



Genesee County Phase II Municipalities Annual Report

November 1, 2011 – October 31, 2012

Submitted to:

***the State of Michigan Department of Environmental Quality,
Surface Water Quality Division***

by the Genesee County Drain Commissioner

on behalf of Genesee County and contracted Communities



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LIST OF ACRONYMS

E342C	Contract for services between Communities and Drain Office
Ad hoc	The Ad hoc Committees are formed to work on specific objectives until complete
BMP	Best Management Practice
CAER	University of Michigan – Flint, Center for Applied Environmental Research
CMI	Clean Michigan Initiative
CSO	Combined Sewer Overflow
EPA	Environmental Protection Agency
FRWC	Flint River Watershed Council
GCCD	Genesee County Conservation District
GCDC	Genesee County Drain Commissioner
GCHD	Genesee County Health Department
GCRC	Genesee County Road Commission
GISD	Genesee Intermediate School District
GREEN	Global Rivers Environmental Education Network
HHW	Household Hazardous Waste
IDEP	Illicit Discharge Elimination Plan
M&M	Monitoring and Mapping
MDEQ	Michigan Department of Environmental Quality
MDEQ	Michigan Department of Natural Resources and Environment
MS4	Municipal Separate Storm Sewer System
N/A	Not applicable
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
PEP	Public Education Plan
PPP	Public Participation Plan
PSD	Point Source Discharge
QAPP	Quality Assurance Project Plan
SEMCOG	Southeast Michigan Council of Governments
SESC	Soil Erosion and Sedimentation Control
SSO	Sanitary Sewer Overflow
SWAC	Storm Water Advisory Committee
SWSC	Storm Water Structural Controls
SWM	Surface Water Management
SWPPI	Storm Water Pollution Prevention Initiative
TBD	To be determined
WMP	Watershed Management Plan
WWS	Water and Waste Services
WQI	Water Quality Index

1. NPDES PERMIT REQUIREMENTS AND ADMINISTRATION

This annual report was prepared by Genesee County's engineering consultant, Tetra Tech, for the Michigan Department of Environmental Quality (MDEQ).

PERMIT REQUIREMENTS

This annual report summarizes activities completed for the period from November 1, 2011, to October 31, 2012, by the Genesee County Drain Commissioner's Office and the contracted Phase II Municipalities to meet the requirements of their National Pollutant Discharge Elimination System (NPDES) permit, including:

- Watershed management
- Public education and participation
- New construction standards
- Monitoring and mapping
- Illicit Discharge Elimination Program (IDEP)
- Storm Water Pollution Prevention Initiative (SWPPI)

WATERSHED MANAGEMENT ADMINISTRATION

Storm Water System Service District

To implement the permit requirements and perform watershed management planning, Genesee County established a Storm Water Management System for the entire County under the authority of Michigan Public Act 342 of 1939. Genesee County had designated the Genesee County Drain Commissioner's Office to be their authorized agent. Many of the communities in the County have executed a contract to use the County 342 Storm Water Management System as the lead agency to provide Phase II permitting services, including watershed management planning.

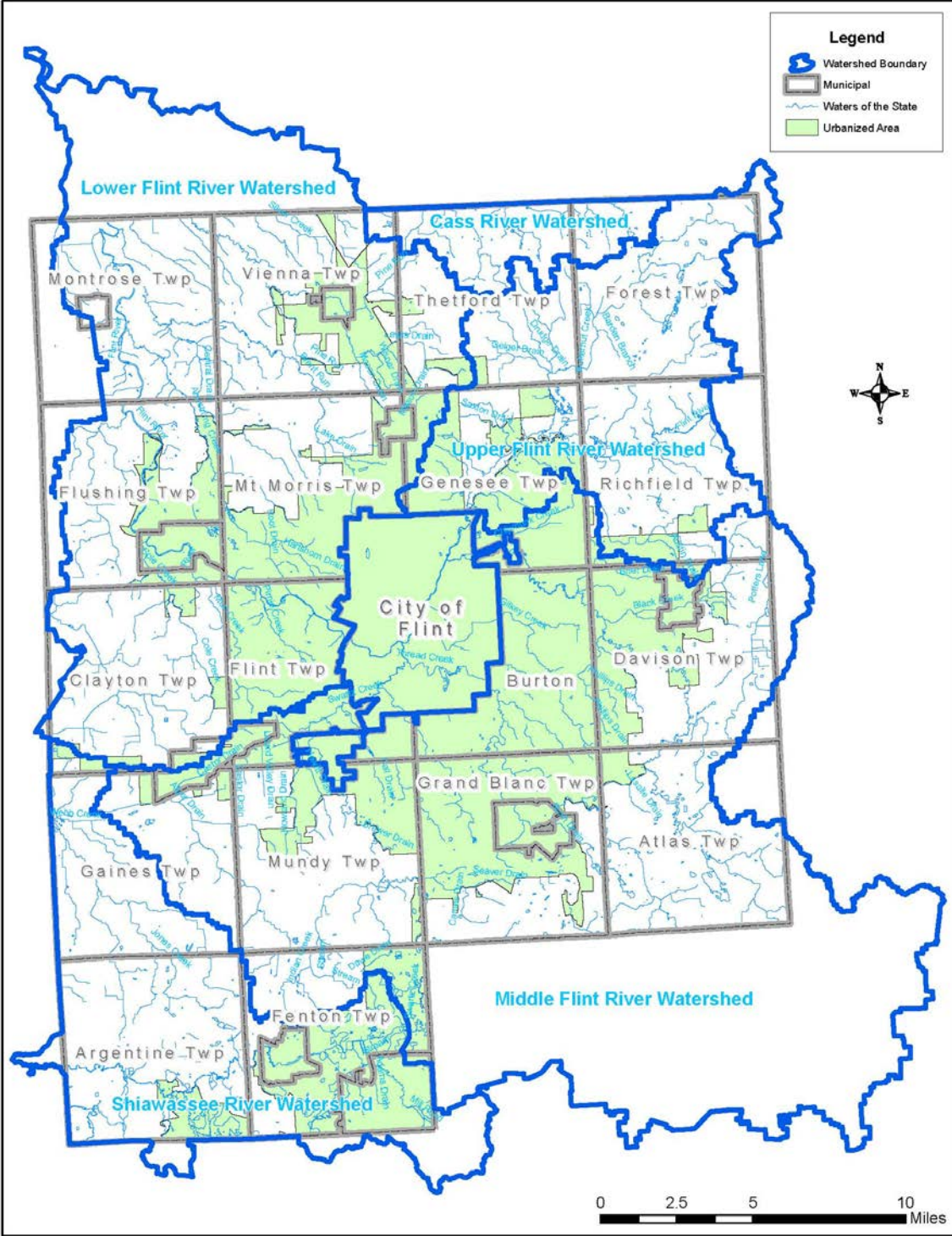
Watershed Delineation

Five major watersheds were delineated in the permit application, including:

- Lower Flint River Watershed
- Middle Flint River Watershed
- Upper Flint River Watershed
- Shiawassee River Watershed
- Cass River Watershed

Figure 1-1 shows the watershed boundaries. The Shiawassee River Watershed boundary was adjusted in 2005 to minimize overlap with Livingston County's efforts. Also, after discussions with MDEQ, the Upper Flint and Lower Flint watershed lines were changed. The five major watersheds listed above were divided into 20 sub-watershed planning areas.

Figure 1-1: Genesee County Watershed Boundaries



Contract Communities

Table 1-1 lists the Genesee County watershed-planning communities that have a 342 contract. Note that not all communities within Genesee County have NPDES permits and that Phase II status was realigned during the 2007-2008 reporting period. For the 2008–2013 cycle, some of the non-Phase II municipalities chose not to re-sign the 342 contract. Of the Phase II communities, Grand Blanc Township is the only Phase II community that chose not to re-sign the 342 contract and to provide all their own requirements for the new permit cycle. Although City of Flint was a Phase I community, in March 2010, they signed a 342 contract for public education services only. There are 4 non Ph II communities that chose to continue partnering through the contract. In **bold**

Table 1-1: Contract Communities

Argentine Township	City of Flint	Mount Morris Township
City of Burton	Flint Township	Mundy Township
City of Clio	City of Flushing	Richfield Township
City of Davison	Flushing Township	City of Swartz Creek
Clayton Township	Genesee Township	Vienna Township
Davison Township	City of Grand Blanc	Village of Lennon
City of Fenton	City of Linden	Genesee County
Fenton Township	City of Mount Morris	

Nested Drainage System Agreements

The county has a nesting agreement with Bishop Airport.

The County has a nesting agreement with all but two * of the Schools listed below.

Table 1-2: School Districts Interested in Nested Jurisdiction

School District	Within an urbanized area
Atherton	Y
Beecher	Y
Bendle	Y
Bentley	Y
Carman-Ainsworth	Y
Clio	Y
Davison	Y
Fenton	Y
City of Flint	Y
Flushing	Y
Genesee Intermediate School District (GISD)	Y
Genesee	Y
Goodrich	*No
Grand Blanc	Y
Kearsley	Y
Lake Fenton	Y
Lake Ville	No
Linden	Y
Montrose	*No
Mt. Morris	Y
Swartz Creek	Y
Westwood Heights	Y

*Schools that have been dropped from nesting due to noncompliance (letters sent Sept 2010)

The nested school districts have requested that the Genesee Intermediate School District (GISD) be their representative in this program. The GISD has been attending meetings and disseminating information to the individual school districts. They have facilitated meetings between the County and transportation and operations staff members, as well as superintendents, to discuss requirements, including staff training, to meet the requirements of the permit. The GISD participates in the county-wide education effort, including the development of grade-level appropriate watershed education curriculum. See chapter 2 for more details of GISD's involvement.

Genesee County Storm Water Advisory Committee

The Genesee County Storm Water Advisory Committee (SWAC) includes Genesee County and communities with a signed 342 contract. Most, but not all, are Phase II communities with a Certificate of Coverage. In addition, many of the Genesee County communities without a signed 342 contract continue to participate in SWAC activities. After the City of Flint signed a contract in March 2010, they became a member of the SWAC.

SWAC is guiding implementation of the entire Phase II Program and has three main sub-committees:

- Public Education (PE) and Participation Sub-Committee
- New Construction Standards and Practices (CSP) Sub-Committee
- Monitoring and Mapping (M&M) Sub-Committee

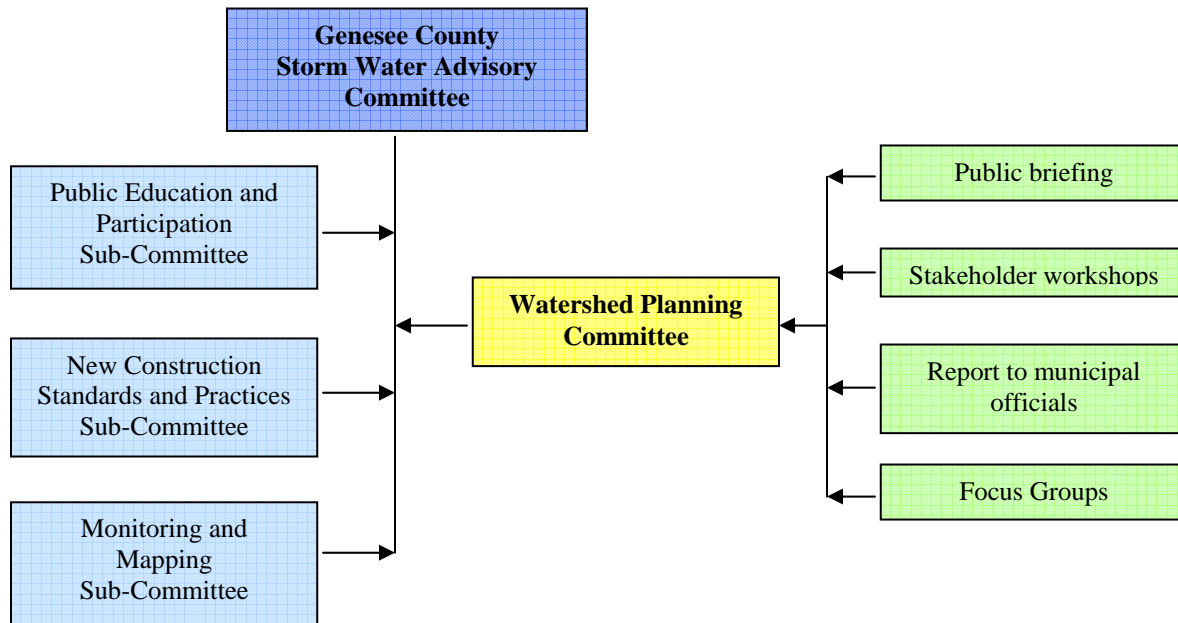
These sub-committees meet as needed along with stakeholders and/or individuals with specific specialized knowledge to implement the watershed plan, education plan and Illicit Discharge Elimination Plan (IDEP). A brief description of sub-committee duties is presented below Figure 1-2.

Figure 1-2 also shows the watershed planning decision-making process and sub-committee relationships. Work conducted by the Watershed Planning Committee(s) is used in development of the Lower Flint, Middle Flint, Upper Flint, and Shiawassee River Watershed Management Plans (WMPs). The Watershed Planning Committee(s) are made up of those communities that are located within a specific watershed. Each community serves on at least one sub-committee.

SWAC meetings during this reporting period were held on:

- October 19, 2011
- November 16, 2011
- December 21, 2011
- January 18, 2012
- February 15, 2012
- March 21, 2012
- April 18, 2012
- May 16, 2012
- September 19, 2012
- October 17, 2012

Figure 1-2: Watershed Planning Decision Making Flowchart



Public Education (PE) and Participation Sub-Committee

The PE Sub-Committee guides the overall public education and participation process for the watershed management planning effort. PE activities are summarized in Section 2.

New Construction Standards and Practices (CSP) Sub-Committee

The CSP Sub-Committee oversees new construction standards and post-construction practices for Genesee County. This sub-committee is also updating ordinances to ensure compliance with Environmental Protection Agency (EPA) requirements. CSP activities are summarized in Section 3

Monitoring and Mapping (M&M) Sub-Committee

The M&M Sub-Committee oversees organization and implementation of watershed monitoring, field-sampling protocols, and mapping guidelines. In addition to several monitoring programs, they oversee the Illicit Discharge Elimination Plan (IDEP) Program. Local government leaders share their insights and views of the watershed throughout the project at workshops and meetings, as well as at other formal and informal exchanges. M&M activities are summarized in Section 4.

Watershed Management Plans and Storm Water Pollution Prevention Initiatives

Watershed Management Plans (WMP) for the Upper and Lower Flint as well as the Shiawassee River were submitted and accepted by the DEQ in 2008. In June 2009, permittees submitted their Storm Water Pollution Prevention Initiative (SWPPI) to the DEQ. Once the MDEQ withdrew their 2008-2013 permit, Genesee County permittees reverted back to the 2003 permit and SWPPI. Due to changes between the 2003 SWPPI and 2008 SWPPI it was decided for all communities to resubmit the SWPPIs in October 2011. Based on comments from the MDEQ, Genesee County then made changes and resubmitted their SWPPI in July 2012. The SWPPI contains action based on the WMP goals and objectives as well as from the new NPDES permit requirements. Permittees are committed to undertake these actions.

2. PUBLIC EDUCATION AND PARTICIPATION SUB-COMMITTEE ACTIVITIES

The Public Education (PE) and Participation Sub-Committee held one meeting during this reporting period:

December 6, 2011

PE Membership included:

- **City of Burton – Paula Zelenko**
- **City of Clio – William Kovi**
- **City of Davison – Michael Hart**
- **City of Flint – Vacant**
- Clayton Township – Rick Caruso
- **Flint Township – Karyn Miller**
- Forest Township – Vacant
- **Mundy Township – Dave Guigear**
- Thetford Township – Clyde Howd
- **Vienna Township – Bob Palmer**
- Village of Otisville – David Tatro

Bolded members are Phase II communities

The purpose of the PE committee is to implement the Public Education Plan (PEP) and assigned objectives in the action plan (Section 8 of the Watershed Management Plan). The PEP plan was revised to match the withdrawn MDEQ 2008-2013 guidance “Key Messages”. The actual implementation did not change.

The City of Flint has signed a contract for Public Education, and similar to other 342 members, are now receiving the benefits of the SWAC’s public education efforts.

PUBLIC EDUCATION PLAN

Permit Requirements

The planning and implementation of public education is based on EPA-required elements, including:

1. Encourage public reporting of the presence of illicit discharges or improper disposal of materials into applicant’s separate storm water drainage system.
2. Educate public on the availability, location, and requirements of facilities for disposal or drop-off of household hazardous wastes, travel trailer sanitary wastes, chemicals, grass clippings, leaf litter, animal wastes, and motor vehicle fluids.
3. Educate public regarding acceptable application and disposal of pesticides and fertilizers.
4. Educate public concerning preferred cleaning materials and procedures for residential car washing.
5. Educate public concerning the ultimate discharge point and potential impacts from the separate storm water drainage system serving their place of residence.
6. Educate public about their responsibility and stewardship in their watershed.
7. Educate public concerning management of riparian lands to protect water quality.

Partnerships

The PE Sub-Committee through the Drain Commissioner's Office has coordinated, developed, and implemented several elements of the PEP. Work during this permit cycle included:

- Conducted research and provided examples of riparian landowner workshop materials
- Coordinated and implemented a riparian landowner workshop reaching 14 waterfront property owners
- Program implementation with drain office
- Discussed the potential for a K-12 curriculum guide and in-service teacher training
- Created K-12 lesson plans for storm water education activities and service-learning opportunities
- Recruited volunteers and booth materials for the Genesee County Fair
- Planned, wrote, and designed newsletter
- Researched events suitable for Phase II education community outreach
- Coordinated and maintained public education tools (watershed models, etc.)
- Researched "Our Water" campaign public relations and communications strategy
- Researched potential public service announcement television and radio spots

Flint River Watershed Coalition: On behalf of the of the Phase II permittees, the Flint River Watershed Coalition (FRWC) was contracted by the GCDC to provide several services, including:

- *Speaker Materials and Presentations:* PowerPoint presentations on storm water education for adult audiences such as municipal officials, rotary clubs, neighborhood associations, lake associations, etc.
- Hosting canoe trips on the Flint River described in the Activities Update.
- *Global Rivers Environmental Education Network (GREEN):* described in the Activities Update.
- *Macroinvertebrate Monitoring Program:* described in the Activities Update.
- During this reporting period, FRWC published its newsletter, *The Watershed Reporter*, in Fall 2011, March 2012 and July 2012, which included stormwater articles. These can be found in Appendix A.
- The FRWC was involved in the *Storm Drain Stenciling* program described in the Activities Update.

Genesee Conservation District: On behalf of the of the Phase II permittees, the GCD was contracted by the GCDC to provide several services, including:

- The GCD was involved in the Storm Drain Stenciling program described in the Activities Update.
- Operate and staff the "Our Water" Information Display booth at the County Fair and other events described in the Activities Update.
- The GCD continues to educate children on storm water issues using the Enviroscope and craft projects that reinforce storm water messages as described in the Activities Update.
- *Materials and Presentation for Riparian Land Owners:* GCD organized and presented at the Workshops described in the Activities Update.
- During this reporting period, GCD published its newsletter, *On the Ground*, for Summer/Fall 2012, which included stormwater articles. These can be found in Appendix A.

Activities Update

"Our Water" Campaign Webpage: The development of an easy-to-use webpage with information about the seven storm water elements was identified as critical to the successful implementation of the "Our Water" Campaign. The Drain Commissioner's Office hosts and updates the www.ClearGeneseeWater.org webpage as needed throughout the reporting period. The "Our Water" webpage has been online since July 2006.

"Our Water" Newsletter: There has been a single page Community Update published in the Fall 2012. There was also a newsletter and several Community updated produced in the last reporting period. Although both publications are available to the public, the purpose of the community updates is to keep the Communities updated with the changes to the permit program.

Materials and Presentation for Riparian Land Owners: An informational brochure was developed and served as a mail invite to a free workshop within the Lower Flint, Swartz Creek, Misteguay Creek Watersheds. Over 1000 Riparian landowners were invited within the above watersheds. Three Riparian Landowners Workshops were held on September 12, 2012 at Mundy Township Hall, September 19, 2012 at Flushing Community Center & September 20, 2012 at Mt. Morris Library. Genesee Conservation District staff assisted in coordination and presentation. Besides direct mailing, brochures are made available for distribution through each local Community and at the booth events. The brochure contained information on basic stream bank stabilization techniques. For an example of the brochure mailer, see Appendix A. Once this program has been implemented once within all the Watersheds, the program will be reevaluated for effectiveness to determine if it will be continued or replaced.

Speaker Materials and Presentations: An educational PowerPoint presentation was developed during the last permit cycle. The presentation contains appropriate branding for the “Our Water” Campaign. The presentation contains several modules that address various target audiences, including governmental and non-governmental entities. The modules of the presentation can easily be combined to customize a presentation for time or content within the required elements. GCDC continued its contract with the FRWC to use this modular presentation to educate groups such as municipal officials, rotary clubs, neighborhood associations, and lake associations.

2-Oct-11	35	Environmental Communications, Guest lecturer, Mott Community College
5-Oct-11	30	Undergraduate class - Watershed Management Planning, Guest lecturer, U of M - Flint
9-Oct-11	4	Genesee Regional Chamber of Commerce Luncheon
12-Oct-11	12	Carriage Town Neighborhood Association
2-Nov-11	15	Greater Flint Muddler Minnows Meeting
21-Nov-11	25	American Horticultural Society
5-Dec-11	30	Undergraduate class - Urban Anthropology, Guest lecturer, University of Michigan - Flint
7-Feb-12	25	Undergraduate class - Engineering, Guest lecturer, University of Michigan - Flint
3-Mar-12	101	Keep Genesee County Beautiful, Grant conference attendees
10-Mar-12	25	Flushing Walleye Festival, Flushing Area Chamber of Commerce
24-Mar-12	30	Session I Michigan Science Olympiad, Mentor and Presenter
24-Mar-12	26	Session II Michigan Science Olympiad, Mentor and Presenter
14-Apr-12	250	Earth Day Conference, University of Michigan - Flint
17-Apr-12	27	Business Networking International, Davison
18-May-12	55	Local 432, Flint
10-Jul-12	12	Flushing Historical Society
2-Aug-12	35	Business Networking International, Flint
3-Aug-12	38	Business Networking International, Swartz Creek
4-Aug-12	100	Flushing Taste of the Trail, Flushing Riverview Park
14-Aug-12	250	Consumers Energy, Employee and Family Safety Fair
15-Sep-12	16	'Fun OVER Your Watershed' presentation at Dalton Airport
24-Sep-12	13	Circle K Volunteer Club, University of Michigan - Flint
26-Sep-12	5	Michigan Trails Week, Friends of the Flint River Trail
	35	Undergraduate class - Environmental Communications, Guest lecturer, UMF

Brochures: In the last permit cycle, an educational brochure was developed to provide information about EPA’s seven mandated elements of storm water education. 5,000 brochures were printed in November 2006, and 10,000 reprints were made during this permit cycle. The brochures are given away actively at events (see information booth heading below), and many have been passively picked up by the public at local community

centers. Each municipality is also given brochures to distribute for public use and will report their activities under separate cover.

Time of Sale Packets: Information to help educate septic system owners on proper maintenance and practices has been compiled into a brochure with the help of Genesee County Health Department. Copies have been given to the Genesee County Health Department to distribute as well as made available to interested communities for distribution. (Not all communities have residents with septic systems.) Copies are also made available at the information booth for the public to take.

Promotional Giveaways: GCDC purchased additional promotional giveaways (premiums) in 2012 to further storm water awareness. Premiums purchased included water bottles and tote bags; a coloring book was also printed in-house to reach out to children. Premiums are given to the public at the information booth (see below). A person can win a premium if they answer a storm water-related question. This allows the booth staff/volunteers to engage the public in conversation and give them an educational brochure.

Information Booth: A display booth was developed in 2006 for use at events to educate the public. The booth includes a table and a free-standing banner outlining the seven simple steps to clean water. Educational activities were also developed to help engage people at public events.



The booth is staffed by volunteer municipal officials and staff of the GCDC or the Conservation District. Volunteers are trained to conduct the educational activities, which include giving premiums to each person who tries to answer a question on water quality. This approach serves several purposes:

- To educate the elected official
- To allow the communities themselves to teach the public about storm water issues
- To actively involve participants in the learning process

During this reporting period, the booth was used at the events listed below.

- 4/14/2012: Earth Day at U of M Flint
- 8/13/2012- 8/19/2012: Genesee County Fair
- 8/25/2012: The Crim
- 9/6/2012: Flint Farmers Market
- 9/8/2012: Kohl's Cares Kids Event
- 9/23/2012: Grand Blanc Farmers Market
- 9/29/2012: Applewood Fall Harvest Festival

*Data on who volunteers spoke to by community in Appendix A

Enviroscape: GCDC has four “Enviroscape” interactive models that demonstrate how pollutants can reach bodies of water. The Conservation District keeps one of the Enviroscape models for their own education program (see next section.) The FRWC also keeps one of the Enviroscape models for their own education program.



The other two models are available for use by teachers in their classrooms and available for demonstrations at events.

GCDC contracted with the GCD to provide storm water education services to school-aged children on behalf of the Phase II permittees. During 2011-12 GCD reached over 1419 students in the Phase II communities. In school presentations which may have included the Envirosapes or an arts and craft project focusing on aquatic habitat and its relation to the storm water system in Genesee County. Kids (approximately) ages 6-12 had an interaction period with staff that focused on the water cycle, watersheds and possible sources of non point source pollution. They then had a hands on component that reiterated the concepts introduced in previous discussion.

Due to staff changes the GCD was unable to presentations throughout the entire reporting period. Following is a list of the presentations made in 2011-2012:

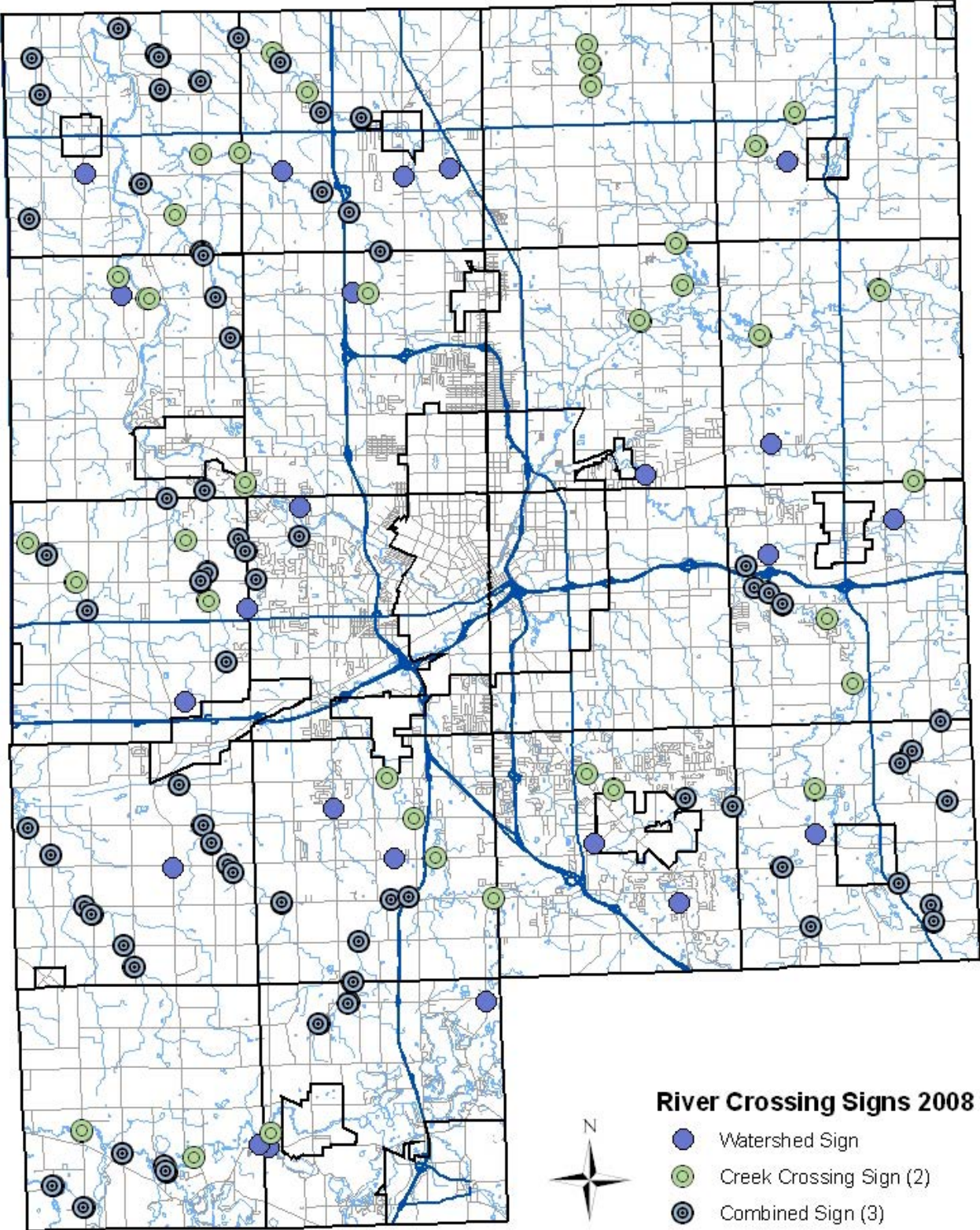
Table 2-1: Breakdown of GCCD Water Quality Presentations in Fiscal Year 2012

Month	Event	School aged children reached:	Parents/adults reached:
July	7/28/2012 Man Up Community Service	64	18
August	08/01/2012 NHS	3	NA
	8/07/2012 Carman-Ainsworth Schools	74	NA
	8/13/2012-8/19/2012 Genesee County Fair	700	778
	8/25/2012 The Crim	85	102
	8/28/2012 NHS	7	NA
	8/29/2012 Boy Scouts of America	6	3
September	9/6/2012 Flint Farmers Market	27	80
	9/7/2012 Boy Scouts of America	12	NA
	9/8/2012 Kohl's Kids Event	103	86
	9/13/2012 NHS Students	2	NA
	9/20/2012 Grand Blanc Retirement Community	0	3
	9/23/2012 Grand Blanc Farmers Market	31	71
	9/27/2012 Flint Community Members	0	4
	9/29/2012 Applewood Harvest Festival	282	229
9/30/2012 Grand Blanc Farmers Market	23	63	
FY2012 Breakdown		1419	1437

Watershed Signs: In cooperation with the Genesee County Road Commission (GCRC), the PE committee began installing 24" x 30" watershed signs throughout the Shiawassee and Flint River Watersheds in late 2006. Stream/river crossing identification signs have also been placed to increase public awareness. No new signs were added during this reporting period. Existing signs were maintained.



Figure 2-1: River Crossing Signs Placed as of October 2008



Catch Basin Stenciling Program: The GCDC has a catch basin stenciling program. The stencils say “No Dumping - Drains to River”. Since 2006, volunteers and County staff are able to paint approximately 500 stencils per year on Genesee County Roads. A printed doorknob hanger is distributed to educate residents adjacent to the stenciling locations.

- As part of preventive maintenance, the Genesee County Drain Commissioner’s Surface Water Maintenance crew cleans and stencils hundreds of catch basins throughout the county each year. In 2011-2012, 200 GCDC staff purchased & installed 4” metal storm drain markers on catch basin bar grate covers located within road ditches and rear yards.
- Volunteer stenciling groups were organized by both FRWC and GCD. GCDC staff supported volunteer efforts by providing technical support, supplies and catch basin locations for stenciling. Below is a list of volunteer groups that participated.



GCD:

- 7/28/2012: Man Up Community Service; throughout the neighborhoods surrounding Springview Elementary School, at Coutant between Elms and Deland
- 8/1/2012: National Honor Society Students; neighborhoods at approximately Grand Blanc Rd. and Saginaw Rd.
- 8/28/2012: National Honor Society Students; neighborhoods in the general area of Grand Blanc Rd. and Saginaw Rd.
- 8/29/2012: Boy Scouts of America; condominium complex at approximately Center St. and Atherton St.
- 9/7/2012: Boy Scouts of America; neighborhood at approxmiately Genesee Rd. and Atherton Rd.
- 9/13/2012: NHS Students; neighborhoods in the general area of Perry Rd. and Beasley
- 9/20/2012: Grand Blanc Retirement Community; neighborhoods in the general area of Hill Rd. and Beasley Rd.
- 9/27/2012: Community Members; neighborhoods in the general vicinity of Center Rd. and Richfield Rd.

FRWC:

10/3/2011	City of Flushing	Flushing H.S. Environmental Club: Streets not listed
10/5/2011	City of Flint	Sierra Club: Kearsley Park Area: Pennsylvania Ave. & Ohio Ave., Illinois & Ohio Ave. from KP to Iowa Ave.
10/7/2011	City of Flint	CNTF Group: North of Thread Lake: Howard Ave., Aitken Ave., Winans Ave., Blades, Ave. Maybury Ave. from Lippincott to Thread Lake
10/10/2011	City of Flushing	Flushing H.S.: Environmental Club: 17 Drains: Streets not listed.
10/15/2011	City of Flint	Girl Scouts, St. John Vianney: E. of Longway Park: Whittier Ave. from Starkweather to N. Dexter; Whittier & Woodrow Aves. from N. Dexter to N. Center Rd.
10/17/2011	City of Swartz Cr	Cub Scouts Den 1, Pack 122: Winshall Drive & Don Shenk Drive from Daval Drive to Cappy Lane
9/9/2012	City of Flint	Mott Community College Volunteers: Cultural Center, including Sarvis Center & Pierce/Sarvis School
9/9/2012	City of Flint	Kettering ASA Sorority Volunteers: CollegeCultural neighborhood, including Brookside, Calumet,Blanchard, Kennsington

9/9/2012	City of Flint	Kettering Student Volunteers:College Cultural neighborhood, near Pierce Elementary School, both sides of Gilkey Creek, Vernon, Franklin, Brookside, Greenfield, Layfayette, etc.
9/27/2012	City of Flint	Carrera Program Participants: Carriage Town Neighborhood
9/28/2012	City of Flint	Mott/ITT Student Volunteers: Zimmerman School,(off Corunna Rd.), including Downey St. Outing
9/28/2012	City of Flint	Carrera Program Participants: Kettering University Neighborhood, including Dupont and Monteith Streets
9/30/2012	City of Flint	Whaley Children's Center: College Cultural Neighborhood-including Vernon, Mountain, Kennsington St.
10/4/2012	City of Flint	Private Home School Group:Woodcroft Estates, Miller Road and surrounding Swartz Creek Golf Course

GCDC:

3/24/2012	Genesee Twp	Armstrong Middle School, 6 th and 8 th grade class: Stenciled 74 drains on and around school property. Project was submitted for Michigan Future Problem Solving Bowl and were selected to go to FPS International Bowl.
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Canoe Trips on the Flint River. Due to weather there were an additional 6 canoe trips scheduled and advertized this summer. Many were rescheduled and were held as shown below:

9-Jun-12	15	Beginners Paddle	Riverview Canoe Landing to Riverview Park
28-Jul-12	5	Mid Summer Paddle	Holloway Dam to Irish Road
18-Aug-12	13	Dog Days of Summer Paddle	Montrose Barber Memorial Park to Birch Run
22-Aug-12	8	Dog Days of Summer Paddle	Irish Road to Mott Lake
9-Sep-12	23	Sunday Paddle	Riverview Park to Flushing Township Nature Park
13-Oct-12	#N/A	Celebrate Fall Equinox	Stepping Stones Falls to Veterans Park



Also the FRWC had videoed a few participants reactions from being on the Flint River after the August paddle and posted the results on youtube.

<http://www.youtube.com/watch?v=iBbvFGOUgpM&feature=plcp>

Global Rivers Environmental Education Network (GREEN): Project GREEN is a curriculum based, mentored program that seeks to engage young people as active citizens to improve conditions in their watersheds now and in the future. As part of this program, students receive classroom education on water quality and testing procedures and are trained to obtain samples at various sites within the watershed. Each year, schools participate in a summit, where the students are able to present their results. Several Genesee County and City of Flint Employees participated in this program as mentors. Section 7 provides additional detail on Project GREEN.

- Participation from:
 - 16 Genesee County School Districts + other schools outside the County
 - 33 Teachers in Genesee County (many had more than 1 classrooms)
 - 580 plus Students
 - 34 Mentors
 - 21 sites covered in Genesee County
 - 7 sites covered in other counties

Macroinvertebrate Monitoring Program: Since 1999, the FRWC has executed a bi-annual Benthic-Monitoring Program that has been performed to meet MDEQ requirements. This program has expanded from 18 sites to 30 since its inception. This program is possible due to volunteers who live in the watershed who give up two days twice a year to be trained to collect and log samples. The data is used to categorize sites as “poor”, “fair”, “good” or “excellent” and provide a good assessment of water quality. Section 8 provides additional detail on Benthic-Monitoring Program and summarizes findings for each watershed.

Local Watershed Maps: The PE Sub-Committee has developed educational material for teachers. These materials are intended to meet the new curriculum requirements for grades K-12. The GCDC is working with GISD staff to distribute the watershed maps to the appropriate teachers.

Public Education Plan Evaluation: The evaluation plan will focus on monitoring outputs and outcomes of the education program. Currently, Tetra Tech and the GCDC staff are working to maintain records of outputs of the education program (number of people addressed at public events, number of presentations conducted, etc.) Tetra Tech, and the PE Sub-Committee are working on a robust evaluation plan to monitor outcomes (changes in behavior, changes in knowledge, etc.) in addition to outputs currently being monitored. Initial areas of success and areas needing improvement are summarized as follows.

Areas of success:

- Educational materials are constantly expanding and available
- Stenciling program performed on an ongoing basis
- Brochures delivered
- Booth (for outside events) delivered
- Presentations are made to local groups on an on-going basis
- School age children are educated about storm water impacts on local waterways.

Areas of need:

- Staffing constraints do not allow enough time dedicated solely to education efforts
- Have had contract issues with certain partners

There are many education efforts throughout Genesee County that promote the storm water message, but are not directly supported by this program. They may be supported by a local community or a nonprofit group. These efforts are listed below and included in Appendix A

- Walking path along river has free standing watershed signage, between Genesee county parks and City of Flushing Park.
- Park provides education on proper disposal of pet waste.



- The FRWC coordinates a river cleanup on the Flint River and its tributaries both within Genesee and Lapeer counties. The Cleanup was on April 28th. Almost 300 volunteers removed close to 17 tons of debris along 10 different locations in Genesee County and 4 locations in Lapeer County on the Flint River and its Tributaries. Drain Office Staff assisted with the cleanup. Genesee County Parks, City of Flint and City of Flushing all provided staff or garbage removal to assist with the Cleanup.



- There is an Annual River cleanup on the first week of June along the Shiawassee River, organized by a Fenton council member.
- Flint River Corridor Alliance is a community based organization of Government, non-profit and private sector stakeholders. On July 14, 2012 they held a Boats, Bikes & Bricks Triathlon on and around the Flint River
- Household Hazardous Waste: Educate and promotion of the HHW program is done by this program at the Fair, but Genesee County Planning Commission, General Motors, UAW Local 599, Goodwill Industries, 5R Processors and Keep Genesee County Beautiful & several communities including City of Flint participate and/or support this program. In the spring and fall there are HHW and electronic waste collections. City of Flint hosts a site at their Water service center. A second site moves to a new location around the County. This is either hosted at a school or municipal property. In the last couple of years this program has been expanded to include electronic waste.
 - June 2, 2012: Carman-Ainsworth Jr. HS, Flint Water Service Center, Goodwill Industries, Averill Ave
 - October 13, 2012: Carter Middle School, Flint Water Service Center, Goodwill Industries, Averill Ave

PUBLIC PARTICIPATION PLAN

The PPP was implemented under previous years' annual reports. No PPP meetings were held within this reporting period. They are done on an as-needed basis and typically run concurrent with the updating of WMPs and if there is a significant event where public input is appropriate.

Report to Municipal Officials: Local appointed and elected officials are critical players in adopting the WMPs and allocating resources toward their implementation. Obtaining buy-in and providing education to this group helps to ensure the success of implementing the WMP. Local appointed and elected officials acknowledge their accountability to their constituents and embrace their role in shaping the future vision of the WMPs. As public officials, local government leaders value the advice, concerns, and issues that community residents see in terms of the watershed condition past, present and future.

Municipal officials are given newsletters as needed that provide updates on the status of storm water and watershed planning efforts. Each municipality is given 25-50 newsletters to be passed out to elected officials and planning boards. Municipalities are also given brochures and information packets to dispense to the public.

3. CONSTRUCTION STANDARDS AND PRACTICES SUB-COMMITTEE ACTIVITIES

The Construction Standards and Practices (CSP) Sub-Committee oversees new construction standards and post construction management practices for Genesee County, including storm water Best Management Practices (BMPs). This Sub-Committee also updates ordinances to ensure compliance with Environmental Protection Agency (EPA) requirements. In this reporting period, the CSP Sub-Committee held meetings on the following dates:

- January 10, 2012

CSP Membership included:

- **City of Flushing – Dennis Bow**
- **City of Grand Blanc – Matt Wurtz**
- **City of Linden – Scott Fairbanks**
- Atlas Township – Shirley Jones
- **Fenton Township – Bonnie Mathis**
- **Genesee Township – Steven Fuhr**
- Grand Blanc Township – Mikki Hoffman
- Montrose Township – Mark Emmendorfer
- Richfield Township – Joe Mador
- Village of Goodrich –

Bolded members are Phase II communities

The focus of these meeting was to discuss what has happened to date on the Storm water ordinance and BMP Manual.

STORM WATER ORDINANCE

The CSP Sub-Committee has been working to establish an approach for developing a Storm Water Ordinance for communities to adopt within Genesee County. After reviewing State requirements and sample ordinances from other counties, Kent County's ordinance was selected as a model. The CSP Sub-Committee reviewed and tailored the ordinance, and has been submitted to the state for their approval. All communities were encouraged to provide input to the draft ordinance. The final ordinance and Standards and Design Manual were submitted on September 30, 2010, after meeting with the DEQ and negotiating their contents.

The CSP Sub-Committee is setting the minimum standards for communities to adopt. The standards are a combination of state requirements and GCDC flood control requirements. The local governments may elect to adopt stricter standards, but must use the Sub-Committee's Storm Water Ordinance at a minimum. They may also choose to modify it, although the ordinance was written to be simple to administer, easily understood, and focused on improving water quality. Each community will have to adopt an ordinance, whether they choose the Sub-Committee's or a more stringent version.

