

GRASSLAND BIRD SURVEYS
WANTAGE, VERNON, AND POHATCONG TOWNSHIPS
SUSSEX AND WARREN COUNTIES, NEW JERSEY

CONDUCTED JUNE 2004

By

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INTRODUCTION

The following is a report discussing the results of a June, 2004 survey for grassland birds conducted at selected sites in Wantage Township and adjacent areas, and Vernon Township, both in Sussex County, and of Pohatcong Township in Warren County. Included are a discussion of the survey species, descriptions and results of the survey sites, and a short analysis of the study's findings.

Survey Species

Northern Harrier *Circus cyaneus*

State Listing: Endangered.

Heritage Program Ranking: S1 breeding, S3 nonbreeding.

Habitat: Nests on the ground in salt marshes, but occasionally in pastures and freshwater marshes (Walsh et al. 1999).

Discussion: Thought to be one of New Jersey's "most imperiled breeding birds" (Walsh et al. 1999). While its remaining stronghold in New Jersey is along the Atlantic Coast and the Delaware Bayshore in southern New Jersey, the 1993-1997 Breeding Bird Atlas (BBA) produced 2 probable nesting records within the study area, as well as four possible nesting records.

Upland Sandpiper *Bartramia longicauda*

State Listing: Endangered.

Heritage Program Ranking: S1 breeding.

Habitat: Most breeding records for the species are at airports such as Lakehurst Air Engineering Station, the Atlantic City Airport, and McGuire Air Force Base. Also in hay fields, meadows, and other grassland habitats (Walsh et al. 1999).

Discussion: The BBA produced three probable nestings in the Wantage Grassland region, and one possible nesting record.

Short-eared Owl *Asio flammeus*

State Listing: Endangered.

Heritage Program Ranking: SHB, S3 nonbreeding.

Habitat: Nest in marshes, meadows, and savannahs (Ehrlich et al. 1988).

Discussion: No possible, probable, or confirmed nestings were recorded during the BBA. The last known possible breeding record was of a pair at Supawna Meadows in Salem County (Walsh et al. 1999).

Sedge Wren *Cistothorus platensis*

State Listing: Endangered.

Heritage Program Ranking: S1 breeding.

Habitat: Grassy or sedgy wet meadows, often with scattered small bushes. Historically in or on the edges of salt marshes (Walsh et al. 1999), where it can occasionally be found in fall, winter, and spring.

Discussion: Two possible nesting reports were found during the BBA, both within the Wantage grasslands. There were three confirmed nestings, in Cumberland, Salem, and Somerset Counties (Walsh et al. 1999).

Grasshopper Sparrow *Ammodramus savannarum*

State Listing: Threatened.

Heritage Program Ranking: S2 breeding.

Habitat: Dry weedy fields, pastures, grassy areas along airport runways (Walsh et al. 1999); usually in habitats that have some woody vegetation such as shrubs and seedling trees.

Discussion: The BBA had thirty-nine confirmed blocks, eighty-two probable, and twenty-three possible, well distributed throughout the state except in the northeast, with four confirmed and three possible nestings in the Wantage grasslands (Walsh et al. 1999).

Savannah Sparrow *Passerculus sandwichensis*

State Listing: Threatened.

Heritage Program Ranking: S2 breeding.

Habitat: Fields, meadows, and pastures (Walsh et al. 1999). Habitat for Savannah Sparrow is occasionally less dry than that occupied by Grasshopper Sparrow.

Discussion: The BBA reported a total of twenty-one confirmed blocks, 29 probable and eleven possible, with six confirmed nestings in the Wantage grasslands, and four probable or confirmed.

Vesper Sparrow *Poocetes gramineus*

State Listing: Endangered.

Heritage Program Ranking: S1 breeding.

Habitat: Dry weedy or grassy fields (Walsh et al. 1999). Sometimes in unplanted former corn fields.

Discussion: Statewide there were three confirmed blocks, seven probable, and six possible; the Wantage grasslands had one confirmed blocks, three probable, and one possible (Walsh et al. 1999).

Henslow's Sparrow *Ammodramus henslowii*

State Listing: Endangered.

Heritage Program Ranking: S1 breeding.

Habitat: Dry or moist fields (Walsh et al. 1999).

Discussion: New Jersey's rarest breeding sparrow was confirmed nesting during the BBA at one site at Lakehurst Naval Air Engineering Station. There was one possible report from the Wantage Grasslands (Walsh et al. 1999).

Bobolink *Dolichonyx oryzivorus*

State Listing: Threatened.

Heritage Program Ranking: S2 breeding.

Habitat: Large hay fields, meadows, and pastures (Walsh et al. 1999), usually with little or no shrub cover.

Discussion: Bobolink is almost exclusively restricted to the Piedmont, Highlands, and Ridge and Valley regions of northern New Jersey. Nine blocks of confirmed nestings were in the Wantage grasslands, and six probable (Walsh et al. 1999).

Species of Concern

American Kestrel *Falco sparverius*

State Listing: None.

Heritage Program Ranking: S3 breeding.

Habitat: Open areas around farms, open parkland (Walsh et al. 1999).

Discussion: Although still a widespread breeding species—it was a confirmed, probable, or possible nester in 320 blocks throughout the state during the Breeding Bird Atlas—American Kestrel has undergone a serious decline since the 1980s (Walsh et al. 1999). The Wantage grasslands have traditionally been a stronghold for the species.

Red-headed Woodpecker *Melanerpes erythrocephalis*

State Listing: Threatened.

Heritage Program Ranking: S2 breeding.

Habitat: Open dry woodlands with little or no shrub cover; sometimes orchards, swamps, and river bottoms (Walsh et al. 1999).

Discussion: One probable and three possible nestings in blocks in the Wantage grasslands (Walsh et al. 1999).

Horned Lark *Eremophila alpestris*

State Listing: None.

Heritage Program Ranking: S3 breeding.

Habitat: Areas of bare ground, short, often sparse grass, fallow fields, and grassy areas along airport runways (Walsh et al. 1999).

Discussion: The Wantage grasslands had one confirmed breeding block during the BBA, three probable, and two possible (Walsh et al. 1999).

Eastern Meadowlark *Sturnella magna*

State Listing: None.

Heritage Program Ranking: S3 breeding.

Habitat: Grassy fields and meadows, pastures (Walsh et al. 1999).

Discussion: Widely distributed statewide, but declining in the north. The Wantage grasslands had over twenty-five confirmed, probable, or possible breeding blocks during the BBA (Walsh et al. 1999).

Other Species of Concern

The following are largely not birds of grassland habitats, though some of them use habitats which may have a grassland component. Three of the four species below are declining, and can occur on survey routes, and were included on survey forms.

Northern Bobwhite *Colinus virginianus*

State Listing: None.

Heritage Program Ranking: None available.

Habitat: Brushy fields, farmland, wood and marsh edges (Walsh et al. 1999).

Discussion: Mostly restricted to southern New Jersey from Monmouth and Hunterdon Counties south. A few possible or probable breeding blocks in Sussex County (Walsh et al. 1999).

Golden-winged Warbler *Vermivora chrysoptera*

State Listing: None.

Heritage Program Ranking: S3 breeding.

Habitat: Brush successional areas under power line rights-of-way, open brushy fens and bogs, shrub/scrub wetlands.

Discussion: Restricted to Sussex County, northern Passaic County, northwestern Bergen County and Morris County. Confirmed, probable, and possible breeding blocks were found during the BBA (Walsh et al. 1999).

Yellow-breasted Chat *Icteria virens*

State Listing: None.

Heritage Program Ranking: S3 breeding.

Habitat: Late successional areas with an often dense shrub layer but few trees, sometimes near streams (Walsh et al. 1999).

Discussion: Six probable and one possible breeding block were found in the Wantage Grassland Area during the BBA (Walsh et al. 1999).

Field Sparrow *Spizella pusilla*

State Ranking: None.

Heritage Program Ranking: None available.

Discussion: Brushy overgrown fields (Walsh et al. 1999). Common and widely distributed in New Jersey.

METHODOLOGY

Surveys were conducted during June 2004, in Wantage, Hardyston, Frankford, Vernon and Sparta Townships, in Sussex County, and Pohatcong Township in Warren County. During May, roads in the study areas were driven, sites with potentially suitable habitats for grassland birds were chosen, and routes for the June survey were marked on maps. Survey sites were spaced at a minimum of 0.2 miles apart, unless habitats present changed significantly in less than that distance.

