

Hello Adopt-A-Stream Volunteers!

Thank you all for volunteering your efforts in 2020 to assist in the very valuable and rewarding Adopt-A-Stream (AAS) program. To help us better understand the health of our waters within the Clinton River Watershed, here is a summary of our 2020 monitoring results. Overall, a total of 29 different sites were monitored this year.

Unfortunately, due to the onset of the COVID-19 pandemic in March, our spring Adopt-A-Stream event was cancelled with the safety of staff and volunteers in mind. Although we missed hosting AAS, CRWC staff was able to use this time to better adapt to the new social standards in order to continue serving the Clinton River Watershed and it's community. Staff was able to develop various online educational and stewardship programs, host remote presentations, and build new virtual trainings in order to further our mission of enhancing and celebrating the Clinton River, it's watershed, and Lake St. Clair.

With masks, appropriate social distancing guidelines and dedicated volunteers, CRWC was able to host a fall Adopt-A-Stream event. Although less sites were monitored in 2020 than in previous years, overall macroinvertebrate scores have appeared to slightly improve when compared to data collected in fall 2019. In October 2020, 31% of sites were classified as Poor (down 12% from 2019), 38% of sites were classified as fair (up 1% from 2019), and 31% of sites were scored as good (up 11% from 2019). Mirroring 2019, no sites were scored as excellent in the fall this year. As seen in the past, most of the sites that scored in the Good and fair range are found in more rural and forested regions of the watershed such as Stony Creek, Paint Creek, and the North Branch. Most sites that scored in the poor range are found in more populated areas of the watershed, such as Plumbrook Drain and Big Beaver Creek. Water bodies in more urbanized areas of the watershed have historically been channelized to a greater extent than those in less populated areas. This results in these water bodies having a less complex substrate composition containing mostly silt that may not support macroinvertebrates as well as more diverse substrates found in less populated regions of the watershed. The highest macroinvertebrate score was collected from UC2, a site in the Kimball Preserve in Independence Township near the headwaters of the Clinton River. The lowest score was found at site LSC4 in a more urbanized area of the watershed found further downstream close to Lake St. Clair. The four most abundant macroinvertebrates found by volunteers are listed below. Damselflies, a Group 2 organism, were the most common macroinvertebrate found. Damselflies appeared as common (11+) in 7 sites, and as rare (< 10) in 14 sites. Mayflies, a Group 1 organism, was the second most abundant macroinvertebrate, appearing as common in 6 sites and as rare in 14 sites. Scuds, as usual, made the most abundant list. Scuds were found in 19 sites total and were common in 5 of those sites. Midge flies also made the list, showing face at 17 sites and being counted as common in 4.

Four most abundant invertebrates collected throughout the watershed:

- Damselfly (*Odonata*)
- Mayfly (*Ephemeroptera*)
- Scud (*Amphipoda*)
- Midge (*Chironomidae*)



This year, in partnership with the Izaak Walton league of America (IWLA), CRWC added the Winter Salt Watch program to Adopt-A-Stream. The Winter Salt Watch program incorporates chloride testing into AAS in order to further monitor the health of our watershed. Chloride forms when a salt dissolves in water, and although it occurs naturally, it can be harmful to native vegetation and wildlife populations in excessive quantities. Although its debut was planned for the spring of 2020, the first wave of monitoring for salt content was conducted by our volunteers during the fall AAS event. Volunteers sampled a total of 21 sites for chloride content. Preliminary results show the lowest values of chloride parts per million in the Stony and Paint creek subwatersheds and on the contrary, the highest values were found in the Clinton Main and Red Run subwatersheds.

To refresh your memories, after we collect the macroinvertebrates from the stream and identify them, we can then calculate a “Stream Quality Score” and rank the stream location (see Appendix A). The scores and classifications I refer to on the first page can be seen on the graph below (Figure 1.). Also found below are the stream quality graphs from our 2019 (Figure 2) and 2018 (Figure 3) spring and fall results. For site locations and ID, please refer to the next page (Table 1). I’ve included a map of the fall 2020 sites and their ranks as well as a similar map from fall 2019 for comparison (Figure 4). CRWC staff is currently working on looking at long-term trends with our AAS data and analysis which will be shared with everyone and available on our website at a later date. In the meantime, for further historic data or questions please contact me at any time or take a look at the data for the previous years on our website: <http://www.crowc.org/programs/adoptastream/results/>.