Currently, the only enforcement powers the County has are those given to them from the State (Public Acts that govern SESC, Septic, Road Commissions and the Drain Code). The County cannot pass an ordinance that would affect private property, but will enact policy to govern County-owned property. Individual communities have their own police power to enforce the ordinance. They also have the right to extend those powers to another entity to enforce the ordinance on their behalf.

When the ordinances are adopted, there will be a fundamental change in how development occurs. Currently, the Genesee County Drain Commissioner (GCDC) Surface Water Management (SWM) reviews approximately 70 percent of the site plans either because a county drain is directly involved and must be

reviewed, or the local Community has required a review by the Drain Office and it is done as a courtesy to the Community. GCDC-SWM will review to their standards any plans submitted to their office. With the implementation of a water quality ordinance, all site plans within a community that has a storm water ordinance will be reviewed to those standards either by the Community or their representative. As always, any site plans submitted to the GCDC-SWM will be reviewed to that office's standards.

Items covered by the storm water ordinance are:

- Statutory authority and title
- General provisions
- Storm water permits and permit review procedure
- Storm water system
- Drainage plan
- Construction site runoff controls
- Floodplain and other standards
- Post construction soil erosion
- Applicability and exemptions
- Prohibited discharges (oil and other pollutants from parking lots, etc.)
- Inspection, monitoring, reporting, and record keeping
- Enforcement
- Storm water easements and maintenance agreements (post construction maintenance)
- Performance and design standards
- Storm water map
- Financial guarantee
- Terms and conditions of permits

It should be noted that the standards currently in place deal with water quantity. The new standards will also deal with water quality, and will expand both the community's and GCDC's authority as well as specify development requirements. The Storm Water Ordinance references a BMP Manual (see text below). By keeping the BMP Manual separate, and not including design guidance in the ordinance, changes can be made to the BMP Manual without revising the whole ordinance.

BMP MANUAL

Currently, Genesee County Water & Waste is the County agent (City of Burton is the Municipal Agent in their community) on behalf of Part 91 of Public Act 451 and has construction BMPs for Soil Erosion and Sedimentation Control (SESC). Individual communities may or may not have ordinances that regulate construction and post construction. The CSP Sub-Committee is developing a BMP Manual, which will represent minimum standards for post construction BMPs for water quantity and quality. These BMPs will not be limited to SESC.

Communities will be able to either adopt the CSP Sub-Committee's BMP Manual or create their own. The Sub-Committee is also working to address long-term BMP operation, maintenance, and schedule issues.

Since the ordinance template and BMP manual are draft and in the process of being adopted, they are not included in this report. They have been previously submitted to the MDEQ as part of the revised SWPPI submittal.

4. MONITORING AND MAPPING SUB-COMMITTEE ACTIVITIES

The Monitoring and Mapping (M&M) Sub-Committee met only once during this reporting period:

There were no M&M meetings held in 2011/2012.

M&M Membership included:

- **City of Fenton – Dan Czarnecki**
 - City of Montrose – Everette Persall
 - **City of Mt. Morris – Vacant**
 - **City of Swartz Creek – Tom Svrcek**
 - Argentine Township – Bob Cole
 - **Davison Township – Kurt Soper**
 - **Flushing Township – Terry Peck**
 - Gaines Township – Paul Fortino
 - **Mt. Morris Township – Gerald Deloney**
 - Village of Gaines – Thomas Keech
 - Village of Lennon – Larry Widigan
- Bolded** members are Phase II communities

The M&M Sub-Committee oversees organization and implementation of watershed monitoring, field-sampling protocols, and mapping guidelines. As part of their responsibilities, the M&M Work Group oversees several water quality monitoring programs as well as the Illicit Discharge Elimination Plan (IDEP) Program. In addition, they oversee the Hot-spot Water Quality Monitoring Program, which goes beyond IDEP by focusing on known problem areas, such as Blue Bell Beach that is frequently closed due to high E-coli counts.

The following sections of this report provide results for programs the M&M Sub-Committee oversees:

- Section 6 319 Nonpoint Source Grant Projects
- Section 7 Project GREEN (and its educational aspects discussed in Section 2)
- Section 8 Macroinvertebrate Study
- Section 9 IDEP Program
- Section 10 New Storm Water Point Source Discharges

5. GOOD HOUSEKEEPING

Good Housekeeping is a required and essential part of an effective storm water pollution protection program. Periodic training in Stormwater Good Housekeeping practices is required for all applicable maintenance staff employed in nested municipalities or school districts. Affected personnel must be trained at least once over the course of the permit cycle. In 2010, GCDC and Tetra Tech held two training sessions on Stormwater Good Housekeeping practices. Also the MDEQ, offered to have a session of the Industrial Storm Water Operator Training at the April session. The GCDC office is working to produce this training as a video either on line or by DVD for the Contracted permittee's use. Meanwhile there are plans to have another training session in the 2012-13 fiscal year.

These sessions explained the importance of preventing contamination from storm water run-off and ways employees can be involved at their facility. Attendance at the sessions met the permit requirements for employee training. In addition to covering the topics below by PowerPoint presentation, a video entitled "Storm Warning: Stormwater Pollution Prevention" by ExCal Visual LLP was presented to reiterate the major topics of discussion.

Maintenance Staff Training Topics

- Spill prevention
- Spill Control and Response
- Vehicle and Equipment Maintenance
- Vehicle and Equipment Washing
- Material Storage
- Waste Management
- Facility Maintenance
- Landscape and Grounds Maintenance
- Illicit Discharge Detection

A copy of the Power Point presentation may be obtained upon request.

In addition, group training in preparation for an MDEQ audit was offered to each contracted permittee. The training focused on establishing and strengthening the Good Housekeeping practices listed above at their sites and facilities.

The MDEQ SWPPP checklist used as a guideline for the audits is available upon request.

6. 319 NONPOINT SOURCE GRANT PROJECTS

In 1987, Congress amended the Clean Water Act to establish the Section 319 Nonpoint Source Management Program because it recognized the need for greater federal leadership to help focus State and local nonpoint source efforts. Under Section 319, State, Territories, and Indian Tribes receive grant money which support a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and monitoring to assess the success of specific nonpoint source implementation projects.

There are three 319-grant projects within Genesee County. All are within the Middle Flint Watershed: the Swartz Creek Watershed Project, Gilkey Creek Watershed Project, and the Kearsley Creek Watershed Project. CAER and FRWC developed the Swartz Creek and Gilkey Creek WMPs and GCDC developed the Kearsley Creek WMP to control nonpoint sources of pollution. Projects may include implementing structural BMPs, non-structural BMPs, and information and education activities to eliminate nonpoint source pollution.

SWARTZ CREEK WATERSHED PROJECT

The Swartz Creek Watershed Plan has been granted 319 status by the MDEQ.

In the past the FRWC and Conservation District had gathered stakeholders to discuss applying for possible 319 grant funding. Any efforts on this behalf are being done by other organizations and Genesee County and/or Communities would participate as stakeholders.

KEARSLEY CREEK WATERSHED PROJECT

The Kearsley Creek Watershed Plan has been granted 319 status by the MDEQ.

No activity occurred during the reporting period.

GILKEY CREEK

The Gilkey Creek Watershed Plan has been granted 319 status by the MDEQ. It outlines designated and desired uses for the watershed, historic and present conditions, watershed goals, best management practices recommendations, and an education and evaluation plan.

No 319 activity occurred during the reporting period. Flood mitigation activity was done on the Gilkey Creek under PA 40 of 1956 during this reporting period.

In October 2012, the Conservation District had gathered stakeholders to discuss applying for possible grant funding to develop and impliment a Mott Lake Watershed Management Plan. They were exploring allt heir options for funding including 319 grant funding. Any efforts on this behalf are being done by other organizations and Genesee County and/or Communities would participate as stakeholders.

7. GENESEE GREEN

Project Green, now referred to as Genesee GREEN, has grown in Genesee County since the 1990's. The ideal is that all of the students visit specific sampling sites along the Flint River Watershed within the same week to conduct a Water Quality Index (WQI) analysis. The data gives a snapshot of that moment in time. As each year is added, comparisons can be made about the quality of the water running through the watershed environment over time. Comparisons can also be drawn between geographical sites.

The Global Rivers Environmental Education Network (GREEN) is a curriculum-based, mentored program that seeks to engage young people as active citizens to improve conditions in their watersheds. GREEN empowers young people to learn more about the watersheds they live in and use their findings to create lasting solutions to water quality problems. GREEN has been in existence for twenty years in Genesee County under the direction of the Genesee County Intermediate School District (GISD).

In 2003, the Flint River Watershed Coalition (FRWC) was approached by Earth Force Green and General Motors to be the coordinator of GREEN in the Flint River Watershed. FRWC was identified as the primary organization that could help improve program participation and effectiveness because of its focus on water quality monitoring and environmental education. The FRWC Board of Directors has endorsed this vision and is providing administrative control.

As part of the program, students from local schools learn about water quality and testing procedures by visiting various sites to take water samples and by analyzing the collected data. During the last reporting period, participation included:

33	Teachers in Genesee County (many had more than 1 classrooms)
34	Mentors
21	sites covered in Genesee County
7	sites covered in other counties

Schools are also encouraged to participate in a summit, where students are able to present their findings. On May 11, 2011, an all day student summit was held at Kettering University and students presented collected data.



Each site visited is categorized as excellent, good, fair, poor, or very poor based on the National Sanitation Foundation (NSF) WQI analysis. To determine the WQI, nine tests are performed. Parameters tested include dissolved oxygen, fecal coliform, pH, biochemical oxygen demand (5-day), temperature, total phosphate, nitrates, turbidity, and total solids. After completing the nine tests, results are recorded and transferred to a weighting curve chart where a numerical value is obtained as shown in Table 7-1. For each test, the numerical value or Q-value between 0 and 10 is multiplied by a "weighting factor." For example, dissolved oxygen has a relatively high weighting factor (0.17) and therefore is more significant in determining water quality than the other tests. The nine resulting values are then added together to arrive at an overall WQI. If all nine water

quality tests are not available, then the total of those samples available is multiplied by the inverse their total weighting factors.

Table 7-1: Water Quality Index Calculation Chart

Test Parameter	Q-Value	Weighting Factor	Total
1. Dissolved oxygen	Q_{DO}	0.17	$0.17 \times Q_{DO}$
2. Fecal coliform	Q_{FC}	0.16	$0.16 \times Q_{FC}$
3. pH	Q_{pH}	0.11	$0.11 \times Q_{pH}$
4. Biochemical oxygen demand	Q_{BOD}	0.11	$0.11 \times Q_{BOD}$
5. Temperature	Q_T	0.11	$0.11 \times Q_T$
6. Total phosphate	Q_P	0.10	$0.10 \times Q_P$
7. Nitrates	Q_N	0.10	$0.10 \times Q_N$
8. Turbidity	Q_{Turb}	0.08	$0.08 \times Q_{Turb}$
9. Total solids	Q_{TS}	0.07	$0.07 \times Q_{TS}$
Overall WQI			Sum (Q_x)

The WQI ranges are categorized as follows: 90-100 Excellent, 70- 90 Good, 50- 70 Fair (medium), 25- 50 Poor (bad), 0- 25 Very Poor.

It should be noted that there was no discernible correlation between the Genesee GREEN Results and the Benthic Monitoring Results. Since the benthic monitoring results reflect the macroinvertebrates' long term exposure to their environment the results are assumed to be more reflective of the overall health of the water body compared to the one-time sampling associated with Genesee GREEN.

[Reference: *Mitchell, Mark K. and William B. Sharp, 2000. Field manual for Water Quality Monitoring: An environmental education program for schools, (twelfth edition), Kendall/Hunt Publishing Company, Dubuque, Iowa*]

Table 7-2 and Figures 7-1 to 7-4 summarize Genesee Green results for the Lower, Middle, and Upper Flint River and Shiawassee River Watersheds. Sites categorized as "poor" are identified in the table with red font. Two sites out of 43 sites were categorized as either poor or very poor. In 2010-2011, 7 sites were visited.

Table 7-2: Genesee Green Results

ID No	Location	Sampled Years	Water Quality Index (WQI)
<i>Lower Flint River Watershed</i>			
1L	Armstrong Creek at Dodge Road	2006-07, 2011-2012	Good
2L	Craven and Benson Drain off Mt Morris Road	2007	Fair
3L	Mill Street Bridge	1993, 1998-2004, 2006-2009	Good
4L	North corner of Flushing and Linden Roads	1991, 1994, 1998-2004, 2007, 2008, 2010	Good*
5L	Pirnie Creek at Beecher Road	2006, 2008	Good*
6L	Southeast corner of M-57 and Seymour Road	2001-2011	Good
7L	Clio Bike Path at Jennings Road	2007, 2009, 2011	Fair
8L	Flushing Park at Pavilion #2	2001-02, 2005	Good
9L	Mott Golf Course Bridge at hole #6	1993, 1998-2000, 2010-2011	Good
10L	Pine Run at Clio Park	2006, 2009	Good
11L	North of Flushing at Mt. Morris Bridge	1998	Good
12L	Seymour Rd. North of Farrand Rd.	2009	Good
<i>Middle Flint River Watershed</i>			
1M	Swartz Creek at Hill Road Bridge	2005-06, 2009-2010, 2012	Good
2M	Behind McDonalds at Dort and Stewart	2003	Fair
3M	Bridge between UM-Flint and Autoworld	1993-94, 1998, 2001	Fair
4M	Crampton Drain at Kearsley Armstrong	2006, 2008-2011	Good
5M	Downstream from For-Mar Nature Center	2005, 2010	Fair
6M	Gilkey Creek behind Central High School	1991-92, 1994, 2001-2002, 2009	Poor**
7M	Immediately west of the Farmer's Market	2004-06	Fair
8M	Pierson Drain at Atherton HS	2007	Good
9M	Swartz Creek at Happy Hollow	1993-94, 2002-2003, 2010-2012	Fair
10M	Swartz Creek at Swartz Creek M.S.	2005-06	Fair
11M	Swartz Creek at Van Slyke Road	2002, 2012	Good*
12M	Swartz Creek Golf Course	2001-02	Good
13M	Thread Creek at McCandlish Road	2007-2008	Fair
14M	Thread Creek at Rust Park in Grand Blanc	2005-2006	Good
15M	Timberwolf Turnout off Irish Road	2005	Fair
16M	Kearsley Creek at Goodrich Commons	2004	Good
17M	Kearsley Creek near Goodrich High School	2004-05	Good
18M	Flint River West of Johnson AAA School	2006-2010	Good
19M	Thread Creek at Bristol Rd.	2008-2011	Good*
20M	Upstream of For-Mar Nature Center	2004, 2006-2009, 2011	Good*
21M	Swartz Creek at Swartz Creek MS	2012	Good
<i>Upper Flint River Watershed</i>			
1U	Bear Swamp at Genesee Road	2007	Poor
2U	Oak Road North of Stanley	2001	Good
3U	Bluegill Boat Ramp on Mott Lake	2002, 2005	Good
4U	M-15 north of Stanley Road	1997-98, 2002	Good
5U	Holloway Reservoir at Mt. Morris Bridge	1997, 2001, 2003-05	Good
6U	Mott Farm between house and barn	1993-94, 1998, 2001, 2004	Good
7U	Richfield Park	2001, 2003-2010	Fair
<i>Shiawassee River Watershed</i>			
1S	Platform south of Main Street Bridge in Fenton	1992, 1996, 1998-2004	Fair

ID No	Location	Sampled Years	Water Quality Index (WQI)
2S	Linden Mill Pond (Shiawassee River)	2007, 2010	Good
3S	Fenton Mill Pond (Shiawassee River)	2009, 2012	Very Poor*
<i>Unknown Watershed</i>			
1UNK	Unlisted Location	2009-2012	Good

*Improved since previous sampling event

Figure 7-1: Genesee Green Results for the Lower Flint River Watershed

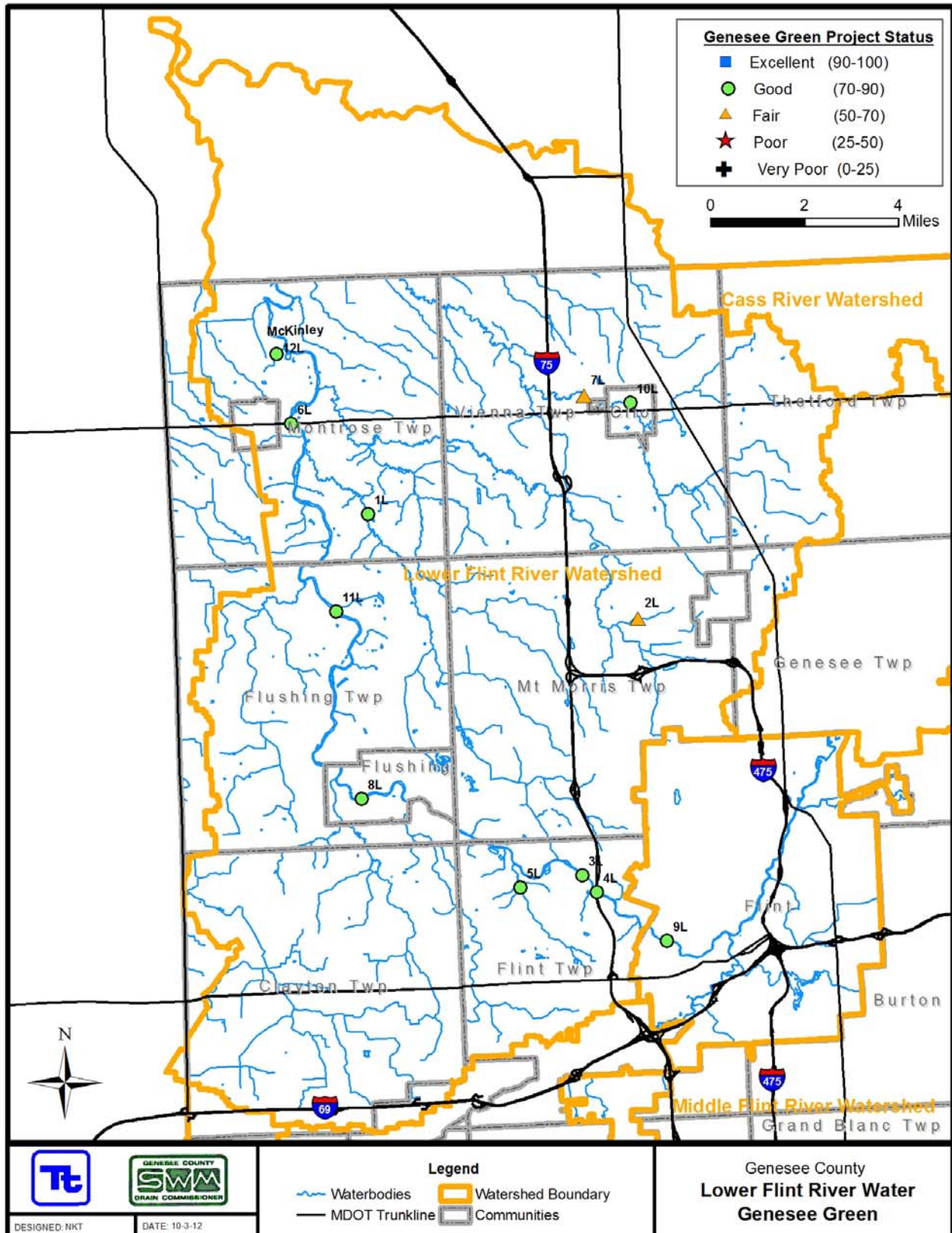


Figure 7-2: Genesee Green Results for the Middle Flint River Watershed

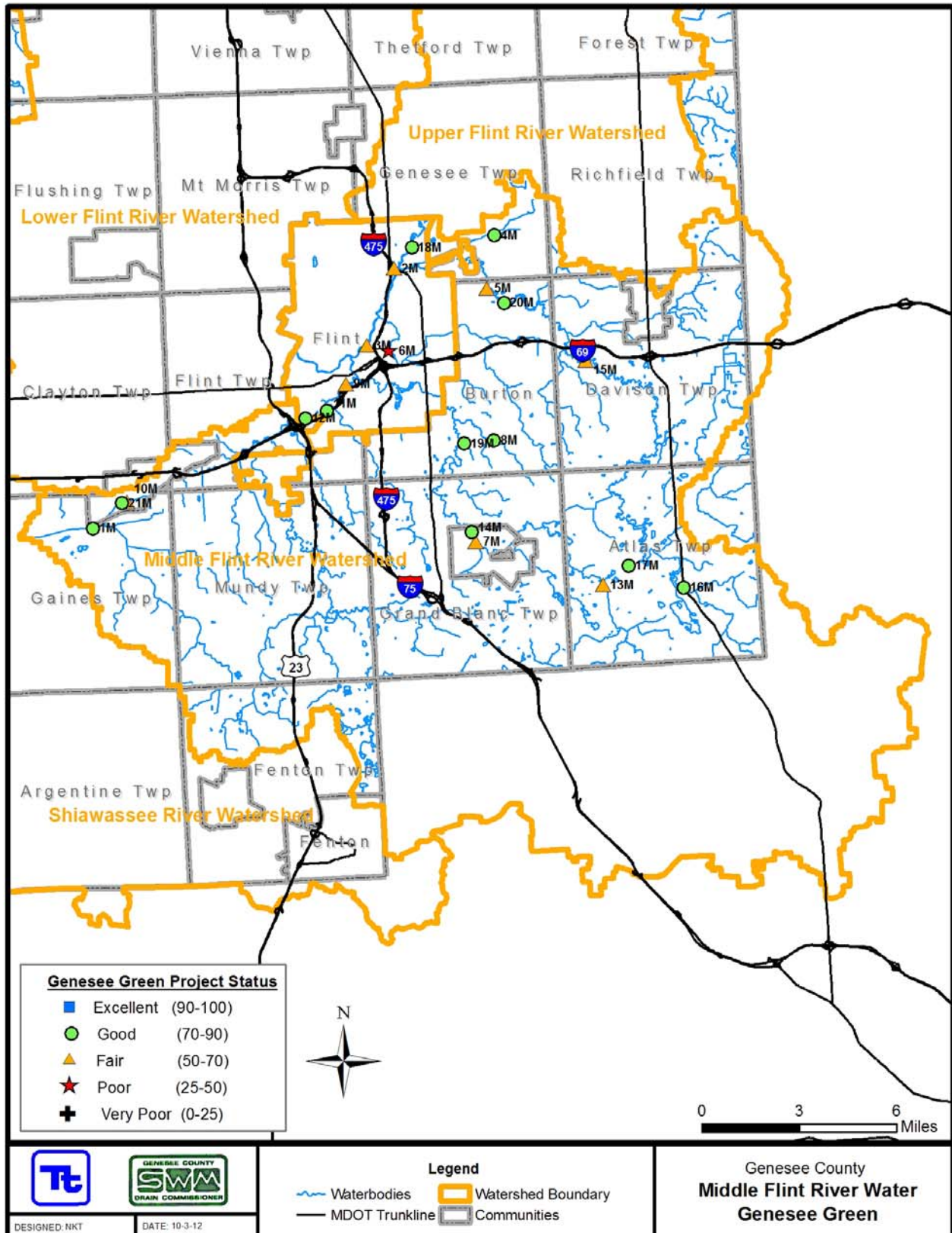


Figure 7-3: Genesee Green Results for the Upper Flint River Watershed

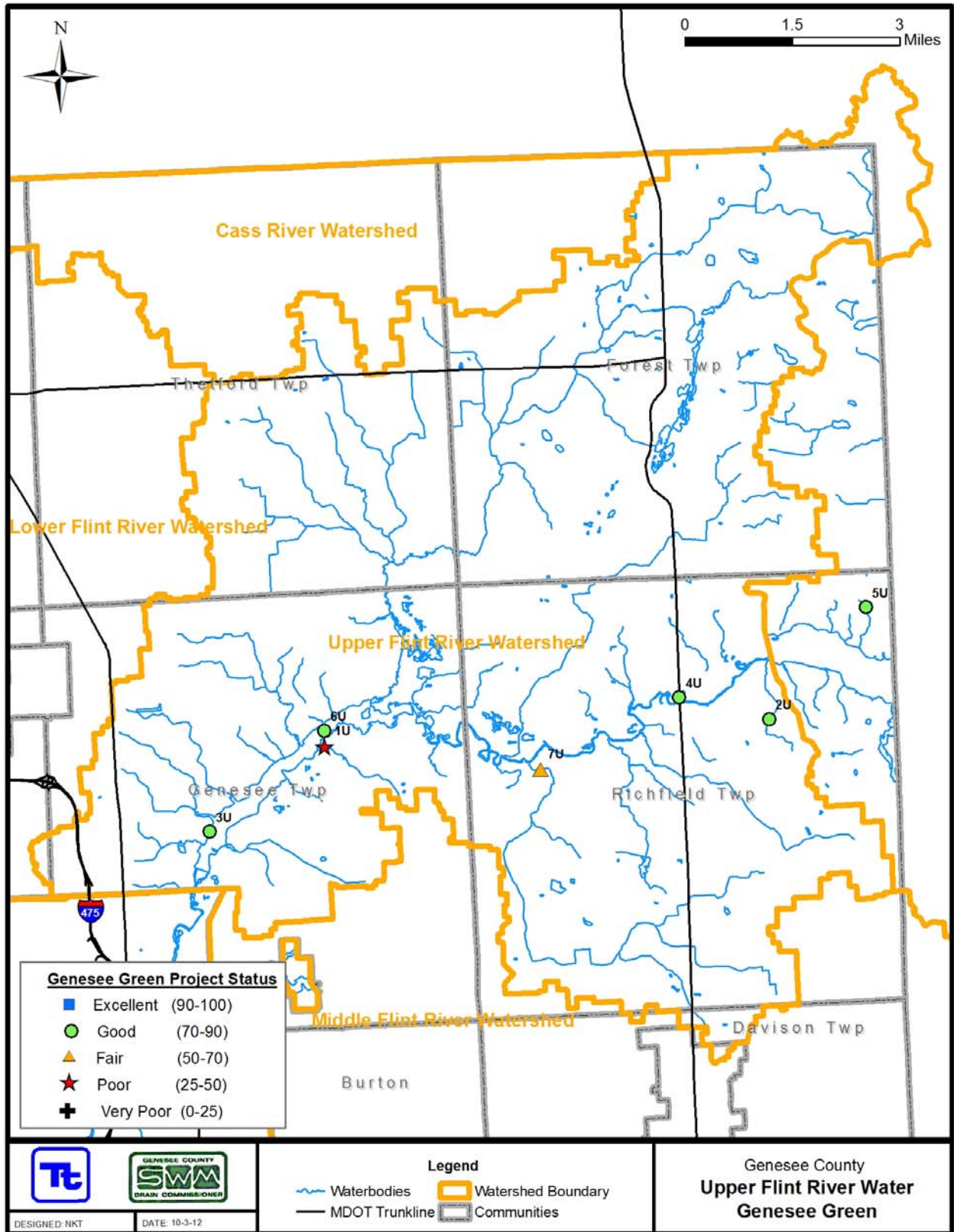
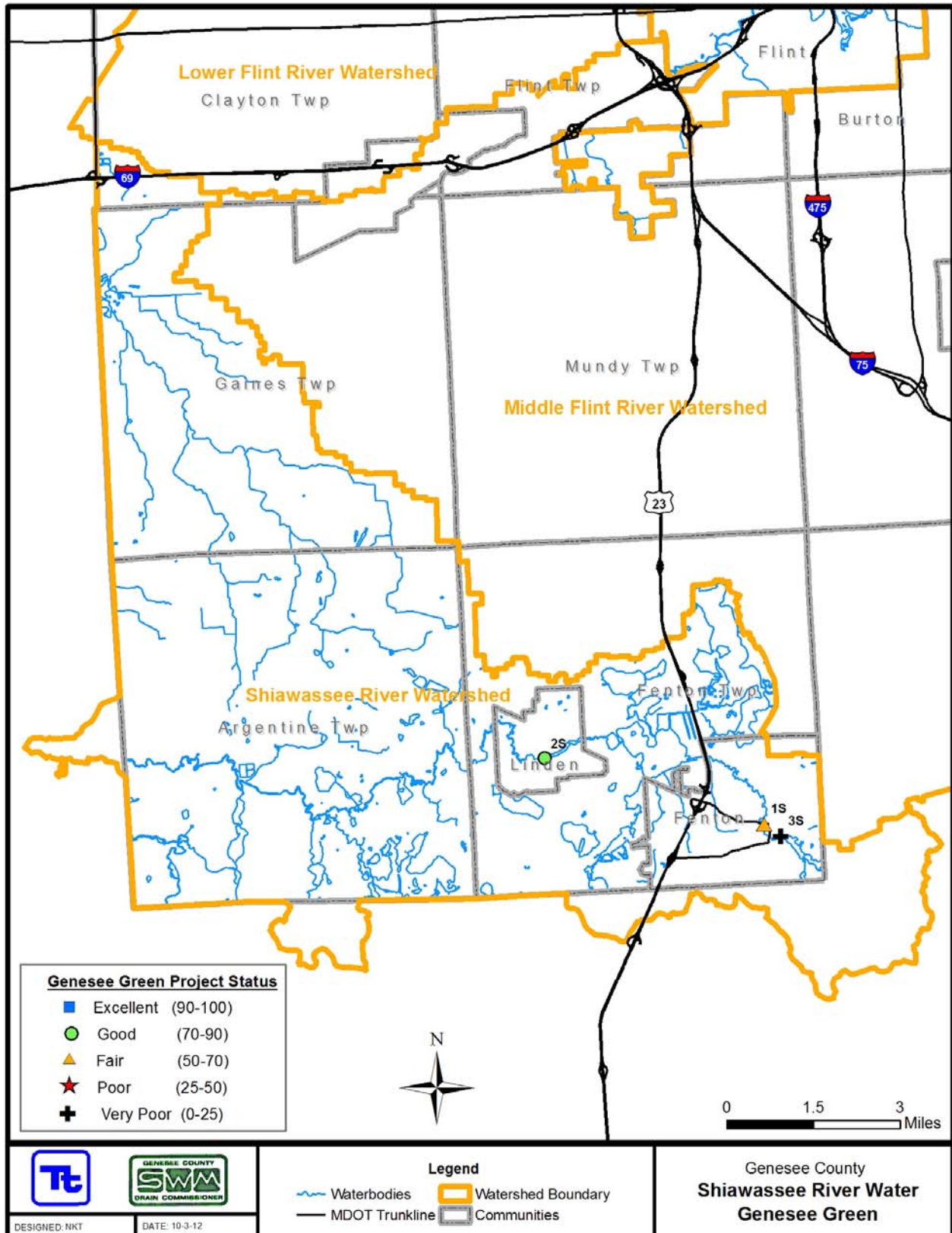


Figure 7-4: Genesee Green Results for the Shiawassee River Watershed





Flint River GREEN

(Global Rivers Environmental Education Network)

The Flint River Watershed Coalition, with our partners, coordinates an applied curriculum for middle and high school students that have a positive impact on the environment, now and into the future.

Using scientific methods, students conduct various tests to assess the health of a local river or stream. Students then work to identify any environmental problems, research the causes of the problem, and develop solutions to improve the health of their stream. Beyond merely identifying the environmental issue, the class works to make positive changes in practices or policies that allowed the problem to emerge in the first place.

Professional mentors from agencies across the watershed contribute to student learning and awareness. Prior mentors have come from General Motors, the Genesee County Drain Commissioner's office, City of Flint, the Center for Applied Environmental Research at UM-Flint, TetraTech, Flint River Watershed Coalition, Sierra Club, and Delphi.

In Genesee, Lapeer, and Oakland counties, the work done in Flint River GREEN compliments the on-going monitoring project that the Watershed Coalition has conducted for several years. It also provides information for use by the Genesee County Drain Commissioner in fulfilling responsibilities relative to storm water runoff concerns and abatement.

The Watershed Coalition currently has over 30 classrooms in a number of Genesee County school districts involved in Flint River GREEN. In 2009, FRWC started expanding this program beyond the Genesee County boarder starting with Brandon Middle School in Oakland County. This program has been expanded to include North Branch and Lapeer Community schools for the 2010 season.

The Flint River Watershed Coalition partners with Earthforce and the Genesee and Lapeer Intermediate School Districts to run Flint River GREEN. The Genesee County Community Water Quality Consortium's *Our Water* campaign, General Motors, the Royal Bank of Canada, and the Raymond C. & Anne T. Johnson Family Foundation generously support this program.

For additional information, contact Suzanne Lossing, Education & Outreach Coordinator for the Flint River Watershed Coalition at (810) 767-9491 slossing@FlintRiver.org; or visit one of the following websites: Flintriver.org Earthforce.org

8. MACROINVERTEBRATE STUDY

Since 1999, the Flint River Watershed Coalition (FRWC) has executed a bi-annual Benthic Monitoring Program that has been performed to meet MDEQ requirements. This program has expanded from 18 to 30 sites since its inception.

This program is successful because volunteers who live in the watershed contribute two days, twice a year for training, sample collection and species identification. The scores for each site visit are averaged over the sample years and categorized as either Excellent (>48), Good (34 – 48), Fair (19 – 33.9), and Poor (<19). These scores not only give an indication of macroinvertebrate community health but also provide a good Water Quality Index value. Table 8-1 and Figures 8-1, 8-2, 8-3, and 8-4 summarize macroinvertebrate sampling results for the Lower, Middle, and Upper Flint River Watersheds and the Shiawassee River Watershed. Sites categorized as “poor” are identified in Table 8-1 with red font.

Two of the study sites received a Water Quality Index rating of “Excellent” while one site of the 21 sites studied showed a decline in water quality from “Fair” to “Poor” (red font). Data for 2011 is currently being analyzed and will be updated in the 2011-2012 annual report.

Table 8-1: Macroinvertebrate Study Results

ID_No	Location	Sampled Years	Water Quality Index (WQI)	Water Quality Changes Last Period/Current Period
<i>Lower Flint River Watershed</i>				
A-L	Pine Run Headwaters	1999-2000, 2003-2012	Fair	No Change
B-L	Misteguay Cr Headwaters	1999-2000, 2004-2012	Good	Fair to Good
C-L	Flint River, Flushing	1999-2012	Good	Excellent to Good
D-L	Brent Run	1999-2003, 2005-2012	Fair	No Change
E-L	Brent Run Headwaters	1999-2000, 2004-2012	Poor	Fair to Poor
<i>Middle Flint River Watershed</i>				
A-M	Swartz Creek	1999-2012	Good	No Change
B-M	Thread Creek	1999-2012	Fair	No Change
C-M	Thread Creek Headwaters	1999-2012	Fair	Good to Fair
D-M	Kearsley Creek	1999, 2001-2012	Excellent	Good to Excellent
E-M	Kearsley Creek Headwaters	1999-2003, 2005, 2007-2012	Good	Fair to Good
F-M	Gilkey Creek	1999-2012	Poor(May 12^o)	Fall Results Pending
G-M	Gilkey Creek Headwaters	2002-2012	Poor	Fair To Poor
H-M	Gilkey Creek Restoration (Applewood)	2009-2012	Fair (May 12 ^o)	Not measured in Fall
I-M	Gilkey Creek Restoration (Kearsley Park)	2009-2012	Good (May 12 ^o)	Not measured in Fall
<i>Upper Flint River Watershed</i>				
A-U	Butternut Creek Headwaters	2000-2012	Good	Excellent to Good
B-U	Flint River, Richfield	2000-2007	Replaced	Replaced with Clark Drain Site
C-U	Clark Drain, Richfield Park	2009-2012	Good	No Change
D-U	Butternut Creek	1999-2012	Excellent	Fair to Excellent
<i>Shiawassee River Watershed</i>				
A-S	Argentine	2008-2012	Good	Fair to Good
B-S	Linden	2008-2012	Good	No Change

It should be noted that there was no discernible correlation between the Project GREEN Results (Section 7) and the Benthic Monitoring results. Since the Benthic Monitoring results reflect the macroinvertebrates' long-term exposure to their environment, the results are assumed to be more reflective of the overall health of the water body compared to the one-time sampling associated with Project GREEN (which is more focused on inspiring youth).

