Rocky River Backyard Buffers Program

LEPF SG 333-07

TECHNICAL REPORT

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Introduction

The Rocky River drains 294 square miles of Medina, Cuyahoga, Lorain and Summit Counties in Northeast Ohio, including 28 separate municipalities and townships, before flowing into Lake Erie west of Cleveland. Only 14% of the watershed is considered to be in urban land use, but the remaining unprotected areas, especially agricultural areas, face high residential development pressures. While nearly 30 miles of the Main Stem and East Branch are permanently protected in public parks, the numerous headwater streams have been, and continue to be, encroached upon by roads, fields, back yards and parking lots. Increases in flooding, bank erosion, and sediment and nutrient inputs, coupled with physical channel alterations and habitat degradation, are often attributed in part to riparian deforestation.

The Rocky River Watershed Action Plan, endorsed by the Ohio Environmental Protection Agency and the Ohio Department of Natural Resources in 2006, states that "maintenance of functioning riparian corridors along the streams of the Rocky River is the single most important action that can be taken to maintain water quality in the stream and to minimize problems from future development."

The goal of the Rocky River Backyard Buffers Program is to restore stream water quality and function in urban and suburban areas of the watershed through the establishment of forested riparian buffers on residential property.

Objectives

The two program objectives, as identified in the LEPF grant application, are:

- 1. Directly educate all streamside residential property owners in the Rocky River Watershed about the importance of maintaining and restoring functioning, forested riparian corridors.
- 2. Provide tree and shrub seedlings to at least 125 riparian landowners, sufficient to reforest at least 3 miles of riparian corridor within the Rocky River Watershed.

Methods

Program activities are divided into the following categories: *Landowner Outreach/Promotion* and *Seedling Selection/Distribution*.

Landowner Outreach/Promotion

A desktop GIS analysis was performed by Cuyahoga SWCD and Medina County SWCD in order to identify all riparian landowners in the Cuyahoga and Medina County portions of the watershed. Lorain and Summit Counties were omitted due to a lack of available data and other resources. This analysis generated 11, 125 discreet addresses of streamside property owners. A brochure (attached) describing how to enroll in the program and explaining the importance and benefits of establishing and maintaining forested riparian corridors was created and mailed to all 11,125 addresses in November 2007.

In addition to basic participant identification and property location information, the enrollment form contained in the brochure asked for details about the length of stream on the resident's property and if the resident owned one or both sides of the land adjacent to the stream. Upon receipt of the enrollment form, this information was entered into a participant management database.

To further promote the program, a press release (attached) was sent to media outlets whose coverage area includes the Rocky River Watershed. This resulted in articles (attached) about the Rocky River Backyard Buffers Program in the Medina Sun, Brunswick Sun Times, West Shore Sun, Hinckley Reporter and The Lakewood Observer.

Seedling Selection/Distribution

The criteria taken into consideration in the selection of tree and shrub seedlings were:

- suitability for planting in riparian areas;
- suitability to general soil conditions in the watershed;
- native to Northeast Ohio; and
- available for purchase.

Based on these criteria, the species selected were: American Sycamore, Swamp White Oak, Silver Maple, Silky Dogwood and Red-osier Dogwood.

While each planting site is unique, a generalized buffer was created for planning purposes. This generalized buffer extends 25 feet from the water's edge and utilizes 10'x10' seedling spacing. 25 feet was selected as the buffer width because it is the minimum riparian setback width recommended in the Northeast Ohio Storm Water Task Force Model Ordinances. This spacing results in 435 seedlings per acre. Table 1 illustrates the number of seedlings distributed to program participants based upon the length of stream owned and whether or not both sides of the stream were owned.

Table 1. Number of Seedlings per Length of Stream

Length of Stream Owned	Number of Sides Owned	Number of Seedlings	
50 feet	1	12	
50 feet	2	25	
100 feet	1	25	
100 feet	2	50	
150 feet	1	37	
150 feet	2	75	
200 feet	1 50		
200 feet	2	100	

Program funding, through the Lake Erie Protection Fund and The S.K. Wellman Foundation, was available to purchase 22,100 seedlings, which is sufficient to plant 50.8 acres, or which equates to 16.75 miles of single-side riparian buffer (8.375 miles of double-side riparian buffer).

Originally, seedlings were to be purchased from the state nursery in Marietta. However, due to administrative delays, the nursery had sold out of most of the selected seedlings. Seedlings were therefore purchased from Engel's Nursery (Red-osier Dogwood, Swamp White Oak, and Silver Maple) and Cold Stream Farm (Sycamore and Silky Dogwood), both located in Michigan. Additionally, these nurseries were able to provide the desired seedlings at a lower cost than the state nursery, increasing the number of seedlings purchased for the program.