Roadside site surveys were conducted from slightly before dawn to no later than 10 a.m., and only when there was no rain or excessive wind conditions (3 or over on the Beaufort Wind Scale). On arrival at the preselected survey sites, there was a two minute listening period, during which a global positioning system (GPS) was used to record the latitude and longitude of the site. A Garmin Etrex Vista was used to survey Wantage North and Vernon, and a Garmin Etrex Venture was used to survey Wantage South and Pohatcong. Following that, the songs of the grassland bird species that had not been heard during the listening period were played at high volume from a CD player attached to an amplifier/speaker. Songs were played for a period of thirty seconds, followed by a thirty-second listening period, followed by another thirty-second interval of recorded songs and another listening period; then on to the next species and a repeat of the sequence. The sequence of the seven species on the CD was Henslow's Sparrow, Savannah Sparrow, Vesper Sparrow, Grasshopper Sparrow, Sedge Wren, Upland Sandpiper, and Horned Lark. Results were recorded on preprinted survey forms, which had fields for the date, latitude and longitude, behavior, weather conditions, habitats present, and grassland species seen. Non-grassland bird species of note (generally endangered, threatened, or rare species) were also recorded on the form.

RESULTS

Wantage and Frankford Township South of Route 23

Surveyor: Scott Angus

Site Name: Wantage 01, Brink Road

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 16.440'/W74 74.39452'

Habitats Present: Fallow field, sedge/wet meadow, hay field, other: thin forested strip between the road and field.

Survey Species Present: Two Bobolinks singing, courtship flights.

Species of Concern Present: None.

Other Species Present: Field Sparrow.

Comments:

Site Name: Wantage 02

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 16.213'/W74 39.547'

Habitats Present: Plowed field, planted field, corn field, hay field.

Survey Species Present: One Grasshopper Sparrow, singing; Three Bobolink singing, courtship flight.

Species of Concern Present: American Kestrel, male perched on snag; two Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: Common Raven also present.

Site Name: Wantage 03, Brink Road

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 15.805'/W74 40.032'

Habitats Present: Plowed field, planted field, sedge/wet meadow, hay field.

Survey Species Present: One Grasshopper Sparrow singing; one Bobolink singing, courtship flight.

Species of Concern Present: Eastern Meadowlark singing.

Other Species Present: Golden-winged Warbler.

Comments: Golden-winged Warbler could be heard singing in the distance in a scrub/shrub wetland north of this point.

Site Name: Wantage 04, Snover Road

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 15.069'/W74 39.155'

Habitats Present: Hay field.

Survey Species Present: None

Species of Concern Present: American Kestrel Perched on bluebird box.

Other Species Present: None.

Comments:

Site Name: Wantage 05, Snover Road/Hickory Road

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 15.053'/W74.38792'

Habitats Present: fallow field, cow/sheep pasture, sedge/wet meadow, old field, other: late successional field/multiflora rose.

Survey Species Present: Two Bobolink.

Species of Concern Present: None.

Other Species Present: Yellow-breasted Chat, Field Sparrow.

Comments: White-eyed Vireo present, a very scarce bird in Sussex County.

Site Name: Wantage 06, Hickory Road/Libertyville Road

Date: 06/14/04

Township and County: Sussex, Wantage

Latitude/longitude: N41 14.821'/W74 38.909'

Habitats Present: Plowed field, corn field, fallow field, old field, other: gas line right-of-way.

Survey Species Present: One Grasshopper Sparrow singing; Two Vesper Sparrow singing; Three Bobolink singing, courtship flight.

Species of Concern Present: Three Eastern Meadowlark singing, flying.

Other Species Present: Field Sparrow.

Comments:

Site Name: Wantage 07

Date: 06/14/04

Township and County: Sussex, Wantage

Latitude/longitude: N41 14.634'/W74 39.182'

Habitats Present: Plowed field, corn field, cow pasture, hay field, other: Libertyville Marsh is on the north side of the road.

Survey Species Present: One Bobolink singing.

Species of Concern Present: One American Kestrel, perched on a snag.

Other Species Present: Field Sparrow.

Comments: In Libertyville Marsh on north side of the road four Pied-billed Grebes on nest, two American Coot, two Common Moorhen, Osprey, Sora, Common Snipe.

Site Name: Wantage 08, Route 519

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 14.989'/W74 39.861'

Habitats Present: Plowed field, planted field, cow/sheep pasture, sedge/wet meadow.

Survey Species Present: One Savannah Sparrow singing.

Species of Concern Present: None.

Other Species Present: None.

Comments:

Site Name: Wantage 09, Route 519

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 15.213'/W74 39.747'

Habitats Present: Plowed field, planted field, cow/sheep pasture, sedge/wet meadow.

Survey Species Present: One Savannah Sparrow singing.

Species of Concern Present: None.

Other Species Present: None.

Comments: Common Snipe present in previous years in the wet meadow.

Site Name: Wantage 10, Route 519

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 14.951'/W74 40.166'

Habitats Present: Fallow field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None.

Comments:

Site Name: Wantage 11

Date: 06/22/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 14.395'/W74 40.973'

Habitats Present: Fallow field, cow/sheep pasture, old field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None.

Comments: Above 4H Camp, Northern Goshawk flew thorough field and into stand of mature Norway spruce, white and red pines.

Site Name: Wantage 11A

Date: 06/22/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 14.346'/W74 40.880'

Habitats Present: Cow/sheep pasture, hay field, old field, other: bare ground in field.

Survey Species Present: One Upland Sandpiper scolded me as I exited the car. It did not respond to recorded calls, it did not feign or display, though it was not happy I was there; one Savannah Sparrow singing.

Species of Concern Present: American Kestrel.

Other Species Present: Yellow-breasted Chat, Field Sparrow.

Comments: Old 4H camp.

Site Name: Wantage 12, Rte 519

Date: 06/22/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 14.409'/W74 40.346'

Habitats Present: Fallow field, hay field, old field.

Survey Species Present: None.

Species of Concern Present: One American Kestrel perched on wire.

Other Species Present: Field Sparrow.

Comments: Habitat appears to be good for Savannah Sparrow on south side of Route 519, but none were calling.

Site Name: Wantage 13, Un-named road above Route 649

Date: 06/22/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 13835'/W74 40.614'

Habitats Present: Hay field, old field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None.

Comments: Habitat appeared suitable vegetation wise. Patch size may be too small to support grassland bird population.

Site Name: Wantage 14

Date: 06/22/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 14.101'/W74 41.209'

Habitats Present: fallow field, cow/sheep pasture, old field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None

Comments: An orchard is to the east, and a small field is adjacent to the south.

Site Name: Wantage 15, Degroat Road

Date: 06/22/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 13.569'/W74 40.707'

Habitats Present: Cow/sheep pasture, sedge/wet meadow.

Survey Species Present: One Bobolink singing, courtship flight.

Species of Concern Present: One Eastern Meadowlark, singing.

Other Species Present: Field Sparrow.

Comments: Looks suitable for Savannah Sparrow as well though none were observed.

Site Name: Wantage 16, south west of Degroat Road and Route 649 intersection.

Date: 06/22/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 13.353'/W74 40.969'

Habitats Present: Cow/sheep pasture, sedge/wet meadow, hay field.

Survey Species Present: Two Savannah Sparrows, singing; one Vesper Sparrow, singing; two Bobolinks, singing.

Species of Concern Present: One American Kestrel, perched on tree.

Other Species Present: Field Sparrow.

Comments: Mosaic of low moist-to-wet fields, small grassy uplands, cattail ditches, and mucky sheep and cow pasture.

Site Name: Wantage 17, to east of Space Farms Zoo

Date: 06/17/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 12.495'/W74 41.515'

Habitats Present: Plowed field, hay field.

Survey Species Present: One Grasshopper Sparrow singing; one Bobolink, singing.

Species of Concern Present: One Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: This medium sized field was more productive then expected. I am not sure why.

Site Name: Wantage 18, Route 629 south of Beemerville

Date: 06/17/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 10.787'/W74 42.126'

Habitats Present: Fallow field, hay field.

Survey Species Present: None.

Species of Concern Present: One Eastern Meadowlark singing.

Other Species Present: None.

Comments: The patch size of this field may be too small. I expected that adjacent marshes might make grassland patch size appear larger. This theory was not supported by the data.

