



Rouge River Watershed 2024 Winter Stonefly Search

www.therouge.org

Ninety-four people participated in Friends of the Rouge (FOTR)'s 2024 Winter Stonefly Search on January 20, 2024. To prepare participants, a virtual "Stonefly Primer" was held on Jan. 13 with 26 participants. The weather on January 20 was cold and snowy! Ice picks were needed at multiple sites as the river was mostly frozen over in many locations. Despite the cold, snowy conditions our fantastic volunteers did a wonderful job of searching for stoneflies throughout the watershed.

This report contains data for 34 sites (See Table 1 and map 1). Twenty-five sites were sampled by 14 teams during the Stonefly Search on January 20. Nine additional sites were sampled by Wayne County Department of Public Services, and Sue Thompson.

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's volunteer benthic macroinvertebrate monitoring program.

Stoneflies were found at fourteen of the thirty-four sites (41%) (map 1 and Table 1). All were found on the Lower, Middle and Upper branches. All but one of the sites had slender winter stoneflies (Capnids-family Capniidae). Sue found the only Perlodid (family Perlodidae) at the John8 site.



Lower Branch

Eleven sites were sampled on the Lower Branch: five on Fellows Creek, four on Fowler Creek and two on the main branch of the Lower. Four of the eleven (36%) sites had stoneflies, and all were slender winter stoneflies (Capnids). Stoneflies were found at one site in Fellows Creek (Fel6), two sites in Fowler Creek (Fowl1 and Fowl 4), and one site in the Lower Rouge (LR-8).



Middle Branch

Twenty sites were sampled on the Middle Branch: eleven on Johnson Creek, four on Tonquish Creek, and five on the Middle branch. Nine of the twenty sites (45%) of the sites had stoneflies and all but one (Mid 1 on the Middle Rouge) were on the Johnson Creek. All but one site had slender winter stoneflies (Capnidae). John8 had the only Perlodidae.



