

Water Quality

2025



Mills Creek Report Card



Floodplain Enhancement at Mills Creek Golf Course

In November of 2025, the Mills Creek Floodplain Enhancement Project broke ground. A combined effort of the Erie Conservation District, Ohio Division of Natural Resources, and the City of Sandusky, the project aims to improve approximately 2,640 linear feet of stream with a series of riparian wetland creations, floodplain enhancement, and stream stabilization within the Mills Creek Golf Course. When this project is complete, the watershed will have an additional 4 acres of beneficial wetland.

E2Orio

Ecological Benefits of the Project



Wetlands - Wetlands filter pollutants from the upper watershed, reducing the amount of nutrients and sediment that enter the lake



Stream Stabilization - Stream stabilization with rock reduces the risk of erosion along the streambank, keeping sediment out of the creek



Floodplain Enhancement - Floodplain enhancement increases holding capacity for excess stormwater, reducing the risk of flooding



Native Plants - Using native plants throughout construction increases habitat for native pollinators, macroinvertebrates, reptiles, and amphibians

Be the Solution!

In 2010, after being assessed by the Ohio Environmental Protection Agency, Mills Creek was placed on the "303d list" for impaired waters of the United States of America. In order to get off this impairment list, we need to greatly reduce the sediment, nutrients, and bacteria degrading our stream. These pollutants come from urban, agricultural, and industrial areas, so it will take all of us to improve Mills Creek! Get inspired below to be the change.

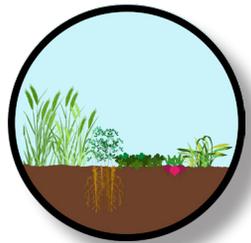
Farmer



Follow the 4R's of fertilizer use: Right source, Right amount, Right place, Right time.



Plant vegetative buffers along streams and ditches.



Don't leave your field bare. Reduce tillage & plant cover crops!

Homeowner & Community



Inspect and pump out your septic system every 3-5 years.



Promote the use of MORE green infrastructure in your community.



Plant a rain garden or install a rain barrel at home.

Learn More & Get Involved

If you would like to explore our stream monitoring data, learn more about our coast and local watersheds, or have a passion for conservation visit the sites below by scanning the QR code.



**Firelands Coastal
Tributaries Watershed**



**Old Woman Creek
NERR**



**Erie Conservation
District**

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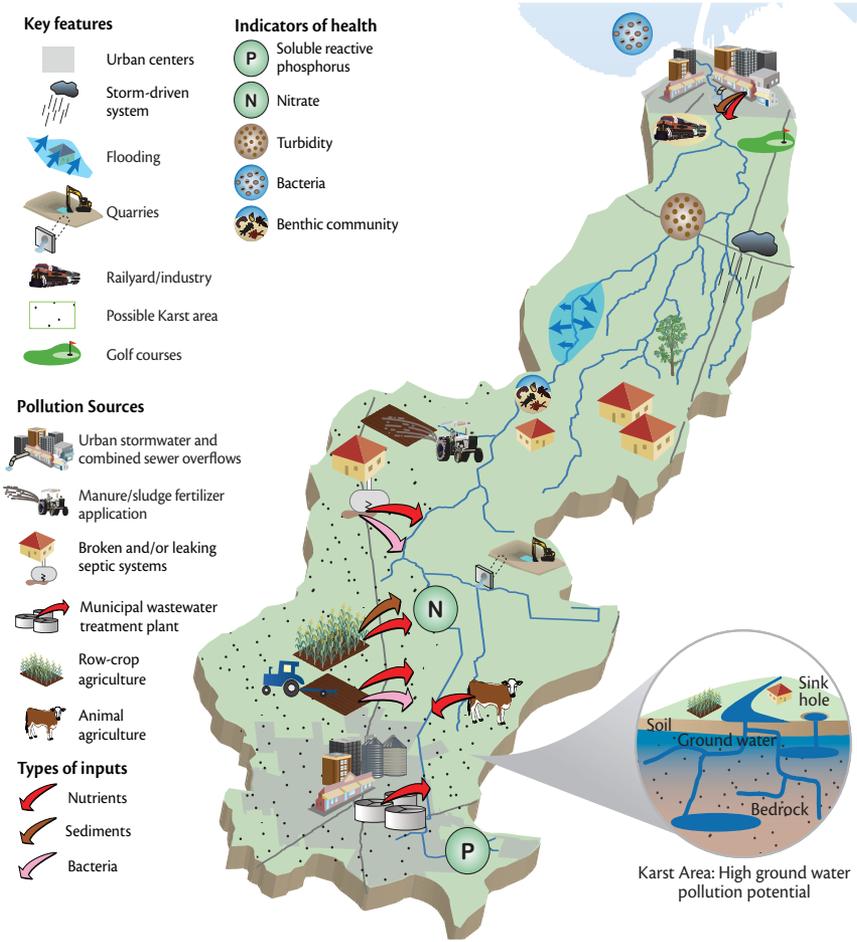
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Photo Credit: Erie SWCD

