

The Mill Creek Watershed

A Natural Habitat and Water Management System

Mill Creek is a small urban watershed in Cuyahoga County, Ohio. The watershed drains storm water to the creek from approximately 19 square miles and includes parts of nine local jurisdictions.

The waters that create Mill Creek originate in the cities of Shaker Heights and Beachwood and flow southwest for 12.2 miles before discharging into the Cuyahoga River in Cuyahoga Heights. Along the way, five tributaries feed the main creek. From beginning to end the creek drops steeply, with an average descent of 53.5 feet per mile, as Busby Brook, Wolf Creek, and the Johnston Parkway, Warner Road and Mapletown Branches make their contributions.

The geology of the Mill Creek watershed helps to shape its form and function.

Dense soil layers below the surface keep water from filtering down. At the same time, looser surface soils erode easily. These characteristics mean that large amounts of storm water move quickly across the land and into the creek, carrying sediment, eroding channels and flooding basements.

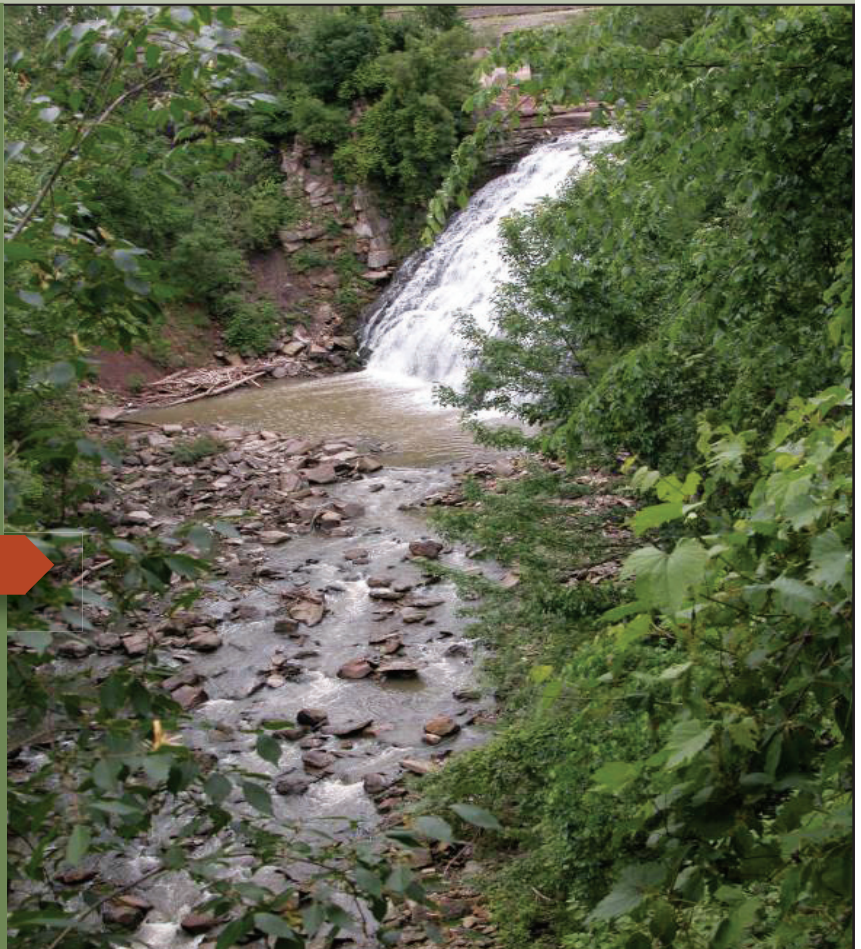
A WATERSHED

is an area of land within whose boundaries all water drains to a common location.

Watersheds are generally named for the river or lake into which the water drains, such as Mill Creek, within the Cuyahoga and Lake Erie watersheds.

Watersheds manage storm water by:

- Holding water on the surface to allow for evaporation
- Filtering water downward through the soil to retain as groundwater
- Directing surface water as it flows toward streams and rivers.



MILL CREEK FALLS

One of Mill Creek's main features is its 45-foot-high waterfall, the largest in Cuyahoga County, located in the Cleveland Metroparks Garfield Reservation.

The Reservation opened in 1895 as Newburg Park. Much of the beautiful stonework in the reservation dates from the original park, which became part of Cleveland Metroparks in 1986.

Factors Affecting the Mill Creek Watershed

The Mill Creek Watershed is affected by the amount of development that has occurred over the past 150 years. The vast majority of the creek flows through an urban landscape of highways, neighborhoods, businesses and industries. These changes in land use have impacted the stream habitat, adjacent floodplains and riparian corridors, creating erosion and sedimentation while increasing the quantity and decreasing the quality of stormwater runoff.

Flooding and Erosion

Flooding and erosion are persistent problems in many of the watershed communities. These problems are created by a number of causes, including:

- 1) loss of habitat and degradation of the natural systems that manage storm water,
- 2) large expanses of impervious surfaces that increase storm water runoff,
- 3) buildings, roads and other structures that encroach on flood plains and modify stream channels, and
- 4) antiquated storm sewers that can no longer handle the increased volume of storm water.



