The Tablelands at Uihlein Farm

Grassland Bird Conservation and Recommendations

Prepared for the Henry Uihlein II & Mildred A. Uihlein Foundation by the Paul Smith's College Adirondack Watershed Institute

2022

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Grassland Bird Conservation and Recommendations
2022 Report to the Uihlein Foundation

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PAUL SMITH'S COLLEGE

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Introduction

In 2020, the Henry Uihlein II and Mildred A. Uihlein Foundation Trust (Uihlein Foundation) acquired a parcel of land totaling approximately 428 acres, previously donated to Cornell University and used for potato production and research until its transfer back to the Uihlein Foundation. The open characteristics of the site offer habitat for grassland birds, which are among the most imperiled bird groups on the continent, primarily as a result of long-term habitat loss and fragmentation combined with intensifying agricultural production on remaining farmlands. No longer under cultivation, the former potato fields at Uihlein Farm provide an opportunity for future grassland bird conservation as well as a variety of education and interpretation activities.

Summer of 2022 marked the 4th year of collaboration between the Uihlein Foundation and the Paul Smith's College Adirondack Watershed Institute to examine how grassland and other bird species respond to management practices in hay fields on Heaven Hill and Uihlein Farm. These efforts are focused primarily on grassland specialist bird species including the bobolink and savannah sparrow. These species depend on grassland habitat for successful breeding and are often found in hay meadows and pastures in the Northeast US in part due to the dearth of natural grassland habitat.

Uihlein Farm is in the process of a strategic planning effort for this parcel, which is likely to include habitat management and enhancement of the site for grassland birds. We benefit from the opportunity to expand our partnership with the Uihlein Foundation through efforts to document wildlife and ecological characteristics at Uihlein Farm to provide a basis for future restoration and management of those lands for grassland birds and other species. This report documents our activities at Uihlein Farm during the 2022 field season; activities at Heaven Hill are described in a companion report.

Methods and Findings

Ongoing: Informal Bird Survey via Survey123

As in previous season, we made visits to the site throughout the summer of 2022 from late May to August and conducted walking surveys during each visit and noted all species of birds we detected on site each time. We again made use of a Survey123 smartphone application and our BOBO SAVS survey, described in our 2021 report for Heaven Hill.This survey is programmed to allow for data collection at both locations and was shared with a small handful of additional potential observers, though the majority of observations were made by AWI staff.

During 17 total visits to Uihlein Farm in 2022, we made 197 detections of 41 bird species, primarily passerines. Most bird detections were by ear, and therefore most were songbirds though birds that do not vocalize as regularly were also often detected on site. Again the most common species by numbers of detections were savannah sparrow, American crow, song sparrow, and ovenbird, this year followed by blue jay, hermit thrush, indigo bunting, and red-eyed vireo (Table 1). Savannah sparrow remains very widespread and abundant throughout all areas of Uihlein Farm. Bobolink, by contrast, was detected just once by ear. However, this detection was on 2 June, at the height of the nesting period. In the past we have detected bobolink at Uihlein Farm in late June immediately after the mowing at Heaven Hill, in keeping with the common behavior of bobolinks to seek other fields when nests are affected by mowing in other parts of their range. It is promising that this bird was exploring Uihlein Farm prior to the occurrence of mowing at Heaven Hill and perhaps indicative that additional birds will do so in the future.

Additional Activities: Point Counts and Line Transects

We added 2 additional standard bird survey methods in 2022. A series of 8 point count locations were established throughout the open field area at Uihlein Farm, spaced a minimum of 300m apart (Figure 1). We believe these locations can serve as permanent sample sites for bird counts in subsequent seasons. We conducted standard 10-minute counts at all 8 locations on 13 June. Point counts are a standard bird survey method in which all birds detected by sight or sound are recorded over a fixed period of time by one or more observers (Ralph et al. 1993). We tested and later abandoned this method at Heaven Hill because the size limitation of the field meant that the same birds were being detected at all points, but the fields at Uihlein Farm are large enough to accommodate this set of points and surveying them 2-3 times per season is a reasonable and achievable means of establishing long-term avian monitoring at the site. Point count detections from this initial year are incorporated into Table 1, but in the future can be separately analyzed with occupancy analysis to detect trends (MacKenzie et al. 2006). Of note in 2022, the point counts yielded 5 species that were not detected on informal surveys including the bobolink discussed above, as well as Eastern kingbird, purple finch, vesper sparrow, and yellow-bellied sapsucker (Table 1).

