Rouge River Watershed
2023 Winter Stonefly Search

www.therouge.org

Ninety-nine people participated in Friends of the Rouge (FOTR)'s 2023 Winter Stonefly Search on January 21, 2023. To prepare participants, a virtual "Stonefly Primer" was held on Jan. 12 with 30 participants. The weather on January 21 was warm for winter (high 34). No ice picks were needed to crack through ice like in past years but over an inch of rain the day before led FOTR to move some of the teams to sites upstream to avoid fast high water.

Stoneflies are sensitive indicators of healthy streams. Unlike other insects, winter stoneflies develop into adult flies in the winter. The Winter Stonefly Search is part of Friends of the Rouge volunteer benthic macroinvertebrate monitoring program.

This report contains data for 41 sites (See Table 1 and map 1). Twenty-nine sites were sampled by 15 teams during the Stonefly Search on January 21. Twelve additional sites were sampled by teams of volunteers, Wayne County Department of Public Services staff, FOTR staff and Sue Thompson. Two additional sites were tested for salt but not searched for stoneflies.

Stoneflies were found at fifteen of the forty-one sites (37%) (map 1 and Table 1). All were found on the Lower, Middle and Upper branches. All but three of the sites had slender winter stoneflies (Capnids-family Capniidae). Two sites had Perlodids (family Perlodidae) and one site had the family broadback stoneflies (family Taeniopterygidae).

Lower Branch

Team 12 at Fowler Creek

Twelve sites were sampled on the Lower Branch: six on Fellows Creek, four on Fowler Creek and two on the main branch of the Lower. Six of the twelve (50%) sites had stoneflies, and all were slender winter stoneflies (Capnids). This included two on the Fellows branch (LR-9, Fel6), three on Fowler Creek (Fowl1, Fowl4, Fowl5) and one on the Lower branch (LR-8). Fowl1 had a record number of stoneflies at 123!

Team 2 at Fowler Creek

Middle Branch

Twenty sites were sampled on the Middle Branch: eleven on Johnson Creek, four on Tonquish Creek, one on Bishop Creek, one on the Walled Lake Branch and three on the Middle branch. Eight (40%) of the sites had stoneflies and ALL were on the Johnson Creek.


Team 13 at Johnson Creek


Team 3 at Johnson Creek

All but three sites had slender winter stoneflies (Capnids). John8 and MR-22 had a Perlodid and John1 had Taeniopterygidae All of the stoneflies in the Middle were in the Johnson Creek and all were upstream of or at Six Mile Road.

Upper Branch

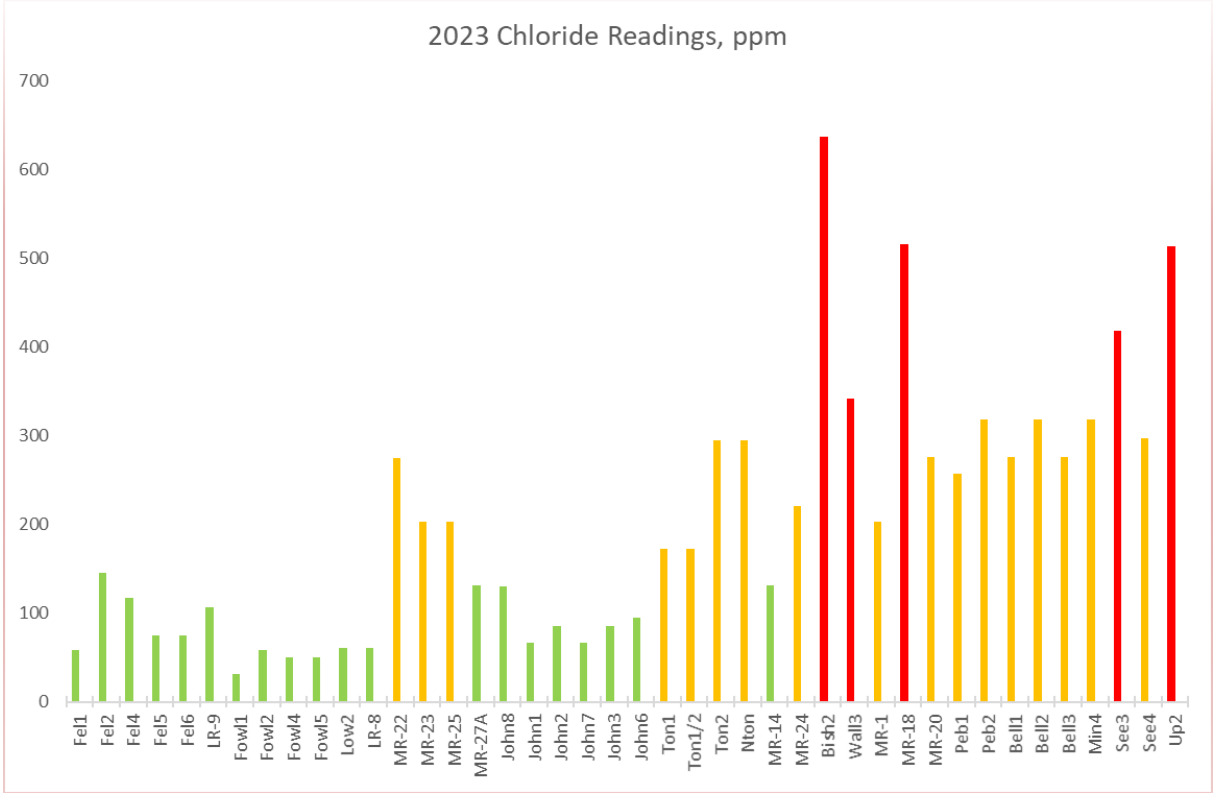
Seven Upper Branch sites were sampled including one site on Minnow Pond Creek, three sites on Bell Creek, two sites on Seeley Creek and one on the main Upper branch. Stoneflies were found at one site (14%) - Min4- and all were slender winter stoneflies (Capnids). Stoneflies are very rarely found in the Upper Branch.

