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## Adopt-A-Stream Expansion and Recruitment Project Final Report

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## Section 1.0

### Introduction

The Clinton River Watershed Council (CRWC) is a non-profit organization dedicated to protecting, enhancing and celebrating the Clinton River, its watershed and Lake St. Clair.

Currently, forty municipalities with land in the Clinton River Watershed have contracted CRWC to provide them with Public Education Services for their Phase II Storm water Permit including CRWC's Adopt-a-Stream program. As a part of this planning and permit effort, each of these 40 communities had to complete Public Education Plan (PEP) for educating the public on how to reduce storm-water pollution and protect our local water resources. A key component of these communities' PEP's was the inclusion of a volunteer water quality monitoring program, the Clinton River Watershed Council's Adopt-A-Stream program. The Adopt-A-Stream program began in 2005 with 26 sites and has grown to include 50+ sites and 250+ volunteers for the 2011-2013 seasons.

Adopt-A-Stream empowers community members to protect local streams and rivers through water quality monitoring. Volunteers are trained on monitoring methods then assigned sites and teams. Twice a year on the first Saturday in May and the first Saturday in October volunteers are provided with equipment to gather information on stream habitat and macroinvertebrate communities.

Macroinvertebrate samples are collected from all available instream habitats with a 1mm mesh D-net starting downstream and moving upstream for approximately 30 minutes through a 100 – 300ft reach. Volunteers pick and sort the composite sample and a trained macroinvertebrate identifier submits at least 2 samples of each taxa found to return to the watershed council for verification and quality assurance. For habitat evaluation, volunteers estimate the relative proportions of substrate, riparian vegetation, and the extent of sedimentation throughout the reach. Observations concerning land use and potential sources/causes of stress are also recorded. For informational and educational purposes, volunteers will also record characteristics such as water odor and color.

Macroinvertebrate taxonomy validation takes place in June and November. Clinton River Watershed Council staff performs the validation.

Key staff to validate identification includes:

- Jeremy Geist Watershed Ecologist: Jeremy holds experience in biological monitoring and is currently a graduate student studying at Oakland University. His research focus is in stream ecology, invertebrate and ecosystem ecology. Jeremy has attended several aquatic invertebrate and bio-monitoring workshops, including the annual MiCorps conference from 2008 - 2012.
- Michele Arquette-Palermo Watershed Education and Stewardship Director: Michele has several years experience in water quality monitoring and benthic macroinvertebrate ID. She had attended the MiCorps training in 2009 and 2012.
- Amanda Alberty, Programs Assistant: Amanda is a recent graduate from Central Michigan University and has received a B.S. in Hydrogeology. She has gained experience in macroinvertebrate monitoring during her internship with CRWC in the summer of 2011, and has been recently hired as the programs assistant. Amanda attended the 2011 MiCorps conference.

Following each assessment, all data received from the volunteers will be entered into an electronic database for future analysis. Results will be provided in summary format, at minimum, on an annual basis to interested volunteers, CRWC members, the general public, municipalities and other parties participating in the Clinton River Watershed Subwatershed Advisory Groups and MDEQ. Data will be evaluated against any baseline data already established.

## Section 2.0

### Project Goals and Objectives

The objectives and goals of the current proposal were to:

1. Expand the program by adding 6 new monitoring locations.
2. Recruit local civic and conservation groups to help monitor in the Clinton River Watershed.

#### Tasks:

1. Submit a Quality Assurance Project Plan Michele 1%  
(A QAPP was submitted and approved in 2009. If necessary CRWC will resubmit the same QAP)
2. Attend a training session provided by MiCorps and other training as recommended by MiCorps. (2%)
3. Promote volunteer stream monitoring activities and solicit volunteers. (30%)
4. Purchase necessary equipment for performing stream monitoring activities. ( 3%)
5. Coordinate and conduct training sessions. (30%)
  - a. Subtask 1- Train new volunteers in basic collection protocols (i.e. basic training).
  - b. Subtask 2- Train willing volunteers in macroinvertebrate identification.
6. Assign new volunteers to teams. (2%)
7. Coordinate volunteer stream monitoring field data collection sessions. (2%)
8. Implement quality control efforts. (2%)
9. Complete data entry and analysis. (10%)
10. Generate and distribute reports for volunteers, municipalities, CRWC, etc. (5%)
11. Coordinate annual Adopt-A-Stream Forum (5%)
12. Develop and submit final report, following MiCorps guidance, at the end of the project. (1.5%)
13. Submit a release of claims statement at the end of the project. (.5%)
14. Provide products and deliverables. This should include all data collected, in both hard copy and electronic format. (1%)
15. Evaluate project. (3%)