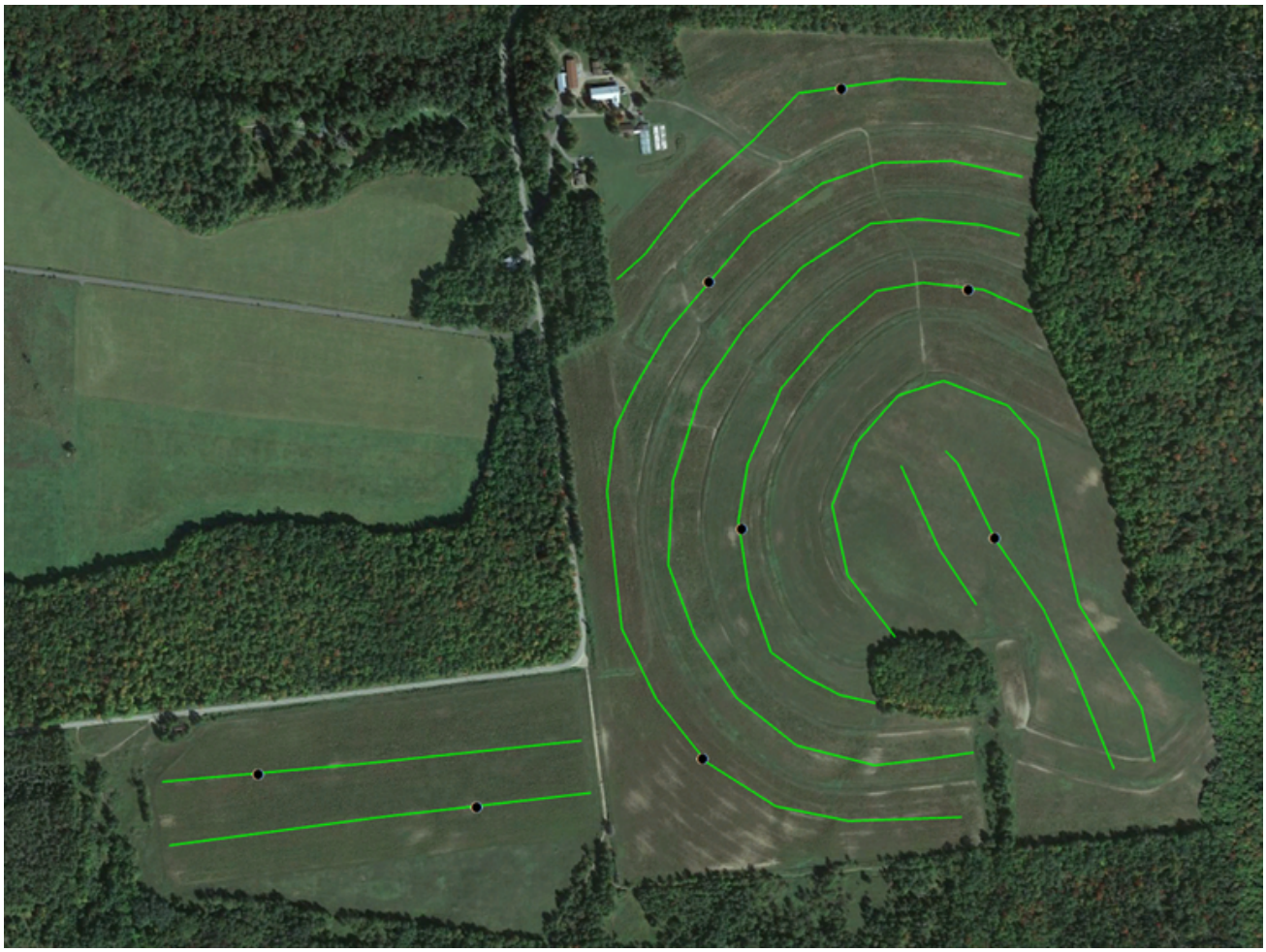

Figure 1. Locations of point counts (black dots) and line transects established at Uihlein Farm.

Line transects were established as an additional means of surveying birds and are a useful means of determining densities of species such as savannah sparrow, which is abundant on the site. We conducted line transect sampling on 2 June. Though this method did not result in the detection of any species that was not also detected by other methods, it did enable us to map locations for 24 savannah sparrows and we suspect that the site supports at least twice that number.