Thanks Again,

Eric Diesing
Watershed Ecologist

Michael Eovaldi
Program Assistant

Table 1: Site ID and Locations for the 2020 monitoring locations

Water Body	Site ID	Location
North Branch	NB1	Wolcott Mill
Cottrell Drain	LSC4	Southwest corner of Jefferson and Donaldson
Gloede Drain	CREW10	21 Mile and Garfield Rd
Clinton River	CM11	Adams Rd- Quail Ridge
Clinton River	CM9	Behind CRWC Office
North Branch	NB16	Camp Rotary; Wolcott Mill Metropark
Clinton River	CREW12	Behind Partridge Creek Mall
Paint Creek	SP8	Upstream of Kings Cove Bridge off Tieken
Clinton River	CM6	Yates Park
Price Brook Drain	CREW8	26 Mile and Hayes
Stony Creek	SP4	31 Mile/ E. of Mt. Vernon
Plumbrook Drain	RR11	Fieldcrest Lane, Sterling Heights
Clinton River	CREW1	Shelby Township
Paint Creek	SP14	Paint Creek Cider Mill
Clinton River	CREW2	Macomb Township
East Coon Creek	NB3	Armada Middle school
Clinton River	UC2	Kimball Preserve
Stony Creek	SP5	West Branch, Oakland Township
Stony Creek	SP15	Van Hoosen Museum
Stony Creek	SP18	Lakeville; Rochester Rd and Milmine
Galloway Creek	CM4	Northwest Corner of Perry and Giddings
Clinton River	CM5	Southwest Corner of Avon and Livernois
Paint Creek	SP1	Stanton and Newman Rd
Clinton River	UC6	Deerhill Dr.
Clinton River	UC1	6815 Dixie Hwy
Chrissman Drain	RR6	18 1/2 Mile and Hillview Rd
Big Beaver Creek	RR4	James Nelson Park
Clinton River	CREW13	Coyote Joe's Fishing Location
Paint Creek	SP9	Rochester Public Library

Figure 1: Bar graph of Stream Quality scores (based on Adopt-A-Stream volunteer macroinvertebrate samples) for fall 2020.

