

**MONITORING AND EVALUATION
REPORT
FISCAL YEARS 2010 and 2011**



**Midewin National Tallgrass Prairie
USDA Forest Service**

Cover photo taken by Bill Glass:

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Fiscal Years 2010 and 2011 MONITORING AND EVALUATION REPORT

MIDWIN NATIONAL TALLGRASS PRAIRIE

EXECUTIVE SUMMARY

This report documents the Midwin National Tallgrass Prairie Land and Resource Management Plan (Prairie Plan) monitoring completed in Fiscal Years 2010-2011: October 1, 2009 through September 30, 2011. It provides a comprehensive account of our activities based on the Prairie Plan. We have evaluated the monitoring data to determine if management and program direction at the Midwin National Tallgrass Prairie has been effective.

The Prairie Plan, implemented since February 2002, requires detailed planning at the “site-specific” level in compliance with the National Environmental Policy Act (NEPA). During plan implementation, analysis of environmental effects is conducted for site-specific projects. Once a decision is made to begin site-specific activities such as building a new recreation trail or starting restoration in a new area, we monitor changes to relevant resources to see if we are doing what we said we would.

Activities undertaken in Fiscal Years (FY) 2010-2011 (October 1, 2009 - September 30, 2011) towards fulfillment of Midwin’s Prairie Plan goals and objectives include:

1. Restoration of tallgrass prairie ecosystems and investment in long-term prairie ecology on over 6,000 acres, made possible with support from key partners.
2. Preparation of NEPA analyses and making site-specific decisions for planned restoration projects.
3. Production of native prairie plant seeds to increase Midwin’s capacity to meet restoration goals.
4. Maintenance of existing infrastructure and prairie conditions for future use, including grazing, mowing grasses and noxious weeds, and road maintenance.
5. Construction of new recreational facilities, including new trails, bridges, and a scenic overlook.
6. Maintaining and improving access for public recreation at Midwin.
7. Offering a variety of environmental education programs such as Mighty Acorns, the El Valor partnership, South Point Academy, tours, and a lecture series, to reach out to over 1,800 people of all ages.

Continued monitoring with generous contributions from many hard-working volunteers and partners has allowed us to observe and record the effects of actions taken to implement the Prairie Plan. Our team has evaluated the data collected in 2010-2011 and from previous years and we have made the following conclusions:

- We are meeting the Prairie Plan goals and objectives.
- The Prairie Plan management prescriptions are being applied appropriately.
- The results of land management are responsive to the key issues, concerns, and opportunities.
- New issues, concerns, and opportunities have been adequately addressed.

In summary, we have determined that the desired outcomes in the Prairie Plan are being met, and that the assumptions made during the initial planning stages are still valid today.

Thank you to each person, group, and organization, and to all of Midewin's partners who have made, and continue to make, lasting contributions at Midewin. Volunteers bring an incredible diversity of skills and knowledge that enhance native seed production, trail construction and maintenance, environmental education, heritage projects, and many other activities. Our combined efforts have greatly furthered restoration efforts and development of recreation facilities at Midewin.

TABLE OF CONTENTS

TABLE OF CONTENTS.....	5
LIST OF TABLES	6
INTRODUCTION.....	7
MONITORING & EVALUATION RESULTS	9
1. Program Accomplishments.....	9
2. Volunteer Program.....	15
3. Agriculture Use	20
4. Air Quality	23
5. Capital Infrastructure	23
6. Former Army Facilities Removal	23
7. Ecosystem Restoration and Management	24
8. Environmental Education / Interpretation	31
9. Fire Management.....	32
10. Hazardous Materials	33
11. Heritage Resources	33
13. Land Ownership	36
14. Recreation.....	36
15. Research	37
16. Scenery Management	38
17. Social and Economic	38
18. Threatened, Endangered Species and Regional Forester's Sensitive Species	38
19. Transportation and Utilities.....	39
20. Watershed, Riparian, and Wetlands	40
21. Water Quality	40
22. Wildlife	41
23. Management Area 3 – Special Areas	41

LIST OF TABLES

Table 1.	Proposed and Actual Management Activities and Actual Accomplishments: FY 2010-2011.	9
Table 2.	Final Budgets for Fiscal Years 2010-2011.....	15
Table 3.	Volunteer Hours by Resource Category.....	17
Table 4.	Comparison of Volunteer/Youth Numbers, Hours.	17
Table 5.	Acres Removed from Agriculture.....	20
Table 6.	2002-2011 Grazing.....	21
Table 7.	Agriculture Land Restoration.....	22
Table 8.	Acres being Restored Annually.	26
Table 9.	Partner Contributions to Restoration Projects.	27
Table 10.	Acres for Resource Management.....	28
Table 11.	Grass Structure in pastures short stature.....	30
Table 12.	Grass Height in idle pastures and hay fields medium grass habitat.	38
Table 13.	Grass Height in idle pastures and hay fields tall grass habitat.	30
Table 14.	Invasive Plant Treatment Acres 2002-2012.....	35
Table 15.	Invasive Insect Treatment Acres 2010-2012.	35
Table 16.	Population Demographics of Dalea foliosa at Midewin.....	35

INTRODUCTION

Midwin has the potential for vast beauty and richness of biological resources that visitors will experience to greater degrees with passing years, as the result of the activities undertaken now when the Prairie Plan is being implemented.



The Midwin Land and Resource Management Plan (Prairie Plan) was approved in February 2002 and amended in 2008. Chapter 6 of the Prairie Plan outlines the monitoring and evaluation program. This report covers monitoring and evaluation, reporting on recent actions implementing the Prairie Plan. Monitoring of actions and evaluation of the results of monitoring are essential steps in effective implementation of the Prairie Plan. These steps help determine if management activities are meeting the direction of the Prairie Plan and if there is a need to change the Plan's desired conditions, goals, objectives, standards, and guidelines. Adaptation of improved management and planning decisions is the expected result of monitoring and evaluation at Midwin.

Why do we monitor?

Monitoring records the effects of actions taken to implement the Prairie Plan, which lists specific monitoring questions. This report responds to those questions for FY 2010 and 2011 and determines:

1. Whether goals and objectives outlined in the Prairie Plan are being met;
2. Whether management prescriptions are being applied appropriately;
3. Whether the results of land management are responsive to the key issues, concerns, and opportunities;
4. Whether new issues, concerns, and opportunities are arising;
5. Whether environmental effects are occurring as predicted; and
6. Whether costs of implementing the Prairie Plan are as predicted.

Monitoring responses to these questions and the resulting evaluation of the responses are the tools used to help determine the success or shortcomings of Prairie Plan implementation, if the desired outcomes are being realized, and if the assumptions in the initial planning stages are still valid. Through this monitoring and evaluation process we are able to assess the quality of Prairie Plan implementation and the need for changes in Plan direction. Monitoring addresses the physical, biological, social, and cultural elements along with emerging issues. Evaluation addresses the results of monitoring, and makes recommendations for amendments, revisions, or changes in management direction in the Prairie Plan.

How existing data are used in monitoring and evaluation

Because we use existing information to the extent possible, monitoring is often comprised of field inspections based on sampling, where the frequency, precision, and reliability depend on relative importance and identified needs. We use a full spectrum of data collection techniques, including:

1. Site-specific observations by specialists;
2. Field assistance trips;
3. Formal management reviews; and
4. Discussions with other agencies, partners, and public users and visitors.

Ranging from simple observations to systematic data collection, monitoring is conducted at three levels:

- 1) **Implementation**: are projects accomplished as designed in conformance with Prairie Plan goals?
- 2) **Effectiveness**: are projects working to meet management goals and direction?
- 3) **Validation**: is Prairie Plan guidance satisfactory to comply with planning regulations, policies, and goals?

MONITORING & EVALUATION RESULTS

1. Program Accomplishments

1.1 Determine how well objectives have been met by a quantitative comparison of outputs and services with those projected by the Plan.