Watershed at a Glance

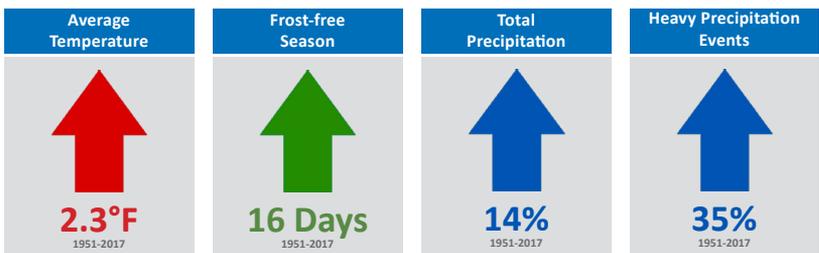
Mills Creek is a 42.4 square mile watershed with unique karst geology: sinkholes, springs, and fractured bedrock connecting the surface and groundwater at several locations. The watershed is a mix of 3 landuses: Agriculture (67%), Urban (26%) and Natural (7%), that flows from Bellevue to Sandusky.



A Storm-Driven System

When it rains, it drains; and these storm events move pollutants through the watershed. When Mills Creek's flow is low to normal, we often find little nutrient and sediment pollution. However, during and after a storm, the creek will turn light brown from sediment and often carries excess nutrients that contribute to algal blooms in Lake Erie. Storms are more intense and frequent in the spring and fall, leading to higher pollutant concentrations than in the summer.

Climate Trends in the Great Lakes



These trends are an analysis of weather observations provided by the National Oceanic and Atmospheric Administration's (NOAA) Regional Integrated Sciences and Assessment Team. While warmer temps & increased growing days benefit food production, increases in precipitation and intensity could drive more polluted run off resulting in more algal blooms.

For more information visit: glisa.umich.edu/gl-climate-factsheet-refs

Collecting Data

Monthly water samples were collected and analyzed by volunteers and staff from Old Woman Creek Reserve and the Erie Conservation District from April through November. As well as, annual aquatic macroinvertebrate sampling and identification that is performed by staff and volunteers. These indicators are combined to develop the overall scores of individual sites and the overall watershed score. More information about our thresholds and monitoring plan can be viewed at erieconserves.org/watershed-program.

Indicators of Stream Health



Nitrogen, monitored as *nitrate*, is found in fertilizer and untreated waste. In excess, this chemical can lead to algal blooms.



Phosphorus, monitored as *soluble reactive phosphorus*, is found in fertilizer and untreated waste. In excess, this chemical can lead to algal blooms.



Turbidity is a measure of cloudiness of the water typically caused by sediment-laden runoff. Excessive sediment in the water can clog fish gills and cover macroinvertebrate habitat and fish eggs.



Benthic macroinvertebrates are aquatic organisms with no backbone and are visible to the naked eye. Some are very sensitive to pollution, making them great indicators of water health.



Vital Sign Indicators are a collective of *pH*, *temperature*, *dissolved oxygen*, and *ammonia observations*. Like our blood pressure, these parameters can identify if a serious problem is present and if one fails the whole indicator fails.

Indicator of human safety



Bacteria, measured as *E. coli*, are microorganisms commonly found in untreated waste. Many bacteria are harmful to human health and can restrict our drinking and recreational water uses.

What do these grades mean?



Previous Watershed Scores

In 2021, the nitrogen threshold was increased to be more consistent with aquatic response to nutrient concentration.



Weather During our Sampling Period

Rainfall from April through July was at or above the 30-year average, with nearly 6 inches recorded in July. Although most fall months were below normal, the higher spring and summer precipitation led to two sampled storm events.



