

**2003 Project Abstract**

For the Period Ending June 30,2005

AUG - 3 2005

**Dodge Nature Center – Restoration Plan**

Julie Allen

Dodge Nature Center

365 Marie Ave West

West St. Paul, MN 55118

[www.dodgenaturecenter.org](http://www.dodgenaturecenter.org)

MN Environment and Natural Resources Trust Fund

ML 2003, Chap.128, Art. 1, Sec. 9, Subd.11(a)

\$83,000

This project funded the development of an ecological management plan for Dodge Nature Center's Main Headquarters and Marie properties at 365 Marie Ave West, Dakota County. In addition funding was applied to continue restoration and land management efforts for the Nature Center's Lilly Property. The following projects took place on this property with these funds:

- Staff worked to stop the spread of oak wilt through injections, trenching and tree removal
- Prescribed burns were conducted on over 50 acres of prairie and savanna to control the spread of non-native and invasive species
- Restored 8 acres of farm field and degraded prairie to native Minnesota prairie, planting 110 lbs of seed and 1800 seedlings
- Replenished the woodlands, savanna, and floodplain forest with 30 lbs of seed and 2000 seedlings, to increase plant and animal diversity in these sites
- Planted 100 trees and shrubs throughout the oak savanna, woodland and other necessary sites (floodplain, trailhead, etc.)
- Cleared and chipped buckthorn and honeysuckle from 20+ acres of oak woodland and oak savanna (also managed the spread of many invasive forbs throughout these sites)
- Shrubs and trees were removed, on a continual basis, from over 25 acres of prairie
- Reared beetles to control the spread of purple loosestrife throughout the Nature Center
- Restored 75 feet of hiking trail and rebuilt foot bridge

Visitors of the Lilly Property will encounter four new interpretive signs highlighting land management projects that have taken place with the help of these funds. Curriculum has been rewritten to emphasize the restoration efforts at the Nature Center. A meeting was held for all neighbors of the Nature Center to inform them of the work that was going on and ways that they could get involved in the future. Finally, the above projects were highlighted in the Dodge Nature Center newsletter.

June 30, 2005  
"LCMR Final Work Program Report"

**I. PROJECT TITLE:** Dodge Nature Center – Restoration Plan

**Project Manager:** Ben Van Gundy  
**Affiliation:** Dodge Nature Center  
**Mailing Address:** 365 West Marie Avenue  
**City / State / Zip :** West St. Paul, Minnesota 55118  
**Telephone Number:** 651-455-4531  
**E-mail Address:** [bvangundy@dodgenaturecenter.org](mailto:bvangundy@dodgenaturecenter.org)  
**FAX Number:** 651-455-2575  
**Web Page address:** [www.dodgenaturecenter.org](http://www.dodgenaturecenter.org)

<b>Total Biennial LCMR Project Budget:</b>	<b>LCMR Appropriation:</b>	<b>\$ 83,000</b>
	<b>Minus Amount Spent:</b>	<b>\$82,939</b>
	<b>Equal Balance:</b>	<b>\$61</b>

**Legal Citation:** ML 2003, Chap.128, Art. 1, Sec. 9, Subd. 11(a).

**Appropriation Language:** 11 (a) Dodge Nature Center – Restoration Plan \$41,000 the first year and \$42,000 the second year are from the trust fund to the commissioner of natural resources for an agreement with Dodge Nature Center to restore up to 155 acres in Mendota Heights.

