Hello Adopt-A-Stream Volunteers!

As always, thank you all for volunteering your time in 2017 to with our Adopt-A-Stream program. Both spring and fall this year had us battling the rain and high flows, which certainly can have an effect on both the bugs themselves as well as our monitoring efforts/efficiency. To help us better understand the health of our waters within the Clinton River Watershed, here is a summary of our 2017 monitoring results. In all, a total of 45 sites were monitored in 2017 between spring and fall. Thanks to all our teams and volunteers for assisting. Below are some photos from this year's monitoring.

When looking at scores from spring 2017 results, 37.2% of sites were classified as "Poor", 46.5% were classified as "Fair", and 16.3% were classified as "Good". As for fall 2017 results, 26.8% of sites were classified as "Poor", 43.9% were classified as "Fair", and 26.8% were classified as "Good". We did have one site that scored in the excellent range as well. Almost all subwatersheds had a variety of "Fair" and "Poor" sites. Most of the sites that were determined to be good were located within the Upper Clinton subwatershed. Most of these sites had an abundance of multiple macroinvertebrate families. The four most abundant macros found within the watershed in the fall monitoring were the Scud, Midge, net spinning Caddisfly and Damselfly (see below). Midge fall under group 3 or "tolerant" while the other three fall under group 2 or "somewhat sensitive". Overall, across the entire watershed most of our streams were categorized as "fair". The one site that scored in the excellent range was located in the Upper Clinton subwatershed in a preserve.

When looking at annual average scores compared over the last 3 years, roughly 42% of the sites are showing trends that indicate improvement. Meanwhile, 33% show little to no change, and 25% showed trends that indicate a decrease in scores.

- Four most abundant invertebrates collected throughout the watershed (In no particular order):

Scud (Amphipoda)

Midge Larvae (Chironomidae)

Caddisfly (Trichoptera)

Damselfly (Odonata)

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 in the first two paragraphs can be seen on the graph below (Figure 1.). For site locations and ID, please refer to the next page (Table 1). I've included two maps as well one of the spring 2017 sites and one of the fall 2017 sites (Figure 2). 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.crwc.org/programs/adoptastream/results/.

Thanks Again

Matt Einheuser   Eric Diesing
Watershed Ecologist   Environmental Scientist
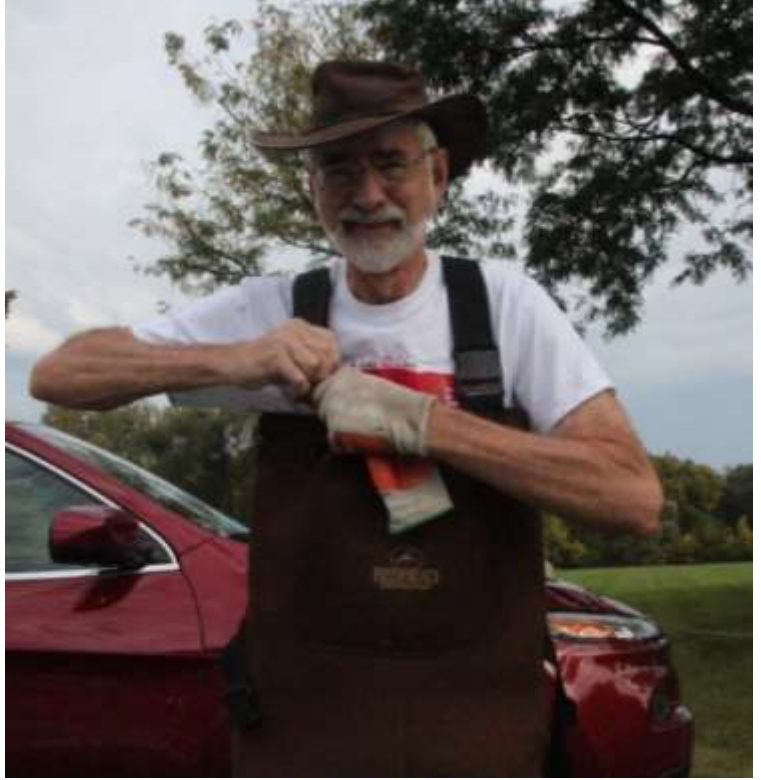
Adopt A-Stream
Fall Monitoring
2017

Table 1: Site ID and Locations for the 2017 monitoring locations (* indicates sites only monitored once)

