

**Breeding Bird Survey Report**  
**Lawton Farm Recreation Area,**  
**Scituate, Rhode Island**



**Prepared for: Scituate Conservation Commission**

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**August 2024**

## 1. Executive Summary

This report describes the results of a series of breeding bird point count surveys conducted at the Lawton Farm Recreation Area in Scituate, Rhode Island during May and June of 2024. To identify breeding bird species and evaluate habitat preferences of these species, point count surveys were conducted at three sites on the property representing shrubland, forest, and field habitats. The results of these surveys showed a decrease of species richness with a total of 36 unique species observed across the 3 sites. Highlights of the 2024 survey results are listed below.

- 1) *The total number of species observed this year (36) was lower than that observed in 2023 (39). This year, the most abundant species were the Bobolink (25), the American Robin (23), the Tree Swallow (17), the Gray Catbird (13), and the Red-winged Blackbird (12).*
- 2) *Over the 13 consecutive years that these surveys have been conducted on the property, 79 unique species have been observed at Lawton Farm.*
- 3) *Bobolink continue to be observed at Lawton Farm in Field 1, and identical to 2023, were seen in Field 3, though only a single individual.*
- 4) *Total abundance across all sites in 2024 was 203, a 3.1% increase compared to the results of the 2023 survey series.*
- 5) *Thirteen shrubland species were observed during all surveys in 2023, which is fewer than the eighteen observed in 2022. A total of 20 unique shrubland species have been reported over the past 10 survey years (2012-2022).*

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## 1. Introduction

This report describes the results of a series of breeding bird point count surveys conducted at the Lawton Farm Recreation Area in Scituate, Rhode Island in May and June 2024. Lawton Farm is a 54.4-acre parcel consisting primarily of open fields and shrubland, except for approximately 20 acres of forested wetlands and a small stand of upland hardwoods in the southwest corner. The ownership of the property is divided between the Scituate Land Trust, which purchased 39.4 acres (plat 9-1, lot 9) of the property via a conservation easement in 1990 through an Open Space Grant from the Rhode Island Department of Environmental Management (RIDEM), and the Town of Scituate, which purchased the remaining 15 acres (plat 9-1, lot 272) the same year. The 15 acres owned by the Town does not have a conservation easement or any other type of protection that would prevent development. The Scituate Town Council has assigned the task of managing the Lawton Farm property to the Scituate Conservation Commission (SCC). The SCC is an advisory board that works to promote and develop natural resources, protect watershed resources, and to preserve natural aesthetic areas within the Town of Scituate. A property management plan for Lawton Farm was developed in 2009 and the SCC continues to implement the conservation and management objectives described within the plan.

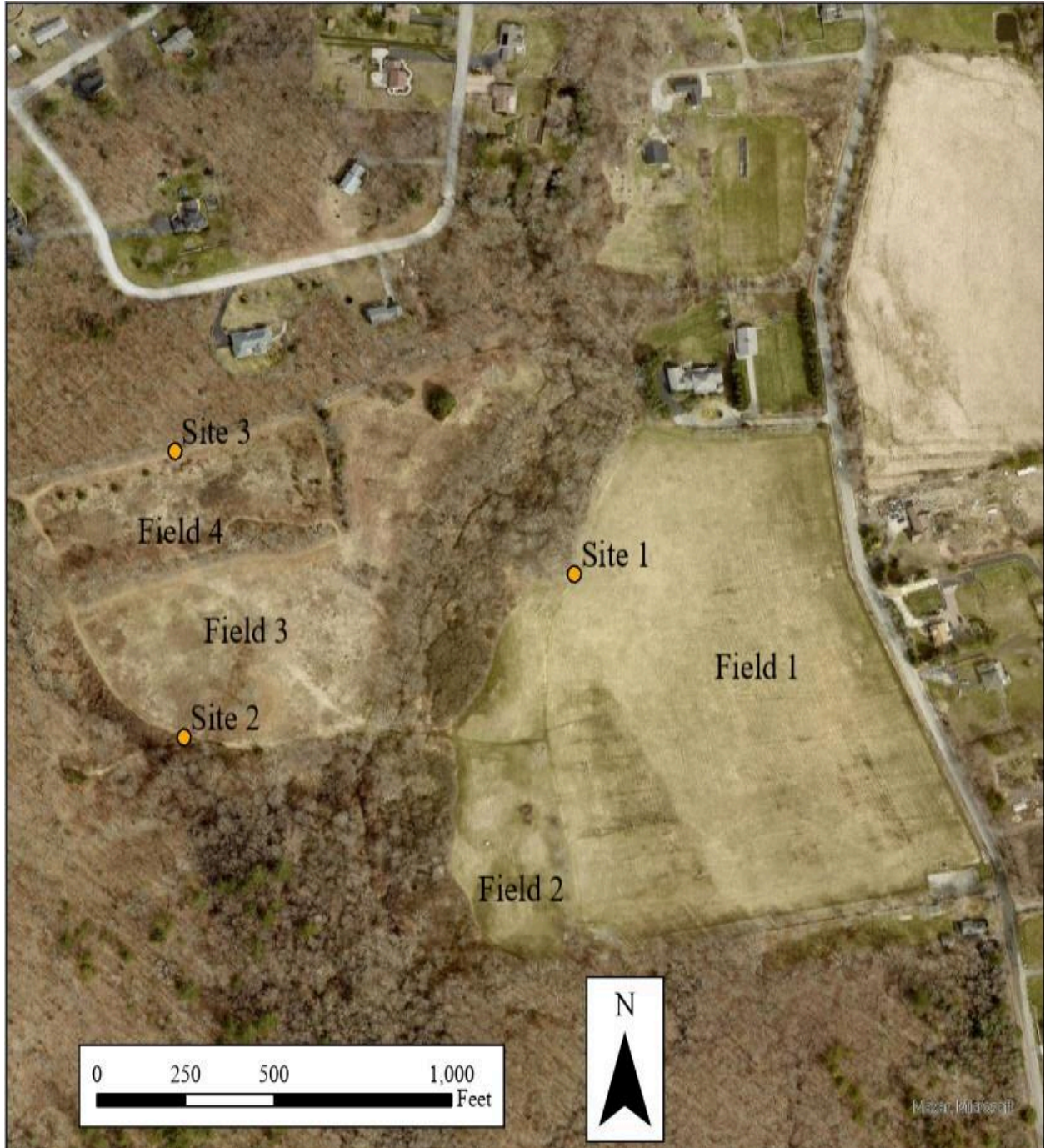
An important objective for the property is to maintain grassland habitat for Bobolink (*Dolichonyx oryzivorus*) and Eastern Meadowlark (*Sturnella magna*). To evaluate the progress of this management objective and to better understand bird use of the valuable shrub and grassland habitat that the property offers, point count surveys have been conducted since 2012. This report provides results of the 13th consecutive year of point count surveys at Lawton Farm.

