Flint River GREEN

2009 Annual Report
From the Flint River Watershed Coalition

“Water is the basis of life and the blue arteries of the earth! Everything in the non-marine environment depends on freshwater to survive.”

Sandra Postel, Global Water Policy Project
Grist Magazine; April 26, 2004

Over the years, more than 20,000 students have participated in the GREEN program. We could not have accomplished this without the dedication and participation of area schools, local funders, and our cadre of volunteer mentor and presenters.

GREEN has a real and significant impact on students. This program guides our kids through a fun outdoor learning program that brings hands-on use of real world water quality testing procedures to students while instilling a sense of pride and stewardship for our water resources.

We’re very pleased that 2009 marks a year of growth for the GREEN program - for the first time, we’re working beyond the borders of Genesee County. And in 2010, we’re expanding the program even more. I hope you enjoy our 2009 GREEN Annual Report, and I look forward to working with you to protect, preserve, and improve the Flint River Watershed.

Rebecca Fedewa, Executive Director
Flint River Watershed Coalition

Note: Student photos were supplied by Brandon Schools and FRWC.
Flint River GREEN Overview

“During Flint River GREEN, I learned some animals I never would have suspected are connected to clean water sources.”

Student, 2009 Student Summit
Flint River GREEN Program

Since 1989, the Flint River Watershed Coalition, with our partners, has coordinated an applied curriculum for middle and high school students geared to have a positive impact on the environment, now and into the future. This integrative program was developed by University of Michigan professor Dr. William Stapp and one of his assistants, Mark Mitchell and named Global Rivers Environmental Education Network or “GREEN.” Students in the GREEN program conduct water quality tests based on the nine protocols selected by the National Sanitary Foundation. The summation of these tests results in a numerical water quality index (WQI) used to compare water quality from river to river, and year to year.

In the Flint River watershed, the GREEN program started with the Flint Community Schools and for many years was labeled “Project GREEN.” As this program grew and incorporated additional Genesee County school districts, students participation increased from approximately 100 students in 1989 to over 1,200 in 2004. To reflect this growth and Genesee County funders, the title was changed to “Genesee GREEN.” In 2009, this program hit a new milestone by expanding beyond Genesee County to include Brandon Middle School students from Oakland County. To reflect this and potential future growth, the program was aptly re-named “Flint River GREEN.”

The success of this program is a reflection of the value it brings to all its participants.

- Teachers gain a hands-on learning experience that compliments science curriculum.
- Students have the opportunity to present their data and recommendations to the community at the Student Summit.
- Students connect with their local watershed and with environmental professionals through the mentoring aspect of GREEN.

The community and the Genesee County Drain Commission benefit through the collaborative sharing of data.

Partnering to protect, preserve and improve the Flint River watershed.
Flint River GREEN Teachers

“A discovery is said to be an accident meeting a prepared mind.”

Albert Szent-Gyorgy, Hungarian Biochemist
1937 Nobel Prize for Medicine

In Genesee County, the GREEN program began with five teachers from the Flint Community Schools. In 2009, the GREEN program hit two milestones with 39 teachers participating and breaking beyond the county border to include students from Brandon Community Schools.

