREATER YELLOWLEGS

STATUS: Migrant.

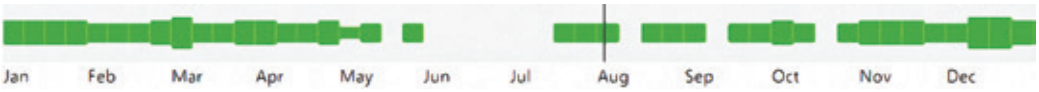
HOTSPOTS: Maximum of 75 occurred at **IW** in January of 2016 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 42 eBird locations with 10 being inside the **Loop**. Most lists contain less than 10 birds with **MF, SL** and **IW** having been the most reliable locations.

CBCs: TXGF reported an average of 22 with a high of 132. TXVI reported an average of 8 with a high of 84.

HABITAT: Estuaries, wetlands, flooded fields, lakes, and ponds.

EBIRD FREQUENCY:



BANDED: 5 at **MF** with no recaptures.

WILLET

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 7 occurred at Placedo Creek in March of 2015 and has been reported from **MF, SA** and **IW**.

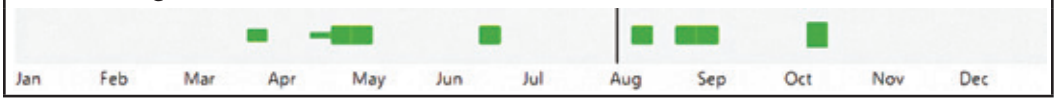
EBIRD: Reported at 11 eBird locations with 2 being inside the **Loop**. Most lists contain 1 or 2 with **IW,** Placedo Creek and Garcitas Cove having been the most reliable locations.

CBCs: Occurred on 19% of the TXGF counts and averaged <1 with a high of one.

HABITAT: Tidal wetlands.

SEASONALITY: Primarily forages in tidal wetlands in search of invertebrates and nests on the adjoining grassy uplands. A few birds leave the bay to spend some time in shallow inland wetlands during winter or periods of heavy rains/high tides. Migrating Willets are sometimes observed flying overhead.

EBIRD FREQUENCY:



LESSER YELLOWLEGS

STATUS: Migrant.

HOTSPOTS: Maximum of 100 occurred at **IW** in April of 2011 and has been reported from 7 of the Top 10 eBird Hotspots.

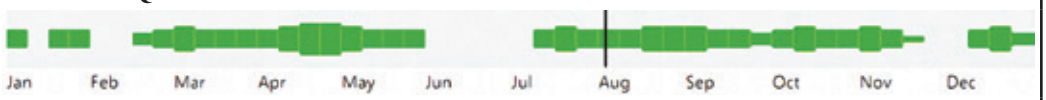
EBIRD: Reported at 40 eBird locations with 9 being inside the **Loop**. Most lists contain less than 10 birds.

SKIMMINGS: 500 observed on 4/28/93 NE of Victoria.

CBCs: TXGF reported an average of 7 with a high of 42. Occurred on 60% of the TXVI counts with an average of 2 with a high of 16.

HABITAT: Estuaries, wetlands, flooded fields, lakes, and ponds.

EBIRD FREQUENCY:



BANDED: 85 at **MF** with no recaptures.

BONAPARTE'S GULL

STATUS: Irregular.

HOTSPOTS: No records.

EBIRD: One eBird record. A single bird occurred at Victoria **City Ponds** in March of 2011.

SKIMMINGS: One reported 10/13/93 near Mission Valley.

CBCs: TXGF reported 5 in 2018 and TXVI reported one during 1993 and 1995.

HABITAT: Lakes and bays.

EBIRD FREQUENCY:

LAUGHING GULL

STATUS: Year-Round Resident and Non-Breeder.

HOTSPOTS: Maximum of 25,00 flew over **IW** in October of 2009 and has been reported from 8 of the Top 10 eBird Hotspots.

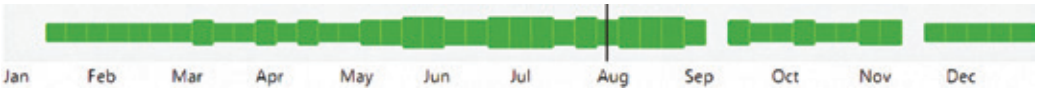
EBIRD: Reported at 75 eBird locations with 19 being inside the **Loop**. **IW** and the nearby Victoria Landfill have been the most reliable locations.

CBCs: Occurred on 19% of the TXGF counts and averaged 4 with a high of 58. Occurred on 25% of the TXVI counts and averaged one with a high of 30.

HABITAT: Estuaries, landfill, lakes, wetlands, ag fields, residential, and urban.

SEASONALITY: Found Year-Round in the tidal marsh and along the Victoria Barge Canal in small numbers. Hundreds take advantage of garbage deposited at the Victoria Landfill. Laughing Gulls started foraging over Victoria during the 1990's by visiting parking lots and other sites for opportunistic foraging.

EBIRD FREQUENCY:



BANDED: One at **MF** with no recaptures.

FRANKLIN'S GULL

STATUS: Migrant.

HOTSPOTS: Maximum of 950 occurred at the Victoria Landfill in April of 2016 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 36 eBird locations with 9 being inside the **Loop**. The Victoria Landfill**, IW** and **RP** have been the most reliable locations.

HABITAT: Shallow wetlands for bathing. Landfill, rice fields, and ag fields for foraging.

SEASONALITY: Spring migrating flocks are easily recognized by their large tight flocks migrating in characteristic formation northward.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 388) spring.

RING-BILLED GULL

STATUS: Winter Resident.

HOTSPOTS: Maximum of 750 flew over **IW** in March of 2015 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 25 eBird locations with 4 being inside the **Loop**. Victoria Landfill and **IW** have been the most reliable locations.

CBCs: Occurred on 31% of the TXGF counts and averaged one with a high of 8. Occurred on 49% of the TXVI counts and averaged 17 with a high of 350.

HABITAT: Estuaries, lake, and landfill.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 385) winter.

HERRING GULL

STATUS: Winter Resident.

HOTSPOTS: Maximum of 150 occurred at the Victoria Landfill in February of 2014 and has been reported at **IW**.

EBIRD: Reported at 3 eBird locations with none being inside the **Loop**. The Victoria Landfill and IW have been the most reliable locations.

CBCs: Two were reported on the TXGF in 2008.

HABITAT: Estuaries, landfill, barge canal, and lake.

SEASONALITY: The Victoria Landfill is a major hub for gulls in the County. Birds roost on nearby bays and commute to the landfill and Victoria via the Victoria Barge Canal and Hwy. 87. The flocks resemble the stream of workers traveling to and from the chemical plants each day.

EBIRD FREQUENCY:

LEAST TERN

STATUS: Migrant and Historic Breeder.

HOTSPOTS: Maximum of 3 occurred at **IW** in May of 1999 and has been reported from **SL**.

EBIRD: Reported at 5 eBird locations with 3 being inside the **Loop**. Most lists contain 1 or 2 birds.

HABITAT: Wetlands.

SEASONALITY: Six pairs nested on an island in a gravel pit near the Invista chemical plant during 2002.

EBIRD FREQUENCY:

SOOTY TERN

STATUS: Vagrant.

HABITAT: Gulf and bays.

SEASONALITY: Occurrence was likely storm related. Oberholser (1974) contained the only report of this species for Victoria County.

REFERENCES: Oberholser (1974: p. 399) spring.

GULL-BILLED TERN

STATUS: Visitor.

HOTSPOTS: Maximum of 3 occurred at **MF** in October of 2018 and has been reported from **SA, SL** and **RP**.

EBIRD: Reported at 6 eBird locations with 2 being inside the **Loop**. All records contain 1 to 3 birds.

CBCs: One was reported on TXGF in 2004.

HABITAT: Herbaceous wetlands and rice fields.

EBIRD FREQUENCY:

CASPIAN TERN

STATUS: Winter Resident.

HOTSPOTS: Maximum of 3 occurred at **MF** in March of 2006 and at **IW** in May of 1999. Also, this species has been reported from **SA, SL** and **RP**.

EBIRD: Reported at 9 eBird locations with 4 being inside the **Loop**. Most records are of single birds.

CBCs: One was reported twice on the TXGF. Occurred on 47% of the TXVI counts and averaged 2 with a high of 20.

HABITAT: Large wetlands and Lake.

EBIRD FREQUENCY:

BLACK TERN

STATUS: Migrant.

HOTSPOTS: Maximum of 14 occurred at **IW** in August of 2015 and has been reported from **MF** and **OH**.

EBIRD: Reported at 7 eBird locations with 2 being inside the **Loop**. Most lists contain less than 10 birds.

HABITAT: Wetlands and rice fields.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 406) spring.

COMMON TERN

STATUS: Irregular.

HOTSPOTS: No records.

EBIRD: No records.

CBCs: TXGF reported 2 in 2006. No details submitted, but species is regular in adjoining counties.

HABITAT: Bay.

SEASONALITY: Species likely occurs more frequently in the County, but due to limited access to tidal waters we have only one record.

FORSTER'S TERN

STATUS: Year-Round Resident and Non-Breeder.

HOTSPOTS: Maximum of 20 occurred at **MF** in October of 2018 and has been reported from **IW, RP, SA** and **SL.**

EBIRD: Reported at 27 eBird locations with 11 being inside the **Loop**. Most lists contain only a few birds.

CBCs: Occurred on 38% of the TXGF counts and averaged 2 with a high of 21. TXVI reported an average of 5 with a high of 24.

HABITAT: Non-vegetated wetlands.

EBIRD FREQUENCY:

ROYAL TERN

STATUS: Year-Round Resident and Non-Breeder.

HOTSPOTS: Maximum of 3 occurred at **SA** in August of 2017 and at Garcitas Cove in December of 2014.

EBIRD: Reported at 5 eBird locations with none being inside the **Loop** and these lists contain 1 or 2 birds.

CBCs: Both CBCs reported a single individual of this species twice.

HABITAT: Tidal waters.

EBIRD FREQUENCY:

SANDWICH TERN

STATUS: Irregular.

HOTSPOTS: Maximum of 2 occurred at **IW** in November of 2019.

EBIRD: Only one eBird record from **IW.** (Note: Species should be present at *Placedo Creek* and *Garcitas Cove* but has gone unreported to date.)

HABITAT: Tidal waters.

EBIRD FREQUENCY:

BLACK SKIMMER

STATUS: Year-Round Resident and Non-Breeder.

HOTSPOTS: No reports.

EBIRD: A single eBird report of one bird from Mission Valley in August of 2017 following Hurricane Harvey**.** (Note: Species should be present at *Placedo Creek* and *Garcitas Cove* but has gone unreported to date.)

HABITAT: Wetlands near bay.

EBIRD FREQUENCY:

COMMON LOON

STATUS: Winter Resident.

HOTSPOTS: Maximum of one occurred at **SL** in May of 2018 and one was observed flying over **SI** in March of 2018.

EBIRD: Reported at 3 eBird locations with 2 being inside the **Loop.** A single bird reported from Garcitas Cove in December of 2014.

CBCs: TXGF reported one in 2005.

HABITAT: Bay, lakes, and canal.

EBIRD FREQUENCY:

Figure 12. Jabiru Foraging in Association with Waterbirds in McFaddin Area 8/6/2014.

JABIRU

STATUS: Vagrant.

HOTSPOTS: Single birds occurred at **MF** in August of 2014 and south of Placedo in August of 2016.

EBIRD: See Hotspots.

HABITAT: Drying freshwater wetlands.

SEASONALITY: One reported in McFaddin area during 8/6/2014. Every now and then, birders are lucky. Brent was surveying for molting Mottled Ducks in 2014 and walked to the end of a canal to scope it by creating a gap in the cane on its border. An unseen Jabiru flushed at 10 yards while he was watching distant Wood Storks.

A second County record was logged by Daniel Walker in 2016 when he observed one flying across FM 1090 on Lake Placedo Road.

EBIRD FREQUENCY:

Figure 13. Wood Storks Roosting on Baldcypress in McFaddin Area.

WOOD STORK

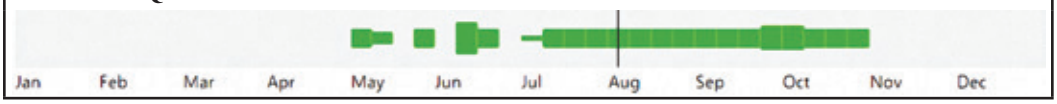
STATUS: Summer Resident and Non-Breeder.

HOTSPOTS: Maximum of 317 flew over **OH** in June of 2019 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 25 eBird locations with 10 being inside the **Loop**.

HABITAT: Forages primarily in drying wetlands. Species roost nearby in trees if they are available. May be seen flying overhead during migration and daily activities.

EBIRD FREQUENCY:



COLONIAL WATERBIRDS

TPWD surveys in Victoria County indicated there was an average of 19,000 nesting pairs of Anhingas, cormorants, herons, egrets and ibises per year from 1981-1990, 12,000 pairs from 1991-2000, 5300 from 2001-2010, and 3000 from 2011-2018. These species nest on shrubs and trees over water or on islands to protect them from mammalian predators. Alligators are the main deterrent preventing raccoons and coyotes from raiding the nests. When water depth drops, alligators leave, nests become exposed to predation and the birds abandon the colony sites. Only one (**IW**) of the 12 historic rookery sites were known to be active in 2020.

Figure 14. Rookery In McFaddin Area

ANHINGA

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 1,500 occurred south of Placedo in August of 2016 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 76 eBird locations with 41 being inside the **Loop. SL, IW** and **RP** have been the most reliable locations.

CBCs: TXGF reported an average of 11 with a high of 29. TXVI reported an average of 8 with a high of 36.

HABITAT: Swamps, rivers, creeks, ponds and canals.

SEASONALITY: Many Anhinga migrate from the north and east around the Gulf to more southern winter grounds. They can be observed in migration kettles in both spring and fall. Local birds nest in swamp settings or in association with other colonial nesters. It is not known if local nesters are the individuals which winter in the area. TPWD estimated 54 nesting pairs per year from 1973-2004 in Victoria County.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 95) nesting; Ortego et al. (2011).

NEOTROPIC CORMORANT

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 500 occurred at **MF** in June of 2002 and has been reported from 6 of the Top 10 eBird Hotspots.

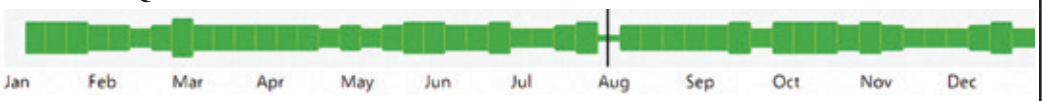
EBIRD: Reported at 56 eBird locations with 16 being inside the **Loop**. **IW, RP** and **SL** have been the most reliable locations.

CBCs: TXGF reported an average of 8 with a high of 37. Occurred in 49% of the TXVI counts and averaged 7 with a high of 90.

HABITAT: Shallow wetlands.

SEASONALITY: TPWD estimated 162 nesting pairs per year from 1973-2004 in Victoria County.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p.92) nesting; Ortego et al. (2011).

DOUBLE-CRESTED CORMORANT

STATUS: Winter Resident.

HOTSPOTS: Maximum of 500 occurred at a private location in February of 2019 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 71 eBird locations with 34 being inside the **Loop**. **IW, SL** and **RP** have been the most reliable locations.

CBCs: TXGF reported an average of 36 with a high of 278. TXVI reported an average of 69 with a high of 388.

HABITAT: Bay, lake, ponds, creeks, rivers, and canals.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 90) fall specimen; Ortego et al. (2011).

AMERICAN WHITE PELICAN

STATUS: Winter Resident.

HOTSPOTS: Maximum of 1,000 occurred at **MF** in October of 2014 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 26 eBird locations with 6 being inside the **Loop**. Many records are of fly-over birds.

CBCs: Occurred on 69% of the TXGF counts and averaged 54 with a high of 272. Occurred on 37% of the TXVI counts and averaged 7 with a high of 111.

HABITAT: Bay, lakes, tidal creeks, and canals.

SEASONALITY: Highly migratory species which breeds as far north as Canada and winters on the Gulf Coast. This migration takes the species through a variety of hazards. A bird as large as a pelican with the many individuals which make up a migratory flock forms a very large target. A lightning bolt hit one of these flocks and killed/injured over 200 during one event in the 1990's (fide Lyndon Schatz, TPWD). A private stock tank was full of dead or injured birds, and a local veterinarian was called for assistance.

Species forms cooperative foraging groups among themselves during their winter stay creating skirmish-like lines of birds dipping their bills and driving bait into the shallows. Cormorants, gulls and terns take advantage of the herding by the pelicans and join in the free-for-all in pursuit of prey. The competitive foraging occasionally results in birds being injured. TPWD has once received a report of white pelicans breaking the necks of Double-crested Cormorants in one of these foraging events by grabbing the fish with the attached cormorant head and shaking.

Pelicans are very efficient foragers in shallow water and can create extensive economic damage to catfish and shrimp farming operations. Brent drove by one of these commercial aquaculture operations and noticed a variety of devices used to deter avian depredation. Wires/strings across the ponds were installed to deter low flying birds, laser lights flashing multiple colors were used to scare birds at night, and country music kept the pelicans away. The music could be heard from over a km and Brent thought a large party was in progress.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 78).

BROWN PELICAN

STATUS: Year-Round Resident and Non-Breeder.

HOTSPOTS: Maximum of 4 occurred at Placedo Creek in December of 2014 and has been reported from **IW** and **SL**.

EBIRD: Reported at 9 eBird locations with 3 being inside the **Loop**. Placedo Creek**,** Garcitas Cove and **SL** have been the most reliable locations.

HOTSPOTS: One was reported at **IW** during June of 1998**.**

CBCs: Occurred on 19% of the TXGF counts and averaged one with a high of 3. One individual was found once during a TXVI CBC in 2016 and 2018.

HABITAT: Bay, lake, tidal creeks, and canals.

EBIRD FREQUENCY:

AMERICAN BITTERN

STATUS: Winter Resident.

HOTSPOTS: Maximum of 2 occurred at **IW** several times and has been reported from **MF** and **SR**.

EBIRD: Reported at 8 eBird locations with none being inside the **Loop**. Most lists contain a single bird.

CBCs: Occurred on 31% of the TXGF counts and averaged <1 with a high of 2. Occurred on 16% of the TXVI counts and averaged <1 with a high of 3.

HABITAT: Marsh and rice fields.

SEASONALITY: Mid-April is typically the peak during spring migration, but Victoria County eBird data does not support this.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 119) migration.

LEAST BITTERN

STATUS: Summer Resident.

HOTSPOTS: Maximum of 6 occurred at **IW** in April of 1998 and May of 1999 and reported from **MF** and Placedo Creek.

EBIRD: Reported at 6 eBird locations with 2 being inside the **Loop**. Most lists contain 1 or 2 birds.

HABITAT: Marsh and rice fields.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 120) fall.

GREAT BLUE HERON

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 340 occurred at **MF** in June of 2002 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 100 eBird locations with 42 being inside the **Loop**. Away from the known rookeries, most lists contain 1 or 2 birds.

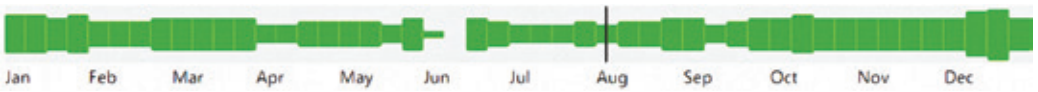
CBCs: TXGF reported an average of 32 with a high of 50. TXVI reported an average of 20 with a high of 49. Winter population appears relatively stable.

BBS: Occurred 4 years with a high count of 2 and an average of 1.

HABITAT: Wetlands.

SEASONALITY: Nest construction and territory defense starts in late winter with most young fledging by end of spring. Young and adults disperse widely afterwards. Breeding population in the lower Guadalupe River basin have declined from an average of over 100 nesting pairs per year in 1981-90 to less than 20 in 2011-20.

EBIRD FREQUENCY:



BANDED: One at **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 101) nesting; Ortego et al. (2011).

GREAT EGRET

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 400 occurred at **MF** in June of 1996 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 130 eBird locations with 59 being inside the **Loop**. Away from the known rookeries, most lists contain less than 10 birds.

CBCs: TXGF reported an average of 28 with a high of 112. TXVI reported an average of 25 with a high of 74.

BBS: Occurred 6 years with a high count of 5 and an average of one.

HABITAT: Wetlands.

SEASONALITY: TPWD estimated an average of 121 nesting pairs per year from 1973-2004 in Victoria County.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 103) nesting; Ortego et al. (2011).

SNOWY EGRET

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 1,600 occurred at **MF** June of 1996 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 81 eBird locations with 31 being inside the **Loop**. Away from known rookeries, most lists contain less than 10 birds.

CBCs: TXGF reported an average of 9 with a high of 27. TXVI reported an average of 8 with a high of 48.

BBS: Occurred 3 years with a high count of 16 and an average of one.

HABITAT: Wetlands.

SEASONALITY: Breeding population in the lower Guadalupe River basin have declined from an average of over 200 nesting pairs per year from 1991-00 to less than 50 from 2011-18.

EBIRD FREQUENCY:

BANDED: One at **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 104) nesting; Ortego et al. (2011).

LITTLE BLUE HERON

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 4,000 occurred at **MF** in June of 1996 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 48 eBird locations with 15 being inside the **Loop**. Away from the known rookeries, most lists contain less than 10 birds.

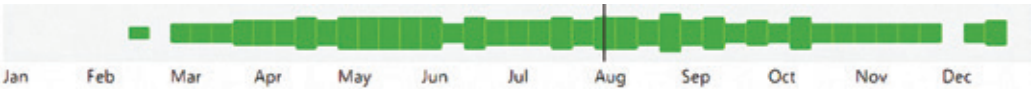
CBCs: Occurred on 69% of the TXGF counts and averaged 3 with a high of 17. Occurred on 35% of the TXVI counts and averaged one with a high of 5.

BBS: Occurred 7 years with a high count of 5 and an average of 2.

HABITAT: Wetlands.

SEASONALITY: Breeding population in the lower Guadalupe River basin have declined from an average of over 400 nesting pairs per year from 1981-00 to less than 50 from 2011-18.

EBIRD FREQUENCY:



BANDED: 3 at **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 110) nesting; Ortego et al. (2011).

TRICOLORED HERON

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 200 occurred at **MF** in June of 1996 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 23 eBird locations with 7 being inside the **Loop**. Away from known rookeries, most lists contain less than 10 birds.

CBCs: Occurred on 44% of the TXGF counts and averaged 3 with a high of 19. TXVI has only reported one individual.

HABITAT: Marshes.

SEASONALITY: Breeding population in the lower Guadalupe River basin are relatively small and they supplement populations nesting in tidal waters. TPWD estimated an average of 25 nesting pairs per year from 1973-2004 in Victoria County.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 109) nesting; Ortego et al. (2011).

REDDISH EGRET

STATUS: Year-Round Resident and Non-Breeder.

HOTSPOTS: Maximum of 2 occurred at **MF** in September of 2015 and has been reported from **SL** and Placedo Creek.

EBIRD: Reported at 4 eBird locations with one being inside the **Loop**. All records contain 1 or 2 birds.

CBCs: TXGF reported one individual in 2005.

HABITAT: Large wetlands.

SEASONALITY: Adults can be found at the **Garcitas** and Placedo Creek**s**, but they do not nest in the County. Young of the year disperse from tidal nesting colonies nearby and forage in small numbers from summer through winter in tidal and freshwater sites.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 107) spring and fall; Ortego et al. (2011).

CATTLE EGRET

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 16,000 occurred at **MF** in June of 1996 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 150 eBird locations with 53 being inside the **Loop**. Abundant and widespread.