Table 1. Proposed and Actual Management Activities and Actual Accomplishments: FY 2010-2011

National Forest Fund Code	Project Description	FY 2010	FY 2011
CMFC Facilities Capital Improvements and Maintenance	Implement annual maintenance of Administrative Site. Design and build a visitor center.	No new facilities constructed in FY2010. Entered agreement with FPDWC to design and construct a new trailhead	No new facilities constructed in FY2011. Began design through FPDWC on new trailhead
CMRD Roads Capital Improvements & Maintenance	Eliminate backlog of deferred maintenance for administrative roads (approx. 5 miles/year). Decommission unneeded roads in sensitive habitat, near tracts of native vegetation, & those that fragment grassland habitat or traverse wetlands or streams (approx. 10 miles/year, as funds allow).	4 road miles of road was decommissioned	4.9 miles of road was decommissioned 1/8 th of a mile of rail road was decommissioned
CMTL Trail Capital Improvements & Maintenance	Designate & maintain interim trails. Design & build permanent trails.	19 miles of trail maintained by mowing Construction of the West Side trail continued. Opened 4.5 mile Blodgett Marsh	19 miles of trail maintained by mowing Construction of the West Side trail continued including construction of 2 bridges. Opened

National Forest Fund Code	Project Description	FY 2010	FY 2011
		Trail as part of the West Side Trail	remaining stretches of West side trail
CWFS – Other Cooperative Funds	Deposit cooperator funds and donations; spend on authorized projects.	None	None
DMDM Backlog Maintenance	Demolish former Army facilities and infrastructure as funds allow.	53,422 square feet of transite removed	39 building and infrastructure were demolished and or removed 77,000 square feet of transite removed
FDFD Recreation Fee Demo Program	Improve visitor facilities & services.	No FDFD funds were allocated	No FDFD funds were allocated
HWHW Hazardous Waste	Continue environmental coordination & support. Continue wetlands & drainage confirmatory sampling for arsenic in fence lines, railroad ballast, and Kemery and Doyle Lake sediment.	No Hazardous waste removed	1/8 th of a mile of rail road ballast was removed
LALW Land and Water Conservation Fund	Emphasize acquisitions that further Plan objectives and improve access for restoration and recreation.	No new lands acquired	No new lands acquired
NFIM Inventory Monitoring	Conduct above project level integrated resource inventories, inventory planning design, documentation, field data collection, data management and stewardship, and prepare reports.	TES Monitoring: 10, 484 acres Heritage inventory: 1,303 acres	TES Monitoring: 9,166 acres Heritage inventory: 413 acres

National Forest Fund Code	Project Description	FY 2010	FY 2011
	Maintain resource information systems; produce annual monitoring and evaluation report.		
NFLE Law Enforcement	Support Forest Service Law Enforcement activities.	Law Enforcement activities supported	Law Enforcement activities supported
NFLM Land Ownership Management	Administer & monitor special use permits. Continue boundary & title management.	8 special use permits total and 3 were for agricultural use; 4,574 acres	13 special use permits administered; (4 for utility or road easements, 7 for agriculture use on 4,672 acres)
NFN3 Native Plant Materials	Expand production of appropriate native plants for habitat restoration and other needs. Initiate/expand native plant/pollinator gardens for public education and habitat.	\$3,000, used to purchase >2,400 plants to install in native plant and pollinator gardens.	\$25,000, used to purchase 2,500 native plugs for installation in pollinator gardens, and to hire STEP seasonal to install native plants in seed production beds.
NFPN Forest Planning	Maintenance of existing Plan; prepare amendments as needed.	No Amendment needed.	No Amendment needed.
NFRG Grazing Management	Administer & monitor grazing permits for enhancement of grassland bird habitat (approx. 800-4,000 acres/year)	4,525 acres 11 grazing permits, 11 allotments managed. 1 permit was cancelled.	4,525 acres 11 grazing permits, 11 allotments managed.
NFRW Recreation/Heritage/Wilderness	Outdoor recreation & management. Heritage resource protection, preservation, & interpretation. Environmental education (EE) programming. Interpretive tours &	<u>Recreation:</u> Opened 1,900 acres on west side of Midewin. Area open for public use is now 9,100 acres. Construction	<u>Recreation:</u> Opened 1,900 acres on west side of Midewin. Area open for public use is now 9,100 acres. Construction of

National Forest Fund Code	Project Description	FY 2010	FY 2011
	activities.	<p>continued on West Side Trail. Opened 4.5 mile Blodget Marsh Trail as part of the West Side Trail.</p> <p>Ten new interpretive signs were installed on the Midewin .</p> <p><u>EE</u>: 10 lectures with approx 327 participants, 900 Mighty Acorn students. Reached approx 1,000 student contacts through Conservation Ed.</p>	<p>the West Side trail continued including construction of 2 bridges. Opened remaining stretches of West side trail.</p> <p><u>EE</u>: 10 lectures with approx 327 participants, 900 Mighty Acorn students. Reached approx 1,000 student contacts through Conservation Ed.</p>
NFVW Vegetation and Watershed Management	<p>Begin implementation of South Patrol Rd and Mola-Hoff Rd wetland restoration projects (approx. 250-500 acres/yr). Continue native seed production. Develop wetland seedbed. Assess and maintain watershed conditions at Prairie, Jackson, and Grant Creeks. Monitor air quality. Control noxious weeds (approx. 200-500 acres yearly). Continue removal of woody vegetation in fence & hedge rows to connect fragmented areas. Implement NEPA decision on IPM</p>	<p>Restoration continued at South Patrol Road, Route 66 Prairie, Middle Grant Creek Woods</p> <p>3,696 acres treated for noxious and invasive plants by mowing.</p>	<p>Restoration (including invasive plant control) continued at South Patrol Road, Rt 66, Middle Grant Creek, Prairie Creek Woods, Lower Drummond areas, totaling approx. 1,425 acres. Restoration also initiated at Grant Creek Annex (74 ac.). Additional forb, grass, & sedge species added to seed bed production; first harvest off new native grass fields.</p>

National Forest Fund Code	Project Description	FY 2010	FY 2011
	herbicide use.		3,341 acres treated for noxious and invasive plants. Of this total, 480 acres controlled through partners or other agreements.
NFWF Wildlife Fisheries Habitat Management	Conserve and recover TES species and ecosystems (leafy prairie clover, white fringed prairie orchid, and other sensitive species). Continue restoration of Blodgett Road Wetlands; continue grassland bird habitat management through conversion of former cultivated land to either grassland or native vegetation by approximately 150 acres yearly. Manage up to 4,000 acres per year of grassland bird habitat, including invasive shrub and tree removal by hand or mechanical tools.	<p>Managed 20 acres of dolomite prairie to protect TES</p> <p>Restoration continues at Middle Grant Creek and Drummond Floodplain for a total of 6,481 acres in restoration</p> <p>115 acres converted to grassland</p> <p>13,412 acres under active management</p>	<p>Managed 20 acres of dolomite prairie to protect TES</p> <p>Restoration continues at Middle Grant Creek and Drummond Floodplain for a total of 6,117 acres in restoration</p> <p>98 acres converted to grassland</p> <p>10,987 acres under active management</p>
PIPI Midewin Rental Fees	Collect fees for authorized agricultural use & implement grassland habitat management projects, including needed equipment, fencing, mowing, and seeding of grasses.	<p>Brush control treatment 595 acres-heavy mowing.</p> <p>Herbicide treatment on restoration areas totaling 657 acres.</p> <p>Continued railroad</p>	<p>Brush control treatment 4,779 acres-heavy mowing.</p> <p>Purchased seeds and plant plugs for prairie and wetland restorations.</p>

National Forest Fund Code	Project Description	FY 2010	FY 2011
		tie removal. Pasture seed for planting grassland wildlife management area	Pasture seed for planting grassland wildlife management area Construction of cattle fence to allow enlargement of grassland wildlife management areas.
PRPR Midewin Restoration Fund	Collect authorized fees from salvage projects and implement priority projects.	No fees were collected	No fees were collected
WFHF Hazardous Fuels Reduction	Plan, treat, and manage vegetation by mechanical treatment, prescribed fire, and other strategies. Monitor and document treatment. Continue to implement 2001 Prescribed Fire EA decision. Treat approximately 200 – 1,000 acres/year.	Fuels Treatment 1,700 acres prescribed burned.	Fuels Treatment 1,080 acres prescribed burned and nearly 6,592 acres of (integrated) hazardous fuels treatments.
WFPR Wildfire Preparedness	Meet minimum firefighting production capability at Most Efficient Level.	Capacity=9 Chains built/hour	Capacity=9 Chains built/hour

Budgets: How fiscal year program funding was utilized

The Prairie Plan is the basis for developing multi-year program budget proposals and the annual program of work. Actual funding levels appropriated by Congress determined the rate of implementation of the Prairie Plan. The federal budget is appropriated on an annual basis by the United States Congress for fiscal years (from October 1 through September 30). Midewin leverages the appropriated funding received through partners and volunteers.

