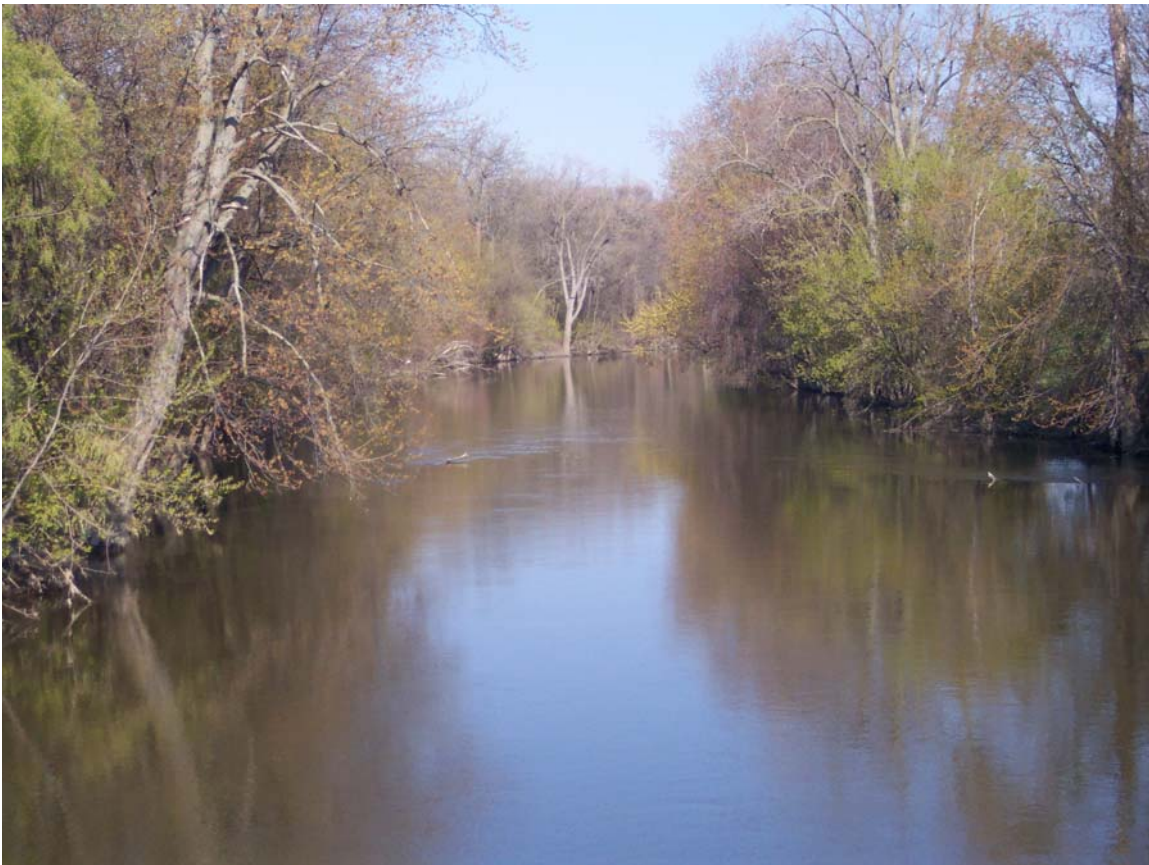


2005 ANNUAL REPORT

Genesee GREEN

(Formerly titled Project Green)



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From the Flint River Watershed Coalition

Of all of the projects of the Flint River Watershed Coalition, this is the one of which I am proudest. Perhaps it is my own background as an educator, but the sight of young students concerned about the environment and taking advantage of the opportunity for a real hands-on experience in science and the outdoors has been a great pleasure for me to witness.

Their succinct, yet thorough explanations of their experience and their findings give me great optimism for the future of our state and nation. We at the Watershed are pleased to be a part of this program. I especially want to thank Gary McDaniel and Bill Welch for their stewardship of this program over the past few years. As a newcomer to the project, I have been impressed with their efforts and those of the educators and students as well.