CBCs: Occurred on 69% of TXGF counts and average 12 with a high of 49. TXVI reported an average of 45 with a high of 841.

BBS: Occurred 10 years with a high count of 236 and an average of 109.

HABITAT: Forages in grasslands, ag fields, and mowed fields. Follows livestock, machinery, and pasture fires to capture exposed prey. Nest in shrubs or trees in wetlands, on islands and in woodlots.

SEASONALITY: Species was first detected in Texas during 1955 and was first known to breed in 1958. Breeding population in the lower Guadalupe River basin averaged over 17,000 nesting pairs per year from 1981-90. The population declined to an average of 3000 pairs from 2011-18. Large number migrate through County in fall and provides an impression of a much larger breeding population.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 114) winter; Ortego et al. (2011).

GREEN HERON

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 11 occurred at **MF** in September of 2015 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 44 eBird locations with 15 being inside the **Loop**. Most lists contain less than 10 birds.

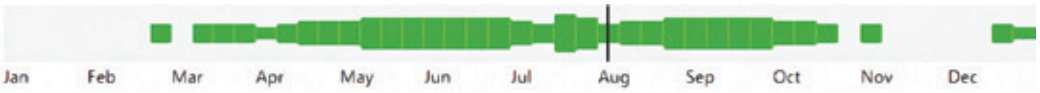
CBCs: Occurred on 31% of TXGF counts and averaged one with a high of 3. Occurred on 31 of TXVI counts and averaged <1 with a high of 2.

BBS: Occurred 4 years with a high count of 6 and an average of one.

HABITAT: Rivers, streams, marsh, and shallow wetlands

SEASONALITY: Most Green Herons in Victoria County are migrants. They commonly breed in local swamps, rivers, creeks, and man-made wetlands in spring. They nest in shrubbery hang over water mostly as isolated nests. They forage individually for invertebrates, amphibians, and fish. Most depart the breeding grounds in the fall and migrate south. A few over-winter.

EBIRD FREQUENCY:



BANDED: 3 at **OH** and 2 at **MF** and recaptured 0.

BLACK-CROWNED NIGHT-HERON

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 80 occurred at **MF** in June of 2003 and has been reported from **IW, RP,** and **SA**.

EBIRD: Reported at 16 eBird locations with 5 being inside the **Loop**. Most lists contain less than 10 birds and **MF** and **IW** have been the most reliable locations.

CBCs: Occurred on 63% of TXGF counts and averaged 7 with a high of 35. Occurred on 7% of TXVI counts and averaged <1 with a high of 3.

HABITAT: Wetlands.

SEASONALITY: The Black-crowned primarily forages at night and roosts in dense vegetation either near or over water. Most occur in tidal areas, but small numbers forage in interior wetlands.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 116) nesting; Ortego et al. (2011).

YELLOW-CROWNED NIGHT-HERON

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 300 occurred at **IW** in June of 1996 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 24 eBird locations with 9 being inside the **Loop**. Away from known rookeries, most lists contain less than 10 birds

CBCs: Occurred on 31% of TXGF counts and averaged <1 with a high of 5.

BBS: Occurred 2 years with a high count of 2 and an average of 0.

HABITAT: Wetlands. Nest in swamps, rivers, and creeks on branches over water.

SEASONALITY: Common to abundant in the lower reaches of the Guadalupe and San Antonio Rivers. They return to their breeding grounds in March and nest in small colonies or as scattered individuals generally building their nest on limbs of trees that hang over water. Some populations have adapted to urban environments and nests in large shade trees generally in the vicinity of dogs. Dogs have been discussed as a possible deterrent to predation. Yellow-crowns prefer to forage for crustaceans which is done at all hours of the day. Most leave the County during fall with a few over-wintering.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 117) nesting; Ortego et al. (2011).

WHITE IBIS

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 4,000 occurred at **MF** in June of 1996 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 55 eBird locations with 16 being inside the **Loop**. Away from known rookeries, most lists contain less than 10 birds.

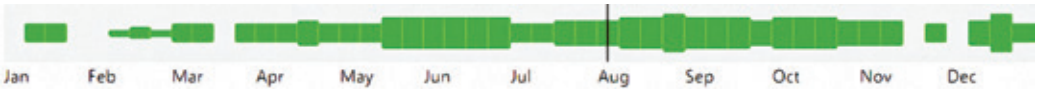
CBCs: TXGF reported an average of 213 with a high of 558. Occurred on 44% of TXVI counts and averaged 7 with a high of 62.

BBS: Occurred 3 years with a high count of 86 and an average of 8.

HABITAT: Shallow wetlands.

SEASONALITY: TPWD estimated an average of 421 nesting pairs per year from 1973-2004 in Victoria County with numbers varying from 100 to 750.

EBIRD FREQUENCY:



BANDED: 7 at **OH** with no recaptures.

REFERENCES: Oberholser (1974; p. 129) nesting; Ortego et al. (2011).

GLOSSY IBIS

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **MF** in May of 1997 and 2014.

EBIRD: No other eBird records.

HABITAT: Wetlands.

EBIRD FREQUENCY:

WHITE-FACED IBIS

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 117 occurred at **MF** in December of 2009 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 35 eBird locations with 11 being inside the **Loop**. Most lists contain less than 20 birds and **MF** and **IW** have been the most reliable locations.

CBCs: TXGF reported an average of 83 with a high of 351. Occurred on 37% of TXVI counts and averaged 11 with a high of 220.

BBS: Occurred one year with a high count of one and an average of 0.

HABITAT: Wetlands.

SEASONALITY: TPWD estimated from 1981-2000 about 50 pairs nested in the County. They tended to nest in tall, dense reeds in the vicinity of nesting herons and egrets. They discontinued nesting as the nesting habitat changed.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 127) summer and spring.

ROSEATE SPOONBILL

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 120 occurred at **MF** in June of 1996 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 46 eBird locations with 12 being inside the **Loop**. Away from known rookeries, most lists contain less than 5 birds and **IW**, **MF, SL** and **RP** have been the most reliable locations.

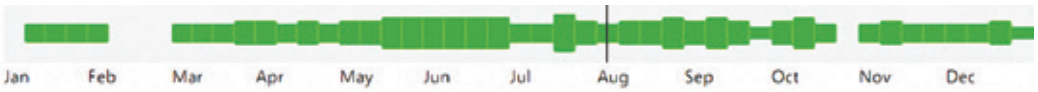
CBCs: TXGF reported an average of 6 with a high of 25. Occurred on 19% of TXVI counts and averaged one with a high of 50.

BBS: Occurred 3 years with a high count of 2 and an average of one.

HABITAT: Shallow wetlands. Nest on islands and in swamps.

SEASONALITY: TPWD population estimates of spoonbills fluctuate from high averages of 205 nesting pairs per year from 1981-90, to 100 nesting pairs from 1991-2000, to 480 nesting pairs from 2001-2010 to 75 nesting pairs from 2011-2018.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 132) nesting; Ortego et al. (2011).

BLACK VULTURE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 400 flew over **OH** in March of 2013 and has been reported from all Top 10 eBird Hotspots.

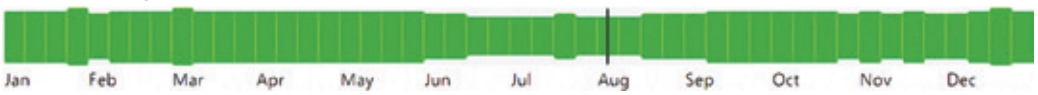
EBIRD: Reported at over 200 eBird locations with over 100 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 267 with a high of 555. TXVI reported an average of 286 with a high of 876.

BBS: Occurred 10 years with a high count of 204 and an average of 104.

HABITAT: All Habitats. Nests in hollow trees, brush piles, and old buildings. Roost on trees and man-made structures with radio/microwave towers being common.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 203) resident.

TURKEY VULTURE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 512 flew over **OH** in February of 2020 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 200 eBird locations with over 100 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 163 with a high of 299. TXVI reported an average of 230 with a high of 509.

BBS: Occurred 10 years with a high count of 87 and an average of 28.

HABITAT: All Habitats. Nests in hollow trees, brush piles, and old buildings. Roost on trees and man-made structures with radio/microwave towers being common.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 201) resident.

OSPREY

STATUS: Migrant.

HOTSPOTS: Maximum of 8 occurred at Garcitas Creek in October of 2014 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 33 eBird locations with 7 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXGF reported an average of one with a high of 4. Occurred on 67% of TXVI counts and averaged one with a high of 6.

HABITAT: Wetlands.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 249) spring.

WHITE-TAILED KITE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 5 occurred at **SA** in February of 2017 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 36 eBird locations with 6 being inside the **Loop**. Most lists are of 1 or 2 birds.

CBCs: TXGF reported an average of 4 with a high of 9. Occurred on 31% of TXVI counts and averaged one with a high of 8.

HABITAT: Grassland communities and ag fields.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 206) nesting.

SWALLOW-TAILED KITE

STATUS: Migrant and Former Breeder.

HOTSPOTS: Maximum of 5 occurred at **RP** in June of 2018 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 18 eBird locations with 4 being inside the **Loop**. Most lists contain 1 or 2 birds.

HABITAT: Forested communities and wetlands.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 208) historic nesting.

MISSISSIPPI KITE

STATUS: Summer Resident.

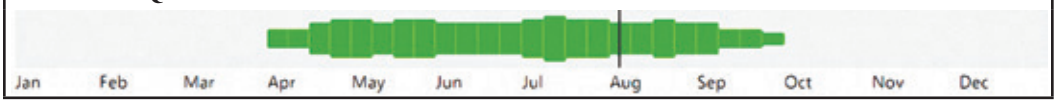
HOTSPOTS: Maximum of 511 occurred at **OH** in August of 2019 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 73 eBird locations with 52 being inside the **Loop**. Lists vary from less than 10 during breeding season to dozens or even hundreds during migration.

HABITAT: Forested communities and residential.

SEASONALITY: Nests in large shade trees in residential areas locally. Can be observed foraging over Victoria from elevated views from buildings or the highest land in **RP**. Large numbers of Mississippi Kites from eastern United States migrate through Victoria County. Kettles of dozens of birds are conspicuous during mid-morning while they are still at relatively low elevations.

EBIRD FREQUENCY:



NORTHERN HARRIER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 11 occurred at **SR** in December of 1998 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 73 eBird locations with 12 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 18 with a high of 61. TXVI reported an average of 13 with a high of 36.

HABITAT: Grassland and wetland communities, and ag fields.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 246) winter.

SHARP-SHINNED HAWK

STATUS: Winter Resident.

HOTSPOTS: Maximum of 45 occurred at **RP** in September of 2018 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 32 eBird locations with 8 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXGF reported an average of 3 with a high of 7. TXVI reported an average of 2 with a high of 8.

HABITAT: Forest, shrub, grassland and wetland communities, ag fields, and residential.

SEASONALITY: Large numbers of this species apparently migrate through the County along with other raptors, but they are not as conspicuous as the large flocks of Mississippi Kites and Broad-winged Hawks. Many fly low through forests and wooded residential areas making them susceptible to collisions with windows and getting trapped in warehouses. Small numbers over-winter.

EBIRD FREQUENCY:

BANDED: 5 at **OH**. National Longevity Record 12 years and 2 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
5	1	20%	20%	20%	20%	0%	0%	0%	1 year 1 month

FOREIGN RECAPTURE:

Banded 9-21-2004 in New Jersey Recaptured 11-4-2005 in Raisin, TX

COOPER'S HAWK

STATUS: Winter Resident.

HOTSPOTS: Maximum of 3 occurred at **MF** in December of 2011 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 50 eBird locations with 26 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXGF reported an average of 3 with a high of 6. TXVI reported an average of 2 with a high of 9.

HABITAT: Forest, shrub, grassland and wetland communities, ag fields, and residential.

SEASONALITY: Large numbers of this species apparently migrate through the County along with other raptors, but they are not as conspicuous as the large flocks of Mississippi Kites and Broad-winged Hawks. Many fly low through forests and wooded residential areas making them susceptible to collisions with windows and getting trapped in warehouses. Small numbers over-winter.

EBIRD FREQUENCY:

BALD EAGLE

STATUS: Winter Resident and Breeder.

HOTSPOTS: Maximum of 6 occurred at **MF** in April of 2014 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 72 eBird locations with 31 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXGF reported an average of 4 with a high of 11. Occurred on 63% of the TXVI counts and averaged 2 with a high of 8.

HABITAT: Wetland, forest and grassland communities, and ag fields.

SEASONALITY: TPWD located 10 nesting territories in Victoria County during 2005 for the 5th highest County tally in Texas. Eagles tend to leave their breeding grounds in late spring following food resources. They return in the fall about the same time as returning waterfowl. They lay eggs near Thanksgiving, most young hatch near the first of the year and fledge near Easter. Adults will feed young for 1-2 months after fledging and then will leave the area, to return the following fall.

EBIRD FREQUENCY:

BANDED: TPWD banded and color marked 138 juvenile Bald Eagles of which 28 were from Victoria County. Young typically left their nesting area in May and did not return until October. Birds mostly dispersed northward east of the Rocky Mountains and west of the Mississippi River. Extreme distances in their dispersal were Arizona, northern Mexico, Ontario, New York, South Carolina, and Florida. National Longevity Record is 38 years.

REFERENCES: Mabie et al. (1994), Ortego et al. (2009), Oberholser (1974; p. 244) nesting.

HARRIS'S HAWK

STATUS: Visitor.

HOTSPOTS: Maximum of 2 occurred in northeast Victoria **County** in February of 1995 and single birds have been reported from **SA** and **SR**.

EBIRD: Reported at 8 eBird locations with one being inside the **Loop**. All single birds.

CBCs: One individual was reported on two TXVI counts.

HABITAT: Shrub communities and ag fields.

EBIRD FREQUENCY:

WHITE-TAILED HAWK

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 7 occurred at **DT** in August of 2015 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 91 eBird locations with 24 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: Occurred on 63% of the TXGF counts and averaged 2 with a high of 5. TXVI reported an average of 2 with a high of 10.

BBS: Occurred one year with a high count of one and an average of 0.

HABITAT: Grassland communities and ag fields. Forages in conjunction with fire and tractor disturbances.

SEASONALITY: Nests in early spring on small trees in open grasslands. Adults are reported to stay in their nesting territory year-round while immatures roam in search of food. Takes advantage of farming operations and fires to expose prey. Will fly long distances to reach smoke columns from fires and tractors plowing, shredding, and harvesting crops.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 236) nesting.

RED-SHOULDERED HAWK

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 11 occurred at **RP** in August of 2020 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 130 eBird locations with 56 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 31 with a high of 54. TXVI reported an average of 16 with a high of 37.

BBS: Occurred 11 years with a high count of 6 and an average of 2.

HABITAT: Forest and shrub communities, and wooded residential.

EBIRD FREQUENCY:

BANDED: 3 at **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 221) resident.

BROAD-WINGED HAWK

STATUS: Migrant.

HOTSPOTS: Maximum of 4,500 occurred over Victoria in September of 1995 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 35 eBird locations with 18 being inside the **Loop**. Numbers per list range from one to many hundreds of birds. A few lists contain thousands.

SKIMMINGS: 1,000 reported on 9/29/92 at Wood Hi, and 2400 on 9/30/94 at Mission Valley.

HABITAT: Forest and shrub woodlands.

SEASONALITY: Migrates through the County in large numbers in fall and not as conspicuous in the spring. Many Broad-wings roost in the forests of the Guadalupe River floodplain. Accessing a view above the canopy from mid-September through mid-October at 10 a.m. provides one of the best opportunities to observe large flocks lifting off their roosting area. The vicinity of the junction at Hwy 77 and Old Refugio Road has been good in past years. The high ground over-looking the golf course near the rose gardens in **RP** is another good location.

EBIRD FREQUENCY:

BANDED: 4 with 0 recaptures.

REFERENCES: Oberholser (1974; p. 232) migration.

SWAINSON'S HAWK

STATUS: Migrant.

HOTSPOTS: Maximum of 30 occurred at Fox Road in April of 2018 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 48 eBird locations with 13 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported one individual once. Occurred on 7% of the TXVI and averaged <1 with a high of 3.

BBS: Occurred one year with a high count of 15 and an average of one.

HABITAT: Grassland communities and ag fields. Migrates over all landscapes. Hunts in conjunction with fire and tractor disturbances.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 2324) spring.

ZONE-TAILED HAWK

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **RP** in December of 1999 and in October 2009, and from **SA** in January of 2016.

EBIRD: Three eBird reports as indicated in **HOTSPOTS.**

SKIMMINGS: One reported on 3/1/97 on **SR**, and one on 3/4/92 near Mission Valley.

CBCs: Occurred once on the TXGF. Occurred in 7% of the TXVI counts and averaged <1 with a high of one.

HABITAT: Unknown.

EBIRD FREQUENCY:

REFERENCES: Elwonger (1994).

RED-TAILED HAWK

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 17 occurred at **SA** in February of 2017 and has been reported from 10 of the Top 10 eBird Hotspots.

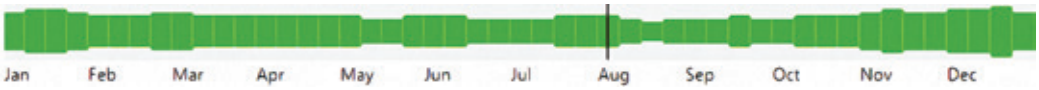
EBIRD: Reported at over 200 eBird locations with almost 100 being inside the **Loop**. Abundant and widespread.

CBCs: TXGF reported an average of 21 with a high of 37. TXVI reported an average of 32 with a high of 76.

BBS: Occurred 8 years with a high count of 3 and an average of one.

HABITAT: Grassland, forest, shrub and wetland communities, ag fields, and residential. Perches on trees and structures and frequently hunts roadways. Hunts in conjunction with fire and tractor disturbances.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 217) winter.

FERRUGINOUS HAWK

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **SR** from 2/12-3/20/92 and near Fordtran from 1/24-3/7/93.

CBCs: Occurred on 23% of the TXVI counts and averaged <1 with a high of 3.

HABITAT: Grassland communities and ag fields.

GOLDEN EAGLE

STATUS: Irregular.

SKIMMINGS: One was found NE of Victoria on 11/22/92, 12/4-11/94 and 12/23/95.

CBCs: One was reported on the TXVI during 1994.

HABITAT: Grassland and wetland communities, and ag fields.

BARN OWL

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 6 occurred at private location in February of 1973 and has been reported from **RP, MF** and **SL**.

EBIRD: Reported at 8 eBird locations with 3 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: Occurred on 31% of the TXGF counts and averaged <1 with a high of one. Occurred on 26% of the TXVI counts and averaged <1 with a high of 6.

HABITAT: Grassland, wetlands and woodland communities, ag fields, and residential. Uses nest boxes.

SEASONALITY: Most people associate the Barn Owl with roosts in buildings. The species also uses dense vegetation like cane thickets, cattail marshes, brush mottes and dense grasslands for roosting sites. They forage extensively over grasslands and vegetated ag fields. They will also use residential areas. They are susceptible to collisions with vehicles on highways with grassy medians.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 442) spring.

EASTERN SCREECH-OWL

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of one occurred at **RP** in April of 2016 and at **MF** in April of 2003.

EBIRD: Reported at 3 eBird locations with 2 being inside the **Loop**. All 3 records are of single birds.

CBCs: Occurred on 38% of the TXGF counts and averaged one with a high of 2. Occurred on 23% of the TXVI counts and averaged <1 with a high of 3.

HABITAT: Forest and woodland communities. Uses nest boxes.

SEASONALITY: Frequents woodlots, narrow riparian forests, and woodlands with dense shrub mid-stories. Will use residential woodlands in areas with few large owls. Needs cavities for roosting and nesting.

EBIRD FREQUENCY:

GREAT HORNED OWL

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 4 occurred at **SR** in November of 2017 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 40 eBird locations with 14 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXGF reported an average of 4 with a high of 14. TXVI reported an average of 4 with a high of 9.

BBS: Occurred 4 years with a high count of 2 and an average of one.

HABITAT: Forest and shrub communities, grasslands, ag fields and residential.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 447) resident.

BURROWING OWL

STATUS: Winter Resident.

HOTSPOTS: Maximum of one occurred at **SR** in October of 1992 and in December of 2019, and at **FM 2615** in March of 2014.

EBIRD: Reported at 3 eBird locations with none being inside the **Loop**. All records contain a single bird.

CBCs: TXVI reported one on 12/28/2019.

HABITAT: Grasslands and ag fields.

EBIRD FREQUENCY:

BARRED OWL

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 12 occurred at **RP** in April of 2014 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 46 eBird locations with 14 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 14 with a high of 40. TXVI reported an average of 4 with a high of 9.

BBS: Occurred 9 years with a high count of 5 and an average of 2.

HABITAT: Forest and shrub communities. Uses nest boxes.

EBIRD FREQUENCY:

BANDED: 4 with 0 recaptures at **OH.**

REFERENCES: Oberholser (1974; p. 455) nester.

LONG-EARED OWL

STATUS: Vagrant.

REFERENCES: Oberholser (1974; p. 458) one winter specimen.

SHORT-EARED OWL

STATUS: Winter Resident.

HOTSPOTS: Maximum of one occurred at **SR** in January of 1993, December of 2017 and 2019, also at **MF** in December of 2017 and **IW** in January 1999.

EBIRD: Reported at 5 eBird locations with none being inside the **Loop**. All records contain a single bird.

CBCs: Occurred on 25% of the TXGF counts and averaged one with a high of one. Occurred on 19% of the TXVI counts and averaged <1 with a high of 7.

HABITAT: Dense and tall grasslands.

EBIRD FREQUENCY:

RINGED KINGFISHER

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **RP** from Sep-Dec 1993, in November of 1995, March of 1996 and in April of 2002.

EBIRD: A single record at **RP** in 2002. See **HOTSPOTS**.

SKIMMINGS: One reported at **MF** on 1/21/02.

CBCs: TXGF reported one in 2018. TXVI reported one 3 times.

HABITAT: Creeks, rivers, and oxbows.

EBIRD FREQUENCY:

BELTED KINGFISHER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 12 occurred at Garcitas Creek in October of 2014 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 63 eBird locations with 27 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXGF reported an average of 9 with a high of 27. TXVI reported an average of 11 with a high of 23.

HABITAT: Creeks, rivers, oxbows, bays, and wetlands. Nest in bank burrows.

EBIRD FREQUENCY:

BANDED: 2 at **OH** with 0 recaptures**.**

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
2	1	50%	50%	50%	0%	0%	0%	0%	9 months

REFERENCES: Oberholser (1974; p. 501) resident.

GREEN KINGFISHER

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 6 occurred at **SA** in March of 2015 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 22 eBird locations with 9 being inside the **Loop**. Most lists contain 1 or 2 birds and **RP** has been the most reliable location.

SKIMMINGS: Seven were reported 3/10/02 north of Victoria on the Guadalupe River.

CBCs: TXGF reported an average of 3 with a high of 8. Occurred on 53% of the TXVI counts and averaged one with a high of 6.

HABITAT: Creeks, rivers and oxbows. Nest in bank burrows.

EBIRD FREQUENCY:

BANDED: 3 with 0 recaptures at **OH** and 2 at **MF**. National Longevity Record is 5 years.

REFERENCES: Oberholser (1974; p. 505) spring.

YELLOW-BELLIED SAPSUCKER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 13 occurred at **RP** in December of 1995 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 56 eBird locations with 19 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 18 with a high of 37. TXVI reported an average of 19 with a high of 48.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 10 at **OH**. Site Fidelity 50%. 1-Year Survivorship 10%. National Longevity Record is 7 years and 9 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
10	2	20%	20%	20%	10%	10%	0%	0%	1 year 11 months

REFERENCES: Oberholser (1974; p. 518) winter.