Table 2. Final Budgets for Fiscal Years 2010-2011

FUND CODE	TITLE OF FUND CODE	FY2010 FINAL	FY2011 FINAL
CMFC	Facilities Capital Improvement/Maintenance	\$100,000	\$88,000
CMII & CP09	Deferred Maintenance	\$0	\$257,000
CMLG	Legacy Roads	\$0	\$144,000
CMRD	Roads Capital Improve./Maint.	\$235,000	\$244,000
CMTL	Trails Capital Improve./Maint.	\$148,000	\$122,000
FDCL	Recreation Enhancement	\$0	\$10,000
FDDS	Recreation Enhancement	\$0	\$41,000
GBFB	Gifts and Banquets	\$0	\$10,000
HTAE	Federal Highways	\$0	\$1,000
HTAP	Federal Highway Aquatic Passage	\$0	\$10,000
HTRP	Public Lands Transportation Plan	\$0	\$5,000
LALW	Land Acquisition	\$15,000	\$5,000
MSEQ	Administrative Visitor Maps	\$0	\$1,000
NFIM	Inventory / Monitoring	\$251,000	\$231,000
NFLM	Land Ownership Mgt.	\$71,000	\$84,000
NFMG	Minerals / Geology Management	\$53,000	\$53,000
NFN3	Native Plant Materials	\$0	\$25,000
NFPN	Planning	\$102,000	\$90,000
NFRG	Grazing Management	\$20,000	\$21,000
NFRW	Rec./ Heritage / Wilderness	\$593,000	\$611,000
NFVW	Vegetation / Watershed Mgt.	\$424,000	\$453,000
NFWF	Wildlife / Fisheries	\$424,000	\$422,000
PIPI	Midewin Rental Fees	\$800,000	\$800,000
QMQM	Quarter's Maintenance	\$0	\$6,000
TRTR	10% Roads and Trails	\$0	\$0
URMN & URCP	Restoration Trust Funds	\$0	\$2,000
WFHF	Hazardous Fuels Reduction	\$82,000	\$87,000
WFPR	Fire Preparedness	\$662,000	\$512,000
WFW3	Rehab and Restoration	\$0	\$250,000
TOTAL		\$4,262,000	\$4,585,000

2. Volunteer Program

How have volunteers and partners contributed to programs at Midewin?

The volunteer program is critical to three of the four primary objectives of Midewin's mission: restoration, education, and recreation. The volunteer's spirit and accomplishments provide a strong momentum that Midewin relies on to stay true to its mission.

Restoration volunteers including youth program students, helped complete many projects and seasonal tasks. Each year Volunteers helped harvest and clean over 500 pounds of native seed from over 150 different species collected from Midewin's production seedbeds and wild sites. Volunteers seed many plug trays in order to replenish the native plant stock as it is planted each year in restoration sites. The Mighty Acorns contributed over 1,000 hours harvesting seed each fall, planting plug trays in the winter and cutting invasive brush in the spring time.

The Midewin Horticulturist taught several botany classes to 15 volunteers to refine their plant identification skills. To aid plant identification, two volunteers have mounted and labeled many dried plant specimens in the herbarium.

It is essential that we monitor wildlife in the natural areas and restored areas in order to determine which management practices produce the best results. Volunteers gain monitoring skills through training workshops organized by the Volunteer Coordinators and through experience. Midewin has 84 trained volunteers who track diversity and distribution of frogs, birds, butterflies, stream macro-invertebrates, stream conditions, vegetation in restored areas and rare plants. This data is shared with partners including the Illinois Natural History Survey, Illinois Butterfly Monitoring Network, The Nature Conservancy, Illinois RiverWatch and Chicago Botanical Garden Plants of Concern. Data collected is used to reflect progress at Midewin and contributes to the larger monitoring effort regionally and state-wide.

Recreation volunteers, including youth program students, completed several projects to improve trailheads and trails. Volunteer projects included the expansion of the West side multi-use trail with a bridge construction project. El Valor students planted a new pollinator garden at the River Road Seedbeds parking area. Midewin continues to work with developmentally challenged adults at Trinity Services who help landscape the Midewin headquarters and plant plug trays.

The heritage volunteers were dedicated to protecting and restoring Midewin's historical sites and artifacts. The group cleared invasive brush from the Moses-Morgan and Rogers historic farmsteads. In order to help improve the "Ghosts of the Ammunitions Plant" tour, a featured warehouse was cleaned out and artifacts organized.

Education volunteers interact with visitors on many tours through the prairie, at youth programs, and at the Welcome Center. The most popular tours are the heritage tours that take visitors to the old infrastructure of the ammunition factory. Volunteer instructors lead nature activities and stewardship for 800 students three times a year in the Mighty Acorns program. These same instructors are called upon to lead activities for the El Valor summer camp and additional youth groups throughout the year.

Midewin's volunteers also continue educating themselves by attending a series of lectures presented each winter at Midewin by professors, staff, and researchers.

Special events at Midewin attract large volunteer groups. In August, 2010 a group of 70 young adults from the United States, Canada and Great Britain visited as part of a Unitarian-Universalist retreat. They spent the day planting at the River Road seedbeds, removing invasive brush at the historic Moses Morgan farmstead, and taking a tour of the prairie.

On National Public Lands Day in September of 2010, Midewin Forest Service staff joined forces with around 75 volunteers and spent 357 hours on four different projects. We were honored to have the Chief of the Forest Service, Tom Tidwell, visit Midewin on National Public Lands Day. He toured Midewin and also harvested seed with volunteers. Volunteers harvested large amounts of native seed at the River Road seedbeds.

Midewin's trail bridge volunteers completed the first of two bridges that extend the west side trail through South Patrol Road restoration area. With persistent brush cutting and herbicide treatments, volunteers have cleared invasive weeds at the Moses Morgan historic farmstead located near the Iron Bridge Trailhead. Volunteers built a sandbag wall as a temporary remedy to hold back storm water in areas of the Middle Grant Creek wetland restoration.

In November each year, Midewin hosts a Volunteer Recognition Banquet to present year end accomplishments and recognize outstanding volunteers. This event is a way to celebrate, reminisce, and express our admiration for all volunteers.

The Midewin Alliance is a 501(c)3 partnering organization with over 100 members. The strength of the Alliance lies with the volunteer board members who play an integral role in finding funding for events and programs such as National Public Lands Day and the Volunteer Recognition Banquet. They organize other annual events including the Native Plant Sale and Alliance Picnic. The Alliance produces and distributes the bimonthly Prairie Telegraph. The Midewin Interpretive Association (MidIA) operates the gift shop in the Midewin Welcome Center.

The Heritage Association volunteers spend many hours researching the history of Midewin and communicating the importance of protecting and interpreting our heritage. This group keeps the public informed with the *Prairie Wind* newsletter and by leading heritage tours.

Highlights of FY2010

In October 2010, Midewin received a \$1,000,000 donation from CenterPoint Properties. The funds are managed by The Nature Conservancy in an endowment to support activities at Midewin.

Midewin started a trail steward program with 5 volunteers who are managing designated trail segments. Trail segments are 1-2 miles long and trail stewards are expected to walk their trail segment, at minimum, once a month to monitor safety conditions, especially April-October.

Midewin has also started an additional stream monitoring program. Volunteers have been trained to use instruments and indicator strips to measure phosphate levels, turbidity, temperature, pH, dissolved oxygen, conductivity, nitrates, and velocity. Currently there are five monitoring locations. Over time, this data will be used to construct relationships between the stream flow and water chemistry.

Highlights of FY2011

The Leaders in Environmental Action for the Future (LEAF) program, coordinated by The Nature Conservancy, brought underserved New York high school students to Midewin National Tallgrass Prairie for a month to experience natural resource management and environmental education. The TNC volunteer coordinators at Midewin were responsible for hosting and coordinating a work and education plan for the interns. The three interns and their mentor helped restore grasslands by removing invasive species, planting native species, harvesting seeds and monitoring water quality. They also learned life skills with their mentor such as managing a budget, cooking & cleaning for themselves. One of the interns learned how to ride a bike and they all learned how to canoe and swim.

