



Water Quality

Mill Creek Watershed

Aaron Young
Executive Director

Last Edited: 08-07-17

The following presentation outlines;

- **Review:**
 - Mahoning County Watersheds
 - Mill Creek Watershed
 - 2015: Lake Newport/Mill Creek Watershed Testing
- **Mill Creek Watershed Action Plan:**
 - Education
 - Land Preservation/Protection
 - Restoration of streams, floodplains and wetlands
 - Reduction of sedimentation and storm water
 - Data Collection
- **Our Partners:**
 - Mahoning County District Board of Health
 - City of Youngstown
 - Mahoning County Engineer
 - Mahoning County Soil & Water Conservation District
 - Eastgate Regional Council of Governments
 - Ohio EPA
- **Questions:**



Presentation Overview

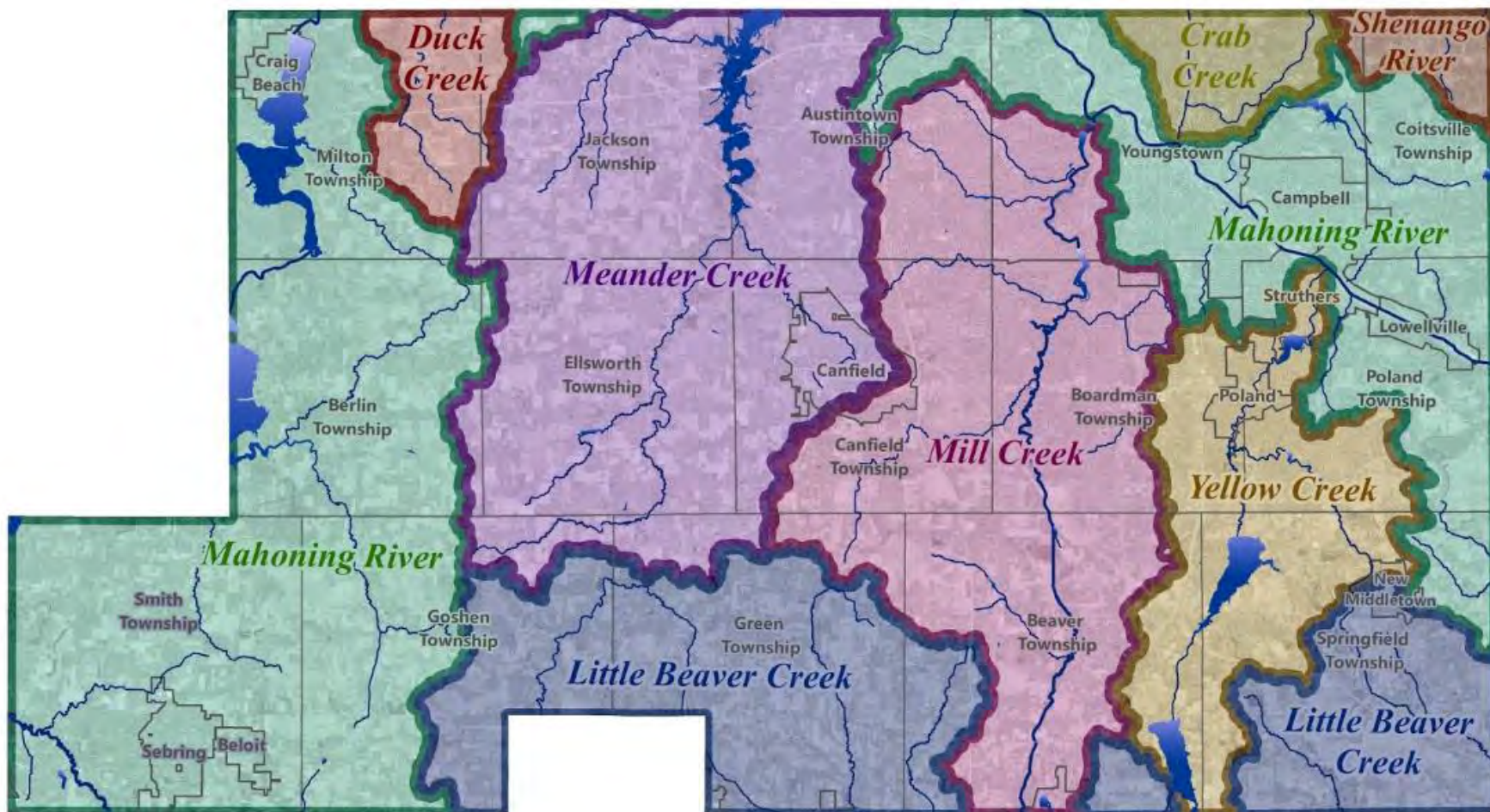


Image Credit: <http://awarewatershedgroup.blogspot.com>



Review: Mahoning County Watersheds

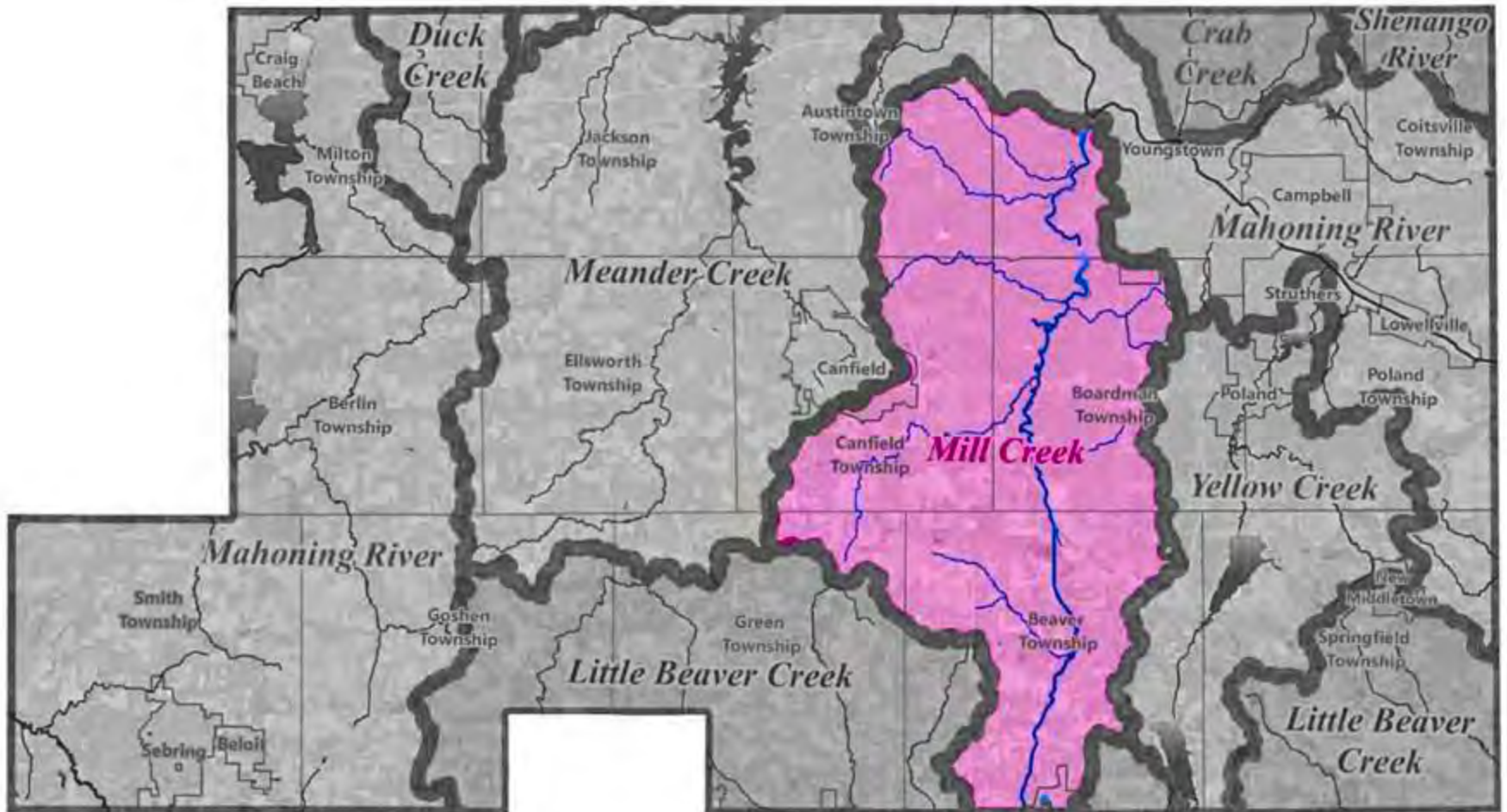
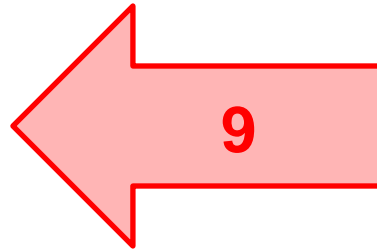


