REPORT #IWPF000248

PRAIRIE/POND EDUCATION PROGRAM IMPROVEMENT
1997-98 GRANT SUMMARY

1998

LAKE COUNTY FOREST PRESERVES

Preservation, Restoration, Education and Recreation

Introduction

Many citizens do not understand the need for and methods used in natural resource management. The *Prairie Sampler* education program, for grades 3-8 that visited the Lake County Forest Preserves, did not deal with natural resource management or restoration prior to receiving the Illinois Wildlife Preservation Fund Grant in 1997.

To enhance the program which dealt primarily with prairie plant adaptations, an activity that emphasized prairie restoration was developed. The program was lengthened by 30 minutes for a total of 90 minutes. The program enhancement and expansion is in concert with the revised Illinois State Learning Standards implemented in schools during Fall 1997.

A new environmental education intern position was created with one of its responsibilities being program development and implementation. The success of the program was assessed based on written program evaluations from the teachers and discussion content with students. Continued enhancements to the program will be made as needed to make the information relevant and understandable to the students and teachers.

The response to the program has been very positive. The teachers and students both enjoyed the addition and completed the program with a better understanding of prairie restoration.

Materials

Restoration Activity Vest Materials

- ♦Pinneys
- ♦Computer Transfer Paper
- ♦Muslin Material

Methods

Prior to September 1997, the *Prairie Sampler* program dealt exclusively with plant biology and endangered species. An activity was designed to help students and teachers learn about prairie restoration (Appendix A).

The activity was developed by our Environmental Education staff and interns. An interactive game model was chosen for the activity. This type of model is a proven and accepted teaching strategy that emphasizes experiential learning. The activity helps to promote the action component of environmental education philosophy. The activity was also written to meet current mandated Illinois Learning Standards.

After development, the activity was reviewed by classroom teachers for content and age appropriateness. Their suggestions were incorporated into the activity.

A pilot field test was conducted with two groups of children who were participating in a local summer day camp. The camp allowed us to visit and pilot the activity. After the pilot was completed, necessary revisions were made.

Finally, the activity was presented during a workshop for non-formal educators in Peoria at the end of August 1997. The workshop participants received a brief overview of the entire *Prairie Sampler* program and then played the restoration activity. Their feedback was important to the final product of the activity.

After training was complete for all staff, interns and volunteers, we were ready to present the first revised *Prairie Sampler* program on September 25.

Results

The original project proposal listed seven objectives. The results of each are discussed under the objective listing.

♦Develop new activities emphasizing prairie management and using new Illinois State Learning Standards as a guideline.

The new activity was developed using the Illinois State Learning Goals as a guide. The activity helps to meet the requirements listed in Goal 12, a science goal, and Goal 16 and 17, both social science goals. Specifically, the program teaches to goals: 12.B.2a, 12.B.2b, 12.B.3a, 12.B.3b, 12.E.3a, 16.E.2a, 16.E.3a, 17.C.2c, and 17.D.2b.

♦Advertise program to teachers, highlighting new aspects of program.

The new program was promoted through the *1997-1998 Education Guide*, the educational opportunities listing for the Lake County Forest Preserves (Appendix B). Special emphasis was put on the program at the Forest Preserve booth at the fall *Great America Teachers' Conference*, an in-service day open to all teachers in Lake County. Over 3,000 Education Guides were distributed through the school year.

♦Develop written program evaluation sheet and revise program as needed.

The evaluation was developed (Appendix C).

♦Develop information sheet listing other opportunities for involvement.

The current Forest Preserve Conservation Workdays listing was made available for each teacher. The listing is in every issue of the Forest Preserves quarterly newsletter, *Horizons* (Appendix D). During the restoration activity, staff explained the importance of management and encouraged participation.

♦Train staff and volunteer environmental educators to conduct the program.

All staff (environmental educators and environmental education interns) and volunteer naturalists were trained during a half-day session in late August 1997. Each participant received the revised written materials and "walked through" the activity. Interns and volunteers were encouraged to observe programs before teaching.

Results Continued

♦Develop a system to allow for more prairie and pond programs.

A change of Preserves was made at the same time the program was being revised. Formerly, the *Prairie Sampler* program was conducted at Berkeley Prairie. This location presented several challenges. Berkeley Prairie is a high-quality natural remnant with narrow paths. Increasing the number of program attendees may have spelled disaster for the area. Safe bus parking was another issue.

