

# Utilizing DATA to Manage for Grassland Birds



L-R: Bobolink [M]/[F], photos by Marty Hackl

By Cindi Jablonski, Wildlife Ecologist

Before Illinois was dissected, fragmented, and tilled for agriculture it possessed great swaths of prairie habitat that covered much of the state. Prairie avian fauna, or grassland birds, were abundant. With the loss of the prairies, so went the birds. As conservation agencies work to reverse that trend and replant prairies, the response by native grassland birds to the reconstructed prairie habitats has been mixed and slow.

Some clues to this phenomena emerge when we look at long established remnant prairies and compare them to recent prairie reconstructions. The small, isolated prairie remnants that have remained undisturbed in Illinois are comprised of a high diversity of forbs and grasses that have been competing for resources for thousands of years. This long, fierce competition results in forbs and grasses that are well interspersed and, in comparison to young plantings in reconstructions, dwarfed in stature.

As a result, some grassland birds are rejecting prairie reconstructions with their clumped texture and statuesque flora, instead thriving in pastures and grassy areas comprised of non-native cool season grasses with a closer structure to those original prairies.

The challenge for ecologists becomes how to manage for grassland birds while working to restore land to native habitat. A black soil prairie can take 25 to 30 years to mature and reach the point where native plants thrive, compete and come into a similar balance, texture and composition to that of remnant prairies. How can conservation agencies plan and execute restoration activities while at the same time manage for avian prairie species that often prefer non-native, pasture environments?

To best manage habitat for this declining group of birds and aid in their recovery, the District uses data from breeding bird surveys to determine which habitats are being used and how these birds are responding to habitat management.

**The obligate grassland nesting birds studied include bobolinks (*Dolichonyx oryzivorus*), grasshopper sparrow (*Ammodramus savannarum*), Henslow's**



Image 1. Bobolinks at Silver Creek Conservation Area, photo by Cindi Jablonski

**sparrows (*Ammodramus henslowii*), Savannah sparrows (*Passerculus sandwichensis*), dickcissels (*Spiza Americana*) and eastern meadowlark (*Sturnella magna*), all species that occur in McHenry County.**

Provided here are a few examples of different grassland and prairie habitats, various management treatments and associated breeding bird survey data, data that staff regularly reviews to assess habitat needs and the responses to management.

Pleasant Valley Conservation Area in Woodstock has an old hayfield, dominated by cool season grasses, that has been hayed for decades. The hayfield has a relatively high density of **bobolinks with some dickcissels, eastern meadowlarks and Savannah sparrows but no Henslow's sparrows or grasshopper sparrows** (Figures 1).

**Bobolinks** (Image 1) prefer moderately tall and moderately dense vegetation with some litter in open area with no trees or shrubs. They are also very faithful to nesting sites and will return each season to areas in which they had successfully nested in the past. In the absent of prairies with shorter stature vegetation, cool season grasslands that are annually hayed provide ideal habitat for bobolinks.

Pleasant Valley also supports a leased cattle grazing pasture onsite. The grazing pasture is bordered on the east by a 17-year-old black soil prairie reconstruction. This prairie reconstruction has had several prescribed burns over the years and one year of haying. The data from this area, the pasture and adjacent prairie, shows that there are more **bobolinks, eastern meadowlarks, and grasshopper sparrows** in the grazing pasture than the prairie reconstruction (Figure 2).

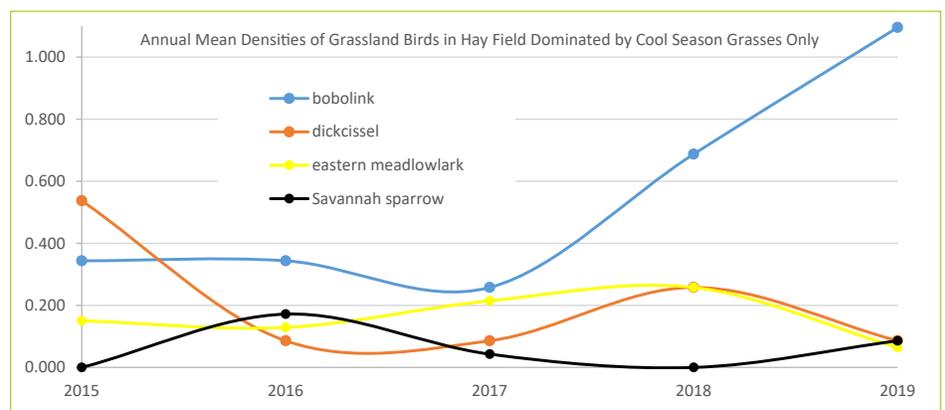


Figure 1. Survey data for a hay field in Pleasant Valley. The species densities were calculated by finding the mean bird count for all surveys in one survey year and dividing by the survey acreage.



L–R: Dickcissel [M]/[F], Savannah Sparrow, photos by Marty Hackl; Grasshopper Sparrow, Meadowlark

**Savannah sparrows** were found in the pasture but are absent altogether in the prairie. **Dickcissels and Henslow’s sparrows** are absent from both the pasture and prairie.