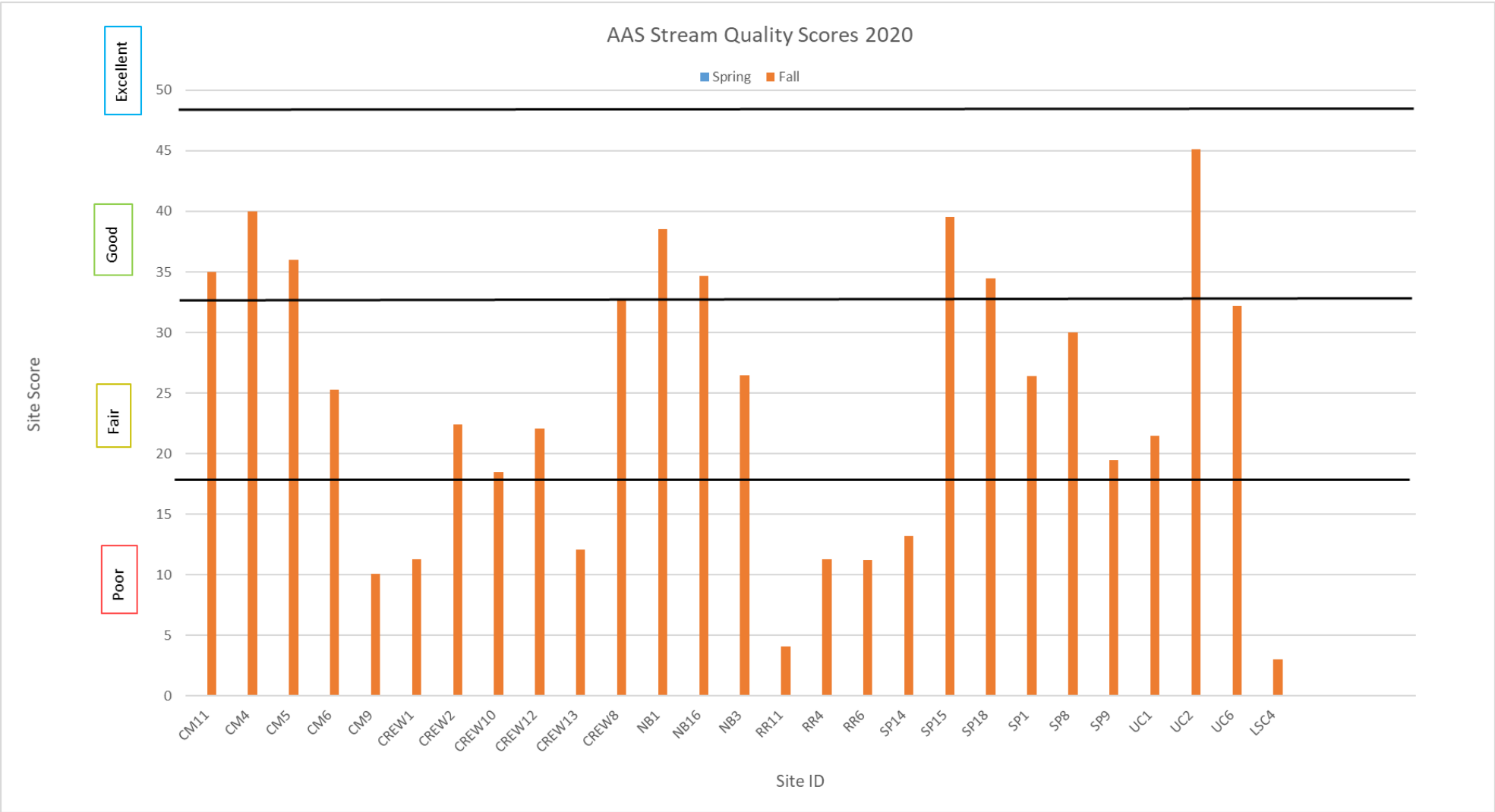


Figure 2: Bar Graphs of Stream Quality Scores From (based on Adopt-A-Stream volunteer macroinvertebrate samples) from spring and fall 2019.

