

Road Map to the Rocky River Watershed Action Plan

**Rocky River Watershed Action Plan
Appendix J
May 2006**

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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.

Road Map to the Rocky River Watershed Action Plan

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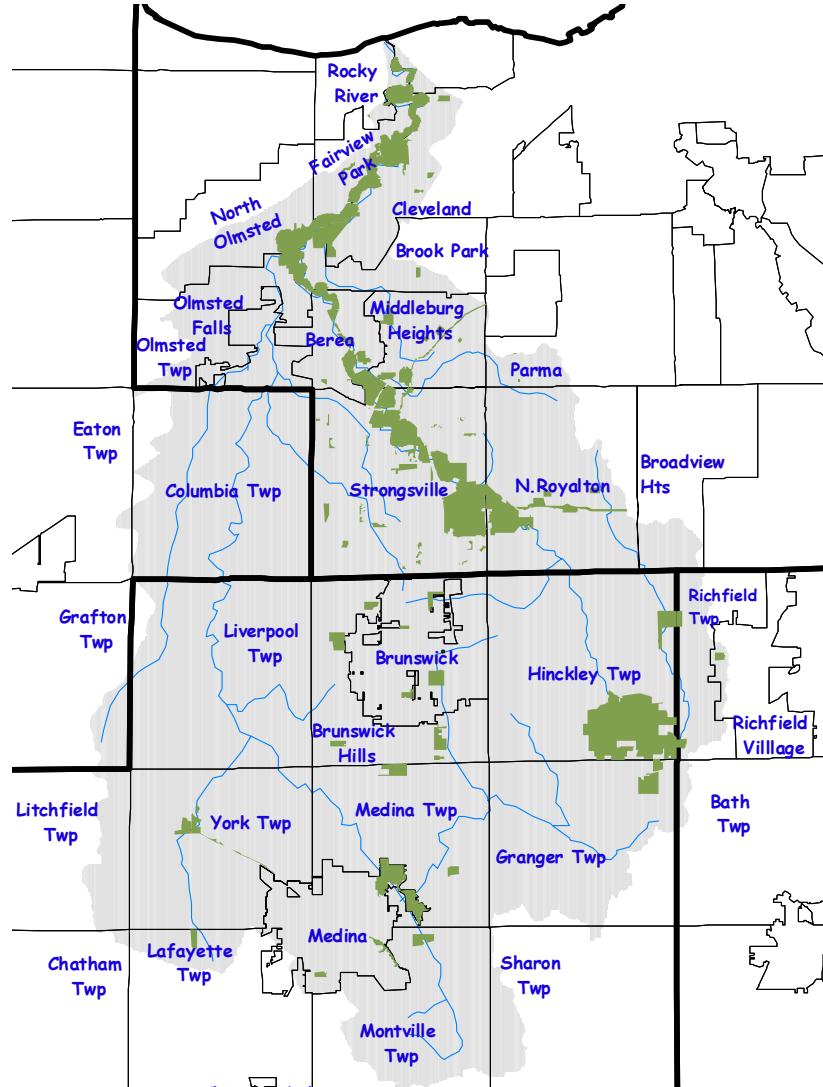
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I. Defining the Watershed

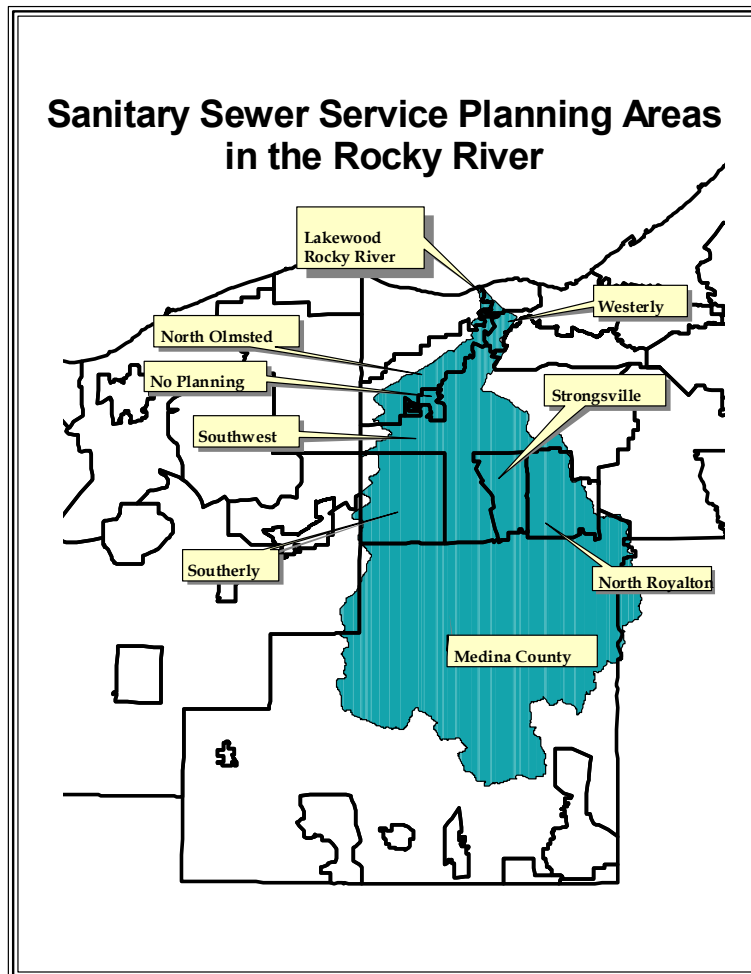
A. General Information Regarding the Watershed:

The incorporated/unincorporated areas of the Rocky River Watershed are shown below. They include four counties (Cuyahoga Lorain, Medina, and Summit), 16 cities or villages, and 16 townships.



There are four park districts that have holdings in the watershed. Cleveland Metroparks has extensive holdings along the Mainstem and the East Branch of the Rocky River including the Hinckley Reservation in Medina County. The Lorain County Metroparks, Medina County Metroparks, and the Metroparks Serving Summit County are the remaining three.

Every community in Cuyahoga County is served by its own school district. (Broadview Heights, which is in the watershed, shares a district with Brecksville, which is not in the watershed.) Two local conservancy groups serve areas within the Rocky River. They are the Medina Summit Land Conservancy and the Firelands Land Conservancy. Numerous regional groups serve broad areas of the State of Ohio including the Rocky River Watershed area. The Northeast Ohio Regional Sewer District is the sole sewer district in the watershed, although numerous other county/municipal sanitary sewer systems serve the watershed as shown below.



All four watershed counties are served by a Soil and Water Conservation District. Each county is served by a County Extension Agent and each has a local farm bureau. The Northeast Ohio Regional Coordinating Agency (NOACA) is the regional planning agency for Cuyahoga, Lorain, and Medina Counties. The Northeast Ohio Four County Regional Planning and Development Organization (NEFCO) serves the same role in Summit County.

While the Rocky River is not recognized as either a National or State Wild or Scenic River, several segments are classified as State Resource Waters. These segments include the mainstem, the East Branch, and the West Branch.

All four counties, the sixteen cities and villages, and ten of the sixteen townships are designated Phase II Storm Water Communities. Only Chatham, Lafayette, Liverpool, Medina, Montville, and York Townships are not part of the Phase II Program.

B. Demographics

Demographic information has been collected for communities that are completely or partially in the Rocky River Watershed. A summary of the highlights of this information follows:

Total Population: 957,112

Age of Population

- Population Under Age 25: 34%
- Population Over Age 24 and Under 50: 37%
- Population Over Age 49 and Under 65: 15%
- Population Over Age 64: 14%

School Age Population: 245,659

- K-12 Population: 194,982
- College Population: 50,677

Highest Attained Educational Levels of Population Over Age 25:

- Did Not Finish High School: 133,725 (20%)
- High School Graduates: 211,496 (32%)
- Some College: 174,912 (27%)
- College Graduate: 90,376 (14%)
- Advanced Degree: 43,917 (7%)

Annual Household Incomes (396,334 Households)

- Under \$25,000: 131,829 (33%)
- \$25,000 to \$50,000: 116,749 (29%)
- \$50,000 to \$75,000: 73,544 (19%)
- \$75,000 to \$100,000: 116,749 (14%)
- Over \$100,000: 116,749 (5%)

One thing is very clear about population in the Rocky River Watershed. People are relocating to the southern half of the watershed in large numbers, while population remains relatively stable in the highly developed communities of the north. Much of this relocation was predicted in 1990, but those estimates appear to have been conservative.

One of the highest growth areas is in and around the City of Medina. Medina's 2000 Census population is 25,139, a gain of over 6,000 people since 1990. The four townships that surround the city grew by 7,000 people during the same period, with much of that growth being concentrated near the boundaries of the city. Growth pressure remains strong in this area. While, the City of Medina is nearly built out in its residential areas, new development continues at a strong pace in the township areas.

The other very high growth area in the Rocky River Watershed includes the cities of Strongsville and North Royalton. These two cities have grown by a combined 11,000 people since 1990. Population projections indicate that they will continue to grow and are expected to add an additional 14,000 people by 2020.

The Brunswick/Brunswick Hills area and the North Olmsted/Olmsted Falls area are also high growth areas both since 1990 and out into the future at least through 2020. Virtually every other community that drains to either the East or the West Branch is also expected to continue to develop.

Economic patterns in the Rocky River Watershed largely follow the population patterns. Manufacturing is not the major employer in the Rocky River Watershed as it is in the adjoining Black and Cuyahoga River Watersheds. It is not anticipated that this will change in the future. Service industry jobs are stable in the watershed. They are expected to grow in the developing areas as population is redistributed in the watershed over the next 20 years. Agriculture is a major economic factor in the watershed at present. Much of the agricultural land has been, and is continuing to be, lost to development pressures. However, the Rocky River will continue to have a major agricultural presence for the foreseeable future.