Image Credit: <http://awarewatershedgroup.blogspot.com>



Review: Mahoning County Watersheds

Community	Square Miles of Watershed
Beaver Twp	21.76
Boardman Twp	16.66
Canfield Twp	14.20
Austintown Twp	8.02
Youngstown	7.14
Green Twp	3.32
Fairfield Twp	3.15
Columbiana	3.13
Canfield	0.99
Watershed Total	78.37



Notable Watershed Facts:

- 50,157 Acres In Size (1 sq mile = 640 acres)
- Mill Creek Park is 2,657 Acres or 5% of total watershed
- Includes portion of Columbiana County

Image Credit: <http://awarewatershedgroup.blogspot.com>



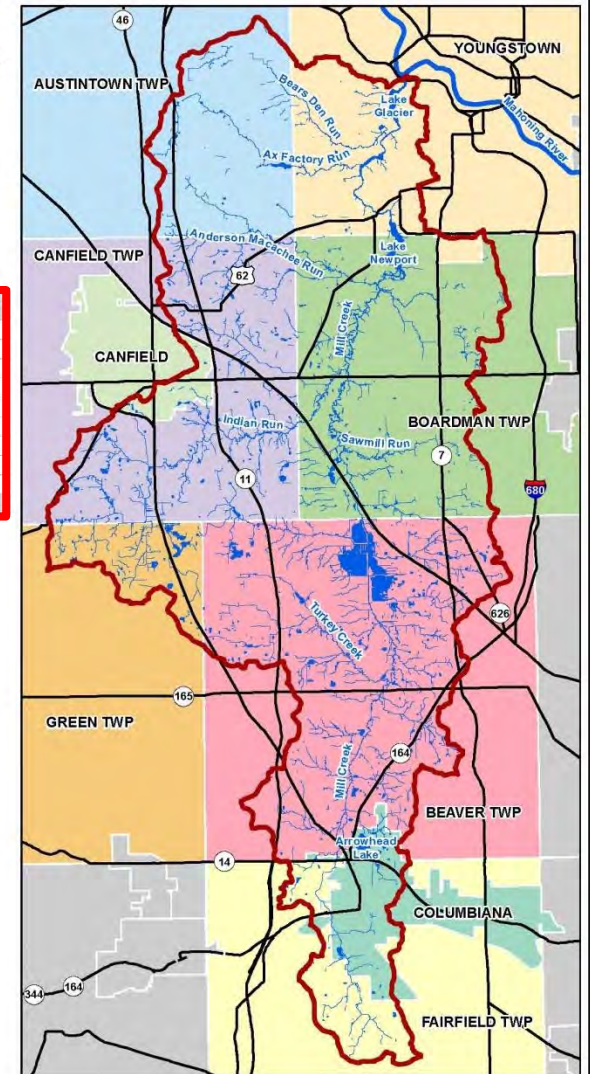
Communities of the Mill Creek Watershed

Community	Square Miles of Watershed
Beaver Twp	21.76
Boardman Twp	16.66
Canfield Twp	14.20
Austintown Twp	8.02
Youngstown	7.14
Green Twp	3.32
Fairfield Twp	3.15
Columbiana	3.13
Canfield	0.99
Watershed Total	78.37

Miles
0 0.5 1 2



January 2014



Review: Mill Creek Watershed

Community	Square Miles of Watershed
Beaver Twp	21.76
Boardman Twp	16.66
Canfield Twp	14.20
Austintown Twp	8.02
Youngstown	7.14
Green Twp	3.32
Fairfield Twp	3.15
Columbiana	3.13
Canfield	0.99
Watershed Total	78.37

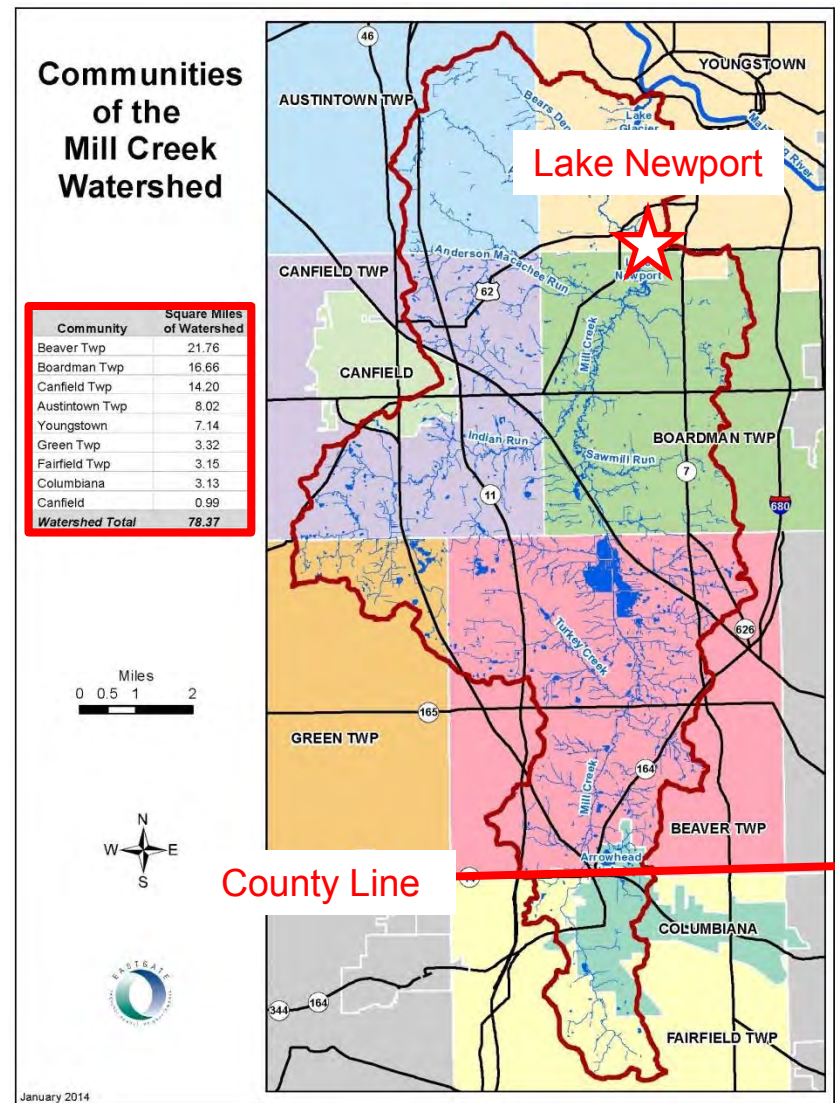
(%) of Watershed

28
21
18
10
10
4
4
4
1
100%

Notable Watershed Facts:

- 50,157 Acres In Size (1 sq mile = 640 acres)
- Mill Creek Park is 2,657 Acres or 5% of total watershed
- Includes portion of Columbiana County

Image Credit: <http://awarewatershedgroup.blogspot.com>



Review: Mill Creek Watershed



MCMP Water Quality

Background

Mill Creek MetroParks is currently experiencing water quality issues as the result of many factors and practices discovered within the Mill Creek watershed system. While easily identifiable and throughout the Mill Creek watershed include (but are not limited to): effluent from the Boardman sewage treatment plant, suspended solids, agricultural runoff, residential fertilizer, pesticide & herbicide runoff, parking lot & street runoff and failing septic systems. All of these factors directly impact the quality of our lakes and recreational opportunities for MetroParks visitors.

Hopefully this situation will help to raise awareness about the various problems contributing to the watershed issues. Ideally this will lead to changes in these long-established negative practices that impact the water quality in Mill Creek. Improvement of the water quality in Mill Creek Park lakes is a monumental task that will require continual effort, widespread support and massive changes in various ongoing practices throughout the 47,000 acre watershed. Northeast Ohio is fortunate to have an abundant supply of fresh water, and it is our duty to ensure that water remains fresh and clean for generations to come.

12-Week Study Results and Summary

- Click here to view the November 23, 2015 presentation by the Mahoning County District Board of Health of Lake Newport/Mill Creek Watershed Testing

Water Quality Test Results

The water quality tests are conducted and provided by the Mahoning County District Board of Health. The tests are to be performed starting July 29 for 12 consecutive days at each of the three locations.



Review: 2015

Lake Newport/Mill Creek Watershed Testing

November 23, 2015

Ryan Tekac, MS, RS, REHS

Director, Environmental Division



Public Health
Prevent. Promote. Protect.