**II. and III. FINAL PROJECT SUMMARY**

This project funded the development of an ecological management plan for Dodge Nature Center's Main Headquarters and Marie properties at 365 Marie Ave West, Dakota County. In addition funding was applied to continue restoration and land management efforts for the Nature Center's Lilly Property. The following projects took place on this property with these funds:

- Staff worked to stop the spread of oak wilt through injections, trenching and tree removal
- Prescribed burns were conducted on over 50 acres of prairie and savanna to control the spread of non-native and invasive species
- Restored 8 acres of farm field and degraded prairie to native Minnesota prairie, planting 110 lbs of seed and 1800 seedlings
- Replenished the woodlands, savanna, and floodplain forest with 30 lbs of seed and 2000 seedlings, to increase plant and animal diversity in these sites
- Planted 100 trees and shrubs throughout the oak savanna, woodland and other necessary sites (floodplain, trailhead, etc.)
- Cleared and chipped buckthorn and honeysuckle from 20+ acres of oak woodland and oak savanna (also managed the spread of many invasive forbs throughout these sites)
- Shrubs and trees were removed, on a continual basis, from over 25 acres of prairie
- Reared beetles to control the spread of purple loosestrife throughout the Nature Center

- Restored 75 feet of hiking trail and rebuilt foot bridge

#### IV. OUTLINE OF PROJECT RESULTS:

##### **Result 1:** Further implement restoration plan for Lilly Property

**Description:** This plan includes selective plant thinning and removal of invasive species, controlled burns, seeding and native species planting, and erosion control. This will result in an abundance of native wildlife inhabitants including white-tail deer, grey and red fox, beaver, raccoon, skunk and a variety of smaller mammals. More than 100 species of birds, from the larger great egret to the smaller migratory warblers will be seen. The varied habitats and wildlife inhabitants are the nature center's greatest teaching resource and provide the basis for exploration and field studies integral to the center's educational programs. We will focus specifically on restoring the Oak Savannas that we have been working on (12.8 acres), the northeast prairie (8.6 acres) and invasive species removal throughout the oak woodlands (10 acres). While at the same time we want to focus on maintaining the northern prairie parcel (28.7 acres) through burns, transplanting, seeding, and herbiciding. The removal of invasive species is an on going process that can take many years. Our goal is to get control of these species and begin the reintroduction of our natives in order to restore some of Minnesota's most valuable and endangered ecosystems.

##### **Summary Budget Information for Result 1:**

LCMR Budget	\$ <u>71,700</u>
Balance	\$ <u>61</u>

##### **Result Status as of June 30, 2005:**

Eight acres of farm field and degraded prairie were restored to native prairie ecosystem. Invasive species were removed from over 20 acres of savanna and woodland creating space for reseeding and replanting of seeds and seedlings throughout property. The purchase of a new wood chipper through funding from the Environment and Natural Resource Trust Fund as recommended by the LCMR has provided us with the ability to eliminate many more acres of buckthorn than was possible prior. Trees have been planted in areas where large amounts of buckthorn were removed to discourage reestablishment of non-native species in these areas. Invasive species have been managed by mechanical, biological, and chemical means depending on the species, time of year, and number of available volunteers.

The funding not only allowed us to implement so much of our Lilly Preserve restoration plan, but also provided the Nature Center with the tools to continue these efforts for years to come (wood chipper, seed broadcaster, safety equipment, etc.)

**Result 2:** Develop a comprehensive Restoration Plan for Headquarters and Marie Properties of Dodge Nature Center. (see attachment B)

**Description:** Currently, there is invasive species removal going on at this site. However, a formal plan, like the one for the Lilly Property is needed so as to increase the variety of wildlife currently residing at Dodge Nature Center and to set more specific goals for each unique habitat on the Headquarters Property, the property that receives the largest amount of traffic and thus, the most in need of restoration and ongoing maintenance of the land. The plan would be for two properties covering a total of 150 acres.

**Summary Budget Information for Result 2:**

LCMR Budget \$ 11,300  
Balance \$ 0

**Result Status as of June 30, 2005:**

The restoration plan for Dodge Nature Center's main headquarters was completed in the spring of 2004 by Great River Greening ecologist Fred Harris. Early stages of this plan are being completed with the help of volunteers. Invasive species are being removed throughout the Nature Center's Main and Marie properties, with the help of volunteers. A regular burn rotation has been established for the main headquarters prairie, approximately 75 percent of the prairie was burned in the fall of 2004. Over the past two years four maple and five basswoods were also introduced on the main headquarters. Also planted in the fall was a small prairie planting in front of our new raptor mews, in addition we have begun a native prairie planting in front of our preschool. This planting will contain interpretive signs educating visitors on the importance of the prairie ecosystem and planting with native species. The focus on both of these properties for the next couple of years will be on the control of invasive and non-native plants (buckthorn, honeysuckle, garlic mustard, burdock, and more).