RED-NAPED SAPSUCKER

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **RP** in January of 1995 and at **MF** in December of 2011.

EBIRD: Single eBird record in MF. See **HOTSPOTS**.

CBCs: TXGF reported one in 2,011. TXVI reported one in 1994 and 2011.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

RED-HEADED WOODPECKER

STATUS: Irregular.

HOTSPOTS: Maximum of 4 occurred at **SA** in February of 1999 and has been reported twice from **RP**.

EBIRD: Reported at 3 eBird locations with one being inside the **Loop**.

CBCs: TXGF reported one in 2008. Occurred in 12% of the TXVI counts and averaged one with a high of 11.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 514) nester.

GOLDEN-FRONTED WOODPECKER

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 8 occurred at **MF** in December of 2019 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 24 eBird locations with 13 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: Occurred on 56% of the TXGF counts and averaged 2 with a high of 9. Occurred on 47% of the TXVI counts and averaged with a high of 7.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 3 with 0 recaptures.

REFERENCES: Oberholser (1974; p. 513) resident.

RED-BELLIED WOODPECKER

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 30 occurred at **SA** in May of 2016 and has been reported from all Top 10 eBird Hotspots.

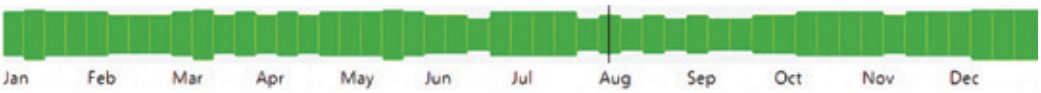
EBIRD: Reported at 140 eBird locations with 60 being inside the **Loop**. Abundant and widespread.

CBCs: TXGF reported an average of 81 with a high of 144. TXVI reported an average of 55 with a high of 102.

BBS: Occurred 11 years with a high count of 30 and an average of 18.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:



BANDED: 17 at **OH.** Site Fidelity 71%. 1-Year Survivorship 29%. National Longevity Record is 12 years and 3 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
17	7	41%	41%	41%	29%	24%	18%	12%	4 years 8 months

REFERENCES: Oberholser (1974; p. 511) resident.

DOWNY WOODPECKER

STATUS: Year-Round Resident.

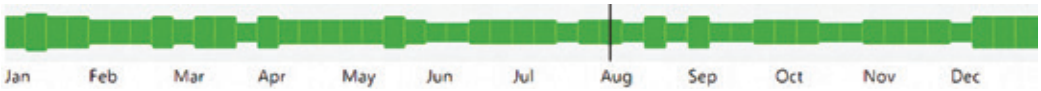
HOTSPOTS: Maximum of 10 occurred at **RP** in January of 2012 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 59 eBird locations with 32 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred on 69% of the TXGF counts and averaged 3 with a high of 9. TXVI reported an average of 8 with a high of 22.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:



BANDED: 6 at **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 522) resident.

LADDER-BACKED WOODPECKER

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 11 occurred at **SA** in May of 2006 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 70 eBird locations with 15 being inside the **Loop**. Abundant and widespread.

CBCs: TXGF reported an average of 4 with a high of 9. TXVI reported an average of 13 with a high of 36.

BBS: Occurred 11 years with a high count of 11 and an average of 6.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 5 at **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 524) resident.

PILEATED WOODPECKER

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 8 occurred at **MF** in September of 2015 and has been reported from 9 of the Top 10 eBird Hotspots.

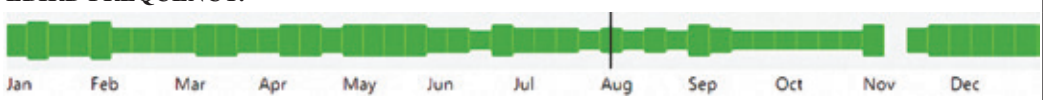
EBIRD: Reported at 59 eBird locations with 18 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 13 with a high of 24. TXVI reported an average of 4 with a high of 18.

BBS: Occurred 4 years with a high count of 2 and an average of one.

HABITAT: Forest communities, and residential woodlands.

EBIRD FREQUENCY:



BANDED: 2 at **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 509) resident.

NORTHERN FLICKER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 6 occurred at **RP** in December of 1995 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 37 eBird locations with 8 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 4 with a high of 15. TXVI reported an average of 12 with a high of 40.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 506) winter.

CRESTED CARACARA

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 71 occurred at Menke Road in September of 2015 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at almost 300 eBird locations with 84 being inside the **Loop**. Abundant and widespread.

CBCs: TXGF reported an average of 31 with a high of 52. TXVI reported an average of 26 with a high of 72. Numbers before 1983 averaged <5 and it was followed by a rapid increase in the long-term average.

BBS: Occurred 11 years with a high count of 9 and an average of 5.

HABITAT: Shrub communities, Coastal Prairie, wetlands, and ag fields.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 251) winter.

AMERICAN KESTREL

STATUS: Winter Resident.

HOTSPOTS: Maximum of 65 occurred at **Inez** in February of 2016 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 200 eBird locations with 76 being inside the **Loop**. Abundant and widespread.

CBCs: TXGF reported an average of 33 with a high of 67. TXVI reported an average of 72 with a high of 130.

HABITAT: Coastal Prairie, grassland savannah, and ag fields. Perches on trees, powerlines, posts, etc.

EBIRD FREQUENCY:

BANDED: 5 at **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 260) winter.

MERLIN

STATUS: Winter Resident.

HOTSPOTS: Maximum of 2 occurred at **SR** in December of 2018 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 22 eBird locations with 5 being inside the **Loop**. Most lists contain a single bird.

CBCs: Occurred on 63% of the TXGF counts and averaged one with a high of 8. Occurred on 33% of the TXVI counts and averaged <1 with a high of 5.

HABITAT: Coastal Prairie, grassland savannah, and ag fields.

SEASONALITY: Perches on short trees, fences, and bare ground while hunting. It was formerly called "Pigeon Hawk". We have never seen it hunting pigeons, but there are many doves, sparrows, and blackbirds in the County to feed them. It is also one of the raptor species which hunt blackbird roost flocks—picking off stragglers in the vicinity of large flocks.

EBIRD FREQUENCY:

PEREGRINE FALCON

STATUS: Winter Resident.

HOTSPOTS: Maximum of 2 occurred at **MF** in November of 2002 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 21 eBird locations with 6 being inside the **Loop**. Most lists contain a single bird.

CBCs: TXGF reported one 5 times. TXVI reported one twice.

HABITAT: Wetlands and open landscapes.

SEASONALITY: The Peregrine Falcon's population has rebounded to a much higher level since the "pesticide era". It is no longer a rare bird. Even with higher numbers, it is still a "Wow Moment" when you see one—hammering a duck as it lifts off a wetland, snatching a shorebird flying within feet of your vehicle, and the falcon trying its darndest to catch a Buff-breasted Sandpiper out of a flock of dozens zigging and zagging over a turf farm to avoid this terrifying predator.

EBIRD FREQUENCY:

PRAIRIE FALCON

STATUS: Irregular.

EBIRD: No eBird records.

HABITAT: Grasslands and open landscapes.

SKIMMINGS: One in November 1991.

REFERENCES: Elwonger (1994)

OLIVE-SIDED FLYCATCHER

STATUS: Migrant.

HOTSPOTS: Maximum of 3 occurred at **RP** in May of 2020 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 9 eBird locations with 3 being inside the **Loop**. Most lists contain 1 or 2 birds.

HABITAT: Exposed snags in forest and shrub communities.

EBIRD FREQUENCY:

BANDED: One at **MF** and **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 564) fall.

EASTERN WOOD-PEWEE

STATUS: Migrant.

HOTSPOTS: Maximum of 30 occurred at **RP** in May of 2008 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 30 eBird locations with 15 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXVI reported one in 1997.

BBS: Occurred one year with a high count of one and an average of 0.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 7 at **OH** with 0 recaptures; 5 in spring and 2 in fall.

REFERENCES: Oberholser (1974; p. 561) migrant.

YELLOW-BELLIED FLYCATCHER

STATUS: Migrant.

HOTSPOTS: Maximum of 4 occurred at **RP** in September of 2010 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 8 eBird locations with 6 being inside the **Loop**. Most lists contain 1 or 2 birds and **RP** has been the most reliable location.

HABITAT: Forest communities.

EBIRD FREQUENCY:

BANDED: 34 with 0 recaptures at **OH**; 9% were caught in spring, 35% in August, 44% in September and 12% in October. Species occurred in surges of movements with several being caught on a day followed by a week or more of absence.

REFERENCES: Oberholser (1974; p. 551) migrant.

ACADIAN FLYCATCHER

STATUS: Migrant.

HOTSPOTS: Maximum of 6 occurred at **RP** in May of 2020 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 9 eBird locations with 5 being inside the **Loop**. Most lists contain 1 or 2 birds and **RP** has been the most reliable location.

HABITAT: Forest communities.

EBIRD FREQUENCY:

BANDED: 12 at **OH** with 0 recaptures; 8 were caught in May, one in June, 2 in August and one in September.

REFERENCES: Oberholser (1974; p. 552) spring.

ALDER FLYCATCHER

STATUS: Migrant.

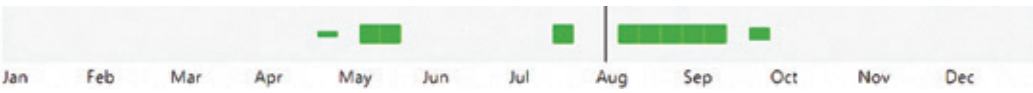
HOTSPOTS: Maximum of 12 occurred at **RP** in April of 2014 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 5 eBird locations with 2 being inside the **Loop**. Most lists contain 1 to 3 birds, with **RP** having been the most reliable locations.

HABITAT: Forest and shrub communities

SEASONALITY: Alder and Willow Flycatchers are difficult to distinguish from each other. Pyle (1997) was used as the reference to distinguish between the two species in the hand. There is a 30% overlap in body measurements between the two species and those individuals within the overlap zone were identified as Traill's. We only report those individuals identified to species.

EBIRD FREQUENCY:



BANDED: 141 banded at **OH** with 0 recaptures; 5% were caught in May, 72% in August and 23% in September.

WILLOW FLYCATCHER

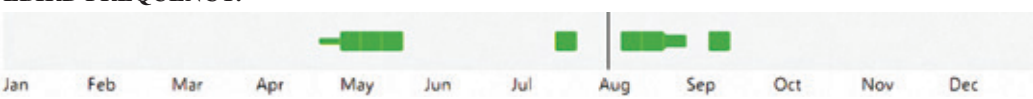
STATUS: Migrant.

HOTSPOTS: Maximum of 3 occurred at **MF** in May of 1997 and has been reported from **OH** and **RP**.

EBIRD: Reported at 5 eBird locations with 2 being inside the **Loop**. Most lists contain 1 or 2 birds.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:



BANDED: 39 banded at **OH** with 0 recaptures; 59% caught in August, 36% in September and 5% in May.

LEAST FLYCATCHER

STATUS: Migrant.

HOTSPOTS: Maximum of 7 occurred at **OH** in August of 2008 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 17 eBird locations with 6 being inside the **Loop**. Most lists contain 1 or 2 birds, with **RP** having been the most reliable location.

CBCs: Occurred on 50% of the TXGF counts and averaged one with a high of 8. TXVI reported one in 2008.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

BANDED: Banded 66 at **OH**. 9% in spring, 48% in September, 35% in August. Site Fidelity 0. Also caught 10 at **MF** with no recaptures.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
66	7	2%	0%	0%	0%	0%	0%	0%	1 week

Figure 15. Western Flycatcher 11/21/05 At Ortego Home.

CORDILLERAN/PACIFIC-SLOPE (WESTERN) FLYCATCHER

STATUS: Vagrant.

HOTSPOTS: One report from **OH** in September of 2000**.**

HABITAT: Shrub Communities.

BANDED: One on 9/18 and one on 9/24/2000 at **OH** with no recaptures. Measurements of the Cordilleran and Pacific-slope Flycatchers have enough overlap where species identification could not be made in these 2 situations.

REFERENCES: Pyle (1997).

EASTERN PHOEBE

STATUS: Winter Resident.

HOTSPOTS: Maximum of 80 occurred at **MF** in December of 2016 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at almost 150 eBird locations with 46 being inside the **Loop**. Abundant and widespread.

CBCs: TXGF reported an average of 281 with a high of 408. TXVI reported an average of 128 with a high of 565.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: Capture of 37% of the phoebes at **OH** occurred in October with the arrival of the first birds and declined monthly until 2% in March. Site Fidelity 69%. 1-Year Survivorship 11%. Banded 34 at **MF** with one recapture from 1-year and one from 1.5 years after banding. National Longevity Record is 10 years and 4 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
122	22	18%	16%	11%	11%	5%	5%	5%	6 years 1 month

REFERENCES: Oberholser (1974; p. 547) winter.

SAY'S PHOEBE

STATUS: Winter Visitor.

HOTSPOTS: Maximum of one occurred at **SA** in December of 2015 and at **IW** in February of 2002.

EBIRD: Reported at 3 eBird locations with one being inside the **Loop**. All 3 lists contain a single bird.

CBCs: TXVI reported one in 1979.

HABITAT: Shrub savannah, rural residential, and ag facilities.

EBIRD FREQUENCY:

VERMILLION FLYCATCHER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 13 occurred at **MF** in December of 2010 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 66 eBird locations with 18 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 14 with a high of 29. TXVI reported an average of 3 with a high of 12.

HABITAT: Shrub savannah, ponds, and small freshwater wetlands.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 565) spring.

ASH-THROATED FLYCATCHER

STATUS: Visitor.

HOTSPOTS: Maximum of 5 occurred at **SA** in May of 1994 and has been reported from **MF, RP** and **SL**.

EBIRD: Reported at 7 eBird locations with 3 being inside the **Loop**. Most lists contain 1 or 2 birds with **SA** having been the most reliable location.

CBCs: Occurred on 25% of the TXGF counts and averaged <1 with a high of 2. Occurred on 25% of the TXVI counts and averaged <1 with a high of 4.

BBS: Occurred 8 years with a high count of 7 and an average of 2.

HABITAT: Shrub communities.

SEASONALITY: Difficult to separate, except when calling, from the more common Brown-crested Flycatcher. Small numbers have been reported on breeding territory in May and June and the remainder of reports have been either winter or spring. Species frequents abandoned woodpecker cavities in fence posts and electrical poles.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 545) migrant.

GREAT CRESTED FLYCATCHER

STATUS: Summer Resident.

HOTSPOTS: Maximum of 27 occurred at **RP** in September of 2010 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 45 eBird locations with 23 being inside the **Loop**. Most lists contain less than 10 birds, with **RP** having been the most reliable location.

CBCs: TXGF reported one 3 times.

BBS: Occurred 4 years with a high count of 4 and an average of one.

HABITAT: Forests.

EBIRD FREQUENCY:

BANDED: Banded 27 at **OH**. August and September produced 80% of the captures during the April—September period of occupancy. Site Fidelity 100%. 1-Year Survivorship 7%. Species occurrence at **OH** appears atypical (low) to species presence at **RP** and **MF** which have the highest populations in the County.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
27	2	7%	7%	7%	7%	7%	7%	7%	5 years 1 month

REFERENCES: Oberholser (1974; p. 543) nester.

BROWN-CRESTED FLYCATCHER

STATUS: Summer Resident.

HOTSPOTS: Maximum of 43 occurred at **SA** in May of 2014 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 30 eBird locations with 4 being inside the **Loop**. **SA** and **MF** have been the most reliable locations.

CBCs: TXGF reported 2 in 2016.

BBS: Occurred 11 years with a high count of 43 and an average of 24.

HABITAT: Woodland and shrub communities.

EBIRD FREQUENCY:

BANDED: 3 with 0 recaptures.

GREAT KISKADEE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 8 occurred at **MF** in December of 2017 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 24 eBird locations with 8 being inside the **Loop**. Most lists contain less than 5 birds with **MF** and **RP** having been the most reliable locations.

CBCs: TXGF reported an average of 5 with a high of 13. Occurred on 21% of the TXVI counts and averaged <1 with a high of 3.

HABITAT: Riparian forests, shrub communities and swamps.

EBIRD FREQUENCY:

BANDED: One with 0 recaptures.

COUCH'S KINGBIRD

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 29 occurred at **MF** in March of 2019 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 100 eBird locations with 36 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 22 with a high of 50. Occurred on 67% of the TXVI counts and averaged 16 with a high of 65.

BBS: Occurred one year with a high count of one and an average of 0.

HABITAT: Riparian woodlands.

EBIRD FREQUENCY:

BANDED: One with 0 recaptures.

CASSIN'S KINGBIRD

STATUS: Vagrant.

HOTSPOTS: Maximum of one occurred at **RP** in March of 2013.

EBIRD: There is a single eBird record from **RP.** See **HOTSPOTS**.

EBIRD FREQUENCY:

WESTERN KINGBIRD

STATUS: Summer Resident.

HOTSPOTS: Maximum of 8 occurred at a private location in June of 2018 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 54 eBird locations with 34 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXVI reported one 3 times.

HABITAT: Shrub communities, residential, and ag fields.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 537) nester.

EASTERN KINGBIRD

STATUS: Migrant.

HOTSPOTS: Maximum of 47 occurred at **IW** in May of 2020 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 38 eBird locations with 9 being inside the **Loop**. Most lists contain less than 20 birds.

CBCs: TXGF reported one in 2005.

BBS: Occurred 3 years with a high count of 28 and an average of 5.

HABITAT: Grassland/shrub savannahs.

EBIRD FREQUENCY:

BANDED: 4 at **MF** with no recaptures.

REFERENCES: Oberholser (1974; p. 533) summer.

SCISSOR-TAILED FLYCATCHER

STATUS: Summer Resident.

HOTSPOTS: Maximum of 38 occurred at **MF** in October of 2014 and has been reported from all Top 10 eBird Hotspots.

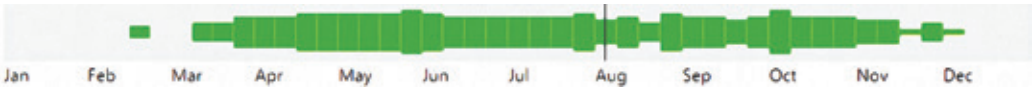
EBIRD: Reported at 160 eBird locations with 52 being inside the **Loop**. Abundant and widespread.

CBCs: Occurred on 25% of the TXGF counts and averaged <1 with a high of 2. Occurred on 14% of the TXVI counted and averaged <1 with a high of 4.

BBS: Occurred 11 years with a high count of 27 and an average of 17.

HABITAT: Coastal Prairie, grassland/shrub savannahs, and ag fields.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 540) nester.

WHITE-EYED VIREO

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 37 occurred at **RP** in August of 2019 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at almost 150 eBird locations with 56 being inside the **Loop**. Abundant and widespread.

CBCs: TXGF reported an average of 32 with a high of 78. TXVI reported an average of 10 with a high of 35.

BBS: Occurred 11 years with a high count of 10 and an average of 6.

HABITAT: Forest and shrub communities.

SEASONALITY: Uncommon winter resident north of McFaddin-Bloomington, abundant migrant and common breeder. Banding data indicates migrants start arriving in early March with a peak at the end of the month. Numbers decline in April as adults set up breeding territories. Young start fledging in June with a peak in early July. Highest numbers of birds during fall migration are in September with rapid decline in numbers starting in late October. Less than 10% will over-winter.

EBIRD FREQUENCY:

BANDED: At **OH**, Captured 52% of the 768 from July through September. November through February produced 2% per month. Site Fidelity was 29%. 1-Year Survivorship 4%. 1-Year Survivorship by month of banding ranged from 2-9% from March -October. May had 9%, August 7% and September 2%. The other months were 3-5. Did not use winter months in reporting Survivorship because of small sample size.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
768	190	25%	14%	6%	4%	3%	2%	1%	4 years 6 months

Mist-nets caught 86 at **MF**. Recaptured 6 with one being 2 years after banding and the remainder being <1 year. National Longevity Record is 10 years and 6 months.

REFERENCES: Oberholser (1974; p. 702) resident.

BELL'S VIREO

STATUS: Migrant.

HOTSPOTS: Maximum of one occurred at **RP** in April of 2019 and September of 2012, also at **MF** in August of 2009, at **OH** in September of 2009 and at **SA** in May of 2006.

EBIRD: Reported at 5 eBird locations with 2 being inside the **Loop**. All records contain a single bird.

BBS: Occurred one year with a high count of one and an average of one.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

BANDED: 2 at **OH** and one at **MF**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
2	1	50%	0%	0%	0%	0%	0%	0%	1 week

REFERENCES: Oberholser (1974; p. 764) resident.

YELLOW-THROATED VIREO

STATUS: Summer Resident.

HOTSPOTS: Maximum of 5 occurred at **RP** in May of 2016 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 9 eBird locations with 6 being inside the **Loop**. Most lists contain 1 or 2 birds.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 2 with 0 recaptures.

REFERENCES: Oberholser (1974; p. 707) spring.

BLUE-HEADED VIREO

STATUS: Winter Resident.

HOTSPOTS: Maximum of 14 occurred at **MF** in December of 2009 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 51 eBird locations with 14 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 17 with a high of 45. TXVI reported an average of 8 with a high of 35.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 26 with 38% capture in November during the October through April occupancy. Site Fidelity 100%. 1-Year Survivorship 4%. National Longevity Record is 6 years and 5 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
26	3	12%	4%	4%	4%	4%	0%	0%	1 year 9 months

REFERENCES: Oberholser (1974; p. 708) migrant.

PHILADELPHIA VIREO

STATUS: Migrant.

HOTSPOTS: Maximum of 7 occurred at **RP** in May of 2020 and has been reported from **SL**.

EBIRD: Reported at 8 eBird locations with 7 being inside the **Loop**. Most lists contain less than 5 birds.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

WARBLING VIREO

STATUS: Migrant.

HOTSPOTS: Maximum of 7 occurred at **RP** in April of 2016 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 11 eBird locations with 6 being inside the **Loop**. Most lists contain less than 5 birds.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 24 with 0 recaptures. Banded 92% in September and October and 8% in April. This was essentially the opposite frequency which was reported on eBird.

REFERENCES: Oberholser (1974; p. 714) spring.

RED-EYED VIREO

STATUS: Summer Resident.

HOTSPOTS: Maximum of 28 occurred at **RP** in May of 2008 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 22 eBird locations with 11 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported one in 2010.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 44 at **OH** with 52% in July and August when species descended from canopy to eat abundant dogwood fruit. Site Fidelity 100%. 1-Year Survivorship 7%.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
44	7	16%	7%	7%	7%	2%	2%	2%	3 years 2 months

REFERENCES: Oberholser (1974; p. 712) spring.