Mahoning County District Board of Health



Review: 2015

Timeline of Events

- June 29, 2015 - Fish kill reported in Lake Newport
 - Confirmed by ODNR
 - OEPA confirmed the kill was a result of low DO from CSOs discharges
- July 10, 2015 – Mill Creek Park closed 3 lakes due to initial high E. coli test performed by MCDBOH
 - Lake Newport, Lake Cohasset and Lake Glacier
- July 16, 2015 – Multi agency meeting with OEPA
 - Discussed Mill Creek Watershed Problems
 - Previous testing by OEPA and what can be done
- July 23, 2015 – Mill Creek Park & MCDBOH testing agreement
 - Test 3 predetermined locations on Lake Newport for 12 weeks including 24-48 hours after a significant rainfall event.
- Sept 11th 16th and 30th – Testing expanded to other locations
 - Locations selected within the watershed,



PublicHealth
Prevent. Promote. Protect.

Mahoning County District Board of Health

Lake Newport Testing

- Agreement to test for 12 consecutive weeks at 3 predetermined locations. Sampled 24- 48 hours after rain events.
- Expanded to additional sites in the watershed – Total of 9 locations
- Considered a Class B Primary Contact Water – OAC 3745-1-07
 - Water that supports or potentially support, occasional primary contact recreational activities. All surface waters of the state are designated as Class B unless otherwise designated as bathing water.
- Tested for E. coli (cfu/ 100ml)
 - Single Sample Max 523
 - Seasonal Geometric Mean 161



Public Health
Prevent. Promote. Protect.

Mahoning County District Board of Health

3745-1-07

24

Table 7-13. Statewide numerical criteria for the protection of recreation uses. These criteria apply inside and outside the mixing zone at all times during the recreation season.

Recreation use	E. coli (colony counts per 100 ml)	
	Seasonal geometric mean	Single sample maximum ¹
Bathing water	126	235*
Class A primary contact recreation	126	298
Class B primary contact recreation	161	523
Class C primary contact recreation	206	940
Secondary contact recreation	1030	1030

¹ Except as noted in footnote a, these criteria shall not be exceeded in more than ten per cent of the samples taken during any thirty-day period.

* This criterion shall be used for the issuance of beach and bathing water advisories.

Table 7-13. Statewide numerical criteria for the protection of recreation uses. These criteria apply inside and outside the mixing zone at all times during the recreation season.

Recreation use	E. coli (colony counts per 100 ml)	
	Seasonal geometric mean	Single sample maximum ¹
Bathing water	126	235 ^a
Class A primary contact recreation	126	298
Class B primary contact recreation	161	523
Class C primary contact recreation	206	940
Secondary contact recreation	1030	1030

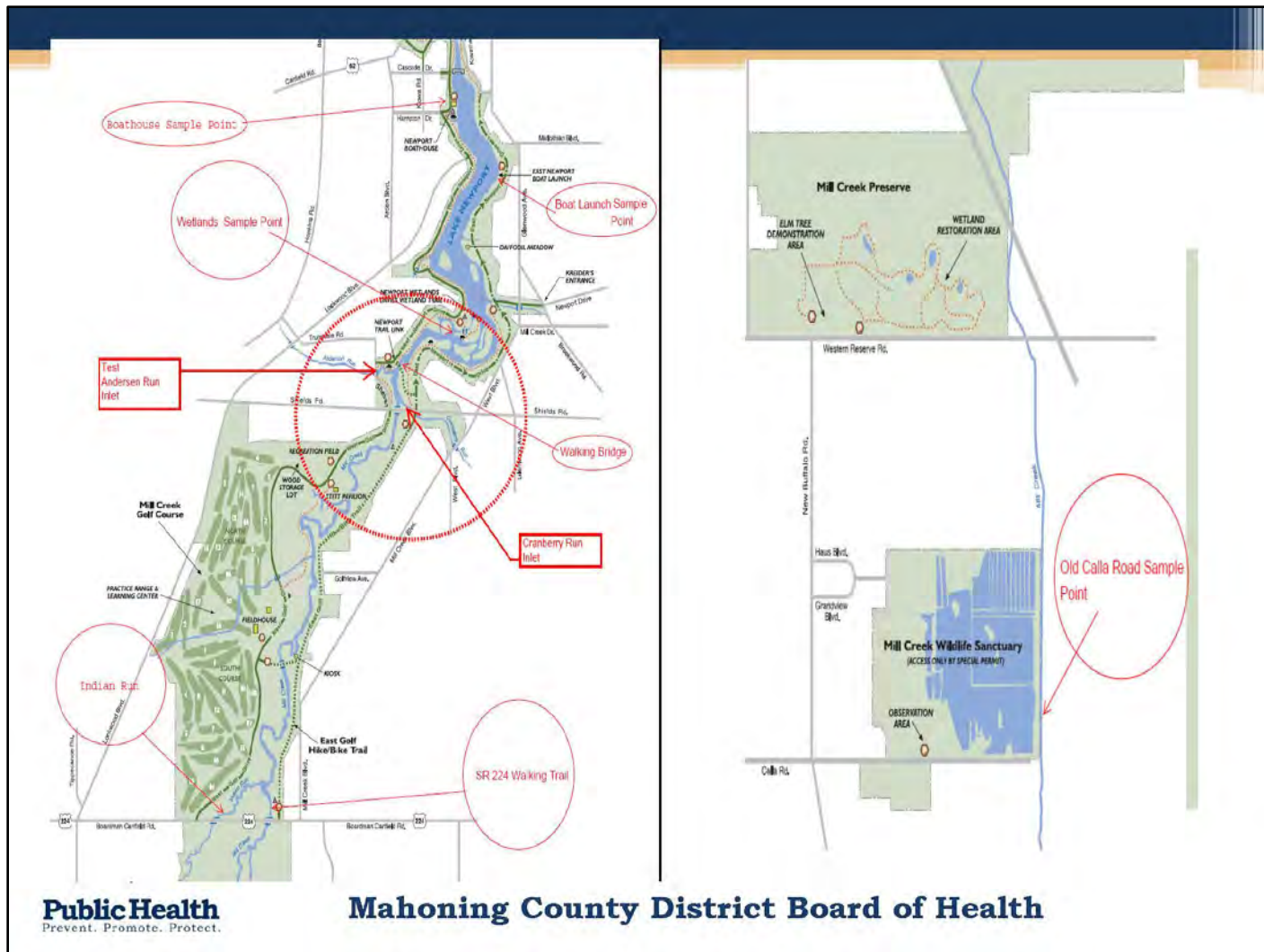
¹ Except as noted in footnote a, these criteria shall not be exceeded in more than ten per cent of the samples taken during any thirty-day period.

