Breeding Bird Survey – Parcel 1

Silo Ridge Resort Community

Amenia
New York

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1 Introduction

1.1 Purpose of this Report

A breeding bird survey was conducted for the Silo Ridge South Parcel, an area that was not surveyed for the 2008 Habitat Management Plan but is now included in the development plan. The purpose of this survey was to identify the avian species using the site, and to particularly to determine whether the portions of the South Parcel site included in the development plan provides habitat for grassland bird species. The survey was requested by the Town's environmental consultant, Dr. Michael Klemens.

1.2 Site Description

Parcel 1 is located along Route 22, south of the main Silo Ridge property. It is bisected by an unpaved road. The property includes the former Hudson Valley Landfill. During an initial site evaluation on May 8, 2014, Parcel 1 was characterized as eight distinct vegetation/cover type units, described below and shown on Figure 1.

- **Area A** (5.4 acres) – immediately north of the South Gate. A rolling area of roughly mowed cultural grassland (grassland dominated by introduced grass species) with small islands of shrubs and trees. The grass is mowed to control shrub establishment. Dominant species include *Festuca* spp. (fescues), *Galium* spp. (bedstraws), asters, *Vicia* sp. (vetch), red clover (*Trifolium pratense*) and yellow hop clover (*T. dubium*). Shrubs are primarily the invasive *Elaeagnus*, with some *Rosa multiflora*. Scattered small trees are primarily cottonwood (*Populus deltoides*).
- **Area B** (4.8 acres) - west and north of Area A. This area has more steeply sloping topography and bedrock outcrops, with areas of exposed gravel soils. The non-native grasses dominant in Site A are largely replaced with the native little bluestem (*Schizachyrium scoparium*). A dense thicket of invasive shrubs, primarily *Elaeagnus* (Russian or autumn olive) occurs between the field and the woods to the north. Small thicketts of the non-native mugwort (*Artemisia vulgaris*) and sparse small red cedars (*Juniperus virginiana*) also occur in Area B.

- **Area C (**4.4 acres**)** – this is a flat area with apparently richer soils than Area B, and has a similar plant composition to Area A. Area C transitions to a small forested area with dense shrub borders.
- **Area D** (9.2 acres) – this mostly natural area is a slope separating the golf course from the capped former landfill. It consists of patches of grass (similar to Area A) interspersed with shrub patches and small stands of gray birch (*Betula populifolia*).
- **Area E** (15.1 acres) – the capped former landfill (the former Hudson Valley Landfill), is a large flat expanse of cultural grassland with an array of hoods and vents. The vegetation is quite uniform, a dense grass cover of *Festuca* and *Poa* (bluegrass) species, with some patches of *Setaria* (foxtail grass*). Galium, Trifolium,* asters, and *Vicia* are also common. There are no shrubs in this area. Area E is mowed as required by NYSDEC to maintain the landfill cap.
- **Area H** (3.4 acres) - the slope below Area E. This slope is dominated by invasive shrubs interspersed with patches of mugwort.
- **Area I-J** (8.2 acres) is a flat area north of an earthen dam. It appears likely that the entire area was once a farm pond. Currently, the western portion of this area is vegetated by cultural grassland, with a high proportion of mugwort. Wetland species, including *Phalaris arundinacea* (reed canary grass), some *Lythrum salicaria* (purple loosestrife), and occasional *Carex* spp. also occur here, as well as a small stand of cottonwoods. This grassland is being overtaken by *Phragmites*. (common reed) This vegetation type transitions into a wetland with patches of open water and shrubs, as well as a dense stand of *Phragmites*.

According to Kiviat[1], these communities are characterized as old fields (Area B, D, H, I), mowed fields and pastures (Area A, C, E) and marshes (Area J). Cunningham et al.[2] characterize these as shrubland, grassland, and non-tidal wetlands. A more fine-grained ecological classification is provided by Edinger et al.[3]. Based on the NYSDEC classification, communities on Parcel 1 include Successional Old Field, Successional Shrubland, Landfill, Shallow Emergent Marsh, and Reed Grass/Purple Loosestrife Marsh.

Although there are forested areas west and north of the parcel, these were not investigated as part of this survey and are similar to the forested habitats included in the 2008 study.

1.3 Methodology

The breeding bird survey included a preliminary survey in early May, 2014 and a detailed survey on May 29, 2014.