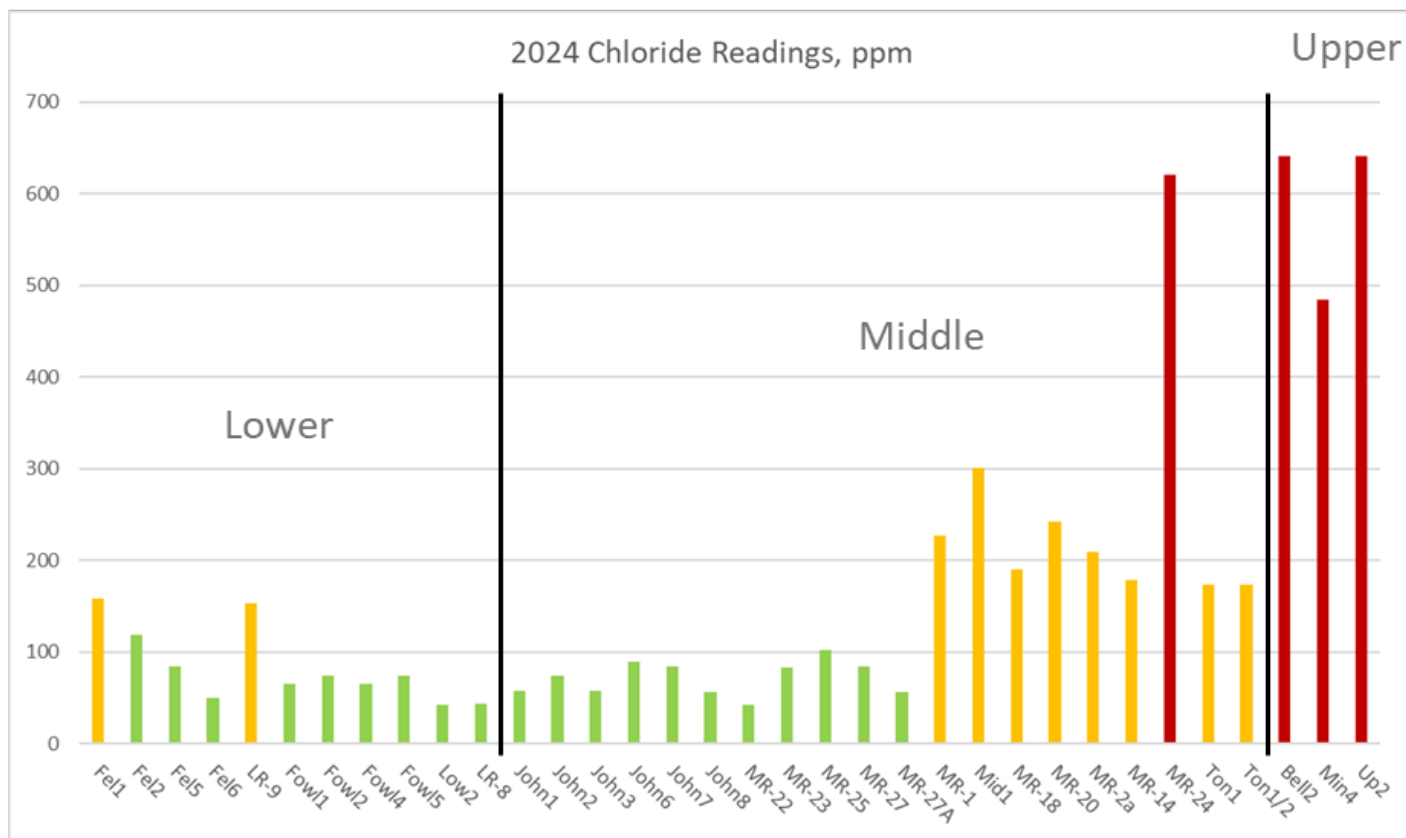
Upper Branch

Three Upper Branch sites were sampled including one site on Minnow Pond Creek, one site on Bell Creek, and one on the main Upper branch. Stoneflies were found at one of the three sites (33%) at Min4, and all were slender winter stoneflies (Capnids). Stoneflies are very rarely found in the Upper Branch.





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 above 150 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 2024 chloride levels (see Chart above, Table 1 and map 2) varied by the branch. The Lower branch sites, which include Fellows and Fowler Creeks, were below 150 ppm, with the exception of two sites in Fellows Creek: Plymouth Township (Fel1) and near the Faith Baptist Church in Canton (LR-9). In the Middle branch, all the Johnson Creek sites were below 100ppm but downstream in the Middle Branch levels rose above 150 ppm: Northville Recreation Area (MR-1 and Mid 1), two sites downstream of Waterford Pond (MR-20 and MR-2a) and downstream on Phoenix Lake (MR-18). Sites in Tonquish Creek (Ton1, Ton1/2, MR-14, and MR-24) were all above 150ppm and the MR-24 site at Lion’s Park had an extremely high level (620ppm). **All** three Upper branch sites were above 320 ppm (toxic level): Bell Creek (Bell2) at Schoolcraft College, Minnow Pond (Min4) at 14 mile in Farmington Hills, and Up2 at Shiawasee Park. Both the Bell2 and Up2 sites had readings beyond (higher) than the highest level on the strip.

The state of Michigan Department of Great Lakes and Energy (EGLE) only recently developed guidelines for chloride and 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.

FOTR also received a grant from the EGLE Nonpoint Source Unit with the goal of supporting ongoing assessment of the extent of chloride impairment in the Rouge River through targeted monitoring. The data will be collected using four different methods that include EGLE’s required protocol for impairment designations so that waterbodies can be assessed for chloride impairment and potential listing.



In addition to Salt Watch, Friends of the Rouge Bug Hunt volunteers have also been testing for nitrates in the past year through the Izaak Walton League’s Nitrate Watch program. According to them “Nitrate is formed when nitrogen combines with oxygen in water. It comes from human-made sources, including fertilizers, animal feedlots, and sewage. Nitrate dissolves in water and can easily be carried by rainwater and melting snow until it reaches surface water or groundwater. When there are elevated levels of nitrate in a water source, that’s almost certainly because of human-made contaminants. The drinking water standard for nitrate as nitrogen is 10 parts per million (ppm), as established by the EPA in the 1990s. While the EPA does not provide a standard for nitrate in lakes or streams, consistently high nitrate readings (over 10ppm) may be cause for concern in all surface waters.”