Waterbody	Site ID	Site location
Partridge creek	CREW 12*	Behind Partridge creek mall
McBride Drain	NB15	Broughton in Macomb Twp
Gloede Drain	CREW 10	21 Mile and Garfield
Sashabaw Creek	UC3	Pine knob rd W of Clintonville
W.B. Stony Creek	SP6	Stony Creek on Lake George Road
Stony Creek	SP4	31 Mile / E. of Mt. Vernon
Paint Creek	SP9	Rochester Public Library
Clinton River	NB1	Wolcott Mill
Paint Creek	SP8	King's Cove
Cottrel Drain	LSC4	Jefferson and Donaldson
Beaver Creek	RR9	Beaver Creek Park
Gallagher Creek	SP25	Gallagher/Paint Creek
Clinton River	UC1	6815 Dixie Hwy
Clinton River	UC4	United Methodist Church on Waldon Rd
Avon Creek	CM9	Avon and Livernois
Plumbrook Drain	RR11	Fieldcrest Ln
Clinton River	CREW5	Waldenburg Park, 21 Mile east of Romeo Plank
Salt River	AB1*	New Haven
Paint creek	SP14	Paint creek cider mill
Chrissman Drain	RR6	18 1/2 mile and Hillview rd
Price Brook Drain	CREW8	26 Mile and Hayes
Deer Lake Inlet	UC6	Deerhill Dr
Clinton river	UC2	Kimball Reserve
Clinton River	CM5	SW Corner of Avon and Livernois
Galloway Creek	CM4	NW Corner of Perry and Giddings
Kuku Creek	CREW11	Clinton Twp Arboretum
Clinton River	CM6	Yates Cider Mill
North Branch	NB13	Romeo Plank Rd between 32 and 31 Mile
Galloway Creek	CM10	Oakland University Preserve
Nelson Drain	RR3	Dequindre and Hill Dr
Beaver Creek	RR4	Dequindre east of 15 Mile
Paint Creek	SP2	Children's Park
Stony Creek	SP15	Van Hoosen
Clinton River	CREW6	Clinton River Park
Paint Creek	SP3	Clarkston and Kern
Paint Creek	SP20	Rochester Municipal Park
Paint Creek	SP1	Stanton and Newman Rds
Stony Creek (West branch)	SP5	Park rd inside stony creek
East Coon Creek	NB3	Armada MS
Clinton River	UC5	Elizabeth Lake Road Park
Stony Creek	SP18	Lakeville (Headwaters)
Clinton River	CM11*	Adams - Quail Ridge
Clinton River	CM3*	Riverside Park
Utica Drain	CREW4*	MCC campus
East Pond Creek	NB14*	McVicer and 33 mi Rd

Figure 1. Bar graph of Stream Quality scores (based on Adopt-A-Stream volunteer macroinvertebrate samples) for spring and fall 2017.

Figure 2: Maps of the Watershed showing all spring and fall 2017 AAS sites and the stream quality at those locations based on the 2017 AAS scores
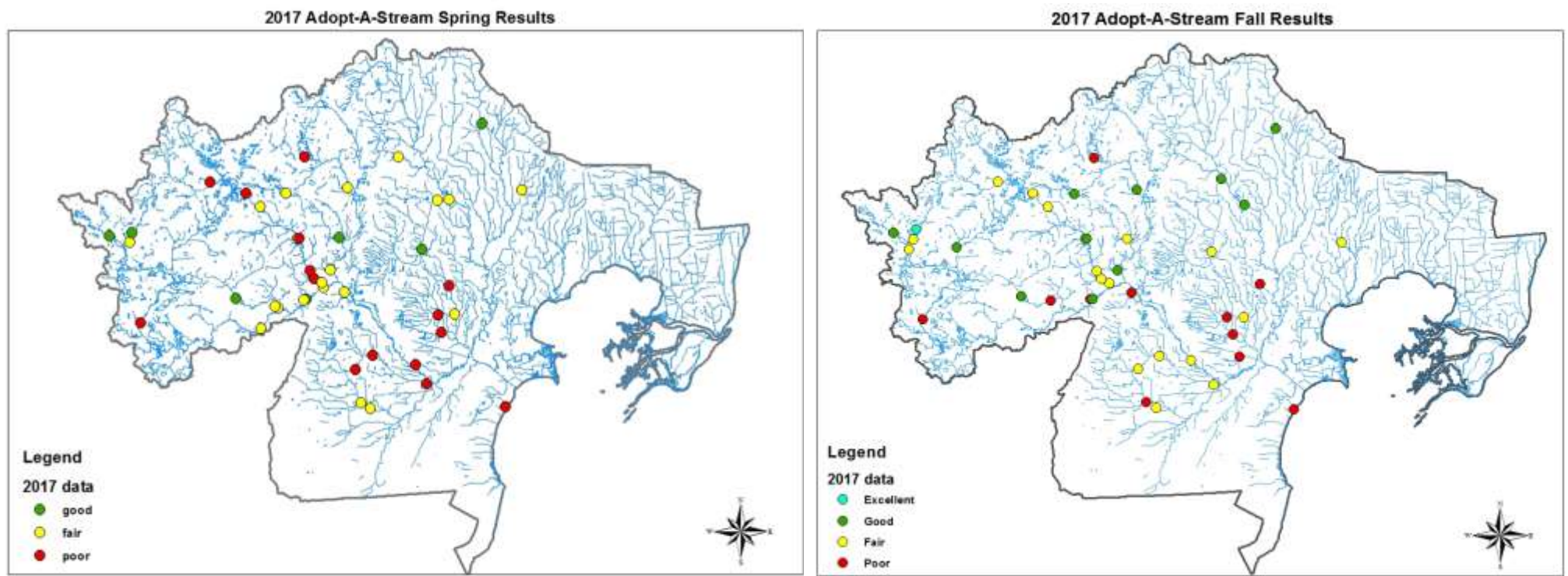
Site ID or Location: _____

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:_____