Figure 8-1: Macroinvertebrate Study Results for the Lower Flint River Watershed

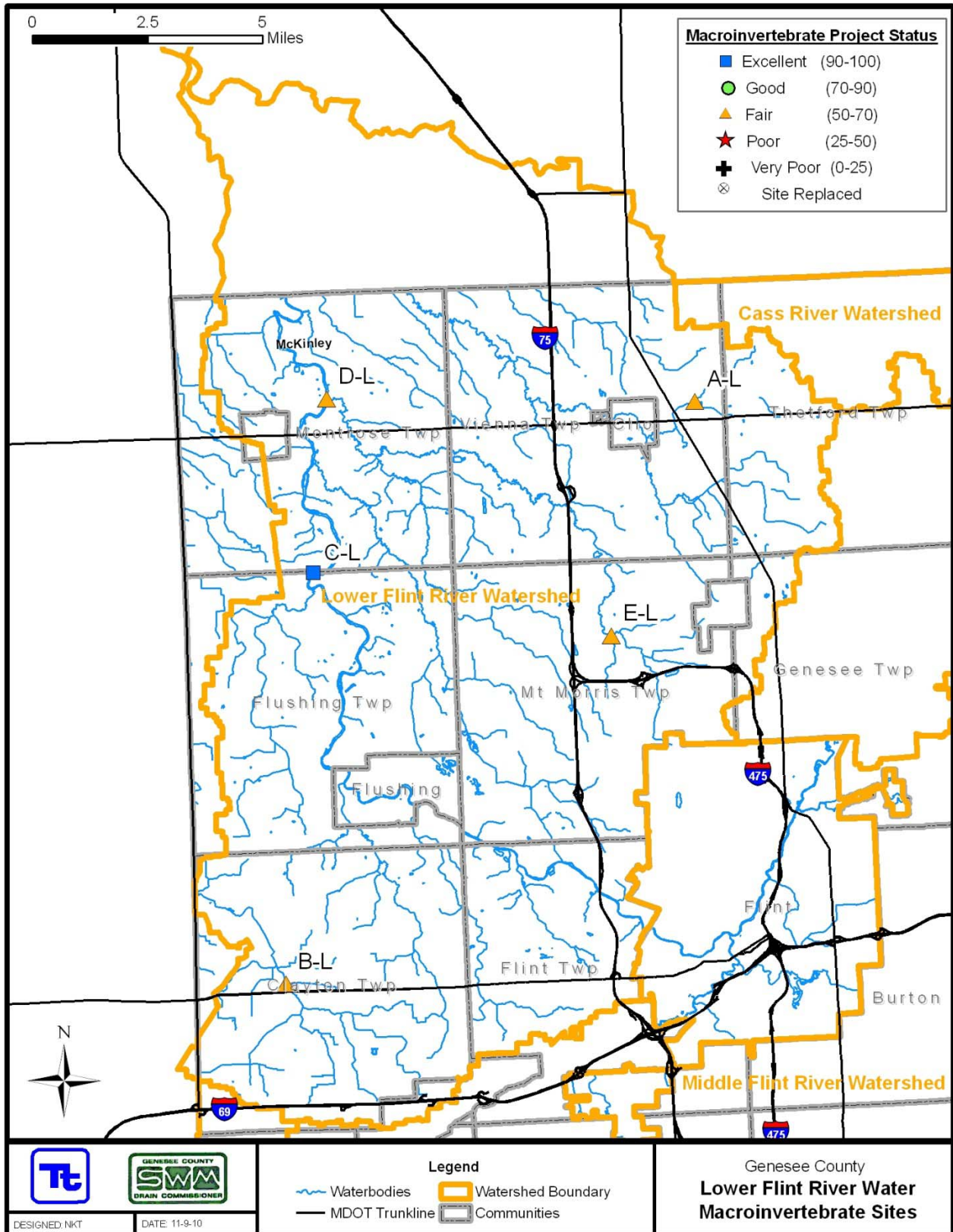


Figure 8-2: Macroinvertebrate Study Results for the Middle Flint River Watershed

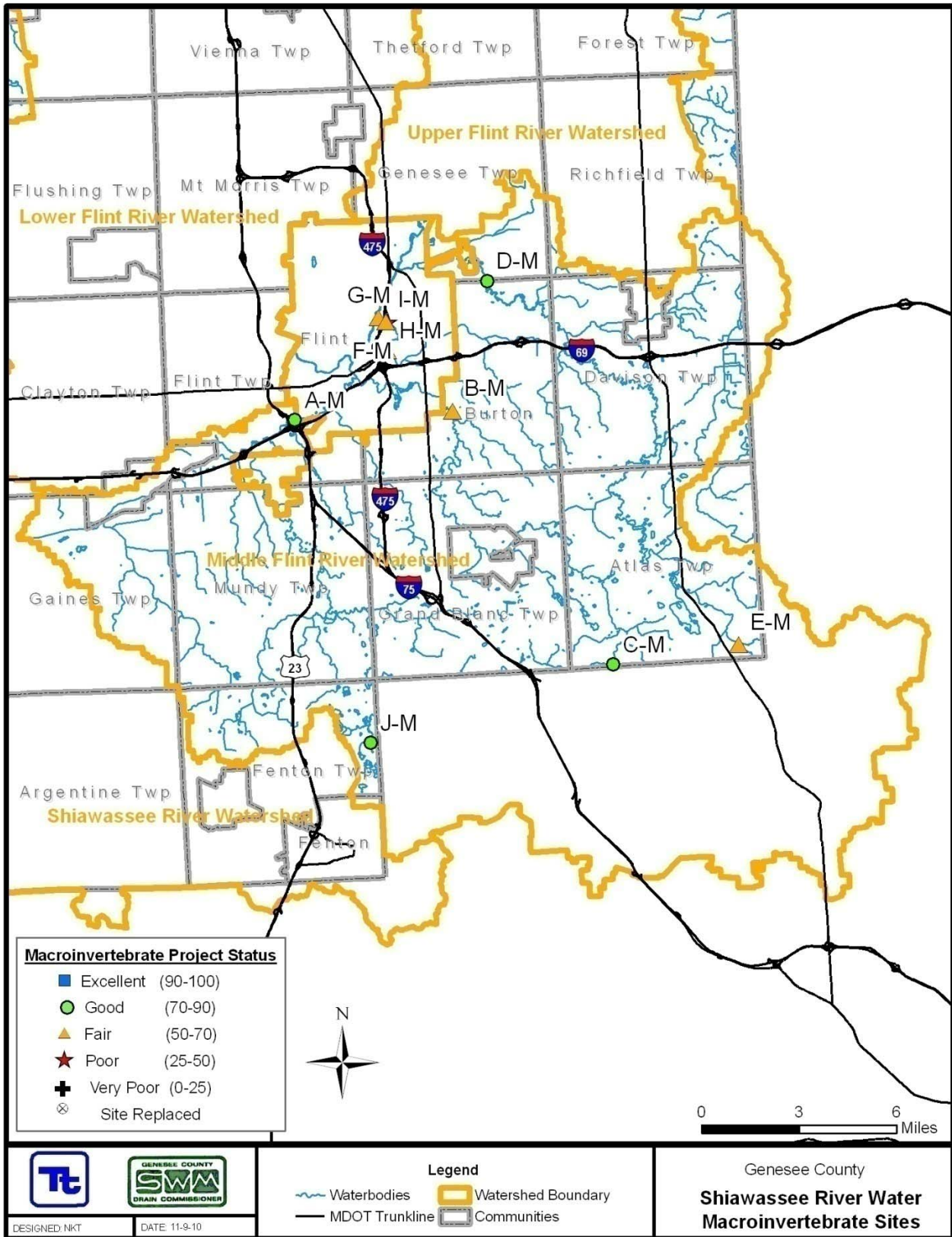


Figure 8-3: Macroinvertebrate Study Results for the Upper Flint River Watershed

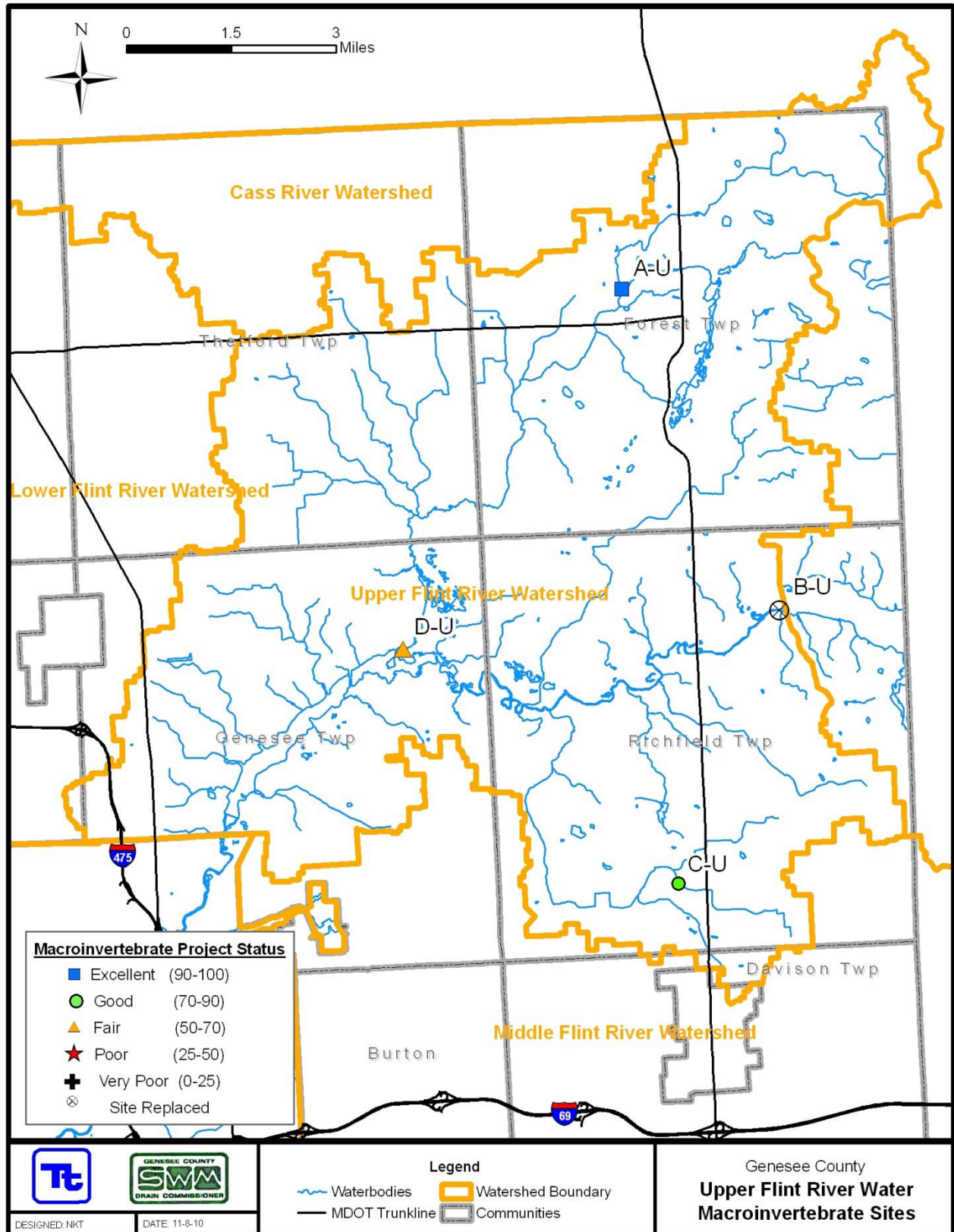
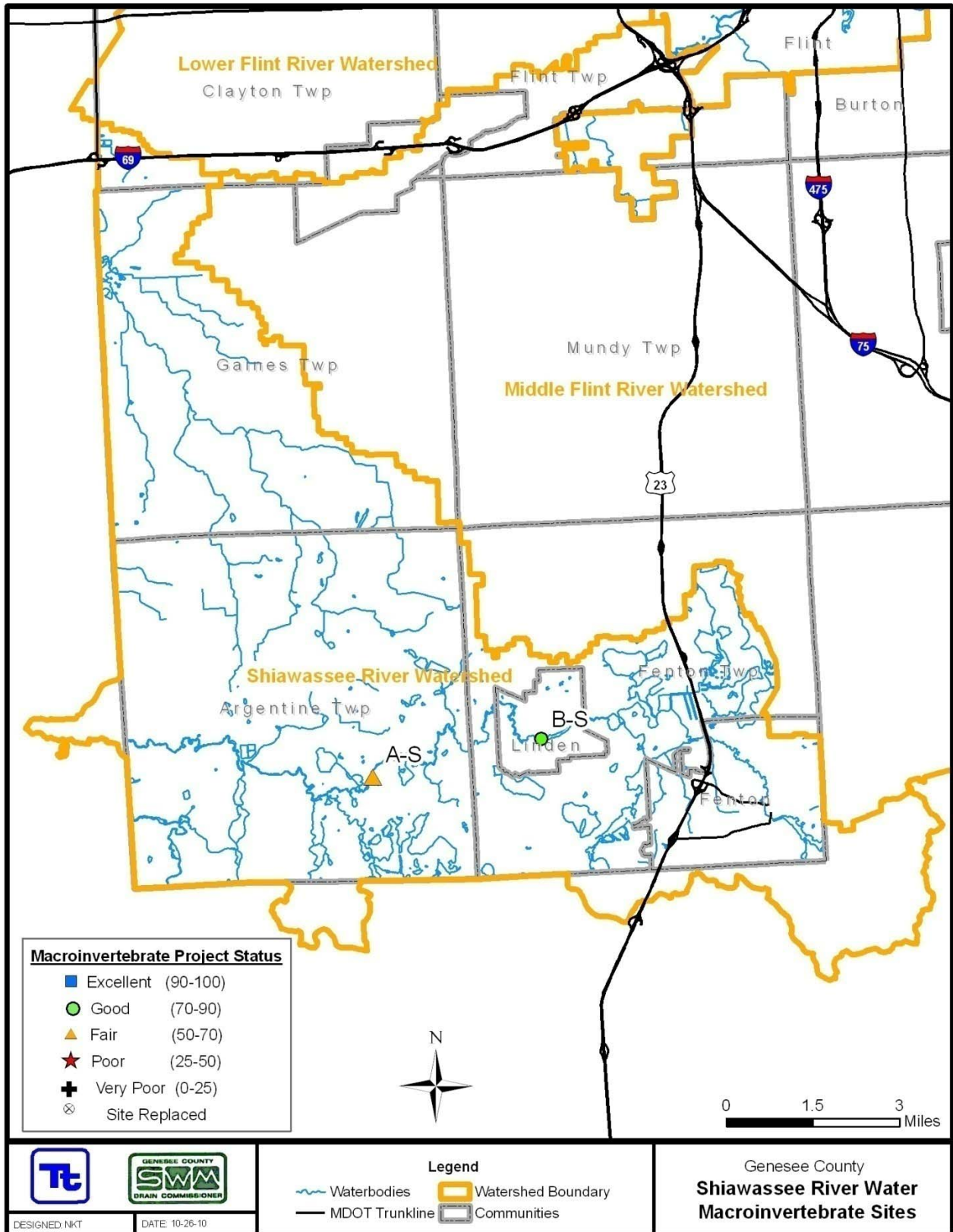


Figure 8-4: Macroinvertebrate Study Results for the Shiawassee River Watershed



9. ILLICIT DISCHARGE ELIMINATION PLAN (IDEP)

The purpose of the Illicit Discharge Elimination Plan (IDEP) is to establish a program to eliminate illicit discharges and connections, including the discharge of sanitary wastewater, to Genesee County's separate storm water drainage system. The County is required to conduct dry weather screening of all municipal separate storm sewer system (MS4) outfalls, also referred to as point source discharges (PSDs), to comply with their National Pollutant Discharge Elimination System (NPDES) permit.

This Section summarizes the IDEP activities including the illicit connections identified within each watershed and a list of PSDs identified during 2011-2012 IDEP field investigations. Also included are Phase II Permit application maps and tables showing PSDs for each municipality investigated.

Figure 9-1 shows the illicit discharge notification system process. During field investigations, crews investigate MS4 outfalls and private drains within the County drainage system. Each outfall is mapped and investigated at least once every five years. If dry weather flow is present at an outfall, the flow is sampled, analyzed, and tracked upstream to its source. When the pollution source is isolated, Genesee County works with the responsible party to eliminate the discharge.

During 2011-2012, IDEP field investigations were conducted in the following communities in addition to sites within the county owned by or under a jurisdiction of Genesee County through its agencies or nested jurisdictions:

- City of Burton
- Fenton Township
- Flint Township
- Flushing Township
- City of Swartz Creek
- Genesee County
 - Agencies (including but not limited to (GCDC, GCRC, GCP&R, GCB&G)
 - Nested Jurisdictions (Schools, Bishop Airport)

City of Burton

In 2011-12, 102 outfalls were investigated, 2 outfalls were not investigated, and 2 outfalls were not found. No illicit discharges were found during this investigation period.

Fenton Township

In 2011-12, 1 outfall was investigated. No illicit discharges were found during this investigation period.

Flint Township

In 2011-12, 6 outfalls were investigated. No illicit discharges were found during this investigation period.

Flushing Township

In 2011-12, 1 outfall was not investigated. No illicit discharges were found during this investigation period.

Genesee County Drain Commission

In 2011-12, 185 outfalls were investigated and 8 outfalls were not investigated. Five outfalls were not found. No illicit discharges were found during this investigation period.

City of Swartz Creek

In 2011-12, 80 outfalls were investigated and 2 outfalls were not investigated. Three outfalls were not found. No illicit discharges were found during this investigation period.

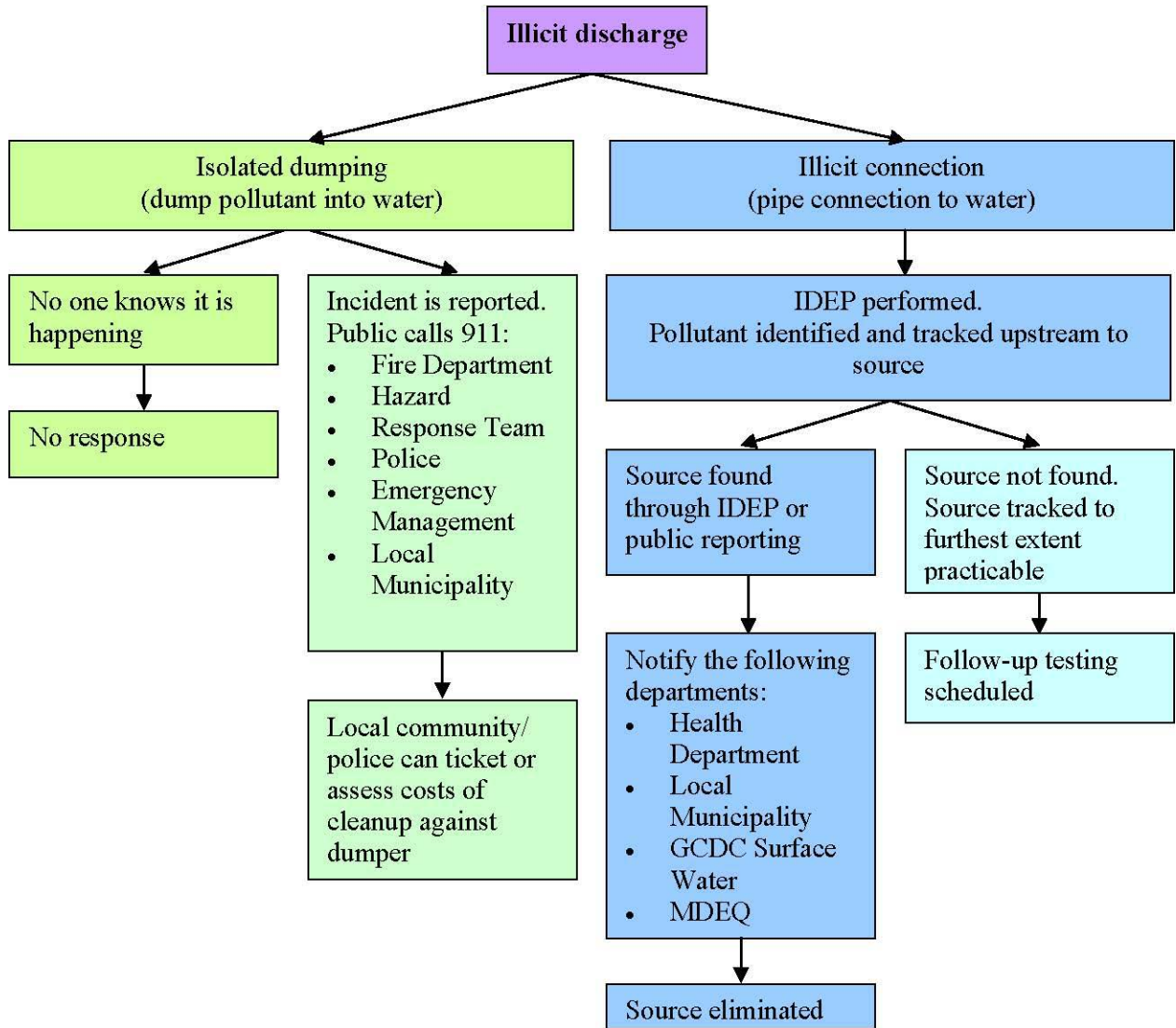
New Outfalls

In September 2012, 183 new outfalls were authorized for investigation in 2012-2013; 180 were county outfalls and 3 were from the City of Burton. Due to the number of outfalls under the City of Burton's and Genesee County's jurisdictions, it is very time consuming to map the outfalls for investigation. Outfalls are identified then given to Tetra Tech 2 to 4 times a year to perform the dry weather investigation.

Community	Total outfalls	Already Investigated	Not Found/Abandoned	Need to be investigated
GCDC	24	22	1	1
City of Fenton	80	71	9	0
City of Flushing	83	62	6	15
City of Mt. Morris	48	45	3	0
Fenton Twp	5	5		0
City of Clio	25	22	3	0
City of Linden	32	29	3	0
Genesee Twp	3	3		0
Mt. Morris Twp	3	3		0
Mundy Twp	2	2		0
Vienna Twp	7	7		0
GCDC-Sept 2011	65	63	2	0
City of Burton-Sept 2011	14	14		0
GCDC-April 2012	109	100	2	7
City of Burton-April 2012	94	90	2	2
City of Swartz Creek-April 2012	85	80	3	2
Fenton Twp-April 2012	1	1		0
Flint Twp-April 2012	6	6		0
Flushing Twp-April 2012	1			1
City of Burton-2012Fall	3			3
GCDC-2012Fall	177	14		163
Total	867	639	34	194

Table 9-1: Total Number Outfalls Investigated Per Community

Figure 9-1: Illicit Discharge Notification System Process



10. NEW STORM WATER POINT SOURCE DISCHARGES (PSD)

In the 2008 annual report, PSD points were identified on the permit application map by municipality. These maps have been updated in the 2010 report to reflect the change in management of the MS4 areas in the second permit cycle. In the past, PSD's were tracked by watershed. In 2009, municipal ownership (city, township, etc.) of PSD's was assigned by GCDC. Phase II Municipalities that have contracted with the GCDC to perform IDEP, have provided storm sewer information so their outfalls could be mapped and dry weather tested. Those Municipalities that have MS4 outfalls include:

- City of Burton
- City of Clio
- City of Davison
- City of Fenton
- City of Flushing
- City of Grand Blanc
- City of Linden
- City of Mt. Morris
- Davison Township
- Fenton Township
- Flint Township
- Flushing Charter Township
- Genesee Charter Township
- Mt. Morris Charter Township
- Mundy Charter Township
- Vienna Township
- Genesee County
 - Agencies
 - Nested Jurisdictions

The following tables and figures show the outfalls investigated in 2011- 2012 reporting period. Outfalls investigated in previous reporting periods are summarized in past annual reports.

Summary of the follow-up investigations undertaken in 2011-2012.

The Drain Office Continues to do follow up work on dry weather flow testing this reporting cycle.

- 7632415: follow-up eliminated possibility of illicit discharge. Investigation closed
- 7632282: follow-up eliminated possibility of illicit discharge. Investigation closed
- 7830103 Atherton Road has been identified as an illicit connection. Washtub disconnected, retested. File Closed.
- 8734759 follow-up eliminated possibility of illicit discharge. Investigation closed
- 8727759-09 Genesee Rd has been identified as an illicit connection. Further inspection is in progress to identify specific properties. Detection, disconnection and follow up to be done in next reporting cycle.
- 7632289 follow-up eliminated possibility of illicit discharge. Investigation closed

The Drain Office was contacted with 8 events of an illicit discharge to a storm system.

- 1505 Williamsburg Rd: All appropriate parties notified. Property owner was educated on proper disposal of Carpet cleaning waste. File closed.
- Pine Run, Vienna Rd Br west of Saginaw: MDEQ contacted us about possible oil in drain. Tetra Tech used PID and was unable to identify any VOC or petroleum products above 1ppm. All appropriate parties notified.

- Pine Run east of Linden: Vienna Twp contacted us about blue green color in Pine Run. Took Samples at Linden and Field Road. Pine run is Water of the State. Forwarded Complaint to MDEQ.
- 2176 Stanley Rd; Genesee Twp called about sumped construction debris and household waste including fluids. House is abandoned. No confirmed illicit connection identified. All appropriate parties notified.
- 14206 Dirts Dr: Homeowner contacted us about concern of oil present in Dauner Drain. GCDC staff investigated. No oil present. File closed.
- 6019 Oak Cr Dr. Homeowner contacted us about concern of neighbor connected to his basement sump. Dye test did not show any connection to storm sewer or surface water. File closed.
- 3066 Miller Rd: Received complaint about Popeye Chicken dumping grease in parking lot. Inspection showed grease in storm sewer. Work with Flint Twp to have property owner clean up. File Closed.
- 3328 Torrey Rd: Drain Office staff witnessed waste water from Mackenzie Crushing entering Call drain and eroding banks. All appropriate parties notified. This is a Industrial discharge. Forward to MDEQ. File Closed.

Table 10-1: City of Burton Outfalls Investigated in 2011-2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
7703-01	C of Burton	GCDC 0048		2011Sept	Yes	6/20/2012
7703-02	C of Burton	GCDC 0048		2011Sept	Yes	6/20/2012
7709	C of Burton	GCDC 0048		2011Sept	Yes	6/20/2012
7723501	C of Burton	GCDC 0344	Robinson & Curtis Drain	2011Sept	Yes	10/18/2011
7723502	C of Burton	GCDC 0344	Robinson & Curtis Drain	2011Sept	Yes	10/18/2011
7723503	C of Burton	GCDC 0344	Robinson & Curtis Drain	2011Sept	Yes	10/10/2011
7723504	C of Burton	GCDC 0344	Robinson & Curtis Drain	2011Sept	Yes	10/10/2011
7723505	C of Burton	GCDC 0344	Robinson & Curtis Drain	2011Sept	Yes	10/10/2011
7724757	C of Burton	GCDC 0319	Phillips, East Branch	2011Sept	Yes	10/10/2011
7724761	C of Burton	GCDC 0319	Phillips, East Branch	2011Sept	Yes	10/10/2011
7724762	C of Burton	GCDC 0319	Phillips, East Branch	2011Sept	Yes	10/10/2011
7724763	C of Burton	GCDC 0319	Phillips, East Branch	2011Sept	Yes	10/10/2011
7725258	C of Burton	GCDC 0080	Phillips Drain	2011Sept	Yes	10/10/2011
7725259	C of Burton	GCDC 0080	Phillips Drain	2011Sept	Yes	10/10/2011
7701259	C of Burton	WOS/ Open Ditch	Brier Creek Drain 0130	2012Spring	Yes	6/19/2012
7701262	C of Burton	WOS/ Open Ditch	Brier Creek Drain 0130	2012Spring	Yes	6/19/2012
7701263	C of Burton	WOS/ Open Ditch	Brier Creek Drain 0130	2012Spring	Yes	6/19/2012
7701264	C of Burton	WOS/ Open Ditch	Brier Creek Drain 0130	2012Spring	Yes	6/19/2012
7701265	C of Burton	GCDC 0174	Cochran	2012Spring	Yes	5/31/2012
7701524	C of Burton	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	6/19/2012
7701525	C of Burton	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	5/19/2012
7701764	C of Burton	WOS/ Open Ditch	Cochran Drain 0174	2012Spring	Yes	6/26/2012
7701775	C of Burton	GCDC 0073 pipe	Kearsley Creek	2012Spring	Yes	5/31/2012
7701776	C of Burton	GCDC 0073 pipe	Kearsley Creek	2012Spring	Yes	5/31/2012
7701777	C of Burton	WOS/ Open Ditch	Cochran Drain 0174	2012Spring	Yes	5/31/2012
7701778	C of Burton	WOS/ Open Ditch	Cochran Drain 0174	2012Spring	Yes	5/31/2012
7701779	C of Burton	WOS/ Open Ditch	Brier Creek Drain 0130	2012Spring	Yes	6/26/2012
7702008	C of Burton	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	6/21/2012
7702753	C of Burton	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	6/21/2012
7702764	C of Burton	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	6/21/2012
7702768	C of Burton	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	8/22/2012
7710774	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7710778	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7710781	C of Burton	GCDC 1514 pipe	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7710782	C of Burton	GCDC 1514 pipe	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7710783	C of Burton	GCDC 1514 pipe	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7710784	C of Burton	GCDC 1514 pipe	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7710785	C of Burton	GCDC 1514 pipe	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7710786	C of Burton	GCDC 1514 pipe	Gilkey Creek 0017	2012Spring	Yes	6/7/2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
7710787	C of Burton	GCDC 1514 pipe	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7711514	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7711756	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/20/2012
7711758	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/20/2012
7711759	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/20/2012
7712253	C of Burton	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	5/31/2012
7712254	C of Burton	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	5/31/2012
7712502	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/20/2012
7714006	C of Burton	WOS/ Open Ditch	Richards Drain 0042	2012Spring	Yes	6/7/2012
7714007	C of Burton	WOS/ Open Ditch	Richards Drain 0042	2012Spring	Yes	6/7/2012
7714008	C of Burton	WOS/ Open Ditch	Richards Drain 0042	2012Spring	Yes	6/7/2012
7714009	C of Burton	WOS/ Open Ditch	Richards Drain 0042	2012Spring	Yes	6/7/2012
7714502	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7714502A	C of Burton		Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7714503	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7714512	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7714519	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7715265	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7715752	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7715756	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7715759	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7715760	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7715763	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7715764	C of Burton	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/12/2012
7716751	C of Burton	C of Flint	C of Flint-Robinson & Curtis	2012Spring	Yes	6/26/2012
7721751	C of Burton	WOS/ Nat H2O	Thread Creek	2012Spring	Yes	6/28/2012
7721752	C of Burton	Wetland	Thread Creek	2012Spring	Yes	6/28/2012
7721753	C of Burton	Wetland	Thread Creek	2012Spring	Yes	6/28/2012
7723001	C of Burton	WOS/ Open Ditch	Gilkey Cr 0017	2012Spring	Yes	6/12/2012
7723003	C of Burton	WOS/ Open Ditch	Gilkey Cr 0017	2012Spring	Yes	6/12/2012
7723012	C of Burton	WOS/Open Drain	Gilkey Cr 0017	2012Spring	Yes	6/13/2012
7723253	C of Burton	WOS/Open Drain	Gilkey, Coats Br 0261	2012Spring	Yes	6/13/2012
7723255	C of Burton	WOS/Open Drain	Gilkey, Coats Br 0261	2012Spring	Yes	6/13/2012
7723256	C of Burton	WOS/Open Drain	Gilkey, Coats Br 0261	2012Spring	Yes	6/13/2012
7723261	C of Burton	WOS/Open Drain	Gilkey, Coats Br 0261	2012Spring	Yes	6/13/2012
7723262	C of Burton	WOS/Open Drain	Gilkey, Coats Br 0178	2012Spring	Yes	6/12/2012
7723263	C of Burton	WOS/Open Drain	Gilkey, Coats Br 0178	2012Spring	Yes	6/12/2012
7723264	C of Burton	WOS/Open Drain	Gilkey, Coats Br 0178	2012Spring	Yes	6/12/2012
7724254	C of Burton	WOS/Open Drain	Phillips 0080	2012Spring	Yes	6/13/2012
7724255	C of Burton	WOS/Open Drain	Phillips 0080	2012Spring	Yes	6/13/2012
7724502	C of Burton	GCDC 0261 pipe	Gilkey Creek 0017	2012Spring	Yes	6/13/2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
7724755	C of Burton	WOS/ Open Ditch	Phillips 0080	2012Spring	Yes	6/13/2012
7724756	C of Burton	WOS/Open Drain	Phillips, East Br of 0319	2012Spring	Yes	6/13/2012
7725251	C of Burton	WOS/Open Drain	Phillips 0080	2012Spring	Yes	6/13/2012
7725252	C of Burton	WOS/Open Drain	Phillips 0080	2012Spring	Yes	6/13/2012
7725262	C of Burton	WOS/Open Drain	Phillips 0080	2012Spring	Yes	8/22/2012
7725263	C of Burton	WOS/Open Drain	Phillips 0080	2012Spring	Yes	8/22/2012
7726251	C of Burton	WOS/Open Drain	Gilkey Cr 0017	2012Spring	Yes	6/13/2012
7726252	C of Burton	WOS/Open Drain	Gilkey Cr 0017	2012Spring	Yes	6/13/2012
7726501	C of Burton	WOS/Open Drain	Thread Creek, Pierson Br	2012Spring	Yes	6/26/2012
7726502	C of Burton	WOS/Open Drain	Thread Creek, Pierson Br	2012Spring	Yes	6/26/2012
7726503	C of Burton	WOS/Open Drain	Thread Creek, Pierson Br	2012Spring	Yes	6/26/2012
7726504	C of Burton	WOS/Open Drain	Thread Creek, Pierson Br	2012Spring	Yes	6/26/2012
7727010	C of Burton	GCDC 0086 pipe	Thread Creek	2012Spring	No	
7727501	C of Burton	WOS/ Open Ditch	Thread Creek, Howe Rd Br 1357	2012Spring	Not Found	Not Found
7727502	C of Burton	WOS/ Open Ditch	Thread Creek, Howe Rd Br 1357	2012Spring	Yes	6/26/2012
7727503	C of Burton	WOS/ Open Ditch	Thread Creek, How Rd Br 1357	2012Spring	Yes	6/28/2012
7728757	C of Burton	GCDC 1357 pipe	Thread Creek, How Rd Br 1357	2012Spring	Yes	6/28/2012
7733001	C of Burton	MDOT?	Schram & Ext	2012Spring	No	
7733260	C of Burton	GCDC 0375 pipe	Center and Bristol Road Dr 0375	2012Spring	Yes	6/28/2012
7733760	C of Burton	Private Storm pipe	Thread Creek	2012Spring	Yes	6/28/2012
7734011	C of Burton	GCDC 1357 pipe	Thread Creek, How Rd Br 1357	2012Spring	Yes	6/26/2012
7806002	C of Burton	GCDC0174 pipe	Cochran 0174	2012Spring	Yes	5/31/2012
7806502	C of Burton	WOS/Open Drain	Cochran 0174	2012Spring	Yes	5/31/2012
7806523	C of Burton	WOS/Open Drain	Cochran 0174	2012Spring	Yes	5/31/2012
7806524	C of Burton	GCDC 0073 pipe	Kearsley Creek	2012Spring	Yes	5/31/2012
7806525	C of Burton	GCDC 0073 pipe	Kearsley Creek	2012Spring	Yes	5/31/2012
7806526	C of Burton	GCDC 0174 pipe	Cochran 0174	2012Spring	Yes	5/31/2012
7806527	C of Burton	Private Pipe?	?	2012Spring	Yes	5/31/2012

Figure 10-1: City of Burton Outfalls Investigated in 2011-2012

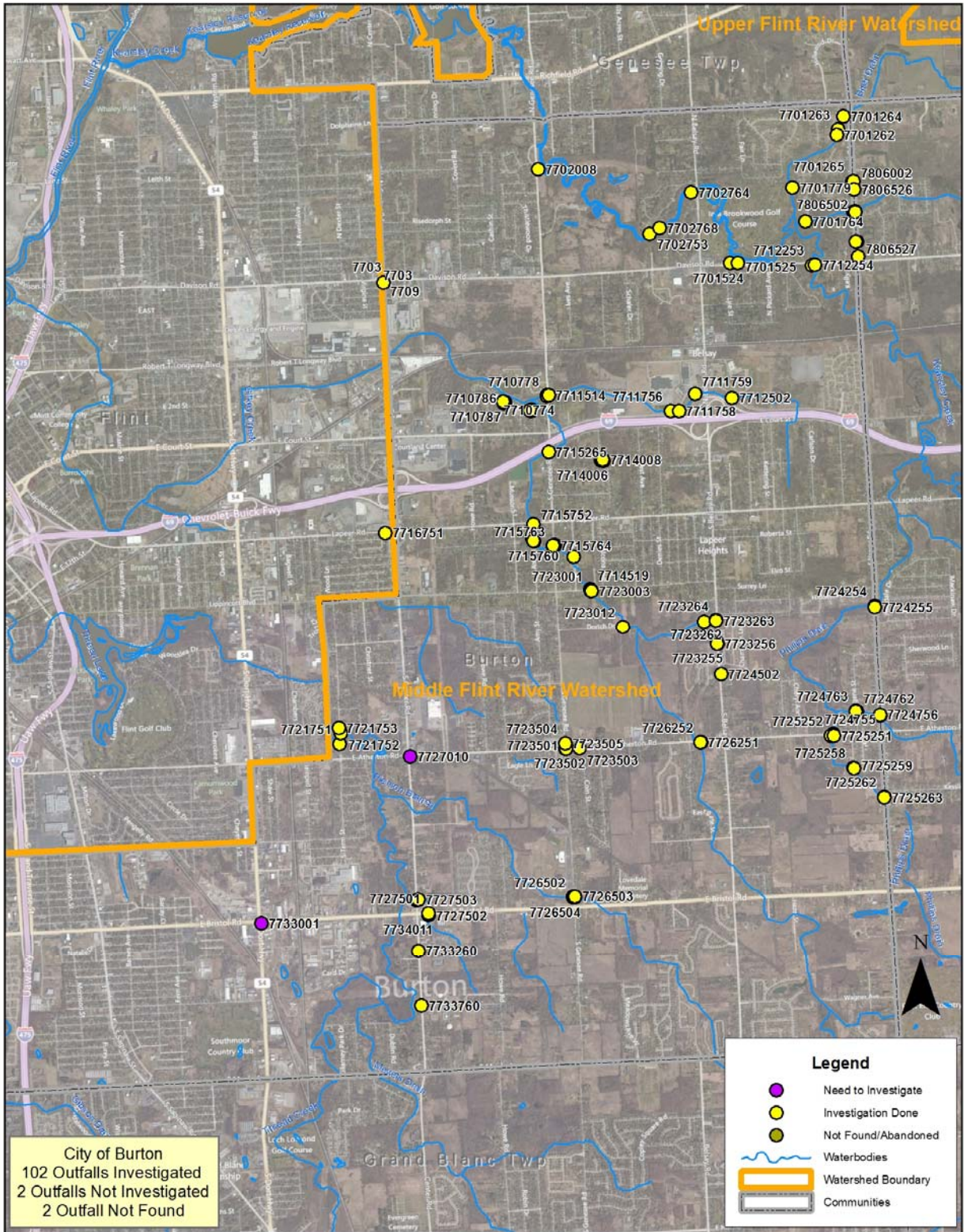


Table 10-2: Fenton Township Outfalls Investigated in 2011-2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
5611251	Fenton Twp	GCRC	Lake Fenton	2012Spring	Yes	7/12/2012

Figure 10-2: Fenton Township Outfalls Investigated in 2011-2012



Table 10-3: Flint Township Outfalls Investigated 2011-2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
7603001	Flint Twp	GCRC	Hartshorn & Ext	2012Spring	Yes	7/25/2012
7610251	Flint Twp	GCRC	Flint River Tributary	2012Spring	Yes	7/25/2012
7617501	Flint Twp	GCRC	Chapman Drain 0009	2012Spring	Yes	7/23/2012
7622001	Flint Twp	GCDC 0008 pipe	Burroughs Drain 0008	2012Spring	Yes	7/25/2012
7629762	Flint Twp	GCDC 0044pipe	Swartz Creek, West Br 0122	2012Spring	Yes	6/4/2012
7629763	Flint Twp	GCDC 0044 ditch	Swartz Creek, West Br 0122	2012Spring	Yes	6/4/2012

Figure 10-3: Flint Township Outfalls Investigated in 2011-2012

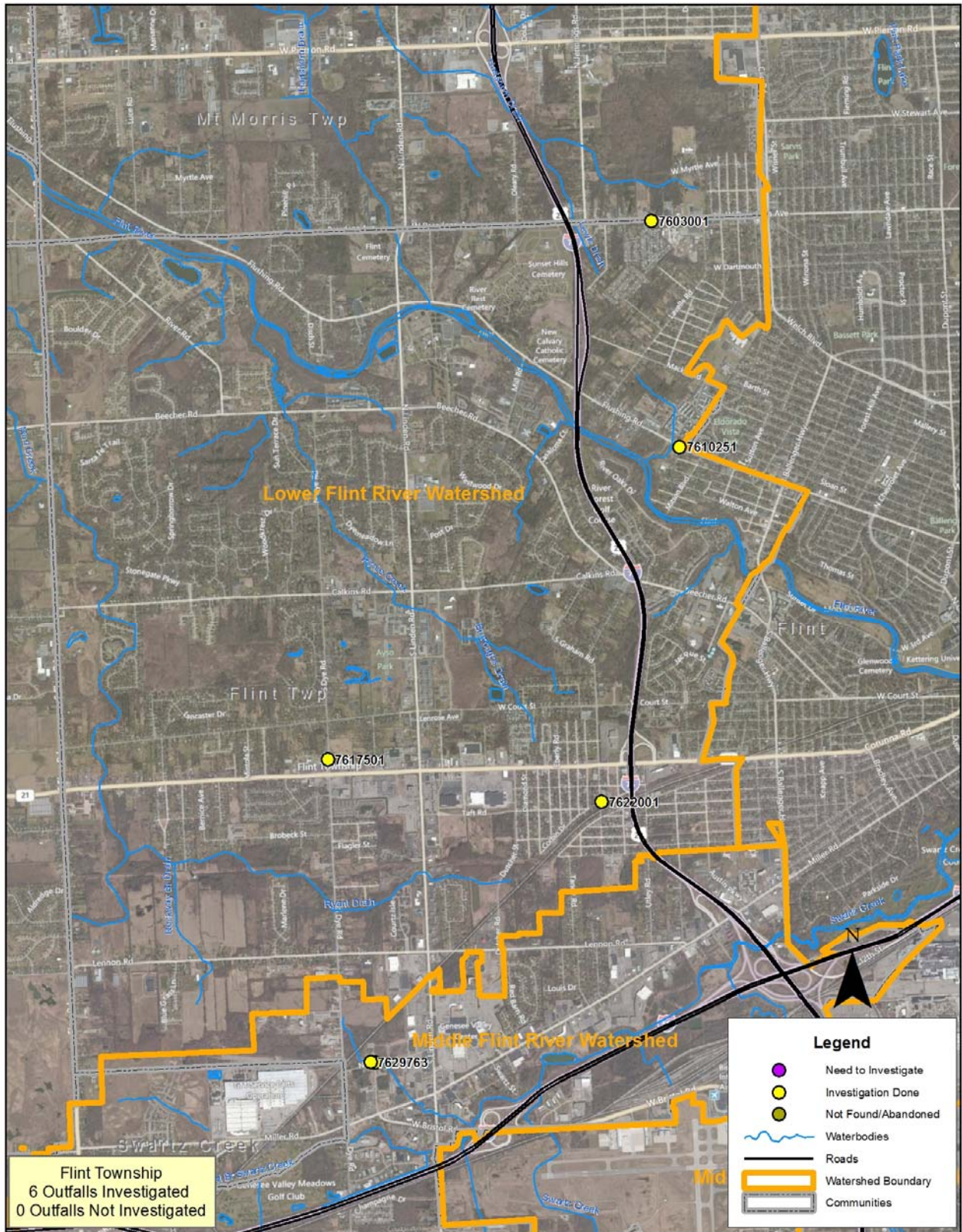


Table 10-4: Flushing Township Outfalls Investigated 2011-2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
8515001	Flushing Twp	GCRC	Flint River	2012Spring	No	

Figure 10-4: Flushing Township Outfalls Investigated in 2011-2012

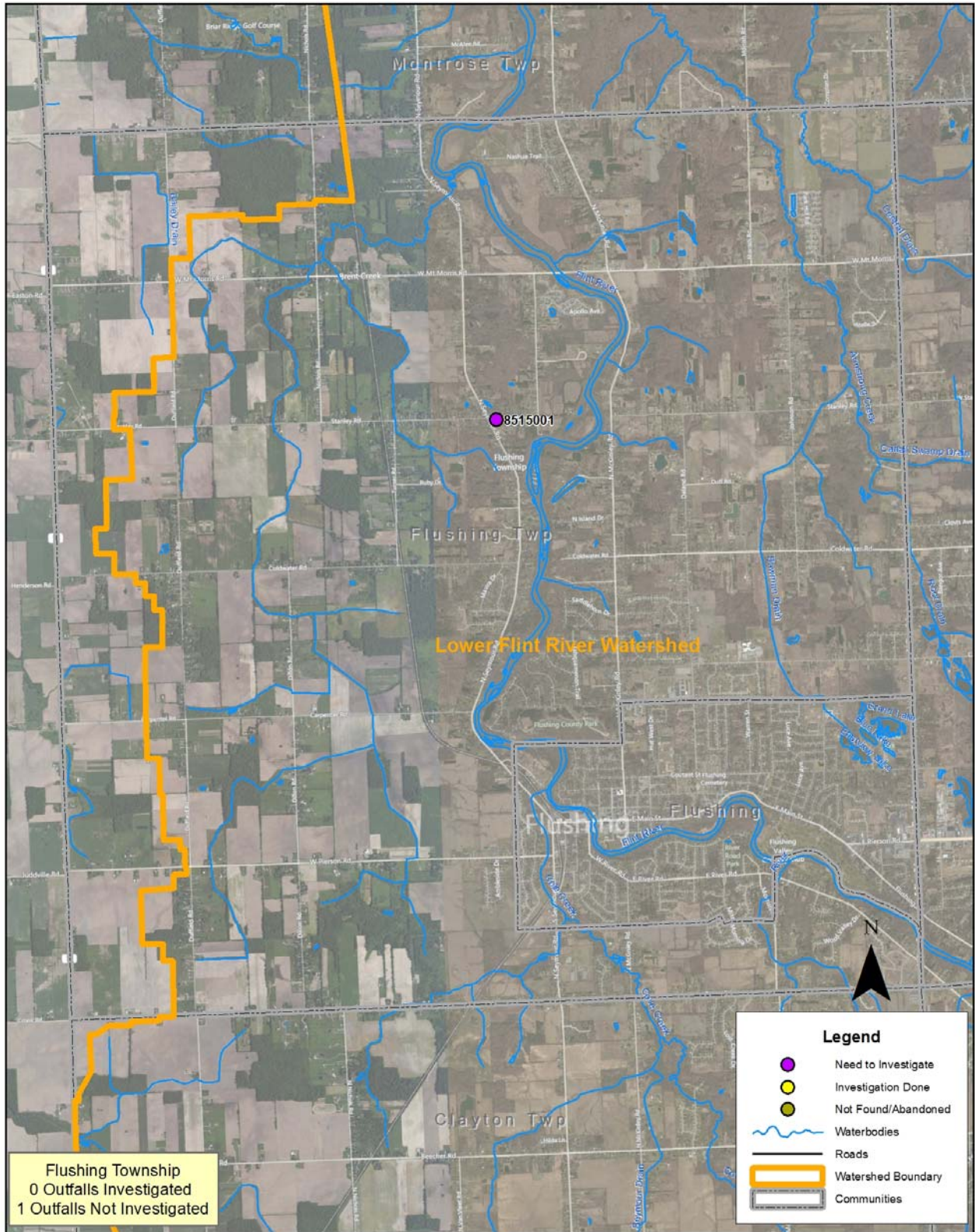


Table 10-5: Genesee County Drain Commission Outfalls Investigated 2011-2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
6505006	GCDC 0848	GCDC 0081	Davison Drain	2011Sept	Yes	7/31/2012
6520506	GCDC 0134	GCDC 0984	Jones Creek	2011Sept	Yes	11/7/2011
6534754	GCDC 0198	GCDC 0011	Jones Creek	2011Sept	Yes	6/11/2012
6607809	GCDC 0083	GCDC 0069	Lum & Ext drain	2011Sept	Yes	11/2/2011
6613751	GCDC0121	GCDC0121	Brewer Drain	2011Sept	Yes	11/2/2011
6716765	GCDC 1022	GCDC 1022	Layman Drain, Branch of	2011Sept	Yes	11/2/2011
6721253	GCDC 0078	GCDC 0385	Layman Drain	2011Sept	Yes	11/2/2011
6723006	GC property	C of Grand Bl		2011Spring	Yes	11/2/2011
6730301	GCDC 0006	GCDC 0043	Seaver Drain	2011Sept	Yes	11/2/2011
7503501	GCDC 0049	GCDC 0049	Goyer Drain, Seymour Road Branch of	2011Sept	Yes	10/4/2011
7532501	GCDC 0081	GCDC 0081	Davison Drain	2011Sept	Yes	7/31/2012
7604004	GCRC	Nat Watercourse	Flint River	2011Sept	Yes	7/23/2012
7604753	GCRC	Nat Watercourse	Flint River	2011Sept	Yes	7/24/2012
7604755	GCDC 0075	Nat Watercourse	Flint River	2011Sept	Yes	7/24/2012
7616001	GCDC 0023	GCDC 0009	Chapman Drain Drain	2011Sept	Yes	10/5/2011
7616002	GCDC 0023	GCDC 0009	Chapman Drain Drain	2011Sept	Yes	10/5/2011
7616751	GCDC 0008	GCDC 0008	Burroughs Drain	2011Sept	Yes	10/5/2011
7628555	GCDC 0713	GCDC 0122	Swartz Creek, West Branch	2011Sept	Yes	10/5/2011
7628556	GCDC 0235	GCDC 0122	Swartz Creek, West Branch	2011Sept	Yes	10/5/2011
7628557	GCDC 0044	GCDC 0122	Swartz Creek, West Branch	2011Sept	Yes	10/5/2011
7628558	GCDC 0369	GCDC 0369	Swartz Creek west Br	2011Sept	Not Found	Not Found
7629764	GCDC 0044	GCDC 0122	Swartz Creek, West Branch	2011Sept	Yes	6/4/2012
7632220	GCDC 1321	GCDC 0122	Swartz Creek, West Branch	2011Sept	Yes	10/5/2011
7632281	GCDC 1321	GCDC 1321	Swartz Creek, West Branch	2011Sept	Yes	10/5/2011
7701766	GCDC 0073	Nat Watercourse	Kearsley Creek	2011Sept	Yes	10/18/2011
7702009	GCDC 0039	Nat Watercourse	Kearsley Creek	2011Sept	Yes	10/18/2011
7718002	GCB&G	C of Flint	C of Flint- Flint River	2011Spring	Yes	10/18/2011
7718006	GCB&G05	C of Flint	C of Flint- Flint River	2011Spring	Not Found	Not Found
7718502	GCB&G15	C of Flint	C of Flint- Flint River	2011Spring	Yes	10/18/2011
7718503	GCB&G15/14	C of Flint	C of Flint- Flint River	2011Spring	Yes	10/18/2011
7718504	GCB&G15	C of Flint	C of Flint- Flint River	2011Spring	Yes	10/18/2011
7721254	GCDC 0047	Nat Watercourse	Thread Creek	2011Sept	Yes	6/28/2012
7724760	GCDC 0096	GCDC 0319	Phillips, East Branch	2011Sept	Yes	10/10/2011
7725257	GCDC 0155	GCDC 0080	Phillips Drain	2011Sept	Yes	10/10/2011
7726751	GCDC 0085	GCDC 0017	Gilkey Creek	2011Sept	Yes	10/10/2011
7726752	GCDC 0796	GCDC 0017	Gilkey Creek	2011Sept	Yes	10/10/2011
7805006	GCDC 0540	GCDC 0130	Brier Creek	2011Sept	Yes	10/13/2011
7806251	GCDC 0003	GCDC 0130	Brier Creek	2011Sept	Yes	10/13/2011
7818504	GCDC 0414	GCDC 0080	GCDC 0080	2011Sept	Yes	10/13/2011

