A storm-driven system

When it rains, it drains; and these storm events move pollutants through the watershed. When Pipe 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.

Watershed at a glance

- 48.5-square-mile watershed made up of three main streams: Pipe Creek, Hemminger Ditch, and Plum Brook
- Karst geological region, makes this watershed at higher risk for groundwater contamination
- Shoreline is a mix of coastal marsh and heavily altered land use for shipping, boating, and erosion control

Learn more

If you would like to learn more about the development of this report card or watersheds in the Firelands area, visit the following websites:
eneconserver.org
wildlife.ohio.dnr.gov/oldwomancreek
ian.umces.edu
enecohealthohio.org

Get involved

We could use your help to improve our watershed. If you are interested in being a volunteer, contact Breann Hohman, watershed coordinator for the Erie Conservation District at 419-626-5231 or bhohman@eriecounty.oh.gov

Financial support for this publication was provided in part by a grant under the Federal Coastal Zone Management Act, administered by the Office for Coastal Management, National Oceanic and Atmospheric Administration, Silver Spring, MD.

Printed on post-consumer recycled paper

Types of inputs

- Nutrients
- Sediments
- Bacteria

Indicators of health

- Soluble reactive phosphorus
- Nitrate
- Turbidity
- Bacteria

Pollution Sources

- Animal agriculture
- Row-crop agriculture
- Broken and/or leaking septic systems
- Urban stormwater and combined sewer overflows
- Lawn fertilizer runoff
- Construction and development

Key Features

- Sandusky Bay
- Sandusky
- Storm-driven system
- Grass buffers
- Flooding
- Quarries

Lake Erie

Sandusky Bay

Pipe Creek

Report Card

erieconserves.org
wildlife.ohio.dnr.gov/oldwomancreek
ian.umces.edu
enecohealthohio.org

Friends of Pipe Creek Watershed Meetings

3rd Thursday of the Month  @ 5:30pm
St. Stephen’s United Church of Christ
905 East Perkins Ave, Sandusky (in the back)

Published:
March 2018

Printed on post-consumer recycled paper

Water Quality 2017

D+
This report card represents a 3 year average of macroinvertebrate sampling. These indicators are Reserve Staff from April through November. Benthic macroinvertebrate (aquatic worms and insect larvae) sampling is performed in the summer by staff volunteers, and a summer intern. This report card represents a 3 year average of macroinvertebrate sampling. These indicators are combined to develop the overall scores of individual sites and the overall watershed score.

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 untreated waste. Many bacteria are harmful to human health and can restrict our drinking and recreational water uses.

Vital Signs Indicators are a collection of pH, temperature, dissolved oxygen, and ammonia. Like our blood pressure, these parameters can identify if a serious problem is present.

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?

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>80–100%</td>
</tr>
<tr>
<td>B</td>
<td>60–80%</td>
</tr>
<tr>
<td>C</td>
<td>40–50%</td>
</tr>
<tr>
<td>D</td>
<td>20–40%</td>
</tr>
<tr>
<td>F</td>
<td>0–20%</td>
</tr>
</tbody>
</table>

Weather during our sampling period

How rainfall differed from the monthly norm in 2017 (Collected from 3 COCORAH stations in Pipe Creek)

<table>
<thead>
<tr>
<th>Month</th>
<th>Rainfall Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>+0.50</td>
</tr>
<tr>
<td>May</td>
<td>+0.25</td>
</tr>
<tr>
<td>June</td>
<td>+2.91</td>
</tr>
</tbody>
</table>

We need your help!

WHAT CAN BE REDUCED

Leaves and grass clippings:WHAT CAN BE REDUCED

Leave woody vegetation along a stream or ditch

Remember to inspect and pump out your septic system every 3–5 years

Help your community develop a plan that supports low impact development

Follow the “4Rs” of fertilizer use: Right source, Right amount, Right place, Right time

Don’t leave your field bare, use cover crops!

Plant a rain garden or install a rain barrel at home

Stockpile and spread manure correctly

Pick up pet waste

Working together for clean water

Volunteers make a difference on Pipe Creek’s coast

Pipe Creek Wildlife Area (formerly known as Big Island Preserve) is a coastal park located where Pipe Creek joins East Sandusky Bay. In 2017, the Friends of Pipe Creek Watershed teamed up with the City of Sandusky, Erie Conservation District and several volunteers to improve the habitat and recreational opportunities. Over 375 volunteer hours were spent clearing brush and invasive species, planting native grasses, and picking up litter. Additional planting of native trees and flowers, are part of this multi-year effort. Funds for this project were raised by the Recycled Runway Fashion show event. Within a few years, the group hopes to have enhanced the area by replacing invasive species with natives that support a wider range of wildlife.

Green Infrastructure is catching on in Erie County

Green infrastructure (GI) is a stormwater management approach that mimics nature’s ability to filter, absorb, and infiltrate rain water. Some examples are special landscape beds called bioretention, rain gardens, or even pervious pavement.

We are proud to see private developments increasing the use of CI in Erie County over the past few years. Bioretentions have been installed at Civista Bank, Sports Force, Texas Roadhouse, Cedar Point’s Express Hotel, and the Erie County Engineer’s Office as part of their stormwater management design. This means greener developments are helping make a bluer Lake Erie.

Pipe Creek 2017 Report Card

Pipe Creek received an overall D+ grade, which is unchanged from 2016.

Vital Signs Indicators

The Vital Signs Indicators, consisting of NH4, DO, pH, temperature and dissolved oxygen revealed passing scores, an improvement from 2016.

2017 Beach health and safety

Two lake sites located on the public/private barrier beach (see map) of Pipe Creek are monitored by the Erie County Health Department. In 2017, Battery Park scored 98% and the Pipe Creek Canoe Launch scored 95% meaning nearly the entire swimming season presented low risk of illness from contact with water. Note that the bacteria scoring scale is more stringent than water quality indicators because of the high variability and importance to human health and safety.

Percentage of time sample was below the swimming risk threshold (215 MPN 100 ml^-1)

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>A</td>
</tr>
<tr>
<td>90%–100%</td>
<td>B</td>
</tr>
<tr>
<td>80%–89%</td>
<td>C</td>
</tr>
<tr>
<td>70%–79%</td>
<td>D</td>
</tr>
<tr>
<td>60%–69%</td>
<td>F</td>
</tr>
<tr>
<td>&lt;60%</td>
<td>F</td>
</tr>
</tbody>
</table>

We are proud to see private developments increasing the use of CI in Erie County over the past few years. Bioretentions have been installed at Civista Bank, Sports Force, Texas Roadhouse, Cedar Point’s Express Hotel, and the Erie County Engineer’s Office as part of their stormwater management design. This means greener developments are helping make a bluer Lake Erie.

Job of trash (including a fence and couch) cleaned out of the Creek and Park during a volunteer event in October 2017.

Erie County Health Department. In 2017, Battery Park scored 98% and the Pipe Creek Canoe Launch scored 95% meaning nearly the entire swimming season presented low risk of illness from contact with water.