Two of the species detections reported in Table 1 are unconfirmed and should be considered preliminary – vesper sparrow and short-eared owl. Vesper sparrow was detected by ear during a point count and identified by Cornell's Merlin app as this species; however, it is a rare species and we have limited familiarity with it. It is a grassland specialist species, but much more rare than savannah sparrow in our region. It is known from multiple records at Intervale Farm on River Road and was seen near the highway department in April of 2022, as well as on the Loj Road in October 2021, most likely on migration. It is therefore not out of the realm of possibility for Uihlein Farm but the detection should be treated as unconfirmed.

Table 1. Number of occasions on which each bird species was detected at Uihlein Farm.

Common Name	AOU** code	Total 2020	Total 2021	Total 2022
American crow	AMCR	8	16	15
American goldfinch	AMGO	3	6	6
American kestrel	AMKE	3	0	2
American robin	AMRO	1	6	8
Barn swallow	BASW	0	0	1
Belted kingfisher	BEKI	0	0	1
Black-and-white warbler	BAWW	1	0	0
Blackburnian warbler	BLWA	0	0	1
Black-capped chickadee	BCCH	2	6	8
Black-throated blue warbler*	BTBW	1	0	1
Black-throated green warbler	BTNW	2	0	1
Blue jay	BLJA	7	8	10
Blue-headed vireo	BHVI	6	5	8
Bobolink *, ****	BOBO	5	2	1
Canada goose	CAGO	3	0	0
Cedar waxwing	CEWA	4	5	6
Chestnut-sided warbler	CSWA	6	3	9
Chipping sparrow	CHSP	1	6	2
Common raven	CORA	0	0	1
Common yellowthroat	COYE	1	1	1
Dark-eyed junco	DEJU	1	0	0
Eastern bluebird	EABL	6	3	6
Eastern kingbird ****	EAKI	1	0	1
Eastern meadowlark	EAME	0	0	1
Eastern phoebe	EAPH	2	0	1
Field sparrow	FISP	0	0	1
Great blue heron	GBHE	0	0	1
Hairy woodpecker	HAWO	0	0	1
Hermit thrush	HETH	6	2	10
Indigo bunting	INBU	5	8	10
Least flycatcher	LEFL	1	0	1
Mourning warbler	MOWA	2	0	0
Nashville warbler	NAWA	1	1	1
Northern flicker	NOFL	4	0	7

Table 1. continued

Common Name	AOU** code	Total 2020	Total 2021	Total 2022
Northern harrier*	NOHA	6	2	4
Northern parula	NOPA	2	0	1
Ovenbird	OVEN	4	9	11
Purple finch	PUFI	0	0	1
Red-breasted nuthatch	RBNU	2	2	2
Red-eyed vireo	REVI	7	9	10
Savannah sparrow	SAVS	9	16	17
Short-eared owl***	SEOW	0	0	1
Song sparrow	SOSP	9	9	12
Tree swallow	TRSW	1	0	7
Turkey vulture	TUVU	1	0	1
Vesper sparrow***	VESP	0	0	1
Wild turkey	WITU	3	4	7
Yellow-bellied sapsucker	YBSA	0	0	1
Yellow-rumped warbler	YRWA	2	0	3

* Considered Species of Greatest Conservation Need in New York State by NYS Department of Environmental Conservation. ** American Ornithological Union 4 letter codes. *** Not confirmed. **** Detected only during point count surveys.

Similarly, we made a possible detection of short-eared owl at Uihlein Farm in 2022. This bird was accidentally flushed from the ground during the course of our travel in the site and observed for a long time as it flew off. We were able to detect an owl-like face and the pattern on the underside of the wing. The Northern harrier also has an owl-like face but has a different pattern underneath the wing. Again, this should be considered an unconfirmed sighting, but would be highly notable for Uihlein Farm. The Adirondack Park is located in a zone of overlap between the general summer range for this species to the north and the winter range which includes all of the state. It is classified as Endangered in New York (New York State Department of Environmental Conservation 2023) and considered to be a Common Bird in Steep Decline by Partners in Flight (Cornell Lab of Ornithology 2023). Local experts have recommended to us in the past that Uihlein Farm would be a good location to find short-eared owl in the winter.

A third species noted in Table 1 is confirmed but also notable and that is Eastern meadowlark. This bird was detected by Derek Rogers and others who visited Heaven Hill and Uihlein Farm on 29 April. Though more common in the lower elevation and more open habitats surrounding the Adirondacks, this species

is another grassland specialist and is noted in recent eBird records from Intervale Lowlands on River Rd and from the Adirondack Loj Rd. Potential detections of all 3 of these species continue to reinforce our belief that this site holds tremendous potential for grassland specialists in our region.

Additional Activities: Automated Recording Units and Trail Cameras

After the possible detection of short-eared owl, and because this is a NYS Endangered Species, we deployed 2 methods to detect the bird again in order to confirm the occurrence of this species at Uihlein Farm.