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
7819005	GCDC 0414	GCDC 0080	GCDC 0080	2011Sept	Yes	10/13/2011
7819344	GCDC 0342	GCDC 0319	Phillips, East Branch	2011Sept	Yes	10/10/2011
7820513	GCDC 0015	GCDC 0030	Lobban Drain	2011Sept	Yes	10/13/2011
7820515	GCDC 0015	GCDC 0030	Lobban Drain	2011Sept	Yes	10/13/2011
7820518	GCDC 0015	GCDC 0030	Lobban Drain	2011Sept	Yes	10/13/2011
7825251	GCDC 0080	GCDC 0080	Phillips Drain	2011Sept	Yes	10/10/2011
7830109	GCDC 1370	GCDC 0319	Phillips, East Branch	2011Sept	Yes	10/10/2011
7830110	GCRC	GCDC 0319	Phillips, East Branch	2011Sept	Yes	10/10/2011
8534012	GCDC 1503	GCDC 0764	Cole Creek	2011Spring	Yes	11/3/2011
8611256	GCDC 0013	GCDC 0013	Craven & Benson	2011Sept	Yes	3/21/2012
8629759	GCDC 0087	GCDC 0458	Hartshorn & Ext	2011Sept	Yes	10/4/2011
8629772	GCDC 0087	GCDC 0458	Hartshorn & Ext Drain	2011Sept	Yes	10/4/2011
8629773	GCDC 0358	GCDC 0458	Hartshorn & Ext	2011Sept	Yes	10/4/2011
8629774	GCDC 0549	GCDC 0458	Hartshorn & Ext	2011Sept	Yes	10/4/2011
8631508	GCDC 0005	GCDC 0005	Blackmore Drain	2011Sept	Not Found	Not Found
8632109	GCDC 1441	GCDC 0928	Hartshorn Pierson branch	2011Sept	Yes	10/4/2011
8632110	GCDC 1441	GCDC 0928	Hartshorn Pierson branch	2011Sept	Yes	10/4/2011
8632117	GCDC 0586	GCDC 0458	Hartshorn & Ext	2011Sept	Yes	10/4/2011
8725255	GCDC 0012	GCDC 0012	Crampton Drain	2011Sept	Yes	3/21/2012
8819501	GCDC 0014	GCDC 0014	Cullen & Powers	2011Sept	Yes	3/21/2012
8827263	GCDC 0002	GCDC 0002	Bird Drain	2011Sept	Yes	7/16/2012
8831759	GCDC 0003	GCDC 0130	Brier Creek	2011Sept	Yes	10/13/2011
9510506	GCDC WWS	H2O COURSE	FLINT RIVER	2011Sept	Yes	1/11/2012
9510507	GCDC WWS	H2O COURSE	FLINT RIVER	2011Sept	Yes	1/11/2012
9510508	GCDC WWS	H2O COURSE	FLINT RIVER	2011Sept	Yes	1/11/2012
9515001	GCDC WWS	H2O COURSE	BRENT RUN	2011Sept	Yes	1/11/2012
9536007	GCDC 0034	GCDC 0034	Morrish & Francis Rd Drain	2011Sept	Yes	3/21/2012
9608004	GCDC 0367	Nat Watercourse	Pine Run	2011Sept	Yes	1/11/2012
9615254	GCDC 1560	GCDC 0025	Collins Drain	2011Sept	Yes	1/11/2012
9615255	GCDC 1560	GCDC 0025	Collins Drain	2011Sept	Yes	1/11/2012
9615256	GCDC 1560	GCDC 0025	Collins Drain	2011Sept	Yes	1/11/2012
9615522	GCDC 0072	Nat Watercourse	Haven & Dexter Street Outlet	2011Sept	Yes	1/11/2012
9723501	GCDC 0027	GCDC 0027	Jobson Drain	2011Sept	Yes	3/21/2012
5501001	GCDC 0228	WOS/Open Drain	Porter Drain 0193	2012Spring	Yes	8/6/2012
5502751	GCRC	WOS/Open Drain	Porter Drain 0193	2012Spring	Yes	8/6/2012
5503001	GCRC	WOS/Open Drain	McCollam Drain 0156	2012Spring	Yes	6/11/2012
5503257	GCRC	WOS/Open Drain	Croft & Ext Drain 0011	2012Spring	Yes	6/11/2012
5503755	GCRC	WOS/Open Drain	Croft & Ext Drain 0011	2012Spring	Yes	6/11/2012
5504504	GCRC	WOS/Open Drain	Atherton & Ext Drain 0148	2012Spring	Yes	6/11/2012
5505251	GCRC	WOS/Open Drain	Atherton & Ext Drain 0148	2012Spring	Yes	6/11/2012
5505252	GCRC	WOS/Open Drain	Atherton & Ext Drain 0148	2012Spring	Yes	6/11/2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
5505254	GCDC 1133	WOS/Open Drain	Atherton & Ext Drain 0148	2012Spring	Yes	6/11/2012
5509504	GCRC	WOS/Open Drain	Atherton & Ext Drain 0148	2012Spring	Yes	6/11/2012
5510252	GCRC	WOS/Open Drain	Croft & Ext Drain 0011	2012Spring	Yes	6/11/2012
5510255	GCRC	WOS/Open Drain	Croft & Ext Drain 0011	2012Spring	Yes	6/11/2012
5511001	GCRC	WOS/Open Drain	Croft & Ext Drain 0011	2012Spring	Yes	6/11/2012
5519251	GCDC 0572	WOS/Open Drain	Graves drain 0572	2012Spring	Yes	8/6/2012
5519501	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5519502	GCRC	Wetland/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5519503	GCRC	Wetland/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5519504	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5520501	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5520502	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5520503	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5520504	GCDC 0217	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5521501	GCDC WWS	WOS/ Nat H2O	Shiawassee Tributary	2012Spring	No	
5526001	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5526002	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5526003	GCRC	Wetland/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5526004	GCRC	Wetland/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5527251	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Not Found	Not Found
5527252	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Not Found	Not Found
5527253	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5527254	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5528003	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5528005	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5528251	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5528253	GCRC	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	7/12/2012
5529503	GCDC 0854	WOS/ Nat H2O	Yellow River	2012Spring	No	
5619506	GCDC WWS	WOS/ Nat H2O	Shiawassee River	2012Spring	Yes	8/6/2012
5619517	GCDC WWS	WOS/Open Drain	Byram Lake Drain 0399	2012Spring	Yes	8/6/2012
5619518	GCDC WWS	WOS/Open Drain	Byram Lake Drain 0399	2012Spring	Yes	8/6/2012
6502511	GCDC 1257	WOS/Open Drain	ALGER CREEK 0141	2012Spring	Yes	8/2/2012
6532754	GCRC	WOS/Open Drain	Atherton & Ext Drain 0148	2012Spring	Yes	6/11/2012
6532755	GCRC	WOS/Open Drain	Atherton & Ext Drain 0148	2012Spring	Yes	6/11/2012
6534751	GCRC	WOS/Open Drain	Croft & Ext Drain 0011	2012Spring	Yes	6/11/2012
6610751	GCD 0943	WOS/ Nat H2O	Swartz Creek	2012Spring	Yes	8/7/2012
7501751	GCDC 1600	WOS/ Open Ditch	Messmore and Cromk 0464	2012Spring	Yes	7/25/2012
7502001	GCDC 1362	WOS/ Open Ditch	COLE CREEK 0764	2012Spring	Yes	7/24/2012
7502002	GCDC 1362	WOS/ Open Ditch	COLE CREEK 0764	2012Spring	Yes	7/24/2012
7502501	GCDC 1602	WOS/ Open Ditch	COLE CREEK 0764	2012Spring	Yes	7/24/2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
7507751	GCDC 1256	WOS/ Open Ditch	SMITH LYON DRAIN 1256	2012Spring	Yes	7/25/2012
7508757	GCDC 0648	WOS/ Open Ditch	MISTEGUAY CREEK 0648	2012Spring	Yes	7/25/2012
7517501	GCDC0452	WOS/Open Drain	Conlin Drain	2012Spring	Yes	7/25/2012
7518501	GCDC 0526	WOS/Open Drain	Hudson Drain 0526	2012Spring	Yes	7/31/2012
7518502	GCDC	GCDC 0563	GCDC 0563	2012Spring	Yes	7/25/2012
7533002	GCDC0457	GCDC 0457	GCDC 0457	2012Spring	Yes	8/7/2012
7533253	GCDC 0457	GCDC 0457	GCDC 0457	2012Spring	Yes	7/31/2012
7604231	GCRC	WOS/ Open Ditch	Hartshorn & Ext 0458	2012Spring	Yes	7/24/2012
7604233	GCRC	WOS/ Open Ditch	Hartshorn & Ext 0458	2012Spring	Yes	7/24/2012
7604235	GCRC	WOS/ Open Ditch	Hartshorn & Ext 0458	2012Spring	Yes	7/24/2012
7604237	GCDC 0262	WOS/ Open Ditch	Hartshorn & Ext 0458	2012Spring	Yes	7/24/2012
7604247	GCRC	WOS/ Nat H2O	Flint River	2012Spring	Yes	7/23/2012
7604249	GCRC	WOS/ Nat H2O	Flint River	2012Spring	Yes	7/23/2012
7608751	GCDC 0633	WOS/ Open Ditch	Chapman Drain 0009	2012Spring	Yes	7/23/2012
7616003	GCDC 0790	WOS/ Open Ditch	Chapman Drain 0009	2012Spring	Yes	6/4/2012
7616752	GCDC 0009	WOS/ Open Ditch	Chapman Drain 0009	2012Spring	Yes	7/23/2012
7617251	GCDC 0541	WOS/ Open Ditch	Chapman Drain 0009	2012Spring	Yes	6/4/2012
7621001	GCDC 0618	WOS/ Open Ditch	Ryant Drain	2012Spring	Yes	7/23/2012
7701252	GCDC 0665	WOS/ Open Ditch	Brier Creek Drain 0130	2012Spring	Yes	6/19/2012
7701253	GCDC 1530	WOS/ Open Ditch	Brier Creek Drain 0130	2012Spring	Yes	6/19/2012
7701257	GCDC 0620	WOS/ Open Ditch	Brier Creek Drain 0130	2012Spring	Yes	6/19/2012
7701527	GCDC 0120	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	6/19/2012
7701530	GCDC 0120	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	6/19/2012
7702002	GCDC 0146	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	6/21/2012
7702007	GCDC 0173	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	8/22/2012
7702767	GCDC 0325	WOS/ Nat H2O	Kearsley Creek	2012Spring	Yes	6/21/2012
7710006	GCDC 0491	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/26/2012
7710763	GCDC 1514	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7710775	GCDC 1514	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7710780	GCRC	GCDC 1514 pipe	Gilkey Creek 0017	2012Spring	Yes	6/7/2012
7711509	GCDC 1379	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/13/2012
7712504	GC school	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/20/2012
7712751	GCDC 0665	WOS/ Open Ditch	Gilkey Creek 0017	2012Spring	Yes	6/20/2012
7714003	GCDC 0610	WOS/ Open Ditch	Richards Drain 0042	2012Spring	Yes	6/7/2012
7723254	GCDC 0261	WOS/Open Drain	Gilkey, Coats Br 0261	2012Spring	Yes	6/13/2012
7723760	GCDC 1513	WOS/Open Drain	Gilkey Cr, Atherton Br 1513	2012Spring	Yes	8/22/2012
7729502	GCDC 0320	WOS/Open Drain	Schram & Ext 0320	2012Spring	No	
7806501	GCDC 0174	WOS/Open Drain	Cochran 0174	2012Spring	Yes	5/31/2012
7818002	GCDC 0368	WOS/ Open Ditch	Phillips 0080	2012Spring	Yes	8/22/2012
7830251	GCDC 0438	WOS/ Open Ditch	Phillips, East Branch 0319	2012Spring	Yes	8/22/2012
8525504	GCDC 0062	Open Water	Boman Drain 0062	2012Spring	No	

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
8605589	GCDC 0785	WOS/ Open Ditch	CENTRAL 0109	2012Spring	No	
8704752	GCDC 0070	WOS/ Open Ditch	Saxton Drain 1210	2012Spring	Yes	7/17/2012
8709251	GCDC 0070	WOS/ Open Ditch	Saxton Drain	2012Spring	Yes	7/17/2012
8715251	GCP&R	WOS/ Nat H2O	Flint River	2012Spring	Yes	7/17/2012
8715252	GCP&R	WOS/ Nat H2O	Flint River	2012Spring	Yes	7/17/2012
8715753	GCDC 0056	WOS/ Open Ditch	Hiller Drain 0056	2012Spring	Yes	8/20/2012
8721505	GCP&R	WOS/ Nat H2O	Flint River	2012Spring	Yes	8/20/2012
8723504	GCDC 0696	WOS/ Open Ditch	Carpenter Drain 0050	2012Spring	Yes	8/20/2012
8723505	GCDC 0050	WOS/ Open Ditch	Carpenter Drain 0050	2012Spring	Yes	8/20/2012
8724752	GCDC 0004	WOS/ Open Ditch	Crampton Drain 0012	2012Spring	Yes	8/20/2012
8725011	GCDC 0543	WOS/ Open Ditch	Crampton Drain 0012	2012Spring	Yes	8/20/2012
8726251	GCDC 0801	WOS/ Open Ditch	Crampton Drain 0012	2012Spring	Yes	7/17/2012
8726512	GCDC 0019	WOS/ Open Ditch	Crampton Drain 0012	2012Spring	Yes	7/17/2012
8726516	GCDC 1232	WOS/ Open Ditch	Crampton Drain 0012	2012Spring	Yes	7/17/2012
8812251	GCP&R	Lake	Holloway Reservoir	2012Spring	Yes	7/16/2012
8812252	GCP&R	Lake	Holloway Reservoir	2012Spring	Yes	7/16/2012
8812751	GCP&R	WOS/ Nat H2O	Holloway Reservoir	2012Spring	Yes	7/16/2012
8822251	GCDC 0542	WOS/ Open Ditch	Clark Drain #0184	2012Spring	No	
8826001	GCDC 0002	WOS/ Open Ditch	Bird Drain 0002	2012Spring	Yes	7/16/2012
9510509	GCDC WWS	WOS/ Nat H2O	Flint River	2012Spring	No	

Figure 10-5: Genesee County Drain Outfalls Investigated in 2011-2012

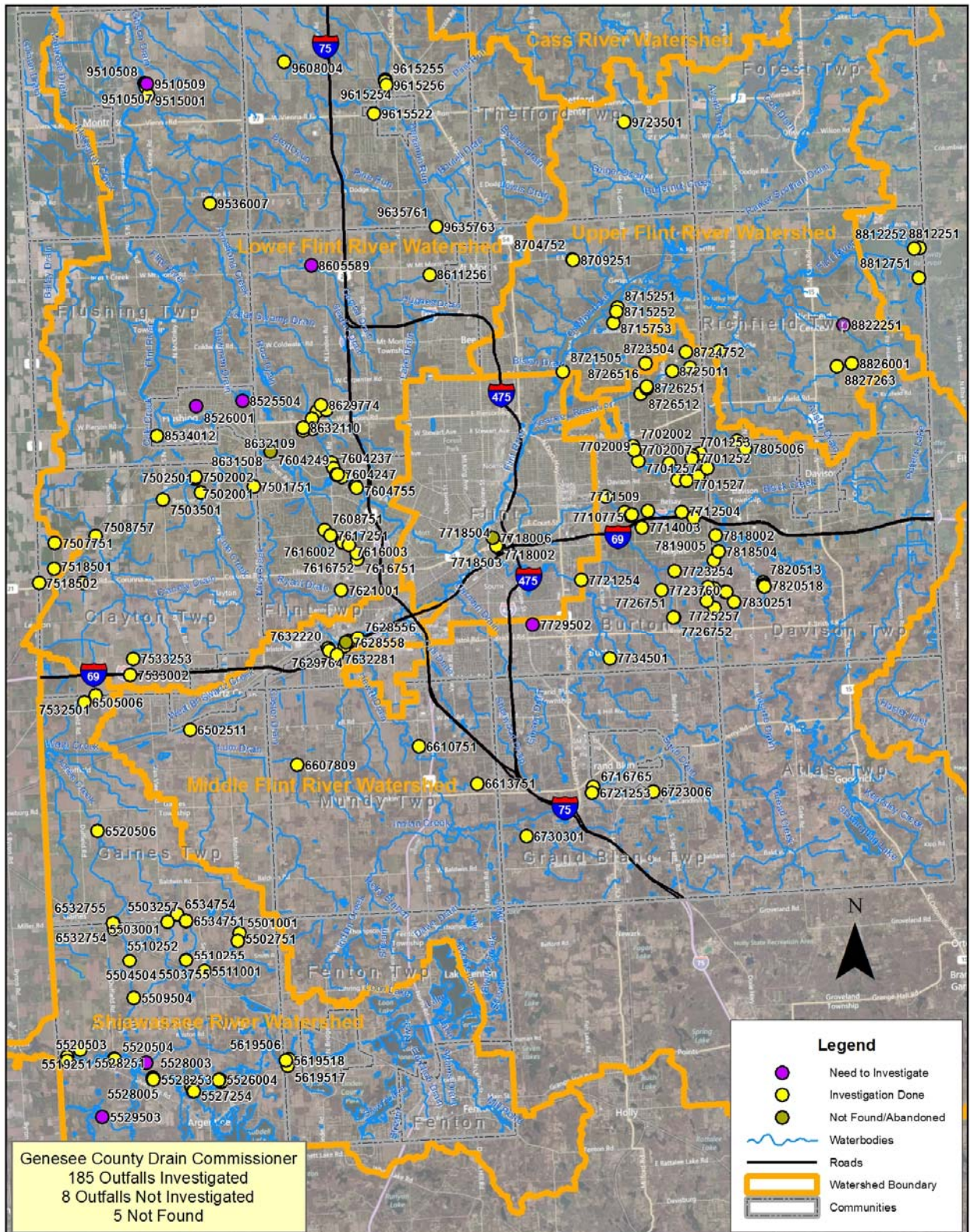


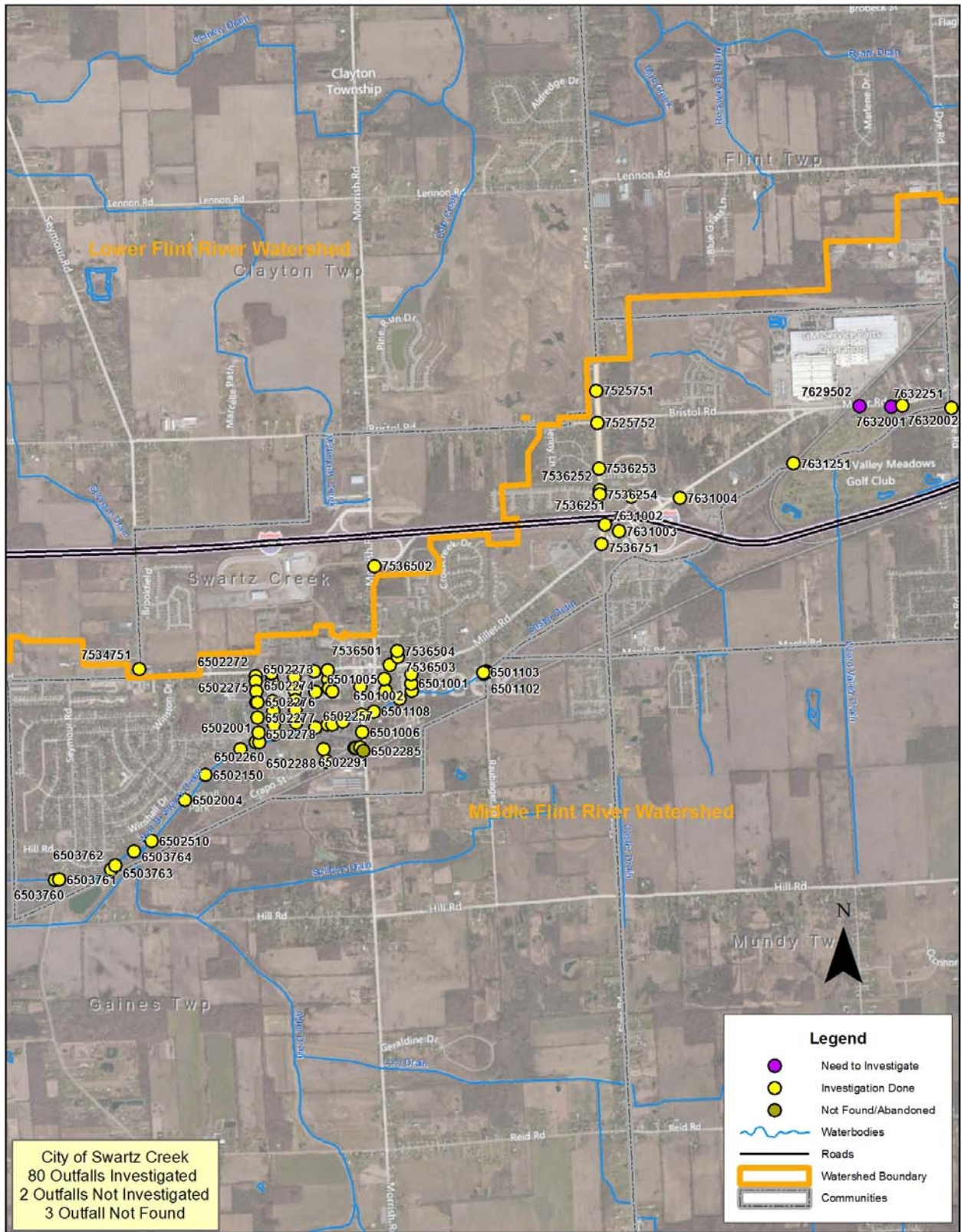
Table 10-6: City of Swartz Creek Outfalls Investigated in 2011-2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
6501001	C of Swartz Cr	GCDC 1079 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/21/2012
6501002	C of Swartz Cr	GCDC 1079 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/21/2012
6501003	C of Swartz Cr	GCDC 1079 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/21/2012
6501004	C of Swartz Cr	GCDC 1271 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/21/2012
6501005	C of Swartz Cr	GCDC 1271 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/21/2012
6501006	C of Swartz Cr	GCDC 1459 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6501102	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	5/21/2012
6501103	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	5/22/2012
6501104	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	8/2/2012
6501108	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	5/23/2012
6501301	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	5/21/2012
6501302	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	5/21/2012
6502001	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	5/22/2012
6502002	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	7/31/2012
6502004	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	5/22/2012
6502010	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/24/2012
6502011	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/24/2012
6502012	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/24/2012
6502013	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6502014	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/29/2012
6502015	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/29/2012
6502150	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	7/31/2012
6502251	C of Swartz Cr	GCDC 0355 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/24/2012
6502252	C of Swartz Cr	GCDC 0355 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/24/2012
6502253	C of Swartz Cr	GCDC 0355 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/30/2012
6502254	C of Swartz Cr	GCDC 0355 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/30/2012
6502257	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	8/2/2012
6502260	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	5/22/2012
6502261	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	8/2/2012
6502262	C of Swartz Cr	GCDC 0346 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/30/2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
6502263	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	5/23/2012
6502264	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/24/2012
6502265	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/30/2012
6502266	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/30/2012
6502267	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/30/2012
6502268	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6502269	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6502270	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/24/2012
6502271	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Not Found	Not Found
6502272	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/24/2012
6502273	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/24/2012
6502274	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/24/2012
6502275	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6502276	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6502277	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/30/2012
6502278	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/30/2012
6502283	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/30/2012
6502284	C of Swartz Cr	GCDC 0371 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/30/2012
6502285	C of Swartz Cr	GCDC 1459 pipe	Swartz Creek, West Branch	2012Spring	Not Found	Not Found
6502286	C of Swartz Cr	GCDC 0675 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6502287	C of Swartz Cr	GCDC 0675 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6502288	C of Swartz Cr	GCDC 0675 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6502289	C of Swartz Cr	GCDC 0675 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6502290	C of Swartz Cr	GCDC 0675 pipe	Swartz Creek, West Branch	2012Spring	Not Found	Not Found
6502291	C of Swartz Cr	GCDC 0675 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/23/2012
6502354	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	8/2/2012
6502356	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	8/2/2012
6502510	C of Swartz Cr	WOS/Open Drain	Swartz Creek, West Branch 0122	2012Spring	Yes	5/22/2012
6503760	C of Swartz Cr	WOS/ Nat H2O	Swartz Creek, West Branch	2012Spring	Yes	5/22/2012
6503761	C of Swartz Cr	WOS/ Nat H2O	Swartz Creek, West Branch	2012Spring	Yes	5/22/2012
6503762	C of Swartz Cr	WOS/ Nat H2O	Swartz Creek, West Branch	2012Spring	Yes	5/22/2012
6503763	C of Swartz Cr	WOS/ Nat H2O	Swartz Creek, West Branch	2012Spring	Yes	5/22/2012
6503764	C of Swartz Cr	WOS/ Nat H2O	Swartz Creek, West Branch	2012Spring	Yes	7/31/2012

Outfall Number	Owner	Outlets To	Receiving Waterbody	Date Tested	Investigated (Yes/No)	Date Investigated
7525751	C of Swartz Cr	GCDC 1231 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/29/2012
7525752	C of Swartz Cr	GCDC 1231 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/29/2012
7534751	C of Swartz Cr	GCRC Ditch	Sprague	2012Spring	Yes	5/30/2012
7536251	C of Swartz Cr	GCDC 1231 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/29/2012
7536252	C of Swartz Cr	GCDC 1231 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/29/2012
7536253	C of Swartz Cr	GCDC 1231 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/29/2012
7536254	C of Swartz Cr	GCDC 1231 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/29/2012
7536501	C of Swartz Cr	GCDC 1079 pipe	Swartz Creek, West Branch	2012Spring	Yes	8/2/2012
7536502	C of Swartz Cr	MDOT	Swartz Creek, West Branch	2012Spring	Yes	5/21/2012
7536503	C of Swartz Cr	GCDC 1079 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/21/2012
7536504	C of Swartz Cr	GCDC 1079 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/21/2012
7536751	C of Swartz Cr	GCDC 1231 pipe	Swartz Creek, West Branch	2012Spring	Yes	5/29/2012
7629501	C of Swartz Cr	GCDC 0189 pipe	Swartz Creek, West Br 0122	2012Spring	Yes	6/4/2012
7629502	C of Swartz Cr	GCDC 0189 pipe	Swartz Creek, West Br 0122	2012Spring	No	
7631001	C of Swartz Cr	MDOT	Swartz Creek, West Br 0122	2012Spring	Yes	5/29/2012
7631002	C of Swartz Cr	MDOT	Swartz Creek, West Br 0122	2012Spring	Yes	5/29/2012
7631003	C of Swartz Cr	MDOT	Swartz Creek, West Br 0122	2012Spring	Yes	5/29/2012
7631004	C of Swartz Cr	WOS/ Open Ditch	Swartz Creek, West Br 0122	2012Spring	Yes	5/29/2012
7631251	C of Swartz Cr	WOS/ Open Ditch	Swartz Creek, West Br 0122	2012Spring	Yes	8/2/2012
7632001	C of Swartz Cr	GCDC 1270 pipe	Swartz Creek, West Br 0122	2012Spring	No	
7632002	C of Swartz Cr	GCDC 0189 pipe	Swartz Creek, West Br 0122	2012Spring	Yes	6/4/2012
7632251	C of Swartz Cr	WOS/ Open Ditch	Swartz Creek, West Br 0122	2012Spring	Yes	6/4/2012

Figure 10-6: City of Swartz Creek Outfalls Investigated in 2011-2012



Appendix A

Our Water Newsletter

Water Education Posters

Riparian Workshop Information

Booth Results

FRWC Newsletters

Friends of Flint River Trail Newsletter

GCD Newsletters

GREEN Report & Summit

Benthic Monitoring Results

Other Water Programs

Household Hazardous Waste Flyers

River Cleanups

Boats, Bikes Bricks Flyer

Genesee co Parks Programs



MDEQ

June 13 / October 1 meetings

On June 13 and October 1 the new permit advisory group met with the MDEQ to go over the new 2013-2017 permit. The biggest change for Genesee County Communities and Nested Jurisdictions is there is no more watershed permits. All new permits issued will be individual permits. Communities can still work together and combine services, but each permit will be custom to each permittee. Instead of filling out a brief application and then spelling out the details of your Certificate of Coverage (COC) in your Storm Water Pollution Prevention Initiative (SWPPI), now all those details will have to be included in the application process so each community permit can be customized. Recognizing that the application process will be much more labor intensive, the MDEQ has decided to phase in the permits over several years. Instead of applying for the new 2013 permit this year, the Flint River Watershed area will go through the application / permit process in 2014-15. This also means that your community will continue to be covered under the 2003 permit until the new permit takes effect some time in 2015.

SWPPI

On June 11, 2012 the MDEQ sent the Drain office a letter with concerns and comments on the County's SWPPI that was resubmitted in Oct 2011. Our office and Tetra Tech met with Stephanie Kammer of the MDEQ and went over those concerns. Based on the letter and our meeting the County's SWPPI was revised and resubmitted in July. Once the County's SWPPI has been accepted, the local communities can expect to see a letter from the MDEQ to revise their SWPPI. Sue from the Drain Commissioner's Office will be available to assist with any SWPPI related concerns.

Annual Report

On July 27, 2012 the MDEQ sent out a letter to permittees notifying them that effective October 1, 2012, the progress report for the NPDES PH II permit will change from annual to biennial (every other year). This is often referred to as the annual report. For continuity the Drain Commissioner's Office sent out questionnaires this October to the Communities and Nested Jurisdictions to report on their activities from Oct 1, 2011 to September 30, 2012. Permittees were requested to fill out the questionnaire and keep it for submission in 2013. Nested Jurisdictions were requested to fill out the questionnaire and submit it to the Drain Commissioner's Office. Next fall another annual questionnaire will be sent out and both this years and next's will then be submitted together to the State as the biennial progress report.

Public Education

Public Education Booth

Once again in August, we spent the week at the County Fair educating the public on water quality. Thank you to all the community volunteers that took a shift and help educate. This year we made a new arrangement with the Conservation district to provide staff to work the education booth both at the Fair and at other events. It has worked out great. Last year we were able to speak to 662 people, but with the beautiful weather and the additional staff to support the volunteers we were able to double that number and speak to over 1334 people at the fair. Also this fall we had a presence at the CRIM races for the first time and have had the booth at both the Flint and Grand Blanc Farmers Markets.

Riparian Meetings

Once again we offered free workshops to riparian land owners. For those residents that live on the water, specifically this year those who live on the Swartz Creek, Misteguay Creek or the Lower Flint River, they may have different concerns than residents that do not live on the water. Over the years we have spoken to many riparian landowners that are concerned about bank erosion, nuisance animals such as beavers and their dams, and more recently garbage and debris stockpiling in the water. These workshops have provided us the opportunity to meet with residents in small groups and discuss their specific concerns, and possible solutions.

IDEP

As we close on the 2011-12 fiscal year we have completed a significant portion of the IDEP dry weather screening. All of the Phase II permittees, except those listed below have had their outfalls mapped and dry weather screened. If an Illicit connection is confirmed a letter is sent to all affected parties, the property owner, the local community, the State of Michigan DEQ, and any other enforcement agencies such as the Health Department. Once the illicit connection is eliminated, the Drain Commissioner's Office will follow up to confirm the illicit connection has been eliminated.

An Illicit connection or an isolated dumping is often found through methods other than dry weather screening. Such as a resident can call reporting an incident, or an employee can witness a potential illicit connection while out in the field for another reason. Once you are notified of a potential illicit connection, a record must be kept even if you are not the enforcing authority. The monitoring and Mapping Subcommittee has created a spill notification form for your convenience. The form can be found on our website at the following address http://www.gcdcswm.com/PhaseII/Permit_Forms/Permit_Form.htm or in the IDEP plan as an attachment. These records should be kept, so you can include them in your annual report.

Due to the number of outfalls involved, not all Genesee County and City of Burton outfalls have been mapped and dry weather screened.

As part of the IDEP mapping, all the nested jurisdictions under Genesee County have been sent a letter this month requesting maps of their storm sewer systems. Starting this fall the County through Tetra Tech will be scheduling on site physical inspections for nested jurisdictions to review the storm operation and maintenance procedures. This program will not affect Local communities.

How you can help keep our water clean

There are seven simple steps to clean water. How many of these seven simple steps did you do this week?

1. Practice good car care.

Have you ever noticed a rainbow colored puddle on a parking lot or the street? The rainbow colors that you see are caused by



petroleum products like oil and gas. Car oil does not mix with water; it sits on top of water. Cars leak

oil when they are broken. A single drop of oil can pollute many gallons of water! To keep our water clean, keep cars fixed.

2. Fertilize sparingly & carefully.

Storm drains found in streets and yards go into our lakes and streams. So, when we fertilize our lawn we could also be fertilizing our lakes and streams. Fertilizer is good for our lawn, but it is bad for our water.

3. Clean up after your pet.

Did you know that pet waste has bad bacteria in it that can make animals and humans sick? To keep our water clean, pick up the waste from your pets and put it in the trash.



4. Save water.

When we put too much water on our yards, the extra water carries pollution into storm drains that lead to our rivers and lakes.

Remember, storm drains lead to our lakes and rivers!

5. Choose earth-friendly landscaping.



The chemicals we put on our lawns and gardens to kill weeds can pollute our lakes and rivers if washed into storm drains.

6. Carefully store & dispose of household cleaners, chemicals, & oil.

Did you know that many household cleaners and chemicals can be dangerous to us, our pets, and the environment if they are not thrown away properly? These materials pollute our waterways if washed or dumped into storm drains.



7. Keep pollution out of storm drains.

Storm drains and roadside ditches lead to our lakes and streams. So, any oil, pet waste, leaves or dirty water from washing your car that enters a storm drain will get into our lakes and streams.



The car oil I spill on the parking lot and the napkin I drop in the street are not a lot. When added to everyone else's spills and litter, it adds up to create a big problem!

Let's make one thing
Perfectly Clear.
our water
Genesee County Community Water Quality Consortium

www.cleargenesewater.org

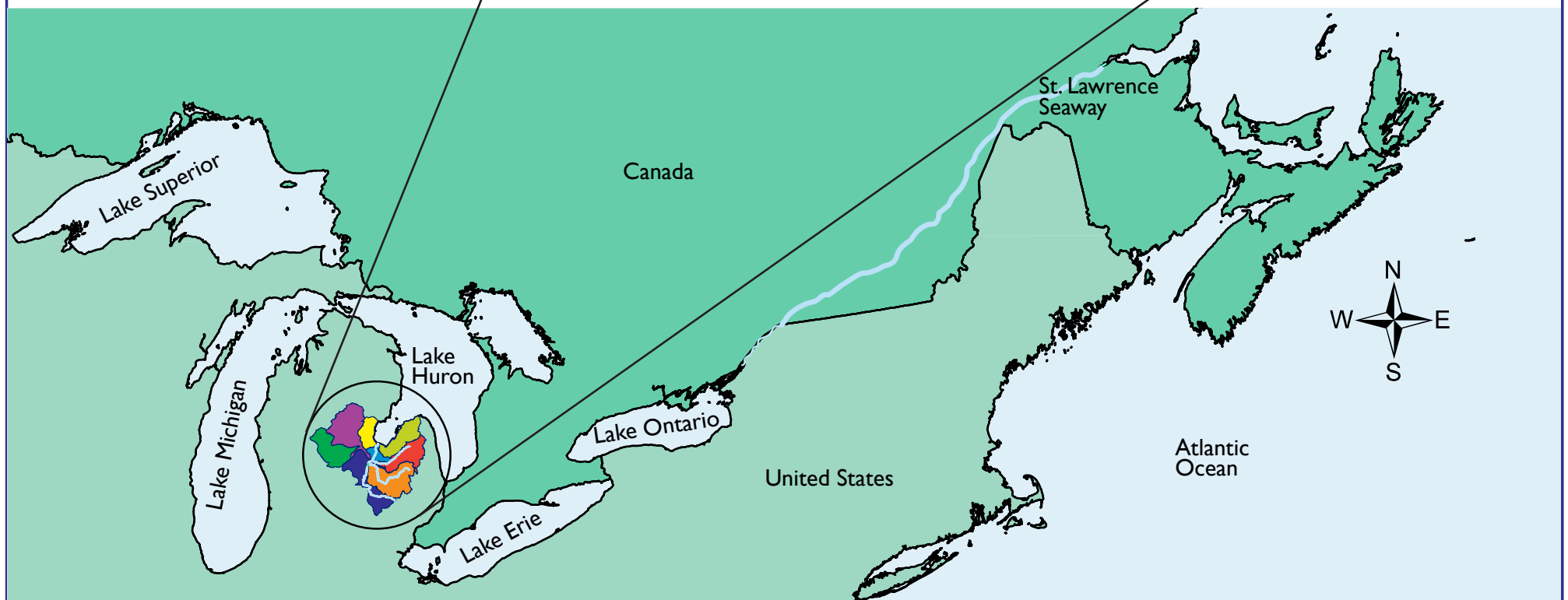


Oceans, Lakes and Rivers Are Connected

A watershed is the area of land that drains water into a particular river, lake or even ocean. Everything we do on the land effects "Our Water." When rain falls to the ground, it travels over top of land or underground into lakes, rivers, streams and creeks.

This is the Saginaw Bay Watershed. The Saginaw Bay Watershed is made up of many smaller watersheds. Can you find the Flint River? The Flint River Watershed is one of the smaller watersheds that together with other watersheds, like the Cass River or Shiawassee River Watersheds, help form the Saginaw Bay Watershed. The Flint River Watershed is part of the Saginaw Bay Watershed, which is part of the larger Lake Huron Watershed.

The Flint River Watershed covers most of Genesee County. There are two other major watersheds in Genesee County: the Shiawassee River Watershed and the Cass River Watershed. Can you find the Shiawassee River Watershed at the Southwest corner of Genesee County and the Cass River Watershed in the North?



Legend

- Michigan Counties
- Genesee County
- Water
- Canada
- United States

Saginaw Bay Watersheds

- 1 Cass River Watershed
- 2 Flint River Watershed
- 3 Kawkawlin-Pine River Watershed
- 4 Pigeon-Wiscoggin River Watershed
- 5 Pine River Watershed
- 6 Saginaw River Watershed
- 7 Shiawassee River Watershed
- 8 Tittabawassee River Watershed

Watersheds fit together like little bowls inside of bigger ones. The Flint River drains into the Saginaw River and the Saginaw River drains into the Saginaw Bay. Therefore, the Flint River is part of the Saginaw Bay Watershed. Saginaw Bay is part of the Lake Huron. Lake Huron drains to Lake Erie, then to Lake Ontario, then through the St. Lawrence River and finally all the way to the Atlantic Ocean! Now that you know how water travels from Genesee County to the Atlantic Ocean, can you trace the path on this map?