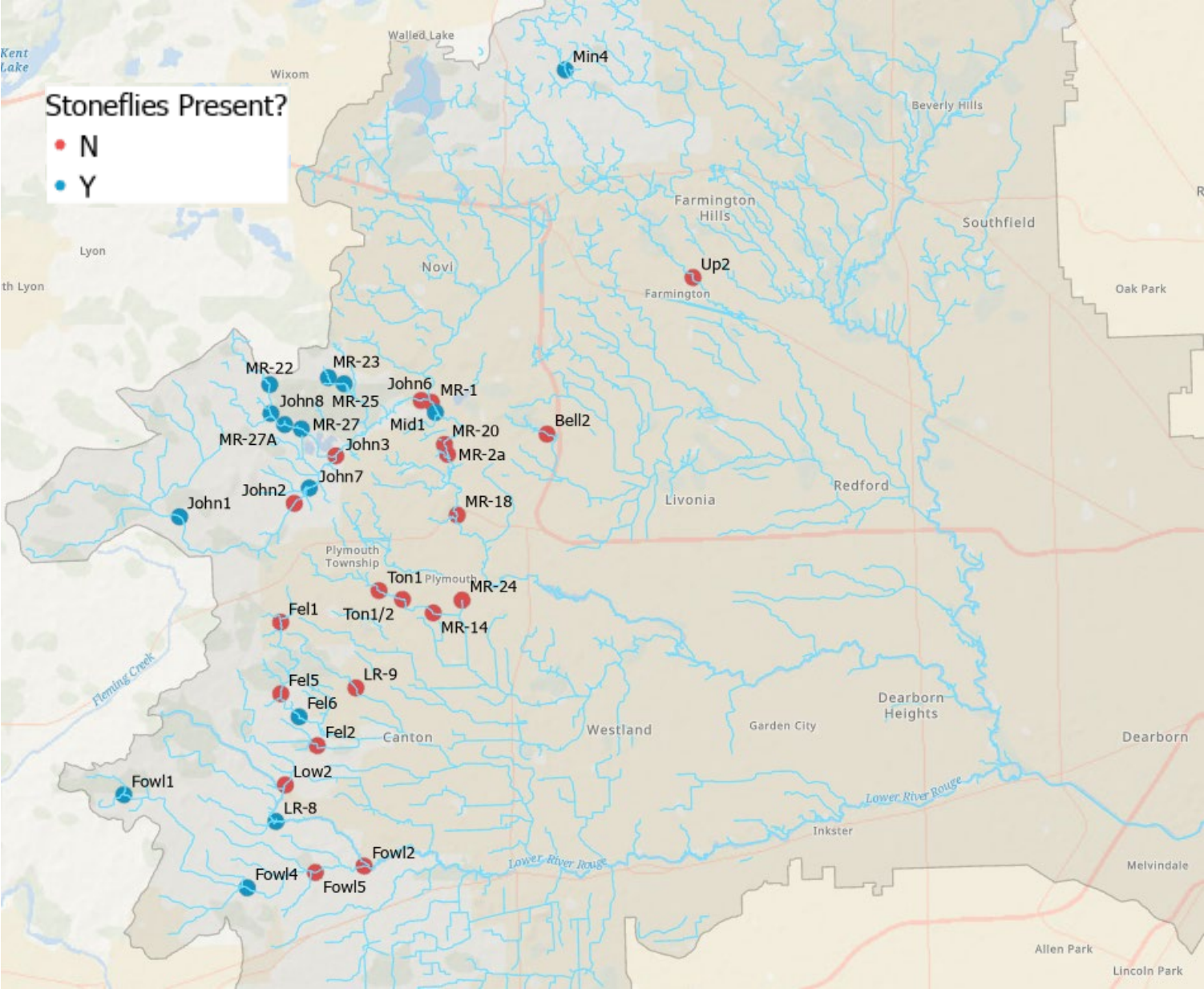
Luckily, no elevated levels of nitrate were found at any Stonefly sites this year. Levels ranged from 0ppm-3ppm; the highest level (3ppm) was recorded at MR-2a which is a site located in the Middle Rouge downstream of Waterford Pond in Northville Township.

You can sign up for the [Salt Watch program](#) and/or the [Nitrate Watch 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 salt results](#) , [map of nitrate results](#) and see how the Rouge compares to other areas.

