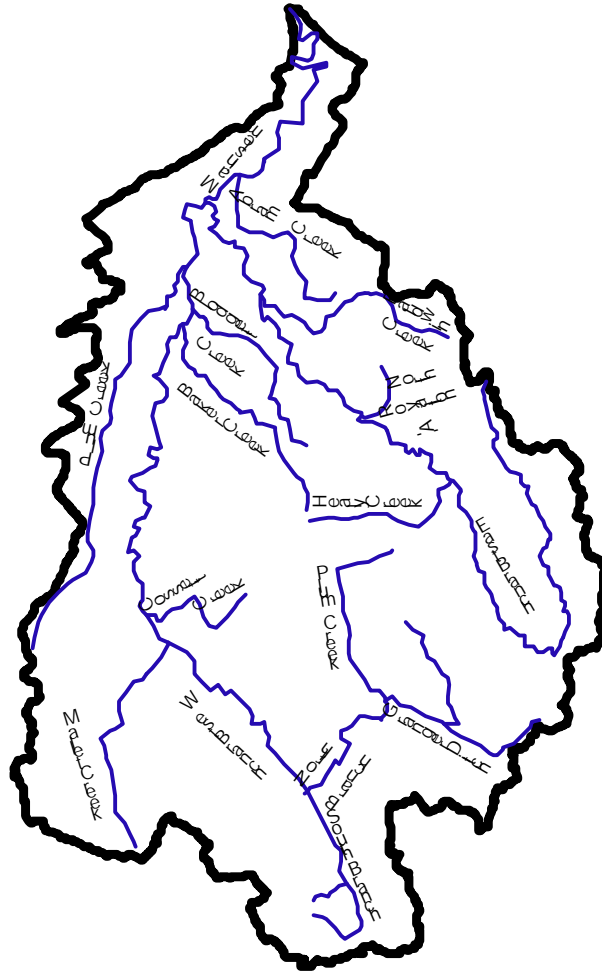


Rocky River Watershed Action Plan



July 2006

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Rocky River Watershed Action Plan

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Rocky River Watershed Action Plan

Abstract

This report summarizes the strategic actions of the Rocky River Watershed Action Plan. It includes a discussion of the goals and objectives of the Action Plan, the timeline for implementing recommended actions, and a statement of priorities and best management practice targets listed on a subbasin basis. The Action Plan also presents plans for implementing educational outreach, for marketing the Action Plan, and for evaluating the progress made.

This Action Plan is supported by a series of appendices prepared for the Rocky River Watershed Action Plan through an Ohio 319 Grant 01(h) EPA-09. These appendices are referenced in the Action Plan. The appendices can be viewed on the Rocky River Watershed Council's website at <http://www.myrockyriver.org>.

The Action Plan was prepared with the assistance of the Rocky River Watershed Council under the direction of its Board of Trustees. The Board of Trustees includes the following members:

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Rocky River Watershed Action Plan

List of Acronyms

AMATS: Akron Metropolitan Area Transportation Study
BMP: Best Management Practices
BOD: Biochemical Oxygen Demand
CCBH: Cuyahoga County Board of Health
CSO: Combined Sewer Overflow
DEFA: Division of Environmental and Financial Assistance
FEMA: Federal Emergency Management Agency
GIS: Geographic Information System
HSTS: Home Sewage Treatment System
HUC: Hydrologic Unit Code
NASA: National Aeronautics and Space Administration
NEFCO: Northeast Ohio Four County Regional Planning and Development Organization
NEO PIPE: Northeast Ohio Public Involvement and Public Education Committee
NEORS: Northeast Ohio Regional Sewer District
NLCD: National Land Cover Dataset
NMCP: Nine Minimum Control Plans (related to Combined Sewer Overflows)
NOACA: Northeast Ohio Areawide Coordinating Agency
NPDES: National Pollutant Discharge Elimination System
ODNR: Ohio Department of Natural Resources
Ohio EPA: Ohio Environmental Protection Agency
OSU: The Ohio State University
OWI: Ohio Wetlands Inventory
PIPE: Public Involvement/Public Education
QHEI: Qualitative Habitat Evaluation Index
SD: Sewer District
SSO: Separate Sewer Outfall
STP: Sewage Treatment Plant
SWAP: Source Water Assessment Plan
SWCD: Soil and Water Conservation District
TMDL: Total Maximum Daily Load
USEPA: United States Environmental Protection Agency
WWTP: Wastewater Treatment Plant

Introduction

The attached document contains the core elements of the Rocky River Watershed Action Plan. Section I is the declaration of the goals and objectives for the Action Plan that were presented for Rocky River Watershed Council review at its April 29, 2004 meeting. The actions identified include a series of programmatic recommendations that are intended to provide increased protection of the water resources within the watershed. The actions also include a number of objectives that contain short-term targets for remediation actions. These targets have been selected based on an appraisal of what might reasonably be implemented in the watershed during the three-year cycle of the existing 319 Implementation Grant and a five-year period for activities that are outside the scope of the 319 Implementation Grant.

Section II of the Action Plan is a presentation of the timeline that will guide the implementation of the activities that make up the Action Plan. The timeline identifies the resources that are needed to implement each activity. This information was presented for to the Board of Trustees of the Watershed Council review at their June 24, 2004 meeting

Section III contains the priority action needs for the subbasins within the Rocky River Watershed. Targeted action needs are also presented for each subbasin. The specific subbasin load reduction targets associated with nitrogen loads are included.

The individual elements of the Strategic Action Plan are those that watershed stakeholders selected as priority actions during a series of public meetings held in Spring 2003. During these meetings, stakeholders reviewed the results of a two-year process that inventoried the state of the water resources and the water quality of the Rocky River and derived a series of possible solutions to documented problems. The body of work that supports the development of the Rocky River Watershed Action Plan is identified in Attachment A. All of the reports identified in the attachment constitute the appendices of the Action Plan. They are available for review on Rocky River's website (www.myrockyriver.org).

Section IV presents the education/marketing/evaluation plan along with a funding strategy.

For more information contact Andy Vidra of NOACA at avidra@mpo.noaca.org

Section I: Rocky River Watershed Action Plan Goals and Objectives

Goal Statement for the Rocky River Watershed Action Plan

In the following discussion, a “critical area” is an area that:

- Has been identified in the Total Maximum Daily Load (TMDL) report as being a major contributor to the impairment of designated uses in the watershed; or,
- Has been identified for specific remediation efforts in the 319 Implementation Grant; or,
- Has been identified as high growth area that could threaten existing water quality.

A “priority area” is one where a given pollution source or a cause of water quality degradation has been determined to have a major impact on water resources.

An “area of concern” exists where a given pollution source or a cause of water quality degradation has been determined to have a moderate impact on water resources.

Goal 1: Protect and restore the riparian corridor along the Rocky River, its tributaries, and headwater streams.

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.

It has been estimated that approximately 10 miles of riparian corridor are in a highly disturbed state in the Rocky River Watershed. Disturbed areas occur more commonly in urbanized areas, although agricultural areas are also affected. The goal is to replant or otherwise restore one half of the disturbed area in the watershed through voluntary efforts. The Watershed Council Board of Trustees Restoration sites will select restoration sites dependent on funding availability and local interest. Interested watershed volunteers will restore some portion of the targeted miles as part of voluntary replanting projects. In other cases, project sites will be selected in concert with funding that becomes available from parties that seek to mitigate future disturbances or from grants/donations secured for this purpose.

