

# Progressive Stormwater Management in Lake County

By Keith Jones, Director, Lake County Stormwater Management Department

The line of storms that dropped up to ten inches of rain over much of Lake County on July 27 and 28 may well become known as “the storm of the century.” The U.S. Geological Survey reported its best estimate of the flow in the Grand River at Painesville during the event was 30,000 cubic feet per second. Picture a football field of water almost a foot deep flowing by where you are standing every second.

This surely was an extreme storm event and the water runoff it generated caused millions of dollars in damage to homes, roads, bridges, parks and other properties throughout the county. The Board of Lake County Commissioners, local governments, Stormwater Management Department, Lake Metroparks, County Engineer's Office, Soil and Water Conservation District, Chagrin River Watershed Partners, the County Health District and others continue to work with local, state and federal disaster assistance offices to repair the damages.

The fact is that we cannot design and build our communities to withstand the forces of such an event. But what about during more normal times of rainfall and snowmelt runoff, as water sheds from the drainages of Lake County? A “watershed” refers to an area of land from which water runs off to a common receiving lake, river, stream or wetland. All waters of Lake County drain eventually to the north to Lake Erie, itself part of the Great Lakes Watershed or drainage basin, the largest source of freshwater on the planet.

In August 2003, the Lake County Stormwater Management Department (SMD) was created to undertake stormwater management at what is felt to be the most efficient scale: by watershed. Major watersheds of Lake County include the Chagrin, Mentor Marsh, the Grand and Arcola Creek watersheds. The Lake County SMD works with its 13 member communities, from Willoughby Hills to Madison Township, and with Lake Metroparks and others, to restore and protect into the future the invaluable water resources of our county.

Normal stormwater runoff, also known as “nonpoint source runoff,” carries pollutants off the land and into our waterways. The most common pollutants include oil and other petroleum products, sediment, litter/trash, and herbicides, pesticides and fertilizer from lawns and landscaped areas. Water quality effects are magnified as more of Lake County becomes developed and paved, and as impervious hard surfaces replace natural, undisturbed ground. Water also runs more rapidly off hard surfaces, causing soil erosion

and destruction to natural ecosystems and habitats.

The Lake County SMD works with its member communities and agency partners to satisfy the federal/state “Phase II” mandate to clean up stormwater runoff. This includes a combination of public education, water quality monitoring, reviews of planned developments for stormwater runoff control, and compliance with local environmental laws. In addition, the SMD provides for the maintenance of waterways and capital improvement projects to store and treat stormwater runoff for its Level II service communities.



Indian Point Park AFTER July '06 flood



Indian Point Park BEFORE the flood (October 2003)



The SMD also is well along with plans to restore several streams to more natural conditions and with installing cutting-edge stormwater best management practices. Permanent preservation of wetlands and stream corridors is also a priority.

*The Grand River overflows its banks below S.R. 528 bridge at Hidden Valley Park*

The SMD is funded through user fees of \$30 per year per household and a proportional amount based on impervious area for non-residential properties. Visit [www.lakecountyohio.org/smd](http://www.lakecountyohio.org/smd) for more information, or call the department at (440) 350-2770.



Lake Metroparks is a primary landholder of some of the most beautiful and pristine places in Lake County, not to mention Ohio and the entire Lake Erie watershed. Many Metroparks properties include the streams, wetlands, rivers, lakes and ponds that are of most importance to our treasured plants and wildlife, and to the public that makes thousands of trips to the parks annually to enjoy natural resource protection at its best.

Lake Metroparks and the Lake County Stormwater Management Department, with the help of many others, will continue the work of protecting and preserving the waters of Lake County. The storms and floods of July 27 and 28 dealt a serious blow that reinforces the need to strengthen our efforts to protect the watersheds of the Chagrin, Mentor Marsh, the Grand and Arcola Creek through effective and proactive stormwater management.



*The Chagrin River*