C. Geographic Locators

The Rocky River consists of the mainstem, the East Branch, the West Branch and several major tributary streams as shown in the figure below. The Rocky River is divided into two 11 digit Hydrologic Unit Codes (HUC11 codes) by the United States Geological Survey. The Rocky River Mainstem and the East Branch comprise the HUC11 code of 04110001 070. The West Branch is code 04110001 060.

Ohio EPA uses a watershed identification system of its own. In the Ohio EPA scheme, the Rocky River is referred to as Watershed OH87. Subbasin identifiers can be added to this code. For example, the mainstem portion of the river is code OH87 2. The subbasin identifiers for the remaining streams of the Rocky River are as follows: 3-Abram Creek; 4-East Branch below Healey Creek; 5-Baldwin Creek; 7-North Royalton "A" Tributary; 8-East Branch above Healy Creek; 9-Healey Creek; 10-West Branch below Plum Creek; 11- Plum Creek near Olmsted Falls; 12-West Branch from Cossett Creek to Plum Creek; 13-Strongsville "A" Tributary; 14-Baker Creek; 15-West Branch above Cossett Creek; 16-Cossett Creek; 17-Mallet Creek; 19-North Branch; and 20-Plum Creek near Brunswick.

In terms of geographic location, the Rocky River is contained in an area that lies between the following latitude/longitude points:

- Northwest: -82.0 East, 41.5 North
- Northeast: -81.65 East, 41.5 North
- Southeast: -81.65 East, 41.1 North
- Southwest: -82.0 East, 41.1 North

D. General Watershed Information

NOACA and NEFCO collaborated on the development of strategic initiatives that were included into the update of both agencies Regional Water Quality Plans. The initial plans were developed in the late '70s in response to the dictates of Section 208 of the Clean Water Act. NOACA produced its Clean Water 2000 Report in 2000 as its update to its Water Quality Management Plan. NEFCO prepared its Clean Water Plan for the Lake Erie Basin in 2003. These plans guide how wastewater treatment planning in Northeast Ohio and make a series of recommendations regarding the management of nonpoint sources of pollution. The wastewater management elements of both plans are binding. The nonpoint source recommendations are voluntary.

Under the auspices of the Rocky River Watershed Council, a Section 319 Implementation Grant is supporting nonpoint source pollution reduction efforts in the watershed. The Cuyahoga County Board of Health is administering this grant. The grant is providing for the reduction of nonpoint pollution through activities such as the upgrade of failing sewage treatment systems and is also providing for an increased public outreach effort on behalf of the Watershed Council.

II. Watershed Plan Development

A. Watershed Partners

The breadth of the involvement of watershed partners is demonstrated by the fact that over 350 person or entities are included in the mailing list of the Rocky River Watershed Council. The names on this list have been added at the request of the partner. Over 200 people on the list have identified themselves as watershed residents or landowners. Business interests include the Chamber of Commerce from seven local communities; Camp, Dresser, & McKee (a consulting firm); Knight Development Corporation and Smythe Kramer Real Estate; and the Medina Home Builders Association.

Local governments have been well represented with all of the counties, cities, and villages in the watershed having been involved during the plan development period. Watershed townships have been well represented as well. Ohio EPA, ODNR (Division of Wildlife and Division of Soil and Water Conservation), and OSU Extension have represented State perspectives. The USEPA, Cleveland Office has been a valuable resource.

The Ohio Environmental Council, EcoCity Cleveland, the Audubon, the Berea Town Form, the Berea Kiwanis, the Keelhaulers Club, and the Ohio Central Basin Steelheaders are some of the nongovernmental partners. The Medina Summit Land Conservancy and the Firelands Land Conservancy are others.

Baldwin Wallace College, Cleveland State University, and Berea High School are educational entities that have actively contributed to the development of the watershed plan.

B. The Mission Statement of the Rocky River Watershed Council

The mission statement of the Rocky River Watershed Council is improve the water resource quality and function of the Rocky River by developing a comprehensive watershed management plan that emphasizes the formation of partnerships to solve clearly identified problems.

C. Structure, Organization, and Administration of the Watershed Council

Membership

Any stakeholder of the Rocky River Watershed may become a member of the non-profit Rocky River Watershed Council by completing an application for membership.

A stakeholder is defined as any resident, landowner, local government, business, institution or other person or organization that supports the purpose of the Rocky River Watershed Council.

Organization

The Rocky River Watershed Council shall elect a Chair that also serves as a voting member and the chair of the Rocky River Board of Trustees.

The Rocky River Board of Trustees shall be elected as the administrative committee of the Rocky River Watershed Council and shall consist of fifteen (15) elected members. Membership shall be reflective of the general public, local governments, the business community, the academic community, and other watershed stakeholders. Officers and Duties of the Board of Trustees shall be as stipulated within By-Laws duly ratified by a majority vote of the Rocky River Watershed Council.

