Final Report

Wildlife Preservation Fund

Project Title: Prairie & Shrubland Restoration

Grant Agreement Number: 10-004W

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Promotion
Media Notification
Local Public Newspapers
(See Appendix A for Published Article)

Ballard Nature Center receives grant from the Illinois Department of Natural Resources Wildlife Preservation Fund
Article by Patty Gillespie

Fortunately, sometimes certain ecological changes, brought about by human beings, are reversible. Truly cataclysmic changes in the tallgrass prairies, which once covered much of Illinois, took place in a very short span of time. Prairies of the pre-settlement times were rich in species. Each species was well adapted to extreme temperatures, drought, wind, fire, and high light intensity.

Plant-eating animals were abundant, and so were the animals that preyed upon the plant-eaters. Large number of grasshoppers fed upon plant material while upland sandpipers, prairie chickens, bobwhite quail, loggerhead shrikes, and meadowlarks fed upon the grasshoppers. Birds were fed upon by raptors, reptiles, and mammals. There were the small mammals digging tunnels beneath the grasses and preyed upon by the carnivorous animals such as foxes and wolverines.

The historical tallgrass prairie plant species included numerous grasses, of course, but also hundreds of species of forbs or wildflowers and some woody plants. The early blooming golden Alexander provided nectar and pollen as insects first became active in the spring. Later, coneflowers and sunflowers provided many birds, such as the finches, with their favorite seeds to eat. The thick bark and deep roots of oak tree species allowed these trees to survive in the prairie despite the lightning-ignited fires that once swept across the prairies. Also, certain shrubs such as lead plant, New Jersey tea, and wild rose, flourished in the prairies.

The creatures of the prairie were a wonderfully diverse lot, but the prairie disappeared from the landscape and the region of Illinois became the Corn Belt and a land of urban development. It seems we human beings have noticed the absence of the tallgrass prairie and have realized the loss because now many people are dedicating their energies to the restoration of these nearly-vanished prairie ecosystems.

Ballard Nature Center is actively restoring examples of these prairie, wetland and forest ecosystems. The Nature Center was recently awarded a $2000.00 grant from the Illinois Department of Natural Resources Wildlife Preservation Fund for the enhancement of the center's prairie and shrubland restorations and for the augmentation of environmental education programming. The funds will be used to restore examples of prairies and shrublands that historically occurred in the Southern Till Plain Natural Division of Illinois. Prairie wildflower, grass seed, and native prairie shrubs have been planted by volunteers in an effort to restore these prairie communities.

These improved prairie restoration areas will provide critical grassland and shrubland habitat for many species of animals and plants of conservation concern. Since the funds have also been used to purchase educational materials, the improvements will offer visitors the chance to gain an understanding of the nature of the ecosystem as well as the opportunity to explore the prairie at Ballard Nature Center.

Ballard Nature Center's naturalists would be happy to show off the center's restoration efforts and to offer insights about natural communities. Visit the nature center, wander the trail system and learn more about prairies and shrubland communities and enjoy the great outdoors. Also, consider making a donation to the Illinois Wildlife Preservation Fund on your Illinois Tax Return to help out other great projects that benefit wildlife in Illinois.

Detailed Budget Report

Materials/Supplies

Item	Quantity	Suppliers	Check #	Total
Potted Plants	160 plants Price/Item: $1.50 to $4.75	Missouri Wildflower Nursery and Bluestem Prairie Nursery	0556 0560	$531.50 $ 50.00
Prairie Seed	8.82 lbs.	Hamilton Native Outpost, LLC	0555 0562	$266.00 $ 45.00
Shrubs (RPM)	75+ shrubs Price/Item: $9.40 to $11.50	Forrest Keeling Nursery	0519 0529	$351.18 $647.52
Educational Materials	Iflyer Wand, *Monarch and Milkweed*, Plant Press, Port-A-Bug Container	Acorn Naturalists	0563	$214.23
			Total	**$2105.43**

Addresses and Dates of Purchase

Potted Plants

Missouri Wildflower Nursery, 9814 Pleasant Hill Road, Jefferson City, MO 65109
Paid 3/8/10 and Delivered 3/13/10

Bluestem Prairie Nursery, Ken Schaal, 13197 East 13th Road, Hillsboro, IL 62049
Paid 3/30/10 and delivered 3/26/10

Prairie Seed

Hamilton Native Outpost, 16786 Brown Road, Elk Creek, MO 65464
Paid 3/8/10 and delivered 2/24/10
Paid 4/8/10 and delivered 3/27/10