## 2. Methods

The 2024 point count surveys were conducted at the same sites used in the 2012-2023 surveys. The three sites were originally selected based on the different types of shrubland in addition to forest and field habitats (Table 1 and Figure 1).

**Table 1.** Lawton Farm point count site habitat descriptions 2023.

Site	Description
Site 1	Field with periodic mowing, forested perimeter.
Site 2	Field, shrubland, and forest on perimeter.
Site 3	Shrubland created by irregular mowing of the field, a meadow, and forest.



**Figure 1.** Point count sampling sites at Lawton Farm, Scituate, Rhode Island in 2024. These sites are the same as the point counts conducted from 2012-2023.

**Site 1:** The first survey site was in the central portion of the property on the edge of Field 1 (Figure 1; 41.75792° N, -71.55652° W, Figure 2). The field was bordered by small patches of shrubland to the north and west. This site included a hedgerow of mature trees which was removed in 2012 to connect Fields 1 and 2 to improve habitat for bobolink and other grassland bird species. The eastern portion of the shrubland was dominated by multiflora rose (*Rosa multiflora*), which transitioned into a small herbaceous wetland to the west. To the north of the shrubland was a small area of forest where red maple (*Acer rubrum*) and white ash (*Fraxinus americana*) are the dominant species. To the east and south of the sampling site was Field 1, which is mowed every other year to maintain grassland habitat; mowing occurs in September to prevent disturbance of nesting birds. The hay bales are sold as construction hay. Bluebird nesting boxes have been maintained in this field over the last 5 years.



*Figure 2. View from Site 1 facing South.*

**Site 2:** The second sampling site was in the western portion of the property on the southwestern edge of Field 3 (41.75715° N, -71.55952° W) adjacent to a patch of shrubland which began management in 2012 for invasive plant removal of species such as autumn olive (*Elaeagnus umbellata*) and multiflora rose. Prominent species in this area included saplings of black cherry (*Prunus serotina*), Oriental bittersweet (*Celastrus orbiculatus*), and poison ivy (*Toxicodendron radicans*). The sampling site also included upland forest dominated by white ash and white oak (*Quercus alba*) (Figure 3).



*Figure 3. Photo of survey site 2, from the Northwest.*

**Site 3:** The third sampling site was along the northern boundary of the property on the northern edge of Field 4 (41.75745° N, -71.55952° W). Field 4 included patchy regeneration of saplings of black cherry, American ash, and white oak. This sampling site provided the most heterogeneous vegetation mixture which contained short grasses and forbs interspersed with shrubs that measure up to four feet tall (Figure 4). White oak and American ash were the dominant species within the upland forest located on the northern limits of the survey site.



*Figure 4. Photo from Site 3 facing South.*

The methodology used in the 2024 point count surveys followed the same protocol used in the 2012-2023 surveys, with the exception that they were conducted the last 6 years by one observer instead of two. The purpose of the point count surveys was to identify breeding birds within Lawton Farm and to evaluate habitat preferences of different species. The three selected survey sites were separated by greater than 100 m to minimize the possibility of recording the same bird at more than one site. Point counts were preceded by a three-minute wait period in order to minimize the disturbance to birds and to allow them to acclimate to the observers' presence. Point counts were conducted by a primary observer facing south for half of the time and north for the rest of the time to achieve a 360° view of the site. Species identification and abundance were recorded based on songs, calls, direct observations, and fly overs within 100 m of the observation site during each ten-minute point count. The observer made distinctions

between birds present  $\leq 50$  m from the site and those between 50 and 100 m from the site. Each site was surveyed on three separate occasions on May 29<sup>th</sup>, June 12<sup>th</sup> and June 25<sup>th</sup> 2024, and all were conducted between 0600 and 0800 hours.

To more accurately estimate the number of Bobolinks in Field 1, I conducted a separate Bobolink survey on the third survey date. To do this, I divided the field into 4 quadrants, then conducted one 5-minute survey of each quadrant (figure 11). In these surveys, I counted all Bobolinks that were observed or heard in each quadrant, taking due diligence to not double-count birds between quadrants.

To examine bird species associations with the survey sites, we classified birds into five guilds based on their preferred nesting and foraging habitat. Shrubland birds were those identified as primarily nesting in shrub habitat according to King and Schlossberg (2012). Forest birds were those described as cavity nesting species by Scott et al. (1977). Woodland, grassland, and open habitat birds were classified based on their primary habitat preference listed in Ehrlich et al. (1988).