The responsibilities of the Board of Trustees include the following:

1. Administering policy and direction as established by the Rocky River Watershed Council;
2. Convening Annual meetings of the Rocky River Watershed Council;
3. Supporting planning and implementation efforts that help to protect and restore the environmental quality of the Rocky River;

4. Facilitating public education, community outreach and research;
5. Foster the formation of sub-tributary watershed groups;
6. Fundraising to support the activities of the Rocky River Watershed Council

On January 28, 2004 the Rocky River Watershed Council elected Medina County Commissioner Steve Hambley as the chair, along with fourteen watershed stakeholders to the Board of Trustees. The Trustees are:

Robert Blomquist, Mayor of Olmsted Falls.

David Cass, Assistant Service Director, City of Middleburg Heights.

Michael Durkalec, environmental scientist.

Elva Edger, Chair of the League of Women Voters Cleveland Environmental Committee.

Jackie Evvard, “Volunteer of the Year” for the Medina Soil and Water Conservation District.

Ivan Hack, Volunteer Chairman of the Cuyahoga County Agricultural Ecology Committee of the Farm Bureau in Cuyahoga County.

Christopher Hartman, District Manager of the Medina Soil and Water Conservation District.

Keith Kessler, Park Manager of the Rocky River Reservation of the Cleveland Metroparks.

Mark Kolesar, active volunteer in the Medina County area for green spaces and watersheds including the Lake Medina Campaign.

John Miller, Ph.D., Professor emeritus in biology from Baldwin-Wallace College and seasonal naturalist for the Cleveland Metroparks.

Janine Rybka, District Administrator of the Cuyahoga Soil and Water Conservation District.

Mark Sunyak, Strongsville City Engineer.

Mel Tolsma, active in environmentalist and farmer.

George Remias, registered professional Civil Engineer.

Role of the Rocky River Watershed Council & Board of Trustees

Role: Assist in building public support to encourage the implementation of the Watershed Action Plan through public education and involvement.

Action: Support the work of the RRWC Public Involvement Public Education (PIPE) Subcommittee.

Action: Continue to sponsor the Rocky River Watershed Day and clean-ups.

Role: Assist in developing funding strategies to encourage implementation of the Watershed Action Plan.

Action: Identify priority projects and potential grant funding sources.

Role: Act in an advisory capacity to the Cuyahoga County Board of Health (CCBH) as part of the 319 Implementation Grant.

Action: Participate in monthly Work Group meetings.

Action: Entertain progress reports on grant activities at quarterly meetings of the Rocky River Watershed Council meetings.

Role: Support the work of the RRWC Public Involvement Public Education (PIPE) Subcommittee.

Action: Assist CCBH in building public support to encourage participation in the Home Sewage Treatment System replacement program of the 319 Planning Grant through public education and involvement.

Action: Co-sponsor educational workshops and the development of fact sheets.

Operational Bylaws

The Rocky River Watershed Council adopted formal bylaws at its meeting on April 29, 2004.

Contact information

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D. General Plan Contents

Rocky River Watershed Action Plan Outline

The outline of the Rocky River Watershed Action Plan and its appendices is included as Attachment A to this document.

III. Watershed Inventory

A. Description of the Watershed

The general **topography, geological features, soils, and glacial history** of the Rocky River are described in the report “Watershed Inventory of the Rocky River Watershed” that is Appendix A of the Rocky River Watershed Action Plan.

The **rare, threatened, and endangered species** of plants and animals along with **invasive species** are described in the report “Watershed Inventory of the Rocky River Watershed” that is Appendix A of the Rocky River Watershed Action Plan.

The climatic and precipitation information pertinent to the Rocky River are included in the report “The Water Resources of the Rocky River Watershed” that is Appendix B of the Rocky River Watershed Action Plan.

Surface water resources including wetlands information of the Rocky River is included in the report “The Water Resources of the Rocky River Watershed” that is Appendix B of the Rocky River Watershed Action Plan. Tributary lengths and watershed size are included. Available stream flow information is very limited in the Rocky River. The Hydrologic Atlas for Ohio indicates that the range of Average Annual stream flow in the Rocky River is 11 to 13 inches per year with an average of 12. The USGS has analyzed flow statistics at the mouth of the East and West Branches and in the mainstem as shown in Appendix B. FEMA floodplain maps are also shown in Appendix B. There have been no studies of stream sinuosity or entrenchment ratios made on the Rocky River.

Tributary descriptions and use designation information are included in the report “The Water Resources of the Rocky River Watershed” that is Appendix B of the Rocky River Watershed Action Plan.

Ground water aquifers, flow regimes, and pollution potential information is included in the report “The Water Resources of the Rocky River Watershed” that is Appendix B of the Rocky River Watershed Action Plan. There are no Source Water Assessment Plans that have been prepared in the Rocky River Watershed.