**Final Report Summary:**

**V. TOTAL LCMR PROJECT BUDGET:**

All Results: Personnel:	\$55,000
All Results: Equipment:	\$9840
All Results: Development:	\$18,160
All Results: Acquisition:	\$0
All Results: Other:	\$0

**TOTAL LCMR PROJECT BUDGET: \$83,000**

**Explanation of Capital Expenditures Greater Than \$3,500: N/A**

**VI. PAST, PRESENT AND FUTURE SPENDING:**

**A. Past Spending:**

In 1995, a generous donation of **\$15,000** by the David Lilly family (The family that donated the 155 acre property) allowed Dodge Nature Center to develop an Ecological Plan for its Lilly Property. After researching options, Mark Leach and Brian Bader of the University of Wisconsin Madison (The nationwide leader in restoration ecology) were hired to develop the plan. What resulted was an extremely comprehensive plan that detailed initial restoration efforts followed by maintenance and improvement programs. Other monies allocated toward restoration include monies from a fund set up for material cost for land maintenance. Each year, **\$50,000** is allocated from the fund for grounds-type needs. A portion of this money goes toward invasive species removal costs, controlled burns and tree purchases. The rest of restoration funding has come from small grants and general operating dollars.

**B. Current Spending:**

Dodge will continue to tap into the **\$50,000** buildings and grounds maintenance fund for a portion of its restoration efforts.

Other current funding includes:

- St, Paul Garden Club Grant for \$500 to establish a native prairie garden at the Nature Center Preschool
- \$5000 Metro Greenway Grant to continue restoration efforts on the Marie Property , following the direction of the restoration plan developed with funding from the Environment and Natural Resources Trust Fund through LCMR

In addition, over 1,300 hours of volunteer time toward restoration are logged each year saving hundreds of dollars in staffing costs.

**C. Required Match (if applicable): N/A**

**D. Future Spending:** Restoration will be ongoing at the nature center. No budgeted amount has been projected for this activity. Although, the salary for our full-time restorationist will be an ongoing part of our annual operating budget as will modest expenses that correspond to her work.

**VII. Project Partners: N/A**

**A. Partners Receiving LCMR Funds: N/A**

**B. Project Cooperators: N/A**

**VIII. DISSEMINATION:** Dissemination of information will happen through status reports to LCMR. In addition, brochures have been developed to educate the community on restoration efforts and how they can help. In addition, a comprehensive plan (described in result 2) will be produced as a guide for all future restoration activity on the Main and Marie properties of the Dodge Nature Center.

**IX. LOCATION:** All work will take place in the Northern Dakota County communities of West Saint Paul and Mendota Heights. The zip code is 55118 for both cities.