Notification cards (attached) were mailed to program participants in March 2008, indicating the date, time and location of the seedling distribution, the types of seedlings, and the number of seedlings to be received. Seedlings were distributed to Cuyahoga County participants on April 19, 2008 from 9:00 AM to 1:00 PM at the City of Middleburg Heights Service Garage. The Medina County distribution occurred April 26, 2008 from 9:00 AM to 1:00 PM at the City of Brunswick's Heritage Farm. A make-up distribution occurred May 20th in Brunswick. Volunteers from the Rocky River Watershed Council assisted Cuyahoga SWCD staff with the distribution. Along with the seedlings, participants were provided with the following materials:

- planting guidance (attached),
- Life at the Water's Edge booklet,
- Rocky River Watershed You're Living Link between Land and Water brochure, and
- a list of Spring 2008 Rocky River Watershed-related events.

Results

All 11,125 identified riparian landowners in the Cuyahoga and Medina County portions of the Rocky River Watershed were mailed the brochure explaining the importance of riparian buffers and advertising the Rocky River Backyard Buffers Program. Of those, 566 enrolled in the program. This corresponds to a 5.1% response rate. These 566 enrollees collectively own 17.4 miles of stream, totaling 90.25 acres of riparian corridor (at 25' buffer width). Table 2 summarizes participants by community.

The available funding was sufficient to purchase seedlings for the first 307 participants that enrolled (22,100 seedlings). Those 307 participants were notified via postcard with the distribution information. The remaining enrollees were notified that they would be added to the waiting list, and that funding was being sought to do another distribution in Fall 2008 or Spring 2009. Of the 307 scheduled to receive seedlings, 184, or 60%, actually picked up their seedlings at either the April 19 distribution, the April 26 distribution, or the May 20 make-up distribution. A total of ~16,500 seedlings were distributed to those participants. Those receiving seedlings had enrolled a total of 29.6 acres, or 5.7 miles stream (for a total of 9.8 miles of 25-foot wide riparian corridor), in the program.

Of the remaining 5600 seedlings, 500 were given to the City of Berea, 1000 to the City of Middleburg Heights, 200 to Western Reserve Land Conservancy for a streamside stewardship event in the watershed, 600 to the City of Brunswick Parks Department, 1600 to Cleveland Metroparks Rocky River Reservation, 500 to program volunteers, and the rest (about 5%) did not survive the shipping, handling, and storage.

Table 2. Participation by Community

City	# participants	# brochures sent	response rate	
Akron/Richfield	4	0		
Berea	10	148	6.76%	
Broadview Heights	5	45	11.11%	
Brook Park	6	45	13.33%	
Brunswick/Brunswick Hills	31	651	4.76%	
Cleveland	5	78	6.41%	
Columbia Station	4	0		
Fairview Park	11	154	7.14%	
Hinckley	62	908	6.83%	
Lakewood	2	53	3.77%	
Litchfield	2	75	2.67%	
Medina (incl. Twp)	147	2921	5.03%	
Middleburg Heights	19	408	4.66%	
North Olmsted	11	364	3.02%	
North Royalton	60	1448	4.14%	
Olmsted Falls	25	359	6.96%	
Olmsted Township	22	396	5.56%	
Parma	8	309	2.59%	
Rocky River	5	52	9.62%	
Seville (Montville Twp)	1	19	5.26%	
Strongsville	70	1478	4.74%	
Valley City	54	665	8.12%	
Wadsworth	2	52	3.85%	
other (Medina Co. absentee)		497		
Total:	566	11,125	5.09%	
County	# Participants	# brochures sent	response rate	
Cuyahoga	259	5337	4.85%	
Medina	299	5788	5.17%	
Lorain	4	0		
Summit	4	0		
Total Linear Feet of Stream enrolled:		91,830	in miles =	17.39
Total Linear Feet of Riparain Buffer:		157,275	in miles =	29.79
Total Acres of Riparain Buffer:		90.26		
Total seedlings at 10' X 10' spacing:		39,319		
Seedlings available with current funding:		22,150		
Seedling deficit:		17,169		
Additional funding required:	•	\$7,039		

Discussion/Lessons Learned

Objective 1: Directly educate all streamside residential property owners in the Rocky River Watershed about the importance of maintaining and restoring functioning, forested riparian corridors.

This objective was achieved through the mailing of the Rocky River Backyard Buffers Program brochure to all 11,125 riparian property owners in the project area (Medina and Cuyahoga portions of the watershed), as well as the publication of articles about the program in several local newspapers.

Of course, it cannot be known how many mailings were either not delivered or not read for various reasons. However, it is highly likely that nearly all the brochures arrived at the appropriate addresses.

