Multiple Species Inventory and Monitoring Program at the ISU Been and North Woodruff Farms

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Introduction

The Iowa Multiple Species Inventory and Monitoring (MSIM) program is a standardized statewide survey of Iowa's wildlife with a goal of providing a basic inventory of wildlife species in Iowa. The program was developed in response to a concern regarding the lack of information on Iowa's species of greatest conservation need (SGCN) listed in the Iowa Wildlife Action Plan. The two ISU farms sampled were the ISU Been (corn) Farm and ISU North Woodruff (soybean) Farm, each consisting of seven points arranged in a hexagonal shape 200 m apart (Figure 1).

Materials and Methods

Birds. Bird point counts were conducted at the points located on Figure 1 April 15 – October 31, 2017. The property was surveyed eight times: twice during spring migration (April 15 – May 31), three times during the summer breeding season (June 1 – July 31), and three times during fall migration (September 1 – October 15). Counts were 10 minutes, during which all birds observed visually and/or audibly were identified to species and recorded. The linear distance to each individual bird (m) was estimated and assigned the distance to one of seven distance categories (0-25 m, 25-50 m, 50-75 m, 75-100 m, 100-200 m, 200-300 m, and flyovers). In addition to the bird point counts, two visual encounter surveys (VES) were conducted at the property during the summer breeding season (June 1 – July 31). These surveys consisted of a 30-minute search of birds in any suitable habitat within the property boundary. All birds observed visually and/or audibly were identified to species and recorded.

There were 24 bird species observed at the Been Farm during the 2017 survey season and 25 bird species on the North Woodruff Farm.

Mammals. Small mammal trapping was used as a method for inventorying small mammal populations. Small mammal trapping was conducted once. H.B. Sherman box traps were baited with peanut butter to attract various species of small mammals. A total of 160 traps were set in a string between the bird point count locations at 10-m spacing.

For medium- and large-sized mammals, both camera trap surveys and VES for tracks were conducted. Cameras recorded images for 10 days and were conducted once.

In addition, visual encounter surveys were conducted once per property during the spring, summer, and fall seasons. These surveys involved a one-hour timed search of mammal sign, including tracks, scat, or other signs confirming presence of a particular mammal species (gopher mounds, etc.). Four species of mammals were found on both the corn plot and the soybean plot during the 2017 survey season.

Reptiles and amphibians. Visual encounter surveys for reptiles and amphibians were conducted twice during the spring, summer, and fall seasons, for a total of six surveys. These surveys consisted of a four-hour timed search of reptiles and amphibians in any suitable habitat within the property boundary.

Fifteen coverboards also were placed on the property to create artificial habitat for certain reptile species. Coverboards were constructed of 1/2-in. plywood and were 2 x 4 ft.

Three species of reptiles and amphibians were found at both farms during the 2017 survey season.

Odonates. Visual encounter surverys were conducted for odonates twice during the spring, summer, and fall seasons for a total of six surveys. Similar to the reptile and amphibian VES, these surveys involved four-hour timed search of any suitable habitat within the property boundary. All individuals observed were identified to species and recorded. There were 14 species of odonates observed on the Been Farm and 11 species of odonates on the North Woodruff Farm.

Butterflies. Line-transect surveys were conducted for butterflies. The transect was 5-m wide by 400-m long and typically runs through the middle three bird point count locations. All butterflies observed within the transect section were identified to species and recorded. The butterfly survey season was June 1 – August 31 and each property was surveyed three times during the season.

In addition to the line-transect surveys, VES for butterflies also were conducted twice. Similar to the bird VES, these surveys consist of a 30-minute timed search of any suitable habitat within the property boundary. Twelve species of butterflies were found on the corn plot and 14 species of butterflies on the soybean plot during the 2017 survey season.

Terrestrial habitat. Various measurements were conducted including percent groundcover, percent plant cover, visual obstruction of vegetation, litter depth, and plant species within a 15 m radius of each point, to assess terrestrial habitat characteristics at each bird point count location on each farm.

The information collected contributes to the Iowa MSIM database. With this information, the team hopes to not only assess population trends of Iowa wildlife, particularly SGCN, but also to relate species' presence or absence to habitat characteristics in order to inform habitat management decisions on Iowa's public lands.

Figure 1. Inventory wildlife species locations at the ISU Been Farm (corn plot) and the ISU North Woodruff Farm (soybean plot).