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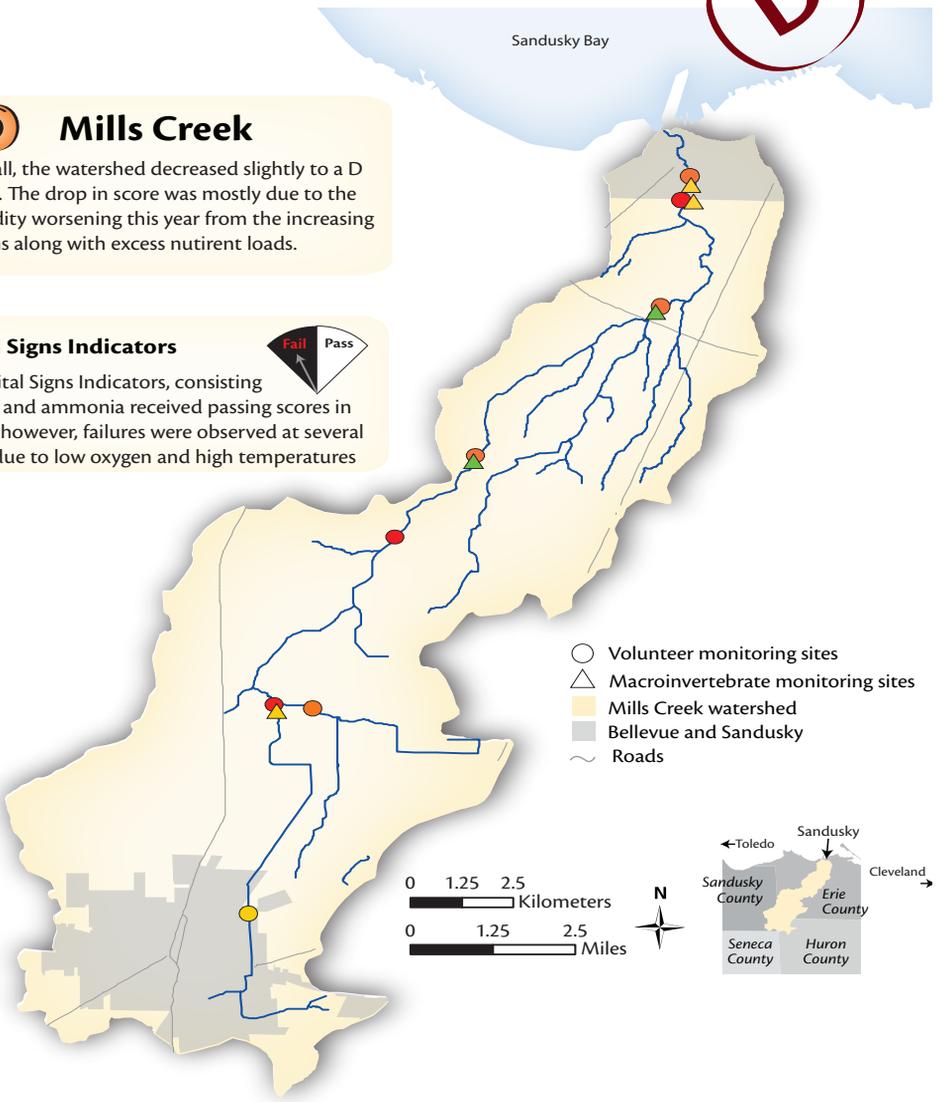


Mills Creek

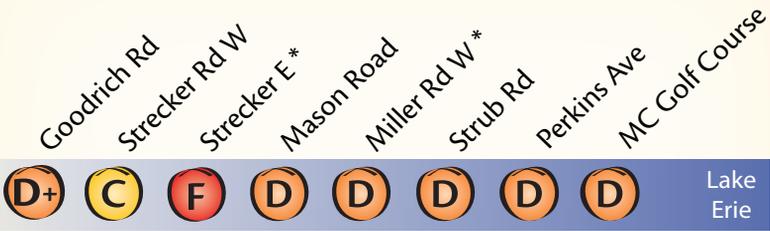
Overall, the watershed decreased slightly to a D grade. The drop in score was mostly due to the turbidity worsening this year from the increasing storms along with excess nutrient loads.

Vital Signs Indicators

The vital Signs Indicators, consisting of pH and ammonia received passing scores in 2025; however, failures were observed at several sites due to low oxygen and high temperatures



Creek Site Water Quality Score



Sites are listed from headwaters (south) to mouth (north).
*Indicates side tributaries not mainstem.

2025 Beach Health and Safety

In Mills Creek, indicator bacteria are measured by the Erie County Health Department at Lions Park. During the 2025 swimming season, they sampled for 93 days and 53 of those days (60%) resulted in an advisory. Meaning samples indicated a risk of illness from contact with water about 3/5 of the season. Although this site is not directly located at the mouth of Mills Creek, this small stream does contribute to the overall condition of Sandusky Bay.