#### 4. Results

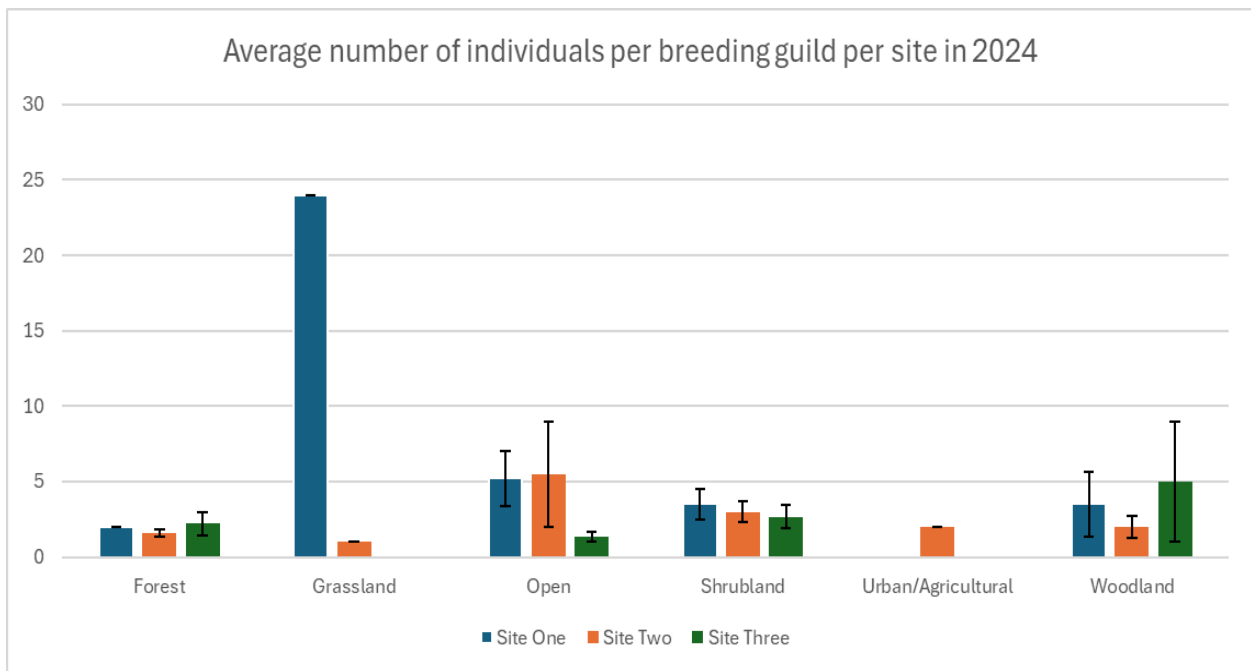
32 unique species were observed within 50 meters of each survey site, 3 fewer than were observed in 2023. An additional 4 species were observed within 50-100 meters of each survey site, for a total of 36 unique species detected. The most abundant species were the Bobolink (*Dolichonyx oryzivorus*; 25 observed), the American Robin (*Turdus migratorius*; 23 observed), the Tree Swallow (*Tachycineta bicolor*; 17 observed), the Gray Catbird (*Dumetella carolinensis*; 13 observed), and the Red-winged Blackbird (*Agelaius phoeniceus*; 12 observed). The Bobolinks were observed in the greatest numbers in Field 1 where they nest and use the area for foraging and cover. However, there was a single observation of one individual in Field 3, but nesting was not confirmed. No Bobolinks were detected in Field 2 or 4. Over the 13 consecutive years that this series of surveys has been conducted, a total of 79 unique species have been observed at Lawton Farm. This was the first year that the feral Rock Pigeon (*Columba livia*) were observed. This is the second consecutive year where the Warbling Vireo (*Vireo gilvus*) was observed during the primary breeding season, a phenomenon not observed before 2023.

5 different species were present at all 3 survey sites, and 14 other species were observed at at least 2 survey sites. Site 1 had 7 unique species (species only recorded at site 1), while site 2 had 6, and site 3 had 3 unique species. Over the three surveys, 18 species were recorded at site 1, 23 species were recorded at site 2, and 19 species were recorded at site 3. The guild with the greatest number of individuals detected across all survey sites was the shrubland guild (78 individuals detected), followed by the open land guild (39 individuals detected), the woodland guild (32 individuals detected), the grassland guild (25 individuals detected), the forest guild (23 individuals detected), and finally the urban/agricultural guild (6 individuals detected). Furthermore, the only grassland guild species observed in 2024 was the Bobolink.

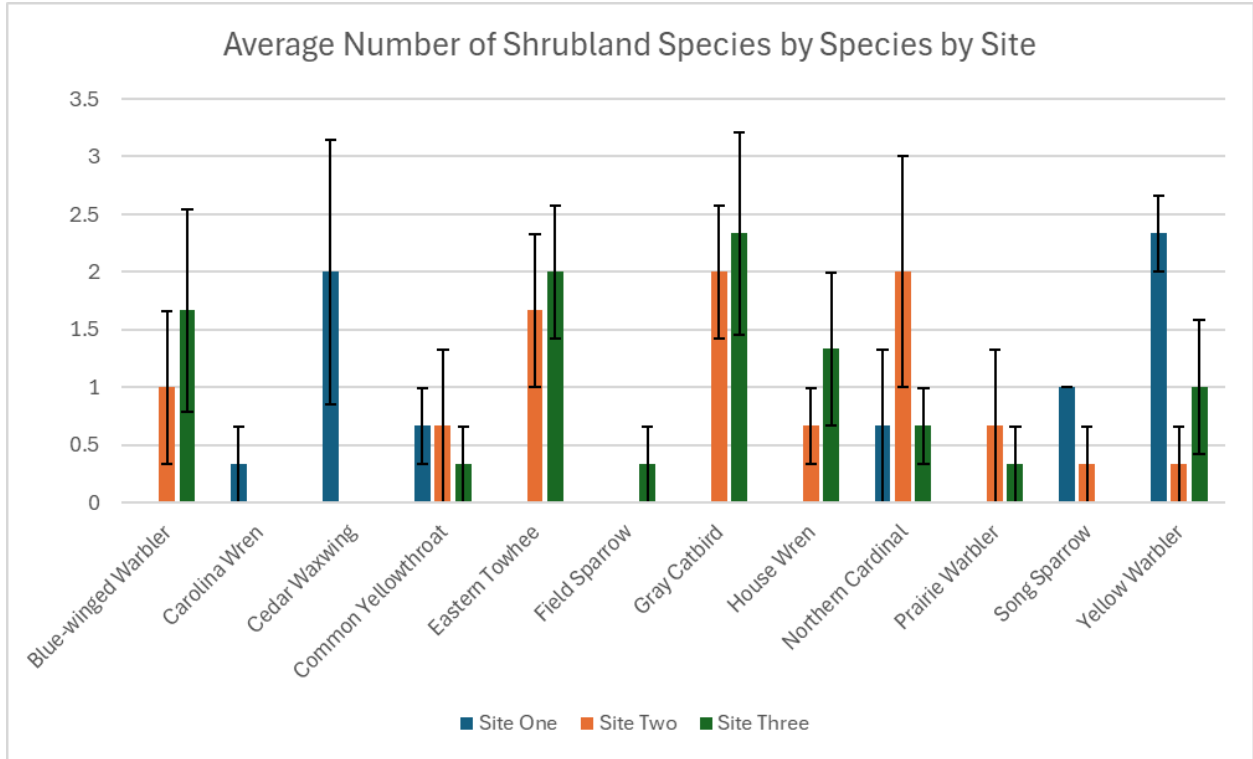
12 of the 36 unique species observed in 2024 were shrubland species, a slight decrease from the 13 shrubland species observed in 2023, and the 18 shrubland species observed in 2022. The most abundant shrubland bird at site 1 was the Yellow Warbler (*Setophaga petechia*; 7

