



Flint River GREEN
Annual Report 2013

**Flint River
Watershed Coalition**

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A Letter from the Executive Director

Every year, through the Flint River GREEN program we watch students from across the Flint River watershed as they experience their local stream in an entirely new way. For many, it's the first time they've ever visited that, or any, stream. The wonder and excitement they show is certainly contagious! We're so pleased to be a part of bringing that experience to our local schools. It's an invaluable experience that simply can not be replicated in the classroom.

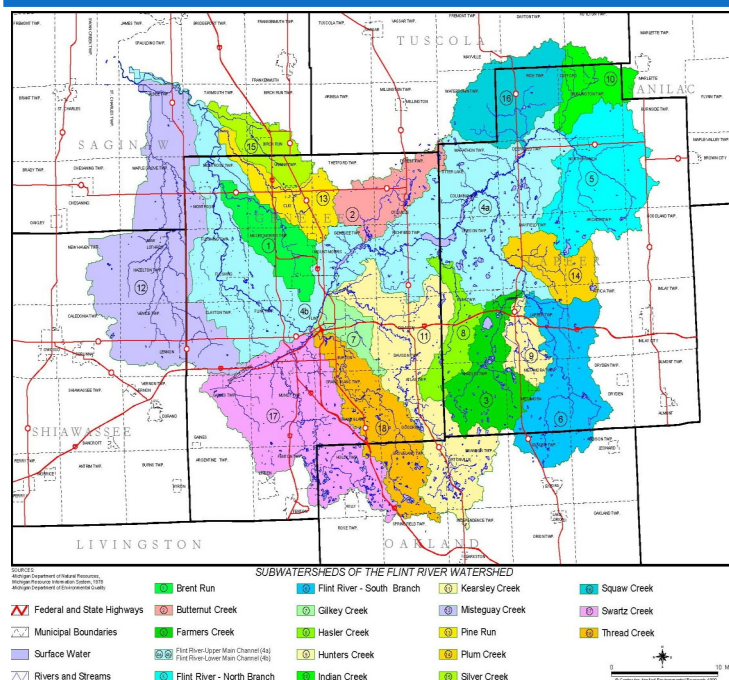
And once again, we are excited to partner with Kettering University as the host of the 2013 GREEN Student Summit. Our GREEN students had a great time while experiencing one of the premiere engineering colleges in the country. Many thanks to Kettering for providing a wonderful venue for this year's event.

Flint River GREEN wouldn't be possible without the support of our participating schools, funders, mentors, speakers, and myriad other volunteers who make this program a success, year after year. We thank you!

See you in 2014,



Rebecca Fedewa
Executive Director



The Flint River Watershed covers approximately 1,400 square miles across 7 counties, including Genesee, Lapeer, Saginaw, and Oakland. All of the land and tributaries that flow into the Flint River make up the Flint River Watershed that GREEN students learn about and protect.

The GREEN Planning Committee meets monthly to prepare and plan for the year's GREEN season. This dedicated group brings their expertise, resources, and enthusiasm to the GREEN program. The planning committee oversees the planning for the summit and professional development day for teachers, mentor and teacher pairings, seeks funding sources, and works with community partners to increase the scope of GREEN. This year's Professional Development Day for teachers was hosted by Mott Community College. The planning committee collaborates to improve and expand the program year to year. Its efforts ensure that GREEN continuously provides the best experience possible for teachers and students.



“During GREEN, I learned that our creek is in good condition.”

— Grand Blanc West Middle School 8th grade student

Planning Committee

Darren Bagley

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Lisa Hook

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The Global Rivers Environmental Education Network (GREEN) is a nationally replicated program that offers a unique and hands on experience for students in the field of water quality testing. It was created in 1989 by University of Michigan professor, Dr. William Stapp and assistant Mark Mitchell.

Students and their teachers collaborate with mentors from environmental professions to perform water quality tests on bodies of water within their watershed. They use their findings to develop action plans to improve or maintain their area's water, and then share this information with their peers and community at the annual student summit. Teachers participate in a Professional Development Day to learn about GREEN, and learn about performing the various field tests.

Beginning in 1989, GREEN worked with Flint schools, and later expanded to include many high schools and middle schools within Genesee County. The success and value of GREEN later led to the inclusion of schools in Saginaw, Lapeer, and Oakland counties. GREEN continues to grow and is now incorporated into many teacher's annual curriculum. The 2014 season will mark **25** years of GREEN!

“I learned that you can kayak all the way from the Flint River to Niagara Falls.”

— Swartz Creek Middle School 8th grade student

“I learned that many chemicals, objects, rats, etc. can be found in wells.”