In July, 2011 Midewin volunteers met the 10,000 Wildflowers Challenge, when 100 volunteers planted over 10,000 plugs of native forbs or wildflowers at the corner of South Patrol Road and Boathouse Road. The Midewin Alliance partnered with the National Forest Foundation to purchase the plants and coordinate the planting with Midewin staff.

Table 3. Volunteer Hours by Resource Category

Resource Category*	FY 2010 Hours	FY 2011 Hours
Recreation	557.2	667.5
Heritage	508.3	28.7
Wildlife, Fish & Rare Plants	1,380.2	1450.5
Range Management	0	0
Forest Management (<i>Restoration</i>)	3,321.3	4104.75
Watershed & Air Management	0	0
Protection	0	0
Research	0	0
Business & Finance	397.3	803.75
Facilities Construction (Off-Center)	0	0
Facilities Construction (On-Center)	0	0
Other Facilities	134	0
Other (<i>Education</i>)	1925.5	2338.75

Total Hours	8223.8	9404
Appraised Dollar Value	\$171,465	\$196,0734

* The categories reflect 'Resource Category' as defined in the USDA Forest Service 'Senior, Youth & Volunteer Programs Accomplishment Report,' FSM1800-16.

Table below shows an increase in volunteer base hours, even though the number of individual volunteers decreased. Many volunteers explain that they return because of their passion for the outdoors and the history of the land. In addition, volunteers feel we are all on the same team, working towards a common mission. Volunteers enjoy fulfilling their interests and in turn, gaining new experiences. The Volunteer Coordinator and Assistant Volunteer Coordinator recruit, train, and recognize the amazing Midewin volunteers.

Table 4. Comparison of Volunteer/Youth Numbers, Hours

	FY10	FY11
Number of Volunteers	644	470
Volunteer Hours	6993	8130
Number of Conservation Education Students	1141	968
Conservation Education Stewardship Hours	1230	1274



The Nature Conservancy accepted this generous donation from CenterPoint Properties. Eric Gilbert, Senior Vice President of CenterPoint presented the check signed by cofounder and CEO of CenterPoint, Mike Mullen. (L to R), Eric Gilbert, Wade Spang, USFS Midewin Prairie Supervisor, Logan Lee, USFS Deputy Regional Forester of Region 9, Leslie Spraggins, TNC State Director of Illinois and Jim Otis, TNC Board of Trustee Chair.



Stream monitors trained for new water monitoring program collect their first year of data throughout 2010.



70 young adults from the United States, Canada and Great Britain visited as part of a Unitarian-Universalist retreat to help plant seedbeds and remove invasive



Midewin's trail bridge crew completed the first of two bridges that extend the west side trail through South Patrol Road restoration area.

Monitoring questions in the Midewin Prairie Plan

The monitoring results that follow reflect the specific monitoring questions in the Midewin Prairie Plan (Chapter 6) *Monitoring and Evaluation Plan*. Evaluations of the monitoring results are included with the narratives for each monitoring question. Trends that can be discerned from monitoring results are also addressed.

3. Agriculture Use

a. *Are continued agriculture permits used for resource management purposes?*

Agricultural special use permits or leases continue to be used for resource management purposes at Midewin. Specifically, agricultural permits are used to control invasive plant species until areas can be converted to native vegetation or grassland wildlife habitat. These areas, if left idle, would be a major source of invasive plant invasion throughout Midewin. Agricultural crops are also used to prepare sites for planting prairie and wetland vegetation and grassland bird habitat. The agricultural production controls invasive species prior to planting and provides an excellent seedbed to plant native prairie seed. In FY2010 and 2011 there were 4,574 acres and 4,672 acres in cultivation, respectively.

The trend has been to remove agricultural fields from production to provide habitat. As of the end of FY11, approximately 3,928 acres have been removed from crop production and converted to native habitat, grassland wildlife habitat, or seed production (see Table 5). This trend of conversion of crop fields to pasture will continue as per the

Prairie Plan with a goal of moving grazing to the far east side of Midewin from the west side. Most of the crop fields on the west side have been converted to native habitat and restoration is now highlighting former pastures.

The current crop rotation is between Roundup-ready soybeans and winter wheat. Corn has been excluded from this rotation because of the chemicals (pesticides and fertilizer) necessary for production. The Asian soybean rust arrived in the continental US in 2004 and is devastating some soybean production. Currently the rust is more prevalent in the southern states, but is expected to travel north. The fungus could have an impact on the use of soybeans for future management and may need to be treated with a fungicide.

Hay permits are utilized in grassland wildlife management areas to control grass height and woody plant invasion. All hay is cut after August 15th to protect ground-nesting wildlife.

Both soybeans and wheat have been used at Midewin prior to the planting of native vegetation or for site preparation. Site preparation with a crop of soybeans has resulted in fewer invasive plant species. Use of winter wheat prior to conversion to native vegetation has been less successful. Invasive plant species appear to survive in the wheat fields or may colonize after the harvest of wheat in the summer.

Table 5. Acres Removed From Agriculture

FISCAL YEAR	Acres Removed from Crop Production Per Year
1997 to 2002	1,894
2003	343
2004	695
2005	238
2006*	317
2007	160
2008	115
2009	98
2010	15
2011	53
TOTAL acres removed from production and converted to grassland or prairie.	3,928

* In 2006, additional land was transferred from the Army, which included cropland. In some years, hay fields were added to the agricultural permits program. Often non-agriculture lands have been put into row crops as a preparation to planting native vegetation or pasture. These factors account for the temporary increases in acres authorized for agriculture use from previous years. In 2011 adjustments were made to some crop fields due to flooding by beavers.

b. How many acres are under grazing or special use permits?

Grazing is used as a management tool to control grass height and provide habitat for grassland wildlife. At the end of FY11, there were eleven grazing allotments—two west

of Route 53 and the remaining nine allotments east of Route 53. There will be an increase in the acres grazed over the next several years after cattle watering areas are developed in areas converted from crops to pasture. Approximately 566 acres removed from crop production and converted to pasture are available for grazing. Further seeding, invasive control, water sources, and fences are being planned and developed.

Table 6. 2002-2011 Grazing

YEAR	Grazing Program* (Acres)
2002	1,996
2003	2,461
2004	2,822
2005	3,467
2006	4,525
2007	4,525
2008	4,525
2009	4,525
2010	4,525
2011	4,525

**Each year some pastures are taken out of grazing for a brief period for rest and grassland renovation. For example in 2009 through 2011 3,882 acres were actually grazed and 683 acres were rested or grassland renovation was begun. However, a total of 4,525 acres remain under the grazing program.*

Environmental analysis to develop new watering sources (wells) and stock watering ponds that will be used by other wildlife is currently underway. This will improve management of grassland bird habitat for better distribution of cattle within the allotments and would allow additional allotments to be grazed.

c. How many acres of former agriculture land use are being restored?

For the period between 1997 and 2011, approximately 3,056 acres have been taken out of crop production and planted to cool season pasture grasses. A 2006 planting was replanted to row crops for the short term as site preparation, due to the failure of the pasture planting, and replanting was started in 2011. Approximately 628 acres of former crop fields have been converted to native vegetation during the last decade. A new seed production field of approximately 14 acres was planted to Indian grass.

Conversion of agricultural land use to cool season grass pasture will increase over the next several years while a large crop field is converted to grassland. Conversion to prairie and wetland communities has slowed because most of the crop fields on the west side of Route 53 have been converted and restoration emphasis is still on the west side. Current prairie and wetland restoration work is being done in former pastures.

Table 7. Agricultural Land Restoration

Fiscal Year	Cool Season Grass Pasture and Hay Field Conversion	Prairie and Wetland Conversion	Seed Production
1997 - 2002	1,749	0	145
2003	293	50	0
2004	176	488	31
2005	235	3	0
2006	317	0	0
2007	160	0	0
2008	115	0	0
2009	11	87	0
2010	15	0	0
2011	39	0	14
TOTAL	3,110	628	190

4. Air Quality

- a. Is Midewin causing significant deterioration of air quality (contributing to air quality problems)?*

During the two years 2010 through 2011, activities at Midewin did not result in significant sources of air pollution or contribute to the deterioration of air quality. Midewin obtained the necessary permits from the Illinois Environmental Protection Agency (IEPA) prior to conducting prescribed burns. Midewin prescribed burns did not occur during ozone action days. Midewin completed prescribed burning on 714 acres in FY 2010, 822 acres in FY 2011.