Main Branch

Two Main branch tributary sites were sampled this year: Peb1 and Peb2. Neither had stoneflies.


Team 11 at Pebble Creek

FOTR Stonefly Search teams have been testing sites for road salt (chloride) since 2020 through the Izaak Walton League's Salt Watch program. Chloride is measured in parts per million (ppm). Levels above150 ppm cause long-term impacts to aquatic life in the stream. Levels above 320 ppm are toxic (cause acute or short-term impacts) to aquatic life.



The 2023 chloride levels (see Chart above, Table 1 and map 2) varied by the branch. The Lower branch which, includes Fellows and Fowler Creeks, were all below 150 ppm. The Middle branch had levels above 150 ppm in the Sump Drain, a tributary of Johnson Creek (MR-22 to MR-27A), and the Tonquish Creek (Ton1. Ton1/2, Ton2, Nton). The Walled Lake branch tributaries were extremely high with Bishop Creek over 600 ppm and Walled Lake at 341 ppm. Further downstream on the Middle branch, levels were all above 150 ppm and above 320 ppm (515 ppm) at MR-18. On the Main branch, only Pebble Creek was tested and both sites were above 150 ppm, in the range that causes long term impacts. All of the Upper branch sites were above 150 ppm and See3 and Up2 (Shiawassee Park) were both above 400 ppm, at the toxic level.