What Is Your Watershed Address?

The Flint River Watershed is made up of smaller watersheds called sub-watersheds. They are shown on this map in different colors. Can you find the sub-watershed where your city or town is located?

How Do Watersheds Get Their Name?

A watershed is the area of land that drains water into a particular river, lake or even ocean. Watersheds are named after the lake, stream or river where that area of land's water drains into. For example, the Flint River Watershed is called that because the Flint River is the water body where that watershed drains to. Similarly, the Gilkey Creek Sub-Watershed is called that because that particular area of land drains to the Gilkey Creek.

What Watersheds Do You Live In?

We are all a resident of a watershed, just like we are residents of a county and town in Michigan. Every one of us has a watershed address. In Genesee County, we are part of a big watershed called the Great Lakes Basin, the Saginaw Bay Watershed and either the Flint River, Cass River or Shiawassee River Watersheds. We also live within a sub-watershed of the Flint River, Cass River or Shiawassee River Watersheds.

Use this space to write down your watershed address.

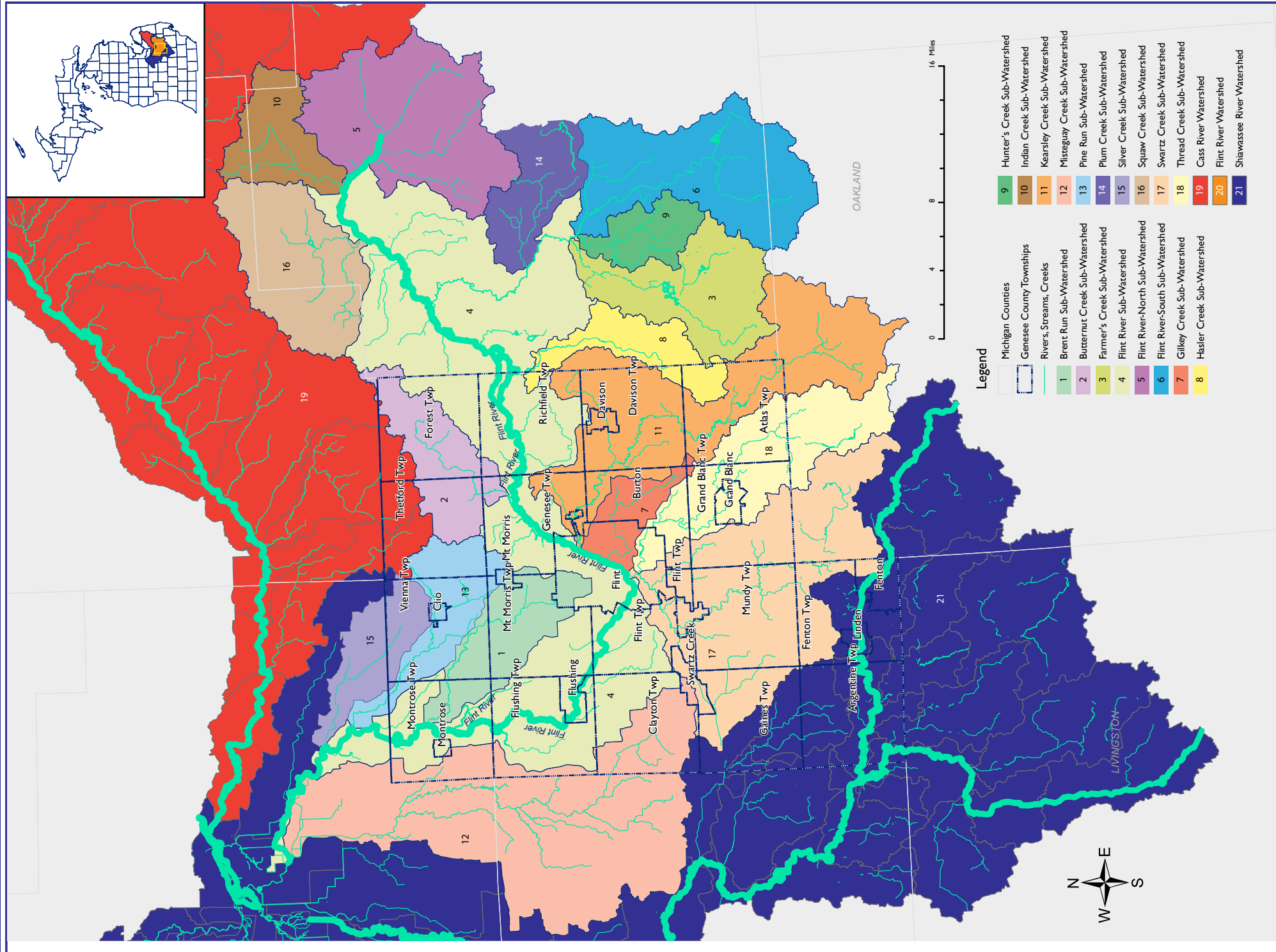
Street Address	Watershed Address
Country: United States	Ocean: Atlantic Ocean
Region: Great Lakes	Major Water Body: Great Lakes
State: Michigan	Major Bay: Saginaw Bay, Lake Huron
County: Genesee	Large River: Flint/Shiawassee/Cass River
Town/City: _____	Tributary River/Creek: _____

Let's make one thing
Perfectly Clear.

our water
Genesee County Community Water Quality Consortium



www.cleargeneseewater.org



In What Sub-Watershed Is Your School Located?

This map shows your school. Can you find it?
Are there any nearby rivers, streams or creeks?

In what sub-watershed is your school located?

As townships, towns and cities grow, more roads and parking lots have to be built. However, when it rains or snows, pavement does not soak up water. Do you see any paved parking lots or roads outside your school?

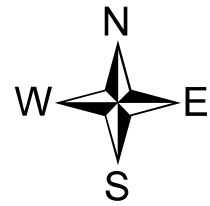
Unfortunately, as clean rain or snow melt (also called storm water) flows over pavement or the ground, it picks up and carries with it pollution like dirt, litter, oil, leaves and animal waste into storm drains. Where does storm water go after it flows into a storm drain?

The storm water that enters storm drains flows directly to our lakes, rivers and streams, carrying all the pollution it has picked up along the way. Common pollutants that wash into our lakes, rivers and streams in storm water include:

- Car fluids such as motor oil or gas
- Chemicals used to kill weeds or fertilizers to grow lawns and gardens
- Pet wastes
- Litter
- Soil from bare ground where vegetation has been removed or killed

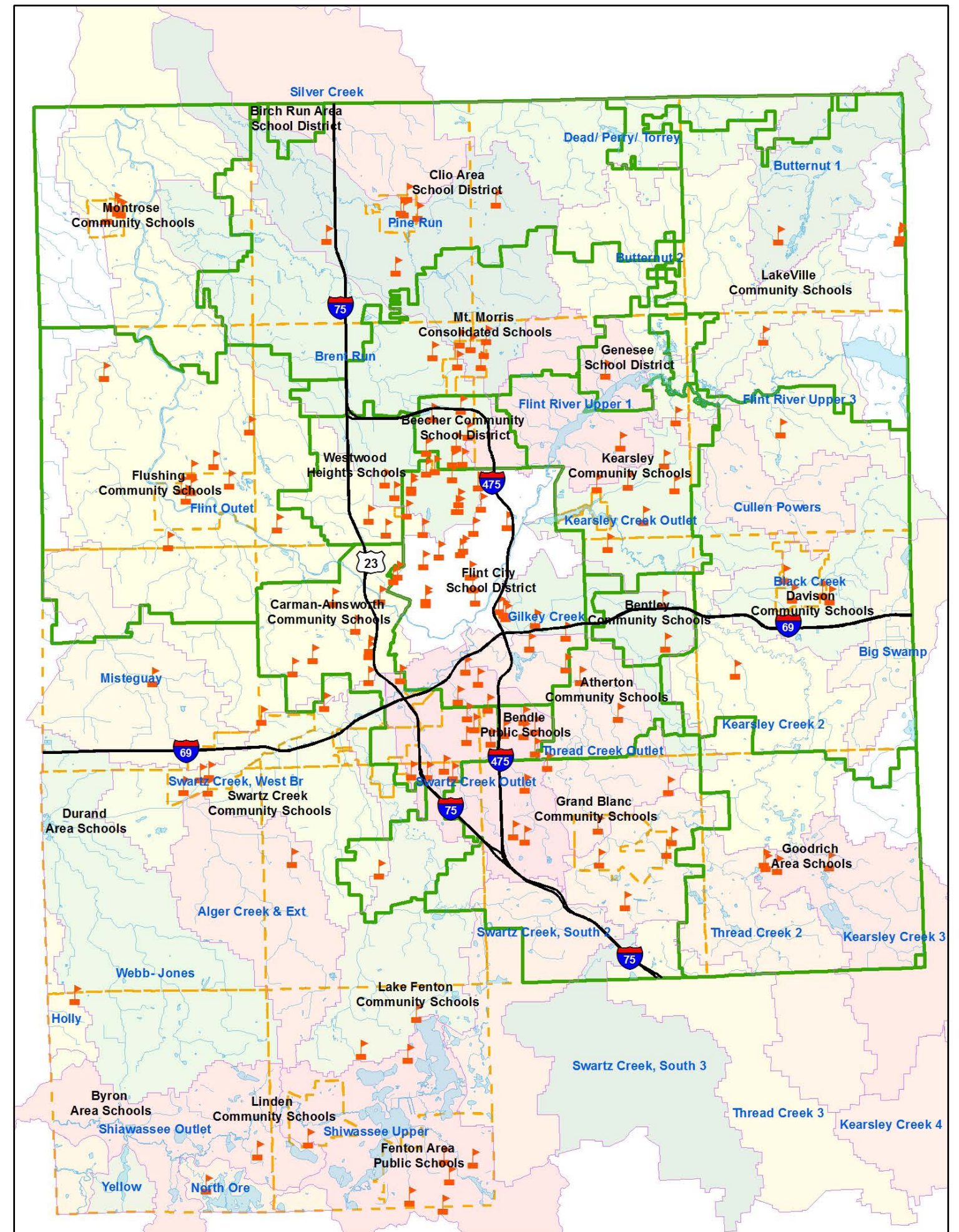
When polluted storm water enters our lakes and rivers, it can cause many problems:

- The plants and animals that live nearby may become sick.
- The humans who drink the water or use it for swimming may become sick.
- The humans who live next to water may notice a bad odor or excessive growth of algae.
- The humans or animals that eat the fish from that polluted water might get sick.



Legend

- School Locations
- Roads
- Waterbodies
- Communities
- School Districts



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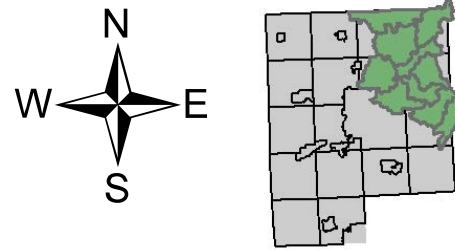
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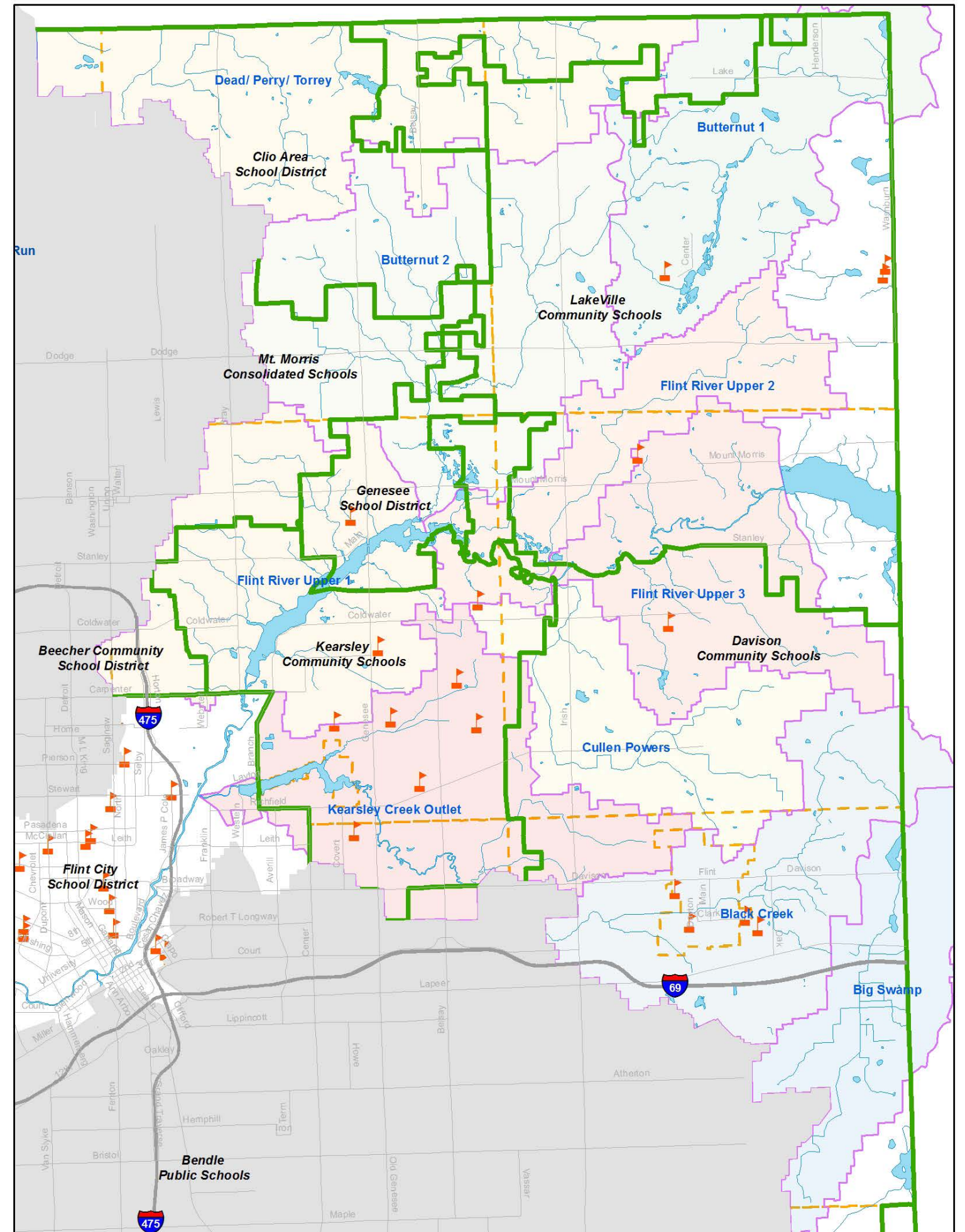
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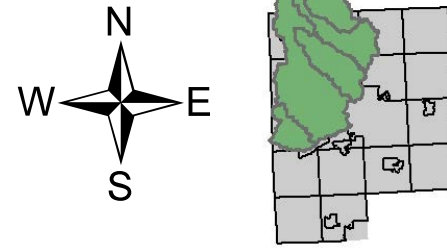
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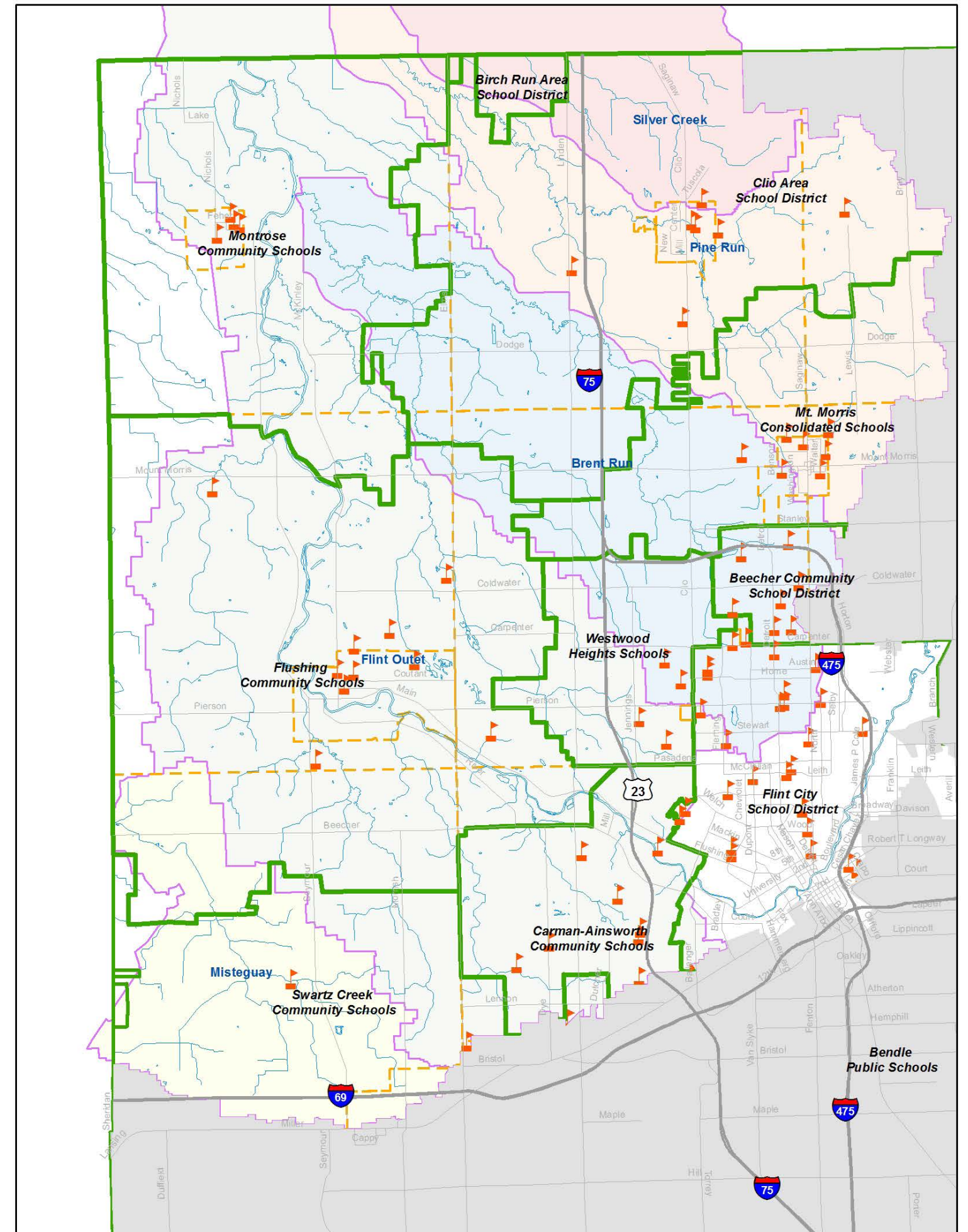
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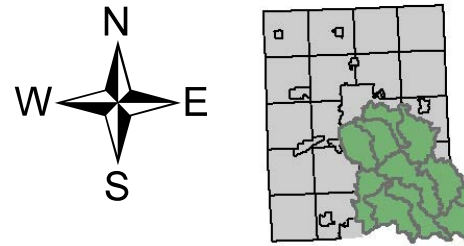
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Let's make one thing
Perfectly Clear.
our water
Genesee County Community Water Quality Consortium



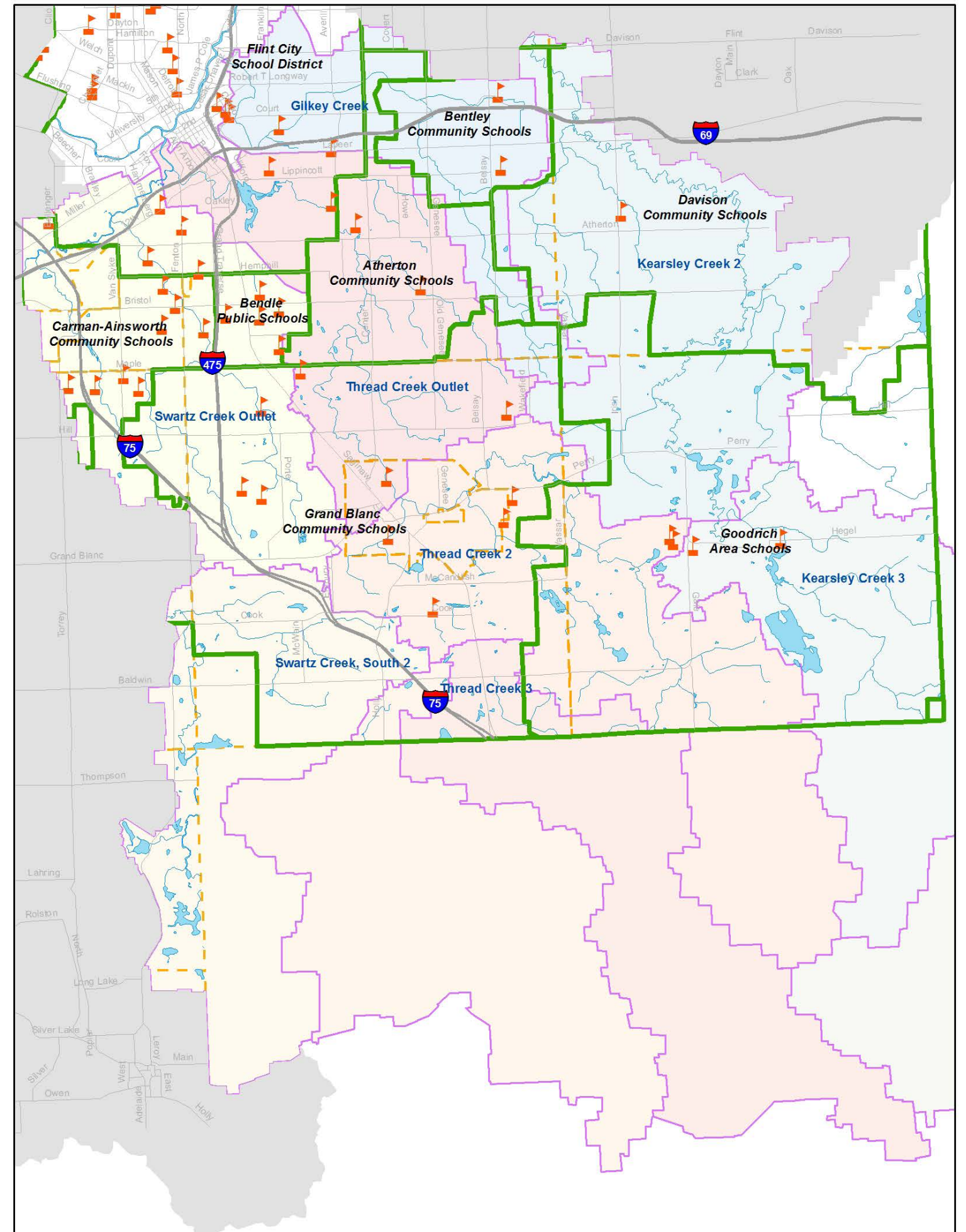
This is why we need to work together and follow
the seven simple steps to keep our water clean!

www.cleargenesee.org



Legend

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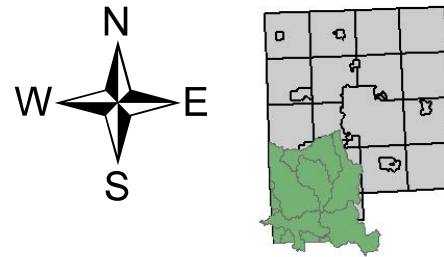
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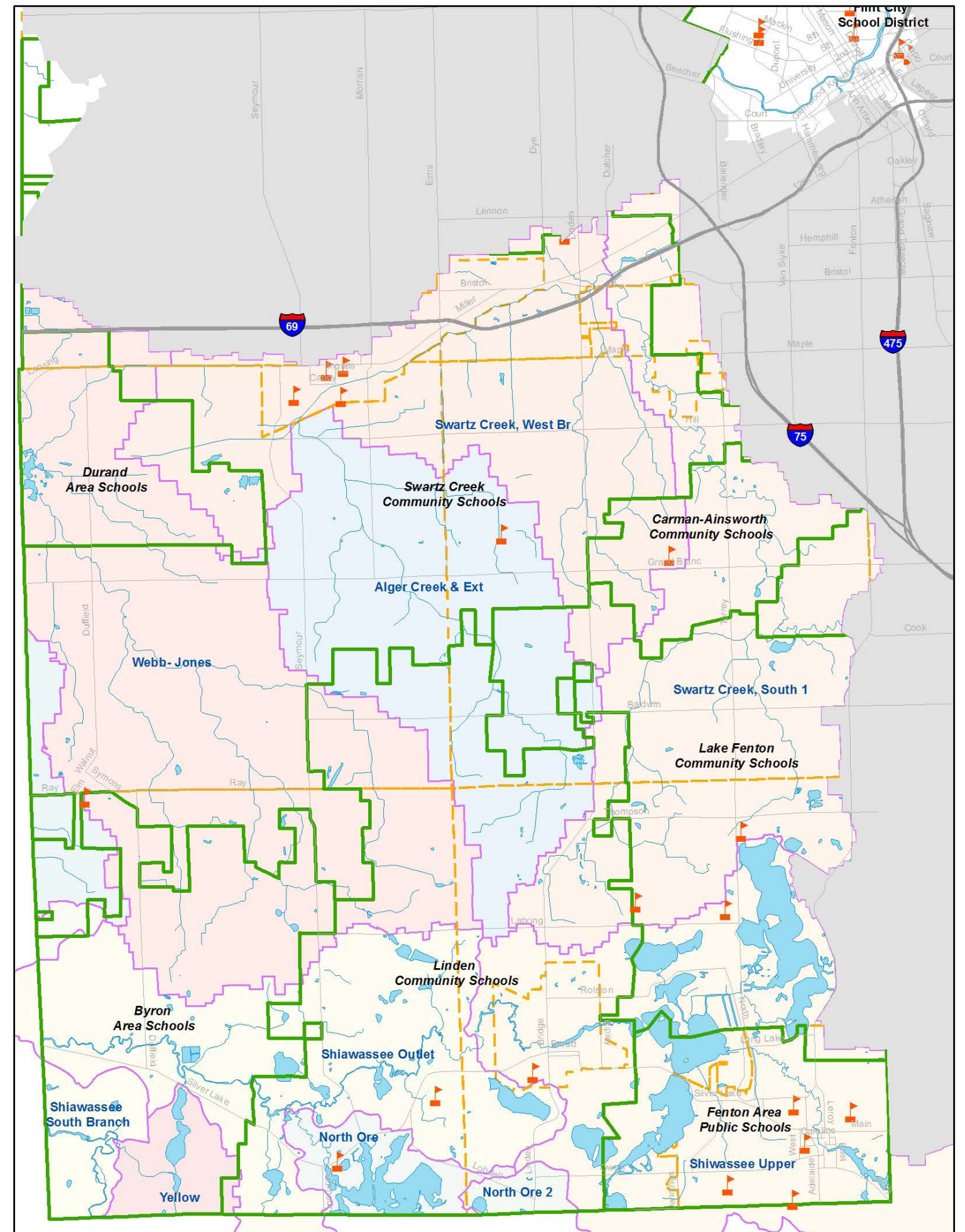
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Legend

- School Locations
- Roads
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The Water's Edge

How to protect your waterfront property and its value

FREE workshops offered to waterfront landowners in the Swartz Creek, Misteguay Creek and the Lower Flint River Watersheds,

brought to you by the communities of Genesee County.

September 12, 2012 6:30-8:00pm

Mundy Township Hall, 3478 Mundy Ave, Swartz Creek MI 48473

September 19, 2012 6:30-8:00pm

Flushing Community Center (Tom & Gean Parrish Center), 311 E. Main St. Flushing MI 48433 [Parking in Back]

OR

September 20, 2012 6:30-8:00pm

Mt. Morris Library, 685 Van Buren Ave, Mt. Morris MI 48458

Overview:

Genesee County and the communities of Swartz Creek, Misteguay Creek and the Lower Flint River Watersheds are fortunate to have an abundance of lakes, rivers, streams, and creeks. Your waterfront land management practices, both good and poor, impact the value of your land and the health of our water. Simple actions taken today can protect your property and our water into the future.

The communities of Genesee County, in partnership with the Genesee County Drain Commissioner's Office, will be holding three educational workshops for waterfront landowners in these watersheds. These workshops will provide waterfront property owners with a range of low-cost and ecologically-sensitive practices for protecting waterfront property, reducing stream bank and shoreline erosion, and effectively managing stormwater. All workshops are the same, landowners need only to attend one of the three workshops. By attending one workshop, participants will learn about a range of opportunities available to improve land management practices and save money. Participants will also walk away with the resources and contacts needed to assist them in protecting their waterfront property and restoring water quality. *Light refreshments will be served.*

Registration Information:

Contact Kristin Martinez at (810) 230-8766 Ext 3 or kristin.martinez@macd.org to register for ONE of these workshops.

Please RSVP by 5pm on Sept 7th for the Sept 12th workshop and by 5pm on Sept 14th for the other two workshops – limited space is available.



Riparian Landowner Workshops – 2012

The Water's Edge: How to protect your waterside property and its value

Come to one of three FREE workshops offered to waterside landowners in the Brent Run, Butternut Creek, Pine Run, Silver Creek and Upper Flint River Watersheds, brought to you by the communities of Genesee County.

Overview:

Genesee County and the communities of Swartz Creek, Misteguay Creek and Lower Flint River Watersheds are fortunate to have an abundance of lakes, rivers, streams and creeks. Your waterside land management practices, both good and poor, impact the value of your land and the health of our water. Simple actions taken today can protect your property and our water into the future.

The communities of Genesee County, in partnership with the Genesee County Drain Commissioner's Office, will be holding three educational workshops on September 12th, 19th and 20th for waterside landowners in the Swartz Creek, Misteguay Creek and Lower Flint River Watersheds. The workshops will provide waterside property owners with a range of low-cost and ecologically-sensitive practices for protecting waterside property, reducing stream bank and shoreline erosion and effectively managing storm water. By attending one of these three workshops, participants will learn about a range of opportunities available to improve their land management practices and save money. Participants will also walk away with the resources and contacts needed to assist them in protecting their waterside property and restoring water quality.

Stakeholder Identification:

The Genesee County Drain Commissioner's Office will identify riparian landowners in the Swartz Creek, Misteguay Creek and Lower Flint River Watersheds using GIS.

Locations:

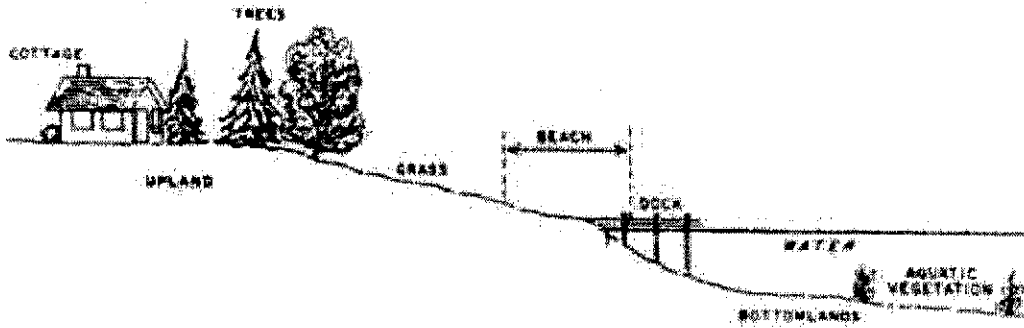
- Swartz Creek (September 12)
 - Mundy Twp Hall
- Misteguay Creek (September 19)
 - Flushing Community Center
- Lower Flint River Watersheds (September 20)
 - Mt. Morris Library

Outline for all three workshops, 6:30-8pm:

Throughout: emphasis on economic benefits

- I. Sue Kubic (30 minutes)
 - a. Context and background
 - i. Introductions
 - ii. Problem statement – why we are doing this
 - iii. Phase II program overview – direct them to our website
 - iv. What is a watershed?
 - b. Our Water educational message
 - i. Managing yard, home, and animal waste
 - ii. Water friendly lawn care
 - iii. Maintaining boats and other vehicles
 - iv. Minimizing stormwater runoff
 - v. Septic tank maintenance
- II. Second Speaker (40 minutes) – embedded with examples and pictures
 - a. Why we want to stabilize streambanks and shorelines
 - i. To save money in the long-term
 - ii. Keeps waterside landowners from losing land through erosion
 - iii. Streambank/shoreline protection
 - iv. Runoff control
 - b. Quick overview on the variety of techniques for stabilizing the streambanks and shorelines (hard and soft) to give context. Include examples (the ones listed below are not necessarily the examples needed, but something similar to show range of options...please include live plantings, though)
 - i. Bank Shaping
 - ii. Engineered structures (hard armoring), when needed and not needed
 1. Riprap revetments, Breakwaters?, Groins?, Gabions?
 - iii. Bioengineering
 1. Vegetated geogrids, brush mattress, tree revetments, coconut fiber roll, etc.
 - iv. Live Plantings
 1. Vegetation – buffers
 2. Live stakes
 3. Branch Packing
 4. Live fascines
 - v. The best technique will depend on your situation—the size and location of your stream or shoreline, and the cause and severity of the erosion. In many cases, the best approach is to use a combination of techniques. Many of the previously mentioned stabilization techniques may require the consultation of an expert, however, there are solutions that can be easily implemented without the input of others: vegetated buffers.
 - c. Emphasis on vegetative buffers – overview of buffers
 - i. What are they?
 - ii. Do I have a buffer?

1. Good opportunity to engage audience in thinking about their own property – pictures will be helpful.
 - iii. Benefits of buffers
 1. Used preventatively, can save money in the long term
 2. Relatively easy to establish and maintain
 3. Visually attractive
 4. Potential to repair itself when damaged
 5. Pollutant attenuation/nutrient uptake capacity
 6. Habitat for fish and wildlife
 - iv. Types of buffers (not inclusive list, use best judgment as to the best ones to list)
 1. Filter strips
 2. Riparian forest buffers
 3. Shelter belts?
 4. Contour grass strips - maybe
 - v. How to establish buffers
 1. Establishing management zones
 2. Sizing – widths
 3. Plant choice
 - a. Soil testing/local conditions
 - b. Native versus non-native
 - i. Examples of long grasses that look nice, perennials, etc.
 - d. Quick Summary
 - e. Next steps/Resources available
- III. Speaker (10 minutes)
- a. Legalities
 - i. Riparian rights
 - ii. Relevant ordinances
 - iii. Permits (when they are and aren't required)
 1. DEQ permit
 2. Soil Erosion permit (unless from Grand Blanc and/or City of Burton in which case you should contact the municipality)
- IV. Questions/Discussion (10 minutes)



**Riparian (land adjacent to water) rights are property rights.
 Riparian rights are inherent in a riparian parcel of land.
 A parcel of land must border a natural body of water to be identified as riparian.**

If you own a riparian parcel of land you own:

- The upland.
- Your building and dock.
- The bottomland offshore from your lot.
- The aquatic vegetation growing on your bottomland.
- The ice above your bottomland.
- The right to fish, hunt, swim and boat on the entire lake surface in common with all other riparian property owners.
- You have exclusive rights to use:
 - Your upland
 - Your beach
 - Your bottomland to anchor offshore docks, rafts, etc.

Riparian Rights In Michigan Inland Lakes & Streams By Donald Winne

Riparian rights are enjoyed only on land which abuts a natural water course. Those rights are of two kinds, natural and correlative. Natural rights include those uses "necessary for the existence of the riparian proprietor and his family, such as to quench thirst and for household uses".

Correlative rights "are those which merely increase one's comfort and prosperity and do not rank as essential to his existence, such as commercial profit and recreation". Correlative rights must be reasonable at all times and cannot encroach or infringe unreasonably upon the use of the surface of the lake or stream by other riparians and members of the public.*

A person who owns land abutting an inland lake or stream in Michigan may:

- Install a pier anchored to his bottomland.
- Moor a boat anchored to his bottomland.
- Harvest ice from above his bottomland.
- "Controls any temporarily or periodically exposed bottomland to the water's edge, wherever it may be at the time and holds the lands secure against trespass in the same manner as his upland subject to the public trust to the ordinary high-water mark."

(Act 346, P.A. (OF 1972, Section 12.)

A person who owns land abutting an inland lake or stream in Michigan may NOT:

- Permanently anchor a raft or moor a boat on the bottomland that belongs to another riparian property owner.
- Install a pier an unreasonable length out into a lake or stream.
- Dedicate the surface or any portion thereof of a lake or stream without a permit from the Department of Natural Resources.
- Cannot transfer his riparian rights to another person.
- Cannot unreasonably restrict the use of the surface of a lake or stream by members of the public.
- Cannot build a seawall or jetty closer to the water's edge than at the high-water mark.
- May not dredge or place fill in a lake or stream without a permit from the Department Natural Resources.

* Quotes are from *Thompson vs. Enz*, 379 Mich 667, after remand 385 Mich. 103 (1971).

Possible permits:

State of Michigan Department of Environmental Quality: 1-800-662-9278

Permits are required for:

- Activities that occur within **Inland Lakes and Streams** or below the ordinary high water mark.
- Activities within **Wetlands**. A wetland is land characterized by the presence of water at a frequency or duration to support wetland vegetation or aquatic life and is commonly referred to as a bog, swamp or marsh. A regulated wetland is one connected to or less than 500 feet from the Great Lakes or an inland lake or stream or being of an area 5 acres or more in size.
- Activities within a (100-year) **Floodplain** and Floodway of a river, stream, drain or inland lake.

Genesee County Drain Commissioner's Office- Soil Erosion 810-732-7870

A permit is required for all earth change activities within 500 feet of a lake or stream. Earth changes greater than 1 acre in area still require a permit regardless of its distance to a lake or stream.

Genesee County Drain Commissioner's Office-Surface Water 810-732-1590

A permit is required for all work within a drain easement or on the drain wither it is an open ditch or pipe.

Local City, Township or Village

Permits vary based on local ordinances.

Does this project require a permit?

Most shoreline restoration projects will require a permit. Please read on.

- If you will be working **below the Ordinary High Water Mark (OHWM)** or **below the highest legal lake level** you will need a permit from the Michigan Department of Environmental Quality under Part 301 (Inland Lakes and Streams) of the Natural Resource and Environmental Protection Act (PA 451). For a permit application go to:
www.michigan.gov/deq
 - >Permits
 - >MDEQ/USACE Joint Permit Application (under 'Water')
 - >Do I need a Land/Water permit? (Helpful decision-making document)
 - Or go directly to:
 - >MDEQ/USACE Joint Permit Application

- If you will be disturbing soils, removing existing vegetation or changing topography **within 500 feet of a lake or stream** you will need a permit from the county soil erosion inspector under Part 91 (Soil Erosion and Sedimentation Control). There are certain exemptions for residential properties - check with your county or municipal soil erosion office. To locate an office go to:
www.michigan.gov/deq
 - >Permits
 - >Soil Erosion and Sedimentation Control Permit (under 'Land')
 - >Soil Erosion and Sedimentation Control Agencies
(a query by county produces contact information)

- Wetlands contiguous to inland lakes and streams are regulated by the state of Michigan under Part 303 (Wetlands Protection). If you are unsure about the existence of a **regulated wetland** in your project area, go to:
www.michigan.gov/deq
 - >Water
 - >Wetlands Protection
 - >Wetland Identification Program
 - Or go directly to:
 - >Wetland Permits

- Always check with the appropriate agencies/offices during the planning stages. Some projects will require **more than one permit**. Allow at least 90 days to get permits in place.

Updated November 2007 by Jane Herbert, MSUE District Water Quality Educator with assistance from Nancy Deskins and Dick Mikula, MDEQ Land and Water Management Division

**MICHIGAN STATE
UNIVERSITY
EXTENSION**



Information Booth: Data Collection

Event Name: U of M/ Mott Earth Day

Date: April 14, 2012

CITIES	NUMBERS
Burton	4
Clio	0
Davison	5
Fenton	0
Flint	32
Flushing	5
Grand Blanc	5
Linden	1
Montrose	1
Mt. Morris	0
Swartz Creek	3
TOWNSHIPS	
Argentine	3
Atlas	1
Clayton	0
Davison	5
Fenton	0
Flint	11
Flushing	2
Forest	0
Gaines	0
Genesee	4
Grand Blanc	2
Montrose	0
Mt. Morris	0
Mundy	3
Richfield	0
Thetford	0
Vienna	0
OTHER CO. IN ST	11
OTHER STATES	1

Total 99



Information Booth: Data Collection

Event Name: Genesee County Fair

Date: August 13-19, 2012

CITIES	NUMBERS
Burton	84
Clio	88
Davison	72
Fenton	34
Flint	202
Flushing	76
Grand Blanc	40
Linden	4
Montrose	6
Mt. Morris	36
Swartz Creek	48
TOWNSHIPS	
Argentine	4
Atlas	26
Clayton	7
Davison	33
Fenton	17
Flint	77
Flushing	23
Forest	23
Gaines	12
Genesee	114
Grand Blanc	20
Montrose	5
Mt. Morris	45
Mundy	5
Richfield	36
Thetford	20
Vienna	7
OTHER CO. IN ST	163
OTHER STATES	27

Total 1354



Information Booth: Data Collection

Event Name: The Crim

Date: August 25, 2012

CITIES	NUMBERS
Burton	11
Clio	4
Davison	4
Fenton	0
Flint	78
Flushing	0
Grand Blanc	13
Linden	1
Montrose	0
Mt. Morris	2
Swartz Creek	3
TOWNSHIPS	
Argentine	1
Atlas	1
Clayton	1
Davison	3
Fenton	3
Flint	10
Flushing	1
Forest	0
Gaines	0
Genesee	15
Grand Blanc	0
Montrose	0
Mt. Morris	2
Mundy	0
Richfield	0
Thetford	0
Vienna	0
OTHER CO. IN ST	34
OTHER STATES	0

Total 187 + 85 kids that participated in water project

Watershed

R E P O R T E R

PARTNERING TO PROTECT OUR NATURAL RESOURCES

FALL 2011

A RIVER RUNS THROUGH IT

REBECCA FEDEWA
EXECUTIVE DIRECTOR

The Flint River and its watershed are many things to many different people.

To some, it's the watershed - a clearly outlined area on a map, for which we can cite certain statistics:

~We cover more than 1,358 square miles

~Our watershed encompasses portions of 7 counties

~Within our borders you will find 20 cities and villages and 58 townships.

To others, it's the Flint River itself. A waterway that is frequently mistaken as dangerous or polluted, but in reality is a thriving system filled with beauty and a wide variety of recreation and economic opportunities.