**Grasshopper sparrows and Savannah sparrows** have the lowest species populations in District sites of all grassland bird species. Their preference for less dense, short to moderately tall, clumped vegetation is not as available and not easy to manage for. The cattle grazing pasture at Pleasant Valley has the highest density of **grasshopper and Savannah sparrows** in any District site. The grazed pasture with its short, clumped grazed upon grasses provides ideal habitat.

A final example of District habitat used by nesting grassland birds is a sandy soil prairie reconstruction in the Kishwaukee River Corridor, also 17 years old, which is managed entirely with periodic prescribed burning. Sandy soil responds differently to prairie plantings than black soil reconstructions; the vegetation structure is shorter due to increased soil drainage. The survey data in this prairie, although limited to only two years, shows the presence of **Henslow’s sparrows** which were absent from the grazed pasture and hay field (Figure 3).

**Henslow’s sparrows** prefer moderately tall vegetation with deep litter and will avoid breeding in areas that have been recently burned. They will readily choose a new site for nesting if the conditions are right. The District’s prescribed burning rotation schedules assure that suitable nesting habitat with plenty of litter on the ground is available somewhere within the District’s open space system in any given year within its mosaic of prairie habitats for **Henslow’s sparrows**.

**Eastern meadowlarks** are relatively common and found in most grassland and prairie habitats in McHenry County. **Dickcissels** are not as common but are fairly easy to accommodate with their preference for dense, moderate to tall vegetation that can be found within most traditional tall grass prairie reconstructions.

The District continues to strive to help conserve all wildlife species in need of conservation including grassland birds with habitat preservation and appropriate management practices. This process sometimes involves considerable creativity and knowledge from skilled ecologists. Survey data with trend analysis provides the best, most accurate guidance.

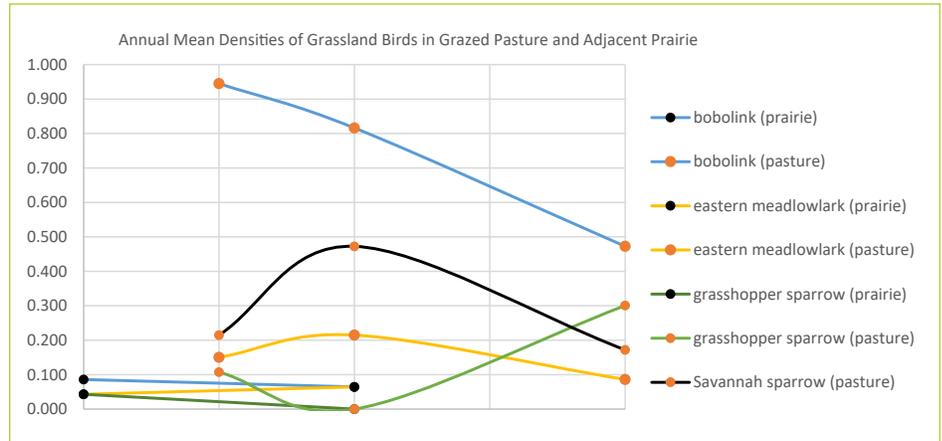


Figure 2. Survey data for both the grazed pasture and the prairie reconstruction in Pleasant Valley. The grazed pasture has higher density of breeding grassland birds. The species densities were calculated by finding the mean bird count for all surveys in one survey year and dividing by the survey acreage.

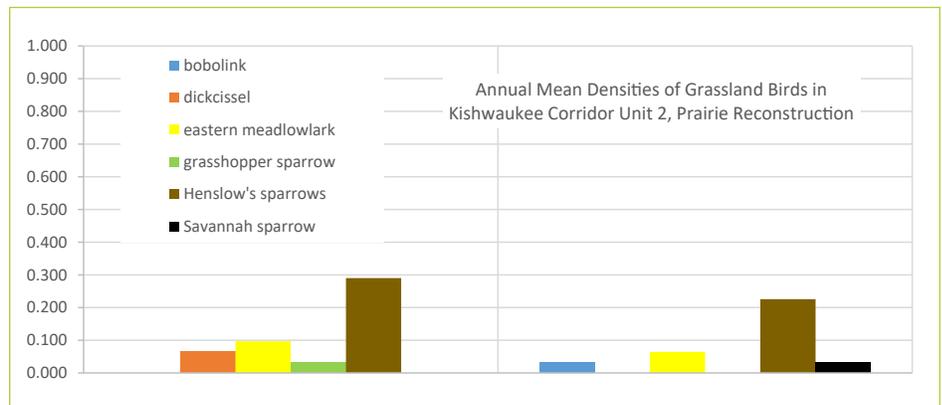


Figure 3. Survey data a sandy soil prairie reconstruction in Kishwaukee Corridor. The species densities were calculated by finding the mean bird count for all surveys in one survey year and dividing by the survey acreage.



Henslow's Sparrow at Pleasant Valley Conservation Area, photo by Marty Hackl