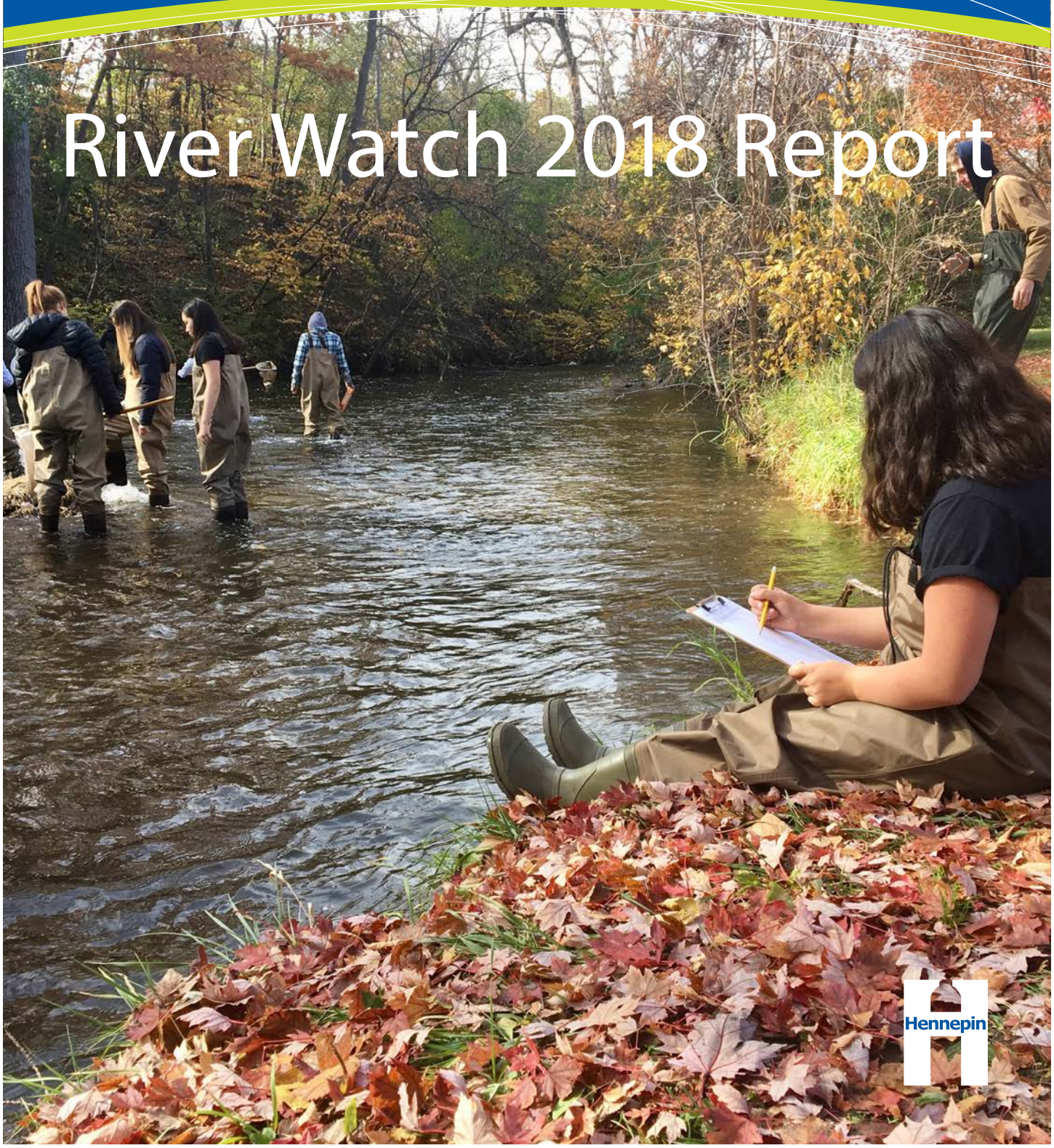
HENNEPIN COUNTY
MINNESOTA

River Watch 2018 Report



Hennepin

School of Engineering and Arts
Photo credit: Katie Farber

Newayee Center School
Photo credit: Katie Farber

Hopkins High School
Photo credit: Katie Farber

Cover image: Benilde St. Margaret School sampling Minnehaha Creek in Utley Park Edina
Photo credit: John Porisch

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. Thank you to all who participated this year!