Degraded Habitat Quality

Few areas of natural habitat remain in the Mill Creek Watershed. Stream channels, riparian corridors, floodplains and wetlands have been lost, fragmented or otherwise altered through encroaching development.

These habitat changes limit the watershed's ability to support aquatic life, effectively manage storm water runoff and pollutants, minimize channel erosion and protect properties from flooding and erosion.



Poor Water Quality

Approximately 76% of Mill Creek's poor water quality is due to aged and failing common trench sewer systems and urban runoff.

With age, common trench sewers pipes form cracks and begin to break down, causing sanitary sewage to overflow into streams. This adds high concentrations of bacteria and nutrients into Mill Creek.

Nonpoint pollution, or urban runoff, is caused when storm water picks up and carries pollutants such as trace metals, fertilizers and pesticides off streets, parking lots and lawns into waterways.



Pollutant Problems

Fecal Bacteria-

High concentrations of E.coli reduce recreational opportunities by increasing the risk of contracting a water-borne illness.

Excessive Nutrients-

Too much phosphorus and nitrogen from landscape fertilizers washing into waterways can degrade both water quality and aquatic life.

Trace Heavy Metals-

Metals such as lead and manganese become embedded in stream soils, causing growth defects in fish and affecting human fish consumption.

A Plan for Restoring & Protecting the Mill Creek Watershed

Restoring and protecting the Mill Creek Watershed enhances the community's quality of life by improving habitat and water quality and minimizing flooding and erosion damage. The Mill Creek Watershed Community Action Plan identifies two elements that need to be embraced to provide effective watershed restoration.

STRENGTHEN THE MILL CREEK WATERSHED PARTNERSHIP

The Mill Creek Watershed Partnership's mission is to develop and implement the Watershed Action Plan in order to reach its restoration and protection goals.

To do this, the Partnership needs official recognition and support from the communities in the watershed.

Many of the remedial actions needed to carry out the plan will require ongoing support and funding from local municipalities, businesses and members of the communities that will benefit from these actions.

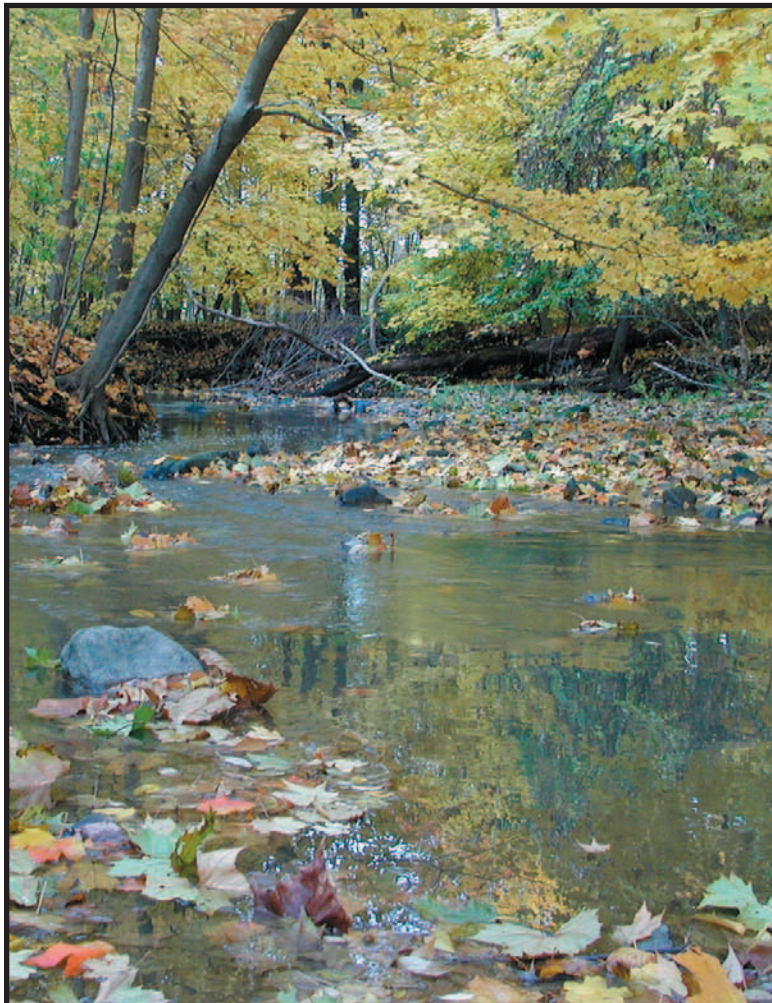
The Partnership needs to expand its membership, involve local officials and community groups, and increase public awareness, education, understanding and support for the watershed.

SET RESTORATION AND PROTECTION GOALS

The Partnership must set goals and priorities that address each of the factors that negatively impact the Mill Creek Watershed.

Each goal should then be broken down into specific tasks, with the following items identified:

- responsible sponsors,
- restoration actions and timing,
- evaluation mechanisms and measurable benchmarks,
- funding sources and status.