Substantial development pressure exists in the southern half of the watershed. Unless this development is better managed than in the past, additional riparian disturbance will result. While it is not practical to estimate the potential for future disturbance, the goal is to prevent any additional loss wherever possible and to provide for remediation of any future disturbances that are considered to be necessary.

Goal 2: Reduce instream bacterial levels to meet state water quality standards and reduce nutrient loadings to meet TMDL load reduction targets.

Fecal bacteria: The bacteria of concern in the Rocky River and its tributaries come from the intestinal tracts of mammals and are indicators of contamination by animal and/or human waste. Ohio EPA has documented that 24 of the 27 sites that they use to monitor bacteria levels in the Rocky River fail to meet their designated recreational use requirements.

Generally speaking, bacteria contamination comes from three sources: humans, domestic animals, and wildlife. Human contamination comes predominantly from failing home sewage treatment systems (HSTSs). Domestic animals include pets and livestock. The primary sources of wildlife wastes based on size and numbers are deer and geese.

Wildlife sources are virtually uncontrollable by any means other than population control measures. Therefore in the Rocky River Watershed, wildlife contamination should be considered a fixed quantity.

Pets, particularly dogs and cats, exist everywhere in the watershed and usually in concentrations that generally are insufficient to cause a problem by themselves. Good housekeeping on the part of pet owners is the measure that is warranted as part of a stewardship approach to water quality management.

Livestock in the Rocky River include the normal array of agricultural livestock including cattle, dairy cows, pigs, sheep, goats, llamas, and alpacas. It also includes hundreds of recreational horses located in concentration in the Upper West Branch and along the riding trails of the Cleveland Metroparks along the East Branch. Large herds are managed through existing Department of Agriculture programs, but smaller herds are managed largely through a voluntary approach. Voluntary compliance with sound waste management needs to be better encouraged in the watershed.

Human contamination is recognized as the most pronounced source of fecal contamination in the Rocky River Watershed. It is estimated that 4,000 of the 16,000 home sewage treatment systems in the watershed are in a state of failure. As existing systems continue to age, this rate of failure is expected to increase.

It is not possible to quantify how many failing HSTSs or animal waste sites have to be repaired or replaced in order to attain recreational use designations in the watershed. An interim target of a 50% reduction in the number of failing systems and a 50% increase in the number of controlled animal sites has been established as the target for bacteria load reductions.

Nutrient Loadings: The Rocky River Total Maximum Daily Load (TMDL) Report has established the need to reduce nitrogen loading in the watershed by 934,980 pounds per year and phosphorus loadings by 24,730 pounds per year. Both of these targets need to be met largely through nonpoint source controls. To work towards these targets, best

management practices will need to be implemented in agricultural operations, in lawn care fertilizer applications, and in the management of home sewage disposal systems. To achieve these target levels will take a multifaceted approach with solid participation from each Soil and Water Conservation District and each county health department in the watershed. Specific funding and enforcement strategies will need to be developed and implemented. Each Soil and Water Conservation District and Health Department is responsible for prioritizing sites in their county according to funding availability and landowner interest. The objective of load reductions needed from these sources is to reduce the flowing load of nitrogen and bacteria in the watershed, so no single location is more or less important than any other.

Goal 3: Increase public awareness and involvement in stewardship of the Rocky River.

Nonpoint sources of pollution can best be controlled by voluntary action on the part of all landowners in the watershed. The personal investment in Good Housekeeping by watershed stakeholders can best be obtained through an integrated and comprehensive education program that reaches all stakeholders. Programming that reinforces what a tremendous resource the Rocky River is will be instrumental in helping to achieve this end.

Rocky River Watershed Action Plan Statements of Objectives

1. Protect and restore the riparian corridor along the Rocky River, its tributaries, and headwater streams.
 - Permanently protect targeted areas.
 - a. Critical areas determined to be the mainstem of the East Branch below Hinckley Lake and the West Branch along its entire length.
 - b. Priority areas exist in the rapidly developing areas along or draining to the East and West Branches.
 - Protect all existing vegetated areas through setback requirements.
 - a. The priority area encompasses the entire watershed.
 - Restore disturbed areas.
 - a. Critical areas include Abram Creek and Baldwin Creek.
 - b. The priority area encompasses the remainder of the watershed.
 - Protect existing aquatic habitat.
 - a. The critical areas include the rapidly developing areas in Strongsville, North Royalton, and Medina County along the West Branch.
 - b. Priority areas include developing areas of the remainder of the watershed.
2. Reduce instream bacterial levels to meet state water quality standards and reduce nutrient loadings to meet TMDL load reduction targets.
 - Reduce failing HSTSs by 50% in targeted stream segments.
 - a. Critical areas include the East and West Branches below the Medina County line.
 - b. Priority areas include Plum Creek at Olmsted Falls.
 - c. Areas of concern include Abram Creek, Mallet Creek, the North Branch, and Granger Ditch.
 - Implement sixty waste management plans at horse farms and other livestock facilities.
 - a. Critical areas include the lower East and West Branches in Cuyahoga County and the upper East Branch in Medina County.
 - Pass and implement pet waste control programs in all watershed communities.
3. Increase public awareness and involvement in stewardship of the Rocky River.
 - Implement a watershed-wide Public Involvement/Public Education (PIPE) effort.
 - Develop a public official outreach effort.

**Goal and Objective Statements with
Programmatic and Environmental Indicators**

Goal #1: Protect and restore the riparian corridor along the Rocky River, its tributaries, and headwater streams (Page 1 of 2).			
Objective(s)	Action(s)	Programmatic Indicator(s)	Environmental Indicator(s)
<p>1) Increase area of riparian corridors that are permanently protected.</p> <p>(Every acre of riparian corridor that is maintained in its natural state will reduce nitrogen loadings by 2 pound/year and will preserve streamside habitat features.)</p>	<p>Local land trusts and other land conservation organizations solicit conservation easements from property owners along watershed streams with a goal of protecting an additional 100 acres.</p>	<p>Number of acres secured by conservation easements.</p>	<p>Maintenance of QHEI, IBI, Miwb, and ICI scores along impacted stream reaches as measured as part of the State's five year monitoring cycle.</p>
	<p>City and county park districts purchase land along five additional miles of streams in the Rocky River Watershed.</p>	<p>Miles of streams purchased or donated to local parks.</p>	
<p>2) Protect existing vegetated riparian corridors.</p>	<p>All 32 Watershed communities pass township regulations or municipal ordinances that meet the setback requirements specified in the Regional Storm Water Task Force's model ordinance.</p>	<p>Number of resolutions and ordinances passed.</p>	<p>Maintenance of QHEI, IBI, Miwb, and ICI scores along impacted stream reaches as measured as part of the State's five year monitoring cycle.</p>

**Goal and Objective Statements with
Programmatic and Environmental Indicators**

Goal #1: Protect and restore the riparian corridor along the Rocky River, its tributaries, and headwater streams (Page 2 of 2).			
Objective(s)	Action(s)	Programmatic Indicator(s)	Environmental Indicator(s)
3) Restore riparian corridors in targeted areas.	Rocky River Watershed Council sponsors 'willow post' type projects at five highly eroded sites representing an estimated 500 feet of stream and resulting in a decrease of 500 pounds of Nitrogen per year.	Number of projects completed and number of feet of stream channel treated.	Improvement in QHEI, IBI, Miwb, and ICI scores along impacted stream reaches as measured as part of the State's five year monitoring cycle.
	Install grass filter strips in 100 acres of agriculture or other disturbed areas to reduce nitrogen loadings by 800 pounds/year.	Number of acres treated with grass filter strips.	
	Replant 1000 feet of stream channels with woody vegetation to reduce nitrogen loads by 500 pounds/year.	Number of channel feet revegetated.	
4) Protect the aquatic habitat in the Rocky River Watershed by managing increased storm water runoff rates and quantities from new development.	All 32 watershed communities pass the Regional Storm Water Task Force's Model Storm Water Ordinance to reduce the impacts of runoff from new development on stream channel stability.	Number of resolutions and ordinances passed. Number of retention/detention and water quality basins added in the watershed.	Improvement in QHEI, IBI, Miwb, and ICI scores along impacted stream reaches as measured as part of the State's five year monitoring cycle.

