

**FINAL REPORT**

Development of a nature trail and interpretive guide for a forest preserve in Carbondale, IL  
(Wildlife Preservation Fund Grant #02-046W)

*Submitted by*

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FEDERAL AID

## INTRODUCTION

Green Earth, Inc. is a non-profit public charity established in 1974 for "charitable and educational purposes to procure, hold title to, develop, manage and maintain lands suitable for the establishment of a system of natural areas for the people of the Carbondale, Illinois area." Green Earth currently owns and maintains five green spaces that collectively preserve over eighty acres of undeveloped land in the vicinity of Carbondale. Green Earth has encouraged public use of these properties by maintaining trails through each natural area and developing trail guides that describe points of interest and ecological features specific to each natural area. Green Earth properties are open to the public from dawn to dusk. These trails are commonly used for exercise, wildflower identification, and wildlife observation. The local community, primary and secondary schools, and Southern Illinois University also use these natural areas and interpretive guides for educational purposes.

In 1998, Clyde and Betty Arnold of Carbondale donated a twenty-one acre forest to Green Earth. This forest, known as Green Earth Fernlands, is held in a conservation easement that precludes development or degradation of this property in perpetuity. The trail system through this property takes hikers past a variety of impressive natural features including a spring-fed stream, abundant forest ferns, and a large red oak tree. A formal trail guide keyed into a set of trail markers would increase the interpretive value of this nature preserve by providing basic biological and ecological information about this forested system. The objectives of this project were to 1) delineate a nature trail through the Fernlands forest preserve; 2) design, order, and tack trail marker signs to trees to direct hikers along the trail; 3) develop and print a trail guide containing a map of the trail system with numbered stations detailing important natural features on the property; 4) construct numbered wooden markers to correspond with information in the

interpretive guide; and 5) obtain materials to establish a box to house trail guides at the entrance to the Fernlands. The objectives of this project were extended to also design and order plastic laminate signs with a map of the Super Trail to increase visibility and use of this three-looped trail that connects two Green Earth properties in a residential area of Carbondale.

#### PROJECT SITES

Fernlands is located approximately four miles south of Carbondale, Illinois. Fernlands is entirely forested and contains a small, unnamed tributary of Little Crab Orchard creek running through the property. An environmental assessment, conducted at the time Green Earth acquired Fernlands demonstrated no visible impairment to the soil, water, or surrounding forest in the preserve.

The Super Trail is a long hiking trail, over a mile in length, through natural areas collectively preserved by Green Earth, Southern Illinois University, and the Carbondale Park District. This trail connects two Green Earth properties in a residential area of Carbondale. The trail can be accessed from five different points and takes hikers through a hardwood forest, a wetland planted with native prairie grasses (Green Earth Wetlands), a mature bottomland forest, across Little Crab Orchard Creek, and terminates at a green space containing a restored patch of native prairie grasses and wildflowers (Green Earth Flaglands).

#### MATERIALS AND METHODS

In September of 2001, the primary trail at Fernlands, to be used for development of an interpretive guide, was delineated and flagged. Green and white trail marker signs were designed containing the Green Earth logo within an arrow (Attachment 1). Two hundred and

fifty 4 in. x 4 in. plastic trail marker signs were ordered from Voss Signs. These signs were tacked to trees with aluminum nails at approximately 20-foot intervals along the length of the trail (Attachment 2).

Once the primary trail was established and marked with signs, the Executive Director of Green Earth (Dr. Sara Baer), consultants from Southern Illinois University (Dr. David Gibson of Plant Biology and Dr. Matt Whiles of Zoology), and Green Earth Board Members (Dr. David Kenney and Mr. Craig Hinde) determined twelve points of interest along the trail to be detailed for the interpretive guide. The Executive Director designed the trail guide, containing enumerated information on biological and ecological characteristics of Fernlands, free-hand drawings of resident wildflowers, and a map of the trail (Attachment 3). The trail guide also notes that support for production of the guide was provided by a grant from the Illinois Department of Natural Resources Wildlife Preservation Fund. Two thousand copies of the trail guide were printed.

In Spring 2002, materials were purchased to install numbered wooden trail markers to correspond with the points of interest in the interpretive guide. Six 4 in. x 4 in. x 12 ft. posts of treated lumber were purchase and cut in half at a 45° angle. Numbers were stenciled on to the angle cut of each post, routed out, and painted (Attachment 4). Volunteers and members of Green Earth's Board of Directors will install the numbered posts to a minimum depth of 18 in, during optimal soil conditions. A standard mailbox and mailbox post were purchased to house the trail guides at the entrance to the trail. The mailbox will be secured to the post and installed at the entrance to the trail. The post will be inserted into the ground at the time numbered wooden trail markers are installed along the trail. Lettering will be affixed to the mailbox to indicate that the box contains trail guides.