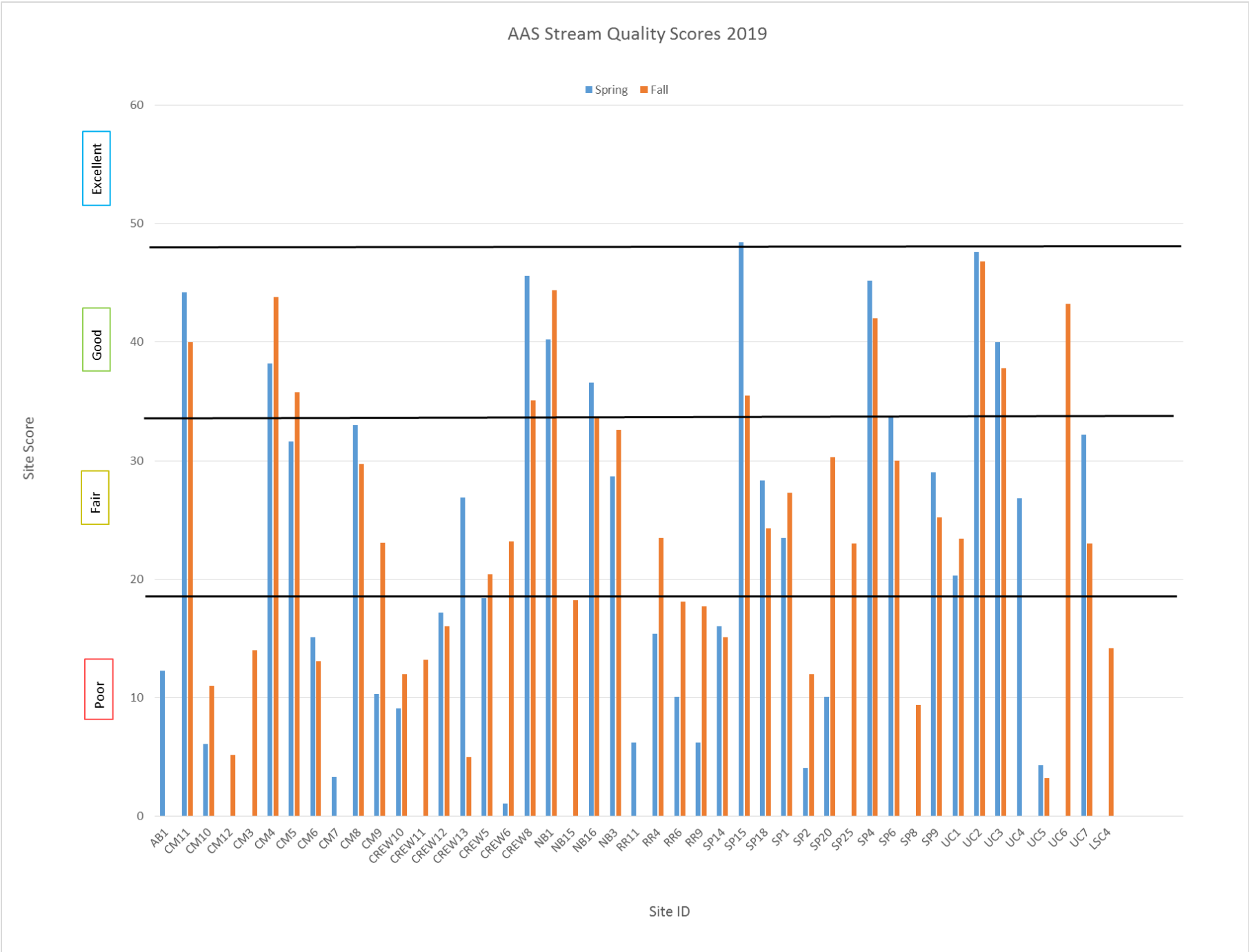


Figure 3: Bar Graphs of Stream Quality Scores From (based on Adopt-A-Stream volunteer macroinvertebrate samples) from spring and fall 2018.

