Flint River Watershed Coalition

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2017 Professional Development Day for GREEN Teachers

GREEN Student Summit at Kettering University
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 the water in their area. They then share this information with their peers and community officials at the annual student summit. Teachers participate in a Professional Development Day to learn about GREEN and 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 teachers’ annual curriculum.

The Flint River Watershed

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 upcoming GREEN season. This dedicated group brings together expertise, resources, and enthusiasm to the GREEN program. The planning committee oversees the preparations for the Student Summit and professional development days for teachers. They also introduce mentor and teacher pairings, seek funding sources and work with community partners to increase the scope of GREEN.

This year the PD Day was graciously hosted by the Genesee Intermediate School District with a tour of the new GM Paint Shop in the afternoon. The training was held in Flint at the GISD for teachers and gave an overview of the program, going step by step over each test performed and how to interpret the resulting data.

The planning committee collaborates on improving and expanding the program each year. Its efforts ensure that GREEN continuously provides the best experience possible to teachers and students.

“During Project GREEN I learned that in one bucket from a body of water, thousands of species of bugs and animals can live.”

– 8th Grade St. John Vianney Student
Participating GREEN Schools

Bendle High School
Teacher: Todd Barden

Bishop Kelley Catholic School
Teacher: Carolyn Tuski

Carman-Ainsworth Baker Career Academy
Teacher: Trish Miller

Carman-Ainsworth Middle School
Teacher: Melissa Warburton

Carter Middle School
Teacher: Ryan Niemi

Chatfield School—Lapeer
Teachers: Tracy Boyle, Annette Young

Davison Middle School
Teachers: Jody Kosiara,

Grand Blanc East Middle School
Teachers: Deb Lacki, Crystal Sobeck, Patricia Nelson

Grand Blanc High School
Teacher: Suzanne Powers

Holmes STEM Academy
Teacher: Chris Ochodnicky

Kearsley Armstrong Middle School
Teacher: Lisa Katzenberger

LakeVille Middle School
Teachers: Josh Henley, Ashley Wood

Lapeer High School
Teacher: Cheryl Butterfield

Mt. Morris Junior High School
Teachers: Nick Carr, Kim McCormick

North Branch High School
Teacher: Carrie Wenta

Northwestern High School
Teachers: Nadina Aversa, Angela Lots

Powers High School
Teacher: Julie Lawerence

St. John Vianney Catholic School
Teacher: Jason Scott

Swartz Creek Middle School
Teachers: Brandolyn Forbes

Westwood Heights—Hamady High School
Teachers: Tammy Wylie
GREEN mentors offer assistance in both the classroom and at the testing site. Working closely with teachers, mentors speak with students about GREEN and introduce them to the tests they will perform. Mentors share knowledge about the test, the proper way to perform the tests, safety procedures and how to interpret results. These volunteers offer insight as to what may cause a result to be high or low, as well as help 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 expose the students to the value of environmental stewardship and potential career paths in a science, technology, engineering, or mathematics field.

During Project GREEN I learned what kind of impact we have on the Flint River and all bodies of water.
– 8th Grade Chatfield Student
GREEN Testing Parameters and Watershed Facts

**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

**Water Quality Field Tests**
- Biochemical Oxygen Demand
- Dissolved Oxygen
- Fecal Coliform
- Nitrates
- pH
- Temperature
- Total Phosphates
- Total Solids
- Turbidity

GREEN Students test for the Water Quality Index ratings (WQI). The WQI is the overall score the body of water receives after the field tests have been performed and the results have been tabulated.

“I learned there are tons of things one person can do to improve the environment.”
- 8th Grade St. John Vianney Student

A * in the WQI value denotes that the complete testing results were not available due to inclement weather on the testing day, calculation errors, or testing errors. Trial and error is part of the scientific process and allows students to learn about what may have contributed to these results. Flint River GREEN is a valuable and ongoing learning experience.
## Water Quality Results for 2017