**Goal and Objective Statements with
Programmatic and Environmental Indicators**

Goal #2: Reduce instream bacterial levels to meet state water quality standards and nitrogen loadings to meet TMDL reduction targets (Page 1 of 2).			
Objective(s)	Action(s)	Programmatic Indicator(s)	Environmental Indicator(s)
1) Reduce home sewage treatment system pollutants reaching the Rocky River.	County Health Departments initiate an expanded homeowner education program emphasizing the proper care and maintenance of HSTSs.	Distribution of 1,000 pamphlets to targeted HSTS owners in the critical areas of the watershed.	Fecal coliform/ E. coli levels throughout the watershed after 2 years of education efforts and 1 year after implementing 50 system replacements.
	Initiate a cost-share program to replace 50 failing HSTSs with on-lot discharging systems in targeted areas of the East and West Branches to reduce nitrogen loads by 1,250 pounds/year.	Installation of 50 on-lot HSTSs in critical areas of the watershed.	Reduction in the number of contact advisories issued for primary and secondary recreation.
	Qualify all owners of failing HSTSs for low interest loans through DEFA.	All four county health departments have approved HSTS management plans.	Nitrogen levels in TMDL segments measured as part of the State's five-year monitoring plan.
	Encourage Ohio EPA to work with the Ohio Department of Health to upgrade HSTS management requirements and to develop a NPDES permit for off-lot systems.	Passage of upgraded HSTS regulations and the issuance of a general permit for off-lot discharging systems.	Attainment of chemical water quality standards and fish and macroinvertebrate community use attainment as measured by the State's five-year monitoring strategy.
	Encourage the acceleration of sanitary sewer line extensions to provide for the elimination of failing HSTSs in areas where sanitary service can feasibly be made available. Target the removal of 500 systems resulting in a decrease in nitrogen loads by 12,500 pounds/year	Completion of planning and eventual construction of up to six sewer line extension projects in those communities that have HSTS related water quality problems that can viably be eliminated by sanitary sewer line extensions..	

**Goal and Objective Statements with
Programmatic and Environmental Indicators**

Goal #2: Reduce instream bacterial levels to meet state water quality standards and nitrogen loadings to meet TMDL reduction targets (Page 2 of 2).			
Objective(s)	Action(s)	Programmatic Indicator(s)	Environmental Indicator(s)
2) Reduce animal waste related pollutants reaching the Rocky River	Soil and Water Conservation Districts produce and distribute 50 information packets to assist recreational horse owners manage animal waste runoff in critical areas of the watershed.	Distribution of 50 information packets to horse owners in the watershed.	Fecal coliform/ E. coli levels throughout the watershed after two years of education efforts and one year after implementing six animal waste management systems.
	Using EQIP cost-share funds, implement animal waste management programs to control recreational horse waste runoff at six sites in critical areas in the watershed reducing nitrogen loadings by 300 pounds/year.	Installation of six horse waste control projects in critical areas of the watershed.	Reduction in the number of contact advisories issued for primary and secondary recreation.
	Implement and enforce pet waste management programs in all 32 communities in the Rocky River Watershed.	Number of ordinances or regulations in place in the watershed.	Nitrogen levels in TMDL segments measured as part of the State's five-year monitoring strategy. Maintenance of attainment of chemical water quality standards and the performance of fish and macroinvertebrate communities as measured by the State's five-year monitoring strategy.

**Goal and Objective Statements with
Programmatic and Environmental Indicators**

Goal #3: Increase public awareness and involvement in stewardship of the Rocky River. (Page 1 of 1).			
Objective(s)	Action(s)	Programmatic Indicator(s)	Environmental Indicator(s)
1) Implement a watershed-wide Public Involvement/Public Education (PIPE) effort.	Encourage Phase II Storm Water Communities to participate in a watershed PIPE effort.	Number of communities that participate.	Estimates of volume of trash collected.
	Initiate a riparian protection education program.	Number of landowner contacts made.	
	Act as a distributor/supporter of health department outreach efforts on the management of HSTSs.	Number of homeowner contacts made.	
	Sponsor and coordinate annual stream clean-ups.	Number of clean-ups held. Number of participants. Estimates of volume of trash collected.	
	Initiate an educational outreach effort for owners of farm animals and pet owners.	Number of animal owner contacts made.	
2) Develop a public official outreach effort.	Develop a communication tool to regularly update local officials about watershed issues.	Number of public official contacts made. Number of newspaper articles written about public involvement.	

Section II: Rocky River Watershed Action Plan Timeline

Goal #1: Protect and restore the riparian corridor along the Rocky River, its tributaries, and headwater streams (Page 1 of 2).			
Task Description (Objective)	Action(s) (How)	Resources Needed	Time Frame
1) Increase area of riparian corridors that are permanently protected.	Local land trusts and other land conservation organizations solicit conservation easements from property owners along watershed streams.	Staff time donated by watershed stakeholders to meet with land conservation organizations to solicit their cooperation (estimated to be 150 hours/year.)	Land conservation organization agreements to participate by December 2004. Outreach to landowners: On-going activity.
	City and county park districts purchase land along five additional miles of streams in the Rocky River Watershed.	\$10,000,000 for land purchase assuming an average corridor width of 1,000 feet and a purchase price of \$10,000/acre using funds from existing park budgets, the Clean Ohio Program, and other sources.	January 2005 to December 2009.
2) Protect existing vegetated riparian corridors.	Watershed communities pass township regulations or municipal ordinances that meet the setback requirements specified in the Regional Storm Water Task Force's model ordinance.	Commitment from each watershed community for staff time to review model ordinances and to draft the legislation to be submitted to Council or Township Trustees (estimated to require 40 hours/community.)	Introduction of ordinances by December 2004. Implementation of ordinances by December 2005.

Rocky River Action Plan Timeline

Goal #1: Protect and restore the riparian corridor along the Rocky River, its tributaries, and headwater streams (Page 2 of 2).			
Task Description (Objective)	Action(s) (How)	Resources Needed	Time Frame
3) Restore riparian corridors in targeted areas.	Rocky River Watershed Council sponsors 'willow post' type projects at five highly eroding sites	Donations from watershed stakeholders of \$5,000 for materials. Volunteer time (estimated 400 hours) for planning and implementing projects.	January 2005 to December 2009.
	Install grass filter strips in 100 acres of agriculture or other disturbed areas.	Donated SWCD time to solicit landowner cooperation, to design and inspect practice application. \$100,000 in cost-share funds.	January 2005 to December 2009.
	Replant 1000 feet of stream channels with woody vegetation.	Donations from watershed stakeholders of \$10,000 for plant materials. Volunteer time for planning and implementing projects (estimated 400 hours).	January 2005 to December 2009.
4) Protect the aquatic habitat in the Rocky River Watershed.	Pass the Regional Storm Water Task Force's Model Storm Water Ordinance to reduce the impacts of new development on stream channel stability.	Community staff time to review model ordinances and to draft the legislation to be submitted to Council or Township Trustees (estimated 20 hours/community).	Introduction of ordinances by December 2004. Implementation of ordinances by December 2005.