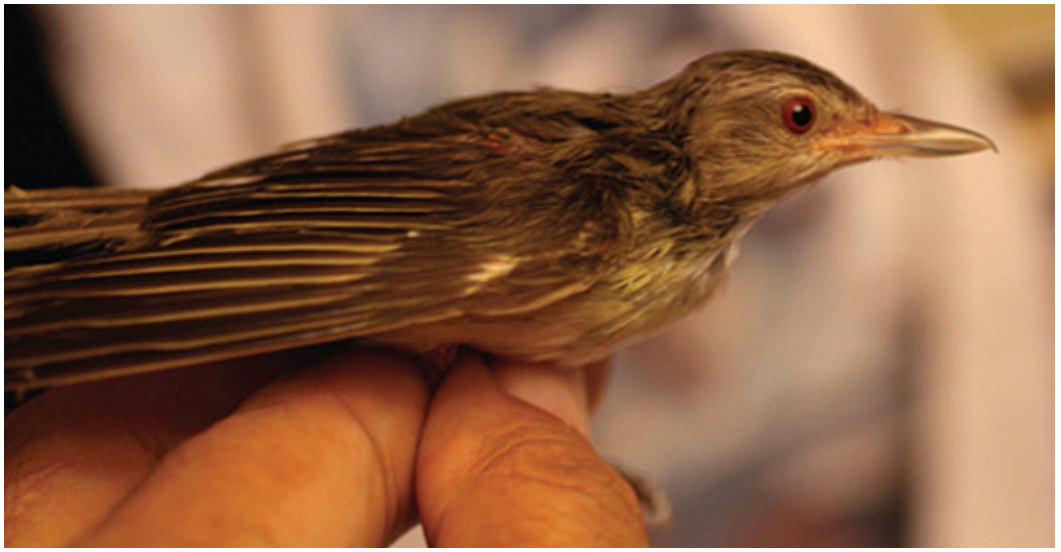


Figure 16. Yellow-green Vireo 7/18/2010 At Ortego Home (**OH**).

YELLOW-GREEN VIREO

STATUS: Vagrant.

HOTSPOTS: Maximum of one occurred at **OH** in October of 2010.

EBIRD: Only a single eBird record. See **HOTSPOTS**.

HABITAT: Riparian woodlands.

EBIRD FREQUENCY:

BANDED: One with 0 recaptures at **OH**.

LOGGERHEAD SHRIKE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 14 occurred at **SA** in February of 2015 and has been reported from all Top 10 eBird Hotspots.

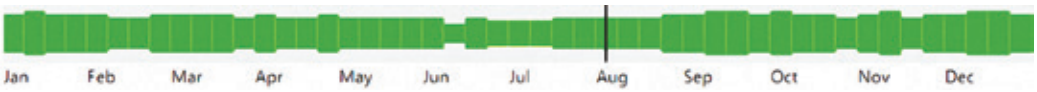
EBIRD: Reported at over 150 eBird locations with 64 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 17 with a high of 60. TXVI reported an average of 60 with a high of 146.

BBS: Occurred 5 years with a high count of 5 and an average of one.

HABITAT: Shrub communities, grassland savannah, residential, and ag fields.

EBIRD FREQUENCY:



BANDED: 2 with 0 recaptures at **OH**.

REFERENCES: Oberholser (1974; p. 694) resident.

GREEN JAY

STATUS: Year-Round Visitor.

HOTSPOTS: Maximum of 10 occurred at **RP** in April of 2014 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 11 eBird locations with 2 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: Occurred on 50% of the TXGF counts and averaged 3 with a high of 18. Occurred on 9 % of the TXVI counts and averaged <1 with a high of 10.

BBS: Occurred one year with a high count of 2 and an average of 0.

HABITAT: Forest and shrub communities and wooded residential. Uses bird and game feeders, and bird baths.

SEASONALITY: Fond of acorns and corn. We have been watching for an eastward range expansion for decades, but individuals only visit for a few days or weeks and do not remain for the season.

EBIRD FREQUENCY:

BLUE JAY

STATUS: Year-Round Resident.

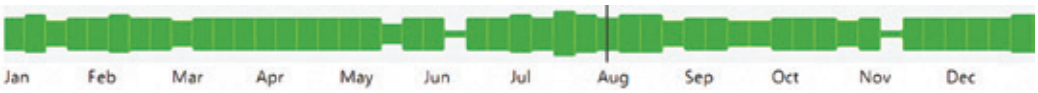
HOTSPOTS: Maximum of 19 occurred at **RP** in December of 2008 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 128 eBird locations with 69 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: Occurred on 50% of the TXGF counts and averaged 3 with a high of 17. TXVI reported an average of 27 with a high of 152.

HABITAT: Forest and shrub communities and wooded residential. Uses bird and game feeders, bird baths and irrigation runoff.

EBIRD FREQUENCY:



BANDED: 14 with no recaptures at **OH**.

REFERENCES: Oberholser 1974; p. 585) resident.

AMERICAN CROW

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 500 occurred in Victoria in February of 2013 and has been reported from all Top 10 eBird Hotspots.

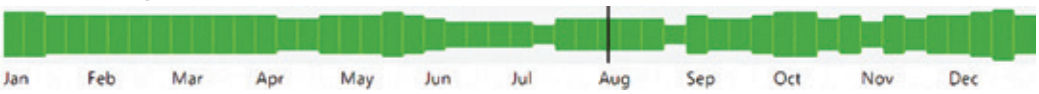
EBIRD: Reported at almost 200 eBird locations with 68 being inside the **Loop**. Abundant and widespread.

CBCs: TXGF reported an average of 153 with a high of 304. TXVI reported an average of 117 with a high of 488.

BBS: Occurred 11 years with a high count of 99 and an average of 44.

HABITAT: Forest and shrub communities, and adjacent ag fields.

EBIRD FREQUENCY:



BANDED: 2 with no recaptures at **OH**.

REFERENCES: Oberholser (1974; p. 596) resident.

CAROLINA CHICKADEE

STATUS: Year-round Resident.

HOTSPOTS: Maximum of 38 occurred at **RP** in December of 1995 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 129 eBird locations with 48 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 72 with a high of 124. TXVI reported an average of 95 with a high of 213.

BBS: Occurred 11 years with a high count of 19 and an average of 10.

HABITAT: Forest and shrub communities. Forages in the canopy. Nest in cavities and bird houses. Will use grain feeders. Prefers small sunflower seeds.

SEASONALITY: Year-round resident. Highest capture rates occurred in November and December (27%), and the lowest March through May (15%) and August through October (19%). Species has a high site fidelity at 43%. Survivorship to one year was 18% and was essentially the same regardless of the month banded.

EBIRD FREQUENCY:

BANDED: 176 at **OH**. National Longevity Record is 10 years and 8 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
176	91	52%	42%	26%	18%	14%	11%	7%	6 years 6 months

REFERENCES: Oberholser (1974; p. 606) resident.

TUFTED X BLACK-CRESTED TITMOUSE

STATUS: Year-Round Resident. All titmice in County are considered hybrids of Tufted and Black-crested due to the presence of some brown feathers in the forehead on all individuals banded in the County.

HOTSPOTS: Maximum of 25 occurred at **RP** in December of 1995 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 30 eBird locations with 7 being inside the **Loop**. Most lists contain less than 5 birds. (Only list including hybrids are discussed).

CBCs: TXGF reported an average of 54 with a high of 115. TXVI reported an average of 51 with a high of 132.

BBS: Occurred 7 years with a high count of 3 and an average of one.

HABITAT: Forested communities. Uses nest boxes, bird feeders and bird baths.

EBIRD FREQUENCY:

BANDED: 112 at **OH**. Site Fidelity 33%. 1-Year Survivorship 16%. June thru August were the only months with 15 or more banded birds. 1-Year Survivorship for June was 11%, July was 8% and August was 38% with a sample of 16 banded birds. National Longevity Record is 12 years and 5 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
112	64	57%	48%	28%	16%	13%	10%	5%	7 years 8 months

REFERENCES: Oberholser (1974; p. 608) resident.

NORTHERN ROUGH-WINGED SWALLOW

STATUS: Migrant.

HOTSPOTS: Maximum of 400 occurred at **SA** in April of 2014 and has been reported from 8 of the Top 10 eBird Hotspots.

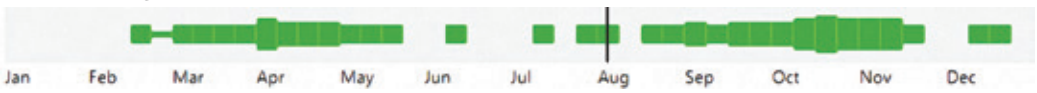
EBIRD: Reported at 46 eBird locations with 14 being inside the **Loop**. Most lists contain less than 50 birds.

CBCs: Occurred on 44% of the TXGF counts and averaged 5 with a high of 33. Occurred on 4% of the TXVI counts and averaged <1 with a high of 22.

HABITAT: Nest in riverbanks. Forages over most herbaceous habitats and seems to prefer floodplains.

SEASONALITY: Common migrant with small numbers wintering in the vicinity of Victoria County. They will forage through the County periodically during winter. Not known to breed.

EBIRD FREQUENCY:



PURPLE MARTIN

STATUS: Summer Resident.

HOTSPOTS: Maximum of 5,000 roosted at the Victoria Mall in August of 2018 and has been reported from all Top 10 eBird Hotspots.

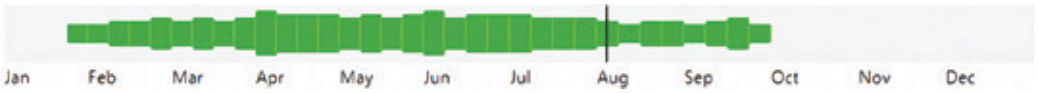
EBIRD: Reported at 78 eBird locations with 43 being inside the **Loop**. Widespread and abundant.

BBS: Occurred 10 years with a high count of 18 and an average of 8.

HABITAT: Nest in bird houses in urban and rural residential areas. Forages high above ground over most landscapes.

SEASONALITY: Adult males start arriving in January followed by adult females in March. Nesting is typically completed in July. Post-nesting birds and migrants have formed roosts of up to 5,000 individuals since 2018 in the vicinity of the *H-E-B Plus* shopping center in Victoria. Martins do not enter roost until after sunset and sometimes roost in association with Great-tailed Grackles and European Starlings. Roost is abandoned at time of migration which varies from early August until September.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 582) nester.

TREE SWALLOW

STATUS: Migrant.

HOTSPOTS: Maximum of 270 occurred at Mission Valley in March of 2019 and has been reported from 9 of the Top 10 eBird Hotspots.

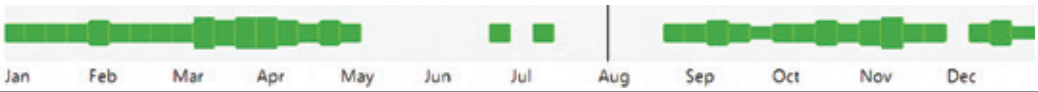
EBIRD: Reported at 36 eBird locations with 13 being inside the **Loop**. Most lists contain less than 20 birds.

CBCs: TXGF reported an average of 33 with a high of 202. Occurred on 26% of the TXVI counts and averaged 2 with a high of 24.

HABITAT: Forages over most herbaceous habitats with a preference for wetlands. Roost in cane thickets and tall marsh settings.

SEASONALITY: Most individuals migrate through County with small numbers occurring in winter. More common in counties bordering the Gulf Coast.

EBIRD FREQUENCY:



BANK SWALLOW

STATUS: Migrant.

HOTSPOTS: Maximum of 480 occurred at **SA** in September of 2015 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 23 eBird locations with 5 being inside the **Loop**. Most lists contain less than 50 birds.

BBS: Occurred one year with a high count of 5 and an average of one.

HABITAT: Forages over most herbaceous habitats. Roost in cane thickets and tall marsh settings.

EBIRD FREQUENCY:

BARN SWALLOW

STATUS: Summer Resident.

HOTSPOTS: Maximum of 1,445 occurred at **SA** in October of 2016 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 133 eBird locations with 51 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported two in 2012. TXVI reported one in 2009.

BBS: Occurred 11 years with a high count of 59 and an average of 15.

HABITAT: Nest under bridges, eaves of buildings and in culverts. Forages over most habitats. Takes advantage of farm operations and fires to expose flying insects.

SEASONALITY: Most Barn Swallows use the County in migration and will infrequently linger into winter. Regularly nests under bridges, eaves of buildings, and livestock shade shelters. It will also nest in culverts and grain silos. Frequently observed foraging low, just above vegetation catching low flying insects which include mosquitoes.

Has been known to nest on farm equipment. A farmer once reported to TPWD that parents would continue to feed their young on a nest on a tractor while the tractor was in operation.

EBIRD FREQUENCY:

BANDED: 2 with no recaptures at **OH**.

CLIFF SWALLOW

STATUS: Summer Resident.

HOTSPOTS: Maximum of 500 occurred along Hwy 77 north of Victoria in April of 2016 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 119 eBird locations with 46 being inside the **Loop**. Widespread and abundant.

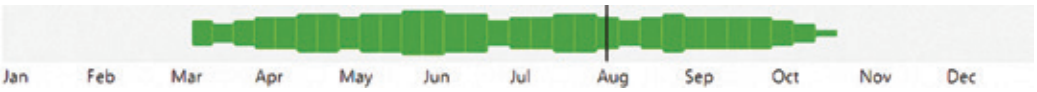
BBS: Occurred 10 years with a high count of 29 and an average of 7.

HABITAT: Nest in culverts, under bridges and livestock shade shelters.

SEASONALITY: Species leaves County in fall and returns *en masse* in spring. First spring detections are typically large numbers flying under bridges refurbishing old nests. Dozens of swallows will converge on exposed mud near colonies to collect material for nest construction.

Cliff and Cave Swallows are known to sunbathe during summer's hottest days. Hundreds will lay down on hot gravels roads with their backs to the sun and feathers opened to the direct rays.

EBIRD FREQUENCY:



BANDED: 3 with 0 recaptures at **OH**.

CAVE SWALLOW

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 238 occurred at **MF** in June of 2007 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 60 eBird locations with 22 being inside the **Loop**. Most lists vary from a few to several hundred birds.

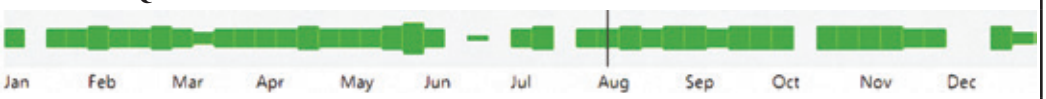
CBCs: Occurred on 25% of the TXGF counts and averaged one with a high of 3. Occurred on 14% of the TXVI counts and averaged 7 with a high of 100.

BBS: Occurred 9 years with a high count of 238 and an average of 37.

HABITAT: Nests in culverts and under bridges similar to Cliff Swallows. However, Cliff tend to be on the edge of bridges and more open areas of culverts. Cave prefer to be further from the edge within the frame of the bridges and deep within culverts. Species roost at those sites throughout year and forages over most habitats.

SEASONALITY: Species is mostly a breeder and migrant in the County. A few birds will winter by roosting in old swallow nests under bridges and in culverts. Individuals have been known to die during winter when maximum temperatures dropped below 40 degrees for several days in a row.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 578) nesting.

GOLDEN-CROWNED KINGLET

STATUS: Uncommon Winter Resident.

HOTSPOTS: Maximum of 14 occurred at **MF** in December of 2009 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 20 eBird locations with 5 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred on 69% of the TXGF counts and averaged 6 with a high of 46. Occurred on 58% of the TXVI counts and averaged 3 with a high of 18.

HABITAT: Forest communities. Forages higher in the canopy of trees than Ruby-crowned Kinglet.

EBIRD FREQUENCY:

BANDED: 5 at **OH**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
5	3	60%	20%	0%	0%	0%	0%	0%	1 month

REFERENCES: Oberholser (1974; p. 680) winter.

RUBY-CROWNED KINGLET

STATUS: Winter Resident.

HOTSPOTS: Maximum of 121 occurred at **RP** in December of 2006 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 115 eBird locations with 40 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 219 with a high of 384. TXVI reported an average of 144 with a high of 362.

HABITAT: Forest and shrub communities.

SEASONALITY: Species migrates to County in October; numbers build quickly in November and reach a peak in December. Abundance declines quickly in February and birds trickle out afterwards.

EBIRD FREQUENCY:

BANDED: 302 at **OH** with 12 in October, 138 in November, 166 in December, 104 in January, 29 in February, 20 in March and 6 in April. Site Fidelity 19%. 1-Year Survivorship 3%. National Longevity Record is 8 years and 8 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
302	88	29%	16%	4%	3%	1%	1%	0%	3 years 2 months

REFERENCES: Oberholser (1974; p. 682) winter.

WHITE-BREASTED NUTHATCH

STATUS: Vagrant.

HOTSPOTS: Maximum of one occurred at **RP** in March of 2002.

EBIRD: No records

SEASONALITY: Oberholser considered species a fall and winter resident. However, there has been only one report since his book was published. Lockwood and Freeman (2014) did not consider this species a resident of Victoria County.

REFERENCES: Oberholser (1974; p. 619) winter.

RED-BREASTED NUTHATCH

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **RP** in December of 2019, at **OH** in November of 2015 and at **MF** in December of 2012.

EBIRD: Reported at 4 eBird locations with one being inside the **Loop**. All records contain a single bird.

CBCs: Occurred on 19% of the TXGF counts and averaged one with a high of 6. Occurred on 13% of the TXVI counts and average <1 with a high of 2.

HABITAT: Forest communities.

EBIRD FREQUENCY:

BROWN CREEPER

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **RP** in January of 1973 and December of 1999, and at **OH** in November of 2006 and January of 2007.

EBIRD: Reported at 2 eBird locations with one being inside the **Loop**. All records contain a single bird. See **HOTSPOTS.**

CBCs: Occurred on 19% of the TXGF counts and averaged <1 with a high of 3. Occurred on 19% of the TXVI counts and averaged one with a high of 12.

HABITAT: Forest communities.

EBIRD FREQUENCY:

BANDED: One which was recaptured one month later at **OH**.

BLUE-GRAY GNATCATCHER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 88 occurred at **MF** in December of 2009 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 91 eBird locations with 27 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 105 with a high of 265. TXVI reported an average of 32 with a high of 93.

BBS: Occurred 4 years with a high count of 4 and an average of one.

HABITAT: Forest and shrub communities.

SEASONALITY: March and September are major months of migration. Lower numbers over-winter.

EBIRD FREQUENCY:

BANDED: 127 at **OH**. This included 2 in January, 2 in February, 59 in March, 2 in April, 5 in July, 11 in August, 31 in September, 16 in October, 6 in November, and 7 in December. Site Fidelity 33%. 1-Year Survivorship 2%. National Longevity Record is 4 years and 2 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
127	11	9%	6%	4%	2%	1%	0%	0%	1 year 11 months

REFERENCES: Oberholser (1974; p. 678) winter.

HOUSE WREN

STATUS: Winter Resident.

HOTSPOTS: Maximum of 52 occurred at **MF** in December of 2017 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 89 eBird locations with 25 being inside the **Loop**. Most lists report less than 20 birds.

CBCs: TXGF reported an average of 73 with a high of 157. TXVI reported an average of 45 with a high of 124.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

BANDED: 159 at **OH** with 45% arriving in October and November, 15% in December, and 9% for each of the remaining months of the winter season. Site Fidelity 27%. 1-Year Survivorship 11%. Banded 31 at **MF** and recaptured 4. Three were >1-year from banding. National Longevity Record is 9 years.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
159	73	46%	41%	16%	11%	9%	5%	4%	4 years 4 months

REFERENCES: Oberholser (1974; p. 630) winter.

WINTER WREN

STATUS: Winter Resident.

HOTSPOTS: Maximum of 8 occurred at **RP** in December of 1997 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 22 eBird locations with 5 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 3 with a high of 9. TXVI reported an average of 3 with a high of 10.

HABITAT: Riparian forest and shrub communities

EBIRD FREQUENCY:

BANDED: 10 at **OH**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
10	4	40%	30%	0%	0%	0%	0%	0%	2 months

REFERENCES: Oberholser (1974; p. 632) winter

SEDGE WREN

STATUS: Winter Resident.

HOTSPOTS: Maximum of 44 occurred at **SA** in December of 1998 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 28 eBird locations with 2 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 22 with a high of 63. Occurred in 67% of the TXVI counts and averaged 3 with a high of 10.

HABITAT: Short herbaceous wetlands.

EBIRD FREQUENCY:

BANDED: One at **OH** with no recaptures.

MARSH WREN

STATUS: Winter Resident.

HOTSPOTS: Maximum of 12 occurred at **SR** in December of 2009 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 22 eBird locations with one being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 12 with a high of 70. Occurred on 35% of the TXVI counts and averaged one with a high of 8.

HABITAT: Herbaceous wetlands.

EBIRD FREQUENCY:

CAROLINA WREN

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 52 occurred at **MF** in December of 2017 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 150 eBird locations with 54 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 98 with a high of 152. TXVI reported an average of 65 with a high of 132.

BBS: Occurred 11 years with a high count of 13 and an average of 8.

HABITAT: Forest and shrub communities in rural and urban settings. Might use man-made structures for nesting. Male is known to make multiple nests to attract a mate.

EBIRD FREQUENCY:

BANDED: 352 at **OH**. Site Fidelity 44%. 1-Year Survivorship 11%. Survivorship by month of banding mostly ranged from 5-11%. August with a sample size of 75 (18% of those banded) had a 23% 1-Year Survivorship which was twice the average for the other months. National Longevity Record 7 years and 8 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
352	128	36%	25%	15%	11%	7%	3%	2%	4 years

REFERENCES: Oberholser (1974; p. 635) resident.

BEWICK'S WREN

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 8 occurred at **SA** in May of 2014 and has been reported from 5 of the Top 10 eBird Hotspots.

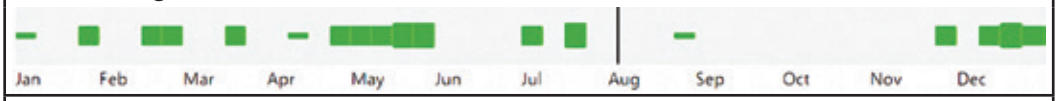
EBIRD: Reported at 25 eBird locations with 7 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: Occurred on 69% of the TXGF counts and averaged 2 with a high of 8. Occurred on 67% of the TXVI counts and averaged 3 with a high of 17.

BBS: Occurred 10 years with a high count of 8 and an average of 3.

HABITAT: Shrub communities.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 633) resident.

EUROPEAN STARLING

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 2,000 occurred at Victoria **Mall** in July of 2019 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 200 eBird locations with over 100 being inside the **Loop**. Widespread and abundant.

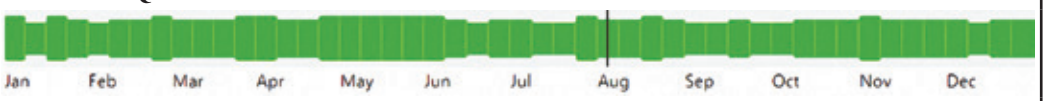
CBCs: Occurred on 69% of the TXGF counts and averaged 24 with a high of 227. TXVI reported an average of 1,079 with a high of 10,692.

BBS: Occurred 11 years with a high count of 12 and an average of 6.

HABITAT: Urban, residential, savannah and agriculture. Uses man-made structures and woodpecker cavities for nesting.

SEASONALITY: Most light poles in Victoria are occupied by starlings. We need a less "bird friendly design" for these structures. Like several common species, not much attention is paid to starlings. They frequently co-mingle in town with roosting Great-tailed Grackles like at the *H-E-B Plus* which is also used as a post breeding roost site of Purple Martins. They feed in small groups in town but will gather in large concentrations in ag fields when grain is available. You can also locate small flocks at sites where cattle are being fed.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 697) resident.

GRAY CATBIRD

STATUS: Winter Resident.

HOTSPOTS: Maximum of 21 occurred at **RP** in May of 2020 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 48 eBird locations with 17 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 12 with a high of 21. TXVI reported an average of 3 with a high of 18.

HABITAT: Forest and shrub communities.

SEASONALITY: Common migrant with highest concentrations in late April and early May. Small numbers over-winter. Banding data indicate that individuals which over-winter have a reasonable probability of returning to the same location in following years.

EBIRD FREQUENCY:

BANDED: 67 at **OH**. Site Fidelity 25%. 1-Year Survivorship 1%. Banded 11 at **MF** with no recaptures. National Longevity Record 17 years and 11 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
67	9	13%	4%	3%	1%	1%	1%	1%	4 years 11 months

REFERENCES: Oberholser (1974; p. 649) winter.