Site Name: Wantage 19

Date: 06/17/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 11.047'/W74 42.258'

Habitats Present: Cow/sheep pasture, hay field.

Survey Species Present: One Grasshopper Sparrow singing.

Species of Concern Present: None.

Other Species Present: None.

Comments: Site appears too small to support breeding Grasshopper Sparrow population. The single singing bird was unexpected. Future visits should be made to confirm the sparrow utilizes this field annually.

Site Name: Wantage 20, Route 629

Date: 06/17/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 10.787'/W74 42.126'

Habitats Present: Corn field, cow/sheep pasture, sedge/wet meadow, hay field.

Survey Species Present: Two Grasshopper Sparrows singing; three Bobolink singing.

Species of Concern Present: One Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: Large field complex on both sides of the road.

Site Name: Wantage 21

Date: 06/17/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 10.656'/W74 42.074'

Habitats Present: corn field, cow/sheep pasture, sedge/wet meadow, hay field

Survey Species Present: One Sedge Wren singing, territorially defending; one Savannah Sparrow singing; two Bobolinks singing, courtship.

Species of Concern Present: One Eastern Meadowlark singing, flying.

Other Species Present: None

Comments: Sedge Wren was calling before recording was played. The bird was utilizing a small wet meadow within a large field complex. The bird was so close it flew out onto a roadside wire fence when recorded call was played.

Site Name: Wantage 22, Meyer Road

Date: 06/17/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 09.937'/W74 41.354'

Habitats Present: Corn field, fallow field, cow/sheep pasture, hay field, old field, other: multiflora rose thicket.

Survey Species Present: One Bobolink singing.

Species of Concern Present: Eastern Meadowlark singing.

Other Species Present: Yellow-breasted Chat, Field Sparrow.

Comments: Might still be Route 629. Multiflora rose thicket is on the west side, field situations on the east.

Site Name: Wantage 23, near intersection of Meyer Road and Plains Road

Date: 06/24/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 09.745'/W74 41.203'

Habitats Present: Fallow field, cow/sheep pasture, sedge/wet meadow.

Survey Species Present: One Savannah Sparrow singing; one Bobolink singing.

Species of Concern Present: American Kestrel perched on wire fence; Eastern Meadowlark calling.

Other Species Present: Field Sparrow.

Comments: A lot of bare ground due to overgrazing by cows. Some mucky areas within the cow pasture.

Site Name: Wantage 24, Plains Road

Date: 06/24/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 09.280'/W74 41.845

Habitats Present: Fallow field, cow/sheep pasture, hay field, old field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Field Sparrow.

Comments: Probably too small of a patch size to support grassland birds. It is possible that grassland birds might favor the larger fields in the distance and not need to utilize this smaller field. I was not granted permission to access the distant fields so I surveyed the smaller roadside one.

Site Name: Wantage 25

Date: 06/24/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 09.000'/W74 42.035'

Habitats Present: Fallow field, cow/sheep pasture, sedge/wet meadow, other: managed wetland for Bog Turtle.

Survey Species Present: One Savannah Sparrow singing.

Species of Concern Present: One Eastern Meadowlark singing in distance.

Other Species Present: Field Sparrow.

Comments: The wetland/wet meadow is being managed by Jason Tesauro (formerly of NJDEP) for bog turtle. Currently the vegetation is reed canary grass (*Phalaris arundinacea*), purple loosestrife (*Lythrum salicaria*), and broad-leaved cattail (*Typha latifolia*). The Savannah Sparrow was singing from a fencepost beyond the reed canary grass, where native sedges and grasses have been restored. Additional visits should be performed to monitor the site to determine whether the management for the turtles benefits the sparrow.

Site Name: Wantage 26, Plains Hill Road near George Hill Road

Date: 06/24/04

Township and County: Frankford, Sussex.

Latitude/longitude: N41 08.581'/W74 42.487'

Habitats Present: Fallow field, hay field, old field, other: housing development, large lawns.

Survey Species Present: One Grasshopper Sparrow singing.

Species of Concern Present: None.

Other Species Present: None.

Comments: A large development where a field used to be. Still some open habitats.

Site Name: Wantage 27

Date: 06/24/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 08.305'/W74 42.752'

Habitats Present: Late successional field.

Survey Species Present: None.

Species of Concern Present: One American Kestrel perched on wire.

Other Species Present: Field Sparrow.

Comments: Mostly unsuitable habitat for grassland species. I only stopped due to the kestrel on the wire.

Site Name: Wantage 28, Plains Road near township lines of Frankford and Hampton

Date: 06/24/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 07.763'/W74 43.662

Habitats Present: Corn field.

Survey Species Present: None.

Species of Concern Present: None

Other Species Present: None

Comments: Grassland birds were not expected in the monoculture of corn. This theory was supported by the field data.

Site Name: Wantage 29

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 10.216'/W74 36.424'

Habitats Present: Fallow field, cow/sheep pasture, hay field, mowed field.

Survey Species Present: One Grasshopper Sparrow singing; one Savannah Sparrow singing.

Species of Concern Present: One American Kestrel perched on tree; one Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: Appears to be the Garrett property? This open habitat is being mowed and vegetation is very short. Potential for development is high.

Site Name: Wantage 30

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 10.479'/W74 35.522'

Habitats Present: Cow/sheep pasture, sedge/wet meadow, other: floodplain of the Beaver Run.

Survey Species Present: None

Species of Concern Present: One American Kestrel perched on large hickory in field.

Other Species Present: None.

Comments: The Beaver Run flows through this habitat.

Site Name: Wantage 31, Plumbstock

Date: 06/22/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 13.212'/W:74 40.136'

Habitats Present: Cow/sheep pasture, sedge/wet meadow, other: farm pond.

Survey Species Present: One Sedge Wren singing 8/26/04; two Grasshopper Sparrows singing; one Vesper Sparrow singing; one Bobolink singing.

Species of Concern Present: One Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: Sedge Wren was not found in the June survey. It was discovered August 28, 2004.

Site Name: Wantage 32

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 10.479'/W74 35.234'

Habitats Present: Fallow field, cow/sheep pasture, sedge/wet meadow, other: floodplain of Wallkill River.

Survey Species Present: Male Northern Harrier, flying low over open areas and apparently hunting.

Species of Concern Present: None.

Other Species Present: None.

Comments: This was an incidental sighting during the survey period. The bird continued to fly low and north until it flew out of site. Northern Harrier has been observed numerous times during all seasons in this general location since the early 1980s.

Site Name: Wantage 33, George Hill Road south

Date: 06/24/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 09.258'/W74 43.154'

Habitats Present: Cow/sheep pasture, sedge/wet meadow, hay field, other: near bog turtle habitat.

Survey Species Present: Two singing Grasshopper Sparrows; one singing Savannah Sparrow; two singing Vesper Sparrows; three singing Bobolinks.

Species of Concern Present: American Kestrel, perched; two Eastern Meadowlarks singing, flying.

Other Species Present: Field Sparrow.

Comments: These uplands surrounding Bog Turtle habitats will be developed beyond 300 feet from the wetland boundary. Some construction has already taken place.

Site Name: Wantage 34, George Hill Road north

Date: 06/24/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 09.397'/W74 43.21'

Habitats Present: Fallow field, cow/sheep pasture, sedge/wet meadow, hay field, other: bog turtle habitat.

Survey Species Present: Two Grasshopper Sparrows singing; one Vesper Sparrow singing; one Bobolink singing.

Species of Concern Present: One Eastern Meadowlark singing.

Other Species Present: None.

Comments: The uplands surrounding Bog Turtle Habitat will be developed 300 feet from the wetland boundary.

Site Name: Augusta 01

Date: 06/24/04

Township and County: Frankford, Sussex

Latitude/longitude: N41 07.602'/W74 43.826'

Habitats Present: Fallow field, mowed field, large lawn.

Survey Species Present: One Grasshopper Sparrow singing.

Species of Concern Present: American Kestrel, seen in distance not on site.

Other Species Present: Field Sparrow.

Comments: Large lawn which is not mowed beyond "postage stamp" yard.

Site Name: Augusta 02, Augusta Hill Road, Route 519

Date: 06/24/04

Township and County: Frankford, Sussex

Latitude/longitudes: N41 07.212°/W74 41.31

Habitats Present: Fallow field, cow/sheep pasture, orchard on east side of road.

Survey Species Present: None.