And to more, it is a smaller tributary—Swartz Creek, Kearsley Creek, Farmers Creek—where kids (and kids at heart) spend afternoons catching fish or frogs, but are often overlooked as an integral part of the Flint River system.

And for many, it is all of these things.

But most importantly, the Flint River and its tributaries are the defining characteristic of the communities that almost three quarters of a million people call home. Our river system is increasingly strong and healthy, and it can (and should!) play a key role in maintaining and restoring the vitality of all of our communities, whether you are in New Lothrop, Davison, Flint, Metamora, North Branch, or any of



FRWC Executive Director Rebecca Fedewa examines a river rock for signs of living creatures

the other 15 cities in our watershed.

It is our collective right to have clean and healthy waterways in our communities, but it will take all of us working together to ensure that the river continues to improve and prosper. If you are receiving this newsletter, you more than likely have taken that first, second or hundredth step to protect, preserve, and improve the Flint River and its watershed. I'd like to take this opportunity to thank you for all you do! I hope you continue with us as we turn the "voice of the Flint River" into a full-fledged chorus.

EDITORIAL COMMENT JACK MINORE

It was Thomas Jefferson who stated that "The Price of Freedom is Eternal Vigilance." I suggest a current paraphrase: "Eternal Vigilance is the price of clean water!"

Candidates and office holders in both major political parties have repeatedly used the phrase, 'job-killing' in referring to various environmental regulations. One would completely eliminate the Federal Environmental Protection Agency; another cites the need for fewer regulations for oil drilling; many propose drilling in

pristine areas or National Parks; virtually all support the tar-sands oil pipeline; etc.

Many office holders support cutting funds for many environmental programs at both the state and Federal levels. In our state, a bill would forbid any environmental regulations greater than those at the Federal level.

IF we are to protect our environment – and, especially, our water resources – ALL OF US need to speak up and make our voices heard for the protection of our greatest natural resource – fresh water!



*Brent Nickola
FRWC Board Chair*

BEST FISHING TRIP EVER

Several years ago I attempted to share fishing the Flint River with my father. Unfortunately the day was a bust. I could not put my finger on what the problem was that day. We were not catching fish and my Dad had no enthusiasm to fish the river. It turned out that he was suffering from heart disease and would end up in the hospital that evening to undergo heart surgery. Not a good fishing day!

On a Saturday in this past July I woke up and did my usual routine. Make the coffee, feed my daughter and surf the web for a little bit. I checked a website to see how high the river was and was delighted to discover the river had finally dropped to a fishable level. All the signals were there for a stellar fishing day. The weather was right, the river was right, and I knew I needed to take my Dad fishing.

We launched our boat and it took Dad about an hour to get the hang of things. Eventually he hooked into his first Flint River smallmouth, a respectable 14 inch female. Dad soon hooked up on a dozen or more fish. He was absolutely amazed by the fishery in the Flint. "Wow, I never knew that

such a good fishery was this close to my home," he said after several more fish. Before the day was over Dad had boated over 40 fish including several trophies. The largest fish of the day was a 20 inch bruiser that drug our canoe into a bolder field and nearly caused us to capsize. What a hoot!



Dad with the 20 inch smallmouth that almost capsized our canoe

The Flint River delivered once again and I made a river advocate out of another person. It is amazing to me how people still don't understand what a healthy and great river we have in our community. The day after the trip I spoke with my mother

and asked her if my Dad had said anything about the trip. Her response? "Best fishing trip ever." No small complement from a guy who has chased fish all over the Great Lakes, including parts of northern Canada.

We have a great river here folks, let's be proud of it and thanks for helping us to protect it.

COCA-COLA GIVES BACK TO COMMUNITY

Earlier this year, in conjunction with the Company's 125th anniversary, local Coca-Cola associates broke ground on a community garden at the Flint Distribution Center.

The garden will provide local residents access to fresh produce, free of charge. The project included the use of repurposed Coca-Cola syrup barrels to create a sustainable water supply for the vegetation.

In conjunction with the plantings, Coca-Cola associates distributed 125 rain barrels to area residents. The barrels are repurposed Coca-Cola syrup barrels, retrofitted for residential rain harvesting use in home gardens, schools and community gardens. The use of Coca-Cola rain barrels helps to support the Company's goal to safely return to nature and our communities an amount of water equivalent to what is used in their production. Collecting storm water in rain barrels also helps stem the amount of runoff that occurs in urban areas and reduce harmful effects to the river basin.

"As we celebrate 125 years, we are proud to continue to support the community in which we do business through employee engagement and sustainable initiatives such as the community garden," said Jeff Chase, Coca-Cola Flint Distribution Center Manager.

Coca-Cola is committed to sustainable and responsible growth, and recognizes the health of our business is directly linked to the health of the environment. As a result, the company's focus is on areas where they have the most significant impact and the most potential to make positive contributions: water

stewardship, sustainable packaging, and energy efficiency and climate protection.

Since 2005, Coca-Cola has saved more than 3 billion gallons of water through reduction efforts across all facilities in the U.S., hitting these targets through technologies such as water reclaim systems, replacement of water rinsers with air rinsers, dry lube technology and others.

Additionally, Coca-Cola supports more than 50 community watershed projects around the country. These projects return an estimated 13% of our product volume back to nature. The company's goal for 2011 is to increase this replenishment volume to 17%.



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Director
Great Lakes Region

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SUNDAY RIDES STILL POPULAR

The Sunday rides along the Flint River Trail have continued to be popular in what I believe is the fifteenth year of the Friends of the Flint River Trail program. Every single Sunday this summer, we have had one or more new, first-time, riders – and our riders have come from about 25 different zip codes so far. The rides start at 2:00 PM from the Flint Farmers' Market – EVERY Sunday May through October. Our real goal is to introduce riders to the trail so that they will be comfortable riding the trail on their own time and own schedules. In addition, we lead rides on various other trails around mid-Michigan every 'Second Saturday' of our ride months. In partnership with other



groups, we are strong advocates for trail improvements and expansion. Labor Day week-end we had three new families – including five children ages about 9-14 join us: it's a great family outing for a Sunday afternoon. Groups who might want to arrange a 'special ride' are welcome to contact leaders Bruce Nieuwenhuis (bnbaton@gmail.com) or Jack Minore (jacksonmin@aol.com). In addition to the rides, several members of our group have put in regular volunteer hours mowing, cleaning and trimming along the trail to make for a more pleasant ride. Watch for our major clean-up the last Saturday in April – prepping the trail for our first 2012 ride – the first Sunday in May!

IS IT GOOD? OR BAD??

A question we are frequently asked of the Flint River. The answer: It depends on all of us! This summer we had many individuals like you working to protect, preserve and improve the Flint River Watershed. We also had a large number of families having healthy fun on (and in) the Flint River.

Good?

Yes! The overwhelming majority of the Flint River watershed is healthy and vibrant. Participants in our summer



Sue Lossing (front) provides students with hands on storm drain education

Our Water programs saw this first hand through our various fun, healthy, educational activities. Paddlers coasted easily along the Flint River and enjoyed all the beautiful sights along

the way. Some stopped paddling to swim in the river while others took pleasure with the multiple bald eagle sightings. Others spotted birds such as kingfishers and great blue herons along with the occasional fisherman.

As paddler *M a d o n n a Aubrey* stated "I finished in less than 3 hours – had a great morning – I could have gone another 3 hours."

Bad? Storm water runoff can carry contaminants left on our

lawns, streets, and parking lots directly to our streams via our system of storm drains. The Our Water Storm Water Awareness program informs residents of simple things people like you can do to easily prevent this contamination.

CITY OF FLINT TO TERMINATE LEAF PICK UP PROGRAM

Flint residents traditionally rake their leaves into the street for collection by the city. Due to budget cuts, this service will NOT be offered this year. We understand this poses a dilemma for area residents, but we strongly encourage you to not simply rake into the street anyway. Leaves left in the gutter not only create an eyesore in our neighborhoods, but also could result in significant nutrient contamination to the Flint River. Alternatives for homeowners include:

- Bagging your leaves - compost collection will continue through the end of November.
- Mowing them into your lawn (consider it free fertilizer, and some research has shown maple leaves serve as an herbicide to spring dandelions)
- Composting them in your own pile, garden, and flower beds.

A Google search that contains the search term "what to do with leaves" will provide ample guidance for all of the above. Connect with us on Facebook, and tell us what you are doing with your leaves this fall.

This summer, members of the Genesee Regional Chamber of Commerce's Summer Youth Initiative team focused on providing storm drain education to over 200 residents around Thread Lake. We are looking for your help to conduct similar outreach in Gilkey Creek and Thread Creek sub-watersheds. Sign on now to help make a difference. Join the Storm Water Awareness Team by contacting Sue Lossing: (810) 767-9491; SLossing@FlintRiver.org

LAPEER HAPPENINGS

Thanks to John Jill, the store manager at Rowleys Tires and Automotive Services in Lapeer for disposing of a batch of tires removed from the South Branch by 7th grade Chatfield Students.

Thanks to the Lapeer Sunrise Kiwanis for sponsoring a "river day" for Lapeer Community School students in the Federal Free and Reduced Lunch program. These students learned about the FRWC, our relationship with the river, and took a canoe trip with Kiwanis mentors on the Rotary to Saginaw section of the South Branch. For most of these 4th-6th grade students, it was their first time canoeing and an opportunity they normally wouldn't have access to.

Thanks to the Lapeer Juvenile Probate Program for their participation in our canoe pathway project. In their most recent effort, two staff members and five high school students removed logjams in four hour session on the South Branch. They worked very hard and were able to appreciate the tremendous effort that our local Rotary/DNR /Lapeer Chapter partnership provides each season. Some of these students also participated in the Spring Cleanup and are competing for the Golden Glove Award! We look forward to our working partnership with this program.

And a special thanks to our members, providing the support and resources to make the three previous projects happen. We are building community, we are giving voice to this river, we are making a difference!

MEMBERSHIP CONNECTIONS

We continue to reach out and connect with many individuals, families, and groups who share our passion to be a 'voice of the river'. Join us in thanking our most recent new and renewing members of the Flint River Watershed Coalition. These are the hard core supporters who demonstrated their commitment by making a financial contribution to support our mission. We are happy to welcome the following individuals and families to the FRWC for another great year. We cannot be successful without our members -- YOU.

Linda Johnson Barnes

Linda Berker and Donald James

Mark Bilodeau

Morgan Boyer

Derek Bradshaw

Ruth Brown

Casey Foote

Earl Gravlin

Ben and Karen Howells

Joel Rash

James and Mary Jane

Richardson

Maureen and Ron Shoemaker

Allan Taylor

Fred and Alyce Townsend

Jeff and Jaime Welch

Norman Wing

We would like to call special attention to the many members

who hail from the southern stretches of the watershed. We are always glad to meet and renew connections in that area. When you cross the river in Ortonville, Lapeer, or Goodrich, say hello to your neighbors. You'll know an FRWC member when you see them – they'll be sporting a look of appreciation for the wonderful natural resource that we all share. Members from these southern watershed communities include: Derek Bradshaw, Fred and Alyce Townsend, Linda Berker, Donald James, Maureen and Ron Shoemaker, and Earl Gravlin.

There are many ways to submit your membership payment to the FRWC. There is a membership application in this newsletter, you can get a welcome brochure at any of our events, or you can link to our secure on line payment option from our website. Lastly, you can call our offices at 810-767-6490 and we'll be glad to hook you up!

However you become a member of the Flint River Watershed Coalition, make sure you connect with your fellow river friends through the fellowship of the FRWC. When you look through the newsletter and review the summaries of all of our summer events and our plans for the fall, it's these types of activities that your membership sponsors.

See you on the river this fall!

FRWC MEMBER APPLICATION - FALL 2011

name _____

organization _____

address _____

city/state _____

phone _____

email _____

____ STUDENT \$10

____ INDIVIDUAL \$25

____ FAMILY \$40

____ RIVER SPONSOR \$100

____ RIVER PATRON \$250

____ WATERSHED

PROTECTOR \$500

____ WATERSHED

GUARANTOR \$1000

____ OTHER

\$ _____

Some companies will match an employee contribution to an eligible charity or non-profit organization. Please check with your employer to obtain a matching gift form, if applicable.

Your support is sincerely appreciated. The Flint River Watershed Coalition is a not-for-profit organization with 501 (c) (3) tax-exempt status. Your contribution is tax deductible. Please make checks payable to: **Flint River Watershed Coalition or FRWC 400 N. Saginaw Street, Suite 233 Flint, MI 48502**

MAKING NEW FRIENDS WHILE BENTHIC MONITORING

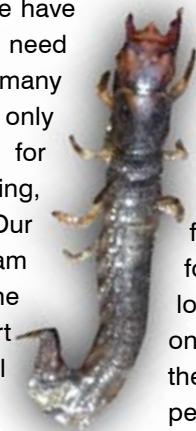
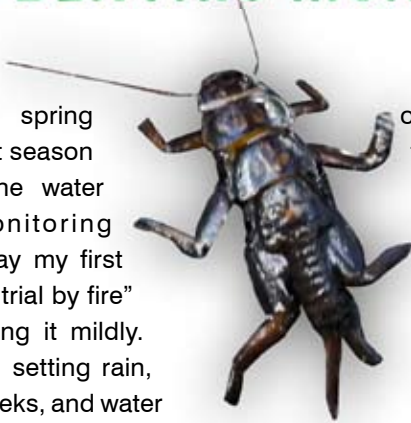
JAMIE WELCH

This past spring marked my first season coordinating the water quality monitoring program. To say my first season was a “trial by fire” would be putting it mildly. We had record setting rain, overflowing creeks, and water levels that made it impossible to monitor some of our sites. But every time I think back to last season, I have one memory that sticks with me. I was monitoring with my husband Jeff and FRWC development director Casey Foote. We were about halfway down the stream collecting when Jeff announced that this was the best job on the planet. Not only were we doing something tangible to protect our local waters, but we got to play in the water and collect cool critters while doing so. Standing in the middle of the stream on a beautiful spring morning, I had to agree.

One of the biggest misconceptions we hear about the Flint River is that it is dirty, polluted, or in worse condition than it really is. We have spots in the watershed that need improvement, but there are many more areas that are not only beautiful, but are perfect for fishing, kayaking, canoeing, wading, and swimming. Our water monitoring program helps us track the health of the entire watershed and report back to you on the overall health of our river.

We monitor twice a year—every spring and fall—and track each stream’s score from season to season. At the end of each season

just a couple of critters that monitors made friends with last spring!



our monitoring committee meets to review the data collected and assess each site, including comparing the scores from the previous seasons. If we find a site is declining, we investigate to find out why and what can be done to help that site improve.

None of this would be possible without the dedication of our volunteer monitors. Monitoring is a fun process, and easy to learn. Trainings are held each season for new monitors as well as a refresher course for our more experienced volunteers. If you are interested in learning more about monitoring, this is a perfect opportunity.

Monitoring labs this season are Thursday, September 29th and Saturday, October 1st, from 12-5 in Lapeer and in Flint. These labs are where our monitors bring the critters they collected at the stream for identification. Each lab has an expert or two on hand to help with identification and verify your samples. We also have our “Master Identifiers” again this season who will conduct more detailed identification which ultimately tells us more about the stream you just sampled. Feel free to stick around and see what they find! This program has something for everyone, from the person who loves getting out into nature to the one who enjoys being in the labs using the microscopes to get up close and personal to their critters.

So what are you waiting for? Contact Jaime Welch at jwelch@flinriver.org or 810-767-7140 to volunteer or to find out more information about this program.

CREATING MEMORIES THAT LAST A LIFETIME ON THE FLINT RIVER

Remember early outdoor moments when you were a kid? Have you ever said “I remember when...?” This summer, through the Our Water program, we were fortunate to create many of these moments for our members. Here is a collection of stories from the summer.

During the Montrose to Birch Run paddle, Grandpa Brad and his grandkids could be heard laughing as they spent as much time playing in the water as they did in the canoe. They spotted clams, fish, and learned about the caddisfly cases stuck on rocks that were pulled from the river. (A good indication of a healthy stream-caddisfly with cases are sensitive to poor water quality.)

Five members of the Wisenbaugh family, the youngest age 7, split themselves between two canoes and did wonderfully! They joined people from Fenton, Swartz Creek, Burton, Holly, Clarkston, Birch Run, and Rochester Hills. They enjoyed being able to safely recreate on this local, available, and affordable resource.

This year the Romankewiz family not only joined us on the Our Water walks and paddling events, but took their participation one step further and volunteered for our storm drain stenciling program. Thanks to their efforts and with the assistance of two Sierra Club members, over 100 Burton residents in the Thread Creek sub-watershed received storm water awareness information and simple things they can do to keep contaminants from entering Thread Creek.

Check us out for fall events and to put your interests in for 2012 Our Water programs! Contact Sue Lossing at (810) 767-9491; SLossing@FlintRiver.org

CALENDAR OF EVENTS

DON'T MISS OUT ON TIME-SENSITIVE INFORMATION!

SUBSCRIBE TO OUR WEEKLY E-NEWSLETTER, "THE RIPPLES" BY VISITING US ONLINE AT WWW.FLINTRIVER.ORG OR CALL THE OFFICE: 810-767-6490
ALSO, YOU CAN BECOME OUR "FAN" ON FACEBOOK BY SEARCHING FLINT RIVER WATERSHED COALITION.

MONTH	DATE/DAY	EVENT
SEPT	22 THU	MiCorps Water Monitoring Training
	23 FRI	Order Deadline: Genesee Conservation District Tree Sales
	23 FRI	Flint River Paddlers: Fall Equinox Autumn Paddle
	24 SAT	Applewood: Fall Harvest Festival
	25 SUN	FFRT Sunday Bike Ride
	28 WED	Lapeer FRWC Chapter: Conservation Efforts for River Preservation & Paddling
	29 THU	MiCorps Water Monitor Day & Lab Date I
30 FRI	Order Deadline: Lapeer Conservation District Tree Sales	
OCTOBER	1 SAT	MiCorps Monitoring Day & Lab Date II
	2 SUN	FFRT Sunday Bike Ride
	5 WED	Lapeer FRWC Chapter: Conservation Efforts for River Preservation & Paddling
	5 WED	Genesee Belle: October Lunch Cruise, Stepping Stone Falls, Cost/Registration
	6 THU	Six Rivers Regional Land Conservancy: Flint River Paddle/Lapeer
	8 SAT	FFRT 2nd Saturday Bike Ride
	8 SAT	Genesee & Lapeer Conservation District Tree Pick-up
	8 SAT	Household Hazardous Waste Collection Day (Carman/Ainsworth HS & Flint East Water Center)
	9 SUN	FFRT Sunday Bike Ride
	12 WED	Lapeer FRWC Chapter: Conservation Efforts for River Preservation and Paddling
	12 WED	Genesee Belle: October Lunch Cruise, Stepping Stone Falls, Cost/Registration
	16 SUN	FFRT Sunday Bike Ride
	18 TUE	Lapeer Chapter, FRWC Meeting
	19 WED	Lapeer FRWC Chapter: Conservation Efforts for River Preservation and Paddling
	19 WED	Genesee Belle: October Lunch Cruise, Stepping Stone Falls, Cost/Registration
	21 FRI	FRWC Board Meeting
	23 SUN	FFRT Sunday Bike Ride
	26 WED	Genesee Belle: October Lunch Cruise, Stepping Stone Falls, Cost/Registration
	29 SAT	Sierra Club Hike: Lapeer State Game Area & Center Cranberry Bog
30 SUN	FFRT Sunday Bike Ride: Last Scheduled Ride for the Season	
NOV	5 SAT	Keep Genesee County Beautiful: Tree Tenders Urban Tree Planting
	15 TUE	Lapeer Chapter, FRWC Meeting
	18 FRI	FRWC Board Meeting
JAN	16 MON	FRWC Community Watershed Service Training (MLK Day)
	26 THU (tentative)	Celebrate! FRWC Annual Meeting: Dinner and Auction



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MEMBERS AND VOLUNTEERS PROVIDE ESSENTIAL BUILDING BLOCKS

The Flint River Watershed would like to sincerely thank all of our members and volunteers! Your donations have helped make this year's Flint River GREEN program our most successful ever! We mentored over 3,500 young students by helping them conduct scientific water testing on the Flint River. Students presented their collected data at the student summit and made recommendations on how they can help protect, preserve, and improve the Flint River.

Contributions from sponsors and individual donors enabled us to organize the spring cleanup this year where we successfully removed over 40 tires, 150 bags of trash and other large items that included an old boat, fencing and building materials, carpeting, and shopping carts from the banks of the river.

We have put your money to work locally by conducting our benthic monitoring

program this spring and fall. We track the health of the river that is vital to our local environment. This data is utilized

Our success as an organization is due to great members like you who believe in our mission, that the Flint River is a valuable asset in our community to protect, preserve, and improve.

by state and local officials, and is posted on our website so you can track the health of the river in your area.

As you can see, your membership dollars translate into real action and benefit for your local Watershed.

Please consider our request when we ask you to upgrade or renew your membership.

As a society we are becoming increasingly aware of the importance of supporting our local community. Please consider contributing to the Flint River Watershed Coalition today!

The Flint River Watershed Coalition draws together concerned citizens, local government, businesses, educational institutions, and people like you who feel the Flint River and its tributaries

are a vital resource to protect, preserve, and improve. The Coalition serves as the Voice that speaks for the entire Flint River drainage basin. We invite you to join the FRWC and consider making a tax deductible contribution to the Flint River Watershed today!

Watershed

REPORTER

PARTNERING TO PROTECT OUR NATURAL RESOURCES

DECEMBER 2011

SUCCESSSES TOGETHER

REBECCA FEDEWA, FRWC EXECUTIVE DIRECTOR



We are closing out another fantastic year here at the FRWC. I'd like to take this opportunity to express my deepest thanks to all of our dedicated volunteers, donors, and funders for making such a difference in our watershed.

Because of you, over 3,600 students from across the watershed learned firsthand about their river. Many visited their local stream for the first time ever! All of them gained a new appreciation of this valuable resource we have right here in our own back yard, and knowledge that they can have a positive impact on the health and vitality of their watershed.

And because of you, we again cleared over 5,093 cubic feet of garbage from the shores of our local rivers and streams. This includes over 261 tires, and countless amounts

of construction debris dumped incongruously on our shores.

With your support, the Flint River had a voice at a number of important discussions relating to the health of our watershed, including various landfill expansions, the development of TMDLs, and implementation of recommendations designed to remediate issues impacting the health of our waters.

You'll also read in this newsletter about the great work of our volunteers in collecting water quality data this past fall. Our monitoring program improves year after year, and that is because of the dedication of new and returning volunteers who head out season after season to collect this valuable data.

Thank You!! Working together, we can make 2012 an even bigger year for the Flint River.



ANOTHER SUCCESSFUL WATER MONITORING SEASON IS UNDER WRAPS

This is a very exciting time to be involved in our water monitoring program! We had over 15 new and current monitors attend our September training to become MiCorps certified. Training was led by FRWC board member Darren Bagley, who never fails to make these learning sessions informative and entertaining. New monitors are always amazed to see how much diversity can be found in a quiet stream. But when we scratch the surface we find that these "quiet" streams contain entire worlds that are teeming full of life.

Our Fall Monitoring season was a huge success, thanks to the combined efforts of returning monitors and new ones. We monitored all of our regular sites, and even get some sample benthics to put in resin to use as examples in the lab. Cumulative monitoring results, including this Fall's scores, can be found on our website at www.FlintRiver.org.

What a wonderful privilege it is to work with our amazing and dedicated monitoring volunteers. They go out twice a year, ever year, and spend several hours in the river and then in the lab helping to track the health of our rivers and streams. Without them, monitoring just

would not happen. So to all of the monitors who helped out this Fall, whether in the streams or in the labs, a great big THANK YOU, THANK YOU, THANK YOU!

Mark your calendar and get involved! We have already set our dates for the Spring monitoring. Labs will be held April 26th and May 5th, 2012, and we will hold water monitor training on April 12th, 2012. Check our website for details on times and locations. Training is a great refresher course for current monitors and a great introduction to the program for new monitors. Get involved! Contact Jaime Welch at 810-767-7140 or at jwelch@flintriver.org.



Why do we care so much are the health of our watershed?

Because every person reading these words lives in one and is effected by it. A healthy watershed has cleaner water and air, more wildlife, less disease, and less erosion than one that is declining. Water quality is a vital, integral part of our environment that

affects so much more than one particular stream in one small area. Each stream feeds into another stream and that water ends up in our homes, our businesses, our schools, our everyday lives. Every stream in our watershed supports all the life around it and that ecosystem in turn spreads out to support others in a domino effect. But if that stream

withers from pollution and neglect, everything around it suffers as well, from the plant and animal life to the family or business whose property abuts the stream.

That is why it is so important to get involved. YOU can make a difference; a positive impact that touches everything around you, for future generations as well as your own.

ASIAN CARP:**FEDERAL AGENCY DITHERS WHILE ASIAN CARP ARE POISED TO INVADE THE GREAT LAKES***by Jennifer Nalbone from Great Lakes United*

The U.S. Army Corps of Engineers wants the public to believe that an electric fish barrier in the Chicago Waterway System, about 30 miles south of Chicago, is holding back a biological plague of Asian carp.

The facts tell a different story. A Corps-commissioned study concluded in 2009 that Asian carp smaller than 5.4 inches long could breach the electric barrier. The Corps was informed again in July 2010 that smaller Asian carp could penetrate the barrier, but the agency decided not to crank

up the voltage to repel the smaller fish. The Corps said there was no need to increase the voltage because no small Asian carp had been found within 25 miles of the barrier.

Four months later, in mid July, the Corps announced that more Asian carp DNA was found in waters open to Lake Michigan. In lay terms, that means Asian carp were recently swimming in those waters. Remarkably, the Corps continues to insist that the electric barrier is effective as the last line of defense against Asian carp storming Lake Michigan and spreading to the other Great Lakes.

This, despite a recent study by four preeminent scientists who concluded that: The electric barrier won't hold back Asian carp; an Asian carp invasion of the Great Lakes is imminent; the fish could thrive in the lakes and wreak havoc on fisheries; and a systematic campaign of disinformation by special interests have paralyzed efforts to find a permanent solution.

Those scientists, like many conservation groups in the region, said the only sure way to stop the movement of Asian carp and dozens of other invasive species between the Mississippi River and Great Lakes systems is to physically separate the two basins.

Though naysayers claim such a solution is impractical, studies have shown that separating the basins is technologically feasible and that such action would benefit the Great Lakes and Mississippi River ecosystems and the massive economies they support.

Unfortunately, a small group of special interests in the Chicago area have worked against efforts to move toward separating the basins.

On the other side of the argument are scientists, scholars and thousands of citizens around the Great Lakes who have called for separating the Great Lakes from the Mississippi River basin as soon as possible.

Congress in 2007 directed the Corps of Engineers to figure out how to prevent Asian carp from reaching the Great Lakes. Four years later, the Corps continues to study the problem without any plan for halting the threat. The Corps won't complete its study of how best to keep Asian carp from invading the Great Lakes until 2015, at the earliest. A solution will take many more years.

We can't afford to wait nearly that long.

Asian carp represent an ecological threat of the highest order, a biological plague bearing down on the largest and likely the most valuable freshwater ecosystem on the planet. Yet the Corps of Engineers continues to dither. The Corps must stand up to special interests and do what's best for the Great Lakes and the 40 million people who rely on the lakes for work, recreation and sustenance.

It's time for the Corps to focus its considerable resources and authority on breaking the artificial ties that bind the Great Lakes to the Mississippi River basin.

Article reprinted with permission from Freshwater Future.



Kris Larson, Minnesota Land Trust and Julie O'Leary, Freshwater Future ascend the Capitol steps to deliver thousands of postcards to Members of Congress.

TAKE ADVANTAGE OF YEAR END GIVING!!

Ensuring our communities continue to have access to safe, clean, beautiful rivers and streams is our goal. But we need your help to ensure that the FRWC is there to serve as the "Voice" of the Flint River. When you are making your decisions about which of the many worthy charities you would like to support, we ask that you put clean and healthy water at the top of your list. All donations to the FRWC are fully tax deductible and provide you the knowledge that you are making a difference right here in your community.

Happy New Year!!

The board and staff of the Flint River Watershed Coalition

CALENDAR OF EVENTS

DON'T MISS OUT ON TIME-SENSITIVE INFORMATION!

SUBSCRIBE TO OUR WEEKLY E-NEWSLETTER, "THE RIPPLES" BY VISITING US ONLINE AND WWW.FLINTRIVER.ORG OR CALL THE OFFICE: 810-767-6490
ALSO, YOU CAN BECOME OUR "FAN" ON FACEBOOK BY SEARCHING 'FLINT RIVER WATERSHED COALITION'

MONTH	DATE/DAY	TIME	EVENT
JAN	20 / FRI	8:30am	FRWC Board Meeting
	26 / THU	6:00pm	FRWC Annual Meeting, Dinner and Auction Stonegate Banquet Center
FEB	17 / FRI	8:30am	FRWC Board Meeting
	21 / TUE	7:00PM	Lapeer Chapter, FRWC Meeting
MAR	2-4/FRI-SUN		*Flint River Steelheaders Boat & Fishing Show Birch Run
	3 / SAT	Morning	*Keep Genesee County Beautiful Conference
	7 / WED	8:00am	Flint River GREEN Professional Development
	9-11/FRI-SUN		*Flushing Walleye Festival
	16 / FRI	8:30am	FRWC Board Meeting
20 / TUE	7:00pm	Lapeer Chapter, FRWC Meeting	
APR	12 / THU	TBD	Spring Monitoring Training
	14 / SAT	8am-3pm	*Annual Earth Day & Garden Celebration
	17 / TUE	7:00pm	Lapeer Chapter, FRWC Meeting
	20 / FRI	8:30am	FRWC Board Meeting
	25-26 / WED THU		Flint River GREEN School Monitoring
	26 / THU	TBD	Spring Monitoring and Lab Date
	28 / SAT	9:00am	Friends of the Flint River Trail Maintenance & Cleanup
28 / SAT	9:00am	Annual Flint River & Community Cleanup	
MAY	5 / SAT	TBD	Spring Monitoring & Lab Date
	5 / SAT	9:00am	Wild Lapeer
	5 / SAT	9:00am	Backup Date for Annual Flint River & Community Clean up, in case of inclement weather.
	11 / FRI	8:00am	Flint River GREEN Student Summit
	11/ FRI	8:30am	FRWC Board Meeting
	15 / TUE	7:00pm	Lapeer Chapter, FRWC Meeting

* FRWC Community Table Events, Volunteers Welcome

TABLE EVENTS ARE FUN!

SUE LOSSING, EDUCATION & OUTREACH COORDINATOR

We enjoyed meeting many of you this summer at our information tables at the Flint Farmer's Market, MSU-E Tent at the Genesee County Fair, Taste of the Trail in Flushing, and at the CRIM Expo! We appreciate the collaboration and assistance in helping spread the news, shed the light, or rather "share the water". With the assistance of Master Gardeners and Sierra Club members, many kids enjoyed Minnow Races at the county fair. At the races and at the FRWC Creek Critter table, they learned about minnows'

preferred habitat (shade, wind/ripples) and invasive species (not releasing fish bait into the rivers) along with what was found in the pond at the fair. Special Thanks to Vicki Perkins, Rebecca Gale-Gonzalez, Mike Haley, Mel Kennedy, the Bagley family, Jaime Welch, and MSU-E Junior Master Gardeners for helping share watershed awareness. We invite you to join us at one of these fun table events contact Sue Lossing at (810) 767-9491, SLossing@FlintRiver.org

Watershed

REPORTER

PARTNERING TO PROTECT OUR NATURAL RESOURCES

MARCH 2012

TELL US YOUR STORIES OF FUN ON THE FLINT RIVER

REBECCA FEDEWA, FRWC EXECUTIVE DIRECTOR



Rebecca Fedewa

This time of year always has us looking forward to all the great programs and events of the coming spring and summer. And with our mild winter, the “call of the river” has piped up even earlier than usual.

Throughout this whole year, as we focus on the issues big and small impacting our watershed, the FRWC is also promoting

a theme of “Fun on the Flint River” and I hope you can join us. If you are reading this newsletter, you probably already recognize that the Flint River is a fantastic recreational resource, right here in our collective back yard. To steal a tag line from our friends at the Genesee County Parks and Recreation Commission – Get Away, Right Away. There is no need to travel hours up north for prime fishing holes, swimming beaches, scenic paddles, or relaxing bike rides or hikes.

Join us on for one of our fun activities, or plan a trip of your own. Did you know that two liveries have opened to serve our watershed in just the last couple years? On the west side, you can rent from Good Ol Redbeards and on the east side Peddles and Paddles can assist you with boat AND bike rentals. Or check out the Parks and Rec website for an abundance of opportunities to recreation in our county parks, one of the largest county parks

systems in the state.

While you are out having fun, please snap a photo or 10, maybe shoot some video, or even write a quick story about your adventures for potential publication in a future newsletter or on our website.

We want to hear ALL about it! Find us on Facebook and brag about your great catch (you don’t have to identify your secret hole if you don’t want to). We have a YouTube channel where you can post your videos (<http://www.youtube.com/user/FlintRiverWC>). Or simply send us your pics and stories and we’ll try to feature them in future issues of our print and electronic newsletter.

We have a fantastic resource that we want everyone to know about! But we need your help to spread the word. Tell your story, and make it part of the Flint River Watershed’s narrative. See you on the river!

CALLING ALL MONITORS!



Winter (such as it was) is almost over, and we are itching to get our waders on and get in the water for what looks to be an exciting year!! Spring dates for our Water Quality Monitoring have been set with training scheduled for April 12th and our labs are scheduled for April 26th and May 5th. Water Quality Monitoring involves volunteers going out to one of our 34 sites across Genesee and Lapeer counties and taking samples of “benthics” (the macroinvertebrates that live in the stream) and doing data collection, such as width and depth of stream and types of stream habitat. It is an easy process to learn, and gives

our monitors the chance to make a huge difference by allowing us to see how our local streams and rivers are doing from season to season. This information is a great warning indicator and alerts us when something changes in the water habitat that begins to adversely affect it. We are, as always, eagerly seeking volunteers that would like to participate and have fun in the water with us. Monitoring is for just about all ages, and a great way to spend time with people in your community. If getting in the water isn’t for you, no worries, there is plenty to do that does not involve getting wet! You can help at the site [more at “monitor” page 5](#)



Brent Nicola

THE YEAR OF FUN ON THE RIVER

BRENT NICKOLA, FRWC BOARD CHAIR

Well, it's that time of year again. We are most of the way through winter, the Walleye are spawning in the river, and we are all ready for that first warm day of the spring. This is the time of year to tune up your bike, wax your boat, tie some extra flies and generally get ready for another year on the river.

This year, the watershed coalition is going to be focusing on getting people out on the river. We have declared this year as the year to "Have Fun in the Flint River." I wanted to take a little time to highlight a few things you may want to consider when choosing how you are going to get out there and have fun.

First, you have to check out the South Branch, where our many volunteers from the Lapeer Chapter have been working for many years now. Hundreds of volunteer hours have gone into improving this stretch of river for paddling and fishing. Because of its relative narrow width, this stretch provides for an intimate experience with nature. When you explore it, you will find yourself up-close with not only the river but the wilderness and nature along the banks. Be ready for an up-close experience with the birds, mammals and other bank dwelling animals and plants. Keep your eyes open for the occasional overhanging tree too!

For those of you that enjoy the fast pace of powerboats for floating on the pontoon with friends, you have got to check out the Holloway Reservoir. On any given weekend in the summer, hundreds of folks will be on the reservoir, skiing, tubing, fishing or just relaxing with friends. If you go, be sure to take your boat up the "Narrows" to the north side of the reservoir. Keep your eye open for birds of prey and wading birds in this section.

Rumor has it that this area is a good spot for walleye too. On your way up, keep your eye open for groups of folks hooking several boats together. If you see this, pull on up to the group and say hello. I have been part of some of the best impromptu parties out there and made many friends for the day.

Finally, check out the stretch of river from downstream of Flint to the confluence with the Saginaw River. Now I know that is a big stretch of water, so here are my suggested highlights.

- Paddle from Flint to Flushing – Great short stretch of river that will take you past some of the best walleye fishing in the entire Saginaw Bay.

- Paddle from Flushing to Montrose – My home water, this stretch of river offers large vistas and some great fishing for pike, bass and walleye. Look out around the area of Carpenter road for the biggest set of rapids on the river. Stay right and look out for the big boulders.

- Shiawassee national wildlife refuge – This place is one that always fascinates me when I visit it. The river is usually murky here from all of the agricultural runoff in the lower portions of the watershed. The sheer size of the river and its wetlands that surround it are amazing. Take a compass and GPS out here. You really could get lost in this section of river!

Wherever you head out to enjoy the Flint River this year we want to hear your stories. We will be featuring stories of our members throughout the year in our print and digital media. Take along that camera, shoot a short video on your cell phone, or journal about your experience and share it with us. We pride ourselves on being the voice of the river. We hope your stories will be a voice of the river too.

NEW TEAM MEMBER HOLLY ROSSER

We are pleased to welcome Holly Rosser to the FRWC team. Holly will be helping with this year's Flint River GREEN program. Holly comes to us with lots of great experience organizing programs and events with another local nonprofit, Priority Children. Holly has helped with their Carrera Program,

the Children's Champion Breakfast, and most recently is working with their Green and Healthy Homes Initiative. We are very excited to have Holly working with us, and look forward to having another great year for Flint River GREEN. You can reach Holly at 810-767-9491.



Holly Rosser

ANNUAL MEETING ROUND UP

Starting off with a record breaking crowd at our January Annual Meeting was a super beginning to what promises to be another great year for the Flint River and its watershed. We had over 140 people in attendance this year, and raised a record breaking \$14,500! Thank you SO much to everyone who came out, contributed to the silent auction, placed bids on our items, and in general showed your support for the FRWC. A special thanks to our sponsors (opposite page).

This year, our meeting featured two important initiatives, one right here in our watershed, and one that promises to raise the profile of rivers across the state. Our evening began with an update on progress to reclaim "Chevy in the Hole", the massive brownfield in downtown Flint. Our former Director Steve Montle (currently with the Center for Community Progress) was joined by Matt Didier, Brownfield Project Manager with Region 5 of the EPA. Look for some exciting developments on the site this spring, including a phytoremediation project starting on Earth Day with a large scale tree planting on the site.

Our keynote address this year was given by the co-founders of Michigan River News – Andy McGlashen and Jeff Brooks Gillies. MRN is an environmental news site launched in 2011, and is a source of original reporting on the waters flowing through the state's cities, forests, and farms. Andy and Jeff gave an informative talk about their role to raise awareness of important issues impacting our rivers and streams, such as the closing of federal gauge stations, PCB levels in fish, unsafe dams, and more.

Finally, please help us welcome our newest board member David Churchill, who was elected to fill a vacant seat at

this year's meeting. You can read more about David on page 2.

We would also like to thank our Annual Meeting silent auction donors:

Anita Harrand; Andrew Ward; Birds Unlimited, Daniel Cruz; Brent Nickola ; Casey Foote; Coldwell Banker, The Wade Pyles Team - Fenton; Cummings Chiropractic, LLC, Dr. Teresa Cummings D.C.; Cyberlink; Doc Fletcher; Duane Elling; Ellen Brothers; Essential Balance Message Therapy, Denise Penwell; Gabe Zawadzki; Glenn Fischer; Graff Chevrolet - Durand; Heather Sisto; Italia Gardens; Jack Minore; Jackson Chiropractic Clinic, P.C.; Jaime Welsh; Jan Praefke and Joel Geda; Jim and Andrea Ananich; John Mrozik; Jon Davidson; Linda Berker; Liz Ostrander; Marilyn Alvey; Mark Bilodeau ; Paul Rozycki Photography; Stallings Stained Glass; Suski Chevrolet, Andrew Suski; Thread Creek Farm, Michael and Virginia Knag; Todd Iser Nickola; University of Michigan- Flint Rec Center; Zoom Digital Media, Steve Hester.

The FRWC would also like to thank Mike Herriman of Vern's Collision and Glass for donating an Aquapel glass treatment to all of our attendees at the Annual Meeting.



Dave Beaulieu receives the Volunteer of the Year Award



The Silent Auction was a huge hit!



An Evening of good food, fun and fellowship

"monitor", cont'd from front page

by taking down the data and sorting the benthics, or help at the lab with identifying (Master Monitors will be on hand to verify and help those not familiar with a lesson on how we identify our benthics). We will also be holding a Master Monitor class this year to give those monitors who want extra instruction a chance to hone and increase their skills.

If you haven't attended training before or would like a refresher course just contact us and let us know. We will get you registered for training, and while at training you will be able

to see a list of sites that need your help to get monitored this season. If you are a returning monitor, you should be receiving an email in the next few weeks with information on your site and the days available for monitoring.

If you are interested in finding out more about our program, check out our website at: www.FlintRiver.org. If you are interested in attending training and/or getting involved with monitoring, contact Jaime Welch at 810-767-7140 or jwtelch@flinriver.org for more information. I hope to see you in the river this season!

GENEROUS MEMBERS ADD VALUE

Our supporters have been very generous since we last reported to you about membership. There are many ways to connect with us, and several ways to make membership payments.

Right before the Christmas break, and then when we returned to the office in January, we received many membership payments from those who share our vision to protect, preserve, and improve the Flint River Watershed. Then, a couple of long standing friends recently stopped into the office to renew their membership. They know where we are located, and drop by occasionally. Several people took the opportunity to renew their membership while participating in the fun activities of the Annual Meeting and Silent Auction.

Three individuals made contributions to the watershed, and then took advantage of the matching gifts program of their employers. Please remember that many local companies value the charitable spirit of their employees and will match contributions to qualifying 501(c)3 organizations such as the FRWC. To compound your giving, check out your employer's policy on this.

We want to give special recognition to those who recently gave at the River Sponsor and River Patron levels. Renewing at a level of \$100 or more are Scott and Ahlissa Vaubel, Michael and Julianne Riha, Jeanne Pepper and Thomas Herman, James Kettler, Mary Christian, Raymond and Kathleen Kelly, and our friends at the Anna Paulina Foundation. The combined contributions from these individuals, families, and foundations exceeds \$1,500. Their generosity will help fund the programs in the spring such as benthic monitoring and the Flint River and Community cleanup.