<table>
<thead>
<tr>
<th>School</th>
<th>Site Location</th>
<th>Total WQI Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bendle HS</td>
<td>Thread Creek</td>
<td>*</td>
</tr>
<tr>
<td>Bishop Kelley</td>
<td>Farmer’s Creek</td>
<td>74.69</td>
</tr>
<tr>
<td>Carman Ainsworth Baker Career Academy</td>
<td>Carman Creek at Baker College</td>
<td>79</td>
</tr>
<tr>
<td>Carman Ainsworth MS</td>
<td>Kearsley Creek - North of For-Mar</td>
<td>78.44</td>
</tr>
<tr>
<td>Carter MS</td>
<td>Pine Run - Clio City Park</td>
<td>80.75</td>
</tr>
<tr>
<td>Chatfield School</td>
<td>Farmers Creek</td>
<td>74</td>
</tr>
<tr>
<td>Davison MS</td>
<td>Black Creek in Davison</td>
<td>70.67</td>
</tr>
<tr>
<td>Grand Blanc East MS</td>
<td>Thread Creek at Perry Rd</td>
<td>79.26</td>
</tr>
<tr>
<td>Grand Blanc HS</td>
<td>Swartz Creek at Thompson Rd</td>
<td>87.61</td>
</tr>
<tr>
<td>Holmes Stem Academy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kearsley Armstrong MS</td>
<td>Crampton Drain at Kearsley Armstrong</td>
<td>73</td>
</tr>
<tr>
<td>LakeVille MS</td>
<td>Unknown Location</td>
<td>79</td>
</tr>
<tr>
<td>Lapeer HS</td>
<td>Hunters Creek Lapeer</td>
<td>*</td>
</tr>
<tr>
<td>Mt. Morris Jr. HS</td>
<td>Flint River near Stepping Stone Falls</td>
<td></td>
</tr>
<tr>
<td>North Branch HS</td>
<td>Elm Creek</td>
<td>*</td>
</tr>
<tr>
<td>Northwestern HS</td>
<td>Brent Run</td>
<td>71</td>
</tr>
<tr>
<td>Powers Catholic HS</td>
<td>Swartz Creek Golf Course</td>
<td>84</td>
</tr>
<tr>
<td>St. John Vianney Catholic School</td>
<td>Flint River at Mott Park Golf Course</td>
<td>69.57</td>
</tr>
<tr>
<td>Swartz Creek MS</td>
<td>West Branch of Swartz Creek - between Swartz Creek MS and HS</td>
<td></td>
</tr>
<tr>
<td>Westwood Heights Hamady MS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Carl Thompson leading ‘Environmental Dumpster Diving’ at the GREEN Student Summit
On May 19, 2017 GREEN mentors, community members, students, teachers, and volunteers gathered together at Kettering University for the annual Student Summit – the pinnacle of the GREEN season. Kettering University once again generously hosted the Flint River GREEN Student Summit for the 2017 season. This was all made possible with the assistance of Julie Simmons at Kettering University.

Students presented their water testing results, action plans, and other information they gathered from their field testing and study days. Presentations and follow up inquiries from the audience were facilitated by emcee Tom Jones with the Genesee County Drain Commission.

When students were not presenting, they took part in a variety of breakout sessions led by community members and environmental professions eager to share their knowledge with GREEN students.

**Summit Breakout Sessions**

**Chevy Commons: A Walking Tour**
Doug Schultz: *Rowe Professional Services*, Janet Van De Winkle; *Genesee County Parks*

**Community Walkabout**
Grace Scarsella; *Earthforce*, Sondra Severn; *Flint River Watershed Coalition*

**Creek Critters**
Jackie Blakely; *Master Identifier*, Mike Haley: *FRWC Monitoring Volunteer*

**Environmental Dumpster Diving**
Carl Thompson: *Genesee County Metropolitan Planning Commission*

**Incredible Edible Plants**
Peter McCreedy: *Ecology Director*, Chatfield School

**Mad Scientist**
Heidi Mudel; 4-H Youth Development Program Coordinator

**Plover Palooza!**
Julie Markiewicz; *Sleeping Bear Dunes National Lakeshore*

**Rats in Your Drinking Water**
Darren Bagley: 4-H Youth Development Educator, MSU Extension

**Sewer CSI**
Thad Domick, Tom Hutchings: *Water Pollution Control Specialists*, City of Flint
“During Project GREEN I learned that #itsnottheriver”  
- 8th Grade Swartz Creek MS Student
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
Earth Force
Flint River Watershed Coalition
Genesee County Drain Commissioner’s Office, Surface Water Management
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 Company
General Motors Foundation
Kettering University
Lapeer Intermediate School District
Michigan State University 4-H Youth Development