— Davison Middle School 7th grade student



GREEN Participating Schools

Beecher Middle School

Teacher: Don Hammond

Bendle High School

Teacher: Todd Barden

Birch Run (Marshall-Greene) Middle School

Teachers: Tammy Daenzer & Roger Rothe

Brandon Middle School

Teacher: Dave Green

Carman-Ainsworth-High School

Teacher: Julie Lawrence

Chatfield School

Teachers: Annette Young, Karla Pretty & Lori Raymond

Clio (Carter) Middle School

Teachers: Chip McCallum & Ryan Niemi

Davison Middle School

Teacher: Jodi Kosiara

Flushing Middle School

Teacher: Steve Groulx

Grand Blanc Middle School-East

Teachers: Deb Lacki & Lauren Drury

Grand Blanc Middle School-West

Elizabeth Lemerond & Vicki Skrisson

Kearsley (Armstrong) Middle School

Teacher: Cindy Sierra

Lakeveille Middle School

Teachers: Josh Henley & Andrea Thelen

Lapeer East High School

Teacher: Cheryl Butterfield

Linden Middle School

Teacher: Charlene Nester

Mt. Morris Jr. High School

Teachers: Bekah D'Haene, Scott Smith & Kim McCormick

North Branch High School

Teacher: Carrie Wenta

North Branch Middle School

Teacher: Julie Tumblin

Rolland-Warner Middle School

Teachers: Anne Prill, Wyatt Stevens & Mike Wiltse

St. John Vianney Catholic School

Teacher: Janice Matlon

Swatz Creek Middle School

Teacher: Brandolyn Forbes

Hamady High School

Teacher: Tammy Wylie

“During GREEN I learned that anything we do can affect the watershed that we live in.” — Marshall-Greene Middle School 7th grade student

GREEN Information & Watershed Facts

The Water Quality Index rating, (WQI), is the overall score the body of water receives after the field tests have been performed and the results tabulated.



Water Quality Field Tests

Dissolved Oxygen

Fecal Coliform

B.O.D

pH

Nitrates

Turbidity

Total Solids

Temperature

Total Phosphate

Water Quality Index Ratings

100-90: Excellent Water Quality

89-70: Good Water Quality

69-50: Average Water Quality

49-25: Marginal Water Quality

24-0: Poor Water Quality



A * denotes that complete testing results were not available due to inclement weather on the testing day, calculation, or testing errors. Trial and error is part of the scientific process. Students were able to learn about what factors may have contributed to these results and correct them for next season. GREEN is a valuable and continuous learning experience.

Water Quality Results

GREEN School	Testing Location	WQI
Beecher Middle School	Kalamazoo River, Talmadge Creek	*
Bendle High School	Thread Creek at Bristol Rd.	68.58
Birch Run Marshall-Greene Middle School	Silver Creek	*
Carman-Ainsworth High School	For-Mar Nature Preserve	77.4
Chatfield School-Lapeer	Farmer's Creek	82.45
Clio Carter Middle School	Pine Run at Clio Park	77.55
Davison Middle School	Black Creek-Abernathy Park	68.2
Flushing Middle School	Unidentified Location	*
Grand Blanc East Middle School	Armstrong Creek at Dodge Road	*
Grand Blanc West Middle School	Frost Gardens	85.9
Kearsley Armstrong Middle School	Thread Creek, Grand Blanc	*
Lakeville Middle School	Swartz Creek, near school.	*
Lapeer East High School	Unidentified Location	*
Linden Middle School	Linden Middle School Grounds	77.14
Mt. Morris Junior High School	Farmer's Creek	*
North Branch High School	Unidentified Location	*
North Branch Middle School	Gravel Creek, North Branch	77.95
Rolland Warner Middle School, Lapeer	Silver Creek	72.4
St. John Vianney Catholic School	Flint River, Mott Park	59.62
Swartz Creek Middle School	Swartz Creek, Hill Road Bridge	77.51
Westwood Heights-Hamady High School	Clio Bike Path	*



“We can talk to farmers near the creek about the fertilizers they use.”

— Marshall Greene Middle School 7th grade student

On May 17th, 2013, GREEN students, teachers, mentors, community members, and volunteers gathered for the pinnacle of every GREEN season: the annual Student Summit. This year's summit was hosted by Kettering University. Here, the students presented their water testing results, action plans, and other information gathered from their days of study and field testing. Presentations and follow up inquiries from the audience were facilitated by emcee, Mr. Tom Jones from the Genesee County Drain Commissioner's Office and the Our Water Program.

When not presenting, students participate in a variety of break out sessions. These sessions are led by community members excited about sharing their knowledge with the GREEN students, and include demonstrations and activities focused on the environment.