Here is a complete list of those who became new or renewing members of the Flint River Watershed Coalition:

Clark Almassy

Tracy Brewington

Nancy Byder

Mary Christian

Cheryl Gault

Fremont and Mary Ann Halboth

Raymond and Kathleen Kelly

James Kettler

Kay Lennerth

Joe and Lili Leonardi

Pat Litwiller

Rick McAvinchey

Peter and Beth McCreedy

Wally McLaughlin

Riley McLincha

Anna Paulina Foundation

Jeanne Pepper and Thomas Herman

Michael and Julianne Riha

Paul Roetter

Debra Golden Steinman

Scott and Ahlissa Vaubel

Angela Warren

Matthew Watts

Dave Woolfenden of American Speedy Printers

Your membership is important to us. We value every member, and safeguard every dollar. Welcome all to the ranks of members in the Flint River Watershed Coalition. Thanks!

MEMBERSHIP APPLICATION * MARCH 2012

name_____

organization_____

address_____

city/state_____

phone_____

email_____

____ student \$10

____ individual \$25

____ family \$40

____ river sponsor \$100

____ river patron \$250

____ watershed protector \$500

____ watershed guarantor \$1000

____ other \$_____

Some companies will match an employee contribution to an eligible charity or non-profit organization. Please check with your employer to obtain a matching gift form, if applicable

Your support is sincerely appreciated. The Flint River Watershed Coalition is a no-for-profit organization with 501(c)(3) tax-exempt status. Your contribution is tax deductible.

Please make checks payable to: **Flint River Watershed Coalition or FRWC 400 N. Saginaw Street, Suite 233 Flint MI 48502**

CALENDAR OF EVENTS

MONTH	DATE/DAY	TIME	EVENT
MAR	2-4/FRI-SUN		*Flint River Steelheaders Boat & Fishing Show Birch Run
	3 / SAT	Morning	*Keep Genesee County Beautiful Conference
	7 / WED	8:00am	Flint River GREEN Professional Development
	9-10/SAT-SUN		*Flushing Walleye Festival
	10/SAT	1:00pm	Presentation by Doc Fletcher at Flushing Walleye Festival
	16 / FRI	8:30am	FRWC Board Meeting
	20 / TUE	7:00pm	Lapeer Chapter, FRWC Meeting
APR	9 / MON		Last Day to Order for Lapeer County Tree Sale
	11 / WED		Last Day to Order for Genesee County Tree Sale
	12 / THU	TBD	Spring Benthic Monitoring Training
	14 / SAT	8am-3pm	*Annual Earth Day & Garden Celebration
	17 / TUE	7:00pm	Lapeer Chapter, FRWC Meeting
	20 / FRI	8:30am	FRWC Board Meeting
	23-27 / MON-FRI		Flint River GREEN Water Monitoring
	26 / THU	TBD	Benthic Monitoring Lab Date
	28 / SAT	9:00am	Friends of the Flint River Trail Maintenance & Cleanup
	28 / SAT	9:00am	Annual Flint River & Community Cleanup
MAY	5 / SAT	TBD	Benthic Monitoring Lab Date
	5 / SAT	9:00am	Wild Lapeer
	5 / SAT	9:00am	Backup Date for Annual Flint River & Community Clean up, in case of inclement weather.
	6 / SUN	2:00pm	First of the weekly Friends of the Flint River Trail Sunday Bike Rides. Meet Every Sunday at the Farmer's Market.
	11 / FRI	8:00am	Flint River GREEN Student Summit
	11 / FRI	8:30am	FRWC Board Meeting
	15 / TUE	7:00pm	Lapeer Chapter, FRWC Meeting
19 / SAT	9-Noon	Rain Barrel Give Away - Hosted by Boys & Girls Club of Greater Flint. 3701 N Averill Ave, Flint	
JUNE	2 / SAT		Ortonville Creek Fest
	9 / SAT	TBD	Our Water Beginner's Paddle - Location TBD
	30 / SAT	TBD	Our Water Paddle - Location TBD
JULY	21 / SAT	TBD	Our Water Paddle - Location TBD
	21 / SAT	TBD	Riverfest - Lapeer

* FRWC Community Table Events, Volunteers Welcome

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LAPEER STUDENTS TIRE REMOVAL PROJECT

7th grade students at Chatfield School in Lapeer removed 16 tires and a truckload of other junk from the South Branch of the Flint River last September. The tires were taken to Cass Community Social Services (CCSS) in Detroit to be turned into mudmats. CCSS trains homeless people in the machine shop that transforms the old tires into durable, attractive mudmats. In addition to providing food and housing to those in need, Cass operates several other green enterprises including an exercise bike gym that creates electricity, document shredding and recycling, and several microenterprises for special needs clients. The Chatfield National Honor Society took a trip to work in the shop with Cass employees to help fill holiday orders for the popular mudmats. The students then hosted the Cass Community for mud oven pizza and a tour of the Willows Ecology Center at Chatfield School. Once again, the river plays a role in building community.



Lapeer Students and their great tire haul

To learn more about Cass Community Social Services go to www.casscommunity.org or the Willows at www.chatfieldschool.org.

Watershed

REPORTER

PARTNERING TO PROTECT OUR NATURAL RESOURCES

JULY 2012

ADD YOUR VOICE TO THE CONVERSATION

REBECCA FEDEWA, FRWC EXECUTIVE DIRECTOR



Rebecca Fedewa

One of the best parts of my job is that on certain days, I get to call the river my office. Whether that means taking a break from the overly enthusiastic air conditioning of our office to sit in the shade of River Bank Park and recharge my inner batteries, visiting canoe/kayak landings with dedicated volunteers to see what we can do to improve them, throwing on my waders to take part in our water quality monitoring program, or working with my partners at the Flint River Corridor Alliance to plan the third annual Boats, Bikes, and Bricks triathlon (see page 6 for the full story). I am continually grateful that my professional life and my personal love for the river intersect so beautifully.

But the truly best part of my job is the daily interactions I have

with our members, donors, volunteers, supporters, and other river enthusiasts. You all love this river every bit as much as, if not more than, I do. And your enduring dedication is why we are seeing real improvements all over the watershed.

At the risk of repeating myself from previous newsletters, our Voice for the Flint River is only growing stronger. Let's keep this momentum going!! This summer and fall, grab a friend or two who have never been on the river, and show them the beauty right in their own back yard. Sign up for our e-newsletter the "Ripples" to keep up on issues impacting our waters. Connect with your local politicians and let them know that you value an increasingly healthy river system in your community. Go fishing! Have fun, and share your experience with your friends, neighbors, and us at the FRWC. Join the discussion on our Facebook page. Let us know about your concerns about the river. And please consider joining, renewing, or increasing your membership donation to the FRWC. Your financial support helps us provide valuable education opportunities to area students, gets "newbies" on to the river for the first time, and helps us track the health of our watershed.

Thank you for being an integral "Voice" of the Flint River.



...COME OUT AND ENJOY YOUR RIVER!



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810-767-6490

www.FlintRiver.org

The Watershed Reporter is published quarterly by the Flint River Watershed Coalition. The Coalition is dedicated to promoting the importance of protecting our natural resources. It works closely with the public and private agencies and citizens' groups in carrying out its mission.

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FRWC Board Meetings are held
the third Friday of the month.

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Waste. Please Recycle!



Newsletter design & layout by Jon Wood

PUT AN "OUR WATER PADDLE" ON YOUR CALENDAR

JAMIE WELCH, PROGRAM COORDINATOR

One of the many things I love about being a part of the Flint River Watershed Coalition is being present when someone really sees the "true" Flint River for the first time. Every summer the FRWC hosts 'Our Water' paddles, which are canoe and kayaking trips on the Flint River. These paddles are open to all levels of experience, and are made possible by the generosity of the Genesee County Drain Commissioner, who I can't thank enough for helping us show just how beautiful our Flint River is.

Our first paddle of the season was on June 9th and we had 17 people participate. Quite a few had never kayaked at all, and most had never been on the Flint River, despite living near it. An hour into the paddle one of our participants turned to me and said "I can't believe I've lived my whole life here and I've never been on the Flint River. Look at what I've missed out on!" That was the sentiment echoed by all of our first time paddlers. They could not get over how beautiful the Flint River is, and all the wildlife that they saw along the way. It is not uncommon to see bald eagles, turtles sunning themselves, fish, frogs and more during one of our paddles, and we saw just about everything that day.

We have several more paddles scheduled; why not spend a gorgeous summer afternoon on the Flint River with us? Our upcoming paddles, listed below, can also be found on our website, www.flintriver.org.

July 28th – Mid Summer Paddle

Enjoy a lazy summer day on the water -you've earned it! This 2 1/2 hour paddle from Holloway Dam to Irish Road is in a relaxing, peaceful stretch of the Flint River. Calm waters and beauty abound on this stretch of the river.

August 11th – Dog Days of Summer Paddle

Escape the heat by taking a refreshing paddle on the river. Join us on our 2 hour trip from Irish Road to Mott Lake and keep an eye out for the Bald Eagles we may see along the way!

August 21st - Tuesday Night Paddle

Come out with us on our weeknight paddle through Montrose. We will be leaving from Montrose Barber Memorial Park and kayaking to Morseville Road on this 2 1/2 hour trip.

September 22nd – Celebrate Fall Equinox

Enjoy the last day of summer or celebrate the start of fall with a colorful paddle along a beautiful section of the Flint River. Prepare to enjoy a calm and rejuvenating 3 hour paddle awash with beautiful scenery as we travel from Riverview Park in downtown Flushing to the Flushing Township Nature Park.

Shuttle transportation is provided. Interested participants must contact Jaime Welch at least 4 days prior to the event to register and arrange for kayak/canoe rental if needed. Kayak/canoe rentals are limited, and are held on a first come, first serve basis. Our kayak trips are intended for those ages 5 and up.





Brent Nicola

When I think of this summer, one word comes to mind. HOT! With record-setting temperatures across the county, and in our watershed, the summer heat has been unavoidable. I can't even begin to count the number of days that I pulled out the hose and sprinkler for my daughter to play in. Recently while watching her

WATER WISDOM

BRENT NICKOLA, BOARD CHAIR

run through the 45 degree well water, I started to think about how fortunate we are to have cold and clean water at our disposal. It is something that we as Michiganders often take for granted.

This year however, there has been a lot of talk about water in our watershed. Area farmers have been hit with significant droughts affecting their wheat, corn, and soybeans yields. Lawns all across the watershed are brown. Many of the small ponds and wetlands in the watershed are very low or dried up. We have also had to cancel several of our canoe trips on the river because of low flows.

Ben Franklin once said that, "When the

well runs dry, we will know the worth of water." Now, I am not making the case that the "well is running dry," but it surely is the case that our river is running low this year. I think the drought provides us the opportunity to think about how much we rely on our local water resources and why each one of us has the responsibility to be a good steward of our water. I encourage you to take steps to be more "water wise" and to conserve water resources. If you need assistance on how you can be more water wise, don't hesitate to contact our staff. If we all take some responsibility for our water, we can ensure that there is plenty of it for our future.

RECOGNITION FOR MICHIGAN WILDERNESS ACT



Just over 25 years ago, after several previous attempts, the U.S. Congress passed what is known as the 'Michigan Wilderness Act'. This act set aside several thousand acres in Michigan for preservation as pristine natural land. That land included the banks of several northern and Upper Peninsula rivers. The Primary sponsor of the act was a fairly young Congressman – Dale E. Kildee. At the local June meeting, the State and local chapters of the Sierra Club recognized Kildee – as he retires this year – for that sponsorship and for his excellent environmental record.

As he was being presented the award earlier this summer, Kildee produced a plaque that had been given to him 25 years ago by the Sierra Club for his perseverance in getting the act passed a somewhat reluctant Congress. Dale Kildee has been a long-time member and supporter of the Flint River Watershed Coalition.

We try to keep a clean mailing list for the Watershed Reporter. If you find that you are receiving two copies, please pass the extra newsletter on to a friend who may want to know more about the watershed, and call our offices and let us know. To inform us about corrections, call us at 810-767-6490, or send an email to ewesthoff@flinriver.org. Thanks!

GoodSearch

Using GoodSearch when you're perusing the internet will help the FRWC by making a donation every time you make a search query!

FLINT RIVER AND COMMUNITY CLEAN UP

With the hard work and dedication of almost 300 volunteers and many area businesses, this year's clean up was a smashing success! The totals speak for themselves – in one day, we removed close to 17 TONS of debris from our watershed. That's about 13 dumpsters full!!! Thank you so much to everyone who came out and made a big difference in just a few hours.

Our volunteers spread out across sixteen sites around the watershed, where they collected general trash, 184 tires (thank you to **Environmental Rubber Recycling** for taking all of those tires for free!), and a stunningly wide variety of larger items, including scrap metal, park bench, signs, shopping carts, chairs, mattress, sink, front of a big screen tv, reel film case, vacuum, metal tub, televisions, and some garden hose.



We'd also like to extend a special thanks to Rick Rhein disposal and the City of Flint for once again providing pickup and disposal services during our clean up. And to our generous sponsors of the event, whose support provided supplies and lunch to all of our volunteers: Thank you! This year's Golden Gloves winner will be announced at our January 2013 Annual Meeting – you won't want to miss that!



RICK RHEIN DISPOSAL



WILD AND WONDERFUL SPRING MONITOR SEASON



Mott Park found itself - like much of the city of Flint - under water on May 5th 2012.

For two weeks every spring and fall the FRWC does water quality monitoring at 34 sites around the watershed. Volunteer monitors visit their site and complete site assessments, including collecting benthic samples from their location. The samples are then taken back to one of our lab locations for identification, which are verified by Master Identifiers. This is a lot of fun for everyone involved, and

we experienced a "100 year storm" which dropped over 6.5 inches of rain overnight, causing massive flooding, power outages, and raising water levels to record heights. May 5th found our monitors with water levels too high for them to safely get into the river, and a lab without power. The lab was cancelled and site visits were rescheduled.

Unfortunately for us, the spring season

relatively easy to do – when Mother Nature cooperates that is!

This spring started off as planned. The first lab was held, and our wonderful monitors were able to complete site assessments and benthic sampling at almost half of the 34 sites. The second lab was scheduled for

May 5th. On May 4th

ended on May 10th with the creeks still too high in many locations to allow for complete site assessments and sampling to be performed. But, thanks to the dedication of our monitors who were willing to keep going out and check water levels, some sites were able to get completed. At the remaining sites the water levels were still too high to allow safe access into the water, and at these locations, site assessments were completed as much as possible. Our season is never boring!

Our fall water quality monitoring season begins with our volunteer monitor training on Thursday, September 6th, 2012 with 2 times for your convenience: 1-4 pm and 5:30-8:30 pm in Davison. We will be holding our labs on Thursday, September 20th from 12-6 pm and on Saturday, September 29th from 12-5 pm. If you are interested in finding out more about the monitoring program or in attending training, check out www.FlintRiver.org or contact Jaime Welch at 810-767-7140 or jwelch@flintriver.org. See you in the fall!

FRIENDS OF THE FLINT RIVER TRAIL

The Friends of the Flint River Trail is an active chapter of the Watershed Coalition – and we love this year's theme – only slightly adapted as "Fun Along the Flint River!" We host weekly bike rides – every Sunday, May through October – along the Flint River Trail – starting at the Flint Farmers' Market at 2:00 PM.

The rides have gotten off to a great start this year with many first-time riders virtually every week of the year. These are leisurely paced, gentle group rides with 'sweeps' along to help resolve any bike problems that we might encounter. Treats are available at the end of the rides. There is no charge: It's just a "show up and ride" fun trip of about 12-14 miles, generally.

The FFRT also hosts once-a-month Saturday rides on other mid-Michigan trails meant to explore other cycling opportunities, and to introduce riders to some wonderful other trails. Those



The FFRT gratefully recognizes The Genesee Wanderers Bicycle Club as a \$500.00 sponsor for the underwriting of the FFRT Spring Newsletter.

rides all start at the trail-head at 10:00 AM. Your ride to the trail site is 'on your own.' **The future Saturday rides are as follows:** (all Saturdays) **August 11**, Bay City Trail; **September 8th**, Midland, Chippewa Nature Center; **October 13th**, the Milford, Kensington Park, Island Lakes trail complex. Get further information about the FFRT from Jack Minore at jacksonmin@aol.com or Bruce Nieuwenhuis at bnbaton@gmail.com.

BOATS, BIKES AND BRICKS



The third annual Boats, Bikes, and Bricks triathlon was a smashing success this year! Coordinated by our partner organization, the Flint River Corridor Alliance, this year's event brought more participants than ever to the banks of the Flint River to take part in this fun and irreverent sporting event.

Congratulations to our top finishers: Stacey Osborn – 57:52 and Don Bernstien – 51:14

This year's course included an up and downstream paddle from the Mott Park golf course through portions of Chevy in the

Hole, a scenic bike ride along the Kettering extension of the Flint River Trail, and a rolling run through the golf course. Participants relaxed afterwards with refreshments provided by Hoffman's Deco Deli, Blackstones, and the Lunch Studio.

As quoted in the Flint Journal, Shannon Henderson of Flint commented: "I think it's a great event. It's a lot of fun." Mary Hewitt, also from Flint said "I never thought I'd be kayaking the Flint River until today."

Congratulations to everyone who participated!!



A GRAND SEASON FOR GREEN!

Another season of the Flint River GREEN program has drawn to a close. This past season of GREEN was exceptional in many ways. We had nearly thirty area schools participate, the weather for the testing was wonderfully Michigan, and a very fun and successful Student Summit was held in May.

GREEN has been very fortunate to have amazing mentors that donate their time and expertise to the program by assisting the students with their water quality testing; both in the classrooms, and at the testing sites.

The weather was most agreeable during the testing season, with just a few classrooms reporting chilly or rainy days. Testing sites included the Flint River near Western Road, the Farmer's Creek in Lapeer, Thread Creek in Grand Blanc, and Gravel Creek in North Branch. Early reporting by the teachers and students at these and other sites indicated very good quality. A complete listing of sites, participating schools, and results will be available on our website and in the GREEN annual report.

The Student Summit was an opportunity for GREEN students to

present their findings to their peers through presentations. Students also participated in many break-out sessions during the day as well as took part in several exciting activities, lectures, and tours pertaining to water quality and the many opportunities for enrichment offered by the environment around them. To name just a few: Students learned about what creatures may be lurking in their drinking water, how to prepare and enjoy eating dandelions and other edible plants, how they can be environmental stewards, bicycling, and a special tour of the exciting progress at the Chevy in the Hole site.

This year's summit was graciously hosted by Kettering University. It was a great setting for the presentations and break-out sessions. The event was also a valuable opportunity for the students to



experience another of Flint's superb higher education institutions.

We already have interest from additional schools that would like to participate in the GREEN program in 2013. Thank you to all those who support GREEN recognize the importance of educating our youth and the community on the value of a healthy watershed!

Thank You to our 2012 GREEN Sponsors!!

Up to \$250.00

Dort Federal Credit Union

Flint River Steelheaders

\$2500.00 and above

Genesee County Drain Commissioner
- Our Water Program

Genesee Intermediate School District

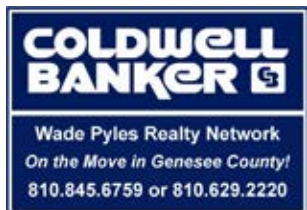
General Motors Corporation

Lapeer Intermediate School District



A SPECIAL THANK YOU TO FLINT RIVER AND COMMUNITY CLEAN UP SPONSORS- 2012

\$500.00 Flint River Cleanup Sponsors:



Coldwell Banker Mr. Wade Pyles

Coldwell Banker Professionals
Fenton, MI 48430
810-845-6759 or 810-629-2220



Mott Community College

MCC offers a wide variety of academic programs, locations, flexible scheduling and campus activities. MCC has so much to offer and all at a very reasonable cost.

Environmental Rubber Recycling

Be Part of the Solution!



Environmental Rubber Recycling provides a wide range of scrap tire disposal options for Michigan businesses and the general public.

When you recycle your scrap tires with Environmental Rubber Recycling, you are doing your part to keep our state clean and our residents and wildlife safe, at the same time, you are helping to provide much needed energy for Michigan families.



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Rick Rhein provides many services to residential and commercial clients. The Rhein Family has been serving the Lapeer area for over 40 years. Rick Rhein Disposal has been in business since 1993 and continues to service customers with pride and integrity. We are locally owned and operated.



Genesee County Parks

Busy as life can be, sometimes you just need to get away, right away. Welcome to the Genesee County Parks, Michigan's largest county park system. With more than

11,000 acres of woods, rivers, lakes, trails, beaches and campgrounds, getting away in the great outdoors is as close as one of the 21 Genesee Parks. When your routine starts to feel a little too routine, slip away to Mid-Michigan's favorite outdoor playground. It's just around the corner. At your Genesee County Parks.

ADDITIONAL IN-KIND DONATIONS WERE RECEIVED FROM:

Calvelli's Pizza - Lapeer
Mexico At The Market
The Spencer Agency

City of Flint
City of Lapeer
City of Flushing

\$250.00 to 500.00 Flint River Cleanup Sponsors:



Center for Community Progress

We develop the tools, strategies and relationships to help civic leaders and local advocates repurpose vacant and abandoned property, using the power of collaboration to transform communities.



Flint Farmers' Market

There's really no other market quite like ours. We're a year round public Farmers' Market located in Flint, Michigan with 30 vendors inside the building and, from May thru October, up to 50 more vendors outside. The market features several produce vendors (pesticide free both winter and summer), a great meat market, poultry, breads and baked goods, cheese, a wine shop, an art gallery, cafe, deli, middle-eastern and Mexican groceries, and unique gifts.



Habitat for Humanity ReStore

The Habitat ReStore is a place for donating and purchasing used and new building materials and home improvement items. The ReStore is open to the general public, so stop in and see what's new! Prices at the ReStore are at least 50% below retail price. Profits from the ReStore support the Genesee County Habitat for Humanity's mission: Bringing people together to build homes, communities and hope.



Keep Genesee County Beautiful

Our Mission - We encourage, educate and engage the community in the ongoing clean up and beautification of Genesee County.



Genesee County LandBank

The Land Bank's mission is to restore value to the community by acquiring, developing and selling vacant and abandoned properties in cooperation with stakeholders who value responsible land ownership.



Rowe

Since 1962, ROWE has grown to be a leading professional consulting firm, driving infrastructure and development projects for our public, private, governmental, tribal, and not-for-profit clients. With our resources, broad expertise, and client-centered philosophy,

ROWE has built a reputation that is unsurpassed by our toughest competitors. Our service specialties include civil engineering, surveying, aerial photography and mapping, landscape architecture, planning, and land development. Each of these services is delivered to you by a team of licensed and certified professionals from our offices in Michigan and South Carolina.



Pedals to Paddles

Pedals to Paddles offers bicycle, canoe, and kayak rentals for you and your family to enjoy. Located in Downtown Columbiaville, we're only two blocks away from the Holloway Reservoir and a few minutes drive to the Flint River. Spend a day biking down the Southern Links Trailway or enjoy a day paddling down the river or reservoir.



Wade Trim

Wade Trim is a consulting engineering firm that helps communities address infrastructure and environmental issues. We have extensive experience in watershed planning and the evaluation and application of a broad range of ecosystem restoration techniques. We are proud to be involved with the restoration of the Flint River and its riverfront, planning and designing solutions that balance flood control, ecological restoration, public open space, recreation and redevelopment of underutilized land.

JOIN THE FRWC AND THEN HEAD OUT TO THE RIVER TO SEE THE DIFFERENCE YOU HAVE MADE!

When your support for the mission and activities of the Flint River Watershed Coalition motivates you to join the organization, your membership contributions make a real difference to us. Each dollar of membership revenue enhances our ability to carry out our important programs. You make a difference in many ways. For example:

- **Benthic Monitoring:** A \$25 INDIVIDUAL membership covers the cost of all the testing equipment and supplies that go into one bucket that our volunteers carry to the river to assess water quality at 34 sites across the watershed.
- **River and Community Cleanups:** A FAMILY donation of \$40 provides gloves and garbage bags for 16 of the 300+ river rescuers who help us out in our cleanup efforts.
- **River Paddles:** A RIVER SPONSOR contribution of \$100 will pay for the canoe rental for a family who may never have participated in any recreational activity on the river.
- **Flint River GREEN:** By contributing \$250 or more and becoming a RIVER PATRON, you will provide assistance to 50 students who participate in our long-standing Flint River GREEN program. Your donation pays for teacher materials and student equipment to conduct water quality testing in the fall, and then helps provide student lunches at our annual summit.

The following individuals and groups

have recently taken the important step to join the FRWC, or to renew their longstanding memberships. We would like to recognize them now:

Membership levels of \$100.00 and greater:

Carl and Karen Bekofske
Denise Fedewa
Dr. Robert McAllister

Membership levels up to \$100.00:

Ruben and Margaret Arceo
Morey Biesman
Tracy Brewington
Nancy Byder
Rob Cojeen
Ryan Eashoo
Bill Goodfellow
Carl Haas and Carolyn Heidemann
Raeann Gatenby
Mike Haley
Gregory Hamman
Holloway Lake Association
Ryan and Julie Londrigan
Monica Mihailuk
Sandra Murphy
Bill Nicolai
Theresa Osowski
Joel Rash
Cheryl Tromley
Karen Wilkinson and
Reginald Lancaster

David and Joanne Wood
Jodie Wright

Memberships for a special purpose:

The Sierra Club Nepessing group has been a long term partner with the Flint River Watershed Coalition. They made a special membership commitment to honor the long term volunteer efforts of Fred and Alyce Townsend. Fred and Alyce are active members of both the Sierra Club and the FRWC, and have donated countless hours of service to both groups. The Sierra Club contributed \$100.00 to recognize Fred and Alyce's efforts in the benthic monitoring program.

The Genesee Wanderers Bicycle Club contributed \$500.00 to mark the publication of the 'River Ride', the yearly newsletter of the Friends of the Flint River Trail. The generous contribution of the Genesee Wanderers helped cover the cost to print and distribute the April 2012 edition to the members of the FFRT who enjoy the weekly bike treks organized by the riding group.

Membership contributions are a key element in our success as a grassroots watershed organization, and we value every one. Thank you so much to all of our new and renewing members. The hard work is done, now go out and enjoy the river!

SUMMER 2012

name _____
organization _____
address _____
city/state/zip _____
phone (h) _____ (c) _____
email _____

_____ student \$10
_____ individual \$25
_____ family \$40
_____ river sponsor \$100
_____ river patron \$250
_____ watershed protector \$500
_____ watershed guarantor \$1000
_____ other \$ _____

Some companies will match an employee contribution to an eligible charity or non-profit organization. Please check with your employer to obtain a matching gift form, if applicable

Your support is sincerely appreciated. The Flint River Watershed Coalition is a not-for-profit organization with 501(c)(3) tax-exempt status. Your contribution is tax deductible.

Please make checks payable to: **Flint River Watershed Coalition or FRWC, 400 N. Saginaw Street, Suite 233 Flint MI 48502**

CALENDAR OF EVENTS

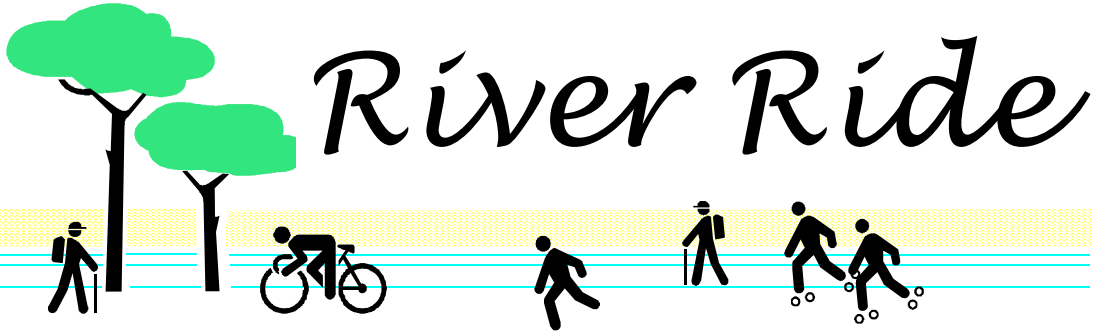
MONTH	DATE/DAY	TIME	EVENT
JULY	21 / SAT 28 / SAT		Lapeer River Fest Mid Summer "Our Water" Paddle
AUG	11 / SAT 11 / SAT 11 / SAT 21 / TUES 21 / TUES	10am 7pm	Dog Days of Summer Paddle FFRT Saturday Ride Bay City Trail Fun Over the Flint River - FRWC Fundraiser including helicopter rides, medevac helicopter tours, skydiving show, dinner, music and open bar. Contact FRWC office for details. Lapeer Chapter Meeting Tuesday Night "Our Water" Paddle
SEP	8 / SAT 18 / TUES 21 / FRI 22 / SAT	10am 7pm 8:30am	FFRT Saturday Ride Midland, Chippewa Nature Center Lapeer Chapter Meeting Board of Directors Meeting Celebrate the Fall Equinox "Our Water" Paddle
OCT	13 / SAT 16 / TUES	10am 7pm	FFRT Saturday Ride - Kensington Metropark starting at Milford YMCA Lapeer Chapter Meeting
NOV	16 / FRI 20 / TUES	8:30am 7pm	Board of Directors Meeting Lapeer Chapter Meeting
DEC	18 / TUES	7pm	Lapeer Chapter Meeting
JAN	15 / TUES 18 / FRI 31 / THUR	7pm 8:30am	Lapeer Chapter Meeting Board of Directors Meeting FRWC Annual Meeting

DON'T MISS OUT ON TIME-SENSITIVE INFORMATION!

SUBSCRIBE TO OUR WEEKLY E-NEWSLETTER, "THE RIPPLES" BY VISITING US ONLINE AND WWW.FLINTRIVER.ORG OR CALL THE OFFICE: 810-767-6490

ALSO, YOU CAN BECOME OUR "FAN" ON FACEBOOK BY SEARCHING 'FLINT RIVER WATERSHED COALITION'

“Riding together in Flint and Genesee County”



River Ride

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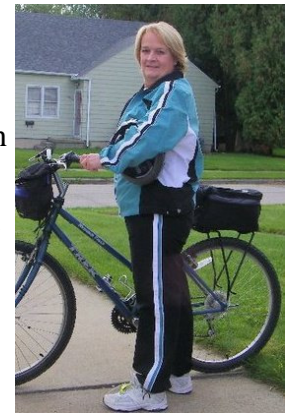
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One Ride with FFRT and I was Hooked!

By Vicki Sacharski

I have always loved riding my bike on little jaunts through my neighborhood, but I never considered myself a serious rider.

One Saturday while I was at the Farmer’s Market in downtown Flint, I discovered the Flint River Trail and the bike rides that take place there every Sunday, May through October. I knew I was interested, but I wondered who attended the rides, how long the rides were and how fast and how hard. It took me a few weeks to get my courage up, but I finally decided to take my bike to the Farmer’s Market one Sunday to check it out.



I was first greeted by Jack Minore, who after asking if this was my first ride, took my name and address. As the time neared to start the ride, Bruce Nieuwenhuis welcomed all new riders and asked them to introduced themselves to the group and say where they were from. Then we were off!

That first ride was to Stepping Stones Falls, up one side of the Flint River and back down on the other side. The ride answered all my questions. There were about 30 riders that day. The riders were all ages young and old. There were many different kinds of bikes from fancy road bikes to one rider’s bike that had coaster brakes and no gears and was at least 50 years old.

Being new to group riding, I really didn’t know what to expect. The group is lead by an experienced rider and followed by sweeps to make sure no one is left behind. The pace is comfortable but enough to be good exercise. Then to top it all off, when you get back to the Farmer’s Market, they get out the juice and cookies and everyone takes a little time to visit before going home.

One ride with The Friends of the Flint River Trail and I was hooked! I am so anxious for the 2011 biking season to begin. I will be there on Saturday, April 30th for the Spring Trail Clean-up and hope to meet all of you at the first Sunday ride on May 1st.

Upcoming Special Events/Rides



**Saturday, April 30,
River Trail Clean-up**

**Wednesday, May 18,
Ride of Silence**

**Wednesday, May 25,
Bicycle Advocacy
Day**

Ride of Silence on May 18

By Jack Minore



On Wednesday, May 18th, the Friends of the Flint River Trail will join cyclists from around the world in what has become an annual event, the “Ride of Silence” (ROS). The ROS was started in 2003, in Texas, to commemorate a lone bicyclist killed by a bus on a virtually empty road. Since then it has grown to hundreds of rides across the nation and the world. There will be about 30+ commemorative rides in Michigan alone. Genesee Wanderers has hosted a ride for several years in Lennon: the FFRT held its first ROS last year. The FFRT ride will start at 6:45 at the Flint Farmers’ Market and will be about 10-12 miles in length. Riders

are encouraged to wear black arm bands; the ride is slow made and in silence.

The rides are scheduled during ‘National Bike Month’ and ‘Smart Commute Week’. During that week, people are encouraged to use mass transportation, walking and cycling for at least some of their errands and/or commutes. Research has shown that the vast majority of automobile trips/errands are less than three miles in length – and easy ride and/or a healthy walk.

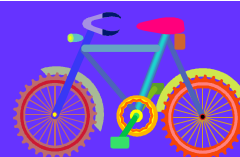
Raise YOUR Voice

by Jack Minore

Cyclists are encouraged to join with others on May 25th for the annual ‘Lucinda Means Bicycle Advocacy Day’ at the State Capitol. Members of the League of Michigan Bicyclists, the Michigan Trails and Greenways Alliance, and the Michigan Mountain Bicyclists Association will spend the day lobbying the legislators and advocating for various safety and other cycling related issues and proposed legislation. Among the issues likely to be discussed will be funding for trails and bike lanes, inclusion of a bike-safety unit in Drivers’ Ed courses, and increased penalties for careless driving resulting in injury or death of cyclists. Many of the participants will ride to the Capitol from the MSU campus, then spend the morning visiting their legislators with talking points and issues of concern to bicyclists. Lunch on the Capitol lawn follows. Details will be available on the League’s website www.lmb.org or on the Trails Alliance site www.michigantrails.org as well as at our Sunday rides closer to the May 25th event.



The Friends ride every Sunday at 2:00 p.m. beginning at the Flint Farmers’ Market. Rides are scheduled through the last weekend in October. Hope to see you there!



Thanks for Your Continued Support

by *Linda Johnson-Barnes*

With this year's trail clean-up approaching fast (April 30th) and looking back on last year's cleanup, I realized that I did not send out "Thank You" cards. As many of you may or may not know, last year I was faced with a serious health challenge. Learning of and dealing with my health challenge consumed much of my time and energy. I was so consumed that it did not dawn on me until recently about the "Thank You" cards. To many it is not a big deal. To me, it is a big deal. I truly thank each and every one of you for your time, assistance and continued support in helping the Friends of the Flint River Trail with our cleanup efforts.



Last year, lunch was provided by HealthPlus of Michigan, Meijer's (Pierson Road Store), and Kroger Food and Pharmacy (Pierson Road Store). Please know the Friends of the Flint River Trail thank your organization for your support and for a great lunch!



One has not had a hotdog until you have a hotdog grilled by my sister, Janice, and her husband, Robert! Assisting the Grill Masters with setting up for lunch were Beecher Scholarship Incentive Program students, Tiphannie, D'Asia, and my daughter, Leecia. Also joining me were my great nieces, Shaniya (Ms. Peppermint Stripes) and Joi (Ms. Bubblegum). They appeared to have a great time providing sweet treats while assisting me with checking on the volunteers and distributing garbage bags (provided by Keep Genesee County Beautiful) as needed.



The Friends were also joined by our regular volunteers, as well as volunteers joining us for the first time. Please know your support last year, and the years ahead, is greatly appreciated. It is people like you who continue to make a great difference in our community. Keep up the good work!



Statement of Purpose

The Friends of the Flint River Trail

We promote:

- Greater use of the trail through improved safety, maintenance, and publicity.
- Healthy lifestyles by promoting bicycling to new and existing cyclists as transportation and recreation
- Improved facilities along the trail
- Extension of the trail's length and movement toward a city/county trail system.

Trail Maintenance

by *Bruce Nieuwenhuis*

In order to keep the trail safe and pleasant to ride, the FFRT has regularly assisted the City of Flint Parks Department by having volunteers trim back branches, sweep off glass, mow next to the trail, remove fallen branches due to storms, and remove unwanted items dumped on and near the trail. We have kept a record of the time spent doing these tasks because it can be used as an in-kind contribution when requesting grants for trail improvement. Over 246 individual hours were logged last year.

Several riders have offered to help in these activities, and this summer we will try to develop a volunteer list and a schedule for work days. Weed and branch growth is determined by both rainfall and sunshine, so the schedule will be somewhat flexible. Those willing to help should give their names and contact information to Dave Beaulieu, who will be coordinating this effort. The FFRT has a chain saw, gas blowers, hand trimmers and saws, and other tools to use.

Work times are likely to be weekday mornings from 9:30 to 1:00 or so, as the need arises. Those interested in "adopting" a specific section of the trail and keeping it maintained can do so on their own time.

Lots to Do in the Watershed

By Rebecca Fedewa



You know from your bicycling trips riding along the Flint River that we have an amazing resource right here in our own back yards. In addition to the trail, the FRWC has lots of fun recreation and education opportunities for you to take advantage of throughout the watershed, so come on out and join us when you aren't riding.



Join us for water quality monitoring - help us gather valuable data on the health of our rivers. Monitoring takes place April 30th and May 5th. No experience necessary. We provide a free training on April 13th and will outfit you with all the equipment you need. This is a fun, family friendly activity that gets you in your local stream, looking for all the cool critters that live under the rocks and branches in the water. Contact Jaime Welch at the FRWC for more info: jwelch@flinriver.org or 810 767-7140.

Flint River and Community Clean Up - Join us Saturday May 21st for our annual Clean Up, at various sites throughout Genesee and Lapeer Counties. Our annual clean up makes a huge difference in the health of our watershed, and we couldn't do it without volunteers like you! Contact Sue Lossing for more info: slossing@flinriver.org or 810 767-9491.

Canoe and Kayak Trips / River Walks - We will be organizing up to 6 paddling trips and six walks this summer. Check our website calendar for dates and times at www.FlintRiver.org.

We also have a few celebrations planned for the summer and fall. Become our "fan" on Facebook and/or sign up for our listserv from our website to stay up date on all the great events happening throughout YOUR Flint River Watershed.



Boats, Bikes & Bricks 2nd Annual Triathlon

by Cathy Lancaster

Looking for an exciting twist on triathlons? Sign-up for the Flint River Corridor Alliance's (FRCA) 2nd annual triathlon along the Flint River held on Saturday, June 18th at 8am. The "Boats, Bikes and Bricks" race is a non-competitive 12K race that showcases recreational fun that the Flint River Corridor offers area residents. The race has begun to attract visitors to the region.

According the FRCA website, the triathlon will start with a run through the Mott Park neighborhood, followed by a canoe or kayak paddle on the Flint River. The final leg of this triathlon is the bike race on a section of the Flint River Trail. Following the triathlon there will be an after-party at the Mott Park Golf Course Clubhouse.

Registration is available online at the FRCA website, www.fralliance.org. The fee is \$25 per person and you must bring your own equipment. Canoe and kayak rental information can be found on the FRCA website as well.



Official FFRT Sunday & Saturday Rides

by Bruce Nieuwenhuis



The Friends of the Flint River Trail's Sunday rides will begin this year on May 1st at 2:00 pm starting at the Farmers' Market. The rides will be held every Sunday at 2:00 through October 30th. There will be several standard rides: one to Blue Bell Beach and back, [about 12.5 miles]; one through UM campus, through Mott campus and to Stepping Stone Falls and back, [also about 12.5 miles]; another to the village of Genesee for Ice Cream, [about 17 miles round trip]; and one past Attwood Stadium, and Kettering to Ballenger Highway and back [distance fixable depending on additions on the way back]. We will also do at least one ride partly on city streets to ForMar, and possibly some rides through the East-Court residential streets.

We intend to have a shorter ride for new riders and those with small children who would prefer a less strenuous ride during May as the need arises. Riders will be divided into manageable sized groups to make street crossing easier and safer.

We will continue to have sweeps to assist with bike problems like flat tires and chain adjustments. We ask that riders come with their bikes in good condition and tires pumped up although we will have pumps at the market for those who might need air. It might be a good idea to take your bikes to a local bike shop for an annual tune up to make sure they are safe and working well. We strongly encourage *helmets*. It is a much safer and smarter way to ride, especially with rough patches of road and trail.

For variety, and to introduce riders to other near-by trails, the FFRT leads *Second Saturday Rides* each month; usually within an hour's drive from Flint and starting at a designated trail head at 10:00 AM.

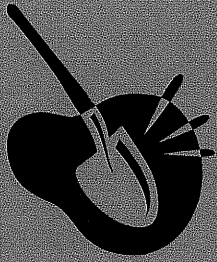
The first Saturday ride this year will be on May 14th on the Southern Links Trail. Meeting at the trail-head in Columbiaville, MI. The Southern Links is a still new 10 mile trail from Columbiaville to Otter Lake and on to Millington. It is ten miles out and ten miles back, a pleasant and leisurely 20 miles in all. June 11th, we will go to the Saginaw's St. Charles Trail, meeting at the trailhead on Strobel Rd on the South side of Saginaw, also a 20 mile total ride. On July 9th we'll ride the Lansing River Trail, meeting at Potter Park. Directions will be available at the Sunday rides and directions will be posted on our FFRT Listserv (see back page for details). August through October Saturday Rides will be announced later on in the season.

Support Your Parks: Including Trails

by Jack Minore

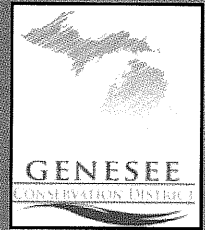
Renewed your license plates yet this year? If you have a birthday coming up, and you register the car, be sure to check the \$10 passport fee on the application. It replaces the annual State Park fee. By donating, you get a marked license plate that allows you into any state park and many other facilities. The money goes to the parks and to other Natural Resources sites, *including bike trails!* And it's a real bargain. The old state park fee was twice that amount. That \$10 actually helps support (a) 133 state forests campgrounds; (b) about 1,000 miles of trails; (c) Over 1000 boat launches; (d) Historic and cultural sites in state parks; and, (e) parks in local communities. More information can be found online at: www.michigan.gov/recreationpassport





ON THE GROUND

A PUBLICATION OF THE GENESEE CONSERVATION DISTRICT



For more information about these programs contact the conservation planning team at (810) 230-8766 Ext 3.



Water Fun Facts:

- Water makes up 83% of our blood, 70% of our brain, and 90% of our lungs. Overall, human bodies are made up of 70% water.
- A tomato is 95% water, An apple, pineapple, and ear of corn are each 80% water.
- 97% of the world's water is salty and another 2% of the world's water is frozen in ice caps! Meaning there is only about 1% for consumption of living things!
- A dairy cow must drink four gallons of water to produce one gallon of milk.
- The first municipal water filtration works opened in Paisley, Scotland in 1832.
- Public water suppliers process 38 billion gallons of water per day for domestic and public use.

