

State Wildlife Grant Program 2006
Large-scale Grassland Bird habitat Creation Project, Kane County Illinois
Grant # T-47-D-1

Final Report

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Introduction and Background

In 2007 the Forest Preserve District – Kane County (District) received a grant under the State Wildlife Grant Program 2006 (SWG 06) to support the creation of habitat for grassland birds on a large scale. As the steward for over 18,000 acres of public lands, creating grassland bird habitat has become a priority for the District and this report reviews initial project expectations and actual accomplishments made in the grant timeframe from July 2007 through December 2009.

Grassland bird populations in Illinois have been declining since the 1950s (Herkert 1994 and Illinois Natural History Survey 1983). Not only are stable and protected populations of grassland birds rare in Kane County, but large tracts of habitat for grassland nesting birds are likewise uncommon. Herkert, et al 1993 demonstrated the need for, and use of, large unbroken grassland tracts for foraging and nesting by numerous grassland dependant bird species documented to have declining populations.

Effectively implementing large scale projects of any type takes much forethought and advanced planning. The concept for a large-scale prairie re-creation in northern ½ of Kane County literally began a few days after the District purchased 562 acres of land from the Muirhead family in 2003. This purchase became the core of a site now known as the Muirhead Springs Forest Preserve.

Since 2003, the Muirhead Springs Forest Preserve has grown to 797 acres as a result of several land purchases. As land was acquired, each tenant farmer of each parcel was notified that row-crop production may be scaled back within 5 years. As the original SWG proposal was drafted and submitted to the IDNR, by September 2006 one farmer was notified to cease crop production on approximately acres of land. That acreage would become the core grassland project area envisioned under the SWG 06 project application.

INITIAL OBJECTIVE: When the SWG grant application was submitted in 2006, the District intended to remove enough lands from crop production in Plato Township, IL to create between 300 and 500 acres of suitable nesting habitat for a variety of grassland dependant birds. Habitat creation was envisioned at several preserves in Plato Township, including the Muirhead Springs, Bowes Creek Woods, Fitchie Creek and/or Pingree Grove Forest Preserves. These preserves were selected since they offered large acreage of cropland with high potential for conversion to grassland.

The primary project goal was to create grasslands with diverse plant structure and composition. Structural components such as acreage of field, plant height, and burn frequency were important considerations for this project. Conservation Priority birds such as Grasshopper Sparrow prefer short to medium height nesting cover, while Bobolink and Henslow's sparrow prefer medium to taller structure cover. Overall a diverse mosaic of prairie pothole wetlands, dry prairie, mixed height and tallgrass prairie habitats were to be created.

APPROACH: The large-scale grassland creation project was implemented only at the Muirhead Springs and Fitchie Creek Forest Preserve. Seeding work was conducted at Muirhead Springs in three phases, with one planting phase typically occurring each of the three years from 2007 to 2009. Seed required for

the extensive planting came from three sources: 1) District staff hand and machine harvested the bulk of the seed locally; 2) Additional “matrix” seed composed primarily of prairie grasses was donated by Fermi Lab, Batavia IL. Fermi Lab annually combine harvests thousands of pounds of prairie grass seed; 3) Seed of local ecotype forbs was purchased from a variety of native plant nurseries.

Wetlands were created as a side benefit to the habitat creation efforts. By first contracting with Huddleston-McBride to map drain tile lines across 500 acres of the Muirhead preserve, then abandoning and allowing several older tile lines in need of repair to simply fail, several pothole march complex have developed at this preserve.

ACCOMPLISHMENTS

1. Muirhead Springs.

a. Prairie Planting and Management

From late 2006 to the end of 2009 a total of 290 acres of land were removed from crop production and seeded to tallgrass prairie at the Muirhead Springs site. Although the SWG 06 grant had yet to be awarded by the end of 2006, USDA statutes dictate land owners must notify tenant farmers of their leasing intentions for the following crop year, by the close of September of a crop production year. The District chose to remove 180 acres from production with the hopes SWG 06 would be awarded by early 2007. The 180 acres sat idle until early 2007, when a cover crop of annual rye and small amount of prairie grass mix was installed to keep noxious weeds at bay. Also in mid 2007, a contractor was hired to mow that acreage in June and August to reduce weed cover.

In late July 2007 thru August 2007 and again in July 2008 to August 2008 District staff undertook the painstaking, but important, task of hand cutting flower heads from Musk Thistle, a highly noxious weed. During this time also, District staff spot mowed clusters of Canada thistle.

Although some seed was installed in 2007, much more was needed. In December 2007 bids were written in order to purchase enough prairie forb seed to cover 100 acres. The Forest Preserve Board of Commissioners approved the seed purchase in January 2008, at a cost of **\$48,480. The specified mix contained 38 forb species.** Seed was delivered in March 2008 and installed in May 2008. Prior to seeding, a moderately successful burn was completed by staff in March 2008.