**Task Timeline:**

	Q1 Jul-Sep 11	Q2 Oct-Dec 11	Q3 Jan-Mar 12	Q4 Apr-Jun 12	Q5 Jul-Sep 12	Q6 Oct- Dec 12	Q7 Jan- Mar 13	Q8 Apr- Jun 13
<b>Task 1 Submit a Quality Assurance Project Plan Michele</b> (A QAPP was submitted and approved in 2009. If necessary CRWC will resubmit the same QAPP.)	x							
<b>Task 2</b> Attend a training session provided by MiCorps or other training as recommended by MiCorps.	x	x		x		x		
<b>Task 3</b> Promote volunteer stream monitoring activities and solicit volunteers.	x	x	x	x	x			
<b>Task 4</b> Purchase necessary equipment for monitoring	Upon notice of award							
<b>Task 5</b> Coordinate and conduct training sessions.	x	x	X	X	x	x	x	x
<b>Task 6</b> Assign new volunteers to teams.	x			x	x			x
<b>Task 7</b> Coordinate volunteer stream monitoring field data collection sessions.		x		x		x		x
<b>Task 8</b> Implement quality control efforts.		x		x		x		x
<b>Task 9</b> Complete data entry and analysis.		x		x		x		x
<b>Task 10</b> Generate and distribute reports for volunteers, municipalities, CRWC, etc.			x				x	
<b>Task 11</b> Coordinate annual Adopt-a-Stream Forum				x				x
<b>Task 12.</b> Develop and submit status reports following MiCorps guidance at a frequency included in the contract.								x
<b>Task 13.</b> Develop and submit final report, following MiCorps guidance, at the end of the project.								x
<b>Task 14.</b> Submit a release of claims statement at the end of the project.								x
<b>Task 15.</b> Provide products and deliverables. This should include all data collected, in both hard copy and electronic format.								x



The Clinton River Watershed Council continuously tries to improve the Adopt-A-Stream program by increasing the amount of sites monitored, volunteers and participation. There are consistent lessons learned each season that help to achieve these goals. For example, CRWC now focuses on conservation and civic groups for AAS participation in communities where it is difficult to recruit individual volunteers. Volunteer recruitment and specifically retainment has been a challenge since the program's inception. However, CRWC has made efforts to overcome this challenge by communicating results and expressing appreciation through volunteer events.

## **Section 4.0**

### **Results Summary**

Data continues to be collected throughout the Clinton River watershed, and will continue to be submitted to the MiCorps database. The data is also kept in the CRWC's database, and established trend graphs (based on stream quality scores from the metric created by MiCorps) are continuously being added to and updated (e.g. Fig 1).

Conclusions are limited for the overall condition of the watershed. Certain areas (e.g. Red Run subwatershed) experience high runoff rates and issues concerning sewer overflows, which compromise the condition of the waterways. Other areas of the watershed (e.g. Stony Creek and Paint Creek subwatersheds) display the ability to support diverse communities of pollution sensitive organisms such as sensitive macroinvertebrates (e.g. plecoptera) and fish species (e.g. salmonidae). These types of noticeably different areas continue to be monitored by the Watershed Council, and are recommended to other organizations and agencies for further investigation. The available data collected by the Clinton River Watershed Council and local/state agencies suggests that the Clinton River Watershed has improved tremendously since its historic condition in the early 70's and before.

Program evaluation is conducted frequently (via paper or electronic surveys) and volunteer input is encouraged and welcomed during each event that occurs in the Adopt-A-Stream program. These evaluations help to maintain and progress the overall project and integrates public suggestions into this community program. Participants are surveyed throughout the duration of all courses and workshops and usually a final evaluation is administered at the end of an extended event. Suggestions of format, instruction and class/workshop content are acknowledged and are always taken into consideration in the next sessions.

## **Section 5.0**

### **Project Partners**

Project partners that have aided the Clinton River Watershed Council with the Adopt-A-Stream Program include:

- The Michigan Clean Water Corps: provided aid in funding, guidance and technical assistance.
- Oakland University, Macomb Community College, Macomb County Health Department and other various institutions and agencies have lent their efforts by providing stream monitoring sites, volunteers, assistance with media and publicizing, and donations of room space for the many events/workshops of the AAS program.