A **general land use** map of the Rocky River Watershed and summary statistics of individual subbasins are described in the report “Watershed Inventory of the Rocky River

Watershed” that is Appendix A of the Rocky River Watershed Action Plan. This same report identifies areas served by sanitary sewers as opposed to areas served with **home sewage treatment systems**. **Agricultural activity** is summarized and **protected lands** are identified in Appendix A as well.

Land use trends in the watershed are reviewed in the report “Water Resource Threats Related to Growth in the Rocky River Watershed” that is Appendix C of the Rocky River Watershed Action Plan.

B. Cultural Resources

Sites of historical, cultural, or recreational significance are described in the report “Watershed Inventory of the Rocky River Watershed” that is Appendix A of the Rocky River Watershed Action Plan.

C. Previous and Complimentary Efforts

Previous water quality efforts and current efforts that are occurring in the watershed are described in the report “Watershed Inventory of the Rocky River Watershed” that is Appendix A of the Rocky River Watershed Action Plan.

D. Physical Attributes of Streams and Floodplain Areas

The discussion of **presettlement conditions, channel and floodplain conditions, the status of forested riparian area, the miles of forested natural riparian buffer, the miles of stream with permanent protection, the miles of natural streams, the miles of modified channels, the location of dams and channelized streams, and the extent of floodprone areas** is included in the report “Watershed Inventory of the Rocky River” that is Appendix A of the Rocky River Watershed Action Plan and are revisited in “The Water Resources of the Rocky River Watershed” that is Appendix B of the Action Plan.

There are no **streams with unrestricted livestock access** in the Rocky River Watershed. While naturally occurring **bank erosion** occurs on every stream within the watershed, excessive bank erosion is limited. The urbanized watersheds of Abram Creek, Baldwin Creek, both of the Plum Creeks, and local drainage in the City of Medina are locations where bank erosion occurs at a rate that exceeds normally expected levels. The volume of sediment generated by excess bank erosion is not considered to represent a significant problem in the watershed. Floodplain connectivity is discussed in each of the subbasin sections in “The Water Resources of the Rocky River Watershed” that is Appendix B of the Action Plan. There are no **riparian levees** in the watershed. There exists no inventory of **entrenched stream miles** in the watershed. Isolated areas of entrenchment do occur along small feeder streams in urban areas throughout the watershed.

The **status and trends of expected residential/commercial development** is reviewed in the report “Water Resource Threats Related to Growth in the Rocky River Watershed” that is Appendix C of the Rocky River Watershed Action Plan. No new **major roadway**

projects are expected in the Rocky River in the foreseeable future. Maintenance activities will continue. Small roads associated with new subdivision will be built but Ohio EPA's Storm Water Permits Program that will reduce potential impacts from this construction to the maximum extent practicable.

E. Water Resource Quality

Locationally referenced use designation/use attainment information is included in the report "The Water Resources of the Rocky River Watershed" that is Appendix B of the Rocky River Watershed Action Plan. A map of use attainment status is included in the report "Guide to the Causes and Sources of Water Quality Problems in the Rocky River Watershed" that is Appendix D of the Rocky River Watershed Action Plan. An evaluation of **beneficial use impairments** is presented in the report "A Look at the Beneficial Use Impairments of the Rocky River" that is Appendix F of the Rocky River Watershed Action Plan.

The quality of wetlands, lake, and groundwater is reviewed in the report "The Water Resources of the Rocky River Watershed" that is Appendix B of the Rocky River Watershed Action Plan.

The causes and sources of use impairment in the Rocky River Watershed are presented in the report "Guide to the Causes and Sources of Water Quality Problems in the Rocky River Watershed" that is Appendix D of the Rocky River Watershed Action Plan. Specific causes identified include **Nitrogen loadings, habitat modification, thermal modification, organic enrichment, toxic chemicals, and bacteria pathogens**. Specific source identified include **point sources (permitted discharges, combined sewer overflows, and storm sewer outfalls), urban runoff, agricultural runoff, failing home sewage treatment systems, construction site runoff, and riparian disturbances**. These sources are discussed in Appendix D and are located and evaluated in Appendix E (Inventory of Point and Nonpoint Source Dischargers in the Rocky River Watershed.) The areas that are threatened by the impacts associated with growth are identified in the report "Water Resource Threats Related to Growth in the Rocky River Watershed" that is Appendix C of the Rocky River Watershed Action Plan. **Spills and illicit discharges** have not been identified as a contributor to any use impairment in the Rocky River Watershed.

Agriculture has not been directly identified as a contributor to any of the impaired use designations in the watershed. Agricultural activity does occasionally have a local impact on water quality. Such impacts are dealt with on a case-by-case basis and are not part of the Watershed Action Plan priorities. Programs involving **Highly Eroding Lands** are in this category. (Highly Erodible Lands comprise about 3,400 of the 20,000 acres of agricultural land in the watershed and generate an estimated 10,200 tons of sediment annually.) The reduction of nitrogen loadings from agriculture areas has the same priority as nitrogen loadings from all other land areas in the watershed.