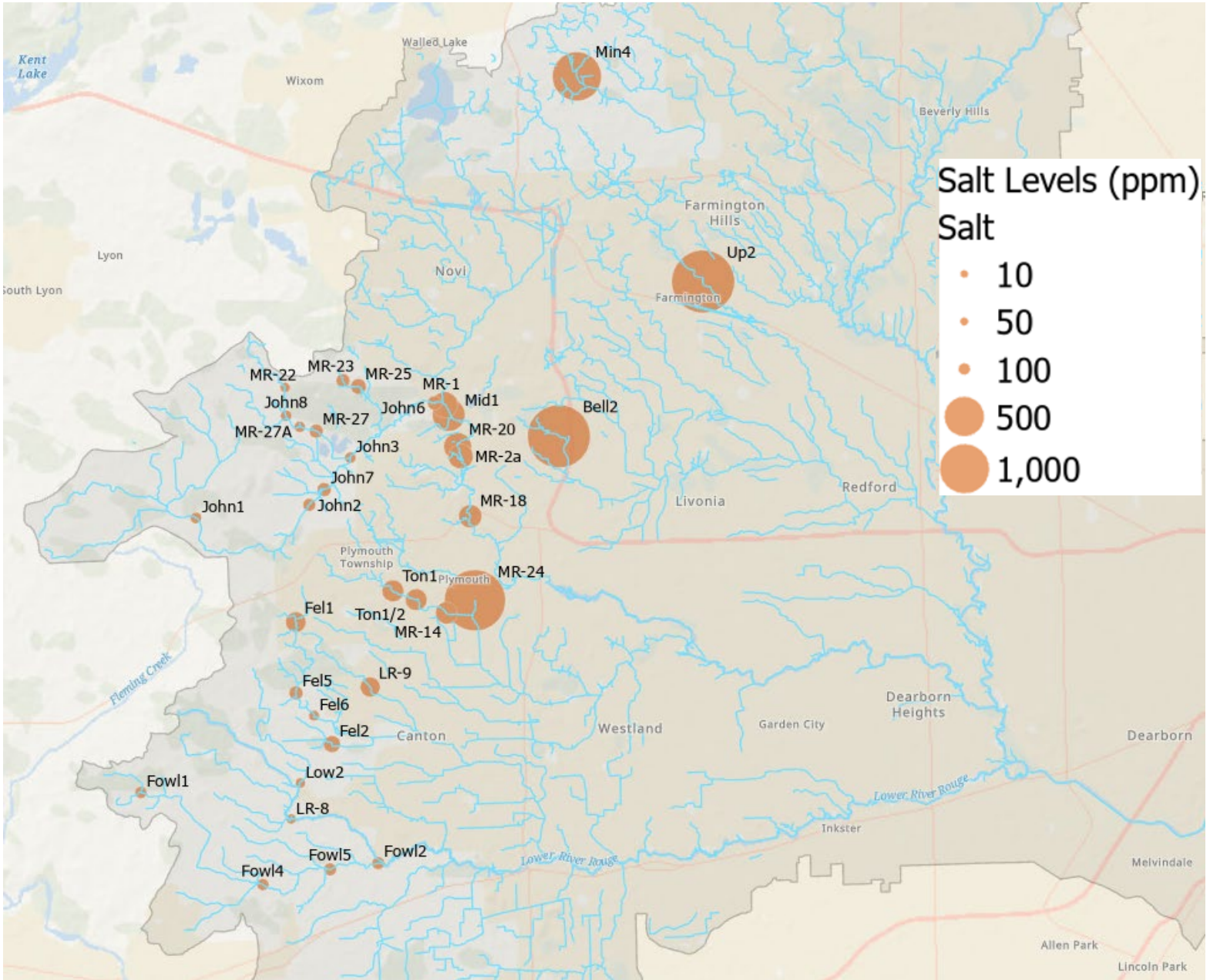
Thank you to all the volunteers, Team Leaders, Wayne County, and Sue Thompson for additional sampling. The Winter Stonefly Search is part of Friends of the Rouge’s long-term volunteer monitoring program and is funded through the Alliance of Rouge Communities, Washtenaw County Water Resources Commission,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