[1] Kiviat, Eric. 1984. Vegetation of Dutchess County, New York. In The Hudson Valley Regional Review, September 1984. Pp 144-173.
[2] Cunningham, Mary Ann, Neil Curri, Robert Wills. 2010. Biological Resources and Biodiversity of Dutchess County, NY. Natural Resources Inventory of Dutchess County NY, Chapter 6.
[3] Edinger, G.J. et al. 2002. Ecological Communities of New York State. Second Edition (Draft). New York Natural Heritage Program, NYSDEC.

1.3.1 Preliminary Survey

VHB biologists conducted a preliminary survey on May 8, 2014 to map vegetation units, identify survey point locations, and record bird species present on that date. Because May 8 is early in the migratory season, birds present may be still migrating further north, or may not have established breeding territories. The birds observed at that date are indicative of birds that may nest on the site, but cannot be confirmed as breeding species. This preliminary survey was conducted from 9 AM to 12 PM. The temperature was 55^0F, and there was a light drizzle. Bird species recorded were seen or identified by calls/song.

1.3.2 Detailed Survey

The detailed survey was conducted using standard point-centered breeding bird survey methods. VHB biologists stood at pre-determined survey points for 15-minute intervals, and recorded all bird species seen or identified by calls/song. Where possible, the number of birds of each species was recorded. However, the numbers may not be accurate given that the birds were moving around within each vegetation unit and, in some cases, between vegetation units. Any additional species observed while walking between survey points were also recorded.

Species were classified as confirmed breeding if nesting, carrying nesting materials, or carrying food was observed. Species were classified as probable breeding if pairs were observed, or territorial singing was observed. Species classified as potential breeding were observed to be foraging on the site, as a single individual or if preferred nesting habitat was not present. Species classified as "flyover" were flying over the site, either in transit or foraging for aerial insects. This classification system was based on the New York Breeding Bird Atlas methodology[4].

The survey was conducted from 6 AM to 9:30 AM on May 29. Weather was clear with no wind. Temperature ranged from 42^0 to 59^0.

On May 29, we observed that all of the grassed areas (Area A, Area C, Area E) had been mowed subsequent to the May 8, 2014 preliminary site visit. Grass heights averaged 6 inches. Several forbs, particularly *Trifolium dubium*, were in flower. The shrubs (*Elaeagnus, Lonicera* spp.) were also in bloom.

1.4 Qualifications

The Breeding Bird survey was conducted by Dr. Lisa Standley. Dr. Standley is an ecologist and VHB's Chief Environmental Scientist. She has over 25 years of conducting wildlife habitat and bird surveys in the Northeast, with a focus on surveys of grassland bird species (grasshopper sparrow, eastern meadowlark, upland sandpiper). In addition to her professional

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[4] NYS Department of Environmental conservation, NYS Breeding Bird Atlas 2000. http://www.dec.ny.gov/cfmx/extabbs/bba/index accessed May 30 2014.

qualifications, Dr. Standley serves on the Massachusetts Audubon Society Council and Science Advisory Committee.

2 Results

2.1 Breeding Bird Survey – Species Recorded

A total of 36 species were recorded at Parcel 1 over the two site visits. Of these, 24 were confirmed/probable/potential breeding species.

2.1.1 Preliminary Survey

A total of 16 species were observed in early May, either within the identified vegetation units or were heard calling from the adjacent forested areas. The most abundant species observed were red-winged blackbirds (in Area J), catbirds (all areas), and towhees (Areas B, D).

2.1.2 Detailed Survey

A total of 32 species were observed on May 29, either within the vegetation study units, the adjacent off-site woods (4), or flying overhead (4). The remaining 24 species are confirmed breeding (red-winged blackbird, field sparrow, robin), probable (indigo bunting, willow flycatcher, northern oriole, song sparrow, warbling vireo, blue-winged warbler, prairie warbler, yellow warbler, and northern yellowthroat) or potential breeding species. Killdeer were seen only in Area E, the capped landfill, and were classified as "confirmed" on the basis of broken-wing behavior. The most abundant species in the wetland was red-winged blackbird; robin was most abundant in the upland, followed by catbird and the warbler species.