A very special thanks, also, to the sponsors, mentors and funders, without whom this valuable project and learning experience would not be possible.



Jack D. Minore, Executive Director
Flint River Watershed Coalition

Overview

For the sixteenth consecutive year, results from student samplings have frozen a moment in time for the Flint River Watershed. Based on a program developed at the University of Michigan in the late 1980's called Project GREEN, a chemical sampling of the Flint River and its environs provides a Water Quality Index Value that now can be used to compare values for the same watershed sites that have been tested since 1990. The river is a dynamic ecosystem and it changes daily. However, using the trend concept, comparisons of river quality can be made at sites and calendar intervals that have remained constant.

Since the copyright for Project Green has now passed to EarthForce, Inc., the project in this vicinity has been renamed Genesee GREEN. The 2004-2005 academic year is the first year for Genesee GREEN. The Flint River Watershed Coalition is now the fiduciary agent and provides direction for the program through an advisory board that meets on a monthly basis. All school districts in Genesee County are eligible to participate through the science classrooms of grade eight and above.

Demographics



This year, of the 21 school district in Genesee County, sixteen teachers representing ten districts used Genesee Green as a portion of their science curriculum. In turn, students were trained in the protocols of water sampling and developing a water quality index. As supplemental exposure, the students received instruction into wetlands, the Flint River

Watershed ecosystem and the Great Lakes Watershed. Because Genesee GREEN was used by so many teachers, 844 students received hands-on instruction in the classroom. Of the total number, 572 students had the opportunity to conduct a field laboratory experience in the Flint River Watershed. That is where students produced the snap shot WQI analysis. Gender and ethnic data appears on the data tables, 2005 Classroom Sampling, and 2005 River Sampling.

As Genesee GREEN evolves, new sponsors have joined the program. Without the financial support of the sponsors and the release of employees to work with a teacher in the classroom and again during the field laboratory, this educational opportunity could not continue. Mentors provide an extra set of eyes and hands as the students learn required protocol or venture to their sampling site off campus. They also validate the content of this experience by representing aspects of the real world where the very same tests are conducted. They answer questions about their work with water quality and sometimes provide a mini lesson for the entire class from their wealth of experience. This year twenty nine employees volunteered to be a mentor at one or more of the schools. Please consult the list of this year's sponsors.

Communications and New Web Site

A paperless project has been reached. After the organizational meeting, all communications between the project coordinator and the participating teachers was completely electronic. Messages were delivered to the teachers saving hours over past years. Messages received were answered as soon as the electronic mailbox was checked so teachers could have answers during the class as a best case or by the next morning as the worst case.

With every innovation, there are instances where the best laid plans go astray. Some districts are notorious for turning off their servers in the evening. Emails would come back as undeliverable. Week-end shutdowns were also frequent as were server crashes. Resending messages then became time intensive. If it was not the problem with the district server, another problem rested with the teacher not checking their mail in a timely fashion or not making a copy of the message for later referral. Sadly there were a few teachers who committed to the program and then blatantly refused to respond to communication requests.

To handle the data collected so it can be used in the different districts, a new web site has been developed. It, too, is evolving as input from teachers and other interested parties is received. At this moment, it has data for 2005 if it was submitted by a teacher. Also, archived data is present from sites dating back to 1990 if data was posted from the site. The address for the new web site is: www.GeneseeGREEN.org





Student Congress Summation

As a conclusion to this year's Genesee GREEN experience, students were offered the opportunity to present their findings to a gathering of their peers. Held at the Regional Technology Center of Mott Community College, 139 students participated. A team from each school presented a Power Point summary of their experience to the entire gathering. After lunch, break-out sessions of various topics were available to the students to enrich their learning. This was a first time offering for Genesee GREEN. It takes the student to a higher level of thinking. Having to present to an auditorium full of peers is also a limited experience for most students. As usual, they all rose to the occasion with excellent, yet different, interpretations of the same experience.

Feed Back Comments

By addressing the needs of the teachers and school districts, it is felt that Genesee GREEN has evolved into a stronger and more dynamic addition to the science curriculum for students in Genesee County. Teachers, Students and Mentors have provided the comments.