Summit Break Out Sessions

Beyond Sim City:

Geospatial Technologies & Our World

Laura Young, *Michigan State University Institute of Water Research*

Being A Bee Keeper

Carol Winn, *Bee and Nature Specialist*

Sewer CSI

Thad Domick, Eric Brubaker, Tom Hutchings,
City of Flint - Water Pollution Control Specialists

Incredible Edible Plants

Peter McCreedy, *Ecology Director - Chatfield School*

Paddling the Flint River

Riley McLincha, *Watershed Enthusiast*

Rats In Your Drinking Water

Darren Bagley, *Michigan State University Extension, 4-H Youth Development Coordinator*

Chevy In The Hole Tour

Joel Parker, *Environmental Consulting & Technology, Inc.*

Be A Fly Fisher

Josh Henley, *Trouts Unlimited & Lakeville Schools*

Meet The Macro Invertebrates

Mike Haley & Denny Crispell, *Flint River Watershed Coalition Monitors*

“I learned that our meals travel about 1,500 miles to get to our table. When we need food, we should think about looking for edible plants and making natural foods.”

— Rolland Warner Middle School 8th grade student

Flint River Project GREEN Summit Evaluation 2013

Pre/Post Evaluation

Before Project Green

Answer Options	1 (Strongly DISAGREE)	2 (DISAGREE)	3 (AGREE)	4 (Strongly AGREE)
The Flint River is clean and healthy.	12	53	25	8
I can make a difference in the health of the Flint River.	5	32	43	18
I understand how a river may become polluted.	6	20	34	38
I want to do things to help the environment.	7	20	42	29
I know about jobs in the environment field.	26	28	37	6

After Project Green

Answer Options	1 (Strongly DISAGREE)	2 (DISAGREE)	3 (AGREE)	4 (Strongly AGREE)
The Flint River is clean and healthy.	6	38	37	17
I can make a difference in the health of the Flint River.	1	3	36	58
I understand how a river may become polluted.	0	0	12	86
I want to do things to help the environment.	0	4	40	54
I know about jobs in the environment field.	2	6	49	40

“I learned to put plants along the creek to absorb fertilizer.”

— Clio Carter Middle School 8th grade student

“I learned that seagulls and other birds affect the fecal coliform levels.”

— Linden Middle School 8th grade student



GREEN Mentors

GREEN mentors offer assistance in both the classroom and at the testing site. Working closely with the teachers, they visit classrooms and speak with the students about GREEN, the tests they will perform, the proper way to carry out those tests, safety procedures, and how to interpret their results. They offer insight as to what may cause a certain result to be high or low, as well as help the students develop action plans. Mentors are key to the success of GREEN. The knowledge they bring from their respective fields, as well as the hands-on assistance at the testing sites, further exposes students to the value of environmental stewardship and potential career paths in a science, technology, engineering, or mathematics field.



“During GREEN, I learned that there are lots of jobs in the environmental field.”

— Rolland-Warner Middle School 8th grade student

Marv Ashbury

General Motors, CCA Swartz Creek

Darren Bagley

*Michigan State University Extension -
Genesee County 4-H*

Irene Bashore

General Motors, Flint Assembly

Craig Buike

Quaker Chemical

Thad Domick

*City of Flint-
Water Pollution Control Division*

Rob Fenn

*General Motors,
Flint Engine Operations*

Heather Griffin

*Naturalist,
University of Michigan-Flint*

Tom Hutchings

*City of Flint-
Water Pollution Control Division*

Tom Jones

*Genesee County Drain Commission-
Our Water Program*

John Maksimchuk III

General Motors, Flint Metal Center

Renee Mietz

General Motors

John Moldovan

Retiree, General Motors

Pat Schultz

General Motors

Brent Wilson

General Motors, Flint Tool & Die

Appreciation

The Flint River Watershed Coalition is very thankful for the many financial and in-kind supporters of Flint River GREEN. Such generosity makes it possible for GREEN to continue its mission to educate our young people about their watershed and their environment. Your support will have a lasting impact for generations to come.

Thank You!

City of Flint, Water Pollution Control Department

Dort Federal Credit Union

Earth Force

Flint River Watershed Coalition

Genesee County Drain Commissioner's Office

Genesee County Drain Commissioner's Office, Our Water Program

Genesee County Parks and Recreation Commission

Genesee Intermediate School District

Genesee Intermediate School District, Office of Education and Learning

General Motors Corporation

General Motors Foundation

Kettering University

Lapeer Intermediate School District

Michigan State University 4-H Youth Development

Merit Labs

Mott Community College

“I learned how small things can affect the water in many ways.”

— Grand Blanc West Middle School 8th grade stu-



Flint River Watershed Coalition
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**Join us, as we celebrate
25 years
of GREEN in 2014!**