Species of Concern Present: Eastern Meadowlark singing

Other Species Present: None.

Comments: The patch size of this field is most likely too small to accommodate a population of grassland birds. The cumulative size of the multiple fields in the area may explain the presence of the meadowlark.

Site Name: Augusta 03, Augusta Hill Road

Date: 06/24/04

Township and County: Hampton, Sussex

Latitude/longitude: N41 06.897°/W74 44.393°

Habitats Present: Fallow field, horse farm, hay field.

Survey Species Present: None.

Species of Concern Present: Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: This open area is in the same cumulative, multiple field complex as mentioned in site "Augusta 02." The fields are broken up by thin tree rows.

Site Name: Augusta 04, Augusta Hill Road, Route 519

Date: 06/24/04

Township and County: Hampton, Sussex

Latitude/longitude: N41 06.662°/W74 44.492°

Habitats Present: Fallow field, cow/sheep pasture, east side is a Christmas tree farm.

Survey Species Present: One Grasshopper Sparrow singing.

Species of Concern Present: None

Other Species Present: None.

Comments: If the Christmas tree farm were to plant both sides of the road (it looks like they own both sides) there would not be a grasshopper sparrow at this stop. Most likely this point would not have been picked as a survey point as well.

Wantage Township North of Route 23
Surveyor: Rick Radis

Site Name: Wantage 35, Unionville Road

Date: 05/03/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 15.823'/W74 37.762'

Habitats Present: Fallow field, cow/sheep pasture.

Survey Species Present: Two Grasshopper Sparrows singing.

Species of Concern Present: One female American Kestrel perched in distance; one Eastern Meadowlark singing, flying.

Other Species Present: Two Field Sparrows.

Comments:

Site Name: Wantage 36, Unionville Road

Date: 06/03/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 16.169'/W74 37.680

Habitats Present: Cow/sheep pasture, mucky areas.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None.

Comments:

Site Name: Wantage 37, Unionville Road

Date: 06/03/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 16.997'/W74 36.666'

Habitats Present: Hay field, mowed field.

Survey Species Present: Two Grasshopper Sparrows singing; one Savannah Sparrow responded to recording; Four Bobolinks perched, flying, responded to recording.

Species of Concern Present: One male American Kestrel perched; two Eastern Meadowlarks singing, flying.

Other Species Present: One singing Field Sparrow; one very late American Pipit on roadside; one Common Raven overhead.

Comments: American Pipit breeds far to the north of New Jersey; they are uncommon spring migrants, which have usually passed through the state by early- to mid-May.

Site Name: Wantage 38, Unionville Road

Date: 06/03/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 17.071'/W74 36.551'

Habitats Present: Prior year's corn field, fallow field, cow/sheep pasture, mowed field, sedge/wet meadow.

Survey Species Present: One Grasshopper Sparrow perched; one Vesper Sparrow flying.

Species of Concern Present: One Male American Kestrel perched; two Eastern Meadowlarks singing.

Other Species Present: One Field Sparrow singing.

Comments:

Site Name: Wantage 39, Unionville Road

Date: 06/08/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 17.800'/W74 35.700'

Habitats Present: Hay field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None

Comments:

Site Name: Wantage 40, Quarry Road

Date: 06/08/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 17.823'/W74 34.478

Habitats Present: Hay field.

Survey Species Present: Savannah Sparrow singing; Five male Bobolinks singing and in flight.

Species of Concern Present: Male and female American Kestrels perched and flying.

Other Species Present: Field Sparrow.

Comments:

Site Name: Wantage 41, Kelly Road

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 14.616'/W74 32.718'

Habitats Present: Sedge/wet meadow, fallow field, old field.

Survey Species Present: Savannah Sparrow singing.

Species of Concern Present: Male and female American Kestrel using nest box along road.

Other Species Present: One Field Sparrow singing; one Yellow-breasted Chat singing in thicket near railroad bed.

Comments: Sedge Wren has been found at this site, most recently in 2001. An adult bird was observed carrying a caterpillar, however, there was no confirmation of breeding.

Site Name: Wantage 42, Bassett's Bridge Road and Lake Wallkill Road.

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 15.290'/W74 32.553'

Habitats Present: Old field, late successional area.

Survey Species Present: Grasshopper Sparrow responded to recording.

Species of Concern Present: None.

Other Species Present: None.

Comments: Did not appear to be very suitable habitat for Grasshopper Sparrow: shrubs and vines were present.

Site Name: Wantage 43, Owens Station Road

Date: 06/14/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 15.818'/W74 32.218'

Habitats Present: Plowed field, sedge/wet meadow, old field, areas of bare soil.

Survey Species Present: None.

Species of Concern Present: One singing Horned Lark, another flying overhead; Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: Mostly property of Glacial Soil Laboratories and Wallkill National Wildlife Refuge.

Site Name: Wantage 44, Bassetts Bridge Parking Area

Date: 06/21/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 15.559'/W74 33.060

Habitats Present: Sedge/wet meadow, old field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Field Sparrow singing.

Comments:

Site Name: Wantage 45, Sally Hardin Road
Date: 06/21/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 15.703'/74 35.740
Habitats Present: Corn field, fallow field, sedge/wet meadow.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: None.
Comments:

Site Name: Wantage 46, Rose Morrow Road
Date: 06/21/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 15.531'/W74 36.564'
Habitats Present: Fallow field, Cow/sheep pasture, sedge/wet meadow, hay field.
Survey Species Present: One Savannah Sparrow singing; one Vesper Sparrow singing; two-three male Bobolinks singing and flying.
Species of Concern Present: Two Eastern Meadowlarks flying; one Red-headed Woodpecker flyover.
Other Species Present: None .
Comments:

Site Name: Wantage 47, Central School Road
Date: 06/24/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 15.512'/W74 36.894'
Habitats Present: Fallow field, hay field, mowed field, residential.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: None.
Comments:

Site Name: Wantage 48, Central School Road
Date: 06/24/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 14.781'/W74 37.032
Habitats Present: Corn field, cow/sheep pasture, old field.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: None.
Comments:

Site Name: Wantage 49, Sally Hardin Road

Date: 06/24/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 16.653'/W74 35.984'

Habitats Present: Planted field, fallow field, cow/sheep pasture.

Survey Species Present: Adult male Northern Harrier hunting; one Grasshopper Sparrow responded to recording; one Vesper Sparrow singing; two male Bobolinks flying.

Species of Concern Present: One perched male American Kestrel; one Eastern Meadowlark flying and singing.

Other Species Present: Field Sparrow.

Comments: Returned to site early in the morning on several dates in late June and early July, but no harriers were present.

Site Name: Wantage 50, Wolfpit Road

Date: 06/24/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 16.900'/W74 36.523'

Habitats Present: Corn field, fallow field, hay field, mowed field.

Survey Species Present: Adult male Northern Harrier hunting; two-three male Bobolinks calling and flying.

Species of Concern Present: 2 Eastern Meadowlarks calling, flying.

Other Species Present: None.

Comments: Site had 2-3 Savannah Sparrows in May prior to mowing of hay field to the north. Northern Harrier is probably the same bird seen at Site 49 earlier in the morning and not very far away. Bird not relocated on subsequent visits.

Site Name: Wantage 51, Sally Hardin Road

Date: 06/26/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 16.288'/W74 35.899'

Habitats Present: None.

Survey Species Present: None.

Species of Concern Present:

Other Species Present: None.

Comments:

Site Name: Wantage 52, Beemer Road
Date: 06/26/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 16.207/W73 36.571
Habitats Present: Corn field, fallow field, cow/sheep pasture, sedge/wet meadow, old field.
Survey Species Present: Singing Vesper Sparrow.
Species of Concern Present: None
Other Species Present: Field Sparrow.
Comments:

Site Name: Wantage 53, Quarry Road
Date: 06/24/04
Township and County: Wantage, Sussex
Latitude/longitude: W41 16.811'/W74 35.118
Habitats Present: Fallow field, hay field
Survey Species Present: 2 male Bobolinks flying.
Species of Concern Present: Eastern Meadowlark.
Other Species Present: None.
Comments:

Site Name: Wantage 54, Quarry Road
Date: 06/19/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 17.655'/W74 34.599
Habitats Present: Corn field, sedge/wet meadow.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: None.
Comments:

Site Name: Wantage 55, Wolfpit Road
Date: 06/19/04
Township and County: Wantage, Sussex
Latitude/longitude: N42 17.012'/W74 35.987'
Habitats Present: Corn field, hay field, old field.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: Field Sparrow.
Comments:

Site Name: Wantage 56, Wolfpit Road

Date: 06/19/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 16.817'/W74 36.181'

Habitats Present: Corn Field, fallow field, mowed field.

