



*Cover image: Benilde St. Margaret School sampling Minnehaha Creek in Utley Park Edina.
Photo taken by John Porisch. All other photos by Katie Farber.*

*This appendix contains excerpts from the 2018 River Watch Report pertinent to the Elm Creek watershed.
The full report may be viewed at <https://www.hennepin.us/business/work-with-henn-co/riverwatch>*

River Watch 2018

Introduction

The River Watch Program has provided hands-on environmental education to students throughout Hennepin County since 1995. Every spring and fall, students and teachers venture into streams with waders securely fastened and dip nets in hand to collect aquatic macroinvertebrates, or bottom-dwelling, spineless organisms such as mayflies, stoneflies, snails and beetles. Macroinvertebrates are influenced by physical and chemical properties of streams, so monitoring these organisms helps assess water quality. River Watch is an eye-opening experience for all participants, and the resulting data helps us understand the health of our streams.

2018 highlights

In 2018, 16 stream stretches were monitored in the spring and/or fall. Data was gathered by more than 900 students from 26 classes and 16 schools. Students, teachers and chaperones donated more than 2,500 hours.



This year stoneflies were identified at TWO sites on Rush Creek! Stoneflies represent the most sensitive of invertebrates to be found in stream monitoring. Two schools, Kaleidoscope and Minnetonka High School have identified several members of the Family Perlidae (stonefly) at their two locations.

Data Analysis

The grading scale used in River Watch common metrics used for data analysis Index measures the overall community of invertebrates and their tolerance to pollution levels. The scale ranges from 0 to 10 with the lower values indicating high sensitivity to pollution and good water quality.

Hilsenhoff Family Biotic Index

Family Biotic Index	Water Quality	Degree of Organic Pollution
0-3.50	Excellent	No apparent organic pollution
3.51-4.50	Very Good	Possible slight organic pollution
4.51-5.50	Good	Some organic pollution probable
5.51-6.50	Fair	Fairly significant organic pollution likely
6.51-7.50	Fairly Poor	Substantial pollution likely
7.51-8.50	Poor	Very substantial pollution likely
8.51-10.0	Very Poor	Severe organic pollution likely

In 2018 a new component was added to River Watch where students directed projects based upon a research question. A fabulous group of seniors from Minnetonka High School in the Vantage Program focused their efforts in the Elm Creek watershed to determine the frequency of stoneflies. We met throughout the spring of 2018 to develop a research project based on Rush Creek in

Hennepin County. The students chose this particular area because of the stoneflies found in 2017, which was unique to Hennepin County. They wanted to know how prevalent stoneflies are in Rush Creek, so they sampled two locations.

The first sampling was done immediately east of 101st Lane where the stoneflies were found last year. The index result was a 5.47 or “Good.” This site didn’t produce any stoneflies but this group did find them at the Minnetonka High School site at Rush Creek in the Elm Creek Park Preserve. It’s the second year in a row that Rush Creek has been home to stoneflies.

Students presented their data to their class and to Hennepin County staff at completion of the project.



Above: Kaleidoscope Charter School
Right: Wayzata High School



Historic data

Historic data for the monitored sites is available on the River Watch interactive map. The map also includes site photos, information about watersheds and land cover data to help investigate how land use may impact water quality. The map is available at www.hennepin.us/riverwatch.

The 2018 monitoring groups and results are shown below.

Elm Creek Watershed					
Site	School	Teacher	2017 score	2018 score	Years
Crow River at St. Michael Water Treatment Plant	St. Michael-Albertville High School	Kay Nowell	3.80 Very Good	3.75 Very Good	15
Rush Creek, western side of 101 st Lane, Maple Grove <i>*Perlidae found</i>	Kaleidoscope Charter School, Otsego	Carrie Lynch	4.75 Good	5.12 Good	13
Rush Creek, eastern side of 101 st , Maple Grove	Vantage Group Minnetonka High school	Dawn Norton		5.47 Good	New 2018
Elm Creek at Peony Lane	Wayzata High School	Susie Newman	8.10 Poor	7.3 Fairly Poor	21
Elm Creek downstream from Rice Lake	West Lutheran High School, Plymouth	Steve Merten	6.15 Fair	6.13 Fair	2
Elm Creek at Maple Grove Arboretum	Osseo High School	Brandon Burns		6.49 Fair	New 2018
Rush Creek <i>*Perlidae found</i>	Minnetonka High School	Dawn Norton		5.5 Good	New 2018