

2013 Breeding Bird Habitat Report, Lawton Farm Recreation Area, Scituate Rhode Island



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Cover photos: Lawton Farm (Bill Buffum), Indigo Bunting (Peter Paton)

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1. Introduction

This report describes the results of a series of breeding bird point counts conducted at the Lawton Farm Recreation Area, Scituate, Rhode Island, on June 4 and June 25, 2013. The Lawton Farm is a 54.4 acre parcel owned by the Scituate Land Trust and the Town of Scituate. The property is mostly open fields, except for approximately 20 acres of forested wetlands and a small stand of upland hardwoods in the southwest corner. An important conservation objective for the property is to maintain grassland habitat for the Bobolink and Eastern Meadowlark. For more information on the property, see the Lawton Farm Management Plan (Tremblay 2009).

The point counts were carried out as part of an ongoing study of the University of Rhode Island and the Environmental Protection Agency of bird use of shrubland habitats generated through forest management practices.

2. Methods

We sampled the same three sites within Lawton Farm that were included in a related study conducted in a 2012 sample (Buffum and McKinney, 2012). These sites were selected for point count surveys to include different types of shrubland in addition to forest and meadow habitats (Table 1 and Figure 1). All sites were mowed in August, 2012.

Table 1. Lawton Farm Sampling Sites 2013

Site 1	Unmanaged shrubland, meadow, forest
Site 2	Shrubland created by recent removal of invasive plants, meadow, forest
Site 3	Shrubland created by irregular mowing of field, meadow, forest

Site 1: The first sampling site was located in the central portion of the property on the edge of Field 1 (41.75792° N, 071.55652° W). To the north and west is a small patch of shrubland habitat. This site included a hedgerow of mature trees which was recently removed in order to connect Fields 1 and 2 in order to improve habitat for Bobolink and other grassland bird species. The eastern portion of the shrubland is dominated by 2 m high multiflora rose *Rosa multiflora* which transitions into a small herbaceous wetland to the west. To the north of the shrubland is a small area of forest dominated by red maple *Acer rubrum* and white ash *Fraxinus americana*. To the east and south of the sampling site is Field 1, which is mowed annually after August 1 to protect nesting birds. The hay bales are sold as construction hay.

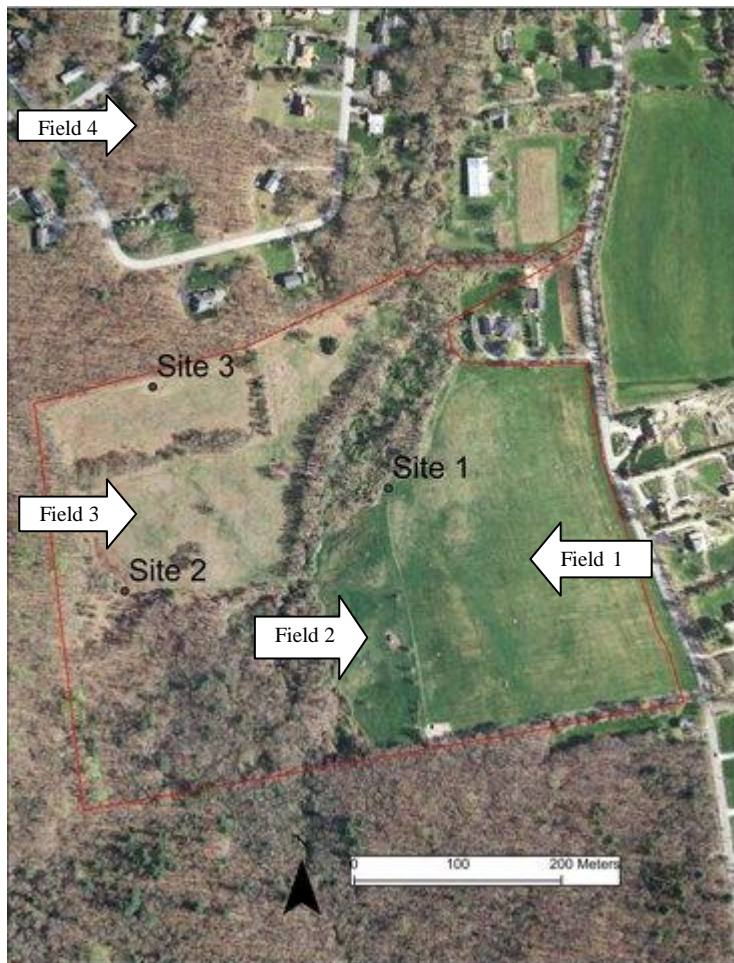
Site 2: The second sampling site was located in the western portion of the property on the edge of Field 3 (41.75715° N, 071.55952° W) adjacent to a patch of shrubland which has recently been managed to remove invasive plants such as autumn olive *Elaeagnus umbellata*, and is currently dominated by 1 m tall saplings of black cherry *Prunus serotina* with some Oriental bittersweet *Celastrus orbiculatus*. The sampling site sampling also includes upland forest dominated by white ash and white oak *Quercus alba*.