CURVE-BILLED THRASHER

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **IW** in May of 2017.

EBIRD: Reported at 4 eBird locations with 2 being inside the **Loop**. All records contain a single bird.

CBCs: Occurred on 19% of the TXVI counts and averaged <1 with a high of 2.

HABITAT: Shrub communities

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 653) spring.

BROWN THRASHER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 4 occurred at **RP** in December of 1995 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 22 eBird locations with 4 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXGF reported an average of 4 with a high of 16. TXVI reported an average of 7 with a high of 20.

HABITAT: Shrub and forest communities.

EBIRD FREQUENCY:

BANDED: 7 at **OH**. Site Fidelity 48%. 1-Year Survivorship 14%. National Longevity Record 10 years and 11 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
7	2	29%	29%	14%	14%	14%	0%	0%	1 year 5 months

REFERENCES: Oberholser (1974; p. 650) winter.

LONG-BILLED THRASHER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 3 occurred at **Ethyl Lee Tracy Park** in March of 2013 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 18 eBird locations with 6 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXGF reported an average of 2 with a high of 8. Occurred on 33% of the TXVI counts and averaged one with a high of 5.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

BANDED: 11 at **OH**. Site Fidelity 0. National Longevity Record 9 years and 4 months. Species was easy to recapture, but only one individual returned for a 2nd winter.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
11	8	73%	64%	9%	0%	0%	0%	0%	11 months

REFERENCES: Oberholser (1974; p. 652) winter.

NORTHERN MOCKINGBIRD

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 89 occurred at **MF** in May of 2015 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 200 eBird locations with over 100 being inside the **Loop**. Widespread and abundant.

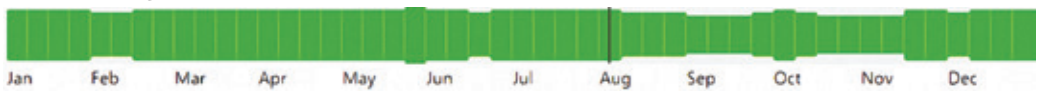
CBCs: TXGF reported an average of 64 with a high of 112. TXVI reported an average of 135 with a high of 295.

BBS: Occurred 11 years with a high count of 89 and an average of 60.

HABITAT: Shrub communities in residential and rural areas.

SEASONALITY: Nest throughout County where suitable habitat exists. Species is more common in open shrub communities and tends to avoid dense brush or forested habitats. Population augmented fall through spring from individuals visiting from off-site.

EBIRD FREQUENCY:



BANDED: 70 at **OH**. Site Fidelity 37%. 1-Year Survivorship 11%. Banded birds were caught from fall through spring. National Longevity Record 14 years and 10 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
70	28	40%	30%	13%	11%	6%	4%	1%	4 years 7 months

FOREIGN RECOVERY:

Banded 1-5-2001 in Seadrift, TX Recovered on 6-6-2005 in Victoria, TX

REFERENCES: Oberholser (1974; p. 646) resident.

EASTERN BLUEBIRD

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 64 occurred at **RP** in December of 1999 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 113 eBird locations with 38 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 35 with a high of 78. TXVI reported an average of 158 with a high of 648.

BBS: Occurred 11 years with a high count of 11 and an average of 5.

HABITAT: Forest savannah and shrub communities.

SEASONALITY: Makes multiple nesting attempts per year. Nest in natural cavities and nest boxes. Forages in short grasslands/savannahs. Roams widely during winter associating with Chipping Sparrow, Yellow-rumped Warbler, and Pine Warbler.

EBIRD FREQUENCY:

BANDED: 11 with 0 recaptures at **OH**.

REFERENCES: Oberholser (1974; p. 672) resident.

VEERY

STATUS: Spring Migrant.

HOTSPOTS: Maximum of 2 occurred at **RP** in May of 1993 and one bird occurred at **OH** in May of 2005 and 2007.

EBIRD: Reported at 4 eBird locations with 2 being inside the **Loop**. All records contain a single bird.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 6 with 0 recaptures at **OH**.

REFERENCES: Oberholser (1974; p. 671) spring.

GRAY-CHEEKED THRUSH

STATUS: Spring Migrant.

HOTSPOTS: Maximum of 2 occurred at **RP** in May of 2011 and has been reported from **OH**.

EBIRD: Reported at 5 eBird locations with one being inside the **Loop**. All records contain 1 or 2 birds.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 4 and recaptured 0 at **OH**.

REFERENCES: Oberholser (1974; p. 670) spring.

SWAINSON'S THRUSH

STATUS: Migrant.

HOTSPOTS: Maximum of 14 occurred at **RP** in May of 2008 and 2020. It has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 11 eBird locations with 7 being inside the **Loop**. Most lists contain less than 5 birds.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 32 and recaptured 0 at **OH**.

HERMIT THRUSH

STATUS: Winter Resident.

HOTSPOTS: Maximum of 32 occurred at **MF** in December of 2017 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 42 eBird locations with 9 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 49 with a high of 119. TXVI reported an average of 26 with a high of 168.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 68 at **OH** and 12 at **MF**. Site Fidelity 31%. 1-Year Survivorship 9% at **OH**. National Longevity Record 10 years and 10 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
68	30	44%	29%	9%	9%	6%	6%	4%	4 years 4 months

REFERENCES: Oberholser (1974; p. 666) spring.

WOOD THRUSH

STATUS: Migrant.

HOTSPOTS: Maximum of 2 occurred at **RP** in April of 2018 and has been reported from **OH** and **MF**.

EBIRD: Reported at 6 eBird locations with 3 being inside the **Loop**. Most lists contain a single bird.

SKIMMINGS: Reported during July 1992 in Victoria singing on territory.

CBCs: TXGF reported one in 2015. Occurred in 14% of the TXVI counts and averaged <1 with a high of 3 in 1982.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 2 with no recaptures at **OH**.

REFERENCES: Oberholser (1974; p. 664) migration.

CLAY-COLORED THRUSH

STATUS: Extralimital.

HOTSPOTS: Maximum of one occurred at **RP** in December of 2004.

EBIRD: Only the single eBird record from **RP**. See **HOTSPOTS**.

SKIMMINGS: Occurred from 2018 to 2019 in residential areas of Victoria during summer.

CBCs: TXVI reported one in 2004 and 2007.

HABITAT: Residential woodlands.

EBIRD FREQUENCY:

AMERICAN ROBIN

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 2,300 occurred at Mission Valley in January of 2016 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 71 eBird locations with 19 being inside the **Loop**.

CBCs: TXGF reported an average of 175 with a high of 1,372. TXVI reported an average of 1,154 with a high of 7,693.

HABITAT: Forest, shrub communities, grasslands, and residential fruit trees. Uses bird baths and irrigation run-off.

SEASONALITY: Small numbers formally bred in the old part of Victoria. Large numbers arrive in fall with strong cold fronts and the birds roam the region in flocks foraging on a variety of fruit, seeds and invertebrates. Water is important to species early in the morning. They commonly visit bird baths, shallow woodland wetlands, and irrigation runoff. Feeds extensively on yaupon and cedar when ripe. Roosts of hundreds of birds are common in the north part of the County during winter.

EBIRD FREQUENCY:

BANDED: 43 at **OH**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
43	13	30%	0%	0%	0%	0%	0%	0%	3 weeks

REFERENCES: Oberholser (1974; p. 660) winter.

NORTHERN WHEATEAR

STATUS: Vagrant.

HOTSPOTS: Maximum of one occurred at **SL** in September of 2019.

EBIRD: Only the single eBird record from **SL**. See **HOTSPOTS**.

HABITAT: Bare ground and short grasslands.

EBIRD FREQUENCY:

CEDAR WAXWING

STATUS: Winter Resident.

HOTSPOTS: Maximum of 725 occurred at **OH** in December of 2015 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 64 eBird locations with 28 being inside the **Loop**. Most lists contain dozens of birds.

CBCs: Occurred on 14% of the TXGF counts and averaged 49 with a high of 378. TXVI reported an average of 70 with a high of 412.

BBS: Occurred one year with a high count of 3 and an average of 0.

HABITAT: Forest and residential woodlands in urban and rural settings.

EBIRD FREQUENCY:

BANDED: 9 with no recaptures at **OH**.

REFERENCES: Oberholser (1974; p. 689) winter.

PHAINOPEPLA

STATUS: Vagrant.

SEASONALITY: The Oberholser reference is the only report of species.

REFERENCES: Oberholser (1974; p. 691) summer.

HOUSE SPARROW

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 200 occurred in Victoria in November of 2018 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 150 eBird locations with 85 being inside the **Loop**. Widespread and abundant.

CBCs: Occurred on 25% of the TXGF counts and averaged 6 with a high of 41. TXVI reported an average of 199 with a high of 554.

BBS: Occurred 11 years with a high count of 30 and an average of 11.

HABITAT: Residential and agriculture facilities. Uses nest boxes and feeders, bird baths and irrigation runoff.

EBIRD FREQUENCY:

BANDED: 130 at **OH.** Site Fidelity 20%. 1-Year Survivorship 1%.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
130	12	9%	5%	2%	1%	0%	0%	0%	1 year

REFERENCES: Oberholser (1974; p. 799) resident.

AMERICAN PIPIT

STATUS: Winter Resident.

HOTSPOTS: Maximum of 250 occurred at **MF** in February of 2019 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 67 eBird locations with 23 being inside the **Loop**. Most lists contain dozens of birds.

CBCs: TXGF reported an average of 58 with a high of 195. TXVI reported an average of 87 with a high of 414.

HABITAT: Grasslands and wetlands which provide moist short grass settings, plowed fields, swales, and mud flats.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974) p. 685) winter.

SPRAGUE'S PIPIT

STATUS: Winter Resident.

HOTSPOTS: Maximum of 11 occurred at **SR** in December of 2017 and has been reported from **DT, IW** and **MF**.

EBIRD: Reported at 11 eBird locations with none being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported species twice with a high of 3. Occurred on 37% of the TXVI counts and averaged one with a high of 11.

HABITAT: Short grasslands which provide space between grass clumps is the general setting. This occurs in bare areas within taller grass, sometimes created by soil texture and drainage, and grazing by livestock. Conversion of crops to pasturage is another common situation creating the sparse grasslands needed. An example would be an area used for rice production that was converted to grazing. Vegetation is typically sparse at these sites, following years of farming. Short grassy road shoulders in plowed fields, with no fencing or powerlines bordering the road, are also frequented by this species.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 686) spring.

HOUSE FINCH

STATUS: Year-Round Resident.

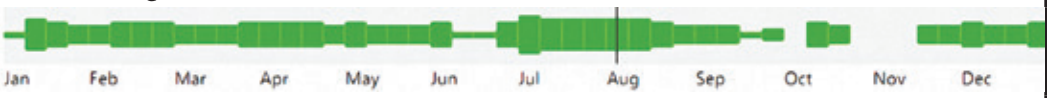
HOTSPOTS: Maximum of 20 occurred at **AN** in December of 1990 and has been reported there are old records from **SA, RP, IW, MF** and **SL**.

EBIRD: Reported at 39 eBird locations with 24 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported species twice with a high of 3. Occurred on 39% of the TXVI counts and averaged 5 with a high of 50. The species was first reported in 1992 and became regular afterwards.

HABITAT: Residential rural and urban, and shrub communities.

EBIRD FREQUENCY:



BANDED: One with 0 recaptures at **OH**.

PURPLE FINCH

STATUS: Irregular

HOTSPOTS: Maximum of one occurred at **OH** in February of 2003.

EBIRD: Only a single eBird record. See **HOTSPOTS**.

CBCs: TXVI reported species 6 times with a high of 3.

HABITAT: Forest habitats which contain a variety of woody plant seeds. Green ash is one of its favorite foods. Known to eat poison-ivy and other woodland seeds. Will use bird feeders and baths.

EBIRD FREQUENCY:

BANDED: One with 0 recaptures at **OH**.

PINE SISKIN

STATUS: Irregular.

HOTSPOTS: Maximum of 17 occurred at **OH** in February of 2005 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 12 eBird locations with 3 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred on 38% of the TXGF counts and averaged one with a high of 5. Occurred on 37% of the TXVI counts and averaged 3 with a high of 51.

HABITAT: Forest and shrub communities.

SEASONALITY: The Pine Siskin is an irregular migrant, like the American Goldfinch, migrating south when northern food supplies are scarce. However, they must be using different groceries because their southern trips do not match. Big winter movements for the American Goldfinch where over 1,000 were banded were in 96-97, 98-99 and 04-05. The number of Pine Siskin caught during those 3 years were 0, 0 and 77. The biggest catch for the Pine Siskin was 161 during 08-09 when only 785 AMGO were banded.

EBIRD FREQUENCY:

BANDED: 237 at **OH.** Site Fidelity 0.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
237	39	16%	4%	0%	0%	0%	0%	0%	2 months

LESSER GOLDFINCH

STATUS: Irregular

HOTSPOTS: Maximum of 3 occurred at **RP** in December of 2019 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 11 eBird locations with 4 being inside the **Loop**. Most lists contain a single bird.

CBCs: TXGF reported species 4 times with a high of 2. TXVI reported species 3 times with a high of 6.

HABITAT: Forest and shrub communities bordering pastures, with residential in rural and urban settings. Frequents sunflower and ragweed patches.

EBIRD FREQUENCY:

BANDED: 2 with 0 recaptures at **OH**.

AMERICAN GOLDFINCH

STATUS: Winter Resident.

HOTSPOTS: Maximum of 450 occurred at **OH** in December of 2015 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 68 eBird locations with 20 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 143 with a high of 536. TXVI reported an average of 414 with a high of 1,985.

HABITAT: Forest and shrub communities. Uses residential feeders and water devices.

SEASONALITY: The American Goldfinch is irregular in migration, with more remaining in the north during winters with good food supply. The banding data illustrates the variability of abundance during winter. We caught 967 during season 95-96, 1,673 during 96-97, 12 during 97-98, 1,106 during 98-99, 423 during 99-00, 858 during 00-01, 214 during 01-02, 456 during 02-03, 33 during 03-04, 1,859 during 04-05, 316 during 05-06, 460 during 06-07, 135 during 07-08, 785 during 08-09 and 266 during 09-10. The irregular migrations might have contributed to the low 2% 1-Year Survivorship—have birds forgotten the locations of foraging locations when they skip an annual winter visit? However, some individuals had an extensive history at **OH**, ex. an individual was caught 7 years and 11 months after it was banded at the site. The National Longevity Record is 10 years and 9 months.

EBIRD FREQUENCY:

BANDED: Banded 8,755 at **OH** with 51% in January and 45% in February and March. Site Fidelity 50%. 1-Year Survivorship 2% with February having the highest at 3%. December and January were 2%. Five goldfinches banded in Victoria County were recovered in Illinois, Minnesota, and Montana.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
8,755	1,170	13%	4%	3%	2%	2%	1%	0%	7 years 11 months

FOREIGN RECOVERIES:

Banded 1-28-1996 in Raisin, TX	Recovered 8/31-2006 in Urbana, IL
Banded 1-14-1997 in Raisin, TX	Recovered 4-19-2001 in Opheim, MT
Banded 1-18-1997 in Raisin, TX	Recovered 6-5-1997 in Fairbault, MN

Banded 1-24-1999 in Raisin, TX	Recovered 7-12-1999 in Minnesota
Banded 2-15-2010 in Raisin, TX	Recovered 5-23-2010 in Minnesota

REFERENCES: Oberholser (1974; p. 884) winter.

CASSIN'S SPARROW

STATUS: Summer Resident.

HOTSPOTS: Maximum of 6 occurred at **SA** in May of 2006 and has been reported from **MF** and **RP**.

EBIRD: Reported at 4 eBird locations with 2 being inside the **Loop**. Most lists contain 1 or 2 birds.

BBS: Occurred for 5 years with a high count of 6 and an average of one.

HABITAT: Native grasslands with scattered small brush. Species appears to prefer drier areas with sparser vegetation.

EBIRD FREQUENCY:

GRASSHOPPER SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 30 occurred at **MF** in December of 2009 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 30 eBird locations with 4 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: Occurred on 69% of the TXGF counts and averaged 5 with a high of 22. Occurred on 60% of the TXVI counts and averaged 3 with a high of 32.

BBS: Occurred one year with a high count of one and an average of 0.

HABITAT: Sparse grasslands with scattered brush.

EBIRD FREQUENCY:

BANDED: 8 and recaptured 0 at **OH**.

REFERENCES: Oberholser (1974; p. 903) winter.

OLIVE SPARROW

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **RP** in August of 2017 and at **OH** in September of 2010.

EBIRD: Reported at 5 eBird locations with 2 being inside the **Loop**. All records contain a single bird.

CBCs: TXGF reported species 3 times with a high of 3.

HABITAT: Dense South Texas thorn-scrub.

SEASONALITY: Species is believed to be a Year-Round Resident in a small portion of the County but is not reported every year. Patches of thorn-scrub habitat which support this species occur in the McFaddin area on bluffs overlooking the Guadalupe River. Species occasionally roams areas of atypical habitat. The record from **OH** is an example.

EBIRD FREQUENCY:

BANDED: One with no recaptures at **OH**.

CHIPPING SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 272 occurred at **RP** in March of 1998 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 86 eBird locations with 29 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 114 with a high of 334. TXVI reported an average of 183 with a high of 491.

HABITAT: Woodland and shrub communities, and residential.

EBIRD FREQUENCY:

BANDED: 3,076 at **OH.** Caught 7% in November, 16% in December, 36% in January, 27% in February and 14% in March. Site Fidelity 35%. 1-Year Survivorship 7%. Individuals captured in December had a 10% survivorship, November and January 8%, February 5% and March 3%. National Longevity Record is 10 years and 11 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
3,076	1,059	34%	20%	9%	7%	4%	3%	1%	7 years 3 months

FOREIGN RECCOVERIES:

Banded 1-13-2001 in Raisin, TX	Recovered 12-28-2001 in Mission Valley, TX
Banded 2-26-2003 in Raisin, TX	Recovered 6-9-2005 in Iowa

REFERENCES: Oberholser (1974; p. 935) winter.

CLAY-COLORED SPARROW

STATUS: Migrant.

HOTSPOTS: Maximum of 4 occurred at **RP** April of 2020 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 7 eBird locations with 2 being inside the **Loop**. All records contain less than 5 birds.

CBCs: Occurred on 44% of the TXGF counts and averaged 4 with a high of 23. TXVI reported species 3 times with a high of 2.

HABITAT: Shrub savannah.

EBIRD FREQUENCY:

BANDED: 5 with no recaptures at **OH.**

REFERENCES: Oberholser (1974; p. 937) spring.

BLACK-THROATED SPARROW

STATUS: Vagrant.

EBIRD: No records.

SKIMMINGS: One was Figuregraphed while at Fordtran Road from 1/24/93—2/7/93.

FIELD SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 93 occurred at Fordtran in February of 2018 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 48 eBird locations with 16 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 13 with a high of 41. TXVI reported an average of 24 with a high of 78.

HABITAT: Shrub savannah.

EBIRD FREQUENCY:

BANDED: 151 at **OH.** Caught 20% in December, 27% in January, 29% in February, 20% in March and 1% in April. Site Fidelity 31%. 1-Year Survivorship 13%. Individuals banded in January had the highest Survivorship at 16%. December and February had 10%. National Longevity Record is 10 years and 11 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
151	96	64%	42%	16%	13%	7%	8%	3%	7 years

REFERENCES: Oberholser (1974; p. 939) winter.

BREWER'S SPARROW

STATUS: Vagrant.

EBIRD: No records.

CBCs: TXGF reported one in 2004.

HABITAT: Shrub Communities.

LARK SPARROW

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 12 occurred at Mission Valley in February of 2020 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 23 eBird locations with 8 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred on 31% of the TXGF counts and averaged one with a high of 6. Occurred on 63% TXVI counts and averaged 11 with a high of 69.

HABITAT: Shrub Savannah.

EBIRD FREQUENCY:

BANDED: One at **OH** with no recaptures.

REFERENCES: Oberholser (1974; p. 914) resident.

FOX SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 5 occurred at **RP** December of 2011 and has been reported from **IW, OH** and **SL**.

EBIRD: Reported at 8 eBird locations with 4 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: Occurred on 25% of the TXGF counts and averaged <1 with a high of 3. Occurred on 51% of the TXVI counts and averaged one with a high of 7.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 4 at **OH.**

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
4	2	50%	50%	50%	50%	25%	25%	0%	2 years

REFERENCES: Oberholser (1974; p. 951) spring.

Figure 17. Dark-eyed Junco In Victoria 12/22/2018.

DARK-EYED JUNCO

STATUS: Winter Resident.

HOTSPOTS: Maximum of 4 occurred at **IW** in February of 2014 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 7 eBird locations with 3 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXGF reported the species twice with a high of 2. Occurred on 40% of the TXVI counts and averaged one with a high of 10.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 2 with no recaptures at **OH**.

WHITE-CROWNED SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 30 occurred at **SA** in January of 2006 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 25 eBird locations with 4 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 17 with a high of 145. TXVI reported an average of 19 with a high of 120.

HABITAT: Shrub savannah and hedgerows.

EBIRD FREQUENCY:

BANDED: 5 at **OH.**

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
5	1	20%	0%	0%	0%	0%	0%	0%	2 weeks

REFERENCES: Oberholser (1974; p. 946) spring.

HARRIS'S SPARROW

STATUS: Irregular in Winter.

HOTSPOTS: Maximum of 6 occurred at **SL** in January of 2016 and at **SA** in February of 2015, and has been reported from **IW, RP** and **SR**.

EBIRD: Reported at 4 eBird locations with one being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported the species twice with a high of 25. Occurred on 65% of the TXVI counts and averaged 19 with a high of 120.

HABITAT: Hedgerows.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 943) winter.

WHITE-THROATED SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 122 occurred at **RP** in March of 1999 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 40 eBird locations with 13 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 28 with a high of 70. TXVI reported an average of 89 with a high of 336.

HABITAT: Forests.

SEASONALITY: Banding and eBird data indicates first fall migrants arrive in late October. Population reaches its peak in December and gradually declines until spring migration in March. The banding project ended in 2010. Species has not arrived until November during the last 5 years at **OH**. Two of those 5 had first White-throats appearing in December.

EBIRD FREQUENCY:

BANDED: 428 at **OH.** Caught 20% in November, 32% in December, 17% in January, 13% in February and 10% in March. Above average Site Fidelity at 40%. 1-Year Survivorship 12%. Highest survival of 25% was enjoyed by those banded in January. November and December had 10%, February 6% and March 4%. National Longevity Record is 14 years and 11 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
428	209	49%	30%	15%	12%	7%	6%	3%	7 years 3 months

REFERENCES: Oberholser (1974; p. 949) migrant.

VESPER SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 40 occurred at **MF** in December of 2019 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 32 eBird locations with 5 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 13 with a high of 37. TXVI reported an average of 76 with a high of 623.

HABITAT: Weedy grasslands with scattered brush.

EBIRD FREQUENCY:

BANDED: One with 0 recaptures at **OH**.

REFERENCES: Oberholser (1974; p. 912) winter.

LE CONTE'S SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 7 occurred at **MF** in December of 2017 and has been reported from **IW, SL** and **SR**.

EBIRD: Reported at 18 eBird locations with one being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 3 with a high of 13. Occurred on 44% of the TXVI counts and averaged 2 with a high of 18.

HABITAT: Coastal Prairie.

SEASONALITY: Widespread in quality grassland habitat. Difficult to locate in the middle of the day when the species becomes mouse-like, especially if the wind is blowing. Readily perches on fences and bushes early in the morning and late in the afternoon.