Rocky River Action Plan Timeline

Goal #2: Reduce instream bacterial levels to meet state water quality standards and nitrogen loadings to meet TMDL reduction targets (Page 1 of 3).			
Task Description (Objective)	Action(s) (How)	Resources Needed	Time Frame
1) Reduce home sewage treatment system pollutants reaching the Rocky River.	County Health Departments initiate an expanded homeowner education program emphasizing the proper care and maintenance of HSTSs.	Grant funding for \$2,000 for distribution of 1,000 pamphlets to HSTS owners in the critical areas of the watershed. Donated Health Department staff time to conduct outreach activities.	Distribute pamphlets by December 2005; Continued education programming will be on-going activity.
	Initiate a cost-share program to replace 50 failing HSTSs with on-lot discharging systems in targeted areas of the East and West Branches.	\$35,000 for cost-share for the installation of 50 on-lot HSTSs in critical areas of the watershed as part of the Section 319 implementation project under the direction of the Cuyahoga County Board of Health.	January 2004 through December 2006.
	Qualify all owners of failing HSTSs for low interest loans through DEFA.	Donated Staff time for all four county health departments to develop approved HSTS management plans.	December 2004.

Rocky River Action Plan Timeline

Goal #2: Reduce instream bacterial levels to meet state water quality standards and nitrogen loadings to meet TMDL reduction targets (Page 2 of 3).			
Task Description (Objective)	Action(s) (How)	Resources Needed	Time Frame
1) Reduce home sewage treatment system pollutants reaching the Rocky River (continued).	Encourage Ohio EPA to work with the Ohio Department of Health to upgrade HSTS management requirements and to develop a NPDES permit for off-lot systems.	Volunteer time from watershed stakeholders to support interaction with Ohio EPA.	December 2004.
	Encourage the acceleration of sanitary sewer line extensions to provide for the elimination of failing HSTSs in areas where sanitary service can feasibly be made available. All communities that have HSTS related water quality problems are being encouraged to examine whether sewer extensions are a viable alternative to HSTS replacements.	Donated staff time from communities operating a wastewater treatment system to plan and construct six sewer line extension projects.	January 2004 to December 2006.

Rocky River Action Plan Timeline

Goal #2: Reduce instream bacterial levels to meet state water quality standards and nitrogen loadings to meet TMDL reduction targets (Page 3 of 3).			
Task Description (Objective)	Action(s) (How)	Resources Needed	Time Frame
2) Reduce animal waste related pollutants reaching the Rocky River	Soil and Water Conservation Districts (SWCD) produce and distribute 50 information packets to assist recreational horse owners manage animal waste runoff in critical areas of the watershed.	Donated SWCD staff time for the distribution of 50 information packets to horse owners in the watershed.	December 2004
	Using EQIP cost-share funds, implement animal waste management programs to control recreational horse waste runoff at sites in critical areas in the watershed.	<p>EQIP funding for the installation of six horse waste control projects in critical areas of the watershed.</p> <p>Donated SWCD staff time to design and inspect constructed facilities.</p> <p>Donated SWCD staff time to develop on-going animal owner education programs.</p>	December 2005
	Implement and enforce pet waste management programs in all communities in the Rocky River Watershed.	Community efforts to pass and implement ordinances.	December 2005

Rocky River Action Plan Timeline

Goal #3: Increase public awareness and involvement in stewardship of the Rocky River. (Page 1 of 1).			
Task Description (Objective)	Action(s) (How)	Resources Needed	Time Frame
1) Implement a watershed-wide Public Involvement/Public Education (PIPE) effort.	Encourage Phase II Storm Water Communities to participate in a watershed PIPE effort.	Donated staff time from watershed stakeholders to recruit community participation. Donated community personnel time redirected to watershed PIPE planning.	December 2004
	Initiate a riparian protection education program.	Donated staff time from watershed stakeholders to implement program.	December 2005
	Act as a distributor/supporter of health department outreach efforts on the management of HSTSs.	Donated staff time from watershed stakeholders to implement program.	Initial outreach by December 2004; continued outreach to be on going.
	Sponsor and coordinate annual stream clean-ups.	Donated staff time from watershed stakeholders to organize cleanups; volunteer time to participate in clean-ups.	May 2004 and then on going.
	Initiate an educational outreach effort for owners of farm animals and pet owners.	Donated staff time from watershed stakeholders to implement program.	December 2005
2) Develop a public official outreach effort.	Develop a communication tool to regularly update local officials about watershed issues.	Donated staff time to develop outreach strategy and to implement it on an on going basis.	Initiate by December 2004 and continue on an on going basis.

Section III: Rocky River Watershed Action Plan Priorities and Targets

Priority Action Needs Within the Subbasins of the Rocky River Watershed

Water Quality Issue Area	Mainstem	Abram Creek	East Branch	Baldwin Creek	Royalton "A"	Healey Creek	West Branch	Plum (Olmsted)	Baker Creek	Mallet Creek	North Branch	Granger Ditch	Plum (Brunswick)
Protect and Restore Riparian Corridors													
Permanently protect targeted areas	Not an Issue	Low Priority	Critical Concern	Low Priority	Priority Concern	Priority Concern	Critical Concern	Low Priority	Priority Concern	Low Priority	Low Priority	Low Priority	Priority Concern
Protect existing vegetated areas through use of setbacks	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern
Restore disturbed riparian areas	Priority Concern	Critical Concern	Priority Concern	Critical Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern
Control storm water runoff from new development	Priority Concern	Priority Concern	Critical Concern	Priority Concern	Critical Concern	Critical Concern	Critical Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Critical Concern
Reduce Instream Bacterial Levels and Nutrient Loadings													
Reduce failing home sewage treatment system	Not an Issue	Area of Concern	Critical Concern	Critical Concern	Low Priority	Low Priority	Critical Concern	Priority Concern	Low Priority	Area of Concern	Area of Concern	Area of Concern	Low Priority
Implement waste management systems at horse farms	Not an Issue	Not an Issue	Critical Concern	Not an Issue	Not an Issue	Not an Issue	Critical Concern	Not an Issue	Not an Issue	Low Priority	Not an Issue	Not an Issue	Not an Issue
Pass and implement pet waste control programs	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern
Increase Public Awareness and Involvement													
Implement watershed-wide Public Involvement/ Public Education programs	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern
Develop public official outreach efforts	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern	Priority Concern

Targeted Action Needs Within the Subbasins of the Rocky River Watershed

Action Plan Priority Water Quality Action	Mainstem	Abram Creek	East Branch	Baldwin Creek	Royalton "A"	Healey Creek	West Branch	Plum (Olmsted)	Baker Creek	Mallet Creek	North Branch	Granger Ditch	Plum (Brunswick)
Restore disturbed riparian areas		0.5 miles	2.0 mile	1.0 mile			4.0 mile	0.5 miles		1.0 mile			1.0 mile
Control storm water runoff from new development			Critical Concern		Critical Concern	Critical Concern	Critical Concern						Critical Concern
Reduce failing home sewage treatment system		200 Systems	640 Systems	110 Systems			600 Systems	73 Systems					
Implement waste management systems at horse farms			40 Operations				20 Operations			6 Operations			
Action Plan Supplemental Water Quality Action	Mainstem	Abram Creek	East Branch	Baldwin Creek	Royalton "A"	Healey Creek	West Branch	Plum (Olmsted)	Baker Creek	Mallet Creek	North Branch	Granger Ditch	Plum (Brunswick)
Long-term Reduction in Impervious Area	From 39% to 15%	From 45% to 15%		From 27% to 15%									
Annual Load Reductions from Land Based Nitrogen Control (pounds/year)	18,547	15,546	71,258	9,453	N/A	N/A	195,834 plus 48,224 from the South Branch	53,235	N/A	60,486	18,733	34,682	21,165