Survey Species Present: Savannah Sparrow perched; 1 singing male Bobolink.

Species of Concern Present: female American Kestrel flying.

Other Species Present: None.

Comments:

Site Name: Wantage 57, Rose Morrow Road

Date: 06/05/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 15.539'/W74 35.083'

Habitats Present: Fallow Field, hay field, mowed lawn.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None

Comments: Bobolinks present in 1999.

Site Name: Wantage 58, Lower Unionville Road
Date: 06/05/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 14.626'/W74 34.364'
Habitats Present: Planted field, old field.
Survey Species Present: One Grasshopper Sparrow singing.
Species of Concern Present: None
Other Species Present: None.
Comments:

Site Name: Wantage 59, Lower Unionville Road
Date: 06/11/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 12.814'/W74 35.151'
Habitats Present: Planted field, corn field, old field.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: None
Comments:

Site Name: Wantage 60, Wallkill NWR headquarters
Date: 06/11/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 12.045'/W74 33.902'
Habitats Present: Fallow field, wooded edges and fencerows.
Survey Species Present: Two male Bobolinks flying.
Species of Concern Present: None.
Other Species Present: Field Sparrow.
Comments:

Site Name: Wantage 61, Lake Wallkill Road
Date: 06/11/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 14.278'/W74 32.626'
Habitats Present: Fallow field, sedge/wet meadow, hay field.
Survey Species Present: Grasshopper Sparrow singing; five Bobolinks flying and perched well to the west of the road.
Species of Concern Present: American Kestrel perched.
Other Species Present: None.
Comments:

Site Name: Wallkill 62, Lower Unionville Road
Date: 06/05/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 12.418'/W74 35.555'
Habitats Present: Cow/sheep pasture, sedge/wet meadow, old field.
Survey Species Present: Two Bobolinks, flying and calling.
Species of Concern Present: Eastern Meadowlark singing.
Other Species Present: None.
Comments:

Site Name: Wantage 63, Route 94
Date: 06/28/04
Township and County: Hardyston, Sussex
Latitude/longitude: N41 09.569'/W74 34.147
Habitats Present: Corn field, sedge/wet meadow, hay field, old field.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: Field Sparrow.
Comments:

Site Name: Wantage 64, Route 94
Date: 06/28/04
Township and County: Hardyston, Sussex
Latitude/longitude: N41 09.097'/W74 35.250'
Habitats Present: Old field.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: Field Sparrow.
Comments: Grasshopper Sparrow here in 2001.

Site Name: Wantage 65, Route 94 and North Church Road
Date: 06/28/04
Township and County: Hardyston, Sussex
Latitude/longitude: N41 07.954'/W74 36.590'
Habitats Present: cow/sheep pasture, horse farm, mowed field.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: None
Comments:

Site Name: Wantage 66, Monroe Road east of Route 94
Date: 06/28/04
Township and County: Sparta, Sussex
Latitude/longitude: N41 06.745'/W74 37.755'
Habitats Present: Cow/sheep pasture, corn field, old field
Survey Species Present: None.
Species of Concern Present: Eastern Meadowlark singing.
Other Species Present: Field Sparrow.
Comments: Grasshopper Sparrow here in 2001.

Site Name: Wantage 67, on west side of Route 94 across from Sussex Tech
Date: 06/28/04
Township and County: Sparta, Sussex
Latitude/longitude: N41 05.806'/W74 39.194'
Habitats Present: Old field.
Survey Species Present: None.
Species of Concern Present: None
Other Species Present: None.
Comments: Grasshopper Sparrow present in 1999.

Site Name: Wantage 68, Beemer Road South
Date: 06/29/04
Township and County: Wantage, Sussex,
Latitude/longitude: N41 16.038'/W74 36.763
Habitats Present: Fallow field, sedge/wet meadow, hay field, old field.
Survey Species Present: None
Species of Concern Present: None
Other Species Present: Two Field Sparrows.
Comments:

Site Name: Wantage 69, Wantage School Road
Date: 06/29/04
Township and County: Wantage, Sussex
Latitude/longitude: N41 14.150'/W74 36.678'
Habitats Present: Hay field, old field, residential, pond.
Survey Species Present: One Grasshopper Sparrow singing; one Bobolink flying.
Species of Concern Present: One Eastern Meadowlark singing.
Other Species Present: Two Field Sparrows.
Comments:

Site Name: Wantage 70, Wantage School Road

Date: 06/29/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 14.675'/W74 36.093'

Habitats Present: Planted field, fallow field, cow/sheep pasture, sedge/wet meadow, old field, residential.

Survey Species Present: One Savannah Sparrow perched; two Bobolinks flying, singing.

Species of Concern Present: One Eastern Meadowlark singing.

Other Species Present: None.

Comments:

Site Name: Wantage 71, Layton Road

Date: 06/29/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 13.838'/W74 36.127

Habitats Present: Sedge/wet meadow, old field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None.

Comments:

Site Name: Wantage 72, Ryan Road

Date: 06/29/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 13.580'/W74 36.858'

Habitats Present: Cow/sheep pasture, hay field, old field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Field Sparrow.

Comments:

Site Name: Wantage 73, Mount Salem Road

Date: 06/29/04

Township and County: Wantage, Sussex

Latitude/longitude: N41 18.986'/W74 38.421'

Habitats Present: Sedge/wet meadow

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None.

Comments:

Vernon Township
Surveyor: Rick Radis

Site Name: Vernon 1, west end of Maple Grange Road

Date: 06/04/04, 06/13/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 13.308'/W74 28.922'

Habitats Present: Old field, sedge/wet meadow, bare ground, cattail marsh.

Survey Species Present: One Grasshopper Sparrow singing; two Savannah Sparrows responded to recording; three Bobolinks singing and flying.

Species of Concern Present: One male American Kestrel perched along road; two Eastern Meadowlarks singing.

Other Species Present: Two Field Sparrows.

Comments: Serious negative impacts south of road from ATV traffic. Could not obtain permission to enter site. Two calling Virginia in cattail marsh, and one Sora.

Site Name: Vernon 2, large fallow field immediately to northeast of Maple Grange Road and east of Route 94. Posted by Double "V" Road and Gun Club.

Date: 06/04/04, 06/13/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 12.719'/W74 27.597'

Habitats Present: Hay field, fallow field.

Survey Species Present: One Upland Sandpiper calling; One Savannah Sparrow singing, perched; two to three Bobolinks singing, flying.

Species of Concern Present: One Eastern Meadowlark flying.

Other Species Present: One field Sparrow singing.

Comments: A male and female American Kestrel were present during a pre-survey site visit in late May, but could not be relocated in June.

Site Name: Vernon 3, fields to south of Appalachian Trail, east of Route 94 and AT parking lot.

Date: 06/04/04, 06/13/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 13.111'/W74 27.253'

Habitats Present: Fallow field, old field, late successional area along trail.

Survey Species Present: Two Grasshopper Sparrows perched in distance; two Bobolinks flying.

Species of Concern Present: One Eastern Meadowlark calling.

Other Species Present: One field Sparrow singing.

Comments: Two Common Ravens overhead.

Site Name: Vernon 4, Prices Switch Road just west of Canal Road

Date: 06/13/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 14.076'/W74 27.601

Habitats Present: cow/sheep pasture, sedge/wet meadow, hay field, old field, pond, fencerow trees.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Field Sparrow.

Comments:

Site Name: Vernon 5, west end of DeKay Road

Date: 06/09/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 13.967'/W74 26.701

Habitats Present: Cow/sheep pasture, sedge wet meadow, late successional areas.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Field Sparrow.

Comments:

Site Name: Vernon 6, east end of Prices Switch Road and Route 94

Date: 06/09/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 13.255'/W74 27.312'

Habitats Present: Cow/sheep pasture, sedge wet meadow, old field

Survey Species Present: None.

Species of Concern Present: One Eastern Meadowlark.

Other Species Present: Field Sparrow, Common Raven.

Comments: Across street from Heaven Hill Farm.

Site Name: Vernon 7, Prices Switch Road at railroad crossing.