Table 1. Bird Survey Observations, May 2014

May 29	May 8	Observation/Breeding Status[1]
Blackbird, red-winged	Blackbird, red-winged	Confirmed Breeding
Blue jay		Potential Breeding
Bunting, indigo		Probable Breeding
Cardinal		Potential Breeding
Catbird, gray	Catbird	Confirmed Breeding
Cedar waxwing		Potential Breeding
Chimney swift		Flyover – no habitat present within study area
Cowbird, brown-headed		Potential Breeding
	Flicker, northern	No breeding habitat within study area
Dove, mourning		Flyover – not breeding within study area
Flycatcher, willow		Probable Breeding
Goldfinch		Potential Breeding
Grackle, common		Potential Breeding
Hummingbird, ruby-throated		Probable Breeding (note: feeding on *Lonicera* and *Elaeagnus*)
Killdeer		Confirmed Breeding
Kingbird, eastern		Potential Breeding
Oriole, northern		Probable Breeding
Ovenbird	Ovenbird	No breeding habitat within study area
	Phoebe, eastern	Observed May 8, not present May 29
Redstart	Redstart	Observed in woods, not within study area
Robin	Robin	Confirmed Breeding
Sparrow, chipping		Potential Breeding
Sparrow, field	Sparrow, field	Confirmed Breeding
Sparrow, song	Sparrow, song	Probable Breeding
Swallow, barn		Flyover – no breeding habitat within study area
Swallow, tree		Flyover – no breeding habitat within study area
Thrush, wood		No breeding habitat within study area
Towhee, eastern	Towhee, eastern	Potential Breeding
Turkey		No breeding habitat within study area
Vireo, warbling	Vireo, warbling	Probable Breeding
	Warbler, black and white	Observed May 8, not present May 29
Vulture, turkey		No breeding habitat within study area
Warbler, blue-winged	Warbler, blue-winged	Probable Breeding

Warbler, prairie	Warbler, prairie	Probable Breeding
Warbler, yellow	Warbler, yellow	Probable Breeding
Yellowthroat, common	Yellowthroat, common	Probable Breeding

1 NYS Department of Environmental Conservation, NYS Breeding Bird Atlas breeding categories

2.2 Discussion

The study shows that the majority of confirmed or probable breeding bird species using Parcel 1 were present during the first week of May. Two species seen during the preliminary survey were not present in late May (eastern phoebe, black and white warbler), indicating that these species either failed to establish breeding territories or were still in migration.

The breeding bird species on Parcel 1 are characteristic of marsh and shrub-swamp wetlands (red-winged blackbird, willow flycatcher, yellow warbler, common yellowthroat) and of oldfield habitats (catbird, towhee, blue-winged warbler, prairie warbler, field sparrow, song sparrow, robin, indigo bunting). Two species (warbling vireo, northern oriole) preferentially nest in tall trees, often near watercourses, consistent with our field observations of these species in the taller cottonwoods near Wetland J.

None of the species observed on Parcel 1, whether breeding, foraging, or transient, are considered to be NY species of special concern. None of these are obligate grassland species (for example, grasshopper sparrow, upland sandpiper, bobolink, savannah sparrow). The species observed in Parcel 1 are characteristic of common oldfield and wetland habitats found throughout Dutchess County (see Kiviat 1984; Cunningham et al. 2010).

The NYS Breeding Bird Atlas[5] includes Parcel 1 within Survey Block 6163C. The 2000-2005 Survey identified 89 confirmed, probable or possible species within this block. All of the species identified during the May 2014 Parcel 1 survey were previously recorded in the Atlas Block 6163C.

The Town's consultant asked if the old-field and grassland areas (A, B, C) would have the potential to be an "attraction zone" for grassland species if these areas were not mowed. These areas together total 14.6 acres (5.9 hectares) of grassland habitat. In the absence of mowing, it is most likely that invasive shrubs (*Elaeagnus*, *Lonicera*, *Rosa multiflora*) would replace the grass. These species are already present in shrub patches and dominate the northern portion of Area A under existing conditions. This grassed area is not large enough to support populations of area-sensitive grassland sparrows (savannah sparrow, grasshopper sparrow, henslow's sparrow) or other species (bobolink, eastern meadowlark). Smith (1997) found the minimum grassland required for grassland sparrows in upstate New York to be 29 acres (11.7 ha), 40 acres (16.2 ha) and 82 acres (33.2 ha), respectively[6]. He found that