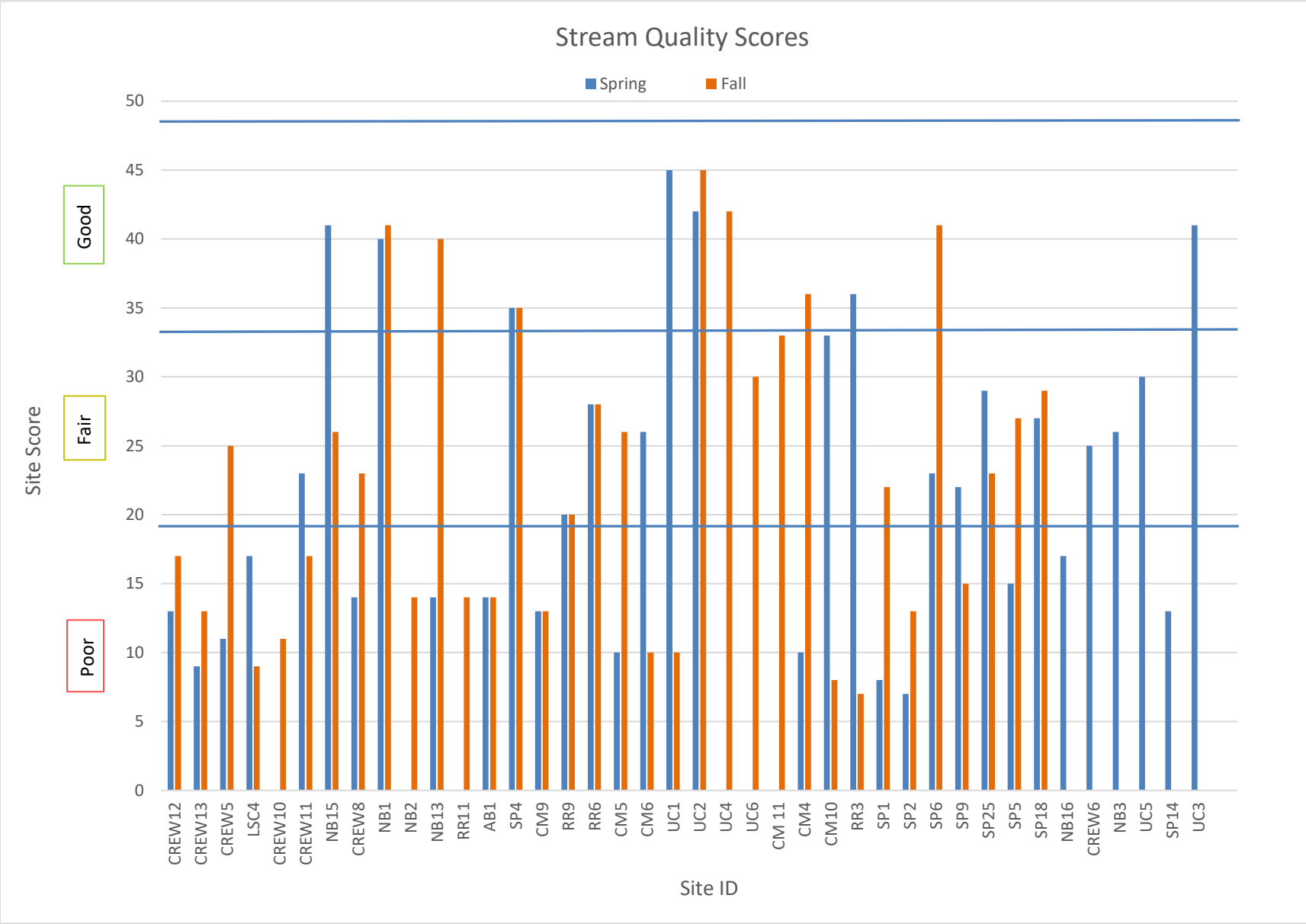
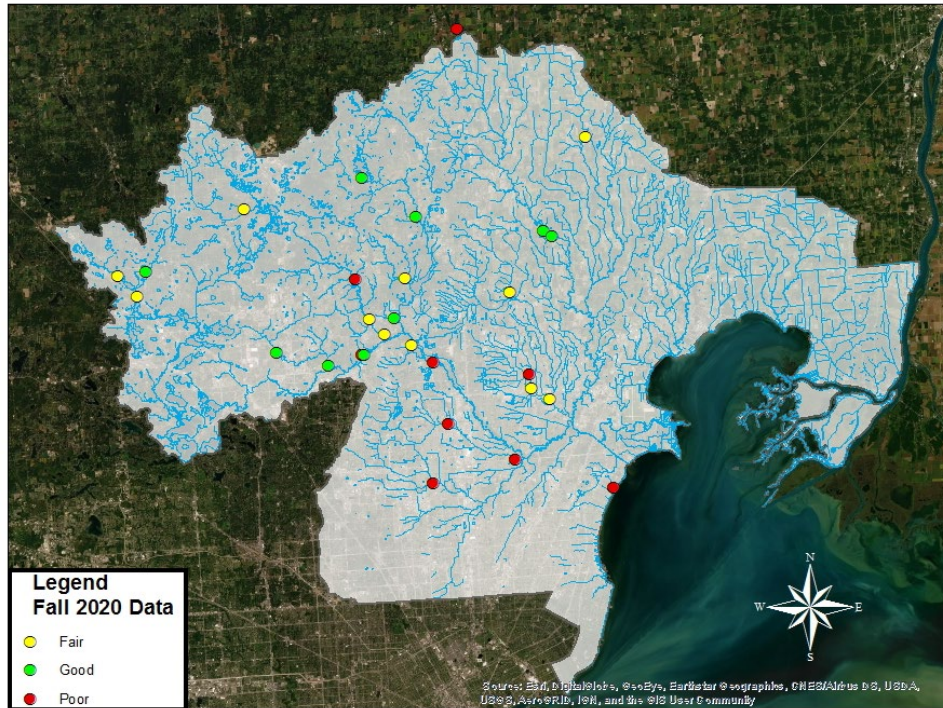
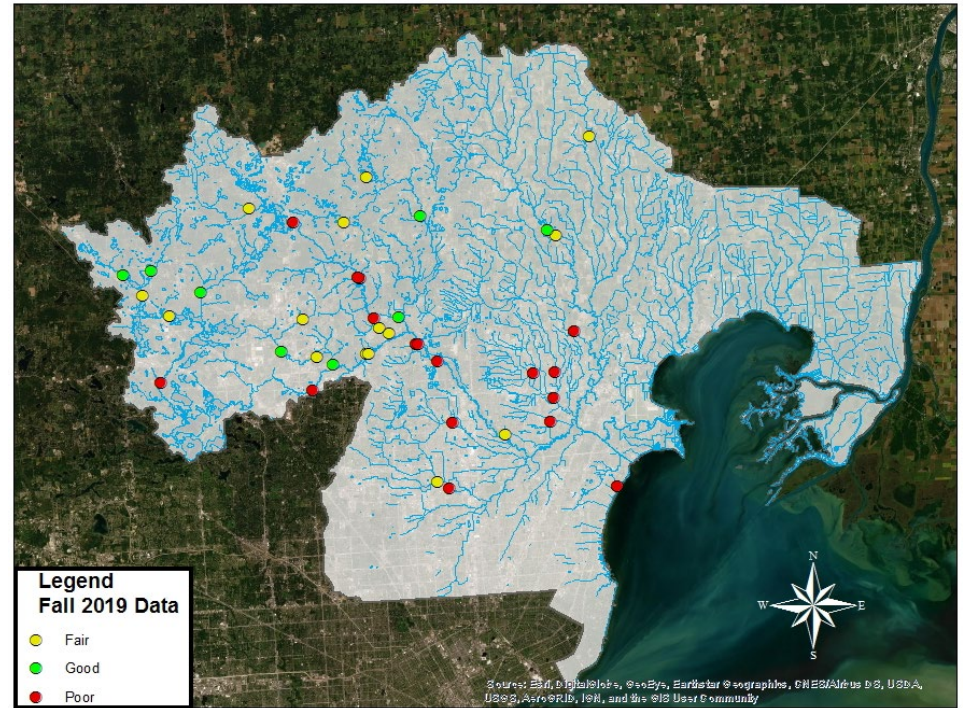