Date: 06/09/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 13.418'/W74 27.285'

Habitats Present: Old field, late successional, railroad bed, creek.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Field Sparrow, Yellow-breasted Chat.

Comments: Along Wawayanda Creek.

Site Name: Vernon 8, fields to west of Route 94.
Date: 06/09/04
Township and County: Vernon, Sussex
Latitude/longitude: N41 12.865'/W74 27.470 (taken from east side of 94).
Habitats Present: Fallow field, sedge/wet meadow, hay field, mowed field.
Survey Species Present: Savannah Sparrow perched; Bobolink flying.
Species of Concern Present: Eastern Meadowlark.
Other Species Present: Field Sparrow, Common Raven.
Comments: Permission to access denied.

Site Name: Vernon 9, DeKay Road
Date: 06/13/04
Township and County: Vernon, Sussex
Latitude/longitude: N41 13.804'/W74 26.509'
Habitats Present: Horse farm, hay field, hedgerows with trees, late successional.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: Field Sparrow.
Comments:

Site Name: Vernon 10, south of Sand Hill Road and west of Route 94
Date: 06/20/04
Township and County: Vernon, Sussex
Latitude/longitude: N41 11.587'/W74 30.730', taken from southern end of large parking lot.
Habitats Present: Corn field, fallow field, cow/sheep pasture, old field.
Survey Species Present: Bobolink perched.
Species of Concern Present: None.
Other Species Present: Field Sparrow.
Comments: Permission to access denied. Bobolink observed with spotting scope.

Site Name: Vernon 11, near eastern end of DeKay Road.
Date: 06/10/04
Township and County: Vernon, Sussex
Latitude/longitude: N41 13.698'/W74 26.204
Habitats Present: Fallow field, horse farm, sedge/wet meadow, old field.
Survey Species Present: None.
Species of Concern Present: None.
Other Species Present: Field Sparrow.
Comments:

Site Name: Vernon 12, Bobolink Dairy, Price's Switch Road, just south of the New York border.

Date: 06/10/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 14.112'/W74 26.608'

Habitats Present: Corn field, fallow field, cow/sheep pasture, sedge/wet meadow, hedgerows along fences, late successional.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Yellow-breasted Chat, Field Sparrow.

Comments:

Site Name: Vernon 13, Pochuck Farms, Route 517

Date: 06/10/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 14.963'/W74 28.660'

Habitats Present: Fallow field, sedge/wet meadow, hay field, old field

Survey Species Present: One Savannah Sparrow singing, one Bobolink, singing.

Species of Concern Present: Eastern Meadowlark flying.

Other Species Present: Field Sparrow.

Comments:

Site Name: Vernon 14, Maple Grange Road west of Route 94

Date: 06/20/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 12.910'/W74 27.811'

Habitats Present: Corn field, old field, late successional, cattail marsh.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None.

Comments: Had grassland species in the 1990s, now probably too overgrown.

Site Name: Vernon 15, Canal Road south of Wawayanda Creek

Date: 06/20/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 13.603'/W74 28.141

Habitats Present: Fallow field, cow/sheep pasture, sedge/wet meadow

Survey Species Present: One Vesper Sparrow singing.

Species of Concern Present: None.

Other Species Present: Two Field Sparrows.

Comments:

Site Name: Vernon 16, Canal Road north of Wawayanda Creek

Date: 06/10/04

Township and County: Vernon, Sussex

Latitude/longitude: N41 13.899'/W72 27.727'

Habitats Present: Old field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Two Field Sparrows

Comments: Site had Bobolink and Savannah Sparrow in 1997. Site now has too much woody vegetation to be suitable habitat.

Pohatcong

Surveyor: Scott Angus

Site Name: Pohatcong 01

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 40.0345'/W75 10.337'

Habitats Present: Corn field, mowed field, other: athletic field, residential construction.

Survey Species Present: One Grasshopper Sparrow singing.

Species of Concern Present: None.

Other Species Present: None.

Comments: Point on Pohatcong/Phillipsburg line. Residential development adjacent to the sparrow. More surveyors' stakes are in the field where the sparrow was singing.

Site Name: Pohatcong 02

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 39.941'/W75 10.319

Habitats Present: Corn field, fallow field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None.

Comments: Near Alpha Borough line. Habitat looks good, there is no reason why grassland birds are not present.

Site Name: Pohatcong 03

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 39.685'/W75 11.030'

Habitats Present: Corn field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Field Sparrow.

Comments: Field Sparrow was calling in the distance, several hundred yards away.

Site Name: Pohatcong 04

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 39.426'/W75 11.203'

Habitats Present: Planted field, cornfield, other: strawberries on the north side of the road, wheat and corn on the south.

Survey Species Present: Vesper Sparrow singing, flying from field to field.

Species of Concern Present: None.

Other Species Present: None.

Comments: Vesper Sparrow was singing in the corn, wheat, and strawberries.

Site Name: Pohatcong 05

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 39.305'/W75 11.338'

Habitats Present: Planted field (wheat), corn field, hay field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: None.

Comments: No strawberries here, in its place was hay and fallow fields.

Site Name: Pohatcong 06

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.247'/W75 11.172'

Habitats Present: Planted field (strawberries), fallow field.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Field Sparrow.

Comments: The Field Sparrow was in the fallow field.

Site Name: Pohatcong 07

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.470'/W75 10.773'

Habitats Present: Planted field (soy), cow/sheep pasture.

Survey Species Present: None.

Species of Concern Present: None.

Other Species Present: Field Sparrow, Blue-winged Warbler.

Comments: An unidentified "reedy" call came from a large tree at edge of site.

Site Name: Pohatcong 08

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.525'/W75 10.522'

Habitats Present: Planted field (strawberries), cow/sheep pasture.

Survey Species Present: One Grasshopper Sparrow singing; one Savannah Sparrow singing; one Vesper Sparrow singing.

Species of Concern Present: Two Eastern Meadowlarks singing.

Other Species Present: Field Sparrow.

Comments: All birds singing from fence posts or vegetation two-four feet high in the cow pasture.

Site Name: Pohatcong 09, Snyder Road north of the intersection with Oberly Road

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.649'/W75 10.240'

Habitats Present: Planted field (strawberries, wheat, and barley), residential lawn.

Survey Species Present: Two Grasshopper Sparrows singing; one Savannah Sparrow singing.

Species of Concern Present: None.

Other Species Present: Field Sparrow.

Comments: One of the Grasshopper Sparrows was singing atop a "Lil' Tykes" slide in the yard of the residence.

Site Name: Pohatcong 10

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.755'/W75 10.092'

Habitats Present: Planted field (wheat, barley, and strawberries), corn field.

Survey Species Present: Two Savannah Sparrows singing.

Species of Concern Present: Two Eastern Meadowlarks singing.

Other Species Present: None.

Comments: Birds using all field types except the corn.

Site Name: Pohatcong 11, Intersection of Snyder and Winters Roads

Date: 06/19/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.911'/W75 09.919'

Habitats Present: Planted field (wheat, barley, and strawberries), corn field, a single family residence.

Survey Species Present: Two Savannah Sparrows singing; one Vesper Sparrow singing.

Species of Concern Present: Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: Really nice habitat for the target species. A little surprised that there were not more individuals and species present.

Site Name: Pohatcong 12

Date: 6/24/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 39.745'/W75 11.010'

Habitats Present: Planted field (wheat and strawberries), corn field, cow/sheep pasture, farm buildings.

Survey Species Present: Two Vesper Sparrow singing; one Savannah Sparrow singing and one Grasshopper sparrow singing.

Species of Concern Present: Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: Some of the best and extensive habitat surveyed, and it shows by the species present at this site.

Site Name: Pohatcong 13

Date: 6/24/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.593'/W75 10.329'

Habitats Present: Planted field (strawberries), corn field, cow/sheep pasture.

Survey Species Present: Two Savannah Sparrows singing; one Vesper Sparrow singing; two Bobolinks singing, one Grasshopper Sparrow singing.

Species of Concern Present: Eastern Meadowlark singing.

Other Species Present: None.

Comments: This was the only site in the Pohatcong Grasslands that supported any bobolinks. There is plenty of habitat throughout the Pohatcong Grasslands suitable for Bobolink though they are either not present or were missed during the survey period. This survey point is at the intersection of the farm road and Oberly Road.

