Hello Adopt-A-Stream Volunteers!

Thank you all for volunteering your time and assisting in this very valuable and fun program. To help us better understand the health of our waters within the Clinton River Watershed, here is a summary of our Spring and Fall 2015 monitoring results. Overall, stream quality scores this season were on average a bit better than 2014. When looking at average scores from spring and fall of 2015, 24% of sites were classified as Poor, 59% were classified as Fair, and 17% were classified as Good. The majority of the "poor" sites were some of our flashy drain systems that have been historically straightened and lack desirable substrates and habitat/structure. Majority of these sites correspond with a heavily urban landscape. It is in these sites where the dominant macroinvertebrates identified were very tolerant to stressors. These families include midge larvae, aquatic worms, and black flies. Meanwhile, the majority of the "good" sites were found in our headwaters and tributaries that flow through are more rural landscapes. These sites were located in the Upper Clinton subwatershed, North Branch subwatershed, and the Stony/Paint subwatersheds. It is in these sites where volunteers tended to find more sensitive species such as mayflies, stoneflies, and caddisflies. Overall, across the entire watershed most of our streams were categorized as "fair" with a majority of the macroinvertebrates found being somewhat tolerant species such as damselflies, dragonflies, crayfish, scuds, and sowbugs.

- Four most abundant invertebrates collected throughout the watershed:
    1. Scuds (Amphipoda)
    2. Net-spinning caddisfly larvae (Trichoptera)
    3. Midge larvae (Chironomidae)
    4. 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 section (see Appendix A). The scores and classifications I refer to in the first paragraph and you see on the following graph (Figure 1.) are the scores for spring and fall 2015. For site locations and ID, please refer to Table 1. I've included a map as well (Figure 2), showing the sites and their quality based on their average 2015 score. 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.crwc.org/programs/adoptastream/results/.

Thanks Again

Matt Einheuser
Watershed Ecologist

Table 1. Site locations and ID

Site ID	Stream Name	Location/Site Description
CM3	Clinton River	Riverside Park, Auburn Hills
CM4	Clinton River	NW corner of Perry and Giddings in Pontiac
CM5	Clinton River	Corner of Avon and Livernois
CM6	Clinton River	Yates Park
CM9	Avon Creek	CRWC office
CM10	Galloway Creek	Oakland University Nature Preserve
CREW1	Middle Branch Clinton River	25 Mile Road east of Van Dyke
CREW3	Middle Branch Clinton River	Schoenherr N. of 25 Mile
CREW4	Utica Drain	MCCC Campus (Hall Rd. and Garfield)
CREW5	Middle Branch Clinton River	Waldenburg Park
CREW6	Clinton River	Dodge Park, Sterling Heights
CREW8	Middle Branch Clinton River	Hayes Rd, Shelby Twp
CREW10	Gloede Drain	21 mile and garfield
CREW11	KuKu Creek	18 mile and Garfield
LSC4	Cottrell Drain	Jefferson Ave. @ Donaldson St.
NB1	Clinton River North Branch	Wolcott Mill
NB2	Clinton River North Branch	MCPWO office
NB13	Clinton River North Branch	Cascade Dam
NB14	East Pond Creek	33 Mile Rd & McVicar Rd
RR3	Nelson Drain	Hill @ Dequindre, West side of Dequindre
RR4	Beaver Creek	James Nelson Park, 15mi E. of Dequindre
RR6	Chrissman Drain	Mound & 18 1/2 mi.
RR9	Beaver Creek	Beaver Creek Park Bieber Dr off Ryan Rd 1/2 mile North of E14 mile
RR11	Plumbrook Drain	Fieldcrest Ln. Sterling Heights
SP1	Paint Creek	Indianwood/Newman Rd.
SP2	Paint Creek	Children's Park, 160 Anderson St.
SP3	Paint Creek	Kern Rd and Clarkston Rd.
SP4	Stony Creek	31 Mile E. of Mt. Vernon Rd.
SP5	Stony Creek, West Branch	West Branch Picnic Area, S.C. Park
SP6	Stony Creek	Lake George Rd. S. of Predmore, N. of Stony Creek
SP8	Paint Creek	Kings Cove Subdivision/Tienken Rd.
SP9	Paint Creek	Rochester Hills Public Library
SP14	Paint Creek	Paint Creek Cider Mill
SP15	Stony Creek	Van Hoosen Museum
SP18	Stony Creek	Rochester Rd & Milmine Rd
SP20	Paint Creek	Rochester Municipal Park
SP25	Gallagher Creek	Gallagher Rd.
UC1	Clinton River	Between Green's Lake and Dollar Lake
UC2	Clinton River	Kimball Preserve
UC3	Sashabaw Creek	Pine Knob Rd west of Clintonville Rd
UC4	Clinton River	Clarkston United Methodist Church