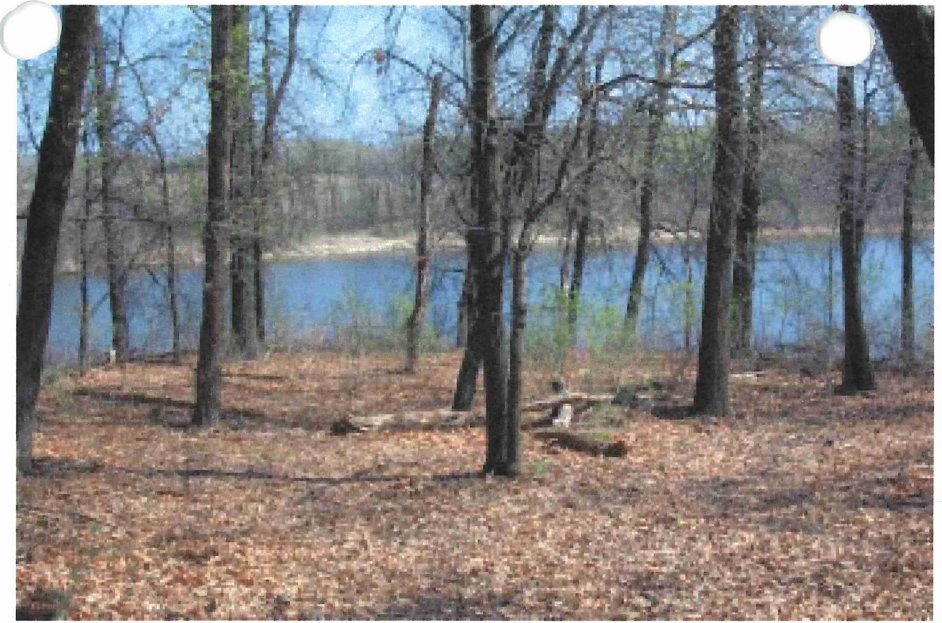
**XI. RESEARCH PROJECTS:** N/A

**Attachment C:**

Photographs of restoration projects, funded by the Minnesota Environment and Natural Resource Trust Fund, at Dodge Nature Center.



A thicket of buckthorn and honeysuckle on the northwest corner of the Nature Center's Lilly pond.



A look at the northwest corner (similar location as first photo, may not be exact) of the prairie pond following a large buckthorn pull. Native woodland groundlayer species were introduced into this site.

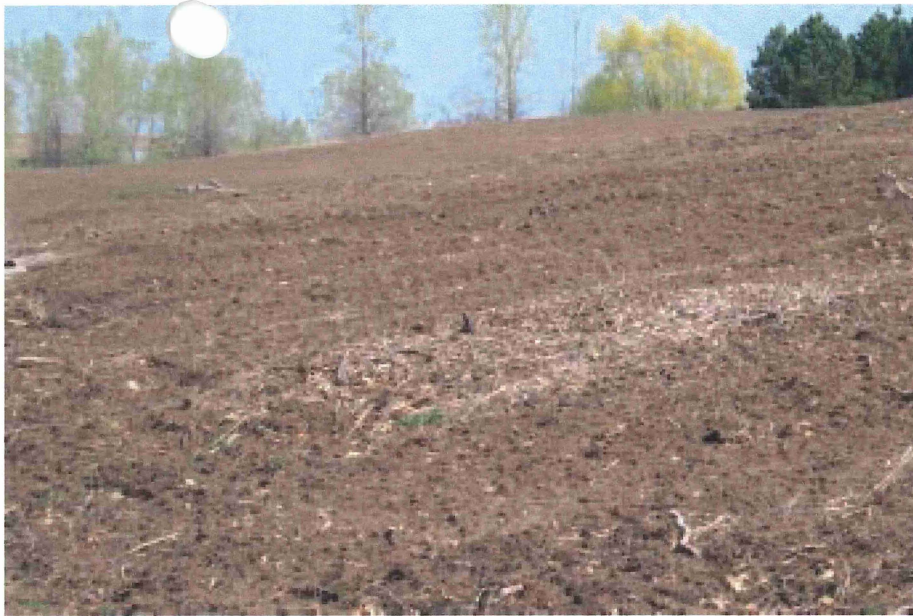
Volunteers of all ages chip in to pull buckthorn for the Nature Center's annual Earth Day event.



The area of oak woodland below was cleared by staff and volunteers during the fall of 2004. The same area was planted in the spring of 2005 with native flowers and grasses.