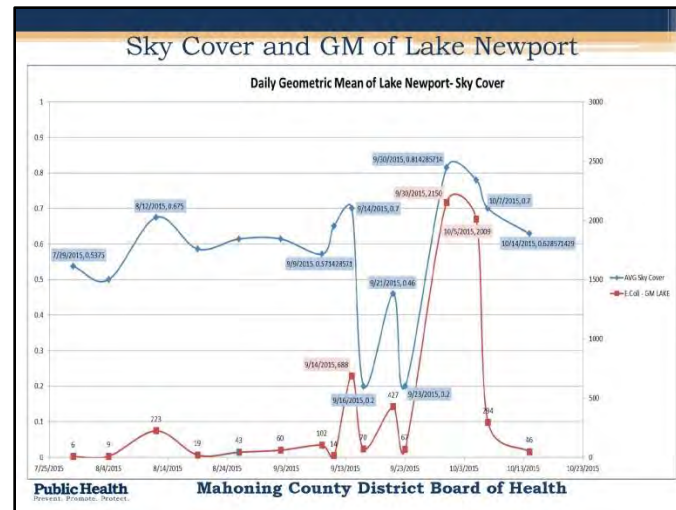
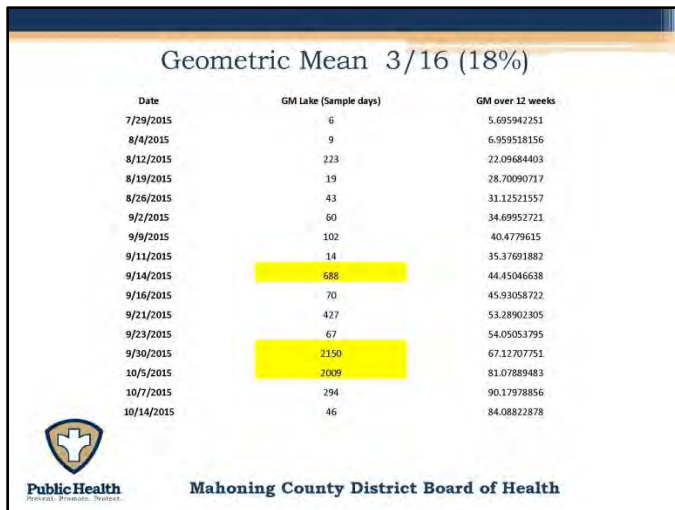
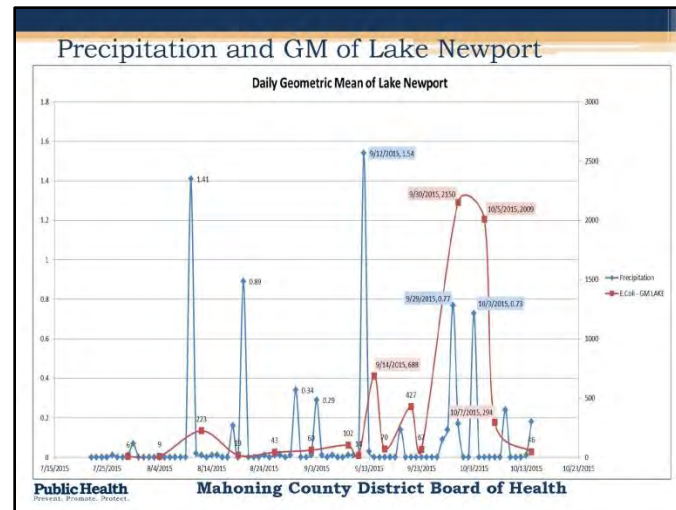
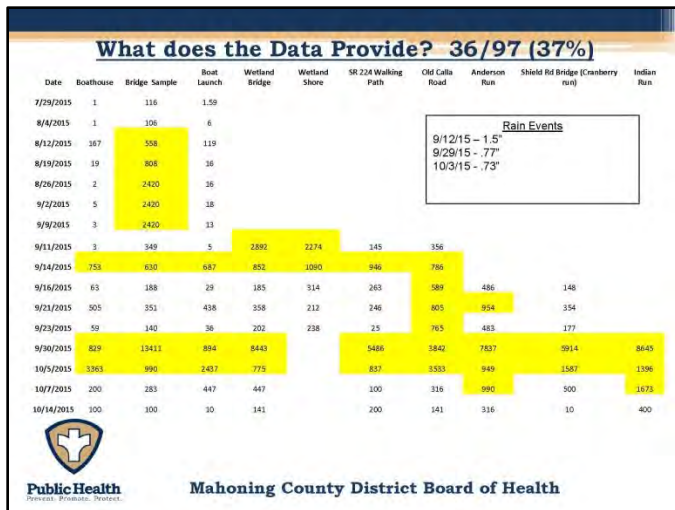
^a This criterion shall be used for the issuance of beach and bathing water advisories.



Review: 2015







Conclusion

Class B

161

- Week 1 - 12 Geometric Mean of Lake 84.08822878
- Week 1 - 12 Geometric Mean w/ Watershed 205.6738494
- The rainfall trends indicate a baseline for Lake Newport:
 - Levels will elevate 24-48 hours after a rainfall event and will decrease 72-96 hours.
- The deeper and more sunlit lake areas have lower E. coli levels.
 - Bacteria do not prefer UV conditions
- The Wetland area is providing some form of bacterial cleanup.
 - Studies have been done that prove wetlands have a pollution uptake in the plants.
 - Retention time on consecutive rain events decrease



Public Health
Prevent. Promote. Protect.

- There is not just one contributing factor causing the problem.
 - CSOs/Wildlife/AG manure management/ AG fertilizer application/failing septic systems/ Domestic animal management.
 - Non-point source pollution is very difficult to locate and control.

Mahoning County District Board of Health

Other Agency Participation

- Youngstown City Sanitary - Monitor the CSOs and provide the information to the Mill Creek Metro Parks
- Mill Creek MetroParks to evaluate their Privies(outhouse) for water tightness.
- Mill Creek MetroParks to monitor Wildlife activities
- Soil and Water to provide education and support for the Agricultural Industry
- Mahoning County Sanitary to continue with monitoring discharges.
- **PUBLIC PARTICIPATION IS KEY FOR WATERSHED AWARENESS**



PublicHealth
Prevent. Promote. Protect.

Mahoning County District Board of Health

The following presentation outlines;

■ Review:

- Mahoning County Watersheds
- Mill Creek Watershed
- 2015: Lake Newport/Mill Creek Watershed Testing

■ Mill Creek Watershed Action Plan:

- Education
- Land Preservation/Protection
- Restoration of streams, floodplains and wetlands
- Reduction of sedimentation and storm water
- Data Collection

■ Our Partners:

- Mahoning County District Board of Health
- City of Youngstown
- Mahoning County Engineer
- Mahoning County Soil & Water Conservation District
- Eastgate Regional Council of Governments
- Ohio EPA

■ Questions:



Presentation Overview



Watershed Action Plans

Mill Creek

The Mill Creek Watershed Action Plan was endorsed by Ohio EPA in 2007. It contains information about the watershed, including demographics, land use, and natural resources. The Plan also outlines the current water quality issues within the watershed and prioritizes projects and actions to address them.

Due to the size of the document it has been broken up into separate PDF files. If you are looking for specific information, open the Table of Contents to determine which Section(s) you need to download.

- Table of Contents
- Sections 1, 2, 3, and 4
- Section 5
- Section 6
- Section 7
- Sections 8, 9, 10, and 11
- Appendix A. Basic Watershed Maps
- Appendix B. Land Use and Land Cover
- Appendix C. Streams
- Appendix D. Wetlands
- Appendix E. Groundwater and Aquifers
- Appendix F. Soils
- Appendix G. Demographics
- Appendix H. Bridge and Highway Projects
- Appendix I. Load Reduction Estimates
- Appendix J. Original Mill Creek Watershed Problems
- Appendix L. Macroinvertebrate Collection Data
- Appendix M. Original Agency Comments for Full Endorsement

Share your Thoughts!

Name

Email *

Message *

Send

Next AWARE meeting

- May AWARE Meeting

Like Us On Facebook

Alliance for Watershed Action and Resource Education (AWARE)

facebook

Name:
Alliance for
Watershed Action
and Resource
Education (AWARE)

<http://awarewatershedgroup.blogspot.com>



Watershed Action Plan: Follow The Plan

■ Mill Creek Watershed Action Plan:

- Endorsed by OEPA in 2007
 - <http://awarewatershedgroup.blogspot.com/p/watershed-action-plans.html>
- Watershed Restoration & Protection Goals
 1. Education
 2. Land Preservation/Protection
 3. Restoration of streams, floodplains & wetlands
 4. Reduction of bacteria levels
 5. Reduction of sedimentation and storm water
 6. Data Collection
 7. Model Ordinances
- Responsible Parties as Identified in the Plan
 - Mill Creek MetroParks
 - Eastgate Regional Council of Governments
 - MV Sanitary District
 - MC Soil & Water Conservation District
 - MC District Board of Health
 - MC Green Team
 - City of Youngstown
 - Boardman Township
 - Townships & Cities

Mill Creek Watershed Action Plan (A Tributary to the Mahoning River)



Photo: Justin Rogers

Alliance for Watershed Action and Riparian Easements

Watershed Plan Contact Information

Mill Creek MetroParks
7574 Columbiana-Canfield Road
P.O. Box 596
Canfield, Ohio 44406
(330) 702-3000 (Phone)
(330) 702-3010 (Fax)

Erin M. McCracken, Environmental Planner
erinmc@zoominternet.net

April 2007

Watershed Action Plan: Goals



- **Mill Creek Watershed Action Plan:**
 - Endorsed by OEPA in 2007
 - <http://awarewatershedgroup.blogspot.com/p/watershed-action-plans.html>
 - Watershed Restoration & Protection Goals
 1. Education
 2. Land Preservation/Protection
 3. Restoration of streams, floodplains & wetlands
 4. Reduction of bacteria levels
 5. Reduction of sedimentation and storm water
 6. Data Collection
 7. Model Ordinances
 - Responsible Parties as Identified in the Plan
 - **Mill Creek MetroParks**
 - Eastgate Regional Council of Governments
 - MV Sanitary District
 - MC Soil & Water Conservation District
 - MC District Board of Health
 - MC Green Team
 - City of Youngstown
 - Boardman Township
 - Townships & Cities

Mill Creek Watershed Action Plan (A Tributary to the Mahoning River)



Photo: Justin Rogers

Alliance for Watershed Action and Riparian Easements

Watershed Plan Contact Information

Mill Creek MetroParks
 7574 Columbiana-Canfield Road
 P.O. Box 596
 Canfield, Ohio 44406
 (330) 702-3000 (Phone)
 (330) 702-3010 (Fax)

Erin M. McCracken, Environmental Planner
erinmc@zoominternet.net

April 2007

Watershed Action Plan: Goals





Links

AWARE

Mahoning County District Board of Health

Mahoning County Engineer's Office

Mahoning County Soil and Water Conservation District

Ohio EPA 3745-1-07 (Water use and discharge)

Park Rules & Regulations

MCMP Water Quality

Boating & Fishing Regulations

MetroParks Police Department

Mill Creek MetroParks

Public Information

Safety

Education

Employment

link

How Can You Help?