Table 1: 2024 Stonefly and Chloride Findings								
BRANCH	Stream Name	FIELDID	Site Description	Stoneflies present?	ST24Family	Salt, ppm	Nitrate, ppm	Nitrite, ppm
Lower	Fellows Creek	Fel1	Top of Hill Ct	N		159	1	0.15
Lower	Fellows Creek	Fel2	Vintage Valley	N		119	2	0.15
Lower	Fellows Creek	Fel5	Warren Ridge	N		85	1	0.15
Lower	Fellows Creek	Fel6	Hanford	Y	Capniidae	50	1	0.15
Lower	Fellows Creek	LR-9	Fellows Beck Warren	N		154	0	0.15
Lower	Fowler Creek	Fowl1	Prospect	Y	Capniidae	66	1	0.15
Lower	Fowler Creek	Fowl2	Fowler Beck	N		75	2	0.15
Lower	Fowler Creek	Fowl4	Ridge Rd S of Geddes	Y	Capniidae	66	2	0.15
Lower	Fowler Creek	Fowl5	Fowler Denton	N		75	2	0.15
Lower	Lower Rouge	Low2	Cherry Hill	N		43	1	0.15
Lower	Lower Rouge	LR-8	Ridge Proctor	Y	Capniidae	44	1.5	0.15
Middle	Johnson Creek	John1	5M Salem	Y	Capniidae	58	1	0.15
Middle	Johnson Creek	John2	5M NV	N		75	1	0.15
Middle	Johnson Creek	John3	6M NV	N		58	0	0
Middle	Johnson Creek	John6	Hines	N		90	0	0
Middle	Johnson Creek	John7	Arcadia	Y	Capniidae	85	2	0
Middle	Johnson Creek	John8	Maybury Angell	Y	Perlodidae	57	2	0
Middle	Johnson Creek	MR-22	Maybury south	Y	Capniidae	43	0	0
Middle	Johnson Creek	MR-23	Maybury north	Y	Capniidae	83	0	0
Middle	Johnson Creek	MR-25	Maybury East	Y	Capniidae	103	0	0
Middle	Johnson Creek	MR-27	Ridge	Y	Capniidae	85	0	0.15
Middle	Johnson Creek	MR-27A	Florissant Dr.	Y	Capniidae	57	0	0
Middle	Middle Rouge	MR-1	Northville Rec W	N		227	1	0
Middle	Middle Rouge	Mid1	Northville Rec E	Y	Capniidae	301	2	0
Middle	Middle Rouge	MR-18	Springbrook Rec	N		190	2.5	0.15
Middle	Middle Rouge	MR-20	Waterford Bd	N		242	2	0.15
Middle	Middle Rouge	MR-2a	Reservoir Rd W	N		210	3	0
Middle	Tonquish Creek	MR-14	Smith Elem	N		179	1	0
Middle	Tonquish Creek	MR-24	Lion's Pk	N		620	2	0
Middle	Tonquish Creek	Ton1	Plym Twp Pk	N		174	1	0.15
Middle	Tonquish Creek	Ton1/2	Canton Ctr Rd	N		174	1	0.15
Upper	Bell Branch	Bell2	Schoolcraft College	N		641	1	0.15
Upper	Minnow Pond	Min4	14 Mile	Y	Capniidae	484	1	0.15
Upper	Upper Rouge	Up2	Shiawasee Park	N		641	2	0.15

Map 1: 2024 Stonefly Sites



Map 2: 2024 Chloride Readings



Friends ^{of} the **ROUGE**

Spring Bug Hunt

Surveying Since 1998

Become a Rouge Community Scientist!

Do you ever wonder about what lives in the river besides fish and turtles? Come to our 2024 Spring Bug Hunt and see for yourself the amazing variety of aquatic insects, crayfish, snails and clams that make up the bottom of the river food chain. Volunteers visit sites throughout the headwaters of the Rouge watershed and search for aquatic invertebrates. The presence or absence of these streambed creatures gives us valuable data on the quality of the river water and overall habitat.



Spring Bug Hunt

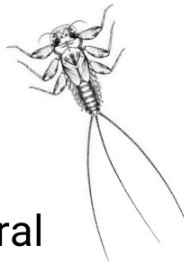
Saturday, April 20, 2024

10 a.m. – 4 p.m.

Meet at the Plymouth Cultural
Center, 525 Farmer St., Plymouth

Registration Required by April 15th

No prior experience needed, but registration is required. Children eight and older are welcome when accompanied by a participating adult. Groups of six or less can sign up together.



Register Now



TheRouge.org/Bug-Hunts

Questions? Email Monitoring Manager, Lauren at leaton@therouge.org

Want to get more involved? Train to be a Team Leader – bank person or collector

Team Leader Training:

Sat. April 6, 2024 9am-1pm

Register Here: <https://forms.gle/Ffu8j8jUcd63WqHV6>

Eighty people participated in Friends of the Rouge (FOTR)'s 2025 Winter Stonefly Search on January 25, 2025. The weather on January 25 was not too bad-the sun came out and the temperature rose above freezing, but the river at five sites was simply too frozen to sample! Team leaders employed ice picks, spuds, and pickaxes to successfully break the ice and sample in many locations. Despite the frozen conditions, our fantastic volunteers did a wonderful job of searching for stoneflies throughout the watershed.

This report contains data for 39 sites (Table 1 pg. 6 and map pg. 7). Fifteen teams visited twenty-nine sites, but only twenty-four were sampled since five of the sites were too frozen to sample, and at one of the mostly frozen sites they were able to test for chloride. The sampled sites include one at Schoolcraft College by faculty who collected samples, and one at Lawrence Tech University's team composed of Environmental Alliance Student Group (EASG) members. Five additional sites were sampled by Wayne County Department of Public Services, and five by Sue Thompson.