The 1997-1998 *Prairie Sampler* programs were conducted at Old School Forest Preserve. The prairie used at this site is a restored prairie with wide, well-maintained paths. Also there is plenty of space available to conduct the restoration activity without threatening the prairie area. Bus parking is not an issue at this site.

The move to Old School Forest Preserve provided the added benefit of being located minutes from the Preserve used for the *Pond Program*. This allowed schools to visit two distinct habitat types during one field trip. Several schools took advantage of this situation.

♦Increase number of prairie and pond programs conducted from 33 in 1996-97 school year to 70 in 1997-98 school year.

The number of prairie and pond programs increased from 33 in the 1996-97 school year to 60 programs. Schools from 13 different communities attended the programs. The majority of schools were from Lake County, although 2 schools from Cook County participated in programs. A total of 975 people participated in the prairie and pond programs during the 1997-98 school year, an increase of over 95%.

Discussion

Natural resource management is a important part of the mission of the Lake County Forest Preserves. Yet, we had not addressed management with detail in any of the school field trip programs. When doing a search for examples, we found no existing activities with the objective to teach about resource management. The staff felt that revising the *Prairie Sampler* program gave us an opportunity to strengthen our program and be cutting-edge within the environmental education community.

The interactive game model was chosen as the teaching strategy since the existing portion of the program relied on questioning techniques and limited movement. However, the rooted nature of plants made for a challenge. The activity was designed to give each student an active role while remaining stationary, as a plant would. (The activity is detailed in Appendix A.)

The restoration activity is designed for large group participation (up to 60 students). The activity starts with each student getting a double-sided pinney. Each side has a plant picture on it. Each pinney has one red side with a non-native plant pictured. The reverse side is either green, native grasses, or blue, native forbs.

All students start with the non-native plants showing. After a brief discussion about fire, a simulated fire moves through the plants (actually a staff person with a bright red pompon). Any student (plant) that is affected by fire reverses his pinney and becomes a native plant. Other simulations include prairie plantings, droughts and ultimately natural plant reproduction.

The space needed for large group participation added the challenge of students not being able to see what plants all students represented. The distinct colors visible within the playing area made it easy for students to see what "plants" were effected during each simulation.

The teachers of the participating classrooms gave very positive feedback. Of particular interest were the teachers who attended programs prior to September 1997. Those teachers were very complimentary about the new form of the program and pleased to see an interactive game as part of it. Students participating in wrap-up discussion understood the concept of restoration and the importance of human intervention in certain management strategies. The *Prairie Sampler* program received consistently high marks on returned evaluations.

Summary

The *Prairie Sampler* program is much stronger, educationally, as a result of the Illinois Wildlife Preservation Fund. The program introduces both students and adults to prairies and restoration. Participants see the results of restoration activities by studying prairie plant adaptations and participating in a restoration activity in a healthy, beautifully restored and managed prairie.

As a result of the revision of this program, teachers will spread the word about its content and effectiveness. These teachers will continue to bring more students and adults to the Old School prairie. In fact, there are already 45 *Prairie Sampler* programs scheduled just for September 1998, with a total of over 700 participants. The 1998-98 school year promises to be record breaking for participation in prairie and pond programs.

Appendices

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Prairie Sampler Program Write-up

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Pond Study and Prairie Sampler Education Guide Promotion

Appendix C ..... ***Page 13***
Sample Program Evaluation Form

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Sample of Conservation Workdays Schedule

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PRAIRIE PROGRAM

3-8th grade
(90 minutes)

Objectives:

1) To be able to describe the dominant plant species in a prairie common to north eastern Illinois
2) To understand the forces that contribute to survival of a prairie
3) To appreciate the importance of restoration

Vocabulary Words:

forb	extirpate	prairie
grass	threatened	diversity
adaptation	endangered	invasive
habitat	restoration	native

Note: Use laminated pictures, study skins or props with any activity or to illustrate any point if desired.

Introduction

(10-15 minutes)

Equipment:

U.S. Prairies Poster

Introduce yourself and the Lake County Forest Preserves through the general forest preserve introduction.

Ask students if they have any ideas of what makes a prairie a prairie.

- amount of sunlight
- wind conditions
- seasonal temperature conditions above ground and below ground
- water availability (limiting factor)
- the depth of topsoil

Give a brief history of the area pre and post settlers.

- why they passed up the prairies to settle elsewhere
- John Deere's invention of the self-scouring steel plow

Activity:
Divide the students evenly into six groups.