5. Capital Infrastructure

- a. Have adequate facilities been provided?*

No new facilities were constructed in FY 2010 or 2011.

6. Former Army Facilities Removal

- a. How many unsafe Army facilities or structures have been removed?*

Report every five years (Next required reporting will in FY2012)

- b. Are former contaminated areas being restored?*

In the Fiscal Years 2010 and 2011, no restoration activities occurred on lands that were formerly contaminated.

7. Ecosystem Restoration and Management

- a. Are unfragmented blocks of grassland bird habitat being created or maintained?*

Fragmented grassland wildlife habitat is primarily grassland that is divided by tree lines, hedgerows, scattered large trees, numerous shrubby woody plants, and/or old Army infrastructure, which results in smaller less desirable habitat compartments. Many types of grassland wildlife, especially grassland birds, are sensitive to nearby woody vegetation and require large open spaces for optimum breeding and rearing of their young in the grasslands.

To unfragment grassland habitat requires the removal of trees, shrubs, and/or manmade infrastructure to create large contiguous open spaces. The Prairie Plan calls for five large unfragmented areas that range in size from 501 acres to over 3,000 acres. Prairie and wetland restoration work also creates unfragmented habitat. Once an area is unfragmented, then continuous management is needed to keep it in that state, otherwise woody shrubs will soon grow right back. This management can be prescribed burning, grazing, or mowing.

To date, none of the large unfragmented areas identified in the Prairie Plan have been completely created. However, approximately 2,064 acres within those areas identified as large unfragmented tracts have been opened up. Another 838 acres, (not identified as dedicated unfragmented habitat), have been created by prairie and wetland restoration. During FY2010 and FY2011 396 acres of identified unfragmented habitat were opened up. In FY2010, approximately 7,052 acres were under mowing management to keep them from becoming further fragmented into smaller habitat parcels. In 2011 5,947 acres were mowed.

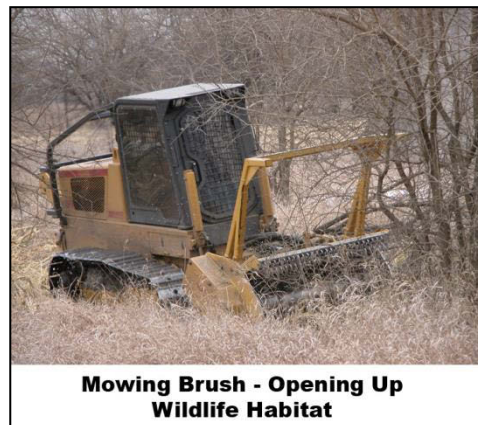
Existing habitat should be managed as unfragmented in the future to meet the requirements of the Prairie Plan. Implementation of the Grant Creek Restoration decision will provide for unfragmenting of an area identified in the Prairie Plan. Maintenance of existing grassland wildlife areas through mowing and prescribed burning will continue to control re-invasions of trees and shrubs.

Due to the size of Midewin and limited staffing and funding, woody vegetation encroachment continues to be a problem. Managed areas such as grazing tracts, hay production areas and natural community restoration areas are fairly well unfragmented. Frequent mowing is necessary to maintain these areas. Other areas have encroaching trees and shrubs especially along the many roadside ditches, medians and along linear old railroad beds. Inholdings owned by the Army are heavily infested with shrubs and will continue to be a source of shrub invasion until they are brought into a management regime. These areas are scheduled to be transferred to Midewin in the future.

Funding through the American Recovery and Reinvestment Act (ARRA) had a significant positive impact on small trees and shrubs. In FY2010, the five-member hazardous fuels crew hired in 2009 continued to remove small woody trees and shrubs. Approximately 57 acres heavily infested with autumn olive, bush honeysuckle and other small trees and shrubs were cleared in 2010. Additionally, ARRA funded a \$1,700,000 project for contractual removal of small trees and shrubs. Several thousand acres of invasive shrubs were cleared in 2010 and 2011. Additional work continued into 2012. Some of this work directly contributes to unfragmenting, other portions indirectly contribute to unfragmenting habitat by helping to control the invasive plant sources. Once this project is over it will be important to periodically manage these areas to maintain the openness.

b. Are habitats being restored?

Restoration includes conversion of croplands to cool season grasses, planting native species, and management activities to improve existing cool season pastures and natural community areas. The initial conversion of croplands to grass fields and native vegetation is only the first step in the restoration process. Another important step is the continued management of these converted tracts and any tracts of existing native vegetation. Management includes prescribed fire, invasive plant species control, and the planting of native seeds and plant plugs.



Each year new sites are chosen to begin the restoration process and the acres added vary from year to year. The past few years has seen a large increase in acres under restoration management which is due to increased partner help and the ARRA projects. Most sites need restoration work for several years in a row, before the maintenance phase can begin and the same acres will be counted in subsequent years.

After 2011 the amount may drop somewhat with less ARRA funding.

Some agricultural fields have been converted to grazing tracts. These fields along the eastern boundary of Midwin are in areas designated as grassland habitat in the Prairie Plan. Restoration work for native vegetation has been concentrated on lands west of Illinois State Route 53 following the desired outcomes in the Prairie Plan. Crop fields, old pastures, and abandoned fields have been converted or restored to native plant communities.

Table 8. Acres Being Restored Annually

Fiscal Year	Acres Receiving Restoration Treatments
2002	2,389
2003	4,107
2004	5,583
2005	5,443
2006	6,333
2007	6,472
2008	6,481
2009	6,117
2010	9,002
2011	9,002

The Midwin has several key partners to thank for making major contributions towards restoration of native habitat. Without these generous contributions, the progress we have made in restoration during the last decade would not have been possible. Table 9 summarizes the major partner contributions for each project. The Wetlands Initiative and their donors partnered with the Forest Service to restore hydrology, plant native seeds and plants and to control invasive species. In FY2010 – FY 2011, the Grant Creek Annex restoration project benefited from cooperative partnerships. The students from the University of Saint Francis began monitoring and restoration work in the Upper Doyle Lake area. Activities during FY2010 through FY 2011 included invasive species control, photo point establishment and native planting.

Table 9. Partner Contributions to Restoration Projects

Restoration Project	Year Of Partner Assistance	Acres	Primary Partners*	Partner Investment
South Patrol Road	2002 - 2004	459	The Wetlands Initiative, CorLands, USACE, IDNR	\$919,000
Route 66 Prairie	2003 - 2004	65	CorLands, USACE, Ducks Unlimited	\$156,000
Prairie Creek Woods	2002 - 2005	56	CorLands, USACE	\$200,000
Middle Grant Creek	2003 - 2008	502	CenterPoint Properties	\$1,500,000+
Blodgett Road Dolomite Prairie	2002 - 2009	151	The Wetlands Initiative	\$600,000+
Drummond Floodplain	2003 - 2010	510	CenterPoint Properties & ExxonMobil, Openlands, USACE	\$150,000+
Lower	2008 - 2009	206	The Wetlands Initiative	\$165,000

Drummond				
ExxonMobil Prairie Donation	2008 – 2009	40	ExxonMobil	\$126,000
Grant Creek Prairie Annex	2009 – 2011	500	The Wetlands Initiative	\$650,000
GRAND TOTAL		2,489		\$4,466,000.00

* USACE is the United States Army Corps of Engineers, and the IDNR is the Illinois Department of Natural Resources.

c. How many acres are under management?

For this purpose “resource” management activities are defined as mowing, planting (native vegetation and pasture vegetation), herbicide treatment for invasive species, agricultural production, and grazing to manage for grassland bird habitat. The acres under management will increase over time, but is limited by staffing and budget levels. Table 10 below shows the total acreage in some phase of resource management. Number of acres under management varies from year to year, depending upon specific yearly needs.



Table 10. Acres of Resource Management

Fiscal Year	Acres Under Management	Acres Under Resource Management Activity
1997	15,085	0
1998	15,085	0
1999	15,151	0
2000	15,197	0
2001	15,197	0
2002	15,207	7,675
2003	15,302	9,662
2004	15,383	10,900
2005	18,091	10,908
2006	18,091	13,602
2007	18,187	14,346
2008	18,227	13,412
2009	18,227	10,987
2010	18,227	12,717
2011	18,227	14,576

d. To what extent are vegetation composition objectives being met?