- Several municipalities throughout the watershed have provided room space in their libraries, nature centers, community centers etc. for our trainings.

## **Section 6.0**

### **Completed Products**

Final products as of this date include:

- Macroinvertebrate and habitat data collected by trained volunteers to help establish and/or add to existing data sets.
- Training workshops relating to watershed basics, monitoring techniques, frequent refresher courses and macroinvertebrate identification courses.
- Water quality monitoring kits have been created and are distributed to each stream monitoring team. The kits include all the necessary monitoring equipment as well as safety equipment and safety manuals.
- To ensure the reliability of the data collected from the volunteers the CRWC has designed and frequently revises data collection forms in accordance with the set standards of the MiCorps field data sheets. Standard operating procedures (SOP's) have also been developed and distributed to volunteers to ensure consistency in collection technique. Shortly after a seasonal monitoring event a qualified staff member of the CRWC confirms macroinvertebrate identification of the submitted samples for verification.
- Data reports and presentations to Adopt-A-Stream participants.

## **Section 7.0**

### **Project Sustainability**

The Adopt-A-Stream program is an integral part of the Clinton River Watershed Council's mission and vision. CRWC plans to continue the program and constantly promote the opportunities and benefits the project offers. Each year the program grows in the number of volunteers and monitoring sites across the watershed. CRWC will continue to thank and appreciate the efforts of the volunteers, local municipalities and other contributors for their participation and generosity. Future funding will continue to come from local communities in the watershed that are subject to phase II of the federal storm water regulations and CRWC will continue to apply for similar volunteer stream monitoring grants to help aid the program.

Additionally, the Clinton River Watershed Council plans to integrate additional monitoring efforts into the Adopt-A-Stream program to help characterize invertebrate communities and their response to different environmental variables. Examples include: stream temperature data, total suspended solids, bank erosion rates etc.

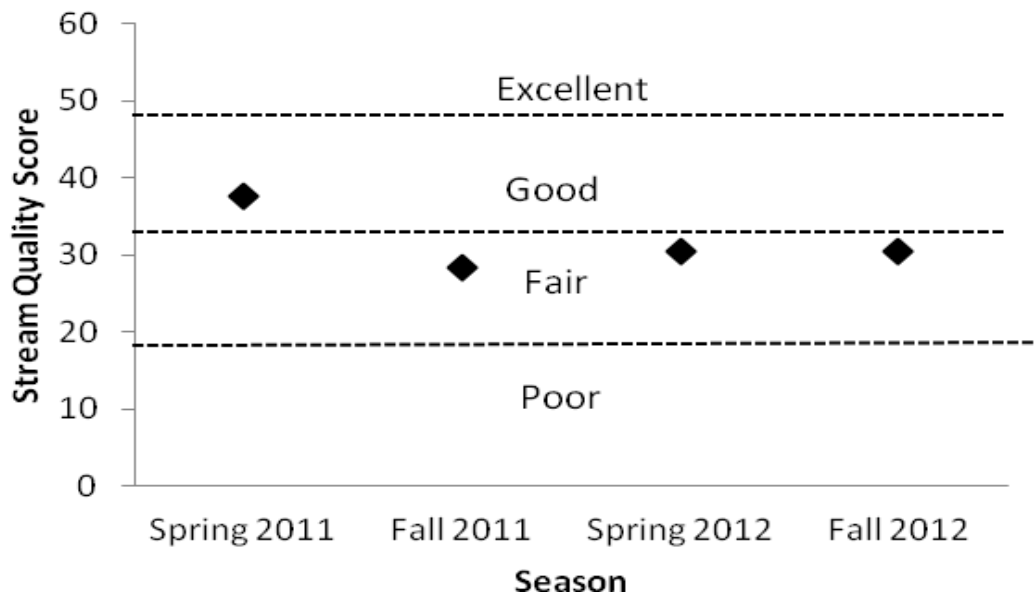


**Table 1. Stream monitoring locations in the Clinton River Watershed (highlighted sites indicate new sites as a result of the grant money).**