- To learn more about ways you can help, visit [AWARE's What Can I Do](#)
- To report any violations that would affect our watershed, lakes, creeks, etc. contact one of the following agencies:
 - Mahoning County District Board of Health**
Main Office Number: 330.270.2855
Toll Free in Mahoning County: 1.800.873.MCHD
TTY service available by dialing 711 or 1.800.750.0750
 - Mahoning Soil and Water Conservation District**
330.740.7995

Are you AWARE?

Since its inception in the fall of 1999, AWARE has viewed water quality problems as a watershed responsibility and addressed issues on a watershed level. Viewing water quality as a watershed responsibility provides everyone with a sense of ownership, responsibility, and stewardship for improving and protecting water quality for everyone.



WAP Goal: Education



Home	Who We Are	What is a Watershed?	Watersheds in Mahoning County	Partnering Agency Projects	Watershed Action Plans	Publications
------	------------	----------------------	-------------------------------	----------------------------	------------------------	--------------

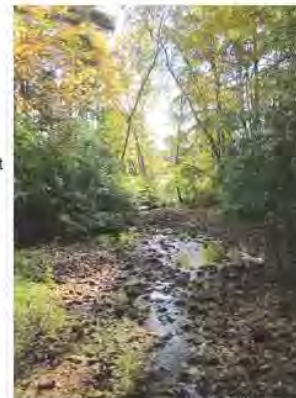
Who We Are

AWARE is acronym for the Alliance for Watershed Action and Resource Education. We are a group of Mahoning County agencies and citizens who bring professional and personal knowledge of water quality management practices and partner together to provide technical assistance for improving the region's water resources and residents.

AWARE is an alliance of stewards for the Mill Creek, Yellow Creek, and Meander Creek watersheds. We encourage green space preservation and restoration and enhancement of waterways by providing watershed education and technical resources for the community. Our vision is to be a proactive organization, regarded as a key resource for producing tangible water quality improvements on a watershed level.

AWARE members include, but are not limited to, representatives from:

- Aqua Ohio
- Audubon Society (Mahoning Valley)
- Eastgate Regional Council of Governments
- Mahoning County Citizens
- Mahoning County District Board of Health
- Mahoning County Engineer's Office
- Mahoning County Farm Bureau
- Mahoning County Green Team
- Mahoning Soil and Water
- Meander Water
- Mill Creek MetroParks
- Ohio EPA
- Township Officials



Cranberry Run at West Blvd.

<http://awarewatershedgroup.blogspot.com>

Share your Thoughts!

Name

Email *

Message *

Send

Next AWARE meeting

- May AWARE Meeting

Like Us On Facebook



WAP Goal: Education

AWARE's PROJECTS & ACCOMPLISHMENTS

- Stream crossing signs in Mill Creek and Meander Creek Watersheds
- Watershed boundary signs throughout Mahoning County
- Watershed boundaries on the Mahoning County Road Map (Mahoning was the first county in Ohio to do this!)
- Watershed Action Plans for Mill Creek, Yellow Creek, and Meander Creek Watersheds
- Stream habitat study for Mill Creek Watershed
- Non-point source pollution posters and billboards
- Riparian setback ordinance development for Mahoning County Townships
- Watershed Festivals, workshops, and public presentations
- Partnering on environmental projects throughout Mahoning County

HAVE YOU SEEN ME?



In 2009 AWARE used \$5,000 in grant funding from the Ohio Environmental Education Fund to install signs at 44 stream crossings along county roadways within the Mill Creek Watershed.

In 2010 Meander Water (MVSD) funded signs at 37 stream crossings in the Meander Creek Watershed.

WHAT CAN AWARE DO FOR YOU?

AWARE's mission includes a strong emphasis on education about watersheds, water quality, and related topics. We offer presentations (free of charge) to schools, churches, community groups, civic organizations, homeowners associations, clubs, and any other group that would like to learn.

Presentation topics can include:

- Watersheds
- Water Quality
- Rain Barrels and Rain Gardens
- Stormwater and Non-point Source Pollution
- Other related topics as requested

Presentations are always tailored to the specific audience and age-group.

Interested in learning more about these topics on your own? AWARE also offers many educational brochures and literature available on our website.



Contact Us:

AWAREWatershedGroup@gmail.com

AWARE

c/o Mill Creek MetroParks
7574 Columbiana-Canfield Road
P.O. Box 596
Canfield, OH 44406
330-702-3000



Alliance for Watershed Action
and Resource Education

Funding for this brochure was made possible through a grant from River Network
www.rivernetnetwork.org



AWARE

ALLIANCE FOR WATERSHED ACTION
& RESOURCE EDUCATION

*Improving quality of life in the
Watersheds of Mill Creek,
Meander Creek,
and Yellow Creek*



www.watershed.cboss.com



WAP Goal: Education

WHAT IS A WATERSHED?

A **watershed** is an area of land that drains to a common point, such as a stream, river, lake, or ocean. No matter where you are, you are in a watershed!

Things we do on our own property can affect water quality throughout the watershed. Maintaining a healthy watershed is vital for a clean environment, strong economy, and healthy community. Think about it: many of us obtain our drinking water directly from the local watershed!



PROTECTING MAHONING COUNTY WATERSHEDS

AWARE was formed in 1999 and is comprised of partnering agencies throughout Mahoning County along with state and federal agencies and private citizens that share a common goal to improve the region's water sources.

Changes to our natural landscape have degraded our watersheds in many ways: from flooding to polluted waterways to impacts on wildlife habitat. Watersheds do not follow political boundaries and so protection of watershed resources requires partnerships and cooperation between local governments, communities, residents and other stakeholders. This watershed approach provides for sound science and creative problem-solving to reduce erosion, flood damage, and the loss of green space while improving water quality.

By working together we can protect and revitalize our local watersheds!

AWARE INCLUDES REPRESENTATIVES FROM:



And other **Community Representatives** and **Citizens** who are concerned about their local environment

HOW CAN YOU HELP YOUR WATERSHED?



Install Rain Barrels at home



Plant a Rain Garden



Pick Up Pet Waste



Use Lawn Fertilizers with ZERO Phosphate



Keep Storm Drains Clear and Free of Debris (including trash and lawn clippings)



Protect streams with Native Plant Buffers



AWARE's WATERSHEDS

AWARE works within the Mill Creek, Meander Creek, and Yellow Creek Watersheds, which are all tributaries to the Mahoning River and eventually drain into the Ohio River. **AWARE** is currently developing and/or implementing Watershed Action Plans for all 3 of these watersheds.

Meander Creek

The Meander Creek Watershed drains 86 square miles in western Mahoning and Trumbull Counties, including portions of the Townships of Austintown, Berlin, Canfield, Ellsworth, Goshen, Green, Jackson, Milton, and Weathersfield as well as the incorporated areas of Canfield, Lordstown, and Niles. The Meander Creek Reservoir is the drinking water source for over 200,000 residents in the Mahoning Valley.



Mill Creek

The Mill Creek Watershed drains 78 square miles in central Mahoning and northern Columbiana counties, including portions of the Townships of Austintown, Beaver, Boardman, Canfield, Fairfield, Green, and Youngstown, as well as the incorporated areas of Canfield, Columbiana, and Youngstown. Mill Creek flows through historic Mill Creek Park which was established in 1891.



Yellow Creek

The Yellow Creek Watershed drains an area of nearly 40 square miles in eastern Mahoning and Columbiana Counties, including portions of the Townships of Beaver, Boardman, Fairfield, Poland, Springfield and Unity, as well as the incorporated areas of Columbiana, New Middletown, Poland, and Struthers. Two large reservoirs along Yellow Creek provide drinking water for 45,000 residents in Mahoning County.