Short-eared owl; image: L. Master

Automated Recording Units (ARUs) are units that can be deployed in any habitat type and programmed to make recordings of the acoustic environment at pre-selected times of day/year. We used Cornell Lab of Ornithology Swift units and placed 3 of them on site, programmed to run from 14 to 21 June and to make 2 morning (530 and 630am) and one evening (10pm) recording of 15 minutes duration. We did not detect the owl on any recordings and in general this species is not particularly vocal, but we did detect three additional species in the ARU recordings that had not yet been recorded in other surveys – broad-winged hawk, fox sparrow, and red-winged blackbird – in addition to 14 additional species. The ARUs also detected noise from the road as well as vocalizations from non-avian taxa including crickets and Eastern coyote.

Also related to the possible occurrence of short-eared owl, we found pellets and other food-related items left on top of the next boxes on several occasions. Owls swallow their food whole or in large pieces and later regurgitate undigestible material (e.g., bones and teeth) in what are called owl pellets. In addition to pellets, we often found bits of animal fur and parts of insects on top of nest boxes. We therefore set up two pairs of trail cameras on either side of the next boxes on which food items were often discovered, to attempt to confirm the identity of the raptor that had been using the tops of the boxes for feeding. Cameras were in place from 22 July until 24 August but did not capture photos that could definitively identify raptors using the tops of the next boxes, primarily because the “culprit” was found to be perched on top of the camera pole rather than the nest box. We captured numerous photos of the interior side of tail feathers, at least some of which are believed to be American kestrel, but definitive ID from this perspective of the retrices is difficult (Figure 2).

Additional Activities: Next Boxes

A total of 16 nest boxes were installed at Uihlein Farm in 2021. They were utilized immediately upon installation as perches and in 2022 served as nesting substrate, primarily for tree swallow (Tachycineta bicolor). Our monitoring of next boxes at Uihlein Farm revealed similar patterns to those from Heaven Hill whereby approximately half of the boxed were utilized, with a mix of results. Two boxes successfully fledged young tree swallows, 7 boxes were unused, and the remaining 7 boxes were used but failed for several reasons. Three were abandoned partway through the construction phase, one had eggs present which were subsequently found to be gone though we are unsure what became of them, one had eggs which never hatched most likely due to poor nest construction and inexperienced parents, and the remaining two hatched young which subsequently died most likely as a result of cold temperatures. We expect that in future years both the use and the success rate in these boxes will increase as birds become more experienced and used to them on site.