individuals detected). At site 2, the most abundant species were the Gray Catbird and the Northern Cardinal (*Cardinalis cardinalis*), 6 individuals of both species were observed. At site 3, the Gray Catbird was also the most abundant species (7 individuals observed). Sites 2 & 3 both had the highest number of shrubland species (n=9), while site 1 had the fewest number of shrubland species (n=6).

During the Bobolink-specific survey on 6/25/2024, the greatest number of Bobolinks were observed in the Southwest quadrant of Field 1 (n=16), followed by the Northwest quadrant (n=12), followed by the Northeast (n=8), followed by the Southeast (n=5). 33 males were observed during this survey, but only 8 females were observed.



**Figure 5.** The number of individuals (mean  $\pm$  standard error) in the forest, grassland, open, shrubland, urban/agricultural, and woodland breeding guilds observed at each point count location (Site One, Site Two, and Site Three) in 2024.



**Figure 6.** The number of individuals (mean +/- standard error) of each present shrubland species over the three point count days at each site in 2024.

**Table 2.** Number of individual birds and the number of individuals counted at the 3 Lawton Farm point count sites during the survey events in May and June 2024. Species reported are not unique to a single survey site, and may reflect species counted at more than one site during a survey event.

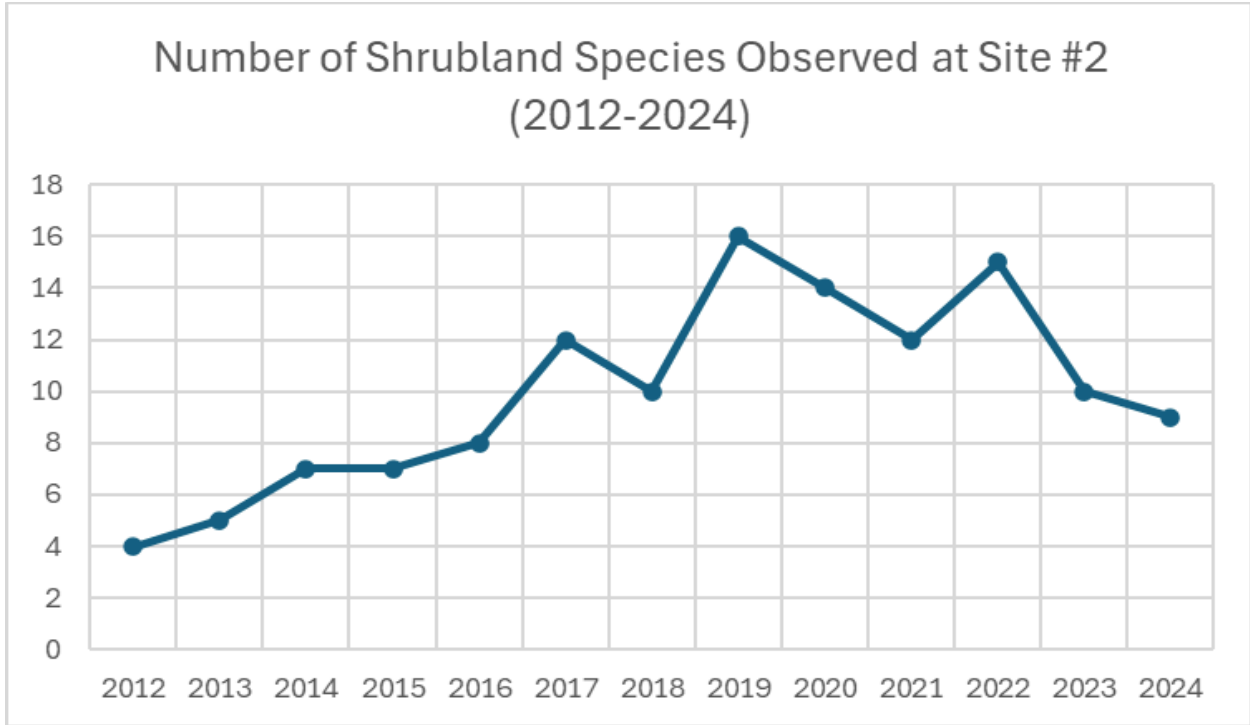
DATE	NUMBER OF INDIVIDUALS	NUMBER OF SPECIES
05/29/2024	52	21
06/12/2024	84	24
06/25/2024	67	22

**Table 3.** This table shows the number of individuals of the most abundant species in 2023 during that year, as well as the number of individuals of those species observed in 2024.