Site 3: The third sampling site was located in the northern boundary of the property on the edge of Field 4 (41.75745° N, 071.55952° W). Field 4 currently includes patchy regeneration of 1 m

tall saplings of black cherry, American ash, and white oak. The sampling site includes upland forest to the north dominated by white oak and American ash.

The methods used were the same as in 2012. We surveyed the three sites by conducting ten minute point counts on two days: 4 June and 25 June, 2013. After arriving at each site, we waited five minutes, and then recorded all birds seen or heard during a ten minute period within 100 m of the point count center, using a dependent-observer approach (Nichols et al. 2000, Forcey et al. 2006). The survey teams consisted of a primary observer (Rick McKinney) who noted bird species and abundance, and a secondary observer (Daphne Payne, University of Rhode Island) who recorded data and noted any individuals missed by the primary observer. We recorded all birds heard within 100m and seen within 100m, including birds flying overhead. All point counts were conducted between 0600 and 1000 hours.

Figure 1 Lawton Farm, Scituate Rhode Island - 2013 Sampling Sites



3. Results / Discussion

We observed 26 bird species across the three sites during the two survey periods (Table 2). The most abundant species were Bobolink *Dilichonyx oryzivorus*, American Robins *Turdus migratorius*, Yellow Warblers *Dendroica petechia* and Red-winged Blackbirds *Agelaius*

phoeniceus. Bobolinks continue to be observed at Lawton Farm in substantial numbers, in the large meadow (Field 1), where they presumably nest and utilize the area for foraging or cover (Martin 1971). Bobolinks prefer to nest in large meadows with tall grass (Herkert, 1994), therefore Lawton Farm provides significant regional habitat for this species. American Robins and Red-winged Blackbirds are habitat generalists; both are abundant throughout the Northeastern United States and nest in forested habitat and shrubland habitat (Ehrlich et al. 1988). Yellow Warblers are a declining species in New England that prefer to breed in dense, tall shrubland near wetlands (Schlossberg and King, 2007).

We observed six species in all three sites: American Robin *Turdus migratorius*, Red-eyed Vireo *Vireo olivaceus*, Northern Cardinal *Cardinalis cardinalis*, Song Sparrow *Melospiza melodia*, Red-winged Blackbird *Agelaius phoeniceus* and Ovenbird *Seiurus aurocapillus*.

The total number of species observed in 2013 was two less than in 2012; however, we observed nine species in 2013 that were not seen in 2012: House Wren *Troglodytes aedon*, Wood Thrush *Hylocichla mustelina*, Mallard *Anas platyrhynchos*, Eastern Kingbird *Tyrannus tyrannus*, Chipping Sparrow *Spizella passerina*, Ovenbird *Seiurus aurocapillus*, Mourning Dove *Zenaidura macroura*, Indigo Bunting *Passerina cyanea*, and Downy Woodpecker *Picoides pubescens*.

In addition, during the 25 June survey we observed a probable Eastern Meadowlark *Sturnella magna* juvenile foraging in the field at Site 3. This bird was not officially reported (not included in Table 2) because it was observed outside of the survey period, and because we weren't able to sufficiently observe the bird to be fully certain of its identity. A foraging juvenile would not necessarily suggest any nesting activity by this species at Lawton, as it may have fledged from a nest elsewhere in the region.