The majority of the livestock operations in the watershed are situated within Liverpool, York and Granger Townships. Most of the operations are small and have limited manure storage or pasture. It was estimated that the 200 horse operations comprise 67% of the total livestock producers in the watershed. Of those, 120 horse operations (60%) have less than 4 horses, while 42 operations (21%) had greater than 10 horses. Horses make up 44% of the total animal units, most of which are for recreational use. The 68 Beef operations comprise 23% of the total livestock producers with 41 of the beef farms (60%) having at least 10 animals. The 9 dairy operations comprise 3% of the livestock producers. Every dairy operation had at least 10, but no more than 50 animals. There are 10 sheep operations comprising 3% of the livestock producers. There are 9 alpaca and 2 hog producers operations situated within the watershed.

As addressed earlier, none of the Rocky River streams are **levied**. Most streams have some **human impacts** due either to agriculture in the more headwater streams or urbanization/suburbanization in the lower courses. **Effluent volumes** from point sources are presented in Appendix E (Inventory of Point and Nonpoint Source Dischargers in the Rocky River Watershed.) There exist no known information regarding effluent volumes associated with nonpoint sources. **Dam locations** are presented in the report “Watershed Inventory of the Rocky River” that is Appendix A of the Rocky River Watershed Action Plan. There are no known **petition ditches** in the watershed. The **status and trends** of expected residential/commercial development is reviewed in the report “Water Resource Threats Related to Growth in the Rocky River Watershed” that is Appendix C of the Rocky River Watershed Action Plan.

IV. Watershed Impairments

A. Pollutant Loadings

Pollutant loading information is presented in several locations. The first is the report “Inventory of Point and Nonpoint Source Dischargers in the Rocky River Watershed” that is Appendix E of the Rocky River Watershed Action Plan. The second is the report “Load Reduction Targets for the Rocky River Watershed” that is Appendix H of the Rocky River Watershed Action Plan.

Habitat conditions have been evaluated using existing information. The Action Plan has called for the implementation of riparian setback ordinances as a means to reduce any additional loss of riparian areas. This same initiative calls for the upgrading of storm water runoff ordinances to better control the effects of runoff from new development or major redevelopment actions. Additionally, the Action Plan targets 10 miles of watershed streams for restoration of existing riparian disturbances. Targeted watersheds include Abram Creek (0.5 miles), the East Branch (2.0 miles), Baldwin Creek (1.0 miles), the West Branch (4.0 miles), Plum Creek at Olmsted Falls (0.5 miles), Mallet Creek (1.0 miles), and Plum Creek at Brunswick (1.0 miles).

The **problem statement** that links causes and sources of impairments and estimates needed load reductions is included in the report “Load Reduction Targets for the Rocky River Watershed” that is Appendix H of the Rocky River Watershed Action Plan.

V. Watershed Restoration and Protection Goals

The **goals and objectives** of the Rocky River Action Plan are presented directly in the “Rocky River Watershed Action Plan”.

VI. Implementation

Prioritized objectives are included in the “Rocky River Watershed Action Plan”. This report provides a listing of **tasks, solutions, resources, methods, performance indicators, and a timeframe** for all prioritized actions.

The **education, marketing, evaluation and funding strategies** are included in the “Rocky River Watershed Action Plan”.

Watershed plans within the Lake Erie Watershed must describe how the **Ohio Coastal Nonpoint Pollution Control Program management measures** of the Ohio Coastal Nonpoint Pollution Control Program will be implemented within a specific watershed where the watershed inventory or sources and causes of impairment indicate applicability. The Ohio Lake Erie Watershed includes portions of 35 counties and covers an area of 11,649 square miles. The major sub-watersheds, or streams within the Lake Erie Watershed include the Maumee, Portage, Sandusky, Huron, Vermillion, Black, Rocky, Cuyahoga, Chagrin, Grand, and Ashtabula Rivers.

In recognition of the intense pressures facing our nation’s coastal regions, Congress enacted the Coastal Zone Management Act (CZMA) that was signed into law on October 27, 1972. To address more specifically the impacts of nonpoint pollution on coastal water quality, Congress enacted section 6127 of the Coastal Zone Act in November 1990. Section 6127 requires that each state with an approved coastal zone management program develop and submit for approval a Coastal Nonpoint Pollution Control Program (CNPCP) to the USEPA and the National Oceanic and Atmospheric Administration (NOAA). The purpose of the program “shall be to develop and implement management measures for nonpoint source pollution to restore and protect coastal waters, working in close cooperation with other State and local authorities.”