Section IV: Rocky River Watershed Action Plan The Education, Marketing, and Evaluation Plan of the Rocky River Watershed Action Plan

Implementation of a Watershed-Wide Public Involvement/Public Education (PIPE) Effort

Within the Rocky River Watershed there are numerous educational opportunities already in place. What is needed is a mechanism to coordinate these opportunities so as to focus on watershed protection and stewardship. Existing educational opportunities include the following:

- All four counties and the 16 cities or villages in the watershed are Phase II Storm Water communities that are required to develop public involvement and public education (PIPE) programs related to storm water management and watershed protection.
- The Soil and Water Conservation Districts in the watershed have existing educational programs related to water resource management and protection.
- The county health departments in the watershed operate public education programs related to HSTS management, instream bacteria monitoring, and other environmental issues applicable to the watershed.
- The Cleveland Metroparks, Lorain Metroparks, and Medina Metroparks all conduct public involvement and education activities at the parks that they manage in the watershed.
- NASA conducts a variety of educational programs on topical issues related to the environment.
- The Firelands Land Conservancy, the Medina Summit Land Conservancy, the Isaac Walton League and numerous other groups sponsor land protection outreach programs.
- The NEO-PIPE Committee provides regional assistance to all communities or groups interested in promoting storm water management programming.
- The Boy Scouts and the Girl Scouts, 4-H Programs, and other groups encourage troop members to be involved in environmental education and involvement activities.
- Baldwin Wallace College and Cuyahoga Community College are both located in the Rocky River watershed and provide their students with opportunities to take part in the examination of watershed conditions; involved students also provide a resource for helping educate other watershed stakeholders.
- K-12 school groups including science classes and environmental clubs are actively involving students in learning experiences throughout the watershed.

- Citizen driven efforts, such as the Coe Lake Initiative, are actively involving watershed residents in programming designed to improve the Rocky River.

The Phase II Storm Water Communities are responsible for developing PIPE programs as a means of encouraging the public to become more involved in storm water management. The NOACA Regional Storm Water Task Force recommended that communities pool their PIPE efforts to make them more efficient and to generate a common message. The Task Force further recommended that a watershed approach be adopted as the vehicle for implementing the storm water PIPE effort. These recommendations are beginning to be implemented. The Medina County Commissioners have opted to use the Medina County Soil and Water Conservation District (SWCD) as the PIPE coordinator for the Medina County portion of the watershed. The Summit SWCD has been selected by the regulated communities in Summit County to perform the same function. The Cuyahoga County SWCD has arrangements to provide PIPE coordination for about one-half of the communities in the Cuyahoga County portion of the Rocky River Watershed and continues to recruit additional community participation. The Lorain Department of Community Development is working towards providing a similar service for Lorain County communities. All four county agencies participate on the NEO PIPE Committee that was established to coordinate Phase II PIPE activities across Northeast Ohio. The Rocky River Watershed Council will work to broaden the participation of Phase II communities in watershed PIPE planning and to insure that the Rocky River Watershed efforts continue to be coordinated with the NEO PIPE Committee.

An immediate need that has been identified is to initiate a riparian protection education program. The loss of riparian areas to advancing development in the watershed has been identified as a serious threat to the future water quality in the watershed. In addition, all Phase II communities in the watershed must take action to preserve and protect existing sensitive areas including riparian areas. A riparian education initiative will assist the public officials in the watershed as they review, pass, and implement riparian setback ordinances in their communities in accordance with their Phase II Storm Water Management Plans. This is important as a means to help landowners understand and accept the concept of removing themselves from the dangers of developing in the riparian zone while also protecting that area for the good of the water resources of the Rocky River. The Rocky River Watershed Council will request the assistance of watershed partners in the development of such an educational program.

Home sewage treatment systems (HSTSs) have been identified as a significant source of bacteria and nutrients in the Rocky River watershed. The Health Departments in Cuyahoga, Lorain, and Medina, the three counties where HSTSs have the most pronounced effects in the watershed, are already cooperating with one another in HSTS outreach efforts. The 319 Implementation Grant from Ohio EPA assists this cooperation. The Rocky River Watershed Council will work to support homeowner participation in HSTS maintenance training and in accepting system replacement when such becomes necessary. The Council will include HSTS information as a regular feature on its

website, in any newsletters produced, in informational displays at public events in which it participates, and in other ways as is found useful.

One of the objectives of the Rocky River Watershed Action Plan is to reduce bacteria loadings from improperly handled wastes associated with farm animals and pets. The Watershed Council will join other ongoing efforts to educate pet owners of the need to properly dispose of their pets' wastes. The educational outreach will emphasize the need to clean up after pets in ones yard, in ones neighborhood, and particularly in streamside parks.

Farm animal waste management from large livestock operations is already well managed in the watershed. The Rocky River Watershed Council needs to concentrate on owners of small numbers of farm animals. A particular emphasis needs to be given to the owners of one or more recreational horses. The Natural Resources Conservation Service is prepared to provide training to such owners. The Council will promote attendance of watershed animal owners at training programs that are presented in the area.

Stream cleanup events provide a popular opportunity for watershed stakeholders to get involved with helping to maintain the Rocky River. The Rocky River Watershed Council has incorporated educational elements into the cleanups that it has sponsored in the past. The Council will continue to support the efforts of stakeholder groups to organize future cleanups and will provide educational materials/speakers as appropriate.

The Rocky River Watershed Action Plan has established the key elements that need to be emphasized in the effort to protect or improve the quality of the water resources of the Rocky River. The Watershed Council has created an educational agenda for its own programming. Stakeholder groups that are involved in educational programming of their own within the watershed, particularly those identified above, need to be recruited to participate with the Watershed Council to present a unified message to watershed residents. Possible coordination mechanisms include, individually or in combination, the following:

- An annual Rocky River Watershed Educational Congress held to showcase successful educational activities and to share opportunities for collaborative work in the future.
- The formation of a Rocky River Watershed Educational Forum that communicates with educational resources via regularly scheduled meetings, website exchanges, and/or newsletters.
- The sharing of newsletter articles about the Rocky River and activities to improve it.
- An exchange of speakers, programming, and publicity in order to maximize the opportunity of watershed residents to take part in any given activity while minimizing the workload of generating activities.

Development of a Public Official Outreach Effort

The Rocky River Watershed Action Plan has established an objective to develop a communication tool that can be used to regularly update local officials about watershed issues. The Watershed Council will initiate this effort through two actions. First, it will broaden its contact list to insure that all appropriate locally elected and appointed officials receive all communications regarding events and programming sponsored by the Watershed Council. Second, the Watershed Council will charge its Public Education Work Group to develop a Rocky River Local Officials Day Program that can efficiently and effectively inform local officials of their role in promoting the protection of the Rocky River. One outcome of this event will be the development of a strategy to maintain contact with local officials in a way that they find most useful.

Marketing of the Rocky River Watershed Action Plan

The Rocky River Watershed Council relies on several mechanisms to involve stakeholders in the effort to preserve and protect the Rocky River. New approaches are being developed to broaden stakeholder involvement. While stakeholders that are involved with the Action Plan are an important resource for recruiting more participants, the Watershed Council also uses other measures as well. The following discussion highlights the various marketing measures of the Council.