Site Name: Pohatcong 14

Date: 6/24/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 39.117'/W75 10.341'

Habitats Present: Planted field (wheat), corn field, cow/sheep pasture.

Survey Species Present: One Savannah Sparrows singing; one Grasshopper Sparrow singing.

Species of Concern Present: Eastern Meadowlark singing.

Other Species Present: None.

Comments: Excellent habitat for targeted species. Vast patch size. Very surprising, poor species diversity and numbers. Oberly Road.

Site Name: Pohatcong 15

Date: 6/24/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.911'/W75 09.919'

Habitats Present: Planted field (wheat, barley, and strawberries), cow/sheep pasture.

Survey Species Present: One Grasshopper Sparrow singing; one Vesper Sparrow singing.

Species of Concern Present: None.

Other Species Present: None.

Comments: Excellent habitat for targeted species. Large patch size. Still poor species diversity and numbers. Oberly Road.

Site Name: Pohatcong 16

Date: 6/24/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 37.580'/W75 10.539'

Habitats Present: corn field, cow/sheep pasture.

Survey Species Present: One Grasshopper Sparrow singing.

Species of Concern Present: None.

Other Species Present: Field Sparrow.

Comments: Another excellent appearing habitat yet poor species numbers. The field sparrow was singing in the distance approximately 500 yards away.

Site Name: Pohatcong 17

Date: 6/24/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.911'/W75 09.919'

Habitats Present: Planted field (strawberries), corn field, a single family residence in the distance.

Survey Species Present: One Vesper Sparrow singing.

Species of Concern Present: Eastern Meadowlark singing.

Other Species Present: None.

Comments: Winters Road.

Site Name: Pohatcong 18

Date: 6/24/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.911'/W75 09.919'

Habitats Present: corn field, hay field.

Survey Species Present: None.

Species of Concern Present: Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: Winters Road

Site Name: Pohatcong 19

Date: 6/24/04

Township and County: Pohatcong, Warren

Latitude/longitude: N40 38.911'/W75 09.919'

Habitats Present: corn field, hay field.

Survey Species Present: One Grasshopper Sparrow singing.

Species of Concern Present: Eastern Meadowlark singing.

Other Species Present: Field Sparrow.

Comments: Springtown Road

DISCUSSION

The table below summarizes the results of the grassland bird surveys of Wantage South, Wantage North, Vernon, and Pohatcong.

SPECIES	WANTAGE SOUTH	WANTAGE NORTH	VERNON	POHATCONG
Northern Harrier	0	2	0	0
Upland Sandpiper	1	0	1	0
Short-eared Owl	0	0	0	0
Sedge Wren	2	0	0	0
Grasshopper Sparrow	18	12	3	10
Savannah Sparrow	9	5	5	10
Vesper Sparrow	7	4	1	9
Henslow's Sparrow	0	0	0	0
Bobolink	27	32	11	2
American Kestrel	11	10	1*	0
Red-headed Woodpecker	0	1	0	0
Horned Lark	0	2	0	0
Eastern Meadowlark	21	17	6	10
Northern Bobwhite	0	0	0	0
Golden-winged Warbler	1	0	0	0
Yellow-breasted Chat	3	1	2	0
Field Sparrow	19	21	15	8

* A pair of American Kestrels was seen at Site 2 in Vernon in late May, but could not be relocated during the June survey.

A difficulty in surveys conducted at Wantage South, Wantage North, and Vernon was that virtually no private landowners consented to allow surveyors on their properties, even though many were asked in advance, and consequently virtually all the surveys had to be conducted along public roadsides. In many cases this was not a problem, as study sites were usually located on secondary roads with little traffic and noise. But suitable habitat seen from a distance in the interior of large sites, from which most bird song could not be heard from roadsides, usually went un-surveyed by ear, with a result that some species were probably under-counted. Some sightings, largely of Bobolinks and Eastern Meadowlarks, which are easily identified at a distance, were made with the use of a spotting scope or ten-power binoculars.

The playing of recordings of the grassland birds' songs from a CD player and amplifier proved surprisingly of little help during the surveys. Both surveyors noted that grassland birds that were on a particular site were usually seen or heard during the first few minutes of the initial listening period. Playing the songs of the species not noted during the initial listening period usually elicited no response, with only some exceptions.

Vernon

Road noise was a particular problem in Vernon. There has been considerable construction of new homes and commercial properties in the township since the mid-1980s, with a concomitant loss of grassland habitat. Most of the new residents apparently work at jobs located at some distance from Vernon, as traffic noise picks up before dawn, and is quite loud shortly after daybreak during the week, particularly along Maple Grange Road and Route 94, where the best remaining grassland habitats are located. Some sites had to be re-surveyed early on Saturday or Sunday. Another problem with some of the Vernon sites is the decline of agriculture in the area, where there are fewer active farms than there were twenty years ago. Still-undeveloped sites have been allowed to go into succession, and where grassland was once present there are now heavy growths of goldenrods, asters, milkweed and other herbaceous species, vines, shrubs, and tree seedlings, a habitat unsuitable for most grassland species; this is also the case in some public sites in the township.

A highlight of the Vernon survey was a calling Upland Sandpiper heard at Site 2, located to the east of Route 94 north of Maple Grange Road. Although not seen on the initial survey date, it was seen on subsequent site visits. Only one American Kestrel was found during the survey; a pair seen at Site 2 in late May could not be relocated thereafter. Clearly, the most critical areas of remaining grassland habitats in Vernon are those at the west end of Maple Grange Road, where there is a horse farm and a large tract owned by the town which is being seriously degraded by supposedly unauthorized ATV use; and along both sides of Route 94, from Maple Grange Road north to DeKay Road. The only points of public access to the latter sites are from roadsides, the Appalachian Trail (AT) at the east of Route 94, and a narrow finger of land belonging to Wawayanda State Park, where the AT crosses fields and fens west of 94.

Wantage North

The most productive areas for grassland birds in the Wantage North portion of the survey center around Unionville Road and roads that intersect with it, or are in the immediate vicinity: Rose Morrow Road, Sally Hardin Road, Central School Road, Quarry Road, Beemer Road, and Wolfpit Road. This is the area that has the largest number of active farms: a mixture of dairying, fallow and planted cornfields and other grain croplands, cattle and horse grazing, fallow fields, and other activities. Although no actual number count was made, this is also the area that has the largest number of signs announcing participation in the Farmland Preservation Program. Continuation of agriculture in this area, or active management of grasslands, is the only way significant numbers of grassland birds will continue in this part of Wantage Township. Areas to the east, near Route 284, have seen more new home construction, and fragmentation and succession of grassland habitats. Although some grasslands remain, they are usually not large enough to support much diversity. Relatively few grassland birds were found in this area.

Other highlights of the Wantage North survey were the only two Horned Larks found during the entire survey, at Site 43, a soil mining operation, Glacial Soil Laboratories,

where the species was confirmed as a nesting species during the Breeding Bird Atlas (Walsh et al. 1999). Two Northern Harriers were found, an adult male possibly hunting, flying north at survey point Wantage 32, and a hunting adult male seen at Wantage 49 and 50 on the same morning. Neither bird could be subsequently located.

Wantage South

Wantage South, which covers the farmlands south of Route 23 to the Routes 206-Route 15 corridor, is generally smaller in grassland patch size compared to Wantage North. Currently, Wantage South is under intensive development pressure from numerous sources and causes. The relevant nature of Wantage South grasslands/farmlands is due to their proximity to the headwaters of the West Branch of the Papakating Creek. The entire Papakating Creek drainage is significant due to the considerable populations of the NJ state threatened wood turtle and the NJ state endangered and Federally threatened bog turtle occurring there. Wetland protection for these species has increased the pressure on large tracts of uplands, which allow for the development of large lot sizes, though lower-density housing. Generally, the only large tracts of uplands in the area are grasslands, pasture, or agricultural fields. Large forested areas were cleared for farming years ago or were the choice spots for development during the booms of the 1970s and 1980s.

Very few farms in Wantage South are in the New Jersey Farmland Preservation Program. This is perhaps due to the fact that Wantage South farmland is closer to the major travel corridors for commuters of the area. Routes 15, 23, 206 and 94 are all about a five-minute drive from most of Wantage South. If driven north, Route 23 in particular brings the commuter to the Port Jervis, New York train station with direct routes to New York City. For the commuter who would put up with traffic jams, Route 15 brings them to Route 80, which hooks up with other major arteries for travel to eastern New Jersey and New York City. The grassland/farmland in Wantage South has been somewhat ignored by the birding community compared to the grasslands of Wantage North and Pohatcong, although some good to very good habitat remains. New Jersey Natural Heritage Database Records and New Jersey Audubon Society records don't record much grassland bird data from the area.