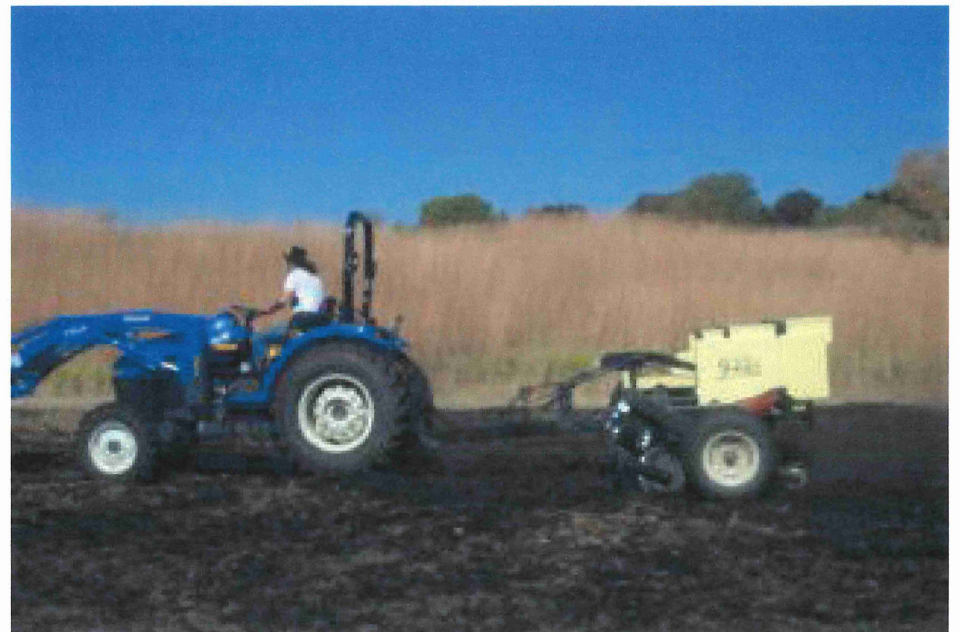
The prairie restoration above was accomplished using a combination of mechanical and chemical methods. The site was turned over using a tractor and spade and the weeds were herbicided multiple times prior to seeding and transplanting with native species.



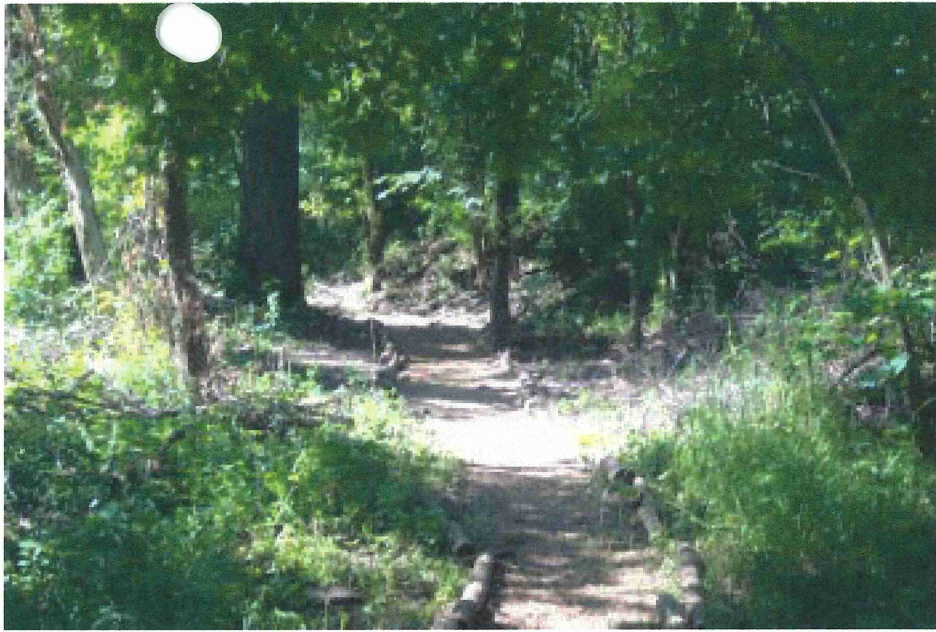
Blue vervain and swamp milkweed blooming in a prairie restoration previously dominated by reed canary grass.