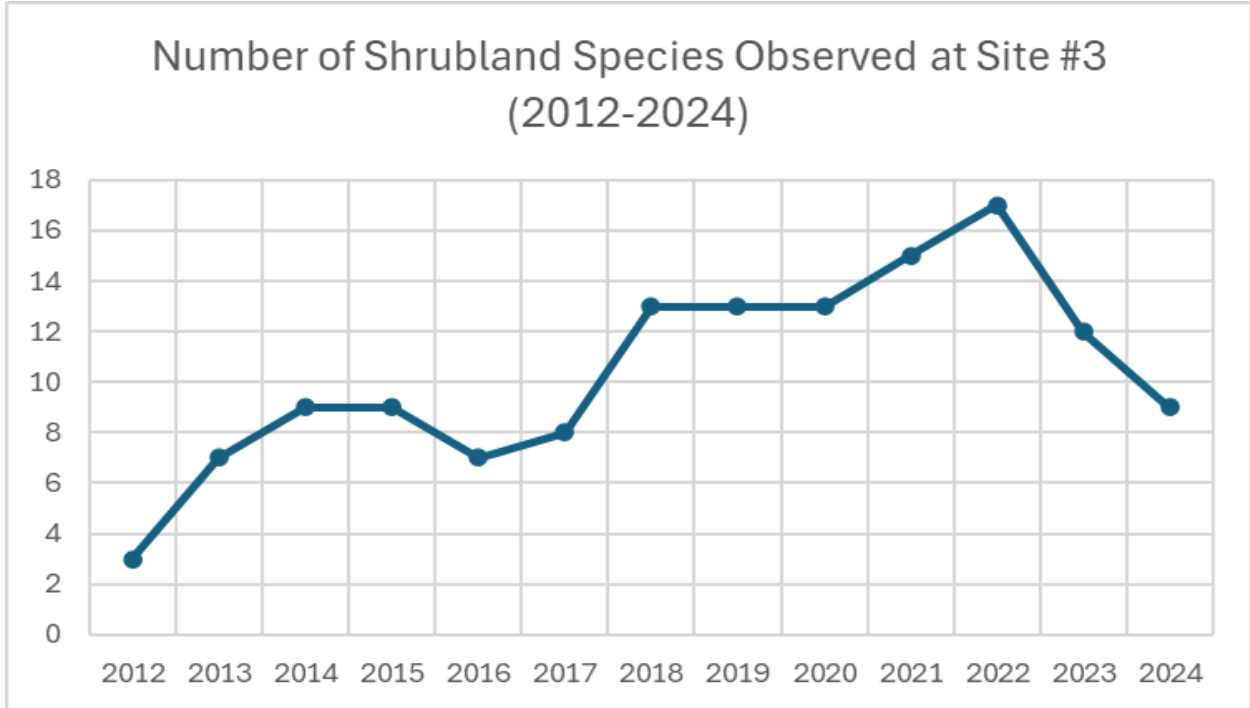
SPECIES	NUMBER OF INDIVIDUALS IN 2023	NUMBER OF INDIVIDUALS IN 2024
Gray Catbird	22	13
Eastern Towhee	20	11
Bobolink	16	25
Yellow Warbler	11	11
Brown-headed Cowbird	11	1

**Table 4.** This table shows the number of male and female Bobolinks observed in each quadrant of Field 1 during the Bobolink-specific survey on 6/25/2024.

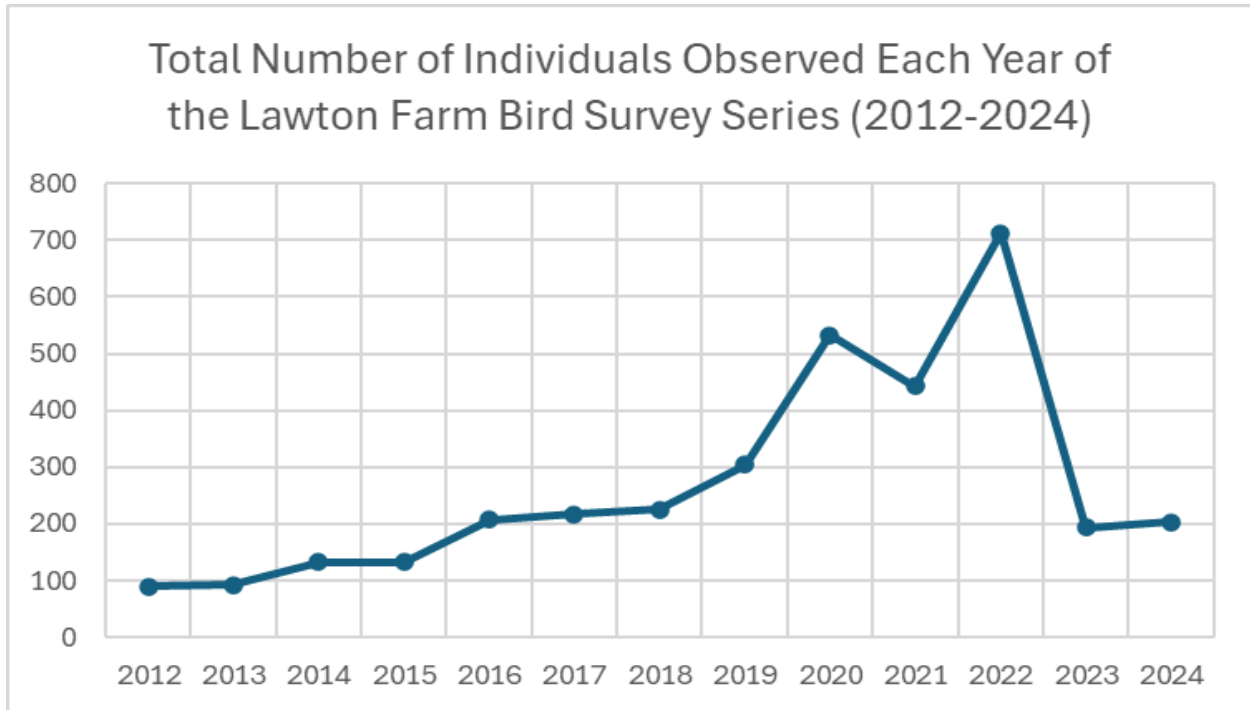
QUADRANT	MALES	FEMALES	TOTAL
Southeast	5	0	5
Southwest	15	1	16
Northwest	9	3	12
Northeast	4	4	8
Total	33	8	41