Figure 4: Maps of the Watershed showing all fall 2020 sites and all fall 2019 sites and their corresponding macroinvertebrate habitat ranks

Fall 2020 Adopt-A-Stream Results



Fall 2019 Adopt-A-Stream Results



APPENDIX A: Macroinvertebrate Data Form

Site ID or Location: _____

Date: _____

Identification and Enumeration

Use the codes "R" (rare) = 1-10, or "C" (common) = 11 or more when recording the number of individuals in each taxonomic group.

Group 1: Sensitive

- ___ Caddisfly larvae (Trichoptera) *EXCEPT Net-spinning caddisflies
- ___ Hellgrammites (Megaloptera)
- ___ Mayfly nymphs (Ephemeroptera)
- ___ Gilled (right-handed) snails (Gastropoda)
- ___ Stonefly nymphs (Plecoptera)
- ___ Water penny's (Coleoptera)
- ___ Water snipe fly (Diptera)

Group 2: Somewhat-Sensitive

- ___ Alderfly larvae (Megaloptera)
- ___ Beetle adults (Coleoptera)
- ___ Beetle larvae (Coleoptera)
- ___ Black fly larvae (Diptera)
- ___ Clams (Pelecypoda)
- ___ Crane fly larvae (Diptera)
- ___ Crayfish
- ___ Damselfly nymphs (Odonata)
- ___ Dragonfly nymphs (Odonata)
- ___ Net-spinning caddisfly larvae (Trichoptera)
- ___ Scuds (Amphipoda)
- ___ Sowbugs (Isopoda)

Group 3: Tolerant

- ___ Aquatic Worms (Oligochaeta)
- ___ Leeches (Hirudinea)
- ___ Midge larvae (Chironomidae)
- ___ Pouch snails (Gastropoda)
- ___ True bugs (Hemiptera)
- ___ Other true flies (Diptera)

STREAM QUALITY SCORE
(metric created by MiCorps, www.micorps.net)

Group 1
 ___ # of R's * 5.0 = ___
 ___ # of C's * 5.3 = ___
 Group 1 Total = ___

Group 2
 ___ # of R's * 3.0 = ___
 ___ # of C's * 3.2 = ___
 Group 2 Total = ___

Group 3
 ___ # of R's * 1.1 = ___
 ___ # of C's * 1.0 = ___
 Group 3 Total = ___

Total Stream Quality Score = _____
(Sum of totals for groups 1-3; round to nearest whole number)

Excellent (>48)
 Good (34-48)
 Fair (19-33)
 Poor (<19)

Identifications made by: _____

Identifications verified by: _____