This year, we also celebrate the identification of stoneflies at TWO sites on Rush Creek this year! 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 Perilidae (stonefly) at their two locations. Well done!!

Perlidae (stonefly)
photo courtesy of the UMN Chironomidae Research Group

Kaleidoscope Charter School
Photo credit: Katie Farber

Minnetonka High School
Photo credit: Katie Farber

2018 Special projects summary

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.

The students presented their data to their class and to Hennepin County staff as completion of the project. Thanks to the amazing students Abby, Logan, Julia and Alex and to their teacher Dawn Norton.

Minnetonka High School
Photo credit: Katie Farber

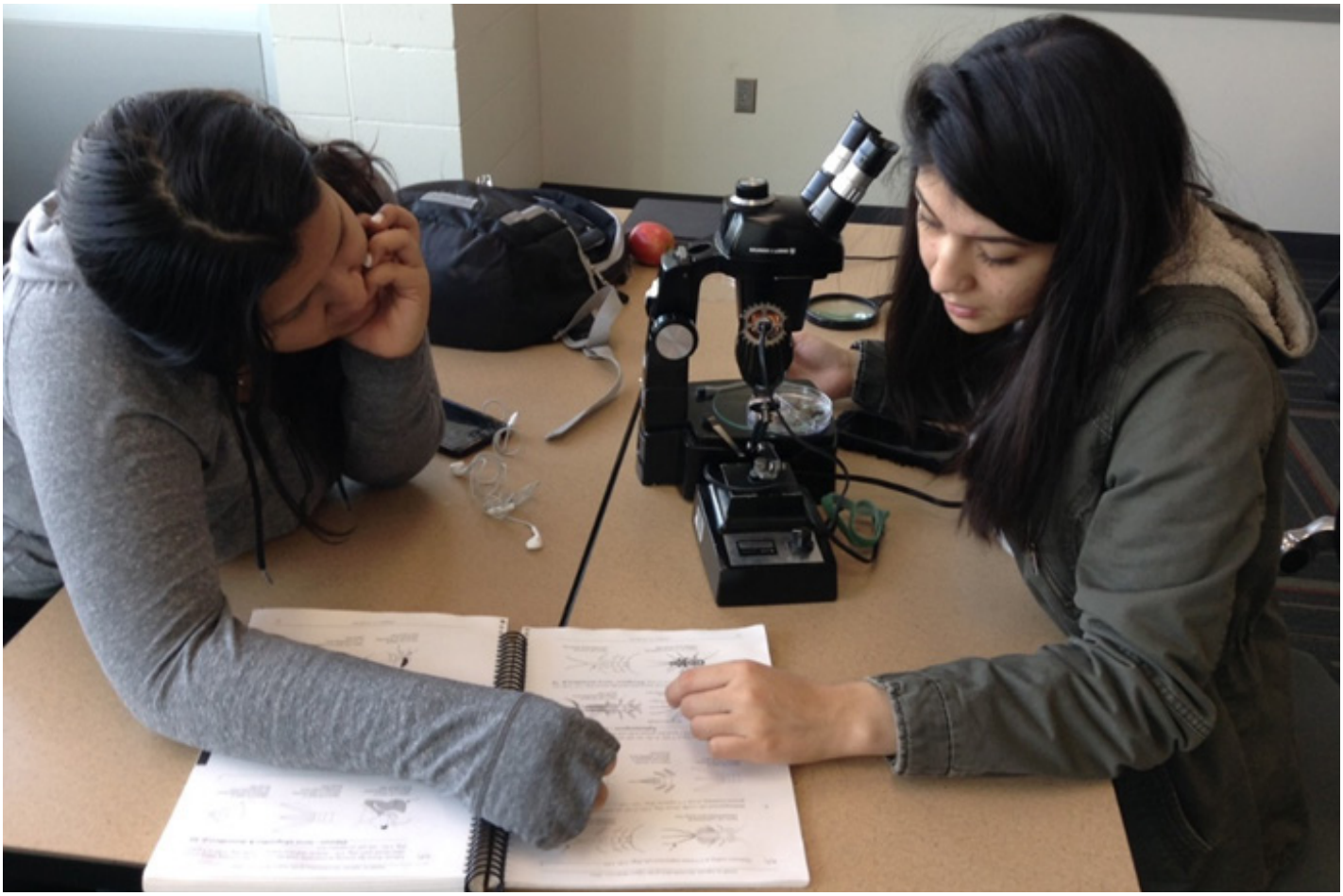
Data analysis

The grading scale used in River Watch is based on the Hilsenhoff Family Biotic Index, which is one of the most common metrics used for data analysis in volunteer monitoring programs. The Hilsenhoff Family Biotic Index measures the overall community of macro 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

Wayzata High School
Photo credit: Katie Farber



Richfield College Experience Program
Photo credit: Katie Farber

2018 monitoring groups and results

Site	School	Teacher	2017 score	2018 score	Years monitoring
Bassett Creek Watershed					
Bassett Creek Nature Area	School of Engineering & Arts, Golden Valley	Cara Rieckenberg	4.50 Good	5.76 Fair	7
Bassett Creek at Theodore Wirth Park Chalet	Nawayee Center	Walter Johnson		7.34 Fairly Poor	New 2018
Elm Creek Watershed					
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 101st Lane, Maple Grove **Perlidae (stonefly) found*	Kaleidoscope Charter School, Otsego	Carrie Lynch	4.75 Good	5.12 Good	13