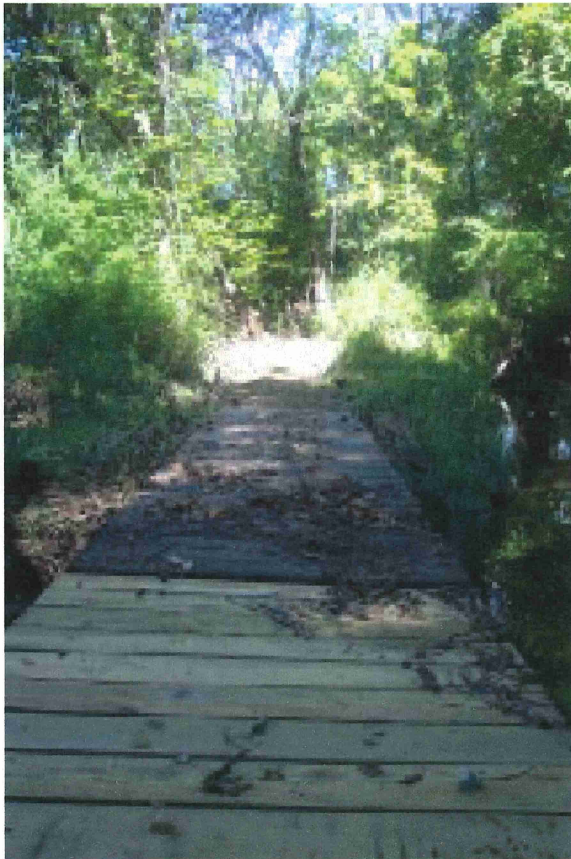
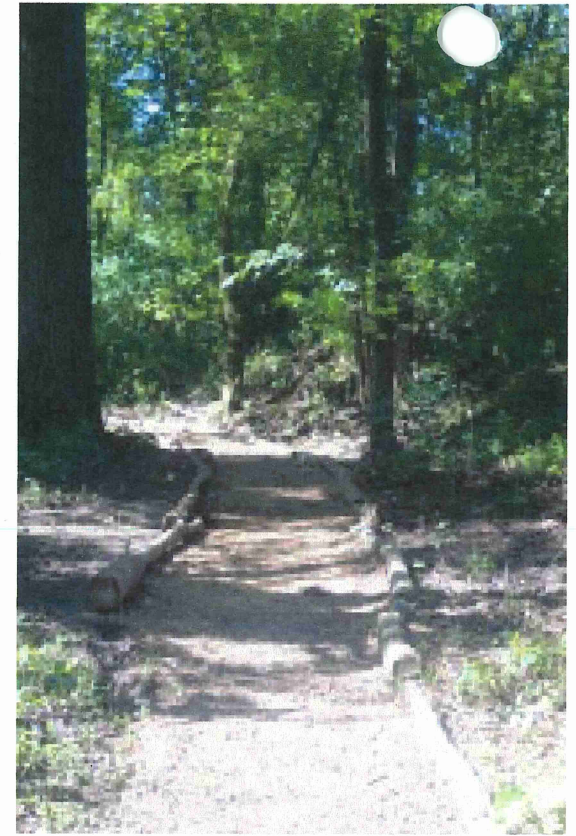
Dodge Nature Center staff rented a native seed drill from Dakota County Soil and Water to reseed an area of wet prairie.