Atherton High School
Matt Hyslop

Beecher Middle & High School
Don Hammond
Annette Zemon-Parker

Bentley High School
Cheryl Hobson

Brandon Middle School
Dave Green

Carman/Ainsworth High School
Julie Lawrence

Clio Carter Middle School
Chip McCallum
Ryan Nemi

Davison Middle School
Jodie Kosaris

Fenton A.G. Schmidt Middle School
Lynn Behr

Flint Northern Commencement Academy
Nadina Aversa

Flint Classical Academy
Jarrett Trombley

Flint-Holmes Found.Middle School
Chris Ochodziicky

Flushing High School
Chad Anderson

Genesee High School
Matt Malenich

Goodrich Middle School
Brad Dawson
Cindy Rivet
Craig Salter

Kearsley Armstrong Middle School
Carrie Hall
Diana Bowman
Jennifer Hall

Lake Fenton High School
Joe Grigas
Ken Roy

LakeVille Middle School
Andrea Thelen
Josh Henley

Linden Middle School
Charlen Nester
Kim Bigelow-Cornell

Montrose Hill McCloy Middle & High School
Bob Masser
Jennifer Kahn
Tammy Belson

Mt. Morris Jr. High School
Bekah D’Haene

St. John Vianney Catholic School
Elizabeth Petrides

Swartz Creek Middle School
Amy Culver
Brandelyn Forbes
Dori Hill

The Valley School
Mike White

Westwood Heights Hamady High School
Tammy Wylie
Tom Chedister
Flint River GREEN Mentors

“Nothing is softer or more flexible than water, yet nothing can resist it.”

Lao Tzu, Chinese Taoist Philosopher, Founder of Taoism
600 BC-531 BC

Mentors play a valuable role helping teachers prepare their students for field work, the testing, and interpreting their results. In 2009, Flint River GREEN mentors included the following environmental professionals:

**General Motors**
- Irene Bashore
- Sue Bloch
- John Bradburn
- Eric Bradfish
- Craig Buike
- Eric Hakel
- Stacey Helton
- Julie Lenz

**City of Flint Water Pollution Control Division**
- Eric Brubaker
- Thad Domick
- Tom Hutchings

**Delphi Automotive Systems**
- Al Putney
- Pier Bollini

**Flint River Watershed Coalition**
- Rebecca Fedewa
- Heather Griffin
- Eric Hall
- Dan Harrett
- Saed Isaac
- Sara McDonnell
- Nicole Raymond
- Bill Welch

**Genesee County Drain Commission**
- Suzanne Lossing
- Tom Jones

**Other Organizations**
- Darren Bagley, Michigan State University, Extension Center
- Bob Carlyon, Retired City of Flint
- Erin Gallay, Earth Force
- Eric Hall, Flint River Paddlers, FRWC
- Dan Harrett, Retired; General Motors
- Saed Isaac, Alumni; University of Michigan Flint
- Sara McDonnell, University of Michigan; Center for Applied Environmental Research (CAER)
- Nicole Raymond, Genesee Intermediate School District
- Bill Welch, Retired, Genesee Intermediate School District

Partnering to protect, preserve and improve the Flint River watershed.
Partnering to protect, preserve and improve the Flint River watershed.

Student Summit

“High quality water is more than the dream of the conservationists, more than a political slogan; high quality water, in the right quantity at the right place at the right time, is essential to health, recreation, and economic growth.”

Edmund S. Muskie, U.S. Senator
Speech, March 1, 1966

On May 15th, 2009, students presented their Flint River GREEN findings to the community during the Student Summit. The summit was hosted by Mott Community College (MCC) where students had the opportunity to attend a variety of educational sessions conducted by professionals from a variety of environmental fields. Our appreciation to the many organizations that helped support this summit.

Energy Futures & Impacts on our Water
Paddling the Pewonigowink
Biking & the Environment
Green Power Strategy
Gilkey Creek Restoration
Rats in Your Drinking Water
Alien Invaders of the Great Lakes
Muck on the Beaches in Saginaw Bay
Great Lakes & the Regional Climate
Recent & Future Water Legislation
Connecting with Conservation
Chet Wilson Geology Museum
Bee a Keeper!
Surfing the DEQ! Finding Resources
Kayaking: Mild to Wild
Owl Habitats
Sewer CSI

Lee Sprague, Clean Energy Campaign Manager
Riley McLincha, Watershed Enthusiast
Bruce Nieuwenhuis, President, Friends of the Flint River Trail
Rob Threlkeld, Manager, GM Contracts & Green Initiative
Erin Caudell, Program Specialist, Ruth Mott Foundation
Applewood Estate
Darren Bagley, MSU-E Extension Educator & 4-H Youth Dev.
Mary Bohling, MI Sea Grant
Margaret Lansing & Elizabeth Klimas, NOAA Great Lakes
Stephen Riley, USGS, Great Lakes Science Center
Nathan Murphy, Environmental Policy Analyst, Senate Democratic Caucus
Sarah Kilgore, Education Director, Genesee Conservation District
Open Tour, hosted by MCC Science & Math Department
Jim Dodder, Genesee County Bee Keeper
Pam Howd, Environmental Assistant Program, MI DEQ
Eric Hall, President, Flint River Paddlers
Layne Hillman, Naturalist, Seven Ponds Nature Center
Dawn Welsh, Tom Hutchings, Thad Domick, and Eric Brubaker,
Water Pollution Control Specialists, City of Flint Waste Water Treatment Center
Testing Our Local Waterways