EBIRD FREQUENCY:

SEASIDE SPARROW

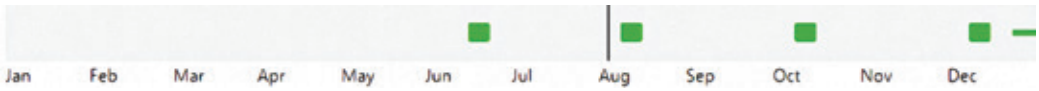
STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 6 occurred at Placedo Creek in June of 2014.

EBIRD: Reported at 4 eBird locations with none being inside the **Loop**. Placedo Creek and Garcitas Creek have been the most exclusive locations.

HABITAT: Salt marsh.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 910) summer.

LARK BUNTING

STATUS: Irregular in Winter.

EBIRD: No records.

SKIMMINGS: Two were reported NE of Victoria from 11/22-29/92, and one was found along Fordtran Road on 3/7/93.

REFERENCES: Oberholser (1974; p. 899) spring.

SAVANNAH SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 742 occurred at **MF** in December of 2019 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 123 eBird locations with 32 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 546 with a high of 1,306. TXVI reported an average of 237 with a high of 1,019.

HABITAT: Weedy grasslands.

SEASONALITY: The Savannah is the "default" roadside sparrow in ag fields and grasslands. Easily flushed and readily perches. Forms large roost at night in grasslands.

EBIRD FREQUENCY:

BANDED: 37 with 0 recaptures at **OH**.

REFERENCES: Oberholser (1974; p. 901) winter.

HENSLOW'S SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of one occurred at **OH** in January of 1997.

EBIRD: Only a single eBird record. See **HOTSPOTS**.

CBCs: TXVI reported 2 once.

HABITAT: Dense and tall grasslands.

EBIRD FREQUENCY:

BANDED: One with 0 recaptures at **OH**.

SONG SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 40 occurred at **SL** in February of 2015 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 40 eBird locations with 12 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 14 with a high of 25. TXVI reported an average of 12 with a high of 73.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

BANDED: 21 at **OH.** Site Fidelity 50%. 1-Year Survivorship 5%. National Longevity Record is 11 years and 4 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
21	4	19%	10%	5%	5%	0%	0%	0%	1 year 10 months

REFERENCES: Oberholser (1974; p. 956) spring.

LINCOLN'S SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 127 occurred at **MF** in December of 2019 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 81 eBird locations with 31 being inside the **Loop**. Most lists contain less than 10 birds.

SKIMMINGS: 200-400 were reported in **RP** from 3/31—4/17/96.

CBCs: TXGF reported an average of 90 with a high of 158. TXVI reported an average of 55 with a high of 146.

HABITAT: Forest and shrub communities.

SEASONALITY: Winter residents start arriving in small numbers in October. Population increases until a peak in March and rapidly declines afterward. Species forms large roosts at night in wetland shrub communities.

EBIRD FREQUENCY:

BANDED: 776 at **OH.** Caught 5% in October, 49% from December through February, 24% in March and 13% in April. Site Fidelity 11%. 1-Year Survivorship 2%. Highest Survivorship was 5% for those banded in December. January had 3%, and November and March 1%. Low Site Fidelity contributed to the low score on 1-Year Survivorship. National Longevity Record is 7 years and 11 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
776	290	37%	18%	2%	2%	0%	0%	0%	2 years

Banded 253 at **MF** with 16 (6%) recaptures. One was recaptured 2 years after banding and 3 others >1-year.

REFERENCES: Oberholser (1974; p. 953) winter.

SWAMP SPARROW

STATUS: Winter Resident.

HOTSPOTS: Maximum of 90 occurred at **MF** in December of 2015 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 41 eBird locations with 9 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 47 with a high of 103. TXVI reported an average of 7 with a high of 38.

HABITAT: Wetland herbaceous and shrub communities. Species forms large roosts at night in wetland shrub communities.

EBIRD FREQUENCY:

BANDED: 36 at **OH.** Site Fidelity 21%. 1-Year Survivorship 6%. November and December produced 50% of banded birds. National Longevity Record is 7 years and 10 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
36	20	56%	28%	6%	6%	6%	6%	0%	2 years 2 months

GREEN-TAILED TOWHEE

STATUS: Irregular in Winter.

HOTSPOTS: Maximum of 4 occurred at **MF** in December of 2011.

EBIRD: Reported at 3 eBird locations with none being inside the **Loop**.

CBCs: TXGF reported species twice with a high of 8. TXVI reported 3 once.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

BANDED: One at **MF** with no recaptures.

SPOTTED TOWHEE

STATUS: Winter Resident.

HOTSPOTS: Maximum of 4 occurred at **RP** in March of 2012 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 11 eBird locations with 3 being inside the **Loop**. Most lists contain a single bird.

CBCs: Occurred on 56% of the TXGF counts and averaged 3 with a high of 23. Occurred on 16% of the TXVI counts and averaged one with a high of 10.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

BANDED: 4 at **OH.** Site Fidelity 100%. 1-Year Survival 25%.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
4	3	75%	25%	25%	25%	25%	0%	0%	1 year 9 months

EASTERN TOWHEE

STATUS: Winter Resident.

HOTSPOTS: Maximum of one occurred at **SL** in January of 2020, at **AN** in December of 2019 and at **OH** in January of 2017. There are 5 records of single birds in **RP**.

EBIRD: Reported at 6 eBird locations with 3 being inside the **Loop**. All records contain a single bird.

CBCs: Occurred on 50% of the TXGF counts and averaged one with a high of 6. Occurred on 33% of the TXVI counts and averaged one with a high of 13.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 874) winter.

YELLOW-BREASTED CHAT

STATUS: Migrant.

HOTSPOTS: Maximum of 19 occurred at **RP** in September of 2010 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 20 eBird locations with 13 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported species twice with a high of 1. TXVI reported species twice with a high of 1.

HABITAT: Shrub communities.

SEASONALITY: Migrates through County in spring and fall with 17% being caught twice indicating a tendency to linger.

EBIRD FREQUENCY:

BANDED: 388 at **OH** with one in March, 148 in April, 10 in May, 72 in August, 147 in September, 9 in October and one in November. Recaptured 68 with Site Fidelity 0. Banded 18 at **MF** with no recaptures. Banded 114 on the nearby Guadalupe Delta WMA in Calhoun County. Eight of these were recaptured from November—January showing a greater tendency to over-winter at this site than at **OH**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
388	68	18%	0%	0%	0%	0%	0%	0%	1 month

REFERENCES: Oberholser (1974; p. 788) migrant.

YELLOW-HEADED BLACKBIRD

STATUS: Migrant.

HOTSPOTS: Maximum of 21 occurred at **DT** in April of 2015 and has been reported from **IW, RP** and **SR**.

EBIRD: Reported at 9 eBird locations with 3 being inside the **Loop**. Most lists contain less than 5 birds with **DT** having been the most reliable location.

CBCs: TXGF reported 2 once.

HABITAT: Ag fields and proximity of livestock.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 808) winter—spring.

WESTERN MEADOWLARK

STATUS: Winter Resident.

HOTSPOTS: Maximum of 60 occurred at **MF** in December of 2008 and has been reported from 7 of the Top 10 eBird Hotspots.

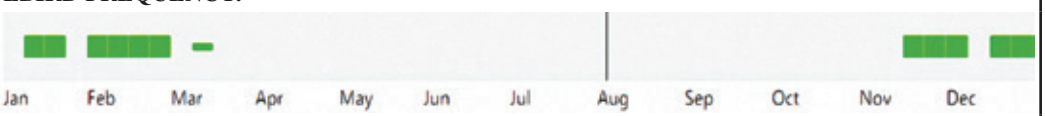
EBIRD: Reported at 20 eBird locations with 5 being inside the **Loop**.

CBCs: Occurred on 38% of the TXGF counts and averaged 3 with a high of 21. Occurred on 35% of the TXVI counts and averaged 3 with a high of 26.

HABITAT: Grasslands and shrub savannah.

SEASONALITY: Difficult to distinguish from Eastern Meadowlark in the field, except by call.

EBIRD FREQUENCY:



REFERENCES: Oberholser (1974; p. 806) winter.

EASTERN MEADOWLARK

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 244 occurred at **SR** in December of 1997 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at over 100 eBird locations with 24 being inside the **Loop**.

CBCs: TXGF reported an average of 101 with a high of 207. TXVI reported an average of 179 with a high of 761.

BBS: Occurred 11 years with a high count of 19 and an average of 12.

HABITAT: Grasslands and shrub savannah.

SEASONALITY: Widespread nester in native habitat. Population augmented in fall with arrival of northern migrants which leave in March. The meadowlark produces one of the prettiest sounds of the Coastal Prairie. A calm morning can be filled with the songs of the meadowlark and dicsissels.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 804) resident.

BOBOLINK

STATUS: Spring Migrant.

HOTSPOTS: Maximum of 10 occurred at **SR** in May of 1994.

Habitat: Grasslands and small grain ag fields.

ORCHARD ORIOLE

STATUS: Migrant.

HOTSPOTS: Maximum of 20 occurred at a private location in July of 2018 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 25 eBird locations with 9 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported 1 once.

BBS: Occurred one year with a high count of one and an average of 0.

HABITAT: Shrub communities.

SEASONALITY: Migrates through County with none known to linger.

EBIRD FREQUENCY:

BANDED: One in March, 6 in April, 2 in May, 14 in July, 22 in August and 8 in September at **OH** with no recaptures.

REFERENCES: Oberholser (1974; p. 813) nester.

BULLOCK'S ORIOLE

STATUS: Irregular.

HOTSPOTS: Maximum of one occurred at **RP** in January of 2020 and has been reported at **OH**.

EBIRD: Reported at 3 eBird locations with 2 being inside the **Loop**. All records contain a single bird.

CBCs: TXGF reported 1 once.

HABITAT: Shrub savannah.

EBIRD FREQUENCY:

BANDED: One in September with no recaptures at **OH**.

REFERENCES: Oberholser (1974; p. 825) summer—fall.

AUDUBON'S ORIOLE

STATUS: Extralimital.

HOTSPOTS: Maximum of 2 occurred at **OH** in December of 2019.

EBIRD: Reported at 2 eBird locations with none being inside the **Loop**. All records contain 1or 2 birds.

HABITAT: Upland woodlands.

EBIRD FREQUENCY:

BALTIMORE ORIOLE

STATUS: Migrant.

HOTSPOTS: Maximum of 120 occurred at **RP** in September of 2010 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 31 eBird locations with 15 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported the species twice with a high of 2. TXVI reported 1 once.

HABITAT: Forest and shrub communities.

SEASONALITY: Migrates through County during brief periods in the spring and fall. Often, it occurs in conspicuous flocks. Some orioles will feed on suet, oranges, and sugar water.

EBIRD FREQUENCY:

BANDED: 31 at **OH.** Site Fidelity 0. All were banded from the last week of August to the first week of October.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
31	1	3%	0%	0%	0%	0%	0%	0%	3 days

REFERENCES: Oberholser (1974; p. 823) fall.

RED-WINGED BLACKBIRD

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 170,000 occurred at **SR** in December of 1995 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at almost 150 eBird locations with 35 being inside the **Loop**. Widespread and abundant.

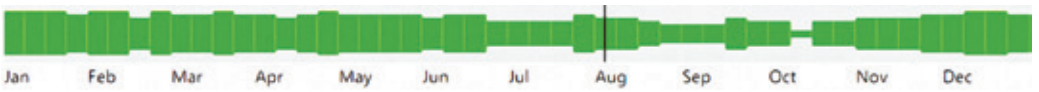
CBCs: TXGF reported an average of 5,654 with a high of 22,081. TXVI reported an average of 4,203 with a high of 30,506.

BBS: Occurred 11 years with a high count of 70 and an average of 34.

HABITAT: Grasslands, wetlands, and small grain ag fields.

SEASONALITY: Nests in wetlands and grain fields. Forages extensively in ag fields, especially rice, sorghum and corn. Forms large roosts and foraging flocks in winter. Feeds opportunistically at bird feeders. It was not uncommon for Red-wings to have sentries at **OH** on the tallest trees. This allowed the birds to raid the feeder within minutes of new bait being added. Water is obtained from wetlands, ponds, bird baths and irrigation run-off.

EBIRD FREQUENCY:



BANDED: 1,114 at **OH.** Site Fidelity 0. Caught 20 in November, 84 in December, 160 in January, 339 in February, 551 in March and 11 in April. Most Red-wings and other blackbirds/grackle were caught in funnel traps which were set during periods when large flocks foraged through the subdivision. National Longevity Record is 15 years and 9 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
1,114	38	3%	1%	1%	0%	0%	0%	0%	3 years

FOREIGN RECOVERY:

Banded 1-19-2001 in Raisin, TX Harvested on 1-16-2003 in Brazoria

REFERENCES: Oberholser (1974; p. 809) resident.

BRONZED COWBIRD

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 300 occurred at **SR** in December of 1995 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 39 eBird locations with 21 being inside the **Loop**. Surprisingly abundant in town.

CBCs: TXGF reported the species twice and had a high of 38. Occurred on 63% of the TXVI counts and averaged 44 with a high of 425.

BBS: Occurred 3 years with a high count of one and an average of 0.

HABITAT: Savannah and residential.

SEASONALITY: Disperses widely to find nests to parasitize in spring. Frequents areas with livestock for foraging and shopping center parking lots for discarded food. Water is obtained from ponds, bird baths and run-off irrigation. Regular at *Walmart* and *Victoria Mall* parking lots in winter.

EBIRD FREQUENCY:

BANDED: 9 at **OH.** Caught one in January, one in April, 4 in May, 2 in June and 2 in July.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
9	2	22%	22%	11%	0%	0%	0%	0%	1 year

BROWN-HEADED COWBIRD

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 35,800 occurred at **SR** in December of 2019 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 122 eBird locations with 36 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 1,485 with a high of 7,550. TXVI reported an average of 1,845 with a high of 43,866.

BBS: Occurred 11 years with a high count of 55 and an average of 34.

HABITAT: Grasslands, savannahs and woodland edge.

SEASONALITY: Disperses widely in spring searching for nests to parasitize. Young leave parental host in summer and gather with other blackbirds in large flocks to feed in ag fields. Northern migrants arrive during winter and augment populations. Forages at bird feeders, and utilize ponds, bird baths and run-off irrigation for drinking/bathing.

EBIRD FREQUENCY:

BANDED: 365 males in January, 586 in February, 358 in March, 16 in April and 3 in May at **OH.** Females were not banded. Site Fidelity 0. National Longevity Record is 16 years and 11 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
1,288	40	3%	0%	0%	0%	0%	0%	0%	3 years 2 months

FOREIGN RECOVERIES:

Banded 2-26-2003 in Raisin, TX	Recovered 3-2-2009 in Victoria, TX
Banded 1-20-2007 in Raisin, TX	Recovered at Dauphin Island, AL

REFERENCES: Oberholser (1974; p. 841) resident.

RUSTY BLACKBIRD

STATUS: Irregular in Winter.

HOTSPOTS: Maximum of 8 occurred at **MF** in December of 2012 and has been reported from **RP** in December of 1993.

EBIRD: Reported at 2 eBird locations with none being inside the **Loop**. All records contain a single bird.

CBCs: TXGF reported the species twice with a high of 8. Occurred on 19% of the TXVI counts and averaged 4 with a high of 59.

HABITAT: Swamps and wet forest.

EBIRD FREQUENCY:

BREWER'S BLACKBIRD

STATUS: Winter Resident.

HOTSPOTS: Maximum of 760 occurred at **SR** in December of 1996 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 41 eBird locations with 10 being inside the **Loop**. **DT, IW** and **MF** have been the most reliable locations.

CBCs: TXGF reported an average of 668 with a high of 5,165. TXVI reported an average of 1,006 with a high of 10,283.

HABITAT: Grasslands. Frequently forages in proximity to livestock and their feed.

SEASONALITY: Commonly observed perched on electrical wires and walking on highways in rural areas. Frequents livestock feed lots and grain/hay storage areas.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 831) winter.

COMMON GRACKLE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 5,000 occurred at **MF** in December of 2009 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at over 100 eBird locations with 37 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 1,016 with a high of 8,948. TXVI reported an average of 2,309 with a high of 9,219.

BBS: Occurred 9 years with a high count of 12 and an average of 4.

HABITAT: Forests, and wooded residential.

SEASONALITY: Common grackle nests in shade trees in residential areas in towns and in rural settings. Forms large roosts during late winter from local and migrant populations. Disperses daily from roost to feed in ag fields, forested sites and residential areas. Bird feeders under flight lines from roost will likely be visited twice a day. Will use bird baths and run-off from irrigation.

EBIRD FREQUENCY:

BANDED: 4 in November, 2 in December, 124 in January, 185 in February, 93 in March and 3 in April. Six recoveries of banded grackles occurred in Brazoria, Graham and Victoria, Texas; also Arkansas and Iowa showing a connection of this species to a broad area of the central United States.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
408	3	1%	0%	0%	0%	0%	0%	0%	1 month

FOREIGN RECOVERIES:

Banded 1-1-1999 in Raisin, TX	Recovered on 1-28-2000 in Fort Smith, AR
Banded 2-11-2000 in Raisin, TX	Harvested on 12-11-2000 in Brazoria, TX
Banded 2-22-2000 in Raisin, TX	Harvested on 12-8-2006 in Victoria, TX
Banded 1-1-2001 in Raisin	Harvested on 6-4-2003 in Victoria, TX
Banded 2-26-2003 in Raisin	Recoverd on 6-9-2005 in Iowa
Banded 3-6-2004 in Raisin	Recovered on 4-9-2006 in Graham, TX

REFERENCES: Oberholser (1974; p. 839) resident.

BOAT-TAILED GRACKLE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 17 occurred at Placedo Creek in August of 2017 and has been reported from **IW** and **MF**.

EBIRD: Reported at 14 eBird locations. Most lists contain less than 10 birds with Placedo Creek having been the most reliable location.

CBCs: Occurred on 44% of the TXGF counts and averaged 22 with a high of 212. TXVI reported species twice with a high of 35. We suspect the TXVI reports were misidentifications.

HABITAT: Herbaceous wetlands in the lower reaches of the Guadalupe and San Antonio Rivers, and in tidal marshes of Garcitas and Placedo Creeks.

SEASONALITY: Forages and nests in large wetlands.

EBIRD FREQUENCY:

GREAT-TAILED GRACKLE

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 21,000 occurred at **SR** in December of 1995 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at over 200 eBird locations with over 100 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 34 with a high of 93. TXVI reported an average of 6,722 with a high of 38,775.

BBS: Occurred 11 years with a high count of 23 and an average of 12.

HABITAT: Grain fields, herbaceous wetlands, and residential areas.

SEASONALITY: Nests on shrubbery in wetlands or scattered shade trees in both residential and rural areas. Many Great-tails forage in grain fields and cause extensive damage to crops. Great-tails also forage in residential areas for insects on automobiles and discarded food. They utilize bird and game feeders, and obtain water from ponds, and run off irrigation water. During fall, many of the Great-tails in ag fields as well as migrants from the northern states converge in Victoria and other towns to roost during winter months. Great-tails can be observed during some evenings perched in high densities on several km of electrical lines in Victoria.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 833) resident.

OVENBIRD

STATUS: Migrant.

HOTSPOTS: Maximum of 6 occurred at **RP** in September of 2010 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 9 eBird locations with 4 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXGF reported the species 3 times with a high of 4. TXVI reported 1 twice.

HABITAT: Riparian forest.

SEASONALITY: Migrates through County in spring and fall with little indication of lingering. A few individuals winter in the adjoining Calhoun and Goliad counties.

EBIRD FREQUENCY:

BANDED: Banded 21 at **OH** with no recaptures. Three were caught in April, 9 in May, 8 in September and one in October. With much less mist-netting effort on the Guadalupe Delta Wildlife Management Area, 90 Ovenbirds were banded with one in January, 41 in April, 14 in May, 2 in August, 4 in September, 21 in October, 5 in November and 2 in December. One of the April birds was recaptured 1.5 years later in the winter. Two November birds were recaptured 3 months and one year after banding, both in the winter. The most interesting recapture was an October bird who was recaptured 3 years later in the winter.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
21	0	0%	0%	0%	0%	0%	0%	0%	0

REFERENCES: Oberholser (1974; p. 770) migrant.

WORM-EATING WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 2 occurred at **RP** in September of 2010 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 6 eBird locations with 2 being inside the **Loop**. All records contain 1 or 2 birds.

HABITAT: Forest understory.

SEASONALITY: Spring and fall migrant. Does not linger.

EBIRD FREQUENCY:

BANDED: One in April with no recaptures at **OH.**

LOUISIANA WATERTHRUSH

STATUS: Migrant.

HOTSPOTS: Maximum of one occurred at **MF, OH** and **RP** on multiple occasions.

EBIRD: Reported at 5 eBird locations with 2 being inside the **Loop**. All records contain a single bird.

CBCs: TXGF reported 1 once.

HABITAT: Riparian forest and shrub floodplain communities

EBIRD FREQUENCY:

BANDED: 4 in March, one in July and 3 in August at **OH**, and 6 at **MF** with no recaptures.

REFERENCES: Oberholser (1974; p. 774) spring.

NORTHERN WATERTHRUSH

STATUS: Migrant.

HOTSPOTS: Maximum of 16 occurred at **MF** in September of 2006 and has been reported from 6 of the Top 10 eBird HotSpots.

EBIRD: Reported at 11 eBird locations with 5 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: Occurred on 31% of the TXGF counts and reported an average <1 with a high of 2. TXVI reported 1 twice.

HABITAT: Forest and shrub floodplain communities.

SEASONALITY: Common migrant with small numbers lingering into December in the lower reaches of the Guadalupe River.

EBIRD FREQUENCY:

BANDED: 20 in April, 9 in May, 6 in August and 8 in September at **OH**. Recaptured one a week after banding. Banded 66 at **MF** and had one recaptured <1-month from banding.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
43	1	2%	0%	0%	0%	0%	0%	0%	1 week

GOLDEN-WINGED WARBLER

STATUS: Spring Migrant.

HOTSPOTS: Maximum of 4 occurred at **RP** in May of 2008 and has been reported from **AN, OH** and **SL**.

EBIRD: Reported at 6 eBird locations with 4 being inside the **Loop**. Most lists contain 1 or 2 birds.

HABITAT: Shrub/sapling communities.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 722) spring.

BLUE-WINGED WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 2 occurred at **RP** in April of 2017 and has been reported from **OH, SL** and **VM**.

EBIRD: Reported at 6 eBird locations with 4 being inside the **Loop**. All records contain 1 or 2 birds.

SKIMMING: 21 records with 16 at **RP**.

HABITAT: Shrub/sapling communities.

SEASONALITY: Spring and fall migrant which does not appear to linger.

EBIRD FREQUENCY:

BANDED: 5 all in April with no recaptures.

BLACK-AND-WHITE WARBLER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 15 occurred at **RP** in March of 2010 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 39 eBird locations with 13 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 10 with a high of 21. Occurred on 51% of the TXVI counts and averaged one with a high of 9.

HABITAT: Riparian forests and liveoak woodlands.

SEASONALITY: Common migrant which over-winters in small numbers in the Guadalupe River floodplain. Even though abundance is low, they are high enough to be one of the highest densities over-wintering in the Nation.

EBIRD FREQUENCY:

BANDED: 42 at **OH** with one recapture and 6 at **MF** with 0 recaptures. National Longevity Record is 11 years and 3 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
42	1	2%	2%	2%	2%	0%	0%	0%	1 year 3 months

PROTHONOTARY WARBLER

STATUS: Summer Resident.