- Genesee GREEN continues to be a valuable asset because students have an opportunity to collect and submit data on something that is relevant to their lives
- I don't know how to accomplish this, but it would be nice if ALL students could somehow share in the experience [Student Congress]
- No changes. Everything has gone well for me the last six years
- I like the fact that students participate in hands-on real science
- The materials and training are excellent.
- Maybe do fall and spring sampling
- Real life experience
- I would like to have a sharing session of labs/research/activities from other teachers
- Our students thought it would be interesting to do the sampling twice. I.e: Fall and spring or early May and late May
- Notification of all of the dates for ALL of the events early in the year
- My students said that they generally enjoyed the student PowerPoint presentations
- Students were confused and lost by the keynote speaker
- The breakout sessions were good

From students

- ✓ I learned how to do water tests
- ✓ I learned how clean the Flint River really is
- ✓ I never knew how many things go into our water
- ✓ I learned about DO testing and Coliform testing. The fecal Coliform stunk
- ✓ I like shaking the bottles
- ✓ I learned that the Flint River is not as dirty as everyone says it is. Also, I learned that there are a lot more insects and bugs in the water and mud than what people think
- ✓ I learned how to catch bugs and label them
- ✓ Going outside was nice. It made our class less stressed out
- ✓ I learned how to get along with people in the field
- ✓ I learned that all bodies of water are different I practiced many water tests and found out how deep the river is
- ✓ I like that we know there are people out there testing our local water. We need to keep our water clean
- ✓ I love learning while having fun and that is what we did in this class
- ✓ I liked the field trip to the Flint River

- ✓ It taught me a lot about the testing I had practiced in school. It gave me a chance to show off my knowledge
- ✓ I liked the way we got to go to the park and be on our own but we were still supervised
- ✓ I liked going outside a lot and testing the creek and the river
- ✓ I liked being outside and being in groups
- ✓ I didn't have to be in school and learn
- ✓ It was fun getting mud from the bottom with the dredge



- ✓ I liked going outside to be in the sunshine
- ✓ I liked that we were outside doing hands-on and not just bookwork
- ✓ I disliked the Fecal Coliform test because it was smelly
- ✓ I didn't like the worksheets, but only because I didn't understand them
- ✓ Not enough time
- ✓ I disliked that the water was so cold
- ✓ I didn't get to go
- ✓ I didn't get to do all of the tests
- ✓ I didn't feel enough information was given to us for the PowerPoint presentation. I'm still confused as to what we were supposed to do
- ✓ I didn't understand what I was testing for. The situation was a bit of a frenzy
- ✓ I didn't like how cold it was and how dirty some of us got

- ✓ I dislike the water tests because it was very boring and I felt we didn't need to know about the Flint River
- ✓ I would spend more time on each experiment. I also would have gone to the Flint River with the whole class
- ✓ I just wish I would have enjoyed myself instead of complaining about the smell of the F. Coliform and how cold it was outside
- ✓ If I could do it over, I would get my permission slip so I could go
- ✓ I would like the PowerPoint explained more
- ✓ I think the class should be split up into two trips so people are not just standing around not doing anything
- ✓ I think there should be fewer projects for each group
- ✓ Next time I would bring more coffee
- ✓ I would do nothing differently
- ✓ I would like to know what the results mean
- ✓ I would rather have a picnic and do not work
- ✓ I think there needs to be more time outside

Both Ends of the Spectrum

- I would like to personally thank you for all of your contributions to Project GREEN and to the Water Summit. It has become a large portion of my environmental class. It truly makes a difference for my students. They were excited to be doing a "real life" activity. They could see people doing this sort of work as a profession, perhaps one that they will go into. In addition, the Summit helped them put all of their work together and better understand the world where they live. The Summit created a competition among the students and a real reason to make a presentation. ...Again thank you for making this possible.
- Need to break up the topic so you don't see ten PowerPoints of the same thing. You guys need to stop adding things to do at this time of year. I don't have time to do all of the other things I have to get done little [sic] alone adding more things to do for GREEN. I spent a lot of time going to meetings and summits for some thing that is not supported by my district science office and is extra work for me. I'm not sure but this might have been my last year.