"Water is fundamental for life and health. The human right to water is indispensable for leading a healthy life in human dignity. It is a pre-requisite to the realization of all other human rights."

The United Nations Committee on Economic, Cultural and Social Rights

*Environment News Service, November 27, 2002*

<table>
<thead>
<tr>
<th>Testing Location:</th>
<th>Participating School</th>
<th>2009 Q-Value Score</th>
<th>1991-2009 Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thread Creek at Bristol Rd.</td>
<td>Atherton H.S.</td>
<td>79</td>
<td>77</td>
</tr>
<tr>
<td>I-475 Retention Stream &amp; Drain</td>
<td>Beecher M.S.</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Richfield Park</td>
<td>Bentley H.S.</td>
<td>59</td>
<td>70</td>
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<tr>
<td>Kearsley Creek behind M.S.</td>
<td>Brandon M.S.</td>
<td>**</td>
<td>**</td>
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<tr>
<td>Upstream of For-Mar Nature Center</td>
<td>Carman-Ainsworth H.S.</td>
<td>70</td>
<td>72</td>
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<tr>
<td>Pine Run at Clio Park</td>
<td>Carter M.S., Clio</td>
<td>70</td>
<td>74</td>
</tr>
<tr>
<td>Black Creek, Jack Abernathy Park</td>
<td>Davison M.S.</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>Fenton Mill Pond (Shiawassee River)</td>
<td>Fenton M.S.</td>
<td>67</td>
<td>67</td>
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<tr>
<td>Flint River W. of Johnson AAA School</td>
<td>Holmes Academy, Flint</td>
<td>79</td>
<td>63</td>
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<tr>
<td>Gilkey Creek behind Central H.S.</td>
<td>Whittier Classical, Flint</td>
<td>49</td>
<td>68</td>
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<tr>
<td>Mill Street Bridge</td>
<td>Flint Northern H.S.</td>
<td>79</td>
<td>67</td>
</tr>
<tr>
<td>Linden Rd. &amp; Flushing Rd.</td>
<td>Flint Northern H.S.</td>
<td>72</td>
<td>72</td>
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<tr>
<td>Armstrong Creek at Dodge Road</td>
<td>Flushing H.S.</td>
<td>73</td>
<td>**</td>
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<tr>
<td>Bear Swamp at Genesee Road</td>
<td>Genesee M.S.</td>
<td>42</td>
<td>**</td>
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<tr>
<td>Thread Creek Burpee at Vassar Rd.</td>
<td>Goodrich M.S.</td>
<td>85</td>
<td>85</td>
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<tr>
<td>Crampton Drain / Chipmunk Creek</td>
<td>Armstrong M.S., Kearsley</td>
<td>83</td>
<td>74</td>
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<tr>
<td>Coe Drain Lake Outlet, N. of H.S.</td>
<td>LakeVille M.S.</td>
<td>**</td>
<td>**</td>
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<tr>
<td>Linden Mill Pond (Shiawassee River)</td>
<td>Linden M.S.</td>
<td>88</td>
<td>89</td>
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<tr>
<td>Seymour Rd. North of Farrand Rd.</td>
<td>Montrose H.S.</td>
<td>82</td>
<td>74</td>
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<tr>
<td>Barber Memorial Park, near M-57</td>
<td>Montrose M.S.</td>
<td>68</td>
<td>68</td>
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<tr>
<td>Clio Rd. &amp; Stanley Rd. in Mt. Morris</td>
<td>Mt. Morris Jr. H.S.</td>
<td>58</td>
<td>58</td>
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<tr>
<td>Mott Park</td>
<td>St. John Vianney, M.S.</td>
<td>75</td>
<td>75</td>
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<tr>
<td>Swartz Creek at Hill Rd. Bridge</td>
<td>Swartz Creek M.S.</td>
<td>76</td>
<td>71</td>
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<tr>
<td>Gilkey Creek, near Ballenger Hwy.</td>
<td>The Valley School</td>
<td>69</td>
<td>69</td>
</tr>
<tr>
<td>Clio Bike Path at Jennings Rd.</td>
<td>Westwood Heights, Hamady H.S.</td>
<td>64</td>
<td>69</td>
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**Q-Value Ratings:**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
<th>Score Range</th>
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<tbody>
<tr>
<td>100 – 90</td>
<td>Excellent Water Quality</td>
<td></td>
</tr>
<tr>
<td>89 – 70</td>
<td>Good Water Quality</td>
<td></td>
</tr>
<tr>
<td>69 – 50</td>
<td>Medium or Average Water Quality</td>
<td></td>
</tr>
<tr>
<td>49 – 25</td>
<td>Marginal Water Quality</td>
<td></td>
</tr>
<tr>
<td>24 - 0</td>
<td>Poor Water Quality</td>
<td></td>
</tr>
</tbody>
</table>