Following the burn, a new flush of weeds grew rapidly. As in 2007, a contractor was hired in June 2008 to mow the primary planting at a cost of **\$4000.**

In October 2008, **bid** specs were written to purchase another lot of prairie forb seed to cover a second 100 acre block of land. With bids accepted by the Forest Preserve Board of Commissioners, seed needed to cover 100 acres was purchased in December 2008 and delivered in March 2009 at a cost of **\$55,725. The specified mix contained 35 forb species.** This lot of seed was combined with Fermi lab matrix and was installed in May 2009.

During late May into mid June 2009, District staff mowed one dozen 1-acre sized patches of Canada Thistle within 200 acres of the grassland planting. To more effectively control that thistle, my staff applied a Transline (clopyralid) solution to all previously mowed patches of thistle in August 2009.

b. Flora & Fauna Surveys

Vegetation. To track basic progress of vegetation growth across Muirhead grasslands, in July 2007, August 2008 and June 2009 staff sampled vegetation along two transects. Each transect measured approx 1000 feet long and sampled the northern planted grasslands. Plants species were sampled using a modified Braun-Blanquet method in ¼ meter square plot, sampled every 90 feet along each line.

The diversity of vegetation has changed dramatically across the transects. In 2007 few native plants were recorded in the transects with the dominant vegetation being a conglomeration of introduced species, old field and agricultural weeds such as annual ryegrass (*Lolium multiflorum*), Fox tail (*Setaria* spp), dandelion (*Taraxacum officinale*), horseweed (*Erigeron canadensis*) giant ragweed (*Ambrosia trifida*). Because of seeding, burning, and overall weed control efforts dominant species had shifted by 2009 to a more native matrix of little blue stem (*Andropogon scoparium*), Indian grass (*Sorghastrum nutans*), and beebalm (*Monarda fistulosa*).

Beyond the defined plant inventory transects, in 2009 seedling and occasionally flowering specimens of Indigo (*Baptisia leucantha*), pale purple coneflower (*Echinacea pallida*) tall coreopsis (*Coreopsis trifida*) prairie coreopsis (*coreopsis palmate*), Black-eyed susan (*Rudbeckia hirta*), Junegrass (*Koeleria cristata*) and compass plant (*Silphium laciniatum*) were observed at a rate of one to two dozen per acre.

Bird Data. Bird populations have been monitored at the grassland project area during each spring of 2007, 2008 and 2009. When this project started there was no grassland bird friendly habitat to be found across the preserve. It was observed that in 2007 birds started utilizing the rudimentary grassland habitat composed of annual rye and the assemblage of agricultural weeds.

Using the limited time point-count survey method, four bird points were sampled during the typical late spring to early breeding season. In 2007 District staff conducted the point-survey and recorded several meadowlark, Song Sparrow, Bobolink (2 individuals), Dickcissel (6 individuals) using the grassland recreation. In 2008 meadowlark, Song Sparrow were again common, however Bobolink (14 individuals), Dickcissel (10 individuals) were more abundant.

2. Fitchie Creek

a. Prairie Planting and Management

Recognizing the overall grant project goals and objectives of building grassland bird habitat within a specified timeframe, District staff sought contractual help to plant & manage 58 acres at the Fitchie Creek Forest Preserve.

In June of 2009 staff wrote detailed specifications for a bid to install prairie seed and conduct 1 full year of management. The bid was accepted by the Board of Commissioners in August 2009. J.F. New of Monee, IL was contracted at a cost of **\$100,166** to provide & install forb and cover crop seed in former cropland at the extreme north end of the preserve. That fee included time and materials for mowing 58 acres plus herbicide treatment of Canada thistle as need during 2010. This contract fee was not charged against the SWG grant in light of the fact the District match was already fulfilled at the Muirhead Springs site. On December 3, 2009, J.F. New staff completed seeding the 58 acres at Fitchie.

CONCLUSION

Though spread across two preserves separated by just two miles, with SWG support, the Forest Preserve District – Kane County has successfully planted grassland habitat totaling 348 acres. Just a few short years ago, this acreage was in row crops as such was a totally unacceptable habitat for rare and declining grassland dependant bird species.

To fully recreate a sustainable prairie ecosystem for use by a variety of wildlife species will take decades, however, the District is well its way of making the new grassland planting at both the Muirhead Springs and Fitchie Creek preserves functionally important native habitats.

Herkert, J.R. 1994. Status and habitat selection of Henslow's sparrow in Illinois. *Wilson Bulletin* 106 (1) : 35-45.

Illinois Natural History Survey. 1983. The declining grassland birds. *Illinois Nat Hist Surv. Reports* 227 : 1-2. Champaign, Illinois.

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