Eleven species that were spotted in 2012 were not detected this year: Ring-necked Pheasant *Phasianus colchicus*, Red-bellied Woodpecker *Melanerpes carolinus*, Hairy Woodpecker *Picoides villosus*, Willow Flycatcher *Empidonax traillii*, Great-crested Flycatcher *Myiarchus crinitus*, American Crow *Corvus brachyrhynchos*, Black-capped Chickadee *Poecile atricapilla*, Blue-winged Warbler *Vermivora pinus*, Magnolia Warbler *Dendroica magnolia*, Scarlet Tanager *Piranga olivacea*, and House Finch *Carpodacus mexicanus*. Inter-annual differences in birds detected at the sites may result from imperfect detection probabilities (i.e., some species will not be detected during a given survey or series of surveys even if present), or from changes in the habitats (either through ecological succession or management action) during the course of the year. Additional annual surveys will be needed to determine which of these two scenarios are dominant at Lawton.

Table 2. Abundance of bird species observed within 100 m of the point count center during 10 minute counts at three sites within Lawton Farm Recreation Area, Scituate, Rhode Island, in 2012 and 2013.

Common name	Scientific name	Shrubland Birds	2012				2013			
			All Sites	Site 1	Site 2	Site 3	All Sites	Site 1	Site 2	Site 3
Mallard	<i>Anas platyrhynchos</i>		0	0	0	0	3	0	3	0
Ring-necked pheasant	<i>Phasianus colchicus</i>		1	0	0	1	0	0	0	0
Red-bellied woodpecker	<i>Melanerpes carolinus</i>		1	1	0	0	0	0	0	0
Downey woodpecker	<i>Picoides pubescens</i>		0	0	0	0	1	1	0	0
Hairy woodpecker	<i>Picoides villosus</i>		1	0	1	0	0	0	0	0
Eastern wood-pewee	<i>Contopus virens</i>		2	0	1	1	1	1	0	0
Willow flycatcher	<i>Empidonax traillii</i>	Yes	1	1	0	0	0	0	0	0
Eastern kingbird	<i>Tyrannus tyrannus</i>		0	0	0	0	1	1	0	0
Great crested flycatcher	<i>Myiarchus crinitus</i>		1	0	0	1	0	0	0	0
Blue jay	<i>Cyanocitta cristata</i>		2	0	2	0	2	0	2	0
American crow	<i>Corvus brachyrhynchos</i>		1	0	0	1	0	0	0	0
Tree swallow	<i>Tachycineta bicolor</i>		8	5	2	1	3	3	0	0
Tufted titmouse	<i>Baeolophus bicolor</i>		6	2	3	1	3	0	2	1
Black-capped chickadee	<i>Poecile atricapilla</i>		1	0	0	1	0	0	0	0
House wren	<i>Troglodytes aedon</i>	Yes	0	0	0	0	2	0	0	2
Gray catbird	<i>Dumetella carolinensis</i>	Yes	3	2	1	0	5	3	2	0
American robin	<i>Turdus migratorius</i>		8	3	3	2	9	4	2	3
Wood thrush	<i>Hylocichla musteling</i>		0	0	0	0	1	0	0	1
Cedar waxwing	<i>Bombycilla cedorum</i>	Yes	4	3	1	0	2	2	0	0
Red-eyed vireo	<i>Vireo olivaceus</i>		2	0	1	1	4	1	2	1
Blue-winged warbler	<i>Vermivora pinus</i>	Yes	1	1	0	0	0	0	0	0
Yellow warbler	<i>Dendroica petechia</i>	Yes	2	2	0	0	7	6	0	1
Magnolia warbler	<i>Dendroica magnolia</i>	Yes	2	0	2	0	0	0	0	0
Common yellowthroat	<i>Geothlypis trichas</i>	Yes	2	2	0	0	1	0	0	1
Ovenbird	<i>Seiurus aurocapillus</i>		0	0	0	0	4	2	1	1
Scarlet tanager	<i>Piranga olivacea</i>		1	0	1	0	0	0	0	0
Eastern towhee	<i>Pipilo erythrophthalmus</i>		5	0	2	3	3	0	2	1