*Note: The average is calculated from reported scores between the years 1991 to 2009. Some sites are newer and therefore did not have many earlier scores reported. For individual scores, visit website: [http://www.geneseegreen.org/history.php](http://www.geneseegreen.org/history.php) and select the "View Data" link.*

**Values Not Available**
Flint River GREEN Sponsors

““Clean water is not an expenditure of Federal funds; clean water is an investment in the future of our country.”

Bud Shuster, U.S. Representative
Quoted in The Washington Post, January 9, 1987

THANK YOU to our sponsors for bringing Flint River GREEN to our classrooms.

City of Flint, Water Pollution Control Dept.
Donna’s Donuts
Earth Force
Flint River Watershed Coalition
General Motors
Genesee County Drain Commission
Genesee Intermediate School District
The Raymond C. & Anne T. Johnson Family Foundation
Michigan State University, Extension
Mott Community College, Science & Math Dept.
Royal Bank of Canada, Blue Water Project
Tetra Tech
University of Michigan, Flint; Center for Applied Environmental Research

Partnering to protect, preserve and improve the Flint River watershed.
Flint River GREEN Advisory Team

“Discovery consists of seeing what everybody has seen and thinking what nobody has thought.”

Albert Szent-Gyorgy, Hungarian Biochemist
1937 Nobel Prize for Medicine

The Flint River GREEN Advisory Team brings valuable diversity and insight to help form the collaborative effort that is essential to provide the GREEN program to area schools.

**Flint River Watershed Coalition:**

Jack Minore, Board Chair  
Rebecca Fedewa, Executive Director  
Bill Welch, FRWC Education Committee  
Darren Bagley, FRWC Education Committee Chairperson; MSU-Extension Officer  
Suzanne Lossing, Education & Outreach Coordinator

**General Motors**  
John Moldovan  
Stacey Helton

**Genesee Intermediate School District**  
Larry Casler  
Lisa Hook  
Nicole Raymond

**Earth Force**  
Alyssa Hawkins  
Jan Sneddon  
Erin Gallay

Bottom photos were taken at the Student Summit at Mott C.C.

Partnering to protect, preserve and improve the Flint River watershed.
Learning About the Flint River

“Water is life’s mater and matrix, mother and medium. There is not life without water.”

Albert Szent-Gyorgy, Hungarian Biochemist
1937 Nobel Prize for Medicine

To learn more about partnering to help protect, preserve and improve the Flint River watershed, contact the Flint River Watershed Coalition.

Visit our website for information on upcoming events and other FRWC programs. www.FlintRiver.org

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810-767-6490
info@flintriver.org

Partnering to protect, preserve and improve the Flint River watershed.