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's volunteer benthic macroinvertebrate monitoring program.

Stoneflies were found at eleven of the thirty-four fully sampled sites (32%) (map pg. 7 and Table pg. 6). All were found on the Lower and Johnson Creek, a Middle branch tributary. All but one of the sites had slender winter stoneflies (Capnids-family Capniidae). The only Perlodid stonefly (family Perlodidae) was at the John2 site.



Lower Branch

Twelve sites were visited, but only nine sampled on the Lower Branch: five on Fellows Creek, three on Fowler Creek and one on the main branch of the Lower. Two of the nine sites (22%) had stoneflies, and all were slender winter stoneflies (Capnids). Stoneflies were found at one site in Fowler Creek (Fowl 4), and one site in the Lower Rouge (LR-8).



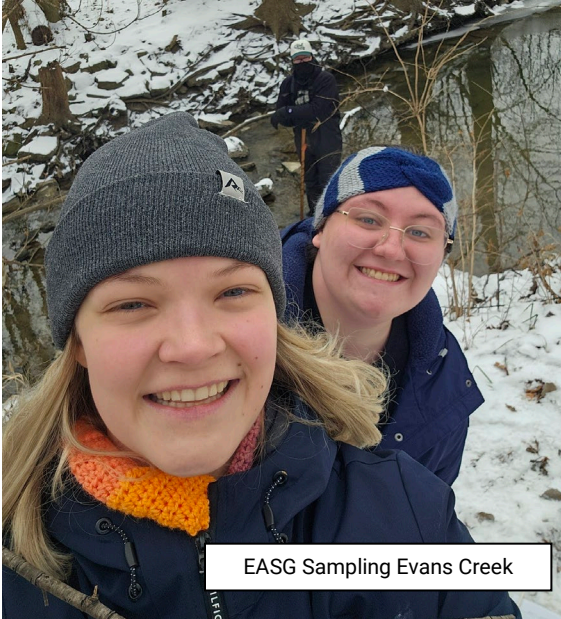
Middle Branch

Twenty-three sites were visited, but twenty-two were sampled on the Middle Branch: twelve on Johnson Creek, two on Tonquish Creek, and eight on the Middle branch. Nine of the twenty-two sites (41%) had stoneflies and all were on the Johnson Creek. All sites except John2 (which had the only Perlodidae plus Capniidae) had only slender winter stoneflies (Capniidae). A stonefly exoskeleton was found at John5 (Fish Hatchery Park). The stonefly molts (sheds their skin) several times before emerging as a winged adult. This is an indication that stoneflies were present at the site at one time, but since the team did not collect a stonefly larvae, the site is reported as having no stoneflies.



Main Branch

One site on the Main Branch was sampled. This was Evan2 at Lawrence Tech University. The newly formed EASG at LTU braved the chilly weather and sampled the site. No stoneflies were found at the Evan2 site.