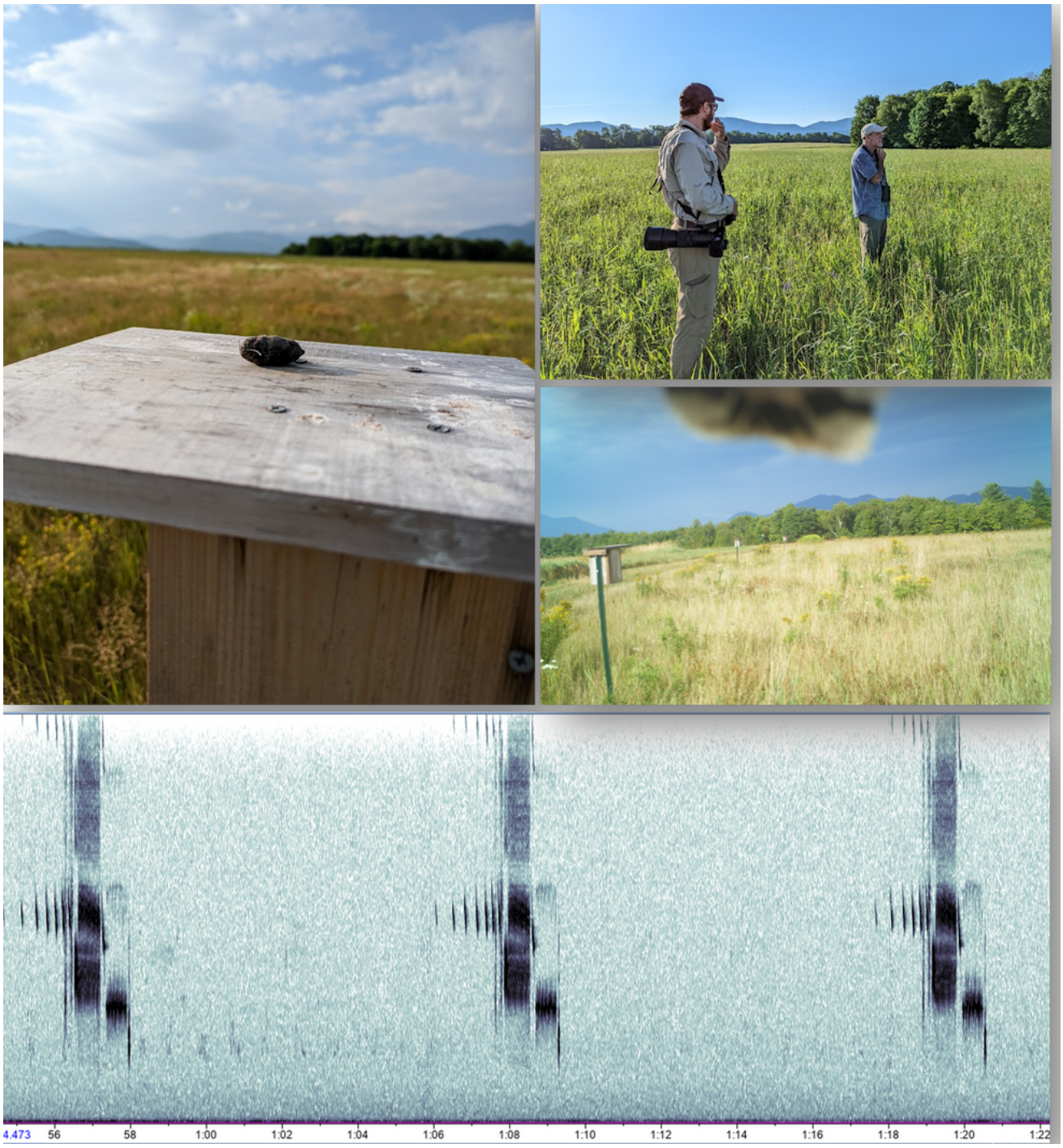

Figure 2. Images from “the quest for the owl.” Clockwise from top left, (1) raptor pellet on top of next box, (2) AWI Research Technician Connor Vara and local bird expert Brian McAllister visiting the site, (3) one of many camera trap shots of the interior tail feathers of a raptor perched on the camera pole; in this instance most likely American kestrel, (4) spectrogram from automated recording unit showing savannah sparrow song pattern.

Ongoing: Grassland Test Plots and Expert Consultation

In concert with wildlife survey methods that occurred throughout the 2022 season, we continued with small-scale grassland test plots in the area adjacent to the greenhouse. The existing agreement with the World University Games precluded the ability to execute large-scale grassland habitat manipulations during summer 2022, but small tests of grass species demonstrated that several were able to germinate and grow successfully under local conditions at the site. We benefitted from a visit to the site by staff from the Adirondack Land Trust, the Albany Pine Bush, and the ecological restoration company ArcheWild, all of whom expressed tremendous excitement over the site in its current condition and urged us to consider habitat enhancement that would encompass the broadest possible range of species. They noted additional species for whom Uihlein Farm could provide potential habitat including Eastern meadowlark (which was present during their field visit) and others including vesper sparrow and spotted sandpiper. Some of these additional species benefit from the barer ground conditions at Uihlein Farm and would do better with management steered toward native prairie rather than management focused primarily on habitat improvement for bobolink.

Recommendations

We made several recommendations in our 2020 and 2021 reports suggesting activities for consideration with regard to long-term ecological monitoring, habitat management and interpretation, recommended grass species, experiential restoration and

climate refugia, fire as a management tool, potential model sites, Tablelands as a demonstration site, collaboration, grants and other considerations. These remain long-term and broad and we urge their continued consideration as Uihlein Farm moves beyond the World University Games and continues with strategic planning for the site.

In acknowledgement of the context that Uihlein Farm is still in a planning phase for its long-term future and taking into account recommendations given to us by outside experts, we suggest the following activities for the upcoming field season in 2023:

- Continued bird surveys at permanent sampling locations established in 2022 throughout the extent of the open habitat.

- Continued monitoring of bird occurrence at Uihlein Farm, targeted toward high profile grassland species including bobolink, savannah sparrow, Northern harrier, short-eared owl, and American kestrel.
- Enhanced efforts to detect additional grassland species that may be using Uihlein Farm including vesper sparrow, Eastern meadowlark, and others via increased early season site visits in combination with additional passive sampling approaches (camera traps on nest boxes, automated recording units).
- Continued monitoring of bird use of newly installed nest boxes (16) at Uihlein Farm.

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