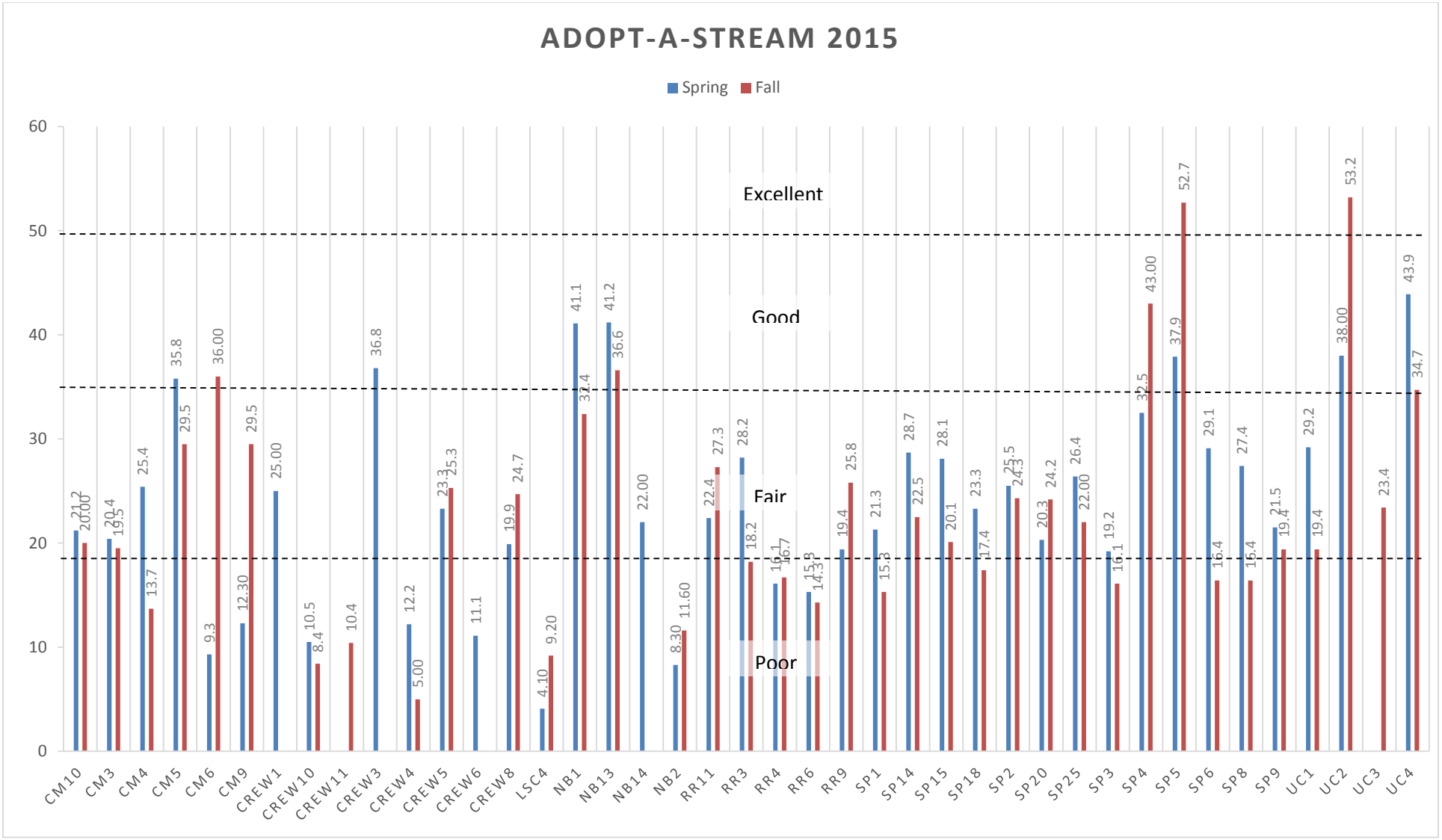

Figure 1. Bar graph of Stream Quality scores (based on Adopt-A-Stream volunteer macroinvertebrate samples) for Spring and Fall 2015.