WATERSHED HIGHLIGHTS

Mill Creek MetroParks Facilities

- 1 Vickers Nature Preserve/Buckeye Horse Park (261 Acres)
- 2 Sawmill Creek Preserve (154 Acres)
- 3 MetroParks Farm (400 Acres)
- 4 Mill Creek Park (1573 Acres)
- 5 Mill Creek Preserve (303 Acres)
- 6 Mill Creek Wildlife Sanctuary (264 Acres)
- 7 Hitchcock Woods (982 Acres)
- 8 Cranberry Run Headwaters (25 Acres)
- 9 Yellow Creek Park (76 Acres)

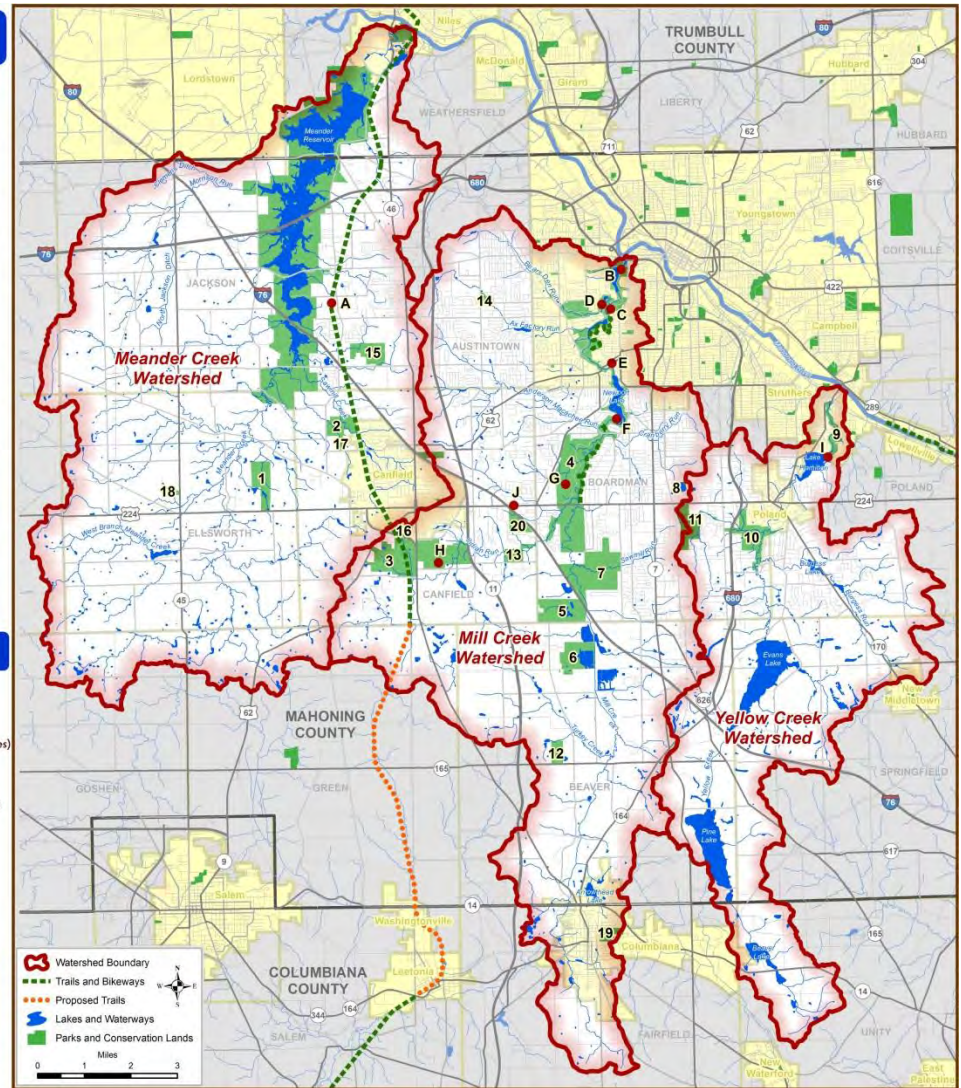
Township, Municipal, and State Parks

- 10 Poland Woods - Poland Village and Township (223 Acres)
- 11 Boardman Park - Boardman Township (178 Acres)
- 12 Beaver Township Nature Preserve - Beaver Township (80 Acres)
- 13 Camp Stambaugh - Boy Scouts of America (225 Acres)
- 14 Trustee's Park - Austintown Township (12 Acres)
- 15 Austintown Township Park - Austintown Township (197 Acres)
- 16 Fair Park - City of Canfield (36 Acres)
- 17 Canfield Township Park - Canfield Township (24 Acres)
- 18 Ellsworth Township Park - Ellsworth Township (10 Acres)
- 19 Firestone Park - City of Columbiana (76 Acres)
- 20 Kyle Woods State Nature Preserve - ODNR (82 Acres)



Points of Interest

- | | |
|---|--------------------------|
| A MetroParks Bikeway | F Newport Wetlands |
| B Fellows Riverside Gardens | G Mill Creek Golf Course |
| C Ford Nature Center | H Canfield Fairgrounds |
| D Pioneer Pavilion and Mill Creek Furnace | I Hopewell Furnace |
| E Lanterman's Mill and Covered Bridge | J Loghurst |



Mill Creek Preserve

- General
 - Boardman Township
 - Western Reserve Rd. and Tippecanoe Rd.
 - Established 2005
 - 328.29 acres
 - Acquired through the Clean Ohio Conservation Fund and the Water Resource Restoration Sponsor Program (no cost to the MetroParks)
- Notable Features
 - Woodland Habitat
 - Wetland Habitat
 - Grassland/Prairie Habitat
 - Multiple Ponds – Aquatic Habitat
 - Elm Tree Demonstration Area (partnership with the Men's Garden Club of Youngstown)
 - Hiking Trails



37

Cranberry Run Headwaters

- General
 - Boardman Township
 - Tanglewood Drive
 - Established 2003
 - 26.19 acres
 - Acquired by the Mahoning River Consortium through the Clean Ohio Conservation Fund and Mahoning County Land Bank
- Notable Features
 - Headwaters of Cranberry Run (tributary to Mill Creek)



MetroParks Properties/Facilities

millcreekmetroparks.org

- Conservation Easements
 - 527 acres
 - 12 Riparian Easements on Mill Creek, Yellow Creek, and various tributaries of Mill Creek, including Indian Run, Cranberry Run and Axe Factory Run
 - 3 Wetland Easements
 - Easements acquired through the Clean Ohio Conservation Fund and Ohio EPA Clean Water 319 grants
 - Most of the easements are co-held by the Mahoning County Soil & Water Conservation District and Mill Creek MetroParks



Conservation Easements

millcreekmetroparks.org

23

Mill Creek Wildlife Sanctuary

- General
 - Beaver Township
 - Callie Road
 - Established 2004
 - 264.23 acres
 - Acquired through the Clean Ohio Conservation Fund and ODNR NatureWorks (minimal cost to the MetroParks)
- Notable Features
 - Bald Eagle Nest
 - 22 Ponds (160 acres) providing a diverse Aquatic and Wetland Habitat
 - Managed for ecological biodiversity, specifically targeting shore birds
 - Over 240 species of birds identified, 47 of which listed as endangered, threatened or species of concern
 - Woodland Habitat
 - Grassland/Meadow Habitat
 - Observation Deck



MetroParks Properties/Facilities

millcreekmetroparks.org



38



MetroParks Properties/Facilities

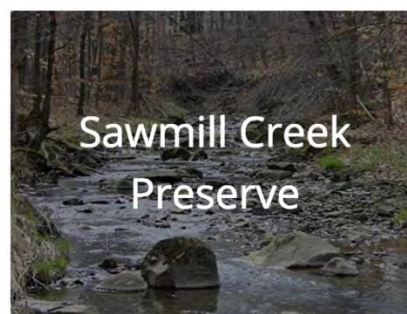
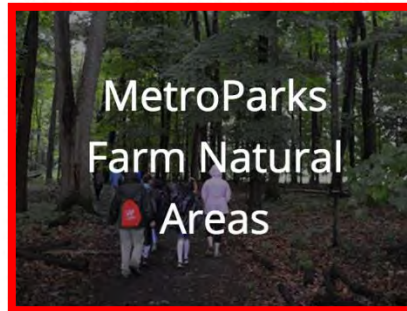
millcreekmetroparks.org

34



WAP Goal: Land Preservation

Located In Mill Creek Watershed





MetroParks Farm Stream Restoration



MetroParks Farm Pond Restoration



Mill Creek Preserve Wetlands Restoration



Garden District Wildlife Garden

Mill Creek MetroParks Awarded Grants from Ohio EPA for Innovative Stormwater Projects:

In 2010 Mill Creek MetroParks was awarded a **Surface Water Improvement Fund (SWIF)** grant for the construction of a demonstration rain garden at the MetroParks Farm in Canfield. The MetroParks was also awarded a **Section 319** grant for the resurfacing of the Newport Wetlands parking lot with permeable pavers and construction of a bioswale. Each project not only helps improve water quality in local streams and wetlands, but are valuable educational tools.



MetroParks Farm Rain Garden



Permeable Pavers in Mill Creek Park



Lanterman's Mill Parking Bio-swale



Mahoning Avenue Bridge Bio-swale



Lily Pond Bio-swale



Lily Pond Permeable Pavers

Lake Newport/Mill Creek Watershed Testing

November 23, 2015
Ryan Tekac, MS, RS, REHS
Director, Environmental Division



Public Health
Prevent. Promote. Protect.

Mahoning County District



Public Health
Prevent. Promote. Protect.