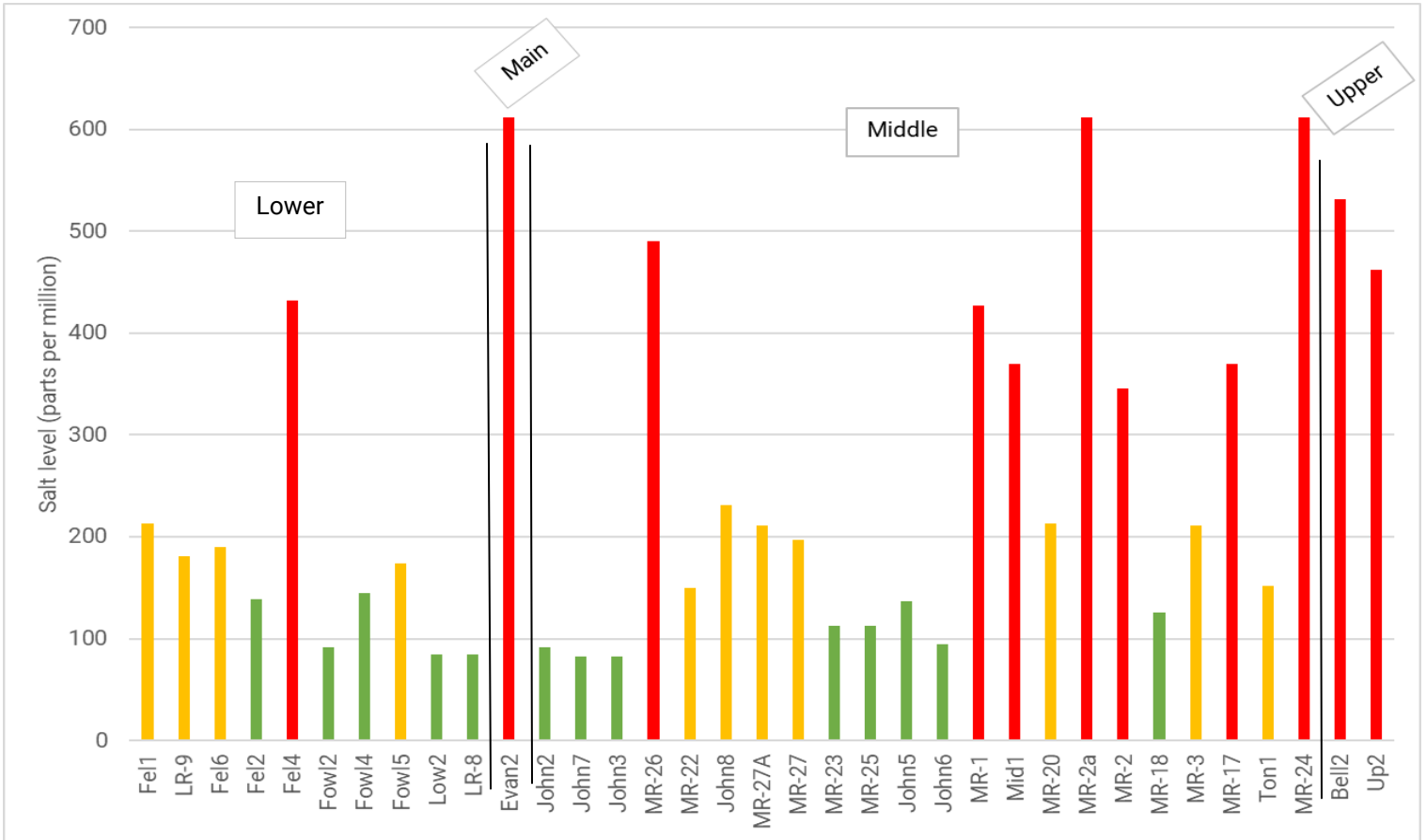


Upper Branch

Three Upper Branch sites were visited, but only two were sampled. These sites included one site on Bell Creek, and one on the main Upper branch. No stoneflies were found at either of the sites in the Upper Branch. Stoneflies are very rarely found in the Upper Branch.



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 below 150 ppm are represented by the green bars. Levels above 150 ppm cause harmful impacts to aquatic life in the stream (chronic toxicity). These values are represented by the orange bars in the graph below. Levels above 320 ppm are toxic to aquatic life (acute toxicity). These are represented by the red bars in the graph below.



The 2025 chloride levels (see graph above, and Table pg. 6) varied by the branch. Half of the Lower Branch sites had salt levels greater than 150ppm. The highest was at Fel4 (Flodin Park). The single site sampled in the Main Branch (Evan2) had a level that exceeded the maximum value of the salt strip (>612 ppm), meaning they could possibly be higher. In the Middle branch, seven of the Johnson Creek sites were below 150ppm while five were above 150ppm. Downstream in the Middle Branch levels rose above 150 ppm: all sites except MR-18 (Springbrook Recreation Area) were greater than 150ppm. Two sites in the Middle, MR-2a on the Middle Branch, and MR-24 on Tonquich Creek, had salt readings meeting the maximum value of the test strip. Both Upper branch sites were above 320 ppm (toxic level): Bell Creek (Bell2) at Schoolcraft College, and Up2 at Shiawasee Park.

In 2024, FOTR received a grant from the EGLE Nonpoint Source Unit with the goal of supporting ongoing assessment of the extent of chloride impairment in the Rouge River through targeted monitoring. The data was collected using four different methods that included EGLE’s required protocol for impairment designations so that waterbodies can be assessed for chloride impairment and potential listing. A report of our findings will be available shortly on our website, <https://therouge.org/>. You can sign up for the [Salt Watch 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 salt results](#), and see how the Rouge compares to other areas. There are also many great tips on how to reduce salt in your community on the Salt Watch website.

Thank you to all the volunteers, Team Leaders, Wayne County, and Sue Thompson for additional sampling. The Winter Stonefly Search is part of Friends of the Rouge's long-term volunteer monitoring program and was made possible by Mercedes-Benz financial services.