Specific **Ohio Coastal Nonpoint Pollution Control Program Management Measures** are addressed in the Rocky River Watershed Action Plan as follows:

Agriculture

(3.3.7) Irrigation Water Management: Irrigation water management has not been identified as a source or a cause of any water quality impairment in any portion of the Rocky River Watershed. However, ODNR has identified that Northeast Ohio has a significant number of nurseries and other irrigation water users. These would typically

be nurseries, orchards, vegetable or other producers of 10 acres or more that use irrigation water. These producers have a potential for significant impact on local streams and water quality. The ODNR, Division of Soil and Water Conservation and the Ohio Farm Bureau are developing a program to address this management measure in the Lake Erie Watershed. Local SWCDs will be responsible for proposing any needed updates to the Rocky River Watershed Action Plan should this program develop measures that need to be implemented in the Rocky River.

Urban

(5.3.1) New Development: This management measure is intended to accomplish the following: (1) decrease the erosive potential of increased runoff volumes and velocities associated with development-induced changes in hydrology; (2) remove suspended solids and associated pollutants entrained in runoff that result from activities occurring during and after development; (3) retain hydrological conditions to closely resemble those of the predisturbance condition; and (4) preserve natural systems including in-stream habitat.

Goal #1, Objective 4 addresses this management measure. The model ordinance base developed by the Northeast Ohio Regional Storm Water Task Force requires that postdevelopment peak runoff rate and average volume be based on the on the 1-year/24 hour storm that is more stringent than the Coastal NPS measure calls for. This is in recognition that the Rocky River is already impacted by increased storm water flows and that added steps are necessary to help protect the river from future disturbances. The model ordinance base also requires the use of storm water quality ponds or comparable practices that are designed to trap sediment and associated pollutants in the storm water draining from new developments. The riparian and wetland setbacks included in the model ordinances base combine with the storm water management issues just discussed to minimize hydrological condition changes and habitat features. The Rocky River Watershed Action Plan calls for all watershed communities to pass and implement the model ordinance base regardless of whether they are a Storm Water Phase II Community or not.

(5.3.2) Watershed Protection: The objectives of this measure call for the development of a watershed protection program to:

1. Avoid conversion, to the extent practicable, of areas that are particularly susceptible to erosion and sediment loss;
2. Preserve areas that provide important water quality benefits and/or are necessary to maintain riparian and aquatic biota; and
3. Site development, including roads, highways, and bridges, to protect to the extent practicable the natural integrity of waterbodies and natural drainage.

The Rocky River Watershed Action Plan addresses these through a combination of action items. Goal #1, Objective 1 supports the objective of preserving sensitive areas by public acquisition or by protection through the use of conservation easements. Goal #1, Objective 2 uses setback ordinances to protect existing vegetated riparian corridors and wetlands. It also encourages the use of conservation development concepts to minimize

disturbance of natural areas and limits stream crossings by roads and utility lines. Goal #1, Objective 4 provides the mechanism to control runoff from development sites so as to minimize erosion/sedimentation and to maintain runoff flow rates that do not degrade aquatic habitat. There is a requirement that all management practices use to accomplish this objective meet the requirements of the "Rainwater and Land Development Manual." In addition, developers are required to tightly control erosion/sedimentation during construction and to maintain post-construction sediment loads at or below pre-development rates. This requirement encourages developers to avoid high erosion areas due to the cost of erosion/sediment controls in such locations.

Medina County is involved in a Balanced Growth Initiative Project that is seeking ways to further these protections, beginning with an area in the Upper West Branch that is experiencing heavy growth pressure. The results of the pilot project will be used across the watershed.

(5.3.3) Site Development: The recommendation to protect areas that provide important water quality benefits is addressed through Goal #1, Objective #1 and Objective #2. Objective #1 seeks to protect and restore the Riparian Corridor along the Rocky River. Objective #1 of this goal provides for an initiative to permanently protect riparian corridors through the solicitation of conservation easements or the outright purchase of riparian lands for inclusion into public parks. Objective #2 provides for the protection of existing riparian vegetation through the use of riparian setback ordinances to be implemented by all 32 communities throughout the watershed.

The limitation of impervious areas is addressed in Goal #1, Objective 4. Developers are required to protect the aquatic habitat in the streams of the Rocky River by meeting post-construction runoff requirements that are designed to maintain channel stability. This means that developers must design storm water runoff controls in a manner that not only minimizes increases in flooding, but also minimizes changes to runoff velocities. There is a recommendation that developers utilize low impact site designs in order to limit the size retention/detention facilities, but the choice remains in the developer's hands. However, whatever plan is developed to meet the runoff requirements, it will result in a minimization of any increase in the effective imperviousness of the watershed.

The limitation of land disturbance activities is realized by the model construction site ordinance that watershed communities are expected to implement as part of Goal #1, Objective #4 discussed above.

Disturbances of natural drainage features and vegetation are accomplished through the implementation of the Riparian Setback ordinance discussed above. This ordinance requires stream crossings by roadways and utility lines to be minimized and for all riparian vegetation to be maintained or restored where crossings are made.