GOALS SUGGESTED FOR THE MILL CREEK WATERSHED ACTION PLAN

Goal 1
Improve Public Education about the Mill Creek Watershed

Goal 2
Continue Watershed Planning & Research

Goal 3
Develop Floodplain Management Plan

Goal 4
Protection and Restoration of Streams, Riparian Zones and Wetlands

Goal 5
Develop a Sanitary Sewer Management Plan

Goal 6
Improve Storm Water Management and Erosion and Sediment Control

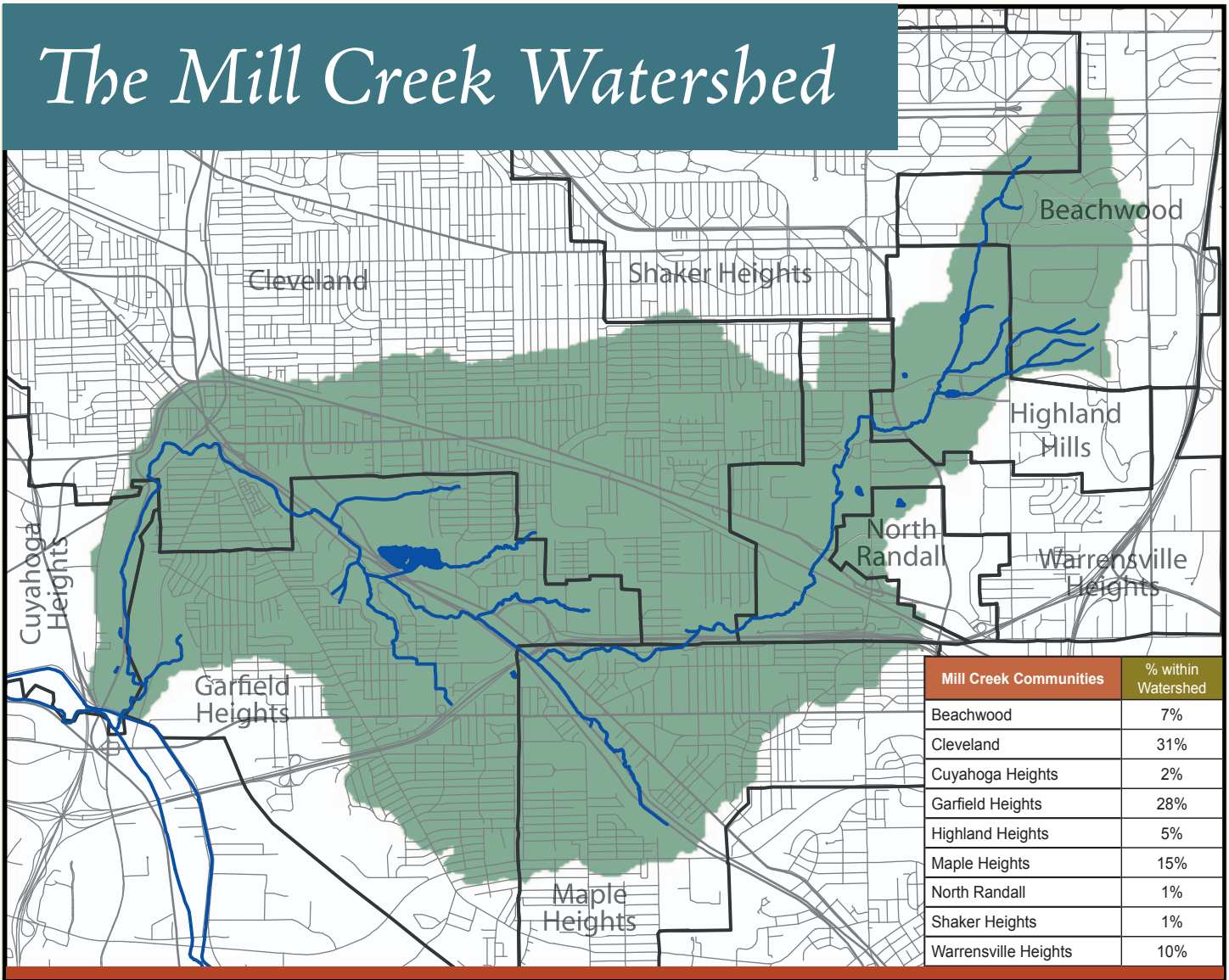
Goal 7
Address Water Quality and Pollutants

Goal 8
Explore Alternative Site Design Options

Goal 9
Develop a Tree Canopy Cover Management Plan

Goal 10
Explore New Funding Mechanisms for Watershed Stewardship

The Mill Creek Watershed



Support The Mill Creek Watershed Partnership

The Mill Creek Watershed Partnership is a community-based organization of citizens, businesses, government agencies, and community groups dedicated to working together for the improvement of the Mill Creek Watershed.

You can help restore and protect the Mill Creek Watershed. Get involved.

For more information, and to participate in the Mill Creek Partnership, please contact:

The Cuyahoga River Remedial Action Plan- Jane Goodman (216) 241-2414 x 610

The Northeast Ohio Regional Sewer District- Mark Link & Linda Mayer-Mack (216) 881-6600

The Cuyahoga County Board of Health- Harry Stark (216) 201-2001 x 1205