Objective 2: Provide tree and shrub seedlings to at least 125 riparian landowners, sufficient to reforest at least 3 miles of riparian corridor within the Rocky River Watershed.

This objective was achieved through the delivery of seedlings to 184 riparian landowners in the Rocky River Watershed. Combined, they own 5.7 miles of stream, and had enrolled 9.8 miles (29.6 acres) of 25 foot-wide riparian corridor in the program.

While both objectives were met, many opportunities exist to improve programmatic effectiveness.

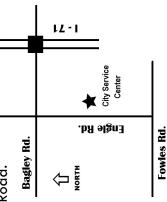
There is no built-in mechanism to monitor if the seedlings were properly planted or located, seedling survivability, or direct water quality or stream stability improvements. This prevents the evaluation of any quantitative environmental outcomes of the project. Any such outcomes will be strictly qualitative.

The largest issue arising from the implementation of the project was the inability to provide seedlings to all riparian property owners that enrolled in the program. Response to the program was much higher than anticipated, and funding was sufficient only to supply 54% of the demand. The remaining enrollees were placed on a waiting list. This does, however, provide an opportunity to work with the remaining enrollees on a similar project in the future, if additional funding can be obtained.

Another issue associated with the seedling distribution was that only 60% of those who were designated to receive seedlings actually picked them up. This could be related to a number of factors, including unavailability on the day of the distribution or on the make-up distribution date. Since it was anticipated that at least ~90% would receive their seedlings, no plans had been made in terms of setting up additional pick-up dates or notifying those on the waiting list. For this reason, the decision was made to distribute unclaimed seedlings to local cities and park districts and other partner organizations within the watershed that had riparian areas available for planting. To remedy these issues in any future related projects, additional distribution dates will be made available. Additionally, a procedure will be in place to notify participants on the waiting list.

Thank you for participating in the ROCKY RIVER BACKYARD **BUFFERS PROGRAM!**

9:00 AM to 12:00 noon at the You can pick up your seedlings on Saturday, April 19th from Service Center, located at 7375 Engle Heights Middleburg Road.



Conservation Soil and Water Cuyahoga)istrict

U. S. Postage PAID

Cleveland, Ohio Permit No. 3666

Nonprofit Org.

«City», «State» «ZipCode» «FirstName» «LastName» «Address»

If you have any questions about the program, please contact Jared Bartley at 216-524-6580 x14.

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PAID

Conservation

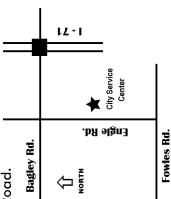
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Soil and Water

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«FirstName» «LastName»

«Address»

U. S. Postage Nonprofit Org. PAID

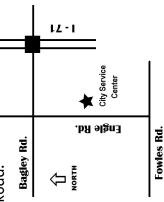
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Fowles Rd.

This card contains important information about the Rocky River Backyard Buffers Program!

- See reverse for the date, time and location of the seedling distribution.
 - Trees and shrubs should be planted within 24 hours of receiving them. If they **absolutely cannot** be planted within 24 hours, please call for instructions.
- The number of seedlings you will receive corresponds with the length of stream you own, as follows:

50' (one side) = 12 seedlings 50' (both sides) = 25 seedlings 100' (both sides) = 50 seedlings 150' (both sides) = 75 seedlings 200' (one side) = 50 seedlings 200' (both sides) = 150' seedlings 150' (both sides) = 100' seedlings

Along with the seedlings, you will receive guidance about how and where to plant your trees.

While efforts have been made to select varieties that are somewhat
resistant to deer-browse, please consider a deer repellant if you live in an
area with a high deer population.

Planting assistance is available for senior citizens and for those who are physically unable to plant their tree seedlings. Please contact Jared Bartley at 216-524-6580 x14 if you require assistance.

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ABSTRACT

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The goal of the Rocky River Backyard Buffers Program is to restore stream water quality and function in urban and suburban areas of the watershed through the establishment of forested riparian buffers on residential property. Through the program, brochures describing the importance of forested riparian buffers and explaining how to enroll in the program were sent to the 11,125 streamside property owners in the Cuyahoga and Medina County portions of the Rocky River Watershed. 566 riparian landowners (5.1%) enrolled in the program. Overall, 16,500 tree and shrub seedlings were distributed to 184 riparian property owners. Those receiving seedlings own a combined 5.7 miles of stream, and had enrolled 9.8 miles (29.6 acres) of 25 foot-wide riparian corridor in the program. Demand for seedlings to plant in the riparian corridor far exceeded the ability of the program to supply seedlings, providing future opportunities for riparian reforestation in the Rocky River Watershed.