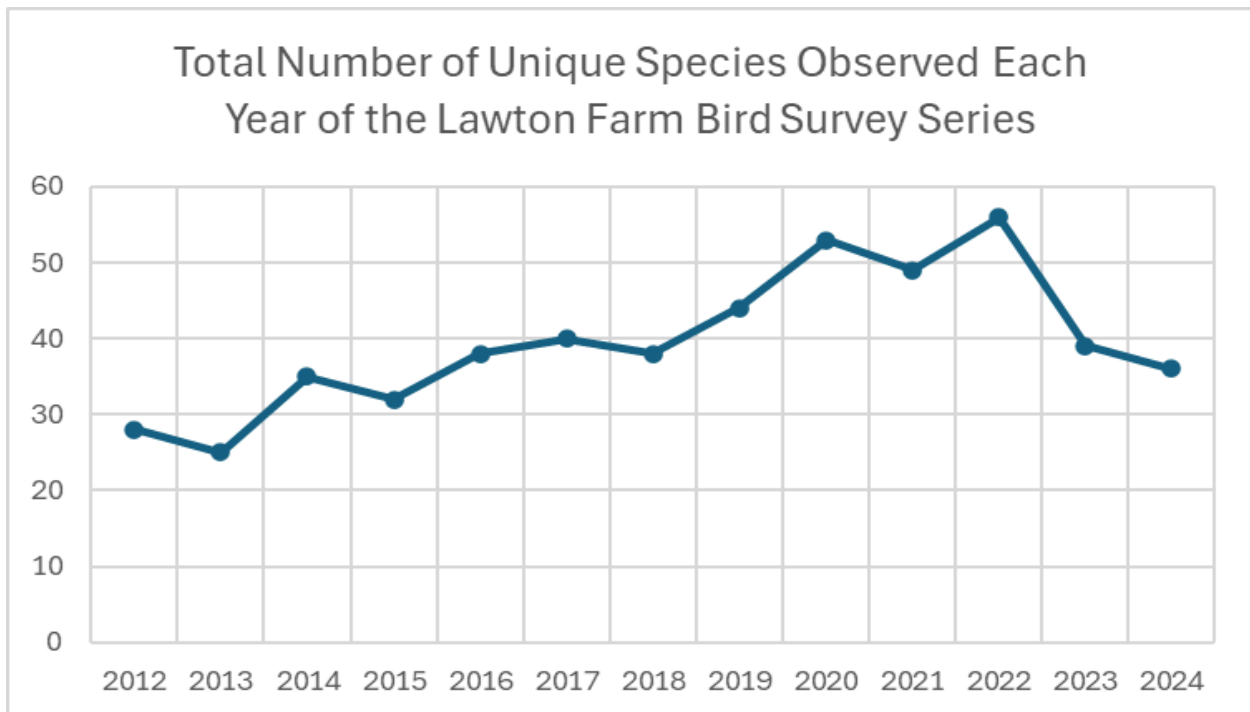
**Figure 7.** The number of shrubland species observed at point count site #2 at Lawton Farm from 2012-2024.



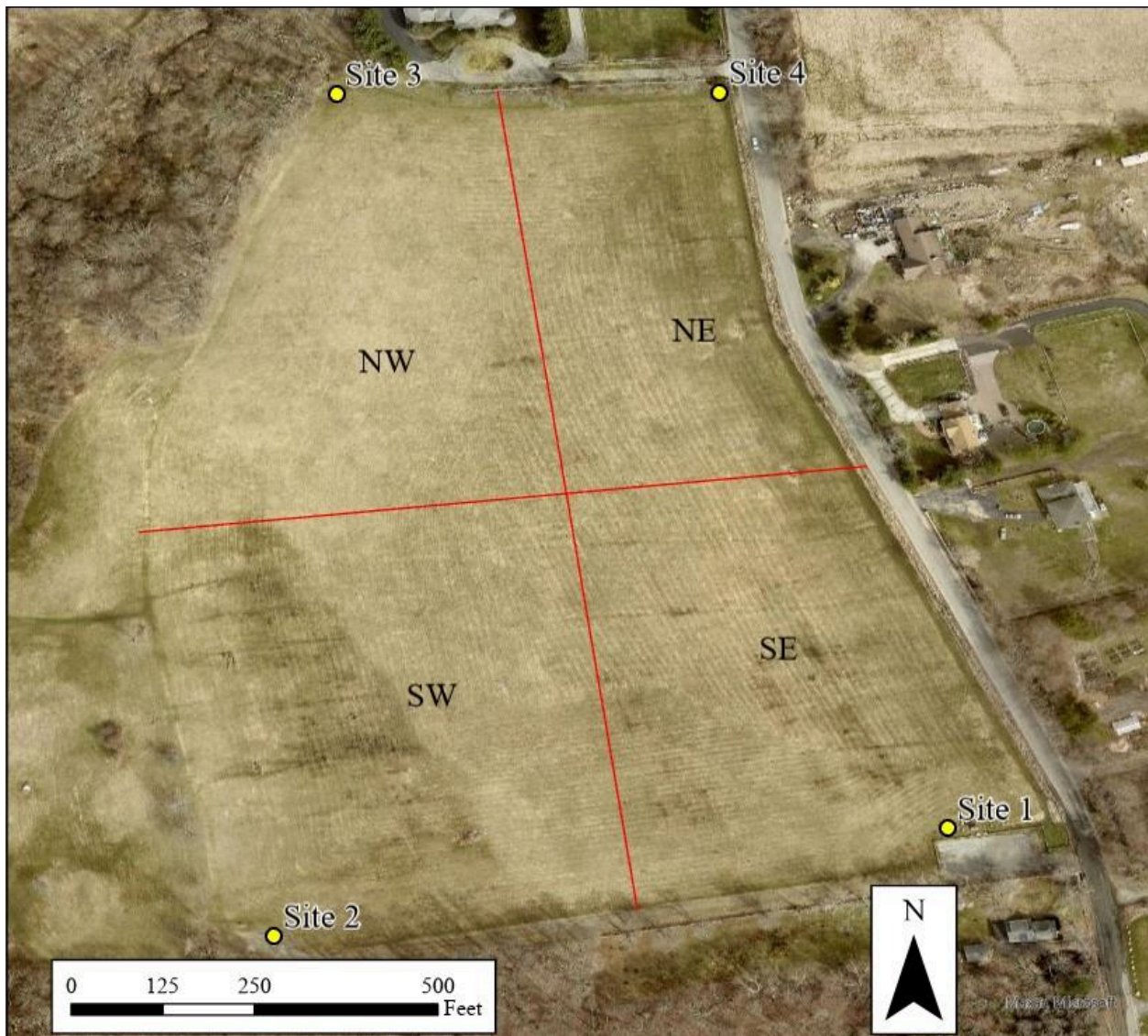
**Figure 8.** The number of shrubland species observed at point count site #3 at Lawton Farm from 2012-2024.