Shrubs

Forrest Keeling Nursery, PO Box 135, Elsberry, MO 63343
Paid 10/14/09 and delivered 10/1/09

Educational Materials

Acorn Naturalists, 155 El Camino Real, Tustin, CA 92780
Paid 4/8/10 and delivered 3/24/10

Project Expenditures paid by funds other than Special Wildlife Grant:

$105.43 for plants or seed
Indeterminate amount for labor

Project Objective

Funding through the Wildlife Perservation Funds was awarded to Ballard Nature Center (BNC), enabling the staff to purchase Illinois ecotype prairie plants and prairie forb seed and native shrubs in order to enhance the prairie restorations at the nature center. These restorations are representative of prairies that historically occurred in the Southern Till Plain Natural Division of Illinois. As of 2009, BNC staff and volunteers have restored approximately 100 acres of prairies ranging from a few acres to 47 acres in size. Plantings are intended to diversify these prairie restorations' plant communities and to provide habitat for numerous prairie-associated species that occur on site. Another purpose of the project to enhance the prairie restorations is to provide critical grassland and shrubland habitat for certain species of conservation concern. Most significance also is the use of the restoration areas as outdoor classrooms for environmental education opportunities and as outdoor laboratories for biological research. The purchase of educational materials, featuring an emphasis on the ecological importance of prairies and shrubland communities, will augment the educational programming at BNC. These materials will be used by various educators during interactive, experiential learning activities.

Project Description

The Ballard Nature Center is a 210-acre environmental education center located in Effingham County, Illinois. The center provides environmental education for a large portion of southeastern Illinois. The BNC's proposal included the purchase of native prairie plants, prairie forb seed, native shrubs and additional educational materials that focus on grasslands and shrublands in southeastern Illinois. The purchases' purpose was to allow the continued natural community restoration efforts and environmental education programs at the nature center. Expanding environmental education and restoring prairie and shrubland were identified as goals and objectives in the comprehensive State Wildlife plan for the Southern Till Plain Natural Division, in the C-2000 Upper Little Wabash Watershed Plan and as goals in the master plan for the Ballard Nature Center.

Summary of Project Accomplishments

Introduction

Upon recognizing the goals and objectives set forth in the Comprehensive State Wildlife plan for the Southern Till Plain Natural Division in the C-2000 Upper Little Wabash Watershed Plan, Ballard Nature Center's staff members, Patty Gillespie and Karan Greuel, under advisement of IDNR natural heritage biologist Terry Esker, created a plan by which to expand environmental education and to restore prairie and shrublands. The plan included the planting of native prairie botanical species by the installment of potted native forbs or wildflowers and of potted native shrubs and by the spreading of forb and grass seed. In order to enhance existing environment education programming and to add additional educational opportunities, the plan included the purchase of certain tools and supplies. The plan included, as well, the placement of the plants (shrubs, wildflowers, and grasses) in areas where those species could be easily observed by the center's visitors.

Materials and Methods

Upon notification of Ballard Nature Center's being awarded the Illinois Wildlife Preservation Fund, the BNC staff felt the plans for the Prairie & Shrubland Restoration project were achievable and purchases were made. Woody species were purchased at the end of September and were planted in October. Potted plants were purchased in March and planted in April through May. Seed was purchased in February and March and was planted in February, March, and April.

Shrubs and wildflower seeds were planted at the transition area between the Wetland/Prairie Trail and the Woodland Trail, where the center's naturalists could easily point the plants out to students visiting on field trips or where observant hikers could readily notice the newly installed species. Potted prairie forbs and seed were planted along a hillside of the prairie restoration site visible from Second Creek Trail. The grass seed helped to stabilize the steep hillside's soil in order to prevent erosion.

An IFLYER Wand, the book *Monarch and Milkweed*, a plant press, and a field container were purchased to be utilized in the instruction of children and adults.

Results

Survival rate of the planted shrubs and potted plants has been good due to adequate rainfall and recent increasing warmth during the growing season. The seed has sprouted. The addition of the prairie and shrubland plants to the established restoration areas at BNC has resulted in the enhancement of the area's plant diversity. Certain wildflower species have bloomed and been noted by observers at Ballard Nature Center. It has been noted that the plants have been serving as food for wildlife (browsers such as deer and insects such as honey bees and caterpillars).