HOTSPOTS: Maximum of 18 occurred at **MF** in May of 2014 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 12 eBird locations with 4 being inside the **Loop**. **MF** has been the most reliable location.

CBCs: TXGF reported one 3 times. TXVI reported 1 once.

HABITAT: Swamps, oxbows, overflow basins, rivers and creeks.

SEASONALITY: Common in the lower reaches of the Guadalupe and San Antonio Rivers during breeding season. Nest in tree cavities and will use bird houses.

EBIRD FREQUENCY:

BANDED: 2 in May, one in June, 6 in July and one in August at **OH**. Coleto Creek is about 0.4 km from the banding station and the adjacent oxbow is frequently dry, resulting in sporadic presence of wetland birds. Twenty-one were banded in **MF** with 2 being recaptured. Suspected to breed in area.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
10	0	0%	0%	0%	0%	0%	0%	0%	0

REFERENCES: Oberholser (1974; p. 718) nester.

Figure 18. Swainson's Warbler 5/15/2020 at Arenosa Creek.

SWAINSON'S WARBLER

STATUS: Migrant. One singing bird on territory in far eastern part of County along Arenosa Creek in May 2020.

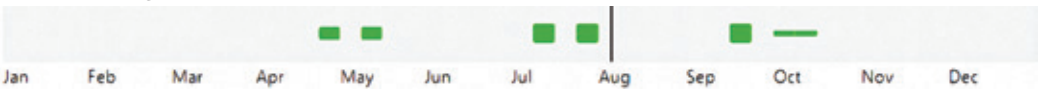
HOTSPOTS: Maximum of one occurred at **OH** on multiple occasions and at **RP** in April of 2004.

EBIRD: Reported at 3 eBird locations with one being inside the **Loop**. All records contain a single bird.

HABITAT: Riparian shrub/cane communities.

SEASONALITY: Uncommon migrant which is more abundant than data would suggest.

EBIRD FREQUENCY:



BANDED: One during each of the months from July through October. Recaptured one individual in October. None were caught in the **MF** area.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
4	1	25%	0%	0%	0%	0%	0%	0%	1 week

TENNESSEE WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 56 occurred at **RP** in May of 2008 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 12 eBird locations with 7 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported 1 twice.

HABITAT: Forest and shrub communities.

SEASONALITY: Spring and fall migrant which occasionally lingers into December.

EBIRD FREQUENCY:

BANDED: 13 in April, 16 in May, 5 in October and one in November at **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 724) migrant.

ORANGE-CROWNED WARBLER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 57 occurred at **MF** in December of 2017 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 94 eBird locations with 38 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 74 with a high of 163. TXVI reported an average of 45 with a high of 133.

HABITAT: Forest and shrub communities.

SEASONALITY: Species migrates to the County in October and stays through April. Moderate Site Fidelity with one individual returning for 5 years.

EBIRD FREQUENCY:

BANDED: 99 at **OH.** Site Fidelity 27%. 1-Year Longevity 9%. Banded 27 at **MF** with no recaptures. National Longevity Record is 8 years and 8 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
99	33	33%	23%	12%	9%	5%	4%	2%	5 years 1 month

REFERENCES: Oberholser (1974; P. 725) winter.

NASHVILLE WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 30 occurred at **RP** in May of 2020 and has been reported from 8 of the Top 10 eBird HotSpots.

EBIRD: Reported at 20 eBird locations with 9 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: Occurred on 38% of the TXGF counts and averaged one with a high of 8. TXVI reported 1 twice.

HABITAT: Shrub communities.

SEASONALITY: Abundant migrant with high numbers in April, September and October. Lingers into winter in small numbers.

EBIRD FREQUENCY:

BANDED: 31 in March, 115 in April, 2 in May, 74 in September, 202 in October and 14 in November at **OH**. Site Fidelity 0.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
423	13	3%	0%	0%	0%	0%	0%	0%	2 weeks

REFERENCES: Oberholser (1974; p. 727) fall.

MACGILLIVRAY'S WARBLER

STATUS: Vagrant.

HOTSPOTS: Maximum of one occurred at **RP** in September of 2015.

EBIRD: Only a single eBird record. See **HOTSPOTS.**

HABITAT: Riparian shrub communities.

EBIRD FREQUENCY:

Figure 19. Mourning Warbler at Riverside Park (**RP**) at 5/10/2016.

MOURNING WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 11 occurred during one day at **OH** in September of 2009 and has been reported from **MF, RP** and **SL**.

EBIRD: Reported at 6 eBird locations with 3 being inside the **Loop**. Most lists contain less than 10 birds.

HABITAT: Riparian shrub communities

EBIRD FREQUENCY:

BANDED: 4 in April, 21 in May, 22 in August, 140 in September and 4 in October at **OH**. One week was the longest an individual lingered. Banded 43 at **MF** with no recaptures.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
184	6	3%	0%	0%	0%	0%	0%	0%	1 week

FOREIGN RECAPTURE:

Banded on 8-17-1999 in Manitoba, Canada Recaptured 9-2-2000 in Raisin, TX

REFERENCES: Oberholser (1974; p. 778) spring.

KENTUCKY WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 4 occurred at **RP** in September of 2010 and has been reported from **MF, OH** and **SL**.

EBIRD: Reported at 6 eBird locations with 2 being inside the **Loop**. Most lists contain 1 or 2 birds.

HABITAT: Bottomland hardwood understory.

EBIRD FREQUENCY:

BANDED: 8 in April and 3 in May at **OH** with no recaptures.

REFERENCES: Oberholser (1974; p. 775) migrant.

COMMON YELLOWTHROAT

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 102 occurred at **MF** in October of 2008 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 66 eBird locations with 17 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 81 with a high of 417. Occurred on 70% of the TXVI counts and averaged 3 with a high of 11.

HABITAT: Wetlands and shrub communities.

SEASONALITY: Present year-round in wetlands, abundant during winter and migration in shrub communities like at **OH**.

EBIRD FREQUENCY:

BANDED: Banded 280 and recaptured 47 at **OH**. Six lingered beyond one month. Site Fidelity 50% (small sample). 1-Year Survivorship 1%. Species was abundant at Banding Station in migration, but few individuals lingered. Caught 3 in January, one in February, 164 in April, 74 in May, 18 in September, 39 in October and 5 in December. In contrast, 314 were banded at **MF i**n wetlands with much less effort. Recaptured 31 (10%) with 28 > 1-month and 14 > 1-year from banding indicating 50% site fidelity with at least a portion of the population. National Longevity Record is 11 years and 2 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
280	47	17%	2%	1%	1%	1%	0%	0%	2 years 3 months

REFERENCES: Oberholser (1974; p. 781) migrant.

HOODED WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 8 occurred at **RP** in March of 2010 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 6 eBird locations with 4 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXVI reported one in 2004.

HABITAT: Forest and shrub communities.

SEASONALITY: Migrates through County in spring and fall with most individuals observed in spring.

EBIRD FREQUENCY:

BANDED: 10 in March, 8 in April, one in May, 2 in August, 2 in September, 3 in October and one in November at **OH** with no recaptures.

REFERENCES: Oberholser (1974; p. 790) migrant.

AMERICAN REDSTART

STATUS: Migrant.

HOTSPOTS: Maximum of 33 occurred at **RP** in May of 2008 and has been reported from **OH, MF** and **SL**.

EBIRD: Reported at 18 eBird locations with 7 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported the species 3 times with a high of 3.

HABITAT: Forest and shrub communities.

SEASONALITY: Migrates through County in spring and fall. Few linger in winter.

EBIRD FREQUENCY:

BANDED: 2 in April, 5 in May, 3 in September and 13 in October at **OH** with 0 recaptures.

REFERENCES: Oberholser (1974; p. 794) nesting.

CERULEAN WARBLER

STATUS: Spring Migrant.

HOTSPOTS: Maximum of 2 occurred at **RP** in May of 2008 and has been reported from **OH** and **VM**.

EBIRD: Reported at 4 eBird locations with 2 being inside the **Loop**. Most lists contain a single bird.

HABITAT: Forest and shrub communities.

SEASONALITY: Occurs infrequently in spring.

EBIRD FREQUENCY:

BANDED: 2 in April at **OH**.

REFERENCES: Oberholser (1974; p. 755) spring.

NORTHERN PARULA

STATUS: Summer Resident.

HOTSPOTS: Maximum of 20 occurred at **RP** in March of 2019 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 40 eBird locations with 25 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported 1 once. TXVI reported the species 3 times with a high of 2.

HABITAT: Forests.

SEASONALITY: One of our "Rites of Spring" is hearing the parulas singing in the leafless trees in early March. After a few weeks they disperse to their breeding territories where they can be heard for the rest of the breeding season. They migrate quietly south in the fall.

EBIRD FREQUENCY:

BANDED: 14 in March, 5 in April, one in May, 2 in June, one in July, one in August and 9 in October at **OH**. Recaptured one individual in March and October one week after banding.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
32	2	6%	0%	0%	0%	0%	0%	0%	1 week

REFERENCES: Oberholser (1974; p. 731) summer.

Figure 20. Tropical Parula at Riverside Park (**RP**) on 2/17/2020.

TROPICAL PARULA

STATUS: Winter Visitor.

HOTSPOTS: Maximum of one occurred at **RP** in February of 2020 and has been reported from **OH** in December of 2018 and from **MF** in December of 2017.

EBIRD: Reported at 7 eBird locations with 4 being inside the **Loop**. All records contain a single bird.

CBCs: TXGF reported 1 twice. TXVI reported 1 once.

HABITAT: Forests.

SEASONALITY: Species may be more widespread than reported due to its similarity in appearance and song with the Northern Parula.

EBIRD FREQUENCY:

MAGNOLIA WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 35 occurred at **RP** in May of 2008 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 17 eBird locations with 9 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXVI reported 1 twice.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: One in April, 7 in May and 12 in October with 0 recaptures at **OH**.

BAY-BREASTED WARBLER

STATUS: Spring Migrant.

HOTSPOTS: Maximum of 13 occurred at **RP** in May of 1997 and has been reported from **SL**.

EBIRD: Reported at 6 eBird locations with 5 being inside the **Loop**. Most lists contain less than 5 birds with **RP** having been the most reliable location.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 762) spring.

BLACKBURNIAN WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 19 occurred at **RP** in May of 2008 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 14 eBird locations with 10 being inside the **Loop**. Most lists contain less than 5 birds with **RP** having been the most reliable locations.

HABITAT: Forests.

SEASONALITY: Common migrant in spring. Uncommon in fall.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 756) spring.

YELLOW WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 29 occurred at Mission Valley in August of 2019 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 22 eBird locations with 9 being inside the **Loop**. Most lists contain less than 10 birds with **RP** having been the most reliable location.

CBCs: TXGF reported one in 2008. TXVI reported one in 2007.

BBS: Occurred one year with a high count of one and an average of 0.

HABITAT: Shrub communities.

SEASONALITY: Migrates through County and rarely lingers into winter.

EBIRD FREQUENCY:

BANDED: 6 in April, 4 in May, 18 in August, 24 in September and one in October at **OH** with 0 recaptures. Banded 73 at **MF** with no recaptures.

REFERENCES: Oberholser (1974; p. 735) migrant.

CHESTNUT-SIDED WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 44 occurred at **RP** in May of 2008 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 13 eBird locations with 9 being inside the **Loop**. Most lists contain less than 10 birds with **RP** having been the most reliable location.

HABITAT: Forest and shrub communities.

EBIRD FREQUENCY:

BANDED: 2 in April, 5 in May and one in October at **OH**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
8	0	0%	0%	0%	0%	0%	0%	0%	0

REFERENCES: Oberholser (1974; P. 761) spring.

BLACKPOLL WARBLER

STATUS: Spring Migrant.

HOTSPOTS: Maximum of one occurred at **RP** in May of 2016 and 2017.

EBIRD: Reported twice from **RP**. See **HOTSPOTS.**

HABITAT: Forests.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 764) spring.

Figure 21. Black-throated Blue Warbler 9/16/2010 in the McFaddin Area (**MF**).

BLACK-THROATED BLUE WARBLER

STATUS: Irregular in Migration and Winter.

HOTSPOTS: Maximum of one occurred at **MF** in October of 2006 and from **RP** in March of 1994, December of 1995, and January of 1996.

EBIRD: Reported at 2 eBird locations with one being inside the **Loop**. All records contain a single bird.

SKIMMINGS: One was reported on 5/17/94 at Thomaston, and one on 11/10/95 at Raisin.

CBCs: TXVI reported one in 1995.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

BANDED: One in **MF** with no recaptures.

REFERENCES: Oberholser (1974; p. 740) spring.

PALM WARBLER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 4 occurred at **MF** in December of 2014 and from **RP** and **SL**.

EBIRD: Reported at 3 eBird locations with 1 being inside the **Loop**. Most lists contain a single bird.

CBCs: Occurred on 44% of the TXGF counts and averaged 2 with a high of 13. Occurred on 9% of the TXVI counts and averaged <1 with a high of 7.

HABITAT: Shrub communities. Regularly uses baccharis.

EBIRD FREQUENCY:

BANDED: One in March at **OH**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
1	0	0%	0%	0%	0%	0%	0%	0%	0

PINE WARBLER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 61 occurred at **MF** in December of 2010 and has been reported from 9 of the Top 10 eBird Hotspots.

EBIRD: Reported at 58 eBird locations with 18 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported an average of 27 with a high of 134. TXVI reported an average of 17 with a high of 73.

HABITAT: Upland forest.

SEASONALITY: Forages in association with Eastern Bluebird, Chipping Sparrow and Yellow-rumped Warbler during winter.

EBIRD FREQUENCY:

BANDED: Caught 16% in November, 21% in December, 26% in January and 37% in February at **OH**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
14	3	21%	7%	0%	0%	0%	0%	0%	2 months

YELLOW-RUMPED WARBLER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 250 occurred at **SA** in March of 2013 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 131 eBird locations with 49 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 321 with a high of 706. TXVI reported an average of 180 with a high of 673.

HABITAT: Forest and shrub communities. Feeds extensively on insects, poison ivy, Chinese tallow, and other woodland seeds. Will use suet and bird baths.

EBIRD FREQUENCY:

BANDED: 95 at **OH.** Site Fidelity 40%. 1-Year Survivorship 2%. Caught 21% in November, 40% in December, 14% in January, 9% in February, 12% in March and 2% in April. National Longevity Record is 8 years and 9 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
95	7	7%	5%	2%	2%	2%	1%	0%	2 years 3 months

REFERENCES: Oberholser (1974) winter.

Figure 22. Yellow-throated Warbler at Victoria on 12/22/2018.

YELLOW-THROATED WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 3 occurred at **RP** in January of 2020 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 16 eBird locations with 7 being inside the **Loop**. Most lists contain a single bird with **RP** having been the most reliable location.

CBCs: TXGF reported one in 2018. Occurred in 21% of the TXVI counts and averaged <1 with a high of 4.

HABITAT: Riparian forest, bald cypress, palm trees, and conifers.

EBIRD FREQUENCY:

BANDED: One in March at **OH** with no recaptures.

REFERENCES: Oberholser (1974; p. 758) fall.

Figure 23. Prairie Warbler 9/16/2010 in the McFaddin Area (**MF**).

PRAIRIE WARBLER

STATUS: Irregular

HOTSPOTS: Maximum of one occurred at **RP** in February of 2011 and at **OH** in September of 2000.

EBIRD: Only 2 eBird records. See **HOTSPOTS**.

CBCs: TXVI reported one in 1990 and 1999.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

BANDED: One in September at **OH** with no recaptures.

Figure 24. Black-throated Gray Warbler in the Wood-Hi Community 4/5/2016.

BLACK-THROATED GRAY WARBLER

STATUS: Vagrant.

HOTSPOTS: Maximum of one occurred at a private location in April of 2016.

EBIRD: Only one eBird report. See **HOTSPOTS**.

SKIMMINGS: One reported on 3/21/96 NW of Victoria.

HABITAT: Shrub communities.

EBIRD FREQUENCY:

BLACK-THROATED GREEN WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 33 occurred at **RP** in May of 2008 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 30 eBird locations with 14 being inside the **Loop**. Most lists contain less than 5 birds with **RP** having been the most reliable location.

CBCs: Occurred on 56% of the TXGF counts and averaged one with a high of 4. Occurred on 49% of the TXVI counts and averaged one with a high of 12.

HABITAT: Riparian forest.

EBIRD FREQUENCY:

BANDED: 5 in spring and 4 in fall at **OH** with no recaptures.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
9	0	0%	0%	0%	0%	0%	0%	0%	0

REFERENCES: Oberholser (1974; p. 749) migrant.

CANADA WARBLER

STATUS: Migrant.

HOTSPOTS: Maximum of 12 occurred at **RP** in May of 2008 and has been reported from **MF, OH** and **SL**.

EBIRD: Reported at 10 eBird locations with 4 being inside the **Loop**. Most lists contain less than 5 birds.

HABITAT: Dense shrubs. More frequent in riparian than upland habitats.

SEASONALITY: Migrates through County from mid-April to June, and mid-August to mid-October. Frequents dense woody vegetation which makes it difficult to locate.

EBIRD FREQUENCY:

BANDED: 27 at **OH.** Site Fidelity 0%. 1-Year Survivorship 0%. Out of the 27 banded, 23 were caught in the fall with 2 September being the average date of passage. All spring birds were caught in May with the medium date being the 15th. No birds were recaptured.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
27	0	0%	0%	0%	0%	0%	0%	0%	0

REFERENCES: Oberholser (1974; p. 792) fall.

Figure 25. Wilson's Warbler Eating Suet at Ortego Home (**OH**) in 2018.

WILSON'S WARBLER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 12 occurred at **RP** in December of 2016 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 27 eBird locations with 14 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: TXGF reported an average of 3 with a high of 8. TXVI reported an average of 3 with a high of 17.

HABITAT: Prefers riparian shrub communities. Feeds on suet and uses bird baths.

SEASONALITY: Common migrant which mostly passes through without lingering. Over-winters in small numbers. The two foreign recaptures of this species span the full width of the range of this species in the United States.

EBIRD FREQUENCY:

BANDED: 343 at **OH.** Site Fidelity 50%. 1-Year Survivorship 1%. Banded 2% in August, 70% in September, 23% in October, 2% in November, <1% in each month of December, January, February, March and April, and 2% in May. National Longevity Record is 8 years and 11 months.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
343	48	8%	2%	1%	1%	1%	1%	0%	2 years 4 months

FOREIGN RECAPTURES:

Banded 8-11-1996 in Alaska	Recaptured 2-15-1997 in Raisin, TX
Banded 10-9-1997 in Maryland	Recaptured 10-10-2000 in Raisin, TX

REFERENCES: Oberholser (1974; p. 791) migrant.

SUMMER TANAGER

STATUS: Summer Resident.

HOTSPOTS: Maximum of 11 occurred at **RP** in April of 2020 and has been reported from 8 of the Top 10 eBird Hotspots.

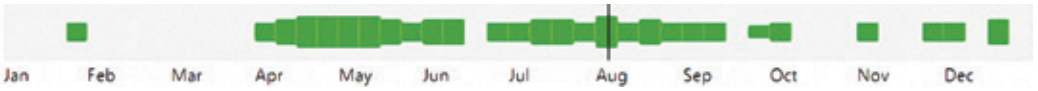
EBIRD: Reported at 35 eBird locations with 18 being inside the **Loop**. Most lists contain less than 5 birds.

CBCs: Occurred on 31% of the TXGF counts and averaged <1 with a high of 3. Occurred on 7% of the TXVI counts and averaged <1 with a high of 3.

BBS: Occurred one year with a high count of one and average of 0.

HABITAT: Riparian forest.

EBIRD FREQUENCY:



BANDED: One in February, one in April, one in May, 2 in July, 6 in August and one in October at **OH.**

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
13	0	0%	0%	0%	0%	0%	0%	0%	0

REFERENCES: Oberholser (1974; p. 850) spring.

SCARLET TANAGER

STATUS: Migrant.

HOTSPOTS: Maximum of 8 occurred at **RP** in May of 2008 and has been reported from **OH, SL** and **VM**.

EBIRD: Reported at 9 eBird locations with 5 being inside the **Loop**. Most lists contain less than 5 birds.

HABITAT: Forest canopy. Migrates widely through County.

EBIRD FREQUENCY:

REFERENCES: Oberholser (1974; p. 847) spring.

Figure 26. Western Tanager at Riverside Park (**RP**) 12/22/2018.

WESTERN TANAGER

STATUS: Winter Resident.

HOTSPOTS: Maximum of 3 occurred at **RP** in December of 2019 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 7 eBird locations with 3 being inside the **Loop**. Most lists contain 1 or 2 birds with **RP** having been the most reliable location.

CBCs: TXGF reported species twice and had a high of 2. Occurred on 19% of the TXVI counts and averaged <1 with a high of 2.

HABITAT: Riparian forest.

SEASONALITY: Species is becoming more common during winter. One individual spent the entire winter at **OH** frequenting a bird bath daily.

EBIRD FREQUENCY:

BANDED: 2 at **OH.**

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
2	1	50%	50%	0%	0%	0%	0%	0%	1 month

NORTHERN CARDINAL

STATUS: Year-Round Resident.

HOTSPOTS: Maximum of 234 occurred at **MF** in May of 2015 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at almost 250 eBird locations with 82 being inside the **Loop**. Widespread and abundant.

CBCs: TXGF reported an average of 212 with a high of 306. TXVI reported an average of 235 with a high of 619.

BBS: Occurred 11 years with a high count of 214 and average of 154.

HABITAT: Forest and shrub communities in rural and residential settings. Readily uses bird feeders and baths.

SEASONALITY: Disperses in spring to breed. Gathers into foraging flocks in fall and roams up to 1.6 km. High densities occur in vicinity of bird or game feeders.

EBIRD FREQUENCY:

BANDED: 2,738 at **OH.** Site Fidelity 32%. 1-Year Survivorship 10%. Banded 184 at **MF** with 24 recaptures. Site Fidelity was 70% and 1-Year Survivorship 7%.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
2,738	1,073	39%	31%	15%	10%	8%	5%	4%	8 years

FOREIGN RECOVERY:

Banded 8-26-2001 in Raisin, TX Recovered south of U.S. Hwy. 59 in Raisin, TX

REFERENCES: Oberholser (1974; p. 853) resident; Ortego and Rorex (2020).

PYRRHULOXIA

STATUS: Winter Resident.

HOTSPOTS: Maximum of 4 occurred at **SA** in February of 2020 and has been reported from 5 of the Top 10 eBird Hotspots.

EBIRD: Reported at 9 eBird locations with 3 being inside the **Loop**. Most lists contain a single bird.

CBCs: TXGF reported species twice and had a high of 3. Occurred on 51% of the TXVI counts and averaged 4 with a high of 47.

HABITAT: Dry shrub savannah.

EBIRD FREQUENCY:

BANDED: 4 with no recaptures at **OH**.

REFERENCES: Oberholser (1974; p. 855) fall.

ROSE-BREASTED GROSBEAK

STATUS: Migrant.

HOTSPOTS: Maximum of 13 occurred at **RP** in May of 2008 and has been reported from 6 of the Top 10 eBird Hotspots.

EBIRD: Reported at 15 eBird locations with 11 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXVI reported the species 4 times and had a high of 2.

HABITAT: Riparian forest, woodland edge and shrub communities. Uses bird feeders and bird baths.

EBIRD FREQUENCY:

BANDED: 12 at **OH**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
12	0	0%	0%	0%	0%	0%	0%	0%	0

REFERENCES: Oberholser (1974) p. 857) spring.

Figure 27. Black-headed Grosbeak near Raisin in 2020.

BLACK-HEADED GROSBEAK

STATUS: Irregular in Winter.