Rush Creek, eastern side of 101st, 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 **Perlidae (stonefly) found*	Minnetonka High School	Dawn Norton		5.5 Good	New 2018
Minnehaha Creek Watershed					
Minnehaha Creek at Burwell House, Minnetonka **zebra mussels present*	Hopkins High School	John Sammler	6.20 Fair	6.3 Fair	19
Minnehaha Creek at Hopkins Crossroad	Hopkins High School	John Sammler	7.20 Fairly Poor	8.01 Poor	3
Minnehaha Creek at Knollwood St Louis Park	Hopkins High School	John Sammler	7.60 Poor	7.35 Fairly Poor	11
Minnehaha Creek at Utley Park, Edina	Benilde St. Margaret, St. Louis Park	John Porisch	4.95 Good	4.7 Good	21
Minnehaha Creek, below the falls, Minneapolis	Nawayee Center	Maia Dalager	5.40 Good	4.93 Good	8
Nine Mile Creek Watershed					
Nine Mile Creek at Bredeson Park	Edina High School	Allison Ronglien	6.40 Fair	6.07 Fair	2
Nine Mile Creek at Nordic Circle	Edina High School	Allison Ronglien		6.24 Fair	New 2018
Nine Mile Creek at Harrison Picnic Area	Richfield College Experience Program	Wendy Anderson	4.40 Very Good	4.75 Good	2
Shingle Creek Watershed					
Shingle Creek at Webber Park Falls	Avail Academy	James Vande Glind		4.5 Very Good	New 2018
Shingle Creek at Park Center High School in Brooklyn Park	Park Center High School, Brooklyn Park	Cindy Jahnke	5.46 Good	5.13 Good	23

Historical data

Historical 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 **hennepin.us/riverwatch**.

Park Center High School
Photo credit: Katie Farber

Avail Academy
Photo credit: Katie Farber

Minnetonka High School
Photo credit: Katie Farber

Kaleidoscope Charter School
Photo credit: Katie Farber

School of Engineering and Arts
Photo credit: Katie Farber

Edina High School
Photo credit: Katie Farber