Mercedes-Benz Financial Services



Table 1: 2025 Stonefly and Chloride Findings						
BRANCH	Stream Name	FIELDID	Site Description	Stoneflies present?	ST25Family	Salt (ppm)
Lower	Fellows Creek	Fel1	Top of Hill Ct	N		213
Lower	Fellows Creek	LR-9	Fellows Beck Warren	N		181
Lower	Fellows Creek	Fel5	Warren Ridge	N/A		
Lower	Fellows Creek	Fel6	Hanford	N		190
Lower	Fellows Creek	Fel2	Vintage Valley	N		139
Lower	Fellows Creek	Fel4	Flodin Pk	N		432
Lower	Fowler Creek	Fowl1	Prospect	N/A		
Lower	Fowler Creek	Fowl2	Fowler Beck	N		92
Lower	Fowler Creek	Fowl4	Ridge Rd S of Geddes	Y	Capniidae	145
Lower	Fowler Creek	Fowl5	Fowler Denton	N		174
Lower	Lower Rouge	Low2	Cherry Hill	N/A		85
Lower	Lower Rouge	LR-8	Ridge Proctor	Y	Capniidae	85
Main	Evans Creek	Evan2	LTU	N		>612
Middle	Johnson Creek	John1	5M Salem	N/A		
Middle	Johnson Creek	John2	5M NV	Y	Capniidae, Perlodidae	92
Middle	Johnson Creek	John7	Arcadia	Y	Capniidae	82
Middle	Johnson Creek	John3	6M NV	Y	Capniidae	82
Middle	Johnson Creek	MR-26	Napier Rd	N		490
Middle	Johnson Creek	MR-22	Maybury south	Y	Capniidae	150
Middle	Johnson Creek	John8	Maybury Angell	Y	Capniidae	231
Middle	Johnson Creek	MR-27A	Florissant Dr.	Y	Capniidae	211
Middle	Johnson Creek	MR-27	Ridge	Y	Capniidae	197
Middle	Johnson Creek	MR-23	Maybury north	Y	Capniidae	113
Middle	Johnson Creek	MR-25	Maybury East	Y	Capniidae	113
Middle	Johnson Creek	John5	Fish Hatchery Pk	N		137
Middle	Johnson Creek	John6	Hines	N		95
Middle	Middle Rouge	MR-1	Northville Rec W	N		427
Middle	Middle Rouge	Mid1	Northville Rec E	N		370
Middle	Middle Rouge	MR-20	Waterford Bd	N		213
Middle	Middle Rouge	MR-2a	Reservoir Rd W	N		612
Middle	Middle Rouge	MR-2	Reservoir Rd	N		346
Middle	Middle Rouge	MR-18	Springbrook Rec	N		126
Middle	Middle Rouge	MR-3	Plym Riverside	N		211
Middle	Middle Rouge	MR-17	I-275 Clam Bar	N		370
Middle	Tonquish Creek	Ton1	Plym Twp Pk	N		152
Middle	Tonquish Creek	MR-24	Lion's Pk	N		612
Upper	Bell Branch	Bell2	Schoolcraft College	N		531
Upper	Minnow Pond	Min4	14 Mile	N/A		
Upper	Upper Rouge	Up2	Shiawasee Park	N		462



Friends of the ROUGE

Spring Bug Hunt

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Spring Bug Hunt

Saturday, April 12, 2025

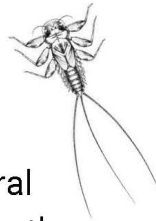
10 a.m. – 4 p.m.

Meet at the Plymouth Cultural Center, 525 Farmer St., Plymouth

Registration Open Until Full

No prior experience needed, but registration is required.

Children eight and older are welcome when accompanied by a participating adult. Groups of six or less can sign up together.



Register Now



TheRouge.org/Bug-Hunts

Questions? Email Monitoring Manager,
Lauren at leaton@therouge.org

Program supported by:



Working together, restoring the river

This program is supported by Washtenaw County, the City of Southfield, the City of Troy, the Village of Beverly Hills, Northville Township, the City of Plymouth, Plymouth Township, the City of Novi, the City of Livonia, the City of Farmington, the city of Birmingham, donations and memberships.

Want to get more involved? Train to be a Team Leader – bank person or collector

Team Leader Training:
Sat. April 5, 2025 9am-1pm
Plymouth Twp. Park
[Register Here](#)