The IFLYER enables the educator to help individuals identify birds by their songs. Before exploration of the newly improved shrublands and prairies at Ballard Nature Center, the educator uses the wand to produce a bird's song while revealing the bird's image. The book *Monarch and Milkweed* is particularly useful in illustrating the concepts of habitat and food chain and insect life cycles and will soon be used before the summer prairie walks during which milkweed plants and monarch caterpillars are often observed. The plant press will be incorporated into botanical studies of the various

species of prairie and shrubland areas. In fact, at present, several plant species' leaves are being pressed for instruction purposes during summer nature camps. The field container is a must when the center's explorers wish to look more closely at the insects which frequent the plants or to capture creatures momentarily for show and tell. The container recently held a garter snake during a school field trip.

Discussion and Summary

During the planning stages, a survey of existing plants in the prairie and shrubland restoration areas was completed. This survey helped the staff and advisors to develop a list of plant species that would enhance diversity. Those prairie plants which are often found in Illinois but were absence or very few in number at BNC were purchased. It is our hope that these plant species will provide addition food for the common wildlife species that often frequent the restoration areas and will enable other wildlife species to find food at BNC. Another hope is that the nature center's explorers (students on field trips, families on outings, adults on workshops, etc.) will note the various plant species and the wildlife utilizing them and that these individuals will learn about nature.

For Education of the General Public
A List of Wildlife and Native Plant Resources
That Benefited from the Project

Prairie and Edge Plant Species

Sampson's Snakeroot – *Orbexilum pedunculatum*
Butterfly Milkweed – *Asclepias tuberosa*
Royal Catchfly – *Silene regia*
Smooth Penstemon – *Penstemon digitalis*
Common Blue Star – *Amsonia tabernaemontana*
Midland Shooting Star – *Dodecatheon meadia*
Missouri Primrose – *Oenothera macrocarpa*
Lanceleaf Coreopsis - *Coreopsis lanceolata*
Blazingstar – Liatris aspera
Blazingstar - *Liatris squarrosa*
Goat's Rue – *Tephrosia virginiana*
Southern Blue Flag – *Iris virginica*
Copper Iris – *Iris fulva*
Sneezeweed – *Helenium autumnale*
Alum Root – *Heuchera richardsonii*
Compassplant-*Silphium laciniatum*
Pale Purple Coneflower- *Euchinacea pallida*
Purple Coneflower – *Euchinacea purpurea*
New England Aster – *Aster novae-angliae*
Rattlesnake Master – *Eryngium yuccifolium*
Wild Quinine – *Parthenium integrifolium*
Culver's Root – *Veronicastrum virginicum*
Cardinal Flower – *Lobelia cardinalis*
Blue Lobelia – *Lobelia siphilitica*
Golden Alexander – *Zizia aurea*
Wild Sweet William or Blue Phlox – *Phlox divaricata*
Wild Geranium – *Geranium maculatum*
Celadine Poppy – *Stylophorum diphyllum*
White Wild Indigo – *Baptisia leucantha (alba)*
Blue False Indigo – *Baptisia australis*
Leadplant - *Amorpha canescens*
Prairie Alum Root – *Heuchera richardsonii*
New Jersey Tea – *Ceanothus americanus*
Prairie Dropseed - Sporobolus heterolepis
Side-oats Grama - *Bouteloua curtipendula*
Virginia Wild Rye - *Elymus virginicus*

Prairie Dropseed –*Sporobolus heterolepis*
Buffalo Grass – *Buchloe dactyloides*
Eastern Gamma Grass – *Tripsacum dactyloides*
Switchgrass- *Panicum virgatum*
Shrubs
Amorpha fruticosa
Cornus drummondii
Cornus foemina
Cornus stolonifera
Corylus americana
Crataegus crusgalli
Prunus americana
Prunus virginiana
Sambucus canadensis
Viburnum lentago
Viburnum prunifolium
Lindera benzoin

Those benefiting: Wildlife benefiting would be a very diverse group ranging from brown thrasers and mockingbirds feasting upon the berries of the viburnum bushes to monarch butterflies' caterpillars eating butterfly milkweed.
Specific Audience: All patrons of Ballard Nature Center stand to benefit by increased opportunities to view a diversity of plant and animal species and by use of the educational materials made available through the Wildlife Preservation Funds.
Measurable Outcomes: An observable outcome is the increase in the existence of certain botanical species which were earlier absence or lacking in number at Ballard Nature Center. Since monitoring or surveying of the natural communities at BNC have been ongoing, an enhancement in the diversity of plants (and possibly animals) is a noticeable outcome of the project. Understandings, developed through field observations and the use of educational materials, although not measurable, is a hoped-for outcome.
Products: Enhanced diversity in natural communities and greater understandings among the center's explorers are expected.

A newly planted shrub

Forbs awaiting planting

Spreading Seed

Planting shrubs with the help of a post-hole digger.

The Ballard Nature Center