- One of the better readers should read the instructions at each station
- Each group should start at a station designated by you
- They will not necessarily complete the stations in numerical order
- Adults go with groups

Explain that they should read out loud to their group, follow the instructions and answer the questions on the card attached to the bag at each station.

When the group finishes a station they will rotate to a new one.

- Have the groups rotate when you tell them to.

OR

- Let the students work at their own pace, moving to a new station when one becomes available.

No two groups should be at the same station at the same time.
Once each group has completed each station, gather all of the students together.

Then move from station to station with the entire group for a wrap-up.

- Ask the students for their answers and discuss their choices.
- Show the students how each station illustrates an adaptation that helps the plant survive on the prairie.

Timing the end of this activity is crucial to moving on to the prairie restoration activity. Carefully observe surrounding groups as to their pace. Ending time should be agreed upon during the rotation through the stations.

Create the Ideal Prairie Plant

3rd - 8th grade
(20 Minutes)

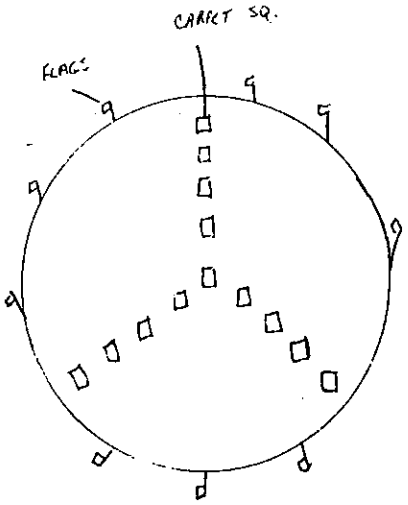
Note: This activity is done as a wrap-up to the Plant Adaptations activity.

Set-up:

- Prior to the arrival of the students, position the flags in a circle appropriate for the size of the group.

- Divide the circle into thirds by placing the carpet squares on the ground. *This will resemble a peace sign. (see diagram)*

- Each of the prairie containers will contain vests enough for your group, which you will hand out to them before leaving the prairie.



RESTORATION ACIVITY SET-UP

Note: One naturalist, designated during set-up, will be the facilitator of this activity. Each naturalist will play a part and explain at least one round to the students.

This activity is done at the conclusion of the adaptation activity, bringing all groups together.

- Hand out vests to each student and have them put them on, **red side out**.
- Explain that this is for an activity that we will join with the others to do.
- Lead your group into one of the sections of the circle.
- Have them **spread out** anywhere within that section and sit down.

Transition:

The facilitator will explain that this is a field in need of restoration. "We are now going to take this area through three seasons (rounds) of change."

Note: Be aware when talking about alien species and how undesirable it is, we need to think about how children who have come from foreign countries may react to this. Perhaps exotic is a better term.

Activity:

Round #1 - Spring

- Explain how we use fire in controlled burns to eliminate the invasive species.
- Remember the whole field is not burned all at once, only small sections to give animals an area to escape into.

- Invasive plants have similar adaptations as native plants, so some can be difficult to remove.
- In order to restore our land we sometimes need to help it along. Tell them they too can become involved by volunteering on our workdays at different preserves. We are sending a *Horizons* with their teacher which includes dates and places of workdays.
- Turn each group back to the naturalists they were originally with so they can do a program conclusion.

Program Conclusion

(10-15 minutes)

Note: After the previous activity each of the small groups will separate from the large group and do a wrap-up.

Review definitions:

- prairie
- forb
- diversity
- grass
- adaptation
- restoration

Ask the students some review questions:

- Why are prairies important?
- Name plant adaptations that help them survive
- Lots of diversity has been lost. What can you do to help?

Emphasize that everything you do to reduce waste means that less land will be needed for landfills, and that there will be less pressure to develop the remaining prairies.

Appendix B

POND STUDY

GRADES 4 - 12 ***90 minutes***

Meet at ***Wright Woods*** near Lincolnshire for a glimpse of what's underwater in a wetland. Students use nets to catch tadpoles, snails, dragonfly nymphs and more. Then the group uses their catch to analyze the pond's water quality. A perfect companion to Prairie Sampler!