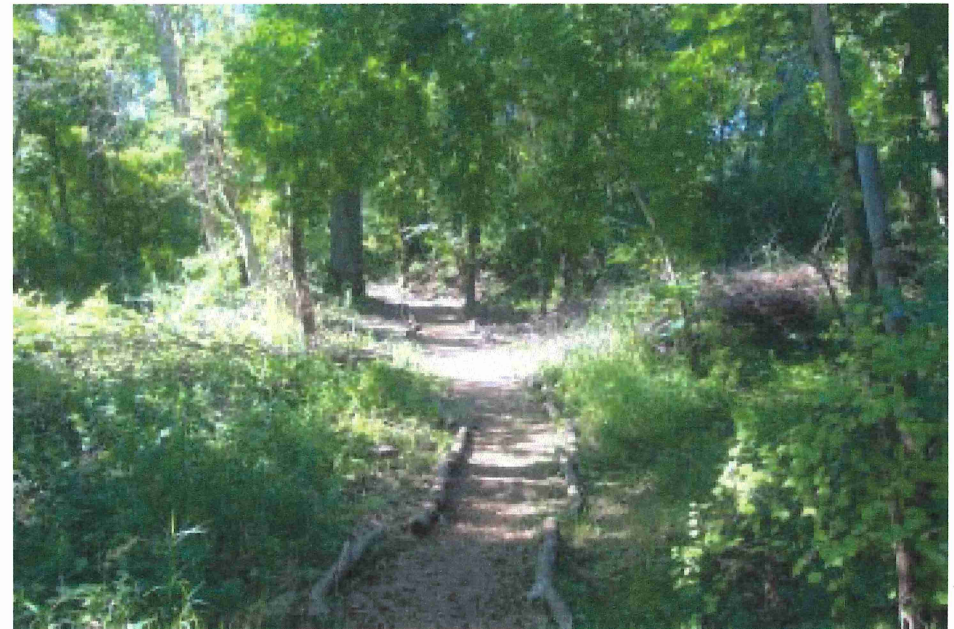
The Center's farm tractor planting a native tall grass prairie.



Buckthorn and other invasives were cleared from this site to uncover a lost trail. Logs were placed on both sides of the trail to give it some character and define the boundaries, Woodchips were spread from the trailhead to the footbridge.



Foot bridge rebuilt over stream (on left).





The Morbark brush chipper pictured above was purchased with funding from the Environment and Natural Resource Trust Fund.

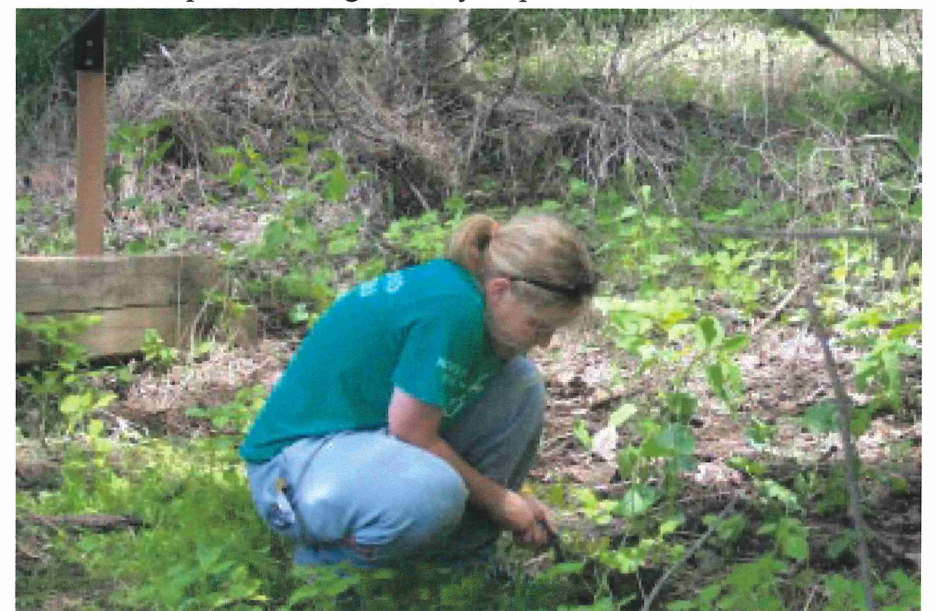


The brush piles above were stacked after clearing an overgrown prairie site. All brush under 6 inches in diameter was chipped and remaining brush was restacked to be burned in the winter of 2005-2006.