**Figure 9.** The total number of individuals observed at all survey sites during all surveys at Lawton Farm in each year from 2012-2024.



**Figure 10.** The total number of unique species observed at all survey sites during all surveys at Lawton Farm from each year from 2012-2024. These species are not unique to a year, but rather are unique during each year. Many of these unique species were seen during multiple years.



*Figure 11. Field 1 divided into 4 quadrants for the Bobolink-specific surveys conducted on 6/25/2024. Sites 1-4 were where I stood to survey each quadrant. Quadrants are labeled by their cardinal direction; “SE” = Southeast, “SW” = Southwest, “NW” = Northwest, “NE” = Northeast.*

## 5. Discussion

The number of unique species observed at Lawton Farm in 2024 was slightly less than that observed in 2023. This continues the downward trend that was observed between 2022 and 2023. From 2022 to 2023, there was a 30% decrease in the number of species observed, and from 2023 to 2024, there was a 7.7% decrease in the number of species observed (Figure 10). Conversely, there was a slight increase in the number of individuals observed at Lawton Farm in 2024 compared to 2023. From 2022 to 2023, there was a 73% decrease in the number of individuals observed, and from 2023 to 2024, there was a 3.1% increase in the number of individuals observed (Figure 9). These two consecutive years of significantly lower abundance than 2022 may suggest that Lawton Farm is experiencing a multi-year “lull” in bird activity. Alternatively, given that the abundances of birds in 2023 and 2024 are much more similar to those observed from 2012-2018, these data may also suggest that 2019-2022 were years with abnormally high abundances. Continued surveying is necessary to confirm either hypothesis.

In 2022, Tree Swallows were the most abundant species observed (68 observed), but in 2023, there was an incredible decline in the number observed (4 observed). Fortunately, in 2024 there was an increase in the number of Tree Swallows (17 observed). Aerial Insectivores, birds that consume insect prey in flight, such as Tree Swallows, have faced some of the greatest population declines in North America, relative to other groups of land birds (Cox et al, 2018). The two primary causes for aerial insectivore decline are 1) changes in weather patterns due to climate change (Cox et al, 2018; Cox et al, 2020; Winkler et al, 2020) and 2) reduced prey availability (Cox et al, 2020; Tallamy & Shriver, 2021). To better understand the relationship between weather and Tree Swallow abundance at Lawton Farm, I suggest conducting data analyses that look for a significant relationship between the average temperature in Scituate during the survey series and Tree Swallow abundance, and the average rainfall in Scituate during the survey series and Tree Swallow abundance. Understanding these dynamics may help inform further conservation efforts for this species on the property. Unfortunately, I am unable to conduct these analyses at this time, as I do not have access to the raw data from previous survey conductors from 2012-2022.

I offer two suggestions to improve Tree Swallow abundance on the property. First, invasive plant management is essential to support a healthy habitat for all birds, not just aerial insectivores. An abundance of invasive plants can cause a decrease in the abundance of prey species that Tree Swallows rely on to survive (Cox et al, 2020). In shrubland areas, shrubland-dependent species will not use an area that has 55%< non-native shrub cover (Tarr, 2022). My second suggestion is to increase the number of nesting boxes on the property. These boxes provide more individual nesting areas, but nest boxes are also larger than a typical tree cavity that a Tree Swallow would nest in, which has been found to increase the overall reproductive output of these birds (Norris et al, 2018). Installing these nest boxes in close proximity to those already present by survey site 1 and field 3 would promote Tree Swallow nesting over other species, as Tree Swallow productivity increases when they nest more closely to another pair of their kin (Moller et al, 2021).

Despite being the most abundant species observed, the Bobolink is also the species of the greatest conservation concern that has been observed breeding on the property. Fortunately, an increase in the number of Bobolinks was observed on the property this year (Table 3). Furthermore, during this year's Bobolink-specific survey, a total of 41 individuals were observed (Table 4). If we assume that each of the males observed were paired with a female, then there were at least 33 pairs of Bobolinks on the property this year. Last year, using a method where the number of breeding pairs in the area surrounding survey site 1 is multiplied by 10, as that area is ~10% of field 1, I estimated that there were 16.5 breeding pairs in the field. However, I noted that this method is inaccurate, as it assumes that Bobolink pairs are evenly distributed throughout the field. 28/41 (70%) of the individuals observed were in the western half of field 1, indicating that Bobolink pairs are very much not evenly distributed among field 1. Furthermore, this supports observations from similar surveys that suggest that Bobolinks avoid nesting in areas closer to roadways (Bollinger & Gavin, 2004), as the eastern half of field 1 is along Seven Mile Road. Moving forward, I suggest that the separate Bobolink survey is conducted every year, and the traditional method of estimating the number of Bobolink numbers is omitted due to concerns of inaccuracy.