Report every five years (Next required reporting FY2012)

e. To what extent is habitat management reaching desired habitat structure for RFSS birds and reaching Management Indicator goals?

Regional Forester
Sensitive Species (RFSS)
list of birds at Midewin fall into three categories: wetland birds, grassland birds, and open woodland birds. Wetland birds require wetlands (marsh, sedge meadow, and wet prairie). Restoration activities have restored former wetlands that had been drained by field tiles and drainage ditches. The South Patrol Road, Blodgett Road, Lower Drummond, Middle Grant Creek restoration projects



Restoration of Grant Creek includes re-creating wetlands and re-establishing native vegetation.

have restored approximately 130 acres of wetlands. Beaver dams can also provide wetland habitat. The wetlands created from the beaver dams on Midewin property and have been left in place. Approximately 100 acres of wetland are being maintained through beaver activity. As additional wetlands are created, wetland bird use should increase.

Call-back wetland bird surveys in FY2010 located a king rail in South Patrol Road and a yellow rail was seen during the breeding bird survey. King rails have nested on Midewin before and probably did this year. Yellow rails are new to Midewin, only being seen previously during migration. The bird was only seen once, so we do not know the nesting status. In FY2011, two King rails were heard in the Route 66 Prairie restoration area. A yellow rail was reported to be heard also in this area. An American Bittern and a black-crowned night-heron were seen during the breeding season near the Heron Rookery.

Grassland birds can be placed into three suites: those that prefer short-stature grasses, those that prefer medium-stature grasses, and those preferring tall-stature grasses. Species do overlap the three general suites, but each seems to do best in one of the suites. The most critical grass height habitat at Midewin is the short-stature grasslands. Midewin uses cattle grazing to provide the short-stature grass habitat. Hay mowing and idle pastures provide the mid-stature grass habitat, while the prairie reconstructions and

other non-grazed areas provide tall-stature grass habitat. Litter depth can also be important for some grassland bird species.

Grass height and litter depth are monitored during late spring and early summer to determine if the proper habitat structure is being maintained. Ideally, grass height should range from 15 to 80 cm and litter range from 2 to 4 cm in depth to provide habitat for each of the three suites of grassland birds.

Tables 11, 12, and 13 display grass height data collected for the past seven years. No data was collected in 2005, but grass heights would probably have been similar to 2003 and 2004 since the grazing and management was identical. In 2002 and 2007 -2009 and 2011, no tall-stature grassland tracts were monitored.

Table 11. Grass structure in pastures (short-stature grass habitat)

Year	Short Grass Acres	Short Grass Height Range	Short Grass Height Mean	Litter Depth Range	Mean Litter Depth
2002	1,335	17-47 cm	30 cm	0.6-2.7 cm	1.7 cm
2003	2,133	10-47 cm	23 cm	0.3-5.2 cm	1.9 cm
2004	2,169	10-53 cm	25 cm	0.3-3.1 cm	1.7 cm
2005	NA	NA	NA	NA	NA
2006	4,071	14-54 cm	31 cm	0.3-3.5 cm	1.6 cm
2007	2,436	14-35 cm	21 cm	0.65-1.96 cm	1.2 cm
2008	3,717	13-32 cm	21 cm	0.4-3.6 cm	1.5 cm
2009	2,083	26-44 cm	34 cm	0.7-2.9 cm	1.5 cm
2010	3,762	25-55 cm	39 cm	1.2-3.0 cm	2 cm
2011	1,808	19-46 cm	33 cm	1.4-2.9 cm	2.4 cm

Table 12. Grass height in idle pastures and hay fields (medium-stature grass habitat)

Year	Mid Grass Acres	Mid Grass Height Range	Mid Grass Height Mean	Litter Depth Range	Mean Litter Depth
2002	195	58 cm	58 cm	2.1 cm	2.1 cm
2003	305	34 cm	34 cm	1.2 cm	1.2 cm
2004	195	46 cm	46 cm	1.7 cm	1.7 cm
2005	NA	NA	NA	NA	NA
2006	396	25-47 cm	36 cm	1.2-2 cm	1.6 cm
2007	1035	26-29 cm	27 cm	0.9-2.63 cm	1.6 cm
2008	177	39 cm	39 cm	1.3 cm	1.3 cm
2009	543	37-40 cm	39 cm	1.1-2.5 cm	1.8 cm
2010	640	22-45 cm	34 cm	1.0-1.7 cm	1.4 cm
2011	406	48-53 cm	50 cm	2.0-4.2 cm	3.1 cm

Table 13. Grass height in idle grasslands and restorations (tall-stature grass habitat)

Year	Tall Grass Acres	Tall Grass Height Range	Tall Grass Height Mean	Range Litter Depth	Litter Depth Mean
2002	NA	NA	NA	NA	NA
2003	1,028	34-49 cm	43 cm	0.7-4.9 cm	3.0 cm
2004	592	32-53 cm	42 cm	2.8-2.9 cm	2.8 cm
2005	NA	NA	NA	NA	NA
2006	1,187	31-47 cm	41 cm	0.3-4.1 cm	2.2 cm
2007	NA	NA	NA	NA	NA
2008	NA	NA	NA	NA	NA
2009	NA	NA	NA	NA	NA
2010	947	47-70cm	57 cm	2.8-3.5 cm	3.2 cm
2011	NA	NA	NA	NA	NA

Tall-stature grasslands do not differ much from year to year and are given a much lower priority for monitoring. The tall stature grasslands are also much easier to evaluate visually. Grazing tracts are measured more than non-grazing tracts to help determine the proper number of cattle needed to achieve the desired results. The Robel pole method is used to determine grass height.

Analysis of grass height shows that desired grass height ranges are available for the grassland birds, although in FY2010 the short stature grass height was probably too tall overall. FY2010 was a wet year, and the pasture grasses responded by growing more rapidly. Grass height in FY2011 was shorter overall, but still probably a little too tall. The data indicates that the current management is appropriate for grassland wildlife and that no change to the management regime is needed at this time. If increased precipitation levels continue into the future, additional cattle may have to be put out in the grazed areas.

Another structure component is the amount and location of shrubs and trees within the grasslands. Most grassland birds require wide-open areas with little to no shrubs and these areas are often referred to as “unfragmented areas”. The loggerhead shrike prefers the short-stature grassland with some shrubs for nesting. As areas have been unfragmented by removal of woody brush and small trees, small grouping of shrubby trees are left for loggerhead shrikes along the perimeter. This action has been successful to maintain loggerhead shrike populations. Approximately half of the loggerhead shrike nests are found each year in small areas with shrubby trees on the edges of unfragmented tracts.

Large amounts of shrub habitat covers the Army property that will be transferred to the Forest Service sometime in the future. Unfortunately, most of the shrub species on the Army property are non-native invasive species, and these will continue to be sources of

invasive plants until the land is transferred and management plans are developed and implemented.

The red-headed woodpecker is a bird of open woodlands and savannas. Although red-headed woodpeckers have been known at Midewin for years and are assumed to nest, their current status is unknown. It is believed the population is small. In FY2010 and FY2011 volunteer bird monitoring confirmed at least one pair in Prairie Creek Woods. A few other Red-headed Woodpeckers were seen, but nesting not confirmed. Further woodland and savanna restoration in Prairie Creek Woods should provide for additional habitat.

In summary, current management plans for restoration and grazing are adequate to maintain the current populations of RFSS birds. To increase RFSS bird population numbers, additional restoration needs to take place. As additional lands are restored, the population numbers should increase. Fine-tuning the grazing regime would be useful, but does not appear to be critical at this point in time.

8. Environmental Education / Interpretation

a. Are tours, interpretation, and environmental education programs meeting Prairie Plan objectives?

The goal of interpretation and environmental education at Midewin is to enhance the public's awareness and appreciation of prairies in Illinois and motivate participants to become advocates for prairie conservation and restoration. In January 2010, a new environmental education specialist was hired. Midewin's interpretive and environmental education programs continue to focus on the following program activities:

Midewin Welcome Center

The Welcome Center was open to the public for the entire year. Visitation for FY2010 was 4,800 visitors and FY 2011 was 5,932 visitors. The interpretive sales outlet provided by the Midewin Interpretive Association (MidIA) also operated for both years.