The Rocky River Watershed Council Meetings: The Rocky River Watershed Council meets quarterly at locations throughout the watershed. The Annual Meeting is held in January and is the forum for electing the Chairperson and Board of Directors. Each meeting of the Council has an agenda that allows for a review of the status of the Action Plan, informs the stakeholders of upcoming events, provides notice of on-going planning activities, and presents an educational element. The Council will regularly recruit speakers on topics of interest and importance to stakeholders to share their experiences with meeting attendees. Every meeting provides all stakeholders with the opportunity to ask questions of the Council and to make comments regarding happenings in the watershed. The meetings are open to all stakeholders in the watershed and are advertised through website postings, e-mail notifications, mailings to those individuals who do not have Internet access, and notices in a variety of stakeholder and newspaper publications.

Annual Rocky River Watershed Day: The Rocky River Watershed Day provides an opportunity for all stakeholder groups to sponsor or participate in a variety of events held throughout the watershed. There typically is a late afternoon or early evening rap-up event open to all participants as a means of sharing experiences and impressions. Events in the past have included stream cleanups, vegetative plantings, nature walks, park tours, volunteer monitoring demonstrations, and the like. The park systems are always active partners in River Day events and provide a sizable client base from which to draw participants. River Day events tend to draw hundreds of people to activities that broaden their knowledge while providing an opportunity to get personally involved with helping the River.

The Rocky River Watershed Council Website: NOACA was the host to the Council website during the plan development process. The Cuyahoga Soil and Water Conservation District now maintains the site with input from stakeholders. (The website address is: www.myrockyriver.org.) The website address is displayed on printed materials produced by the Council and is provided as a link on many stakeholder websites.

The Rocky River Watershed Interactive Virtual Tour: An effort is underway to develop a Virtual Tour of the Rocky River Watershed. This tour can be taken either through access from the Council's website or through a computer CD that is being prepared. The idea behind the virtual tour is to acquaint interested parties to the resources and sights of the Rocky River while informing them of the issues affecting its water quality. It is designed to promote the Watershed Action Plan in a medium that is user friendly and interesting. The tour will introduce stakeholders to the ways that they can get involved and provide them with contacts to help them make it happen.

The Rocky River PowerPoint Presentation: A PowerPoint presentation is being prepared that will allow any individual to tailor a presentation on the Rocky River Watershed Action Plan to small groups. The PowerPoint presentation will be converted into a slide show so that persons or groups that do not have access to PowerPoint compatible equipment can use it. There are scores of small groups that could act to help improve or protect the River, but there are not enough people that are fully conversant on the major aspects of the Action Plan to meet with all of the groups that need to be reached. By preparing a presentation that covers the major elements of the Plan in a prepackaged format, each interested group can experience the importance of the River and the ways that they can get involved in taking care of it. Individual group members that have a need for more information will be directed to the Council's website and to a list of contacts that can further help them.

Rocky River Watershed Brochure: The Council is preparing a watershed brochure that helps to inform readers about what the Rocky River watershed is and what are the problems that it faces. The brochure will visually orient readers to the stream and its tributaries and identify needed actions in each subwatershed. The key elements of the Rocky River Watershed Action Plan will be presented. The brochure will be available to be used as a handout to reach audiences that are not reached by other educational venues.

Funding Strategy

The Rocky River Watershed Council is a stakeholder driven process. Many agencies and individuals have an interest in working to preserve and protect the watershed. The Rocky River Watershed Action Plan provides a mechanism to coordinate the productive activities that are already underway in the watershed and to enhance future activities through cooperative programming and funding. Funding of watershed activities will come from the following sources.

Stakeholder Participation: Stakeholders already involved on the Rocky River Watershed Council provide substantial support for implementing the Watershed Action Plan. Local communities, environmental agencies, watershed businesses, and involved residents are the primary resource available to protect the river. Stakeholders provide volunteer time, meeting locations and support, monetary donations and supplies, and other resources as needed. Enlightened landowners exercise good stewardship in their daily lives to the betterment of the watershed. Much of the work that is to be accomplished in the Rocky River Watershed will directly result from continued stakeholder participation. Stakeholders also offer a resource to assist in the development of programming by other stakeholder groups and the preparation of grant applications to further that work.

Section 319 Implementation Grants: Currently the Watershed Council is managing a Section 319 Implementation Grant provided through the Ohio EPA. This grant provides support for Watershed Council initiatives through 2006. The grant is partially supporting the education and marketing activities discussed above. It is also providing cost-share funds to help demonstrate the use of home sewage treatment systems that utilize new technology to treat septic wastes on-site. The current grant is helping local land conservancies protect targeted lands through the use of conservation easements.

The Rocky River Watershed Council will be eligible to apply for future Section 319 Implementation Grants once Ohio EPA endorses the Watershed's Action Plan. Numerous activities have been identified in the Action Plan that would benefit from the assistance provided by this grant program. Permanent protection of critical areas through outright purchase or through the granting of conservation easements is one activity. Funding support is needed for bioremediation projects along impacted stream channels, the replanting of disturbed streamside vegetation, and the planting of grass filter strips along agricultural fields. Low-income homeowners that have failing home sewage treatment systems can benefit from assistance available through the Implementation Grant Program. Continuing education needs can also be assisted.

Public and Private Grants and Donations: While the Watershed Council will pursue grant opportunities as they arise, the primary way that grants will be secured to further activities that protect the Rocky River will be through applications developed by individual stakeholders in the watershed. The Action Plan identifies a series of activities that need to be implemented to achieve this end. Stakeholders are encouraged to apply for any of the numerous grants that are available to assist in this work. The Watershed Council will help stakeholders target their activities to areas most in need and will support applications that meet identified needs. The Council will also help to identify partners that can assist in carrying out the projects that secure funding.

Many entities are willing to support watershed protection efforts. Local businesses often look for ways to help. This help can come in the form of donations of refreshments for watershed activities, for equipment needed at clean-up or planting events, and a variety of other forms. The Watershed Council is well situated to facilitate the linking of corporate

sponsors with action group needs. The Council is capable of accepting donations and allocating them to meet priority needs.

Evaluating the Progress of the Rocky River Watershed Action Plan

The following tables were constructed from information contained in the Rocky River Watershed Strategic Action Plan. These tables contain a summary of how the success of the Watershed Action Plan will be evaluated. The ultimate success of the Action Plan will be the restoration of impaired stretches of the Rocky River and the continued maintenances of high water quality in those segments currently attaining their designated uses. Demonstration of use attainment is a time-intensive undertaking that will take years to document. However, the implementation of actions that are expected to help reach and maintain full use attainment can be evaluated as they are implemented. The tools to be used by the Rocky River Watershed Council to evaluate the progress towards achieving each of the goals and objectives of the Action Plan are identified below:

The Watershed Council will track progress made through the preparation of an Annual Watershed Report. The Board of Directors of the Watershed Council will oversee the preparation of this report. Individual stakeholders will be the entities that need to report on the progress that they or their organization has made during the course of the year. The Annual Report will do more than highlight successes accomplished. It will identify where new approaches are needed and recommend ways to implement those approaches. The report will also establish priorities for the coming year. The Board of Directors will also be responsible for reporting on the resource needs to implement the Action Plan in the coming year and to identify plans to meet those needs.