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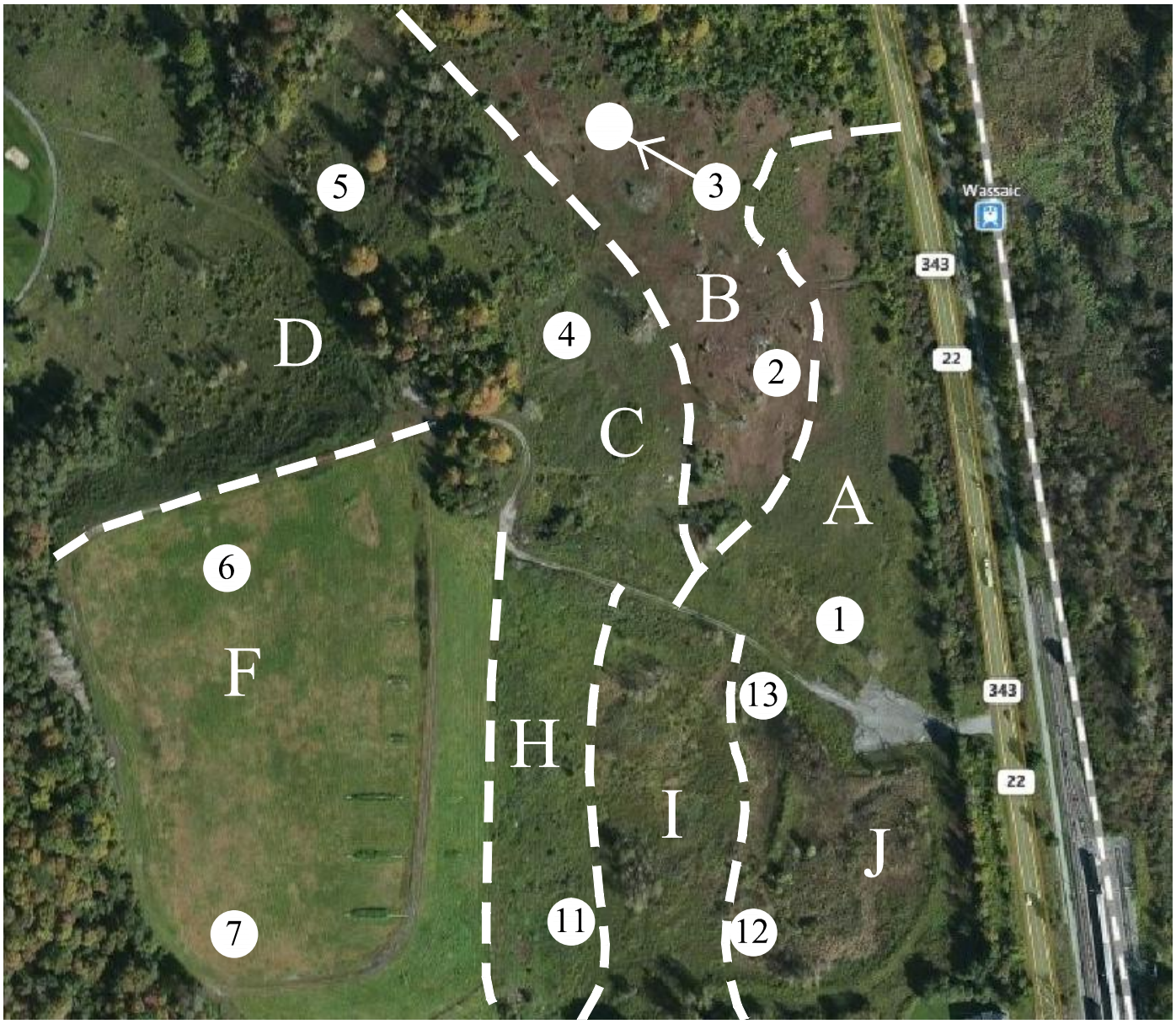
[5] NYS Department of Environmental conservation, NYS Breeding Bird Atlas 2000. http://www.dec.ny.gov/cfmx/extabbs/bba/index accessed May 30 2014.

[6] Smith, C.R. 1997. Use of Public Grazing Lands by Henslow's Sparrows, Grasshopper Sparrows, and Associated Grassland Birds in Central New York State. In Vickery, P.D. and P.W. Dunwiddie, eds. Grasslands of Eastern North America: Ecology and Conservation of Native and Agricultural Landscapes. Massachusetts Audubon Society. Lincoln, MA. Pp. 171-186.

bobolinks and eastern meadowlarks require substantially larger areas (40 acres, 16.2 ha, and 59 acres, 24 ha). While Site E, the former landfill, would have suitable habitat for bobolinks (tall dense mesic grassland) if not mowed, this area is only 15 acres (6 ha) in size and would be unlikely to support a viable population.



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Field Sketch - Parcel 1 Bird Survey
Not To Scale

Figure 1
June 3, 2014

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