HOTSPOTS: Maximum of 2 occurred at **OH** in April of 2013 and has been reported from **RP**.

EBIRD: Reported at 2 eBird locations with one being inside the **Loop**.

CBCs: TXGF reported one in 2005. TXVI reported one in 1987.

HABITAT: Woodland edge and shrub savannah. Uses bird feeders and baths.

SEASONALITY: Infrequently shows up in small numbers in winter and may spend weeks at a site.

EBIRD FREQUENCY:

BANDED: 2 at **OH.**

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
2	2	100%	50%	0%	0%	0%	0%	0%	4 months

BLUE GROSBEAK

STATUS: Migrant.

HOTSPOTS: Maximum of 7 occurred at **SA** in May of 1997 and has been reported from 7 of the Top 10 eBird Hotspots.

EBIRD: Reported at 19 eBird locations with 5 being inside the **Loop**. Most lists contain 1 or 2 birds.

CBCs: TXVI reported one in 1990.

BBS: Occurred 9 years with a high count of 2 and average of one.

HABITAT: Shrub savannah, woodland edge, and hedgerows. Uses bird feeders and baths.

EBIRD FREQUENCY:

BANDED: 7 in September and one in October at **OH**.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
8	0	0%	0%	0%	0%	0%	0%	0%	0

REFERENCES: Oberholser (1974; p. 860) spring.

LAZULI BUNTING

STATUS: Vagrant.

HOTSPOTS: Maximum of one occurred at **OH** in May of 2007.

EBIRD: Single eBird record. See **HOTSPOTS.**

HABITAT: Woodland edge and shrub savannah.

EBIRD FREQUENCY:

BANDED: One with no recaptures at **OH**.

INDIGO BUNTING

STATUS: Migrant.

HOTSPOTS: Maximum of 28 occurred at **OH** in October of 2009 and has been reported from 8 of the Top 10 eBird Hotspots.

EBIRD: Reported at 32 eBird locations with 13 being inside the **Loop**. Most lists contain less than 10 birds.

CBCs: TXGF reported the species 3 times and had a high of one. TXVI reported the species 3 times and had a high of one.

BBS: An individual was reported once.

HABITAT: Woodland edge and shrub savannah. Uses bird feeders and baths.

SEASONALITY: Migrates through County in large numbers from April—May and August—October. Small numbers linger in migration as some birds attempt to winter or summer.

EBIRD FREQUENCY:

BANDED: 733 at **OH.** Site Fidelity 0% and 1-Year Survivorship 0%.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
733	86	12%	1%	0%	0%	0%	0%	0%	3 months

REFERENCES: Oberholser (1974; p. 863) migrant.

PAINTED BUNTING

STATUS: Summer Resident.

HOTSPOTS: Maximum of 45 occurred at **MF** in May of 2015 and has been reported from all Top 10 eBird Hotspots.

EBIRD: Reported at 38 eBird locations with 14 being inside the **Loop**. Except for **SA**, most lists contain less than 10 birds. **SA** has been the most reliable location.

BBS: Occurred 11 years with a high count of 45 and average of 27.

HABITAT: Shrub savannah. Readily uses feeders and water features in rural settings.

SEASONALITY: Mid-April to October breeding resident. Over-winters in small numbers.

EBIRD FREQUENCY:

BANDED: 160 at **OH.** Site Fidelity 50% and 1-Year Survivorship 1%.

TOTAL	# RECAP	% RECAP	1 MON	6 MON	1 YEAR	1.5 YEAR	2 YEAR	3 YEAR	LONGEVITY
160	20	13%	2%	1%	1%	1%	0%	0%	1 year 6 months

REFERENCES: Oberholser (1974; p. 868) nester.

DICKCISSEL

STATUS: Summer Resident.

HOTSPOTS: Maximum of 750 occurred at **SR** in April of 1993 and 645 at **MF** in April of 2016. Species has been reported from 9 of the Top 10 eBird Hotspots.

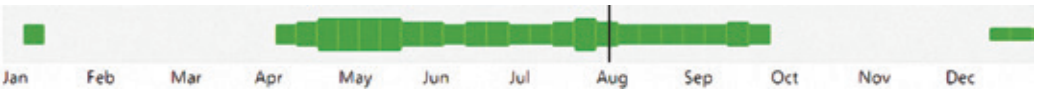
EBIRD: Reported at 49 eBird locations with 13 being inside the **Loop**. Most lists contain less than 20 birds.

CBCs: TXGF reported one in 2010 and 2018. TXVI reported one 3 times.

BBS: Occurred 8 year with a high count of 19 and average of 9.

HABITAT: Tall, dense, herbaceous communities. Winter wheat used extensively in spring when available.

EBIRD FREQUENCY:



BANDED: 4 at **MF** and one at **OH** with no recaptures.

REFERENCES: Oberholser (1974; p. 870) nester.

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APPENDIX I. AVIAN SPECIES LIST.

COMMON NAME	SCIENTIFIC NUMBER
Black-bellied Whistling-Duck	*Dendrocygna autumnalis*
Fulvous Whistling-Duck	*Dendrocygna bicolor*
Snow Goose	*Anser caerulescens*
Ross's Goose	*Anser rossii*
Greater White-fronted Goose	*Anser albifrons*
Cackling Goose	*Branta hutchinsii*
Canada Goose	*Branta canadensis*
Wood Duck	*Aix sponsa*
Blue-winged Teal	*Spatula discors*
Cinnamon Teal	*Spatula cyanoptera*
Northern Shoveler	*Spatula clypeata*
Gadwall	*Mareca strepera*
American Wigeon	*Mareca americana*
Mallard	*Anas platyrhynchos*
Mottled Duck	*Anas fulvigula*
Northern Pintail	*Anas acuta*
Green-winged Teal	*Anas crecca*
Canvasback	*Aythya valisineria*
Redhead	*Aythya americana*
Ring-necked Duck	*Aythya collaris*
Greater Scaup	*Aythya marila*
Lesser Scaup	*Aythya affinis*
Bufflehead	*Bucephala albeola*
Common Goldeneye	*Bucephala clangula*
Hooded Merganser	*Lophodytes cucullatus*
Red-breasted Merganser	*Mergus serrator*
Ruddy Duck	*Oxyura jamaicensis*
Northern Bobwhite	*Colinus virginianus*
Wild Turkey	*Meleagris gallopavo*
Greater Attwater's Prairie-Chicken	*Tympanuchus cupido attwateri*
Least Grebe	*Tachybaptus dominicus*
Pied-billed Grebe	*Podilymbus podiceps*
Eared Grebe	*Podiceps nigricollis*
Rock Pigeon	*Columba livia*
Eurasian Collared-Dove	*Streptopelia decaocto*
Inca Dove	*Columbina inca*
Common Ground Dove	*Columbina passerina*
White-tipped Dove	*Leptotila verreauxi*
White-winged Dove	*Zenaida asiatica*
Mourning Dove	*Zenaida macroura*
Groove-billed Ani	*Crotophaga sulcirostris*
Greater Roadrunner	*Geococcyx californianus*
Yellow-billed Cuckoo	*Coccyzus americanus*
Black-billed Cuckoo	*Coccyzus erythropthalmus*
Lesser Nighthawk	*Chordeiles acutipennis*
Common Nighthawk	*Chordeiles minor*
Common Pauraque	*Nyctidromus albicollis*
Chuck-will's-widow	*Antrostomus carolinensis*
Eastern Whip-poor-will	*Antrostomus vociferus*
Chimney Swift	*Chaetura pelagica*
Ruby-throated Hummingbird	*Archilochus colubris*
Black-chinned Hummingbird	*Archilochus alexandri*
Anna's Hummingbird	*Calypte anna*
Calliope Hummingbird	*Selasphorus calliope*
Rufous Hummingbird	*Selasphorus rufus*
Allen's Hummingbird	*Selasphorus sasin*
Broad-tailed Hummingbird	*Selasphorus platycercus*
Broad-billed Hummingbird	*Cynanthus latirostris*
Buff-bellied Hummingbird	*Amazilia yucatanensis*
Clapper Rail	*Rallus crepitans*
King Rail	*Rallus elegans*
Virginia Rail	*Rallus limicola*
Sora	*Porzana carolina*
Common Gallinule	*Gallinula galeata*
American Coot	*Fulica americana*
Purple Gallinule	*Porphyrio martinicus*
Yellow Rail	*Coturnicops noveboracensis*
Black Rail	*Laterallus jamaicensis*
Sandhill Crane	*Antigone canadensis*
Whooping Crane	*Grus americana*
Black-necked Stilt	*Himantopus mexicanus*
American Avocet	*Recurvirostra americana*
Black-bellied Plover	*Pluvialis squatarola*
American Golden-Plover	*Pluvialis dominica*
Killdeer	*Charadrius vociferus*
Semipalmated Plover	*Charadrius semipalmatus*
Mountain Plover	*Charadrius montanus*
Northern Jacana	*Jacana spinosa*
Upland Sandpiper	*Bartramia longicauda*
Eskimo Curlew	*Numenius borealis*
Long-billed Curlew	*Numenius americanus*
Hudsonian Godwit	*Limosa haemastica*
Marbled Godwit	*Limosa fedoa*
Ruddy Turnstone	*Arenaria interpres*
Ruff	*Calidris pugnax*
Stilt Sandpiper	*Calidris himantopus*
Sanderling	*Calidris alba*
Dunlin	*Calidris alpina*
Baird's Sandpiper	*Calidris bairdii*
Least Sandpiper	*Calidris minutilla*
White-rumped Sandpiper	*Calidris fuscicollis*
Buff-breasted Sandpiper	*Calidris subruficollis*
Pectoral Sandpiper	*Calidris melanotos*
Semipalmated Sandpiper	*Calidris pusilla*
Western Sandpiper	*Calidris mauri*
Short-billed Dowitcher	*Limnodromus griseus*
Long-billed Dowitcher	*Limnodromus scolopaceus*
American Woodcock	*Scolopax minor*
Wilson's Snipe	*Gallinago delicata*
Spotted Sandpiper	*Actitis macularius*
Solitary Sandpiper	*Tringa solitaria*
Lesser Yellowlegs	*Tringa flavipes*
Willet	Tringa semipalmata
Greater Yellowlegs	Tringa melanoleuca
Wilson's Phalarope	*Phalaropus tricolor*
Bonaparte's Gull	*Chroicocephalus philadelphia*
Laughing Gull	*Leucophaeus atricilla*
Franklin's Gull	*Leucophaeus pipixcan*
Ring-billed Gull	*Larus delawarensis*
Herring Gull	*Larus argentatus*
Sooty Tern	*Onychoprion fuscatus*
Least Tern	*Sternula antillarum*
Gull-billed Tern	*Gelochelidon nilotica*
Caspian Tern	*Hydroprogne caspia*
Black Tern	*Chlidonias niger*
Common Tern	*Sterna hirundo*
Forster's Tern	*Sterna forsteri*
Royal Tern	*Thalasseus maximus*
Sandwich Tern	*Thalasseus sandvicensis*
Black Skimmer	*Rynchops niger*
Common Loon	*Gavia immer*
Jabiru	*Jabiru mycteria*
Wood Stork	*Mycteria americana*
Anhinga	*Anhinga anhinga*
Double-crested Cormorant	*Phalacrocorax auritus*
Neotropic Cormorant	*Phalacrocorax brasilianus*
American White Pelican	*Pelecanus erythrorhynchos*
Brown Pelican	*Pelecanus occidentalis*
American Bittern	*Botaurus lentiginosus*
Least Bittern	*Ixobrychus exilis*
Great Blue Heron	*Ardea herodias*
Great Egret	*Ardea alba*
Snowy Egret	*Egretta thula*
Little Blue Heron	*Egretta caerulea*
Tricolored Heron	*Egretta tricolor*
Reddish Egret	*Egretta rufescens*
Cattle Egret	*Bubulcus ibis*
Green Heron	*Butorides virescens*
Black-crowned Night-Heron	*Nycticorax nycticorax*
Yellow-crowned Night-Heron	*Nyctanassa violacea*
White Ibis	*Eudocimus albus*
Glossy Ibis	*Plegadis falcinellus*
White-faced Ibis	*Plegadis chihi*
Roseate Spoonbill	*Platalea ajaja*
Black Vulture	*Coragyps atratus*
Turkey Vulture	*Cathartes aura*
Osprey	*Pandion haliaetus*
White-tailed Kite	*Elanus leucurus*
Swallow-tailed Kite	*Elanoides forficatus*
Golden Eagle	*Aquila chrysaetos*
Northern Harrier	*Circus hudsonius*
Sharp-shinned Hawk	*Accipiter striatus*
Cooper's Hawk	*Accipiter cooperii*
Bald Eagle	*Haliaeetus leucocephalus*
Mississippi Kite	*Ictinia mississippiensis*
Harris's Hawk	*Parabuteo unicinctus*
White-tailed Hawk	*Geranoaetus albicaudatus*
Red-shouldered Hawk	*Buteo lineatus*
Broad-winged Hawk	*Buteo platypterus*
Swainson's Hawk	*Buteo swainsoni*
Zone-tailed Hawk	*Buteo albonotatus*
Red-tailed Hawk	*Buteo jamaicensis*
Ferruginous Hawk	*Buteo regalis*
Barn Owl	*Tyto alba*
Eastern Screech-Owl	*Megascops asio*
Great Horned Owl	*Bubo virginianus*
Burrowing Owl	*Athene cunicularia*
Barred Owl	*Strix varia*
Long-eared Owl	*Asio otus*
Short-eared Owl	*Asio flammeus*
Ringed Kingfisher	*Megaceryle torquata*
Belted Kingfisher	*Megaceryle alcyon*
Green Kingfisher	*Chloroceryle americana*
Red-headed Woodpecker	*Melanerpes erythrocephalus*
Golden-fronted Woodpecker	*Melanerpes aurifrons*
Red-bellied Woodpecker	*Melanerpes carolinus*
Yellow-bellied Sapsucker	*Sphyrapicus varius*
Red-naped Sapsucker	*Sphyrapicus nuchalis*
Downy Woodpecker	*Dryobates pubescens*
Ladder-backed Woodpecker	*Dryobates scalaris*
Northern Flicker	*Colaptes auratus*
Pileated Woodpecker	*Dryocopus pileatus*
Crested Caracara	*Caracara cheriway*
American Kestrel	*Falco sparverius*
Merlin	*Falco columbarius*
Peregrine Falcon	*Falco peregrinus*
Prairie Falcon	*Falco mexicanus*
Ash-throated Flycatcher	*Myiarchus cinerascens*
Great Crested Flycatcher	*Myiarchus crinitus*
Brown-crested Flycatcher	*Myiarchus tyrannulus*
Great Kiskadee	*Pitangus sulphuratus*
Couch's Kingbird	*Tyrannus couchii*
Cassin's Kingbird	*Tyrannus vociferans*
Western Kingbird	*Tyrannus verticalis*
Eastern Kingbird	*Tyrannus tyrannus*
Scissor-tailed Flycatcher	*Tyrannus forficatus*
Olive-sided Flycatcher	*Contopus cooperi*

COMMON NAME	SCIENTIFIC NUMBER
Eastern Wood-Pewee	*Contopus virens*
Yellow-bellied Flycatcher	*Empidonax flaviventris*
Acadian Flycatcher	*Empidonax virescens*
Alder Flycatcher	*Empidonax alnorum*
Willow Flycatcher	*Empidonax traillii*
Least Flycatcher	*Empidonax minimus*
Pacific-slope/Cordilleran (Western)Flycatcher	*Empidonax difficilis/ occidentalis*
Eastern Phoebe	*Sayornis phoebe*
Say's Phoebe	*Sayornis saya*
Vermilion Flycatcher	*Pyrocephalus rubinus*
Loggerhead Shrike	*Lanius ludovicianus*
White-eyed Vireo	*Vireo griseus*
Bell's Vireo	*Vireo bellii*
Yellow-throated Vireo	*Vireo flavifrons*
Blue-headed Vireo	*Vireo solitarius*
Philadelphia Vireo	*Vireo philadelphicus*
Warbling Vireo	*Vireo gilvus*
Red-eyed Vireo	*Vireo olivaceus*
Yellow-green Vireo	*Vireo flavoviridis*
Green Jay	*Cyanocorax yncas*
Blue Jay	*Cyanocitta cristata*
American Crow	*Corvus brachyrhynchos*
Horned Lark	*Eremophila alpestris*
Bank Swallow	*Riparia riparia*
Tree Swallow	*Tachycineta bicolor*
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
Purple Martin	*Progne subis*
Barn Swallow	*Hirundo rustica*
Cliff Swallow	*Petrochelidon pyrrhonota*
Cave Swallow	*Petrochelidon fulva*
Carolina Chickadee	*Poecile carolinensis*
Black-crested X Tufted Titmouse hybrid	*Baeolophus atricristatus X bicolor*
Red-breasted Nuthatch	*Sitta canadensis*
White-breasted Nuthatch	*Sitta carolinensis*
Brown Creeper	*Certhia americana*
House Wren	*Troglodytes aedon*
Winter Wren	*Troglodytes hiemalis*
Sedge Wren	*Cistothorus platensis*
Marsh Wren	*Cistothorus palustris*
Carolina Wren	*Thryothorus ludovicianus*
Bewick's Wren	*Thryomanes bewickii*
Blue-gray Gnatcatcher	*Polioptila caerulea*
Golden-crowned Kinglet	*Regulus satrapa*
Ruby-crowned Kinglet	*Regulus calendula*
Northern Wheatear	*Oenanthe oenanthe*
Eastern Bluebird	*Sialia sialis*
Veery	*Catharus fuscescens*
Gray-cheeked Thrush	*Catharus minimus*
Swainson's Thrush	*Catharus ustulatus*
Hermit Thrush	*Catharus guttatus*
Wood Thrush	*Hylocichla mustelina*
Clay-colored Thrush	*Turdus grayi*
American Robin	*Turdus migratorius*
Gray Catbird	*Dumetella carolinensis*

COMMON NAME	SCIENTIFIC NUMBER
Curve-billed Thrasher	*Toxostoma curvirostre*
Brown Thrasher	*Toxostoma rufum*
Long-billed Thrasher	*Toxostoma longirostre*
Northern Mockingbird	*Mimus polyglottos*
European Starling	*Sturnus vulgaris*
Cedar Waxwing	*Bombycilla cedrorum*
Phainopepla	*Phainopepla nitens*
House Sparrow	*Passer domesticus*
American Pipit	*Anthus rubescens*
Sprague's Pipit	*Anthus spragueii*
House Finch	*Haemorhous mexicanus*
Purple Finch	*Haemorhous purpureus*
Pine Siskin	*Spinus pinus*
Lesser Goldfinch	*Spinus psaltria*
American Goldfinch	*Spinus tristis*
Cassin's Sparrow	*Peucaea cassinii*
Grasshopper Sparrow	*Ammodramus savannarum*
Olive Sparrow	*Arremonops rufivirgatus*
Black-throated Sparrow	*Amphispiza bilineata*
Lark Sparrow	*Chondestes grammacus*
Lark Bunting	*Calamospiza melanocorys*
Chipping Sparrow	*Spizella passerina*
Clay-colored Sparrow	*Spizella pallida*
Field Sparrow	*Spizella pusilla*
Brewer's Sparrow	*Spizella breweri*
Fox Sparrow	*Passerella iliaca*
Dark-eyed Junco	*Junco hyemalis*
White-crowned Sparrow	*Zonotrichia leucophrys*
Harris's Sparrow	*Zonotrichia querula*
White-throated Sparrow	*Zonotrichia albicollis*
Vesper Sparrow	*Pooecetes gramineus*
LeConte's Sparrow	*Ammospiza leconteii*
Seaside Sparrow	*Ammospiza maritima*
Henslow's Sparrow	*Centronyx henslowii*
Savannah Sparrow	*Passerculus sandwichensis*
Song Sparrow	*Melospiza melodia*
Lincoln's Sparrow	*Melospiza lincolnii*
Swamp Sparrow	*Melospiza georgiana*
Green-tailed Towhee	*Pipilo chlorurus*
Spotted Towhee	*Pipilo maculatus*
Eastern Towhee	*Pipilo erythrophthalmus*
Yellow-breasted Chat	*Icteria virens*
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*
Bobolink	*Dolichonyx oryzivorus*
Eastern Meadowlark	*Sturnella magna*
Western Meadowlark	*Sturnella neglecta*
Orchard Oriole	*Icterus spurius*
Bullock's Oriole	*Icterus bullockii*
Audubon's Oriole	*Icterus graduacauda*
Baltimore Oriole	*Icterus galbula*
Red-winged Blackbird	*Agelaius phoeniceus*
Bronzed Cowbird	*Molothrus aeneus*
Brown-headed Cowbird	*Molothrus ater*
Rusty Blackbird	*Euphagus carolinus*
Brewer's Blackbird	*Euphagus cyanocephalus*

COMMON NAME	SCIENTIFIC NUMBER
Common Grackle	*Quiscalus quiscula*
Boat-tailed Grackle	*Quiscalus major*
Great-tailed Grackle	*Quiscalus mexicanus*
Ovenbird	*Seiurus aurocapilla*
Worm-eating Warbler	*Helmitheros vermivorum*
Louisiana Waterthrush	*Parkesia motacilla*
Northern Waterthrush	*Parkesia noveboracensis*
Golden-winged Warbler	*Vermivora chrysoptera*
Blue-winged Warbler	*Vermivora cyanoptera*
Black-and-white Warbler	*Mniotilta varia*
Prothonotary Warbler	*Protonotaria citrea*
Swainson's Warbler	*Limnothlypis swainsonii*
Tennessee Warbler	*Leiothlypis peregrina*
Orange-crowned Warbler	*Leiothlypis celata*
Nashville Warbler	*Leiothlypis ruficapilla*
MacGillivray's Warbler	*Geothlypis tolmiei*
Mourning Warbler	*Geothlypis philadelphia*
Kentucky Warbler	*Geothlypis formosa*
Common Yellowthroat	*Geothlypis trichas*
Hooded Warbler	*Setophaga citrina*
American Redstart	*Setophaga ruticilla*
Cape May Warbler	*Setophaga tigrina*
Cerulean Warbler	*Setophaga cerulea*
Northern Parula	*Setophaga americana*
Tropical Parula	*Setophaga pitiayumi*
Magnolia Warbler	*Setophaga magnolia*
Bay-breasted Warbler	*Setophaga castanea*
Blackburnian Warbler	*Setophaga fusca*
Yellow Warbler	*Setophaga petechia*
Chestnut-sided Warbler	*Setophaga pensylvanica*
Blackpoll Warbler	*Setophaga striata*
Black-throated Blue Warbler	*Setophaga caerulescens*
Palm Warbler	*Setophaga palmarum*
Pine Warbler	*Setophaga pinus*
Yellow-rumped Warbler	*Setophaga coronata*
Yellow-throated Warbler	*Setophaga dominica*
Prairie Warbler	*Setophaga discolor*
Black-throated Gray Warbler	*Setophaga nigrescens*
Black-throated Green Warbler	*Setophaga virens*
Canada Warbler	*Cardellina canadensis*
Wilson's Warbler	*Cardellina pusilla*
Summer Tanager	*Piranga rubra*
Scarlet Tanager	*Piranga olivacea*
Western Tanager	*Piranga ludoviciana*
Northern Cardinal	*Cardinalis cardinalis*
Pyrrhuloxia	*Cardinalis sinuatus*
Rose-breasted Grosbeak	*Pheucticus ludovicianus*
Black-headed Grosbeak	*Pheucticus melanocephalus*
Blue Grosbeak	*Passerina caerulea*
Lazuli Bunting	*Passerina amoena*
Indigo Bunting	*Passerina cyanea*
Painted Bunting	*Passerina ciris*
Dickcissel	*Spiza americana*

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