	<b>Site ID#</b>	<b>Stream Name</b>	<b>County</b>	<b>Latitude</b>	<b>Longitude</b>
1	CM1	Clinton River	Oakland	42.6278	-83.3951
2	CM2	Clinton River	Oakland	42.6396	-83.3533
3	CM3	Clinton River	Oakland	42.6348	-83.2229
4	CM4	Galloway Creek	Oakland	42.6691	-83.2589
5	CM5	Clinton River	Oakland	42.6651	-83.1539
6	CM6	Clinton River	Oakland	42.6719	-83.0968
7	CM7	Clinton River	Oakland	42.6248	-83.3138
8	CM8	Clinton River	Oakland	42°39'11.61	83°10'25.21
9	CM9	Avon Creek	Oakland	42.6649	-83.1570
10	CM10	Galloway Creek	Oakland	42.6586	-83.2015
11	CREW1	Middle Branch Clinton River	Macomb	42.6975	-83.0314
12	CREW3	Middle Branch Clinton River	Macomb	42.7009	-82.9958
13	CREW4	Utica Drain	Macomb	42.6238	-82.9542
14	CREW5	Clinton River	Macomb	42.6429	-82.9333
15	CREW6	Clinton River	Macomb	42.5895	-82.9945
16	CREW7	Utica Drain	Macomb	42.6241	-82.9566
17	CREW8	Price Brook Drain	Macomb	42.7152	-82.9791
18	CREW9	Middle Branch Clinton River	Macomb	42.6240	-82.9554
19	CREW10	21 mile rd and Garfield	Macomb	42.6427	-82.9579
20	CREW11	23 mile rd and Romeo Plank	Macomb	42.6747	-82.9398
21	LSC4	Cottrell Drain	Macomb	42.5401	-82.8626
22	NB1	Clinton River North Branch	Macomb	42.7683	-82.9352
23	NB2	Clinton River North Branch	Macomb	42.6191	-82.9008
24	NB3	Coon Creek	Macomb	42.8501	-82.8748
25	NB4	N.B. Tributary	Macomb	42.6971	-82.9212
26	NB13	Cascade Dam	Macomb	42.7676	-82.9523
27	NB14	East Pond Creek	Macomb	42.8168	-83.0086
28	NB15	30 mile and Bates Rd	Macomb	42.7759	-82.8257
29	RR2	Sturgis Drain	Oakland	42.5817	-83.1431
30	RR3	Nelson Drain	Oakland	42.5869	-83.0894
31	RR4	Beaver Creek	Macomb	42.5504	-83.0778
32	RR9	Beaver Creek	Macomb	42.5440	-83.0634
33	SP1	Paint Creek	Oakland	42.7965	-83.2918
34	SP2	Paint Creek	Oakland	42.7829	-83.2391
35	SP3	Paint Creek	Oakland	42.7676	-83.2186
36	SP4	Stony Creek	Oakland	42.7854	-83.0868
37	SP5	Stony Creek, West Branch	Oakland	42.7315	-83.1019
38	SP6	Stony Creek	Oakland	42.7817	-83.1789
39	SP7	Stony Creek	Oakland	42.7371	-83.1155
40	SP8	Paint Creek	Oakland	42.6963	-83.1470
41	SP9	Paint Creek	Oakland	42.6824	-83.1295

42	SP12	Sargent Creek	Oakland	42.6854	-83.1661
43	SP13	Paint Creek	Oakland	42.7674	-83.2179
44	SP14	Paint Creek	Oakland	42.7319	-83.1614
45	SP15	Stony Creek	Oakland	42.6962	-83.1166
46	SP16	Stony Creek	Oakland	42.7550	-83.2252
47	SP19	West Branch Stony Creek; Snell Rd	Oakland	42.7228	-83.4226
48	SP 18	Lakeville (Rochester rd and Milmine)	Oakland	42.8207	-83.1495
49	SP20	Paint Creek, Rochester Municipal Park	Oakland	42.7444	-83.4108
50	SP21	U/S DPW (Dino Nature Preserve)	Oakland	42.6907	-83.1420
51	SP22	D/S DPW	Oakland	42.6900	-83.1439
52	SP23	D/S University St.	Oakland	42.6821	-83.1294
53	SP24	D/S Clinton River Trail	Oakland	42.6779	-83.1282
54	SP25	Gallagher Creek	Oakland	42.73236	-83.1641
55	UC1	Clinton River	Oakland	42.7252	-83.3509
56	UC2	Clinton River	Oakland	42.7333	-83.4157
57	UC3	Sashabaw Creek	Oakland	42.7239	-83.3523
58	UC4	Clinton River	Oakland	42.7338	-83.4157

## SP18: Stony Creek



**Fig 1.** Stream Quality Scores for Stony Creek (site ID: 18), a tributary of the Clinton River monitored by Trout Unlimited.