In 2024, species richness and individual abundance similar to those of 2023 were observed. As I suggested earlier in the discussion, continuing the annual survey series will help us understand if there is a continual downwards trend in these numbers, or if the 2019-2022 values were the exception and not the rule, and that the values observed from 2012-2018 are more typical at the property. Also, as I stated in the conclusion of the 2023 survey series report, Lawton Farm is a dynamic ecosystem, and there is always a degree in variance in the detectability of individual species in a dynamic ecosystem from year to year (Sanz-Perez et al, 2020). Having 13 years of data on the species richness and abundance on the property puts the Scituate Conservation Commission in a very advantageous position to not only continue adding to a robust dataset, but also to make informed decisions on the conservation practices at Lawton Farm.

## 6. Literature Cited

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**Table 5.** Bird species observed within 100 m of the point count center during three survey events consisting of 10 minute counts at three sites within Lawton Farm Recreation Area, Scituate, Rhode Island, in 2023. Observations were based on singing, calls, visual observation, and fly overs. Guilds were assigned based on preferred breeding habitat; S = shrubland, F = forest, W = woodland, G = grassland, O = open land, U = urban/agricultural, M = marshland/riparian areas. Presence of a species was indicated by a “1” in the presence / absence columns, absence was indicated by a “0”.

Species	Bandin g Code	Guild	Site #1	Site #2	Site #3
American Crow	AMCR	W	0	0	1
American Goldfinch	AMGO	S	0	0	0
American Redstart	AMRE	W	0	1	0
American Robin	AMRO	W	1	1	1
Baltimore Oriole	BAOR	W	1	0	0
Barn Swallow	BASW	O	1	0	0
Black-and-white Warbler	BAWW	F	0	0	0

Black-capped Chickadee	BCCH	F	1	1	1
Black-throated Blue Warbler	BTBW	F	0	0	0
Black-throated Green Warbler	BTGW	F	0	0	0
Blue-gray Gnatcatcher	BGGN	W	0	0	0
Blue Jay	BLJA	W	0	1	0
Blue-winged Warbler	BWWA	S	0	1	1
Bobolink	BOBO	G	1	1	0
Brown-headed Cowbird	BHCO	W	0	1	0
Brown Thrasher	BRTH	S	0	0	0
Canada Goose	CAGO	O	0	0	0
Carolina Wren	CARW	S	1	0	0
Cedar Waxwing	CEDW	S	1	0	0
Chipping Sparrow	CHSP	W	0	0	0
Common Grackle	COGR	O	1	0	0
Common Yellowthroat	COYE	S	1	1	1
Chimney Swift	CHSW	U	0	1	0
Chestnut-sided Warbler	CSWA	W	0	0	0
Double-crested Cormorant	DCCO	O	0	0	0
Downy Woodpecker	DOWO	F	0	0	0
Eastern Bluebird	EABL	O	0	0	1

Eastern Kingbird	EAKI	O	0	0	0
Eastern Phoebe	EAPH	W	1	0	0
Eastern Towhee	EATO	S	0	1	1
Eastern Wood-pewee	EAWP	F	0	1	1
European Starling	EUST	U	0	1	0
Field Sparrow	FISP	S	0	0	1
Gray Catbird	GRCA	S	0	1	1
Great Crested Flycatcher	GCFL	F	0	0	0
Hairy Woodpecker	HAWO	F	0	0	0
House Finch	HOFI	O	0	0	0
House Sparrow	HOSP	U	0	0	0
House Wren	HOWR	S	0	1	1
Indigo Bunting	INBU	S	0	0	0
Least Flycatcher	LEFL	W	0	0	0
Magnolia Warbler	MAWA	F	0	0	0
Mourning Dove	MODO	O	1	0	1
Northern Cardinal	NOCA	S	1	1	1
Northern Flicker	NOFL	F	0	0	0
Northern Mockingbird	NOMA	S	0	0	0
Northern Rough-winged Swallow	NRWS	O	0	0	0

Ovenbird	OVEN	F	0	0	0
Palm Warbler	PAWA	S	0	0	0
Pine Warbler	PIWA	F	0	0	0
Prairie Warbler	PRWA	S	0	1	1
Red-bellied Woodpecker	RBWO	F	0	1	1
Red-eyed Vireo	REVI	F	1	0	1
Red-winged Blackbird	RWBL	O	1	0	1
Rose-breasted Grosbeak	RBGR	F	0	0	0
Red-tailed Hawk	RTHA	W	0	0	0
Ring-necked Pheasant	RNPH	G	0	0	0
Rock Pigeon (feral)	ROPI	O	0	1	0
Ruby-throated Hummingbird	RTHU	S	0	0	0
Scarlet Tanager	SCTA	F	0	0	0
Song Sparrow	SOSP	S	1	1	0
Tree Swallow	TRSW	O	1	1	0
Tufted Titmouse	TUTI	F	0	1	1
Turkey Vulture	TUVU	F	0	0	0
Veery	VEER	F	0	0	0
Vesper Sparrow	VESP	G	0	0	0
Warbling Vireo	WAVI	W	1	0	0

White-eyed Vireo	WEVI	S	0	0	0
White-breasted Nuthatch	WBNU	F	0	0	0
White-throated Sparrow	WTSP	F	0	0	0
Wild Turkey	WITU	G	0	0	0
Willow Flycatcher	WIFL	S	0	0	0
Wood Thrush	WOTH	F	0	1	0
Yellow Warbler	YEWA	S	1	1	1
Yellow-rumped Warbler	YRWA	F	0	0	0