Common name	Scientific name	Shrubland Birds	2012				2013			
			All Sites	Site 1	Site 2	Site 3	All Sites	Site 1	Site 2	Site 3
Northern cardinal	<i>Cardinalis cardinalis</i>	Yes	1	0	0	1	4	1	1	2
Indigo bunting	<i>Passerina cyanea</i>	Yes	0	0	0	0	2	0	1	1
House finch	<i>Carpodacus mexicanus</i>		1	0	0	1	0	0	0	0
American goldfinch	<i>Carduelis tristis</i>	Yes	1	0	0	1	1	0	0	1
Song sparrow	<i>Melospiza melodia</i>	Yes	6	3	0	3	3	1	1	1
Chipping sparrow	<i>Spizella passerine</i>		0	0	0	0	1	0	1	0
Red-winged blackbird	<i>Agelaius phoeniceus</i>		21	12	4	5	7	4	2	1
Baltimore oriole	<i>Icterus galbula</i>		1	0	0	1	5	0	3	2
Bobolink	<i>Dilichonyx oryzivorus</i>		3	3	0	0	16	16	0	0
Total Abundance			90	40	26	25	93	47	26	20

In addition to providing excellent grassland habitat for Bobolink, the management area provides good nesting habitat for scrub-shrub birds. Shrubland habitat is declining at an alarming rate in New England (NRCS report 2007); with a resulting decline in the populations of shrubland birds (Chandler, King and Chandler, 2009). Specifically in Rhode Island, shrubland habitat is expected to continue to decrease without more active forest management (Buffum et al. 2011).

Ten of the 26 bird species recorded on the property in 2013 were included in a recent list prepared by Schlossberg and King (2007) of 30 shrubland birds in Southern New England that would benefit from the creation of new shrubland habitat (Table 3). This is one shrubland species less than what was observed in 2012, but the abundance of shrubland birds actually increased in 2013 (Table 2). Furthermore, the number of species of shrubland birds increased in the two of the three sites (Table 3), so it appears that the management of the property is supporting the populations of these species.

Table 3. Number of Shrubland bird species observed at Lawton Farm Recreation Area, Scituate, Rhode Island, in 2012 and 2013

Common name	2012				2013			
	All Sites	Site 1	Site 2	Site 3	All Sites	Site 1	Site 2	Site 3
Willow flycatcher	1	1	0	0	0	0	0	0
Gray catbird	1	1	1	0	1	1	1	0
Cedar waxwing	1	1	1	0	1	1	0	0
Blue-winged warbler	1	1	0	0	0	0	0	0
Yellow warbler	1	1	0	0	1	1	0	1
Magnolia warbler	1	0	1	0	0	0	0	0
Common yellowthroat	1	1	0	0	1	0	0	1
Eastern towhee	1	0	1	1	1	0	1	1
Northern cardinal	1	0	0	1	1	1	1	1
Song sparrow	1	1	0	1	1	1	1	1
American goldfinch	1	0	0	1	1	0	0	1
House wren	0	0	0	0	1	0	0	1
Indigo bunting	0	0	0	0	1	0	1	1
Total Species	11	7	4	4	10	5	5	8

Note: Shrubland birds are defined by Scholssberg and King (2007) as species that would benefit from the creation of new shrubland habitat in New England.

Extensive research has stressed the importance of creating shrubland habitat in New England (Chandler, King and Chandler, 2009; DeGraaf and Yamasaki 2003; Schlossberg and King, 2007). Management for this habitat is fairly easy; shrubland patches must be at least 0.8ha and left for 10-15 years, after which the site can be cut (DeGraaf and Yamasaki, 2003). Optimal

habitat shows roughly 10-30% low woody coverage, the remaining coverage consisting of grass and forbs (NRCS, 2007).