Mahoning County District Board of Health

Conclusion

- Week 1 - 12 Geometric Mean of Lake 84.08822878
Week 1 - 12 Geometric Mean w/ Watershed 205.6738494
- The rainfall trends indicate a baseline for Lake Newport:
 - Levels will elevate 24-48 hours after a rainfall event and will decrease 72-96 hours.
- The deeper and more sunlit lake areas have lower E. coli levels.
 - Bacteria do not prefer UV conditions
- The Wetland area is providing some form of bacterial cleanup.
 - Studies have been done that prove wetlands have a pollution uptake in the plants.
 - Retention time on consecutive rain events decrease
- There is not just one contributing factor causing the problem.
 - CSOs/Wildlife/AG manure management/ AG fertilizer application/failing septic systems/ Domestic animal management.
 - Non-point source pollution is very difficult to locate and control.



Public Health
Prevent. Promote. Protect.

Mahoning County District Board of Health



Lake Newport Testing

- Agreement to test for 12 consecutive weeks at 3 predetermined locations. Sampled 24- 48 hours after rain events.
- Expanded to additional sites in the watershed – Total of 9 locations
- Considered a Class B Primary Contact Water – OAC 3745-1-07
 - Water that supports or potentially support, occasional primary contact recreational activities. All surface waters of the state are designated as designated as bathing water.

0ml)

161

3745-1-07
Table 7-12
Statewide numerical criteria for the protection of recreation uses. These criteria apply statewide and control the bathing area at all times during the recreation season.

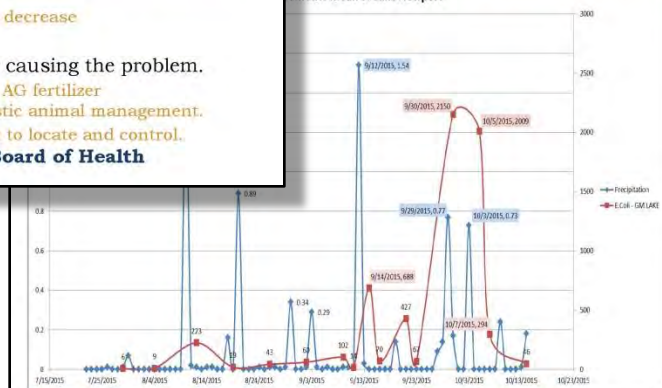
Recreation use	Geometric mean (per 100 ml)	Single sample maximum (per 100 ml)
Bathing water	124	133
Class A primary contact recreation	124	294
Class B primary contact recreation	181	323
Class C primary contact recreation	204	342
Secondary contact recreation	1830	1050

Changes to state in domestic use criteria shall not be exceeded in more than two per cent of the samples taken during any thirty-day period.
* This criteria shall be used for the issuance of beach and bathing water advisories.

County District Board of Health

GM of Lake Newport

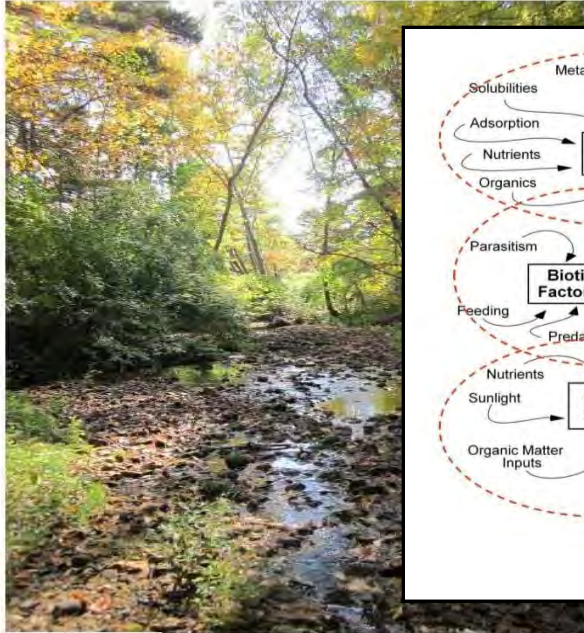
Geometric Mean of Lake Newport



Public Health
Prevent. Promote. Protect.

Mahoning County District Board of Health

2012 Mill Creek Watershed Habitat Assessment Level 3 Project Study Plan Results



Cranberry Run

This project study plan was financed through a Sub-grant from the Ohio EPA with funds from the State of Ohio. The contents and views, including any opinions, findings, or conclusions or recommendations contained in this product are those of the authors and have not been subject to any Ohio EPA peer or administrative review.

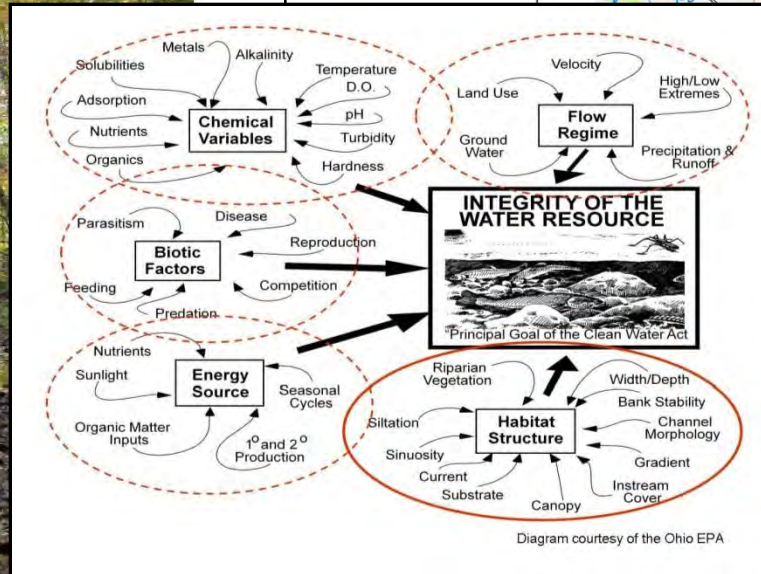
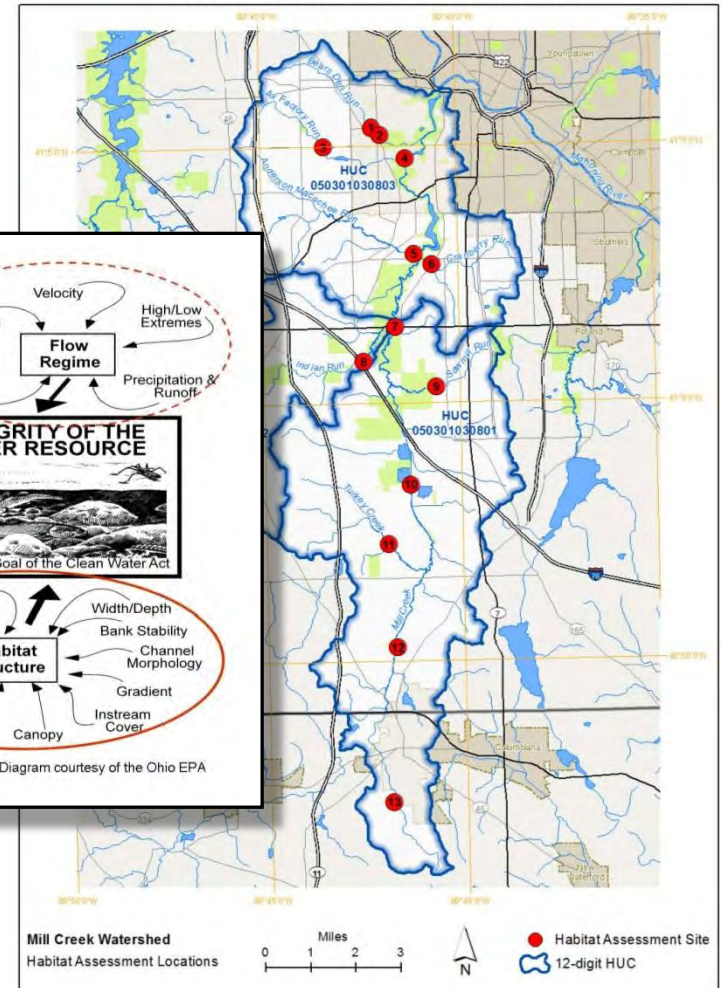


Figure 1. Map of QHEI Assessment Locations



The following presentation outlines;

■ Review:

- Mahoning County Watersheds
- Mill Creek Watershed
- 2015: Lake Newport/Mill Creek Watershed Testing

■ Mill Creek Watershed Action Plan:

- Education
- Land Preservation/Protection
- Restoration of streams, floodplains and wetlands
- Reduction of sedimentation and storm water
- Data Collection

■ Our Partners:

- Mahoning County District Board of Health
- City of Youngstown
- Mahoning County Engineer
- Mahoning County Soil & Water Conservation District
- Eastgate Regional Council of Governments
- Ohio EPA

■ Questions:



Presentation Overview

- There is not just one contributing factor causing the problem.
- CSOs/Wildlife/AG manure management/ AG fertilizer application/failing septic systems/ Domestic animal management.
 - Non-point source pollution is very difficult to locate and control.
- Mahoning County District Board of Health**



Other Agency Participation

- Youngstown City Sanitary - Monitor the CSOs and provide the information to the Mill Creek Metro Parks
- Mill Creek MetroParks to evaluate their Privies(outhouse) for water tightness.
- Mill Creek MetroParks to monitor Wildlife activities
- Soil and Water to provide education and support for the Agricultural Industry
- Mahoning County Sanitary to continue with monitoring discharges.