Midewin Explorations

Midewin offered a full range of on-site interpretive programs during FY 2010 and 2011. The number of tour participants in FY2010 was 429 and FY 2011 was 817. This represents a large increase from the previous years. The environmental education specialist is currently working to improve the tour program and increase local awareness.

Midewin Lecture Series

FY2010 was the eighth year for the Midewin Lecture Series. This series of ten biweekly evening lectures during the winter months is designed to introduce participants to the natural and cultural history of Midewin and northeastern Illinois. Attendance was high for both FY 2010 and 2011, at 200 and 241 respectively.

Youth Conservation Corps (YCC)

Midewin hosted the YCC crew for eight weeks during the summers of FY 2010 and 2011, providing employment and environmental education for six local high school students. These students helped develop and maintain the trail system, assisted with bird predation research and RiverWatch monitoring. The students took educational field trips every Friday.

Mighty Acorns Youth Stewardship Program

During FY2010, five schools representing three public school districts and one private school participated in the Mighty Acorns program at Midewin. Total student participation in the Mighty Acorns program at Midewin remained around 900 for the 2010 and 2011 school years. Our ability to maintain our existing Mighty Acorns program and to provide some expansion is dependent on our ability to provide transportation.

EI Valor Summer Camp Partnership

During FY2010 and 2011 Midewin supported year 10 and 11 of the Forest Service EI Valor Science and Technology day camp. Two four-week sessions operated out of the center in the Pilsen neighborhood and one five-week session operated out of the South Chicago center. Ninety-one students participated in the camp, including a trip to Midewin and environmental education activities provided by volunteers.

Through the programs listed above, Midewin provided interpretive activities for over 1,637 participants in FY2010 and to 2,344 participants in FY 2011. Conservation education programs at Midewin resulted in over 3,000 student contacts each year; some students came to Midewin two or three different times in one year.

9. Fire Management

- a. Has a fire/smoke management plan for Midewin been developed and followed?*

Interagency Federal fire policy requires that every area with burnable vegetation must have a Fire Management Plan (FMP). The Midewin FMP was reviewed and updated on January 23, 2011. This FMP provides information about the fire management planning process for the Midewin National Tallgrass Prairie and compiles guidance from existing sources such as but not limited to, the Midewin National Tallgrass Prairie Land and Resource Management Plan (LRMP), national policy, and national and regional directives. Midewin is following state direction for smoke management under the Clean Air Act and Draft Illinois Smoke Management Plan issued October 9, 2008.



Prescribed Burning Route 66 Fall 2010

Have fire burn plans been developed and followed?

Seven burn plans were prepared in FY10/11 and 1,112 acres of prescribed burning was accomplished in FY10/11 at several different locations (River/Chicago Road Seed Beds, Supervisor's Office, Hoff Road, Iron Bridge Trailhead, Drummond, Grant Creek, Blodgett Marsh Prairie and Route 66).

10. Hazardous Materials

a. To what extent have hazardous substance sites been mitigated?

In 2010:

- 53,422 square feet of transite material was removed from old Army buildings on Forest Service lands.

In 2011:

- 77,000 square feet of transite material was removed from old Army buildings on Forest Service lands.
- 1/8th of a mile of railroad ballast was removed

11. Heritage Resources

a. To what extent are National Register-eligible sites being identified, protected, and preserved?

Report every ten years (Next required reporting FY2012)

- a. *To what extent are National Register-eligible sites being appropriately examined, reported, and interpreted?*

Report every ten years (Next required reporting FY2012)

- a. *To what extent are traditional cultural properties being identified and protected?*

Report every ten years (Next required reporting FY2012)

- a. *What cumulative effects are management actions having on cultural resources and/or traditional cultural properties?*

Report every ten years (Next required reporting FY2012)

12. Integrated Pest Management (IPM) – Monitoring and Treatment of Invasive Species and Noxious Weeds

- a. *To what extent are noxious weeds and invasive species expanding or being reduced?*

Midewin treated 3,429 acres to control invasive plants in 2010, and 2,416 acres in 2011 (see Table 14 for a list by method and year). These treatments were focused to control the following species:

Autumn-olive (<i>Elaeagnus umbellata</i>)	Amur Honeysuckle (<i>Lonicera maackii</i>)
Reed canary-grass (<i>Phalaris arundinacea</i>)	Garlic Mustard (<i>Alliaria petiolata</i>)
Multiflora Rose (<i>Rosa multiflora</i>)	Common Reed (<i>Phragmites australis</i>)
Teasels (<i>Dipsacus laciniatus</i> and <i>D. fullonum</i>)	Thistles (<i>Carduus nutans</i> , <i>Cirsium arvense</i>)
Sweet-clovers (<i>Melilotus alba</i> and <i>M. officinalis</i>)	Cat-tails (<i>Typha</i> spp.)
Osage-orange (<i>Maclura pomifera</i>)	Wild Parsnip (<i>Pastinaca sativa</i>)
Poison-hemlock (<i>Conium maculatum</i>)	Crownvetch (<i>Coronilla varia</i>)
Common Buckthorn (<i>Rhamnus cathartica</i>)	Smooth Brome (<i>Bromus inermis</i>)
Bird's-foot Trefoil (<i>Lotus corniculatus</i>)	Clovers (<i>Trifolium</i> spp.)

Most of these plant species pose serious threats to ongoing prairie habitat restorations, native habitat remnants, grassland habitat management areas, and native seed production. Other efforts focused on eradicating or preventing further spread of new infestations of invasive plants, mostly species that occur around Midewin but are not yet widely established on FS land. These potential problem species include purple loosestrife (*Lythrum salicaria*), Asiatic bittersweet (*Celastrus orbiculatus*), leafy spurge (*Euphorbia esula*), and blue globe thistle (*Echinops sphaerocephalus*).

Table 14: Invasive Plant Treatments – Acres (2002-2012)

FY	Acres treated with herbicide	Acres treated mechanically (mowing)	Acres treated by hand-pulling	Totals
2002	<1	2070	12	2082
2003	162	4231	15	4408
2004	889	4220	20	5129
2005	1403	3585	25	5013
2006	1520	2926	40	4486
2007	668	1380	95	2134
2008	1731	1040	95	2866
2009	1414	1813	114	3341
2010	1156	2248	25	3429
2011	1480	921	15	2416

Changes in acres treated (total amounts and by method) reflect changes in funding, staffing, and management priorities (Table 15). A large percentage of acreage mowed to control invasive plants includes areas mowed to maintain grassland habitat. The increase in acres treated with herbicide reflects completion of environmental analyses for herbicide use and (in part) staff training in herbicide application.

Other non-native, invasive organisms are present on Midewin; many, like starlings and European earthworms, are impossible to control or eradicate. However, there are invasive species expanding in northeastern Illinois; some are new arrivals on Midewin or are likely to arrive within the next few years. One of these, gypsy moth (*Lymantria dispar*) was first discovered on Midewin in 2005. Monitoring since this time indicated the need for intervention, and the first treatment was conducted in 2010 (Table 15). Monitoring the gypsy moth infestation continues (there was treatment adjacent to Midewin in 2011) and emerald ash borer (*Agrilus planipennis*) monitoring was initiated (with negative results) in 2011.

Table 15: Invasive Insect Treatments – Acres (2010-2012)

FY	Species	Treatment	Acres
2010	Gypsy Moth	Mating Disruption ('pheromone flakes')	600
2011	Gypsy Moth	No treatments	0

Since 2009, Midewin staff has been working with other partners in northeastern Illinois to establish a regional cooperative weed management area (CWMA). In 2010, Great Lakes Restoration Initiative (GLRI) funds were received by the Forest Service from the USDA to restore habitats and control invasive species in the Great Lakes watershed. Midewin received \$96,000 to work towards establishing a northeastern Illinois CWMA with partners. A diverse set of partners has been involved, including county forest preserve districts, Chicago Botanic Garden, Illinois Department of Natural Resources, City of Chicago, and many local municipalities, townships, and park districts. In August

2010, a coordinator was hired to further the goals of the CWMA, including development of an MOU, conducting outreach, raising public awareness of NNIS, applying for grants, and overseeing projects. The CWMA is now the Northeastern Illinois Plant Partnership (NIIPP) and also coordinates activities with CWMA in adjacent portions of Indiana and Wisconsin. By September, 2011, over 45 partners were signatories to the MOU. Also in 2011, 333 acres of invasive plant infestations were treated with mechanical, manual, and/or chemical methods through NIIPP.