Genesee GREEN Sponsors 2005

Delphi

EarthForce

Flint River Watershed Coalition

Genesee County Cooperative Extension Service

General Motors-Flint Engine-South

General Motors- Flint Service Parts Organization

General Motors- Flint Truck Assembly

General Motors- Power Train—Flint North

General Motors- Vehicle Manufacturing-Flint Metal Center

General Motors- Vehicle Manufacturing-

Grand Blanc Metal Center

General Motors- Worldwide Facilities Group-

Environmental Services

Genesee Area Math Science Center

Genesee County Drain Commission

Genesee Intermediate School District

MSU Cooperative Extension Service

Tetra Tech, Inc

Certified Hazardous Materials Managers--Michigan

University of Michigan-Flint –

Center for Applied Environmental Research

Project Green 2005-River Sampling

School	Teacher	Male Data	Female Data	Native Am.	Asian	Hispanic	African Am.	Caucasian	Middle Eastern	Other	

Bentley	Hobson	15	16	00	01	00	03	028	00	00	
Bendle	Barden		Sampled. Did not provide data								
Bendle	Sandrik		Sampled. Did not provide data								
C-A	Lawrence	09	11	00	01	00	05	014	00	00	
Flushing	Anderson	Received materials. Dropped out at beginning of sampling window									
GASC	Cook	22	21	0	0	07	15	21	0	0	
GASC	L-Dudley	*	*	*	*	*	*	*	*	*	
Goodrich MS	Steinhaus	19	08	00	00	00	01	026	00	00	
Goodrich HS	Anderson	39	20	00	00	00	00	059	00	00	
G. Blanc	Turnbow	07	12	00	03	03	00	012	00	00	
Kearsley MS	Bauman	10	15	00	02	01	01	021	00	00	
Montrose	Masser	35	35	01	01	00	02	066	00	00	
SWA	Babieracki	**	**	**	**	**	**	**	**	**	
SWA	Finch	Did not respond to any form of communication									
Swartz Cr	Thomas	11	07	00	00	00	01	017	00	00	
Swartz Cr.	Hill	60	48	01	00	00	05	102	00	00	
Swartz Cr.	Haldy	50	64	00	01	02	05	107	00	00	
Whittier	Hunter	09	29	00	00	02	31	05	00	00	
	Total	286	286	02	09	14	69	478	00	00	

* = worked with another teacher

** = failed to provide any data

Project Green 2005 - Classroom Sampling

School	Teacher	Male Data	Female Data	Native Am.	Asian	Hispanic	African Am.	Caucasian	Middle Eastern	Other
Bendle	Barden	Failed to provide data after sampling								
Bendle	Sandrik	Failed to provide data after sampling								
Bentley	Hobson	20	21	00	01	00	03	037	00	00
C-A Flushing	Lawrence	49	58	00	02	00	22	083	00	00
GASC	Cook	22	21	00	02	05	15	021	00	00
GASC	L-Dudley	*	*	*	*	*	*	*	*	*
Goodrich HS	Anderson	39	20	00	00	00	00	59	00	00
Goodrich MS	Steinhaus	20	08	00	00	00	01	027	00	00
GB MS	Turnbow	99	83	01	07	06	21	142	04	02
Kearsley MS	Bowman	11	16	00	02	01	01	023	00	00
Montrose	Masser	43	32	01	01	00	02	071	00	00
SWA	Babieracki	Failed to provide any data after sampling								
SWA	Finch	Did not respond to any form of communication								
Swartz Cr.	Haldy	50	64	00	01	02	05	107	00	00
Swartz Cr.	Hill	63	49	00	01	00	05	106	00	00
Swartz Cr.	Thomas	11	07	00	00	00	01	017	00	00
Whittier	Hunter	09	29	00	00	01	31	005	00	00
	Total	436	408	02	17	14	107	698	04	02

* = worked with another teacher

** = failed to provide any data