• **PUBLIC PARTICIPATION IS KEY FOR WATERSHED AWARENESS**



Public Health
Prevent. Promote. Protect.

Mahoning County District Board of Health



**AWARE INCLUDES
REPRESENTATIVES FROM:**



Audubon

OhioEPA

Ohio Environmental Protection Agency



Western Reserve
Land Conservancy

MEANDER WATER

YSU AQUA

And other **Community Representatives** and **Citizens** who are concerned about their local environment



Our Partners: Participation Is Key

What have our partners been doing?:

- Mahoning County District Board of Health
 - Household Sewage Program
- City of Youngstown
 - CSO's & Long Term Control Plan
- Mahoning County Engineer
 - Wastewater Treatment Facilities
 - Stormwater
- Mahoning County Soil & Water Conservation District and Farm Bureau
 - Erosion Control
 - Fertilizer Application
- Eastgate Regional Council of Governments
 - Clean Ohio Program Local Administrator
- Ohio Environmental Protection Agency
 - Regulatory Updates



Our Partners: Participation Is Key

What's Next?

- Agency's have to continue with their programs.
 - **Mahoning County Board of Health Household Sewage Program**
 - Real Estate Transfers
 - Onsite Programs
 - New construction
 - Additions
 - Re-plats
 - Structure Replacements
 - Complaints
 - Operation and Maintenance Program
 - The Ohio Administrative Code 3701-29 – requires all LHDs to have an O&M program in place or working towards one that will include all septic systems.
 - MCDBOH adopted an O&M program in June of 1997
 - All aeration systems installed, altered or repaired after the adoption date shall enter into the program
 - Currently developing a full O&M program to include all STS in the program



Public Health
Prevent. Promote. Protect.

Mahoning County District Board of Health



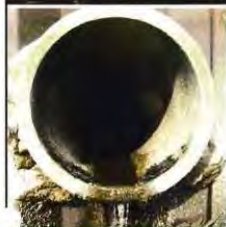
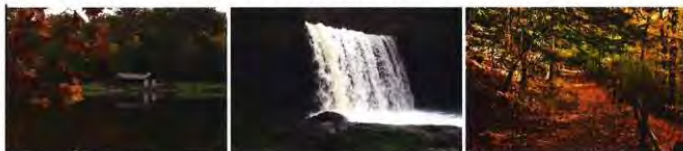
Our Partners: MC District Board of Health



City of Youngstown, Ohio

Combined Sewer Overflow Long Term Control Plan

Technical Report
Final CSO Control Alternatives



ms consultants, inc.
engineers, architects, planners

333 E. Federal Street
Youngstown, Ohio 44503
330-744-5321



December 2014

5.3 Implementation Schedule Milestones Mill Creek Improvements



The following are milestones for Mill Creek sewer improvements.

Initiate Design Mill Creek Part I & II:	July 11, 2020
Complete and Submit to EPA the PDR:	April 15, 2021
Initiate Construction Mill Creek Part I:	April 5, 2024
Substantial Completion & Place in Service Part I:	January 2, 2026
Initiate Construction Mill Creek Part II:	January 16, 2026
Substantial Completion & Place in Service Part II:	January 1, 2028
Initiate Construction Mill Creek Part III:	December 4, 2029
Substantial Completion & Place in Service Mill Creek Part III:	January 7, 2032
Initiate Construction Mill Creek Part IV:	October 31, 2031
Substantial Completion & Place in Service Mill Creek Part IV:	December 30, 2033

N: 61/04314 CSO Initiative/Admin/Reports/ 2014 Final Report

Alternative 1 is proposed to be implemented in four parts as listed below:

- Part 1: Design and construct gravity sewer from RC19 (CSO 6004) to RC18 (6005), \$5.6 Million
- Part 2: Design and construct gravity sewer from RC18 (6005) to RC15 (6006), \$10.8 Million
- Part 3: Design and construct gravity sewer from RC15 (6006) to Glenwood and Almyra Avenue, \$16.5 Million
- Part 4: Design and construct gravity sewer from Glenwood and Almyra Avenue to MC1, \$13.8 Million.



Our Partners: City of Youngstown

Mahoning County Farm Bureau presents
Water Quality Celebration

Reaching that Watershed Moment

June 22 | 4:30-8:30 P.M.

Mill Creek MetroParks Farm
7574 Columbiana Canfield Rd. | Canfield

Join Mahoning County Farm Bureau as we take the lead in bringing collaborators together with landowners to create that "watershed moment" and realize the need to protect and improve water quality! This interactive event will focus on everyone's effect on water quality, whether you are a landowner fertilizing your lawn or a farmer spreading nutrients on your fields.

Activities will include:

- Drone demonstration
- Soil health and sampling
- Composting seminar
- Precision Ag & Farm equipment
- Hands on activities
- And much more!

Questions? Contact the Mahoning County Farm Bureau at 440.437.8700 or nefarmbu@fairpoint.net.



Mahoning County Farm Bureau
8220 State Route 45, Ste B
Orwell, OH 44076
mahoningfb.org



Our Partners: SWCD & Farm Bureau



2017 WATER QUALITY STATUS REPORT

Across the state, farmers are taking up the call to work together to improve Ohio's water quality.

Thousands of farmers have completed continuing education training on fertilizer application to help reduce nutrient loss. They've put in cover crops to enrich the soil, developed nutrient management plans, opened their farms up to research and worked in their communities to identify both challenges and practical solutions to Ohio's water quality.

These actions are all part of Ohio Farm Bureau's comprehensive Water Quality Action Plan, started in September 2015. Ohio Farm Bureau has invested \$2.3 million of member funds to help farmers improve and protect water quality for all Ohioans. With the help of dozens of partnering organizations, these

proactive efforts have drawn national attention and accolades, including American Farm Bureau's prestigious New Horizon Award, which Ohio received for its county water quality grants program. Ohio's farmers and partner organizations will continue to work together to find ways to improve the state's water and demonstrate that Ohio can have both clean water and productive farming.

This water quality report is part of a series of reports Ohio Farm Bureau has produced to show the strides farmers have made in improving and protecting one of the state's most valuable resources.



FARMERSFORWATER.ORG

www.ofb.org

www.farmersforwater.org



Clean Ohio Conservation Fund Program

The Clean Ohio Conservation Fund program was established in 2000 by the voters of Ohio to provide local communities monetary assistance to preserve open space, protect sensitive ecosystems, expand local park footprints, and restore streams through a local process. Mahoning and Trumbull counties comprise District 6, with Eastgate being the local administrator of the funds.

Members of the District 6 Natural Resource Assistance Council (NRAC) review, score, and rank each eligible project for funding. A current list of NRAC members can be found [here](#).

Brownfield Revitalization

Farmland Preservation

Green Space Conservation

Recreational Trails

Green Space Conservation
The Clean Ohio Green Space Conservation Program helps to fund preservation of open spaces, sensitive ecological areas, and stream corridors.
» Click here for more information

<https://development.ohio.gov/cleanohio>



Greening CSO Plans:

Planning and Modeling Green Infrastructure for
Combined Sewer Overflow (CSO) Control

U.S. Environmental Protection Agency

March 2014

Publication # 832-R-14-001

Photo courtesy of Abbey Hall, U.S. EPA

www.epa.gov



**Memo: Analysis of Green
Infrastructure for
Stormwater Control and its
viability in achieving
financially sustainable,
effective sewer and water
systems**

Greater Ohio Policy Center

April 2016

www.greaterohio.org

The following presentation outlines;

- **Review:**
 - Mahoning County Watersheds
 - Mill Creek Watershed
 - 2015: Lake Newport/Mill Creek Watershed Testing
- **Mill Creek Watershed Action Plan:**
 - Education
 - Land Preservation/Protection
 - Restoration of streams, floodplains and wetlands
 - Reduction of sedimentation and storm water
 - Data Collection
- **Our Partners:**
 - Mahoning County District Board of Health
 - City of Youngstown
 - Mahoning County Engineer
 - Mahoning County Soil & Water Conservation District
 - Eastgate Regional Council of Governments
 - Ohio EPA
- **Questions:**



Presentation Overview



EXPLORE. EXPERIENCE. ENJOY.

millcreekmetroparks.org