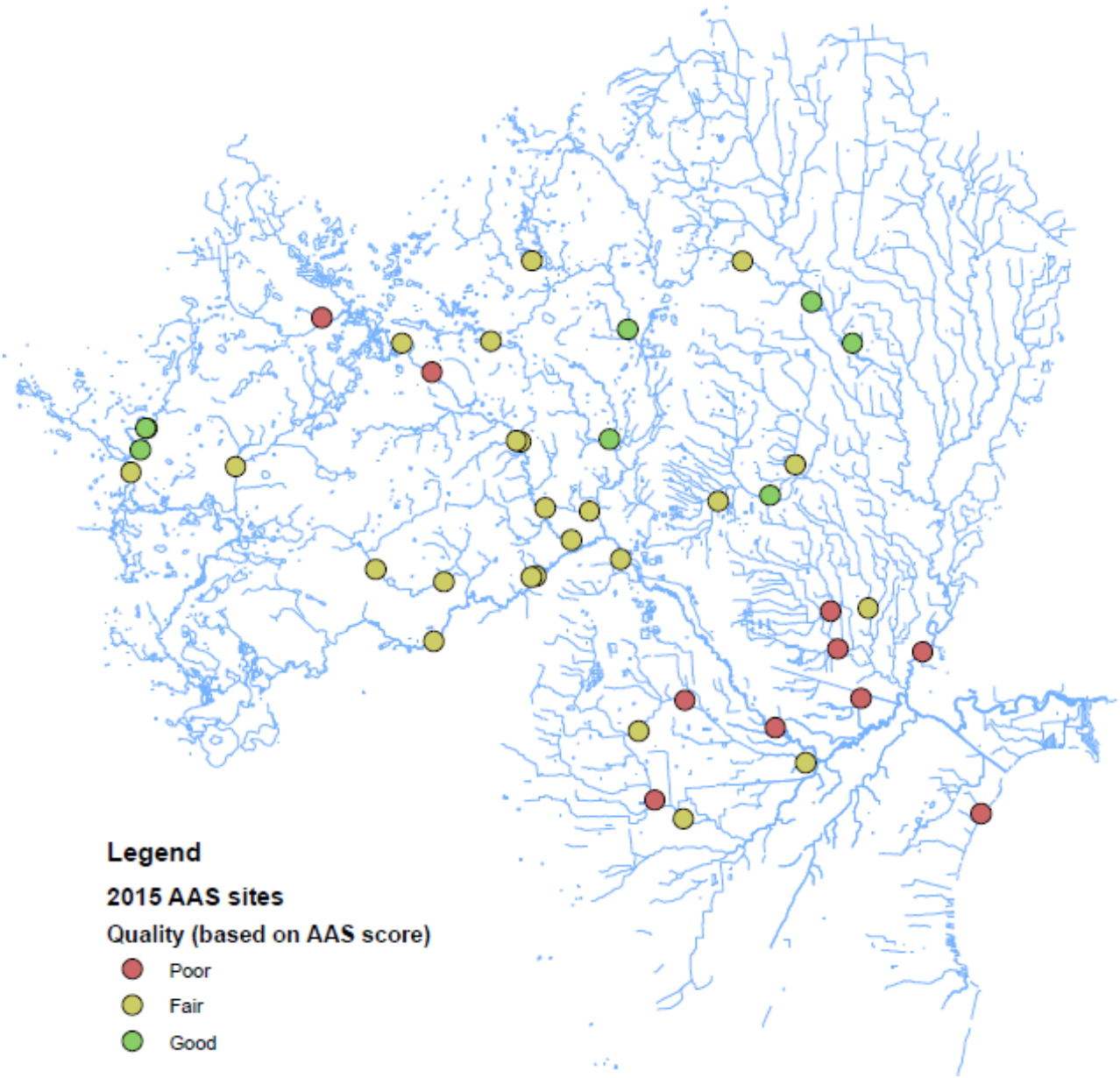

Figure 2. Map of the Watershed showing all 2015 AAS sites and the stream quality at those locations based on 2015 AAS scores.

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: _____