PRAIRIE SAMPLER **NEW LOCATION!!**

GRADES 3 - 8 ***90 minutes***

Do your students know why Illinois is called the Prairie State? Explore ***Old School Forest Preserve*** near Libertyville to discover the special qualities and characteristics of prairies. Examine plants to learn how sun, wind and water affect prairies, and their wildlife. Discussion will reveal why fire is vital to prairies, the endangered species that make prairies their home, and what prairie restoration is all about. *Plenty of parking at this new location!*

Pond Study and Prairie Sampler Promotion
Printed in 1997-98 Education Guide

Appendix C

Sample Program Evaluation Form

Lake County Forest Preserves
21950 N. Riverwoods Road
Deerfield, IL 60015
Tel (847) 948-7750
Fax (847) 948-7712

Lake County Forest Preserves

PROGRAM EVALUATION

Program: Prairie Sampler
Naturalists: _____

Date: 29 May 1998 Friday
Grade: 4

Please help us to rate the following:

	Poor				Excellent
The degree to which you feel your group understands the theme of their program	1	2	3	4	5
The lecture, activities, and instruction	1	2	3	4	5
Equipment: appropriateness, condition, quantities	1	2	3	4	5
Leadership: Explanations, questions, transitions & appropriate language	1	2	3	4	5
Leadership: Group management, involvement, and safety	1	2	3	4	5

PLEASE COMMENT ON THE ITEMS THAT NEED TO BE IMPROVED.
What are the programs strengths or weaknesses?

The leader's presentation?

How did your children respond to the program?

Appendix D

CONSERVATION WORKDAYS

If you're interested in hands-on work to save some of Lake County's natural areas, grab some work gloves and join our stewardship volunteers. All ages invited. We encourage you to call 847-948-7753 ext. 212 for directions, as meeting spots tend to be off the beaten path.

June 6, Sat.	Prairie Wolf, Independence Grove & Middlefork Savanna	9 am
	Half Day	2 pm
June 7, Sun.	Almond Marsh	9 am
	Berkeley Prairie	10 am
June 13, Sat.	Sun Lake, Lakewood & Cuba Marsh	9 am
	McDonald Woods	2 pm
June 20, Sat.	Grant Woods & Lake Bluff	9 am
	Old School	2 pm
June 27, Sat.	Buffalo Creek, Ryerson Woods & Rollins Savanna	9 am
	Greenbelt	2 pm
July 11, Sat.	Sun Lake & Cuba Marsh	9 am
	McDonald Woods	2 pm
July 12, Sun.	Almond Marsh	9 am
	Berkeley Prairie	10 am
July 18, Sat.	Lake Bluff	9 am
	Old School	2 pm
July 25, Sat.	Buffalo Creek, Lyons Woods, Rollins Savanna & Ryerson	9 am
	Greenbelt	2 pm
August 1, Sat.	Almond Marsh, Prairie Wolf, Independence Grove & Middlefork Savanna	9 am
	Half Day	2 pm
August 8, Sat.	Sun Lake & Cuba Marsh	9 am
	McDonald Woods	2 pm
August 15, Sat.	Lake Bluff & Waukegan Savanna	9 am
	Old School	2 pm
August 16, Sun.	Berkeley Prairie	10 am
August 22, Sat.	Rollins Savanna, Ryerson Woods & Lyons Woods	9 am

Sample of Conservation Workdays Schedule Printed in Spring 1998 Horizons.

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1998

98-027

Appendix E

Students prepare for a resource management simulation.
Which plants will effected?

Red pinneys depict non-native plants.
Blue and green depict native plants.

Top: *Three students investigate prairie plant adaptations during the first portion of the program.* ***Middle:*** *Students model the restoration vests. The plant pictures were made using computer generated iron-on transfers.* ***Bottom:*** *A student proudly shows that through restoration he has become a native prairie grass.*

Appendix F

Summary of Grant Expenditure

Commodities:

Pinnies - 60 red, 30 blue, 30 green	$300
Computer Transfer	$180
Material and Thread	$40
Total:	**$520**

Salaries:

Intern Salary @ $5.50/hr#	$480
Total:	**$480**

TOTAL EXPENDITURES	**$1000**

Funds Provided by Lake County Forest Preserves

Salary for Staff*	$1000
Printing:	$2250
Postage:	$500
Promotion	$350
Total	**$4,100 ^**

Intern time includes program development, training and actual teaching time.

* Staff time does not include program development time.

^ Total does not include volunteer hours. Approximately 100 hours of volunteer time was needed for training and presentation of the Prairie and Pond programs in the 1997-98 school year. In 1996, the Independent Sector, a non-profit group committed to volunteerism and philanthropy, placed an hourly value of $12.45 for the time that volunteers give to an organization. The 100 hours of volunteer time needed here represents a tremendous contribution.