The most productive areas for grassland birds in the Wantage South area can be found along Brink Road between Colesville and Deckertown Turnpike, pasture land along Routes 629 and 519 north of Plumbstock, Hickory Road near Libertyville, an abandoned 4H Camp off Route 519 on the foothills of the Kittatinny Mountains, and Route 629 between Beemerville and Wykertown. As one can see, these productive areas are scattered throughout Wantage South and not in one large patch such as one would find in the Unionville Road area of Wantage North (above) or the Overly Road area of Pohatcong, Warren County (see below) The habitats in the productive areas of Wantage South range from hay and fallow fields of Brink and Hickory Roads, to moist to mucky pastures of Routes 629 and 519 to the high and dry rolling hills of the defunct 4H camp.

Highlights of the Wantage South surveys were a scolding Upland Sandpiper at the 4H (survey point Wantage 11A), and potentially two Sedge Wrens at separate locations. The

single Upland Sandpiper was walking nearby at the surveyor's feet on the side of the abandoned road within the abandoned 4H Camp property. The bird made numerous scolding calls though it did not leave the immediate area or perform a distraction display. Visual searches with binoculars did not reveal a mate or evidence of young birds. Also unusual about this observation was that when the surveyor played the recorded calls of Upland Sandpiper to attempt to get a response from the mate or observe the bird in view defend its territory. The bird did not sing its territorial song back, although it continued to scold until the end of the site visit.

The first Sedge Wren was discovered at survey point Wantage 21 during the June surveys. The bird was singing as the surveyor exited his vehicle. The bird was verified when the surveyor played the recorded calls of sedge wren and other grassland birds and the wren became agitated and flew from the wet, sedge meadow to a roadside post and wire fence. The wren responded to all the sparrow songs and the wren song by singing its breeding song back and making a scolding call. The second Sedge wren was discovered at survey point Wantage 31 near Plumbstock during August, 2004. The surveyor was at the site on a separate matter and observed the Sedge Wren singing in a sweetflag and sedge meadow. The bird was not calling at the site when it was visited on June 22, 2004, although two Grasshopper Sparrows, a Vesper Sparrow and Bobolinks were noted in the rolling fields adjacent to the sedge meadow that day. After leaving the site on the August site visit the surveyor stopped at the original Sedge Wren sighting at survey point Wantage 21, to see if the Sedge Wren discovered there in June was calling or visible. It was not. Could these The two points are four miles apart as the wren flies.

Other highlights of Wantage South included a Golden-winged Warbler singing from a scrub/shrub wetland adjacent to grassland habitat on Brink Road near Colesville (Wantage 03). A territorial Goshawk responding to a Pileated Woodpecker call flew out above a field from a Norway spruce, red and white pine stand circled around for a moment or two and zoomed back into the trees adjacent to the abandoned 4H camp (Wantage 11).

Pohatcong

The Pohatcong Grasslands are a well known, expansive, historic farming area in southwestern Warren County. Nestled between the Delaware River and the Boroughs of Alpha and Phillipsburg, large farms of varying agricultural produce are still present. Birders have well documented the Oberly Road portion of the grasslands with its large rolling pastures and mixed use agriculture, for the rich winter grassland bird populations as well as its seemingly healthy population of breeding grassland birds. The diversity of breeding grassland bird species of the Pohatcong Grasslands is arguably the best in the state and possibly the region.

However, as is the case in all of northern New Jersey, these expansive grasslands are dwindling due to the loss of sustainable agriculture, farming generations dying out, and the lure of high prices paid for uplands from the development industry. The Pohatcong

Grasslands are a short ten-minute drive from Interstate 78, which fragmented the grasslands when it was constructed in the 1980s. A large majority of the farms remaining in the Pohatcong Grasslands are dominated by uplands. It is a developer's dream to locate a property with expanses of a Pohatcong Grassland farm without needing to be concerned with wetlands and wetland buffers. This is why in 1997, the 500-plus-acre, Alpha Grassland Preserve was created. At the time it was the largest single-property purchase by the New Jersey Agriculture Committee in the history of the state's farmland preservation program. The property had been designated for a very large development of over 1000 units prior to the state's purchase.

But the purchase of one tract has not released the Pohatcong Grasslands from development pressure. There are many more farms within the geographic area that are not under the Farmland Preservation Program's protective cloak. Only continued purchases of lands and purchases of development rights will assure the preservation of the excellent contiguous grassland habitats found in the Pohatcong Grasslands.

Unlike the other three areas covered by this report there was not a "most productive spot" or a "highlighted species" of the surveys within the Pohatcong Grasslands. It is the sheer magnitude of the entire area that creates the highlight. Although permission was granted for access by some landowners, most of the survey points were surveyed from roads. It is probable that individual birds and possibly bird species were missed due to the size of the fields and access issues. Except for the most productive area in the Wantage North survey, the average patch-size of the grasslands at nearly every stop in the Pohatcong Grasslands is unrivaled. In Wantage South and Vernon some of the largest fields surveyed were small in comparison to the fields in Pohatcong. The highest number of individual Savannah Sparrows and Vesper Sparrows were found in the Pohatcong Grasslands. Grasshopper Sparrows were found in good numbers as well.

Perhaps the most surprising occurrence in the survey of the Pohatcong Grasslands was the low numbers or absence of some of the relatively more common species of grassland birds. Bobolinks, although they should not be considered common compared to some of the other grassland bird species, are a locally common bird of grasslands and rural settings. There were only two sing Bobolinks identified during the Pohatcong survey. The other three survey areas identified double digit singing Bobolinks with a high of 32 birds in Wantage North. Eastern Meadowlark numbers in the Pohatcong surveys were more than doubled in Wantage South and nearly doubled in Wantage North.

Does the comparative low number of these two species mean that the Pohatcong Grasslands are not as productive as the other grassland areas of the State? Quite the contrary. Both the Bobolink and Eastern Meadowlark are pasture/hayfield generalists.

While their numbers are down throughout the East due to habitat loss and other unknown factors, they both are locally common and less habitat specific than the three sparrow species (Savannah, Grasshopper, and Vesper) expected in NJ grasslands. These three sparrows were found in Pohatcong in relatively good numbers. One is much more likely to be driving down the road in rural NJ and see an Eastern Meadowlark sitting on a barbed wire fence or a Bobolink on the crest of a multiflora rose bush within a cow

pasture, than one is to see any of the three grassland sparrows. The survey numbers for these species are a testament to the larger grassland patch-sizes needed to sustain a healthy (for NJ) population of the rare and/or uncommon species of grassland bird species. If the remaining patch sizes of the grasslands in the Pohatcong area continue in the current state of fragmentation or are managed to become even less fragmented; and grassland management practices such as controlled burns and targeted species plantings increase throughout, it is probable that the populations of the niche grassland habitat bird species will increase as well. Pohatcong and Wantage North are the only non-military and non-airport related areas in New Jersey in which the last statement may be true. As more grasslands are preserved, especially in Pohatcong and Wantage North, and better landowner/conservation community relations come to fruition, more surveys should be conducted to reach the grassland areas that are not adequately surveyed due to access issues.

The other glaring species issue for the Pohatcong survey is the absence of both Horned Lark and American kestrel. The American kestrel is experiencing a free-fall in both breeding and wintering numbers in northern New Jersey (Christmas Count Data and Breeding Bird Survey Data). The absence of American kestrel, in such suitable habitat can possibly be explained by surveyor error. Sometimes a surveyor is so intent on listening for the high-pitched songs of grassland birds, one might close their eyes to strain or look down and concentrate with the ears. At least the surveyor of the Pohatcong Grasslands feels he may have done that. But if American kestrel numbers weren't down the surveyor would have at least incidentally located one.

The only explanation for the absence of Horned Larks is the birds' early breeding period. Horned Larks have been found on nest in mid-March in the Wantage North area (S. Angus, personal observation). The Wantage, Vernon, and Pohatcong surveys were conducted in June, well after March broods would have fledged. If the Horned Larks in the area did not double clutch, it is possible that the larks were missed during the survey period.

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