13. Land Ownership

- a. To what extent have land boundaries been adjusted?*

Report every five years (Next required reporting FY2012)

14. Recreation

- a. Are trails constructed to standards for planned use?*

In FY 2010 construction of the West Side Trail continued. The 4.5 mile Blodgett Marsh pedestrian only portion of the trail was completed and opened for use. Construction of the Henslow Sparrow multiple use section of the trail continued with the construction of two Aquatic Organism Passage culverts, a 36' fiberglass bridge, initial grading and spreading sub-base material.

South Point Academy completed an accessible ramp to an open bunker in the group 63 bunker field.

All existing trails were maintained to standard.

In FY 2011 the entire length of the West Side Trail including the multiple-use Henslow Trail portion and the pedestrian only Blodgett Marsh section were opened to the public. As a result, the Grassy Frog temporary trail was closed. The construction included a 46' steel beam bridge, one Aquatic Organism Passage culvert structure and the spreading the base layer of gravel along the entire trail length.

All existing trails were maintained to standard.

- b. Is the Prairie being managed in accordance with prescribed ROS guidelines?*

Monitor annually, Report every five years (Next required reporting FY2012)

c. Do recreational facilities meet the needs of the public?

Report every five years (Next required reporting FY2012)

d. Are visitors well informed of recreation resources? Have resources been adequately interpreted?

In FY 2010 and 2011 an extensive array of brochures, flyers and maps were available in hard copy and the internet. Maps were up-to-date to show new trail and open area opportunities. Flyers were published annually to promote interpretive programs at Midewin. New brochures were added constantly to tell about various aspects of Midewin. The Midewin Welcome Center was opened six days a week during the peak-use season to answer questions and handout brochures. Brochure boxes offer some of the flyers and brochures at the trailheads. The tour program continued to offer interpreted tours on lands that remain closed to the public.

The Forest Protection Officer program continued to provide visitor information and provided enforcement in the absence of a full time law enforcement office on the Midewin.

In 2010:

- 10 new Interpretive signs were installed
- New trail signs were installed on the Newton/ Henslow Trail

In 2011:

- 533 people were contacted at 10 off-site programs such as library talks, schools and other venues.
- 607 people attended 33 on site tours that were opened to the public
- 524 people attended 19 on site tours for special groups
- 13,000 people at 19 events such as fairs and community events
- 90 El Valor students

15. Research

a. Are key information needs being pursued as research projects?

As in past years, research and monitoring projects completed and ongoing within FY2010 and FY 2011 contributed to information needs.

Midewin has a number of annual projects centered on grassland (and other) bird species inhabiting the site. These include the annual Upland Sandpiper Survey, the annual Shrubland Bird Bioblitz, and volunteer monitoring of breeding birds. Related projects included the monitoring of vegetation height-density relationships to evaluate habitat structure and quality for grassland birds with respect to cattle grazing or its absence.

Other ongoing research projects by subject

- Demography, migration and conservation of the Loggerhead Shrike in Eastern North America, Amy Chabot, Queen's University, Ontario, Canada

b. What is the contribution of these projects to Midewin and to general knowledge?

Report every five years (Next required reporting FY2012)

16. Scenery Management

Is scenery of National Forest System land improving?

Report every five years (Next required reporting FY2012)

17. Social and Economic

To what extent is Midewin contributing to the local economy?

Report every ten years (Next required reporting FY2012)

18. Threatened, Endangered Species and Regional Forester's Sensitive Species

To what extent are NFS lands and their management contributing to the recovery, conservation, and viability of threatened, endangered, or proposed species and to what extent are actions prescribed in recovery plans being implemented?

Threatened, Endangered Species and Regional Forester's Sensitive Species (RFSS)

Leafy Prairie Clover *Dalea foliosa* (State and Federally Endangered)

Leafy prairie clover is found in dolomite prairie at Midewin. Population monitoring of this endangered plant began in 2002. Two factors that appear to affect germination and survival are climatic conditions and animal browse. These factors can make the population fluctuate; however, the population trend for this plant appears to be generally increasing, even though they fluctuate from year to year.

Monitoring protocols include assessing population status and the impacts of management. These protocols are currently meeting the goals outlined in the Prairie Plan and current monitoring techniques are acceptable. Restoring a prescribed burning regime in this area is key to improving habitat. Size of the population is expected to increase as greater land management occurs.

Midewin is working with the US Fish and Wildlife Service (USFWS) in recovery actions for this plant in northeastern Illinois. Monitoring of Leafy Prairie Clover plots that were planted in 2009 continued. These plants substantially increased in size and vigor during 2010 and 2011, with greater than 90% of these plants flowering. Survivorship was high, with only 9 of the original 100 plants missing or dead in 2010. Monitoring was conducted of these plants and nearby wild populations, using protocols developed by USFWS. Midewin staff are cultivating Leafy Prairie Clover plants and distributing seed to be put into appropriate habitat of its historic northeastern Illinois range. In 2010, plants were distributed to the Illinois Department of Natural Resources, Will County Forest Preserve District, and Kane County Forest Preserve District for outplanting. As additional restoration occurs in the Drummond dolomite prairie, further introduction of leafy prairie clover may occur and the viability of the population at Midewin is expected to increase.

Table 16. Population Demographics of *Dalea foliosa* at Midewin

Fiscal Year	Number of Seedlings	Number of Vegetative Plants	Number of Flowering Plants	Total # Plants
2001	1	26	82	114
2002	0	83	9	92
2003	161	15	64	240
2004	31	76	144	251
2005	26	53	115	194
2006	41	51	95	187
2007	87	88	105	280
2008	151	154	129	434
2009	198	453	65	716
2010	68	156	340	564
2011	52	294	240	586

To what extent are NFS lands and their management contributing to the viability of Regional Forester's Sensitive Species and other species of concern?

Monitoring of sensitive species is being conducted on a rotational basis so that in any given year a subset is monitored, but each subset is monitored only every five years. Last full report was completed in the Monitoring and Evaluation Report for FY 2009. The next required reporting date is 2014.

19. Transportation and Utilities

How many miles of roads are decommissioned?

Report every five years (Next required reporting FY2012), however:

In 2010:

- 4 miles of road was decommissioned

In 2011:

- 4.9 miles of road was decommissioned
- 1/8th of a mile of rail road ballast was removed

To what extent are road closures effective in preventing off-road vehicle travel?

The road access and parking areas provided enable the public to access and use Midewin in compliance with the laws, special orders, regulations, policies, and Land and Resource Management Plan and Regulations. The existing gate system and fencing also provide effective guidance that encourage compliance.

20. Watershed, Riparian, and Wetlands

What is the condition of watersheds within Midewin?

Report every ten years (Next required reporting FY2012)

How many acres of riparian lands have been restored?

Report every five years (Next required reporting FY2012)

To what extent are management activities affecting riparian areas?

Report every five years (Next required reporting FY2012)

How many acres of wetland have been restored?

Report every five years (Next required reporting FY2012)

To what extent are management activities affecting wetland areas?

Report every five years (Next required reporting FY2012)

21. Water Quality

What is the condition of water bodies on Midewin?

Report every five years (Next required reporting FY2012)

22. Wildlife

What effects are management activities having on Management Indicators?

Report at least every five years, (Next required reporting FY2012)

23. Management Area 3 – Special Areas

Has there been any non-compliance of restrictions for MA 3 lands? If so, describe actions taken to remedy the non-compliance and explain reasons for the non-compliance.

On lands designated as Management Area 3, activities during the Fiscal Years 2010-2011 on Midewin National Tallgrass Prairie have complied with the standards set for these special areas. No actions were taken or were needed to make any remedies for non-compliance activities.

Concluding Evaluation of the Monitoring Report

Midewin's monitoring program and report continues to provide the needed information that validates implementation of the Prairie Plan and amendments. The report indicates that the current course of management activities and actions being applied continues to move the Prairie toward achieving the goals, objectives and desired future condition of the Prairie Plan.