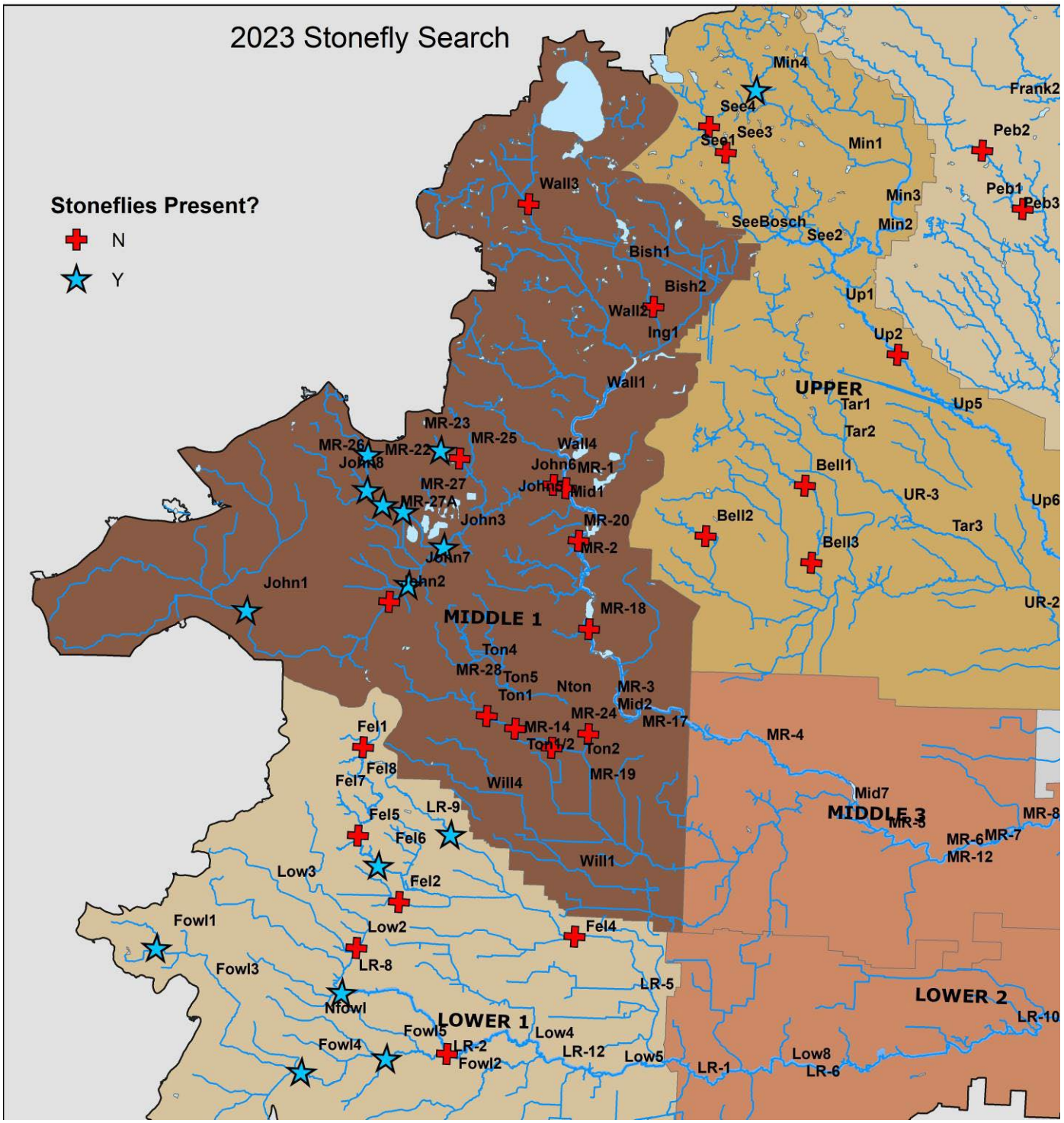
The state of Michigan Department of Great Lakes and Energy (EGLE) only recently developed guidelines for chloride and last year they identified two Rouge streams that exceeded the guidelines: Bishop Creek and the Upper branch. FOTR shares our data with the state and expect that the Middle branch will also be added to their "action" list. Once identified, a plan to reduce chloride will be developed but there is no timeline established as of yet.

You can sign up for the Winter Salt Walt program and receive free test strips to test stream sites during the winter on your own and are encouraged to do so. Check out their map of the results