Goal #1: Protect and restore the riparian corridor along the Rocky River, its tributaries, and headwater streams.				
Task 1) Increase area of riparian corridors that are permanently protected.				
Evaluation Activity	Responsible Parties	Evaluation Measure	Reporting Mechanism	Timeframe
Local land trusts and other land conservation organizations solicit conservation easements from property owners along watershed streams.	<ul style="list-style-type: none"> • Medina Summit Land Conservancy • Firelands Land Conservancy • Cleveland Metroparks • Cuyahoga SWCD 	Number of acres protected by new conservation easements in the watershed including an estimate of the number of riparian and wetland acres protected.	Annual Stakeholder Reports to the Rocky River Watershed Council.	Goal is to protect an additional 100 acres of riparian corridor by December 2009.
City and county park districts purchase land along five additional miles of streams in the Rocky River Watershed.	<ul style="list-style-type: none"> • Metropark Agencies serving Cuyahoga, Lorain, Medina, and Summit Counties. • Watershed cities, villages, and townships. 	Miles of streams purchased or donated to local parks.	Annual Stakeholder Reports to the Rocky River Watershed Council.	January 2005 to December 2009 pending receipt of \$10,000,000 of funding assistance from the Clean Ohio Program.
Task 2) Protect existing vegetated riparian corridors.				
Evaluation Activity	Responsible Parties	Evaluation Measure	Reporting Mechanism	Timeframe
Communities pass township regulations or municipal ordinances that meet the setback requirements specified in the Regional Storm Water Task Force's model ordinance.	<p>All 32 Watershed communities.</p> <p>Ohio EPA</p>	<p>Number of resolutions and ordinances passed.</p> <p>Maintenance of QHEI scores measured as part of Ohio EPA's monitoring strategy.</p>	<p>Annual Stakeholder Reports to the Rocky River Watershed Council.</p> <p>Publication of Ohio EPA's Technical Support Document for the Rocky River.</p>	<p>Implementation of ordinances by all watershed communities by December 2005.</p> <p>The next survey of the Rocky River is scheduled for 2007.</p>

Goal #1: Protect and restore the riparian corridor along the Rocky River, its tributaries, and headwater streams.				
Task 3) Restore riparian corridors in targeted areas.				
Evaluation Activity	Responsible Parties	Evaluation Measure	Reporting Mechanism	Timeframe
Sponsor 'willow post' type projects at five highly eroded sites representing an estimated 500 feet of stream	Rocky River Watershed Council working with volunteers.	Number of projects completed and number of feet of stream channel treated. Increase in QHEI scores along impacted stream reaches as part of the State's five year monitoring cycle.	Rocky River Watershed Council Annual Report Publication of Ohio EPA's Technical Support Document for the Rocky River.	January 2005 to December 2009. The next survey of the Rocky River is scheduled for 2007.
Install grass filter strips on 100 acres of agriculture or other disturbed areas.	Landowners working with watershed SWCD's.	Number of acres treated with grass filter strips.	Annual Stakeholder Reports to the Rocky River Watershed Council.	January 2005 to December 2009 pending receipt of \$100,000 of funding assistance from the 319 Implementation Grant Program.
Replant 1000 feet of stream channels with woody vegetation.	Rocky River Watershed Council working with volunteers.	Number of channel feet revegetated.	Rocky River Watershed Council Annual Report	January 2005 to December 2009.
Task 4) Protect the aquatic habitat in the Rocky River Watershed by managing increased storm water runoff rates and quantities from new development.				
Evaluation Activity	Responsible Parties	Evaluation Measure	Reporting Mechanism	Timeframe
Communities pass the Regional Storm Water Task Force's Model Storm Water Ordinance to reduce the impacts of runoff from new development on stream channel stability.	All 32 Watershed communities. Ohio EPA	Number of resolutions and ordinances passed. Maintenance of QHEI scores measured as part of Ohio EPA's monitoring strategy.	Annual Stakeholder Reports to the Rocky River Watershed Council. Publication of Ohio EPA's Technical Support Document for the Rocky River.	Implementation of ordinances by all watershed communities by December 2005. The next survey of the Rocky River is scheduled for 2007.

Goal #2: Reduce instream bacterial levels to meet state water quality standards and nitrogen loadings to meet TMDL reduction targets.				
Task 1) Reduce home sewage treatment system pollutants reaching the Rocky River.				
Evaluation Activity	Responsible Parties	Evaluation Measure	Reporting Mechanism	Timeframe
Initiate an expanded homeowner education program emphasizing the proper care and maintenance of HSTSs.	County Health Departments in the watershed.	Distribution of 1,000 pamphlets to HSTS owners in the watershed. Fecal coliform/ E. coli levels throughout the watershed after 2 years of education efforts.	Annual Stakeholder Reports to the Rocky River Watershed Council. Watershed Health Departments working in concert with Ohio EPA.	Distribute pamphlets by December 2005. December 2007.
Initiate a cost-share program to replace 50 failing HSTSs with on-lot discharging systems in targeted areas of the East and West Branches.	County Health Departments in the watershed working with homeowners.	Installation of 50 on-lot HSTSs in critical areas of the watershed. Fecal coliform/ E. coli in critical areas 1 year after implementing 50 system replacements.	Annual Stakeholder Reports to the Rocky River Watershed Council. Watershed Health Departments working in concert with Ohio EPA.	January 2005 to December 2006. December 2007.
Qualify owners of failing HSTSs for low interest loans available through DEFA to repair or replace on-site treatment systems.	County Health Departments in the watershed.	Each of the four county health departments receives Ohio EPA's endorsement of their HSTS management plan.	Annual Stakeholder Reports to the Rocky River Watershed Council.	December 2004
Encourage the acceleration of sanitary sewer line extensions to provide for the elimination of failing HSTSs.	Sewer Planning agencies in the watershed.	Completion of planning and eventual construction of up to six sewer line extension projects.	Annual Stakeholder Reports to the Rocky River Watershed Council.	December 2006

Goal #2: Reduce instream bacterial levels to meet state water quality standards and nitrogen loadings to meet TMDL reduction targets.				
Task 2) Reduce animal waste related pollutants reaching the Rocky River.				
Evaluation Activity	Responsible Parties	Evaluation Measure	Reporting Mechanism	Timeframe
Produce and distribute 50 information packets to assist recreational horse owners manage animal waste runoff in critical areas of the watershed.	The Cuyahoga, and Medina Soil and Water Conservation Districts.	Distribution of 50 information packets to horse owners in the watershed.	Annual Stakeholder Reports to the Rocky River Watershed Council.	December 2005
Using EQIP cost-share funds, implement animal waste management programs to control recreational horse waste runoff at six sites in critical areas in the watershed.	The Cuyahoga, and Medina Soil and Water Conservation Districts.	Installation of six horse waste control projects in critical areas of the watershed.	Annual Stakeholder Reports to the Rocky River Watershed Council.	December 2005
Implement and enforce pet waste management programs in all 32 communities in the Rocky River Watershed.	All 32 Watershed communities.	Community efforts to pass and implement ordinances.	Annual Stakeholder Reports to the Rocky River Watershed Council.	December 2005

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Goal #3: Increase public awareness and involvement in stewardship of the Rocky River.				
Task 1) Implement a watershed-wide Public Involvement/Public Education (PIPE) effort.				
Evaluation Activity	Responsible Parties	Evaluation Measure	Reporting Mechanism	Timeframe
Encourage Phase II Storm Water Communities to participate in a watershed PIPE effort.	Phase II Communities in the watershed.	Number of communities that participate.	Rocky River Watershed Council Annual Report.	December 2004
Initiate a riparian protection education program.	Rocky River Watershed Council working with volunteers.	Number of landowner contacts made.	Rocky River Watershed Council Annual Report.	December 2005
Act as a distributor/supporter of health department outreach efforts on the management of HSTSs.	Rocky River Watershed Council working with volunteers.	Number of homeowner contacts made.	Rocky River Watershed Council Annual Report.	Initial outreach by December 2004; continued outreach to be on going.
Sponsor and coordinate annual stream clean-ups.	Rocky River Watershed Council working with volunteers.	Number of clean-ups held. Number of participants. Estimates of volume of trash collected.	Rocky River Watershed Council Annual Report.	May 2004 and then on going.
Initiate an educational outreach effort for owners of farm animals and pet owners.	Rocky River Watershed Council working with volunteers.	Number of animal owner contacts made.	Rocky River Watershed Council Annual Report.	December 2005

Task 2) Develop a public official outreach effort.				
Evaluation Activity	Responsible Parties	Evaluation Measure	Reporting Mechanism	Timeframe
Encourage Phase II Storm Water Communities to participate in a watershed PIPE effort.	Rocky River Watershed Council working with volunteers.	Develop a communication tool to regularly update local officials about watershed issues.	Rocky River Watershed Council Annual Report.	Initiate by December 2004 and continue on an on going basis.

