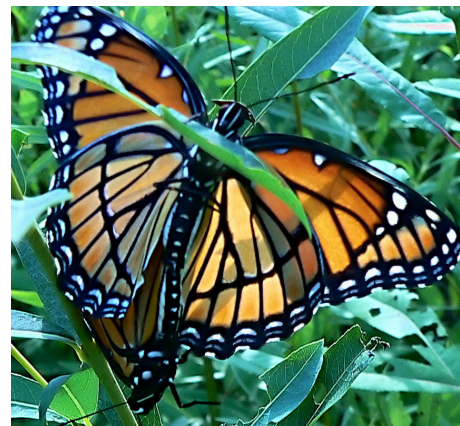


STATE OF THE NINE MILE RUN STREAM - 2017

A Report Card for the Community

BACKGROUND

The Nine Mile Run Watershed Association (NMR) restores and protects its watershed ecosystem, while working regionally to support and implement resilient solutions for a healthy urban environment. We are committed to stewarding and monitoring the Nine Mile Run Aquatic Ecosystem Restoration in Frick Park. Before the restoration was completed in 2006, Nine Mile Run was a nearly lifeless ecosystem — a stream polluted for decades by industry, urban development, and failing sewer infrastructure in the surrounding 6.5 sq. mile watershed. The restoration project transformed the stream and its immediate surroundings, creating a native wetland habitat in lower Frick Park. This was in many ways an experiment, to see how much ecological improvement could be achieved through current restoration techniques, and whether the transformation could survive in an urban environment. Preservation of the gains, and further water quality improvements require changes in the upper watershed communities.



WHY A REPORT CARD?

The goal of the NMR Monitoring Program is to accurately assess the health of Nine Mile Run, to help us understand what has been achieved, and what remains to be done to reach a healthy ecosystem. The program is a staff-driven cooperative community data collection effort with oversight from professionals and researchers on the NMR Monitoring Committee. The Report Card is a summary assessment of key water quality parameters, based on all of the data we have gathered, that grades the state of the stream pre-restoration, immediately post-restoration, and in its current state. While our grading method varies per parameter, all grades are based on State and/or Federal regulations.

PRE-RESTORATION

1999-2005

D

POST-RESTORATION

2006-2011

C

CURRENT STATE

2012-2017

C

HUMAN HEALTH RISK

Bacterial contamination is caused by failing sewer infrastructure along the stream, as well as pet and wildlife waste. Exposure to bacteria can cause illness or infection. Toxic metals, the result of stormwater runoff, pose potential threats—including anemia and neuropathy—to humans and wildlife.

	Pre	Post	Current
Bacteria	F	C	C
Aluminum	F	F	F
Lead	D	C	D

Metal grades are based on regulations set by the U.S. Environmental Protection Agency. Bacteria grades are based specifically on Pennsylvania state regulations.

AQUATIC HABITAT SUPPORT

Water quality determines the health of a stream. Water quality parameters can be degraded by sewage contamination, stormwater runoff, industrial waste, and pet and wildlife waste. It is important to note that parameters vary seasonally and are greatly impacted by rain events.

	Pre	Post	Current
pH	B	A	A
Dissolved Oxygen	Insufficient Data		A+
Nitrogen (NO₃)	F	Insufficient Data	F

Thresholds for dissolved oxygen grades are sourced from the Water Research Center of Pennsylvania. Nitrogen and pH grades are based on Pennsylvania state regulations.

WILDLIFE

The presence and diversity of aquatic wildlife are key indicators of ecological health, as these species depend on the entire stream environment for their survival.

	Pre	Post	Current
Macroinvertebrates	F	F	D
Fish	F	B	B

WHERE DO WE GO FROM HERE?

Data show that the Nine Mile Run Aquatic Ecosystem Restoration significantly improved water quality, benefiting watershed residents as well as aquatic wildlife. This improvement is reflected by increased wildlife abundance and diversity. However, Nine Mile Run is still affected by the surrounding urban environment; high nitrogen, bacteria, and metal levels still reflect poor overall health. A decade after the restoration, the stream is not yet safe to fish in, or even walk through. We can and must do better.

Thresholds for macroinvertebrates grades are adapted from the PA DEP IB scoring method. Fish grades are based on regulations set by the Ohio EPA.

We are working in the upper watershed, and regionally, to reduce sewage contamination and stormwater runoff so that the state of the stream will continue improving. But, we cannot do it alone. There are many ways that you can participate in improving water quality in Nine Mile Run and throughout the region: commit to volunteering, install a rain garden and/or rain barrels, use watershed friendly salt (sparingly) throughout the winter, clean up after your pets (even in parks), and organize to support public policies that prioritize clean water. Information on these and other actions is available on our website, www.NineMileRun.org.

Published December 2018. For further information, see www.NineMileRun.org/our-work/monitoring