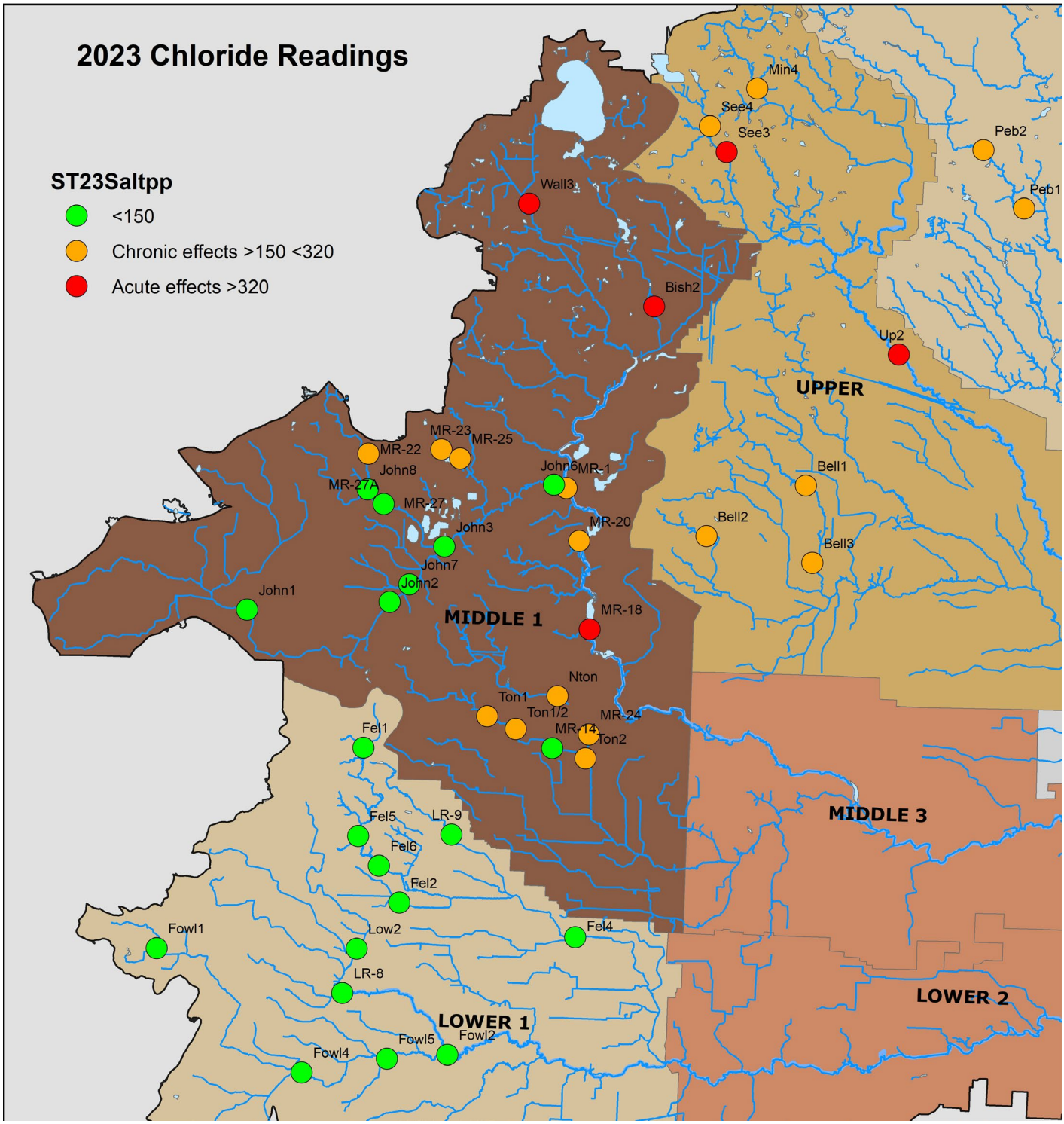
and see how the Rouge compares to other areas. The Izaak Walton League also recently added testing for nitrates, which FOTR will be participating in this winter.

Thank you to all the volunteers, Team Leaders, Wayne County, and Sue Thompson for additional sampling. The Winter Stonefly Search is part of the Friends of the Rouge long-term volunteer monitoring program and is funded through the Alliance of Rouge Communities, Washtenaw County Water Resources Commission, the Erb Family Foundation, and individual donations.