A major focus for this grant was to remove buckthorn and honeysuckle from the oak savanna to allow for oak regeneration.



Using the brush chipper to remove brush from cleared sites allows us to be able to plant native groundlayer species into the area.





Black-eyed Susan in bloom at the Nature Center's Lilly Preserve.



Butterfly milkweed appearing following a fall prairie burn at the Nature Center.



Native oaks finally have room to breathe after this large pile of buckthorn was cleared from the oak savanna to allow sunlight into the area and increase oak regeneration.



Black-eyed susans in bloom the spring following a fall prescribed burn.



Interpretive sign describing necessary steps in an oak savanna restoration project. These interpretive signs were funded by an individual donor, and are designed to educate visitors on the importance of land management and restoration.



Overlooking the Nature Center's largest prairie, the interpretive sign above describes the importance of prescribed burns.

This trail sign highlights the diversity of plants and animals found in a floodplain forest, as well as its uniqueness.



With the presence of purple loosestrife on the property, the following interpretive sign describes the biological control of this invasive plant.



Attachment A: Budget Detail for 03 Projects - Summary and a Budget Change for each partner

Project Manager Name: Ben Van Gundy

LCMR Requested Dollars: \$83,000

LCMR Proposal Budget	Result 1 Budget:	Result 1-Budget ammended (6/1/05)	Amount Spent (6/30/05)	Balance (6/30/05)	Result 2 Budget:	Result 2 budget-ammended (9/04)	Amount Spent (6/30/05)	Balance (6/30/05)	
<b>BUDGET ITEM</b>	Complete Implementation of Lilly Property Restoration Plan				Develop a Comprehensive Restoration Plan for Headquarters and Marie Properties of Dodge Nature Center				
<b>PERSONNEL: Staff Expenses, wages, salaries – Be specific on who is paid \$, to do what? Make each person paid a separate line item</b>									
Julie Allen - head restoration ecologist	\$28,200	\$28,200	\$28,200	\$0	\$1,000	\$1,000	\$0		
Eloise Dietz - assistant restoration ecologist	\$1,000	\$1,000	\$1,000	\$0					
Interns and seasonals (3/04)	\$6,000	\$6,000	\$5,987	\$13	\$0				
<b>PERSONNEL: Staff benefits – Be specific; list benefits for each person on a separate line item</b>									
<b>Contracts</b>									
Professional/technical (with whom?, for what?)									
Great River Greening-Restoration Plan					\$10,300	10,300	0		
Natural Resources Restoration, Inc. - Burn Crew, brush removal (3/04)	\$8,500	\$8,500	8,500	0					
Other contracts (with whom?, for what?) list out: personnel, equipment, etc.									
Space rental: NOT ALLOWED			X		X				X
<b>Equipment / Tools (what equipment? Give a general description and cost)</b>									
Seed Broadcaster (seed drill rental)	\$345	\$345	\$345	\$0					
Saw & Saw Blades (chipper rental)	\$800	\$800	\$800	\$0					
Weed Wrenches	\$182	\$182	\$182	\$0					
Replacement Tools	\$313	\$313	\$313	\$0					
6" Brush Chipper	\$8,000	\$8,000	\$8,000	\$0					
Goggles & Protective Wear	\$200	\$200	\$200	\$0					
Office equipment & computers (be specific)									
Other Capital equipment (list specific items)									
Land acquisition (how many acres)									
Land rights acquisition (less than fee)									
Printing									
Advertising									
Communications, telephone, mail, etc.									
Other Supplies (list specific categories)									
Seeds & Seedlings	\$12,006	\$12,006	\$11,958	\$48					
Herbicides & Sprayers	\$2,704	\$2,704	\$2,704	\$0					
Trees	\$3,450	\$3,450	\$3,450	\$0					
Construction (for what?)									
Other land improvement (for what?)									
<b>COLUMN TOTAL</b>	\$71,700	\$71,700	\$71,639	\$61	\$11,300	\$11,300	\$0		\$83,000