(5.5.1) Existing Development: The existing urban development in the Rocky River Watershed is largely confined to areas that are subject to the Phase II Storm Water Program requirements. This program requires local governments to seek and eliminate

illicit discharges of pollutants to the receiving waterways. This will work to remove unpermitted pollutant loadings. Each Phase II community is responsible for scheduling and implementing any controls that are necessary to accomplish this. The riparian and wetland setback ordinances recommended in Goal #1 apply to redevelopment projects as well as new development. The ordinance package limits any further destruction of natural conveyance systems and works to reestablish disturbed vegetative corridors. Goal #1, Objective 3 provides for the restoration of riparian corridors, further bolstering the revegetation effort.

(5.6.1) New On-Site Disposal Systems: All health departments operating in the watershed already meet State requirements for permitting on-site sewage disposal systems. Sanitarians work with system owners to minimize impacts on the environment as a matter of course. Properly maintained on-site systems have not been identified as a source or cause of any water use impairment in the watershed.

(5.6.2) Operating On-Site Disposal Systems: Failing on-site systems have been identified as a priority problem. Goal 2, Objective #1 addresses this issue. Goal #2, Objective #1 deals with reducing instream bacterial levels and nitrogen loadings by reducing on-site system pollutant loadings reaching the river.

(5.8.1) Planning, Siting, and Developing Local Roads and Highways: Both the riparian setback ordinance and the construction site ordinance that are part of the recommendations associated with Goal #1 of the Watershed Action Plan contain provisions to minimize the disturbance of road crossings over the streams of the watershed and to minimize soil erosion/sedimentation associated with road construction.

(5.8.2) Local Bridges: Both the riparian setback ordinance and the construction site ordinance that are part of the recommendations associated with Goal #1 of the Watershed Action Plan contain provisions to minimize the disturbance of road crossings over the streams of the watershed and to minimize soil erosion/sedimentation associated with bridge construction.

Hydrologic Modification

(7.4.1) Channelization and Channel Modification-Physical and Chemical Characteristics of Surface Waters: The Riparian Setback Ordinance recommended as part of Goal #1 of the Action Plan prohibits channel disturbing activities. The only channel modifications that can be made in the watershed will be those permitted by Ohio EPA and these must meet all of Ohio EPA's requirements.

(7.4.2) Channelization and Channel Modification-Instream and Riparian Habitat Restoration: The Riparian Setback Ordinance recommended as part of Goal #1 of the Action Plan prohibits channel disturbing activities. The only channel modifications that can be made in the watershed will be those permitted by Ohio EPA and these must meet all of Ohio EPA's requirements.

(7.5.3) Dams-Instream and Riparian Habitat Restoration: It is not anticipated that any dams will be constructed in the watershed that will not under the jurisdiction of NPDES. Therefore, this measure is not applicable in the Rocky River Watershed.

(7.6.1) Eroding Streambanks and Shorelines: Goal #1, Objective #3 provides for the restoration of streambanks with the use of woody vegetation. The use of bioengineering solutions is the preferred method of controlling streambank erosion within the Action Plan.

VII Evaluation

The set of evaluation criteria is identified in the “Evaluating the Progress of the Rocky River Watershed Action Plan” portion of Section IV of the Action Plan.

Attachment A

Outline of the Rocky River Watershed Action Plan

Rocky River Watershed Action Plan

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- Rocky River Watershed Action Plan Statements of Objectives
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- B. The Water Resources of the Rocky River Watershed
- C. Water Resource Threats Related to Growth in the Rocky River Watershed
- D. Guide to the Causes and Sources of Water Quality Problems in the Rocky River Watershed
- E. Inventory of Point and Nonpoint Source Dischargers in the Rocky River Watershed
- F. A Look at the Beneficial Use Impairments of the Rocky River Watershed
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- I. Evaluation of Solutions, Actions and Best Management Practices for Identified Problems in the Rocky River Watershed
- J. Road Map to the Rocky River Watershed Action Plan

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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Sensitive Plant Locations in the Rocky River Watershed

Generalized Land Use in the Rocky River Watershed

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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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Baldwin Creek

North Royalton "A" Tributary

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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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Appendix C

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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Introduction

Growth Projections

Evaluation of Projected Growth

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- Wastewater Treatment Impacts
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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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- Nitrogen
- Habitat Modification and Sedimentation
- Thermal Modification
- Organic Enrichment and Dissolved Oxygen
- Toxic Chemicals
- Bacteria Pathogens

Water Quality Problem Sources

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- Urban Runoff
- Farms/Nurseries/Golf Courses
- Construction Sites/Suburbanization
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|---|---|
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| • 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

C. 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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Combined Sewer Outfalls

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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 Should be Safe to Eat
- Fish & Other Wildlife Should Taste Good
- 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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Water Quality Problem Statements for the Rocky River

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- Cossett Creek
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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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- Summary of Causes and Sources

TMDL Required Reductions and Recommended Actions

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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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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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- VII. Watershed Plan Development
- VIII. Watershed Inventory
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