Table 1: 2023 Stonefly and Chloride Findings						
BRANCH	Stream Name	FIELDID	Site Description	ST23	ST23Family	Salt, ppm
Lower	Fellows Creek	Fel1	Top of Hill Ct	N		58
Lower	Fellows Creek	Fel2	Vintage Valley	N		145
Lower	Fellows Creek	Fel4	Flodin Pk	N		117
Lower	Fellows Creek	Fel5	Warren Ridge	N		75
Lower	Fellows Creek	Fel6	Hanford	Y	Capniidae	75
Lower	Fellows Creek	LR-9	Fellows Beck Warren	Y	Capniidae	106
Lower	Fowler Creek	Fowl1	Prospect	Y	Capniidae	31
Lower	Fowler Creek	Fowl2	Fowler Beck	N		58
Lower	Fowler Creek	Fowl4	Ridge Rd S of Geddes	Y	Capniidae	50
Lower	Fowler Creek	Fowl5	Fowler Denton	Y	Capniidae	50
Lower	Lower Rouge	Low2	Cherry Hill	N		60
Lower	Lower Rouge	LR-8	Ridge Proctor	Y	Capniidae	60
Main	Pebble Creek	Peb1	Danvers Ct	N		257
Main	Pebble Creek	Peb2	Pebble 13 Mile	N		318
Middle	Bishop Creek	Bish2	Bishop Scarborough	N		637
Middle	Johnson Creek	John1	5M Salem	Y	Taeniopterygidae	66
Middle	Johnson Creek	John2	5M NV	N		85
Middle	Johnson Creek	John3	6M NV	Y	Capniidae	85
Middle	Johnson Creek	John6	Hines	N		95
Middle	Johnson Creek	John7	Arcadia	Y	Capniidae	66
Middle	Johnson Creek	John8	Maybury Angell	Y	Perlodidae	130
Middle	Johnson Creek	MR-22	Maybury south	Y	Capniidae, Perlodida	275
Middle	Johnson Creek	MR-23	Maybury north	Y	Capniidae	203
Middle	Johnson Creek	MR-25	Maybury East	N		203
Middle	Johnson Creek	MR-27	Ridge	Y	Capniidae	
Middle	Johnson Creek	MR-27A	Florissant Dr.	Y	Capniidae	131
Middle	Middle Rouge	MR-1	Northville Rec W	N		203
Middle	Middle Rouge	MR-18	Springbrook Rec	N		515
Middle	Middle Rouge	MR-20	Waterford Bd	N		276
Middle	Tonquish Creek	MR-14	Smith Elem	N		131
Middle	Tonquish Creek	MR-24	Lion's Pk	N		220
Middle	Tonquish Creek	Nton	S Evergreen St	N/S		295
Middle	Tonquish Creek	Ton1	Plym Twp Pk	N		172
Middle	Tonquish Creek	Ton1/2	Canton Ctr Rd	N		172
Middle	Tonquish Creek	Ton2	Ann Arbor Rd	N/S		295
Middle	Walled Lk Drainag	Wall3	WL 12 M	N		341
Upper	Bell Branch	Bell1	Bicentennial Park	N		276
Upper	Bell Branch	Bell2	Schoolcraft College	N		318
Upper	Bell Branch	Bell3	Livonia 6 Mile	N		276
Upper	Minnow Pond	Min4	14 Mile	Y	Capniidae	318
Upper	Seeley Creek	See3	Kennedy Ct	N		418
Upper	Seeley Creek	See4	Haggerty Rd	N		297
Upper	Upper Rouge	Up2	Shiawasee Park	N		513


2023 Stonefly Search
Stoneflies Present?
N
Y
Min4
Frank2
See4
See1
See3
Min1
Peb2
Peb1
Peb3
Min3
Min2
SeeBosch
See2
Wall3
Bish1
Bish2
Wall2
Ing1
Up1
Up2
Wall1
UPPER
Tar1
Up5
Tar2
MR-23
MR-25
MR-26
MR-22
John8
Wall4
John6
MR-1
MR-27
John5
Mid1
MR-27A
John3
MR-20
Bell1
UR-3
Up6
Bell2
Tar3
MR-2
Bell3
John7
John1
John2
UR-2
MIDDLE 1
MR-18
Ton4
MR-28
Ton5
Nton
MR-3
Ton1
Mid2
MR-24
MR-17
MR-14
Ton1/2
Ton2
MR-4
Fel1
Fel8
Fel7
MR-19
Will4
Mid7
MIDDLE 3
MR-8
LR-9
Fel5
MR-5
MR-6
MR-7
Fel6
MR-12
Will1
Low3
Fel2
Fowl1
Low2
Fel4
LR-8
Fowl3
LR-5
LOWER 2
Nfowl
LR-10
LOWER 1
Fowl5
Low4
Fowl4
LR-2
LR-12
Low5
Low8
LR-1
Fowl2
LR-6

Map 2: 2023 Chloride Readings



We need you!

Spring Bug Hunt: Sat. April 15 10 am-4 pm
Volunteers needed to help look for bugs in Rouge streams

Want to get more involved? Train to be a Team Leader – bank person or collector
Team Leader Training: **virtual session followed by field training**
Field Training Sat. April 1, 2023 9am-12pm

Register for both at therouge.org/bug-hunt-events-and-trainings

More info: spetrella@therouge.org or call 734 927-4904