Bobolinks and shrubland birds have strong site fidelity, meaning they return to the same breeding site year after year. If their nesting sites are destroyed these populations will often decline or die out (Schlossberg, 2009). Therefore, maintaining meadow and shrubland habitat is very important.

Of the 26 species recorded during the surveys, 13 species were observed at two of the three sites, and 13 species were only observed at one site. This suggests that Lawton Farm provides a number of unique habitats utilized by a variety of bird species, and thus contributes to maintaining regional bird diversity. From a conservation point of view this is extremely valuable, as this area along with nearby conserved and protected land is helping to maintain and enhance local and regional biodiversity.

4. Conclusions

Our data indicate that the Scituate Conservation Commission is doing an excellent job of providing high quality habitat for a range of bird species. Bobolink counts increased in our 2013 report, however it should be noted that we only surveyed one portion of the field so these numbers may not be indicative of the entire area. We also note that maintaining of shrubland habitat is having a positive effect on shrubland birds, a group of species of conservation concern.

We recommend that the Conservation Commission continue activities to enhance shrubland habitat as well as grassland habitat. Management could create additional shrubland habitat with forest management activities in the southwest portion of the property bordering field 3. For example, clearing an area of around 1ha in the upland forest bordering the field and allowing it to develop into shrubland habitat for 10 or 15 years would be beneficial for a number of species. This is a relatively simple management approach in that the only maintenance required is a clearcut of the area every 10-15 years. The Nature Conservancy has recently used this approach adjacent to a large meadow in the Carter Preserve in Charlestown, RI with very positive results. Another option to enhance shrubland habitat would be introducing a rotational mowing system in Field 4 so that part of the field always contains 2-3 year old shrubby growth.

5. Literature Cited

- Buffum, B., McWilliams, S.M., August, P.V. 2011. A spatial analysis of forest management and its contribution to maintaining the extent of shrubland habitat in southern New England, United States. *Forest Ecology and Management*. 262, 1775-1785.
- Buffum, B., McKinney, R. 2012. Breeding birds and forest management in Lawton farm recreation area, Scituate Rhode Island. Kingston, Rhode Island: Department of Natural Resources Science, University of Rhode Island.
- Chandler, R.B., King, D.I., Chandler, C.C. 2009. Effects of management regime on the abundance and nest survival of shrubland birds in wildlife openings in northern New England, USA. *Forest Ecology and Management*. 258, 1669-1676.
- DeGraaf, R.M., Yamasaki, M. 2003. Options for managing early-successional forest and shrubland bird habitats in the northeastern United States. *Forest Ecology and Management*. 185, 179-191.

- Ehrlich, P.R., Dobkin, D.S., Wheye, D. 1988. *The birder's handbook: a field guide to the natural history of North American Birds*. Simon and Schuster Inc., New York, NY.
- Forcey, G. M., Anderson, J.T., Ammer, F.K., Whitmore, R.C. 2006. Comparison of two double-observer point-count approaches for estimating breeding bird abundance. *J. Wildlife Manage.* 70, 1674-1681.
- Herkert, J.R. 1994. The effects of habitat fragmentation on Midwestern grassland bird communities. *Ecological Society of America.* 4, 461-471.
- Martin, S. G. 1971. Polygyny in the Bobolink: habitat quality and the adaptive complex. Phd Thesis. Oregon State Univ. Corvallis.
- Natural Resources Conservation Service. *Scrub-shrub birds*. January, 2007.
- Nichols, J.D., Hines, J.E., Sauer, R., Fallon, F.W., Fallon, J.E., Heglund, P.J. 2000. A double-observer approach for estimating detection probability and abundance from point counts. *Auk* 117, 393-408.
- Schlossberg, S. 2009. Site fidelity of shrubland and forest birds. *The Condour.* 111, 238-246.
- Schlossberg, S and King, D. 2007. *Ecology and Management of Scrub-shrub Birds in New England: A Comprehensive Review*. USDA Natural Resources Conservation Service, Resource Inventory and Assessment Division: Beltsville, Maryland, USA. 120 p.
- Tremblay, M. 2009. Property Management Plan, Lawton Farm, Scituate Conservation Commission, Scituate, Rhode Island.