Trail marker signs were also tacked to trees along the Super Trail in Fall of 2001. A four-color map of the Supertrail was designed by Mr. Jack Nawrot, an active member of the Green Earth Board of Directors and Research Scientist in the Department of Zoology at Southern Illinois University (Attachment 5). Eight, 8 in. x 12 in. plastic laminate signs containing the map design were purchased from Voss Signs. These trail signs will be posted all access points to the three-looped Supertrail.

Both trails will be checked weekly by the Executive Director of Green Earth to perform any necessary trail maintenance, tack up additional trail marker signs if needed, and ensure that multiple copies of the trail guide are available visitors at Fernlands.

#### RESULTS AND DISCUSSION

The trail at Fernlands guides the hiker through approximately 0.6 mi. of the a 21-acre forest preserve. The trail has visible access from the road, and winds through many different habitat types in the forest preserve, including a mature lowland hardwood forest, an upland woodland, and a forest recovering from pasture use. Plastic trail marker signs, containing the Green Earth logo within an arrow, direct hikers along the trail (Attachment 2). The interpretive guide contains detailed information on the ecology of the forest at twelve stations along the trail (Attachment 3). Points of interest outlined in the trail guide include: (1) the identification of poison ivy and awareness of ticks; (2) the biology of common ferns and identification of woodland wildflowers; (3) evidence of wildlife from tracks and evidence of humans from old hand-operated coal excavations; (4) the connectedness of headwater streams and forest ecosystems; (5) features of mature woodlands; (6) the presence of a natural spring; (7) characteristics of pool and riffle stream habitats; (8) the role of coarse woody debris in forests;

(9) attributes of an upland forest and the effects of abiotic factors on forest communities; (10) recognition of a large red oak in the maturing phase of its life cycle; (11) the role of past land use and hydrology on forest composition; and (12) identification of a once common riparian species, Giant Cane, along the stream margin at the exit of the trail. The development of the nature trail and interpretive guide will enhance visitor awareness and appreciation of forest conservation and its relevance to stream function and health. This trail guide will serve to increase the educational potential of Fernlands for local schools and the greater community of Carbondale, Illinois.

Due to its location in a residential area, the Super Trail represents one of the most frequented natural areas in Carbondale, receiving public attention from the advertisement of Green Earth's annual spring wildflower walk in celebration of Earth Day. Addition of trail map signs to the Super Trail will enhance the visibility of trail and increase user awareness of extended hiking opportunities beyond each Green Earth site (Attachment 5). This trail connects natural areas preserved by Green Earth, Southern Illinois University, and the Carbondale Parks District. Development of this map has strengthened partnerships between the local non-profit organization, university, and park district. These maps will serve to increase the community's awareness of the active working partnership among this private organization and state and local government agencies.

SUMMARY OF EXPENSES

<b>Items Purchased</b>	<b>Cost</b>
1. Trail Markers (250, 2-color, 0.5 gauge, plastic laminate signs)	\$207.10
2. Numbered markers	
Wooden posts (6, 4" x 4" x 12' treated lumber posts)	\$59.70
Stencils (1 box of 2" letters)	\$1.18
Paint (1 4 oz. can of exterior enamel paint)	\$2.99
Paintbrush	\$2.79
Total for numbered markers	\$66.66
3. Trail Guide Box	
Standard mailbox	\$5.46
Standard assembled wooden mail box post	\$21.25
Total for trail guide box	\$26.71
4. Printing + Folding (2000 trail guides)	\$230.00
5. Plastic signs with trail maps (8, 4-color, 0.5 gauge, plastic laminate signs)	\$495.60
<b>GRAND TOTAL</b>	<b>\$1,026.07</b>

Attachment 1. Color photocopy of a trail marker sign.



P.O. BOX 441 CARBONDALE, IL 62903

Attachment 2. Example of a trail marker sign tacked to a tree to guide hikers along the trail at Green Earth Fernlands.



FERNLANDS

TRAIL  
GUIDE



**Green Earth, Inc.**  
*Preserving natural areas for  
future generations.*

Attachment 4. Numbered wooden trail markers.



Attachment 5. Color photocopy of the sign containing a map of the Super Trail.

**YOU ARE HERE**  
(Tack Marks Your Location)

**T** Trailhead

Trail 

Chautauqua

Little Crab Orchard Ck.

SIU

Carbondale  
Park District

Flaglands

Sunset

Green Earth  
Wetlands

Emerald Ln

SIU  
Wildlife Annex

McLafferty

# Green Earth Super Trail



0 0.25 0.5 mile

Green Earth, Inc. P.O. Box 441 Carbondale, IL 62903