Attachment A

**Rocky River Watershed Action Plan
Support Documents**

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Appendix A

Watershed Inventory of the Rocky River

Abstract

This report presents an inventory of information important to the water resources in the Rocky River Watershed of Northeast Ohio. It includes background information on a series of water quality based reports that are pertinent to the Rocky River. The report summarizes the geologic and soil conditions in the watershed. It identifies rare, threatened and endangered plant and animal species and other biological information. A review of land use conditions in the watershed and its major tributaries is also presented.

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Appendix B

The Water Resources of the Rocky River

Abstract

This report summarizes the condition of water resources in the Rocky River Watershed of northeast Ohio. It includes a discussion of climatic and precipitation, surface water including wetlands, streams and lakes, and groundwater resources. Fourteen stream segments in the watershed are discussed in detail.

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Healey Creek

West Branch of the Rocky River

Plum Creek near Olmsted Falls

Baker Creek

Cossett Creek

Mallet Creek

North Branch of the Rocky River

Remsen Creek including Granger Ditch

Plum Creek near Brunswick

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Groundwater Pollution Potential in the Rocky River Watershed

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Water Resource Threats Related to Growth in the Rocky River Watershed

Abstract

This report evaluates population projections for the Rocky River Watershed to identify growth areas and to assess water resource threats associated with this growth.

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Appendix D

Guide to the Causes and Sources of Water Quality Problems in the Rocky River Watershed

Abstract

This report summarizes the causes and sources of water quality problems in the Rocky River Watershed of northeast Ohio. It includes a discussion of point and nonpoint sources. Eighteen stream segments in the watershed are evaluated.

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| • Abram Creek | • West Branch of the Rocky River above Cossett Creek |
| • East Branch of the Rocky River below Healey Creek | • Baker Creek |
| • East Branch of the Rocky River above Healey Creek | • Blodgett Creek |
| • Baldwin Creek | • Plum Creek near Olmsted Falls |
| • North Royalton "A" Tributary | • Mallet Creek |
| • Healey Creek | • South Branch |
| • West Branch of the Rocky River below Plum Creek | • North Branch of the Rocky River |
| | • Remsen Creek including Granger Ditch |
| | • Plum Creek near Brunswick |

Appendix E

Inventory of Point and Nonpoint Source Dischargers in the Rocky River Watershed

Abstract

This report identifies and locates point sources of pollution to the Rocky River. It also characterizes the location and nature of nonpoint sources of pollution in the watershed. An evaluation of the relative significance of all source types is provided on a subbasin basis.

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Appendix F

A Look at the Beneficial Use Impairments of the Rocky River

Abstract

Impairment to a beneficial use means a change in the chemical, physical, or biological integrity of the river sufficient to cause a change in any one of fourteen uses identified by the Great Lakes Water Quality Agreement. Whenever these uses are impaired, there are grounds for undertaking remedial actions to restore the stream system. Understanding what the problems are is the first step towards identifying the remedial actions needed to fix them. Towards that end, a Use Impairment Statement was generated for the Rocky River.

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- Fish & Other Wildlife Populations Should be Diverse and Healthy
- Fish Should Be Free of Abnormal Tumors and Other Deformities
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Beneficial Use Impairment Statement for the Rocky River

Appendix G

The Water Quality Problem Statement for the Rocky River Watershed

Abstract

This report summarizes the water quality problems that have been documented to affect the Rocky River Watershed of Northeast Ohio. It includes a discussion of fourteen individual stream segments in the watershed.

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East Branch of the Rocky River

Baldwin Creek

North Royalton "A" Tributary

Healey Creek

West Branch of the Rocky River

Plum Creek near Olmsted Falls

Baker Creek

Cossett Creek

Mallet Creek

North Branch of the Rocky River

Granger Ditch including Remsen Creek

Plum Creek near Brunswick

Appendix H

Load Reduction Targets

For the Rocky River Watershed

Abstract

This report summarizes the target load reductions in the Rocky River Watershed of Northeast Ohio. It includes a discussion of load reduction targets for the six segments subject to TMDL reductions. The report also identifies needed reductions in other portions of the watershed.

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Total Maximum Daily Load Recommendations

- Summary of Causes and Sources

TMDL Required Reductions and Recommended Actions

- Mainstem of the Rocky River
 - Nutrients
 - Organic Enrichment/Dissolved Oxygen
 - Flow Alteration
 - Bacteria
- Abram Creek
 - Ammonia
 - Organic Enrichment/Dissolved Oxygen
 - Bacteria
- Baldwin Lake
- Hinckley Lake
- Baldwin Creek
 - Nutrients
 - Organic Enrichment/Dissolved Oxygen
 - Habitat Alteration
- Plum Creek near Olmsted Falls
 - Nutrients

Reductions and Recommended Actions Beyond the TMDL

- East Branch
- West Branch
- Plum Creek near Olmsted Falls

Load Reductions from Phase II of the Storm Water Permits Program Activities Affecting the Rocky River Watershed

Potential Nutrient Load Reductions from an Intensive Land Treatment Program

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1. Summary of Causes and Sources in Impaired TMDL Segments
2. Urban Runoff BMPs Total Nitrogen Load Reductions in lbs/acre treated/year
3. Individual watershed Load Reduction Values

Appendix I

Evaluation of Solutions, Actions and Best Management Practices for Identified Water Quality Problems in the Rocky River Watershed

Abstract

This report identifies and evaluates water quality solutions, actions and best management practices (BMPs) for the Rocky River Watershed Action Plan. The proposed solutions are predicated on the work described in the previous appendices and substantive stakeholder involvement.

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Introduction

Stakeholder Involvement in Evaluation of Solutions

Technical Assessment of Solutions/Actions/Best Management Practices (BMPs) Table

Appendix J

Road Map to the Rocky River Watershed Action Plan

Abstract

This report helps the reader to navigate through the complexities of the Rocky River Watershed Action Planning process and the reports produced as a part of it. The Road Map provides basic background information about to the Rocky River Watershed that sets the setting for the Action Plan development. The report details the types of information collected during the planning process and identifies where the reader can access this information. The report also serves to document the Action Plan planning process itself.

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- I. Defining the Watershed
- II. Watershed Plan Development
- III. Watershed Inventory
- IV. Watershed Impairments
- V. Implementation

Attachment A: Outline of the Rocky River Watershed Action Plan

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Communities of the Rocky River Watershed
Sanitary Sewer Service Planning Areas in the Rocky River