Swartz Creek Watershed Sedimentation Study

An effort is being made by Genesee Conservation District (GCD), Michigan Department of Agriculture and Rural Development (MDARD), Natural Resource Conservation Services (NRCS) and United States Geographical Services (USGS) to reduce sedimentation and nutrients loading into the Swartz Creek. Grant funding for the project is awarded to MDA from the Great Lakes Restoration Initiative. In its initial steps, the project has goals of reducing sedimentation within the watershed through the implementation of Best Management Practices (BMP's) on agricultural lands. These BMP's include but are not limited to implementing erosion control practices such as grassed waterways, water and sediment control basins, filter strips, and incorporating cover crops within an agricultural cropping rotation.

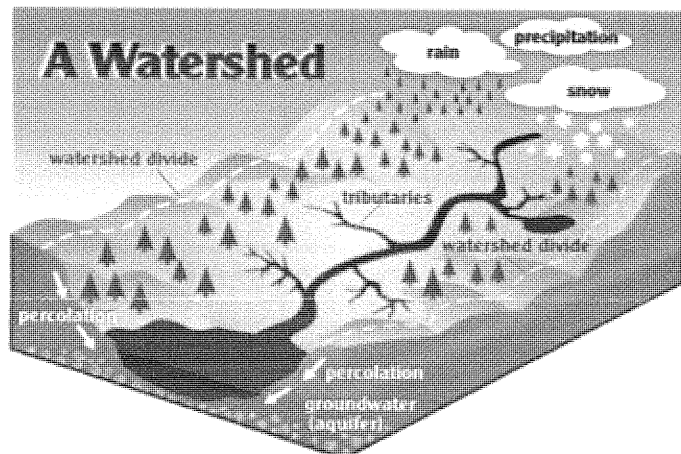


Photo credit: <http://www.depweb.state.pa.us/>

Sediment and accompanying nutrients that flow into a ditch or stream represent the sources of greatest negative impact to Swartz Creek and the river system below the creek that eventually feed into the Saginaw Bay. Sediment settles over fish nests coating eggs with silt that smothers the eggs before fry can hatch. Nutrients cause harmful algae blooms that remove oxygen from water due to decaying vegetation. Sediment additionally causes turbidity that is unpleasing aesthetically and reduces water quality.

As a first step several sampling sites were selected by the GCD and the USGS personnel in December 2011 for obtaining baseline values of stream loading. The sampling data received will be used to monitor loading reductions as BMP's are implemented along the watershed. To start the process moving, the GCD watershed representative has gained an initial approval for sampler installation at one of the selected sites from the landowner. Installation will take place when weather conditions permit.

Wood Utilization – Wood For Good

The Flint Forestry Project's Wood Utilization Program has evolved into an engaging sustainable program. Newly named, the Wood for Good program, uses the City of Flint's removed street trees and mills them into lumber. The street trees removed were deemed hazardous in the 2009-10 street tree inventory. Instead of chipping this valuable wood, GCD opted to find another use for it. Through funding from the South East Resource Conservation & Development Council, we created the Wood Utilization-Wood for Good program. The timber from this project will be sold at the Genesee County Habitat for Humanity Resale Store with the proceeds going back to the community. The proceeds will be split between the Habitat Resale Store and GCD's Flint Forestry Project, making the program sustainable while benefiting the community and our urban forest alike. Be sure to follow us on Facebook for more information and when you can expect to see Urbanwood in the Genesee Resale Store!

Natural Resource Conservation Services

The USDA has announced the On-Farm Energy initiative that will help farmers conduct energy audits and improve their overall energy efficiency. The On-Farm Energy initiative offers technical and financial assistance through the Natural Resources Conservation Service's (NRCS) Environmental Quality Incentives Program (EQIP).

Financial assistance is available to develop an Agricultural Energy Management Plan (AgEMP) that will assess energy consumption on an operation. NRCS and producers then can use the audit data to develop energy conservation recommendations. Each AgEMP has a landscape component that assesses equipment and farming processes and a farm headquarters component that assesses power usage and efficiencies in livestock buildings, grain handling operations, and other similar facilities that would support a farming operation. A certified technical service provider must conduct an EQIP funded Agricultural Energy Management Plan.

"On-farm energy audits and recommendations for improvements will be conservation practices that we can offer as we evaluate and develop conservation plans with our producers, said Acting District Conservationist Misa Cady." "It's the next step to help them achieve greater efficiency."

Applications submitted for the EQIP On-Farm Energy Initiative are accepted on a continuous basis throughout the year. Applications are evaluated and ranked according to environmental benefits expected through the implementation of conservation practices.

For 2012, NRCS has established application deadlines where eligible applications will be ranked and considered for funding as follows:

- Application Period 1 -Submission Deadline: Friday, February 3, 2012
- Application Period 2 -Submission Deadline: Friday, March 30, 2012
- Application Period 3 -Submission Deadline: Friday, June 1, 2012



Applications submitted after the deadlines will be evaluated and considered for later funding opportunities.

"Catch the DRIP!"

Rain Barrels and Tumbling Composters

Looking for a free source of nutrient-rich water to use on your garden and flower bed? Look no further than a rain barrel! You can also provide your plants with nutrient rich compost from your own dining room table with one of GCD's new tumbling composters!

On sale now at the Genesee Conservation District office or online at www.gettrees.org.

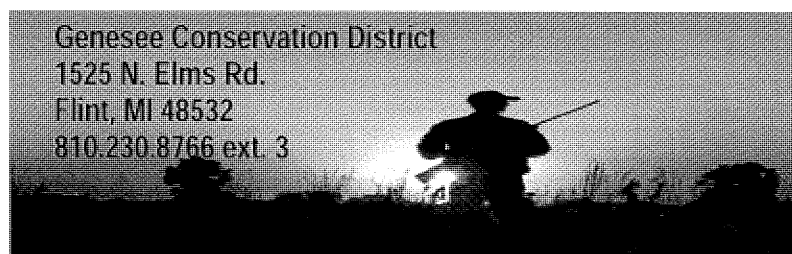


Visit our store online or at the office to see conservation products available for purchase.

HUNTER ACCESS PROGRAM

Did you know that hunting and fishing is one of Michigan largest commodities? People travel from all over the world to hunt in our forests and fish in our lakes. Michigan is fortunate to have over 4.5 million acres of public hunting lands; however, the majority of these lands are in northern Michigan. Throughout southern Michigan there are more than 790,000 hunters who find available public hunting space is becoming more and more limited.

In an effort to provide greater hunting access opportunities to Michigan residents, the Michigan Department of Natural Resources (MDNR) has recently announced the revitalization of the 34-year-old Michigan Hunting Access Program (HAP). Now, MDNR is able to work with soil conservation districts to service the program locally. Using increased public outreach, higher lease rates, and re-tooled program guidelines to give landowners more flexibility, the MDNR hopes to double the number of acres (15,000) and farms (100) enrolled in HAP in southern and mid-Michigan over the next two years. This land is open to public hunting and can be found much closer to home. If you are interested in more information about this program or in locating a HAP property near you, contact Angela Warren at the GCD office.



NAME										OFFICE USE	
ORDER #											
TREES											
TYPE	VARIETY (bare root)	Age	SIZE	1	10	25	50	100	250	Quantity	Cost
CONFERS*	White Cedar	3-0	8-15"	\$1.13	\$5.63	\$10.13	\$16.88	\$28.13	\$56.25		
	Red Pine	2-1	8-14"	\$3.75	\$18.75	\$33.75	\$56.25	\$93.75	\$187.50		
	White Pine-Seedlings	3-0	8-15"	\$1.13	\$5.63	\$10.13	\$16.88	\$28.13	\$56.25		
	White Pine-Transplants	2-1	8-15"	\$2.75	\$13.75	\$24.75	\$41.25	\$68.75	\$137.50		
	Norway Spruce	2-1	10-16"	\$2.48	\$12.38	\$22.28	\$37.13	\$61.88	\$123.75		
	Tamarack	1-0, 2-0	4-8"	\$3.00	\$15.00	\$27.00	\$45.00	\$75.00	\$150.00		
DECIDUOUS*	Sugar Maple	1-0, 2-0	6-12"	\$2.75	\$13.75	\$24.75	\$41.25	\$68.75	\$137.50		
	Red Maple	1-0, 2-0	12-18"	\$3.06	\$15.31	\$27.56	\$45.94	\$76.56	\$153.13		
	Red Oak	1-0, 2-0	6-12"	\$3.06	\$15.31	\$27.56	\$45.94	\$76.56	\$153.13		
	White Oak	1-0, 2-0	6-12"	\$3.75	\$18.75	\$33.75	\$56.25	\$93.75	\$187.50		
	Black Walnut	1-0, 2-0	6-12"	\$2.94	\$14.69	\$26.44	\$44.06	\$73.44	\$146.88		
	Tulip Poplar	1-0, 2-0	12-18"	\$3.31	\$16.56	\$29.81	\$49.69	\$82.81	\$165.63		
	Catalpa	1-0, 2-0	12-18"	\$3.06	\$15.31	\$27.56	\$45.94	\$76.56	\$153.13		
	Sycamore	1-0, 2-0	12-18"	\$3.06	\$15.31	\$27.56	\$45.94	\$76.56	\$153.13		
	Hybrid Poplar	1-0, 2-0	18-24"	\$3.75	\$18.75	\$33.75	\$56.25	\$93.75	\$187.50		
	Callery Pear	1-0, 2-0	12-18"	\$2.81	\$14.06	\$25.31	\$42.19	\$70.31	\$140.63		
	Red Mulberry	1-0, 2-0	12-18"	\$3.31	\$16.56	\$29.81	\$49.69	\$82.81	\$165.63		
	Sweet Gum	1-0, 2-0	12-18"	\$3.19	\$15.94	\$28.69	\$47.81	\$79.69	\$159.38		
	River Birch	1-0, 2-0	12-18"	\$3.06	\$15.31	\$27.56	\$45.94	\$76.56	\$153.13		
Big Bare Root	Sweet Gum	Big Bare	4-5'	\$21.25	\$106.25	\$191.25					
	River Birch	Big Bare	4-5'	\$18.75	\$93.75	\$168.75					
	Common Lilac	Big Bare	2-3'	\$6.25	\$31.25	\$56.25					
	Sugar Maple	Big Bare	3-4'	\$15.00	\$75.00	\$135.00					
	White Oak	Big Bare	3-4'	\$18.75	\$93.75	\$168.75					
SHRUBS & SM TREES*	Fragrant Sumac	1-0, 2-0	12-18"	\$2.75	\$13.75	\$24.75	\$41.25	\$68.75	\$137.50		
	Highbush Cranberry	1-0, 2-0	12-18"	\$3.69	\$18.44	\$33.19	\$55.31	\$92.19	\$184.38		
	Spicebush	1-0, 2-0	12-18"	\$3.63	\$18.13	\$32.63	\$54.38	\$90.63	\$181.25		
	Common Lilac	1-0, 2-0	12-18"	\$3.63	\$18.13	\$32.63	\$54.38	\$90.63	\$181.25		
	Flowering Dogwood	1-0, 2-0	12-18"	\$3.81	\$19.06	\$34.31	\$57.19	\$95.31	\$190.63		
FRUIT	Apple varieties available upon request (quantities limited)	3/4 caliper	5-6'	\$29.00/tree -or- Variety Pack (3 trees) for \$70.00							
Processing Fee				Included in all paper orders							\$1.00
Please remember to visit us at www.gettrees.org for more information about the spring tree species selected and about some of the other products for sale!								TREE Subtotal:		\$	
								State Sales Tax	x.06	\$	
								TREE TOTAL		\$	

Charge your order:

Visa
 Master Card
 Discover

Expiration Date / /

Account Number

Name on card:

Signature:

Name

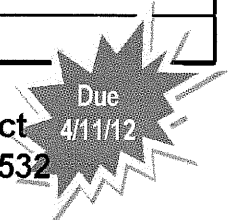
Address

City, State, Zip

Phone

Email

Send orders to:
Genesee Conservation District
 1525 N. Elms Road Flint, MI 48532





Spring Tree Sale Fundraiser
going on now!
Place Your order at
www.gettrees.org

NONPROFIT ORGANIZATION
US POSTAGE PAID
FLINT, MI
PERMIT NO.18

Genesee Conservation District
1525 N. Elms Rd.
Flint, MI 48532
Phone (810) 230-8766 ext. 3
Fax (810) 230-2404

Return Services

MAR 05 2012
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YOUR Conservation Planning Team:

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Environmental Engineer
Luke.obrien@mi.usda.gov

BOARD of DIRECTORS:

Nancy Szikszay (Chairperson)	Brad Hill
Jacky King	Darren Bagley
	Erin Caudell

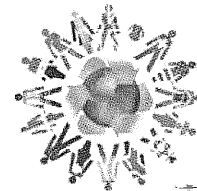
Forestry Tip:

One of the biggest threats to forests is the spread of exotic invasive species primarily due to the increase in global trade. Exotic and invasive species threaten forest ecosystems and can lead to the extinction of native trees. One example in this region is the Emerald Ash Borer, which has caused ash trees to die throughout Michigan and the mid-west.

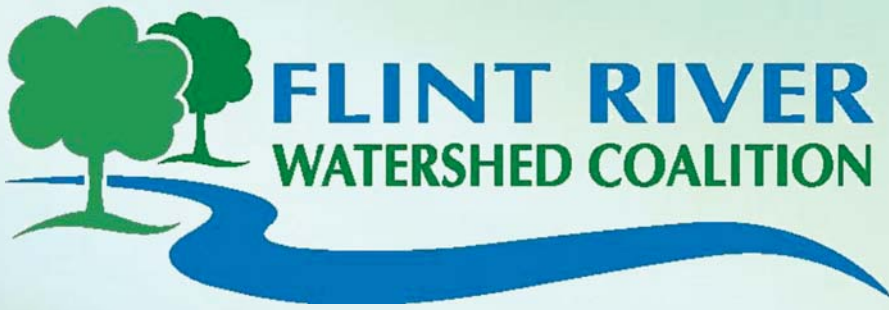
Conservation Calendar:

Mark your calendars for...

- April 11th:
Spring tree orders due
- April 27th and 28th:
Spring tree sale distribution
- April 28th:
For Mar Arbor Day Celebration



All NRCS & District programs and services are offered on a nondiscriminatory basis with regard to race, color, national origin, religion, sex, age, marital status, sexual orientation, or handicap.

A photograph of a single green leaf floating on a body of water. The water is light blue and shows concentric ripples emanating from the point where the leaf is floating. The background is a soft, out-of-focus light blue.

Flint River *GREEN*

2012 Annual Report

*Partnering to protect, preserve,
and improve the
Flint River Watershed.*

Go GREEN

A Letter from the Executive Director

Flint River

Watershed Coalition

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Rebecca Fedewa
Executive Director

Edythe Westhoff
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Casey Foote
Development Director

Jamie Welch
Program Assistant

Holly Rosser
*GREEN Program
Coordinator*

Flint River GREEN

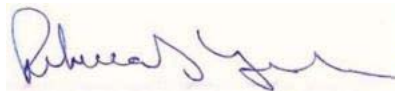
The Flint River Watershed Coalition is proud to have wrapped up our 23rd year of coordinating the Global Rivers Environmental Education Network in Genesee and Lapeer Counties. We've seen the program grow and develop every year, to the point where we are one of the largest GREEN programs in the nation.

This year included a new partnership with Kettering University, the host of the 2012 GREEN Student Summit. This exciting change brought our students to one of the premiere engineering colleges in the country. Many thanks to Kettering for your hospitality!

Flint River GREEN provides hands on learning for area students, helping to build the watershed stewards of the future. Student learning covers the scientific method, critical thinking, and public speaking. In the process, students interact with professionals from a wide array of environmental professions, all while getting directly involved in the health of their community. It's an invaluable experience that simply cannot be replicated in the classroom.

Our many partners, volunteers, and funders listed throughout this report are instrumental in the continued success of Flint River GREEN. We are very thankful for their continued participation and support.

See you in 2013,



Rebecca Fedewa
Executive Director



The GREEN Planning Committee works year round to ensure that the GREEN Program is an outstanding success.

The dedication of this committee to GREEN and to its students is exceptional. The committee promotes life-long learning and environmental awareness, so that the students will carry with them the message that they can be heard and make a difference in their environment.

On behalf of the GREEN Committee, thank you to our teachers, mentors, presenters, supporters, and students. GREEN would not be a success without you.



Darren Bagley
Irene Bashore
Larry Casler
James Emmerling
Rebecca Fedewa
Eric Hakel
Alyssa Hawkins
Tammie Heazlit
Cheryl Hobson
Lisa Hook
Thomas Hutchings
Teresa Krawczyk
John Maksimchuk III
Ashley Miller-Helmholdt
John Moldovan
Dawn Mosher
Jan Sneddon
Bill Welch
Edythe Westhoff



GREEN Environmental Mentors

2012

Our mentors are highly qualified individuals within their respective environmental science fields. GREEN is fortunate to have these dedicated mentors to assist our teachers and students in a variety of ways. They assist in the classroom setting and at their classrooms' selected testing site. Mentors ensure that the water quality tests are performed properly, that safety precautions are followed, and that the data is both accurate and collected within appropriate time parameters. They also help students with career exploration. Mentor assistance is an integral part of the GREEN program, and we thank them for their time and assistance.

Marv Ashbury, General Motors, CCA Swartz Creek

Darren Bagley, Michigan State University Extension, 4-H

Aaron Bagwell, Quaker Chemical

Irene Bashore, General Motors, Flint Assembly

Eric Brubaker, City of Flint- Water Pollution Control Division

Craig Buike, Quaker Chemical

Thad Domick, City of Flint- Water Pollution Control Division

Rebecca Fedewa, Flint River Watershed Coalition

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

Susan Kubic, Genesee County Drain Commission

John Maksimchuk III, General Motors, Flint Metal Center

Rick McAvinchey, Forestry Specialist

Renee Mietz, General Motors

Ashley Miller-Helmholdt, Earth Force

John Moldovan, General Motors Retiree

Al Putney, Delphi Flint

Pat Schultz, General Motors

Brent Wilson, General Motors, Flint Tool & Die



Participating Schools of GREEN

2012

Atherton High School

Teacher: Matt Hyslop

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 - Lapeer

Teachers: Annette Young, Lori Raymond & Karla Pretty

Clio-Carter Middle School

Teachers: Chip McCallum & Ryan Nemi

Flint Classical Academy

Teacher: Robert Ryan

Flint Northern High School

Teacher: Chris Ochodnicki

Flint Northwestern High School

Teachers: Nadina Aversa & Tina Natale

Flushing High School

Teacher: Paul Taylor

Genesee School

Teacher: Wendy Watson

Genesee High School

Teacher: Kendra Moore

Goodrich Middle School

Teachers: Cindy Rivet & Cheri Youngs

Grand Blanc Middle School – East

Teachers: Deb Lacki, Deb Wilson & Pat Nelson

Grand Blanc Middle School – West

Teachers: Elizabeth Lemerond & Vicki Skrisson

Kearsley-Armstrong Middle School

Teachers: April Yorks & Cindy Sierra

Lakeville Middle School

Teachers: Josh Henley & Andrea Thelen

Linden Middle School

Teacher: Charlene Nester

Montrose Kuehn-Haven Middle School

Teacher: Linda Jordan

Mt. Morris Junior High School

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

North Branch High School

Teacher: Carrie Wenta

North Branch Middle School

Teacher: Julie Tumblin

Rolland-Warner Middle School – Lapeer

Teachers: Anne Prill & Wyatt Stevens

St. John Vianney Catholic School

Teacher: Elizabeth Petrides

Swartz Creek Middle School

Teacher: Brandolyn Forbes

Westwood Heights – Hamady High School

Teacher: Tammy Wylie

The culmination of the student's hard work is the annual Student Summit. The summit was held at Kettering University. The Summit is an opportunity for the students to present their water quality findings to their peers. The students prepare high quality and informative presentations that detail the results from their many tests.

Students also are invited to participate in a number of fun and educational "Break Out" sessions. These sessions included demonstrations, activities, and lectures focused on the many exciting things of their environment.

Break-Out sessions are led by community members who are passionate about what they do and are equally passionate about educating our GREEN students. They graciously donate their time to make GREEN an even more exciting event!



Students learn what may be lurking in their water with Darren Bagley.

Student Presentations Emcee, Tom Jones, Genesee County Drain Commission

Rats in your Drinking Water, Darren Bagley, Michigan State University Extension

Bees, Bee Keeping & Honey, Jim Dodder, Genesee County Bee Keeper

Become a Junior Naturalist, Nicole Ferguson, Genesee County Parks

Walking Tour of "Chevy in the Hole", Steve Montle, Center for Community Progress & Matthew Didier, Environmental Protection Agency-Region 5

Sewer CSI, Thad Domick, Dawn Welsh, Eric Brubaker, Tom Hutchings, City of Flint Water Pollution Control Specialists

Meeting Macro-Invertebrates, Flint River Watershed Monitors, Mike Haley, Teresa Krawczyk & Denny Crispell

Paddling the Flint River, Riley McLincha, Watershed Enthusiast

Edible Plants, Peter McCreedy, Ecology Director, Chatfield Schools

He Heard! Be an Environmental Citizen, Ashley Miller-Helmholdt, Earth Force

Bike Hike! A Cycling Demonstration, Jack Minore, Board Member-Flint River Watershed Coalition & Cycling Enthusiast

Tour Kettering, John Maksimchuk III, General Motors, Kettering Alumnus

GREEN Student Summit Sessions & Presenters

2012



Student presenters from Kearsley.



Mr. Dodder gets students a buzz about bees.



Students identify macro-invertebrates!



A Beecher student makes a suet cake for the birds.



Students travel to their next session.

GREEN Student Survey Results

2012

Before Project Green

Answer Options

- The Flint River is clean and healthy.
- I can make a difference in the health of the Flint River.
- I understand how a river may become polluted.
- I want to do things to help the environment.
- I know about jobs in the environment field.

Strongly DISAGREE	DISAGREE	AGREE	Strongly AGREE
19%	49%	27%	5%
13%	19%	34%	35%
8%	23%	38%	30%
5%	24%	35%	36%
29%	35%	21%	15%

After Project Green

Answer Options

- The Flint River is clean and healthy.
- I can make a difference in the health of the Flint River.
- I understand how a river may become polluted.
- I want to do things to help the environment.
- I know about jobs in the environment field.

Strongly DISAGREE	DISAGREE	AGREE	Strongly AGREE
8%	25%	49%	18%
3%	0%	34%	63%
1%	2%	24%	72%
1%	5%	31%	63%
0%	18%	56%	26%



“Anything else you’re interested in doing is not going to happen if you can’t breathe the air and drink the water. Don’t sit this one out. Do something.”

- Dr. Carl Sagan

The Water Quality Index, or **WQI**, is the grade received for the tested body of water. The scores of the various tests are tabulated and weighted, resulting the WQI. The scores are then measured against the Q-Value rubric to determine the overall health of the water.



Q-Value Rating

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

Field Tests

Dissolved Oxygen
Fecal Coliform
pH
B.O.D.
Temperature
Total Phosphate
Nitrates
Turbidity
Total Solids



A GREEN Note: A * may be assigned to a particular school in the area of WQI results. This means that complete values were not available. This may be the result of adverse weather conditions on the testing day, calculation errors, or testing errors. Trial and error is all part of the scientific process. Students were able to learn about what factors may have played a role in their results and correct these issues for the next testing time. GREEN is a valuable and continuous learning experience.

Water Quality Index

2012

GREEN School	Testing Location	WQI
Atherton High School	Thread Creek at Bristol Rd.	81.7
Beecher Middle School	Kalamazoo River at Talmadge Creek	71.92
Bendle High School	Thread Creek at Bristol Rd.	71.7
Birch Run Marshall-Greene Middle School	Silver Creek	59.86
Brandon Middle School	Unidentified Location	*
Carman-Ainsworth High School	For-Mar Nature Preserve	80.04
Chatfield School-Lapeer	Farmer's Creek	76.92
Clio Carter Middle School	Pine Run at Clio Park	84.98
Fenton Middle School	Fenton Mill Pond	9.35
Flint Classical Academy	Swartz Creek at Happy Hollow	59.57
Flint Northern High School	Flint River, Western Rd.	*
Flint Northwestern High School	University of Michigan-Flint Campus	*
Flushing High School	Armstrong Creek at Dodge Rd.	81.67
Genesee School	Mott Lake	*
Genesee High School	Mott Lake	*
Goodrich Middle School	Thread Creek, Burpee & Vassar Rd.	82.24
Grand Blanc East Middle School	Armstrong Creek at Dodge Road	92.8
Grand Blanc West Middle School	Frost Gardens	84.62
Kearsley Armstrong Middle School	Thread Creek, Grand Blanc	75.8
LakeVille Middle School	Swartz Creek, near school.	n/a
Linden Middle School	Linden Middle School Grounds	83.63
Montrose Kuehn-Haven Middle School	Hunters Creek at McCormick Dr.	*
Mt. Morris Junior High School	Farmer's Creek	*
North Branch High School	Unidentified Location	*
North Branch Middle School	Gravel Creek, North Branch	74.02
Rolland Warner Middle School, Lapeer	Undisclosed location	92.73
Swartz Creek Middle School	Swartz Creek, Hill Road Bridge	72.85
Westwood Heights-Hamady High School	Clio Bike Path	82.35
The Valley School	Swartz Creek at Van Slyke Rd.	74.8

“A river is the report card for its watershed.”

— (Alan Levere Connecticut Department of Environmental Protection)

GREEN partner, [Earth Force](#), has made some exciting announcements:

- Flint River GREEN lead Mentor, **John Maksimchuk III**, received the **Michigan Governor's Service Award Certificate of Recognition** for his outstanding work as lead mentor for Flint River GREEN!
- Kearsley Armstrong Middle School won **1st** place at the **Michigan Future Problem Solving State Bowl!** In working with their school's storm water permitting process, their project involved illicit discharge testing and storm drain stenciling. The students also brought their project to showcase at the Student Summit this past May!



- Flint River GREEN veteran and teacher at Kearsley Armstrong Middle School, **April Yorks**, received the **Chevrolet GREEN Educator Award!**



Flint River GREEN wishes to acknowledge and thank our financial and in-kind supporters. Your generosity makes it possible for GREEN to continue its mission to educate young people on their watershed, the environment, and the difference they can make. Your support will have a lasting impact for generations to come.

City of Flint, Water Pollution Control Department

Dort Federal Credit Union, Community Involvement Committee

Earth Force

Flint River Watershed Coalition

Flint River Steelheaders Foundation, Inc.

Genesee County Drain Commission

Genesee County Michigan State University Extension

Genesee County Parks and Recreation Commission

Genesee Intermediate School District

General Motors Foundation

Lapeer County Intermediate School District

Kettering University

University of Michigan-Flint

“All the water that will be, is.”

-Anonymous



THE FLINT RIVER WATERSHED COALITION

400 N. SAGINAW STREET, SUITE 233

FLINT, MICHIGAN 48502

WWW.FLINTRIVER.ORG



Flint River GREEN Student Summit 2012

May 11th, 2012

Kettering University



History of GREEN and the FRWC

The Global Rivers Environmental Education Network—GREEN—provides youth the educational opportunities to understand, improve and sustain the water resources in their communities. GREEN empowers young people to learn more about water quality within their watershed and use their findings to create lasting solutions.

This award-winning program teaches middle and high school-aged youth essential academic skills including critical thinking, teamwork, problem solving and decision making. GREEN provides educators with innovative resources including a network of support, an online watershed exploratory tool, water monitoring equipment, technical manuals and action guides. Today, GREEN programs flourish in every state and a number of countries. From the original idea by one group of students, GREEN has grown into a global network of educators and students working to improve their watersheds and in 1999 became an Earth Force program.

Locally, the Flint River GREEN project connects mentors from our sponsors, General Motors and the City of Flint, as well as other environmental professionals with middle and high school students throughout the watershed. The students conduct stream monitoring every year. For more information on Flint River GREEN, visit www.flinriver.org.

The Flint River Watershed Coalition (FRWC) was formed in the fall of 1997 and is a collaboration between educational institutions, local government, local business, environmental groups, and concerned citizens who feel strongly that the Flint River and its tributaries are a vital resource we all need to protect. The FRWC was incorporated as a non-profit 501(c)3 organization in August of 1998.

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Core Beliefs

We are committed to improving and maintaining environmental quality in the Flint River watershed.

We are committed to environmental education.

We value input and participation from our entire community.

We value a positive approach to people and problem solving.

Flint River Watershed Coalition Board Members

Jim Ananich	Darren Bagley, Secretary	Irene Bashore	Linda Berker
Derek Bradshaw, Treasurer	David Churchill	Duane Elling	Andrew Leavitt
Steve Hester	Brad Hill	S. Olof Karlstrom	Brent Nickola, Board Chair
Bob McAllister	Amy McMillan, Board Vice Chair	Jack Minore	
Diane Peplinski	Carol VanBuren		



**FLINT RIVER
WATERSHED COALITION**

Flint River Watershed Coalition

400 N. Saginaw St., Suite 233, Flint, Michigan 48502

Phone: (810) 767-6490 www.flinriver.org

YES, I want to join the FRWC! Partnering to protect, preserve, and improve the Flint River Watershed.

Enclosed is my membership amount:

\$10 Student/Limited Income

\$25 Individual

\$40 Family/Friend

\$100 River Sponsor

\$250 River Patron

\$500 Watershed Protector

\$1,000+ Watershed Guarantor

*****SPECIAL*** \$5.00 membership for 1 year – for GREEN participants!**

NAME _____

ORGANIZATION _____

ADDRESS _____

CITY/STATE/ZIP _____

PHONE _____

Please circle one WORK HOME CELL

EMAIL _____

What is a Watershed?

A watershed is an area of land which drains into a particular body of water. Just as when you pour water in a bathtub it all ends up in the drain, when it rains or snows on the surface, that water flows to a particular body of water. That water can flow both above the ground through lakes, streams, and wetlands, or below the ground through groundwater and springs.

The Flint River Watershed is... The Flint River has 1,639 total river miles—over 753 of those river miles have water in them all the time. The Flint River Watershed is made up of 18 smaller watersheds (such as Kearsley Creek or Swartz Creek) and encompasses more than 1,358 square miles—59 townships, 43 school districts, 25 cities and villages, 25 county commission districts, 9 state house districts, 7 state senate districts, 7 counties, and 4 U.S. House districts. For a map of the watershed, see the back page of this program.

The Flint River Watershed is home to more than 600,000 people, nearly half of whom drink groundwater affected by the Flint River. Over 250,000 more people use the River as the backup supply for drinking water. Thousands live along its banks and even more recreate on the river and its associated lakeside beaches.

The Flint River and its tributaries are an important resource for fish and wildlife and provides spawning habitat for small mouth bass, wall-eye, Northern pike, and other Saginaw Bay fisheries. The upper stretches of Thread Creek, Kearsley Creek, and the south branch of the Flint River are designated as cold water fisheries by the Michigan Department of Natural Resources. The high quality of these streams also means they face the most threat to degradation from development and other land use practices.

Sauk, Ojibwa, later Chippewa, and Ottawa Indians originally populated the Flint River Watershed. The Native American name for this river was *Pewonigowink*, meaning “river of fire stone.” European settlement brought fur traders, trading posts, trapping, farming, and lumbering. As the forests were depleted, manufacturing became the primary economic driver of the area.

What does this mean for you? As part of the Flint River Watershed, anything you do can flow downstream and potentially harm your neighbors. We are all connected by the water that flows past us, over our yards and streets, and into the storm drains and roadside ditches. What you do at your home, in your car, your place of work or at your school, and at the places you play all can have an important effect on the Flint River.

GREEN and Earth Force Watershed STEM Initiative

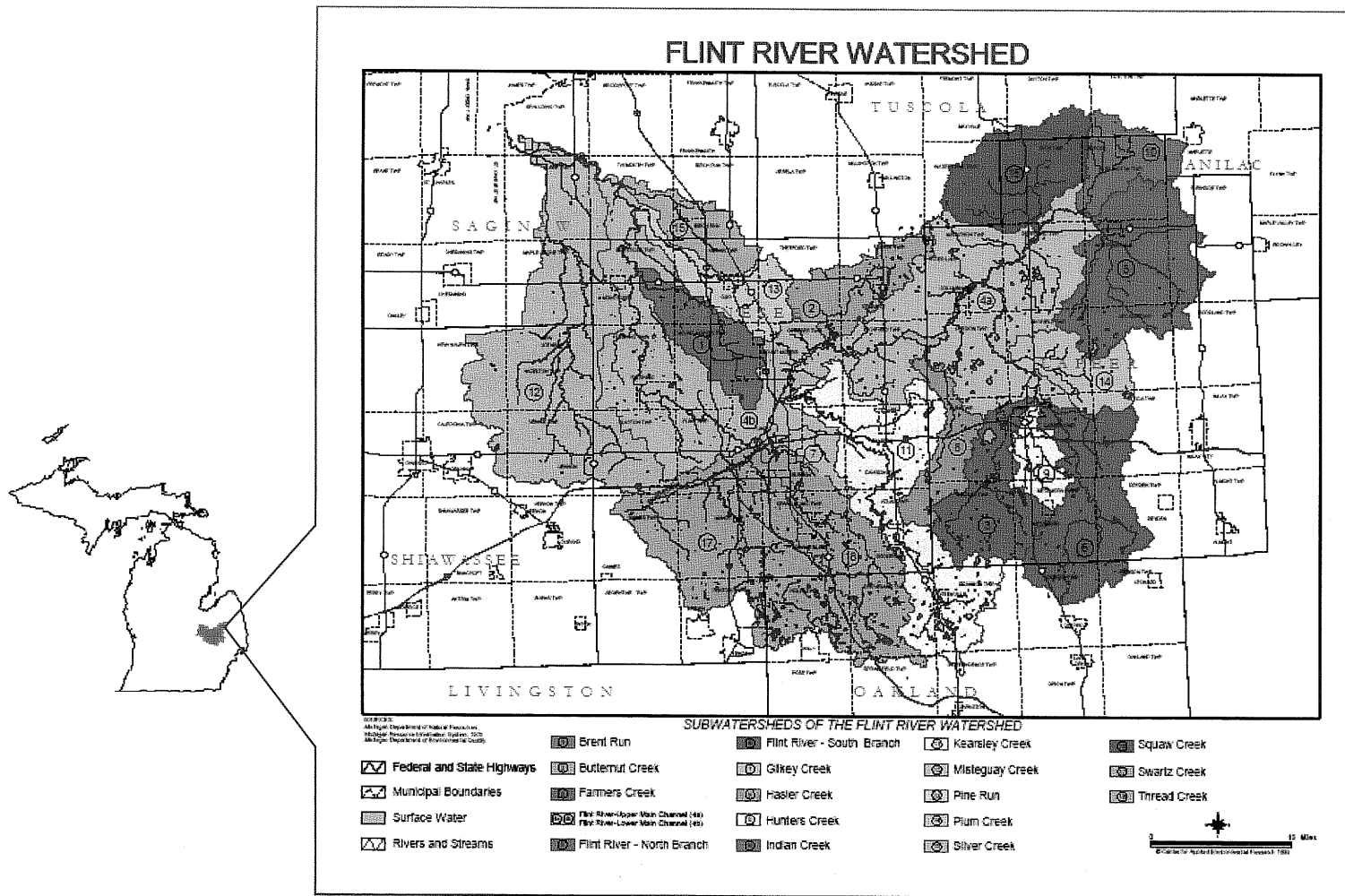
Earth Force is an environmental education and service-learning program that engages young people in learning and taking action on local environmental issues.

In 2008, Genesee ISD and Flint River GREEN joined the Earth Force Watershed STEM Initiative (WSI). WSI engages students active in Flint River GREEN with environmental stewardship. Through the WSI, teachers combine STEM and civic education into service learning projects. Students investigate watershed problems in their community and engage with leaders to solve those problems. Students in the WSI have a deeper understanding of scientific issues, expand their civic skills, and are more likely to act as community problem solvers. In 2010, Earth Force and Flint River Watershed Coalition joined with Lapeer ISD to bring Flint River GREEN to three Lapeer ISD schools—bringing 13 new teachers and their students to the Flint River GREEN Program and Earth Force Watershed STEM Initiative.

For information on EarthForce visit www.earthforce.org

Student Presentation Schedule

Session 1 9:15-10:00	Session 2 10:00—10:45	Session 3 10:45—11:30	Session 4 12:30—1:15
Atherton High School (Hyslop)	Mt. Morris Jr. HS (D’Haene, Smith, McCormick)	Northern HS (Ochodnicki)	Rolland Warner MS (Prill, Stevens)
Kearsley Armstrong MS (Yorks, Sierra)	North Branch HS (Wenta)	Chatfield School (Young, Pretty, Raymond)	Grand Blanc MS East (Wilson, Lacki, Nelson)
North Branch MS (Tumblin)	Marshall Greene MS (Daenzer, Rothe)	Clio Carter MS (McCallum, Niemi)	Hamady MHS (Wylie)
Goodrich MS (Youngs, Rivet)	Grand Blanc Middle School - WEST	Northwestern (Aversa, Natale) Beecher MS Linden MS (Nester)	Beecher MS (Hammond) Bendle HS (Barden)



Thank You!

To the Students. We value your hard work and your dedication to this project.

To the Teachers. You bring science to life for your students.

To the Presenters. Thank you for taking time to be a part of the GREEN Student Summit.

To the Mentors. Thank you for your dedication to educating our young people.

A Special Thank You!

Larry Casler, GAMSC Director, Genesee Intermediate School District

Lisa Hook, Project Coordinator, Genesee Intermediate School District

James Emmerling, LCMSC Director, Instructional Training Supervisor, Lapeer County Intermediate School District.

Julie Simmons, Kettering University, Chemistry, Biochemistry & Chemical Engineering

Sponsors and Supporters of Flint River GREEN

On behalf of the Flint River Watershed Coalition we would like to recognize and thank our program partners and sponsors. FRWC continues to partner with Earth Force/GREEN and Genesee and Lapeer ISD to bring educational and community problem solving activities to our educators.



Surface Water Management

Current Site Number	Site Location Details	Site Name	County	Twp.	MICorps Number	Apr 2007	Oct 2007	Apr 2008	Oct-08	Apr 2009	Oct 2009	Apr 2010	Oct 2010	Apr/May 2011	Oct 2011	Apr/May 2012	Oct 2012
1	Site 1 (prev. Site 14) Flint River, South Branch Lapeer County; Metamora Twp T6NR10ES2	Flint River, South Branch	Lapeer	Metamora Twp.	FRWC- Lap01	42.6 Good	34.0 Good	44.6 Good	42.4 Good	36.8 Good	31.7 Fair	36.0 Good	21.8 Fair	42.8 Good	37 Good	37.1 Good	28.8 Fair
2	Site 2 (prev. Site 2) Plum Creek Lapeer County; Mayfield Twp T8NR10ES20	Plum Creek	Lapeer	Mayfield Twp.	FRWC- Lap02	N/M	N/M	16.3 Poor	24.8 Fair	N/M	N/M	13 Poor	N/M	N/M	24.4 Fair	29.3 Fair	NM
3	Site 3 (prev. Site 5) Hasler Creek Lapeer County; Oregon Twp T8NR9ES20	Hasler Creek	Lapeer	Oregon Twp.	FRWC- Lap03	35.1 Good	40.8 Good	38.1 Good	24.5 Fair	IS	28.8 Fair	40.2 Good	25.7 Fair	35.2 Good	32.2 Fair	30.1 Fair	34.8 Good
4	Site 4 (prev. Site 3) Flint River, Northbranch Lapeer County; Northbranch Twp T9NR11ES5	Flint River, North Branch	Lapeer	North Branch Twp.	FRWC- Lap04	N/M	20.7 Fair	16.1 Poor	N/M	N/M	N/M	N/M	N/M	N/M	N/M	13.1 Poor	NM
5	Site 5 (prev. Site 7) Pine Run Saginaw County T10NR5ES22	Pine Run	Saginaw	Albee Twp.	FRWC- Sag05	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	NM
6	Site 6 (prev. Site 8) Misteguay Creek Saginaw County T10NR4ES28	Misteguay Creek	Saginaw	Albee Twp.	FRWC- Sag06	N/M	53.4 Excellent	N/M	59.4 Excellent	N/M	N/M	N/M	N/M	N/M	N/M	N/M	NM
7	Site 7 (prev. Site 10) Flint River, Flushing (FTNP) Genesee County; Flushing Twp T8NR5ES3	Flint River, Flushing (FTNP)	Genesee	Flushing Twp.	FRWC- Gen07	37.3 Good	39.0 Good	39.8 Good	21.8 Fair	49.2 Excellent	35.1 Good	49.4 Excellent	29.1 Fair	Unable to monitor	39 Good	45.4 Good	35.1 Good
8	Site 8 (prev. Site 9) Swartz Creek (MSD/Golf Course) Genesee County; Flint Twp T7NR7E	Swartz Creek (Golf Course)	Genesee	Flint Twp.	FRWC- Gen08	N/M	22.0 Fair	27.3 Fair	35.5 Good	N/M	33.0 Fair	41.9 Good	36.8 Good	Unable to monitor	38.2 Good	34.0 Good	38.8 Good
9	Site 9 (prev. Site 13) Gilkey Creek Genesee County; City of Flint T7NR7E	Gilkey Creek	Genesee	City of Flint	FRWC- Gen09	17.6 Poor	20.7 Fair	13.5 Poor	24.5 Fair	23.8 Fair	34.7 Good	12.5 Poor	29.4 Fair	11.1 Poor	34.7 Good	11.1 Poor	Pending

10	Site 10 (prev. Site 11) Thread Creek Genesee County; Burton Twp T7NR7ES20	Thread Creek	Genesee	Burton Twp.	FRWC- Gen10	6.3 Poor	N/M	10.5 Poor	19.4	Fair	10.6 = Poor*	19.4 Fair	29.9 Fair	24.9 Fair	Unable to monitor	26.8 Fair	13.5	Poor	27.6	Fair	
11	Site 11 (prev. Site 12) Kearsley Creek in For-Mar Genesee County; Burton Twp T7NR7ES2	Kearsley Creek	Genesee	Burton Twp.	FRWC- Gen11	27.6 Fair	42.2 Good	31.1 Fair	33.9	Fair	IS	31.6 Fair	44.7 Good	36.2 Good	Unable to monitor	44.9	Good	Unable to Monitor	62.4 Excellent		
12	Site 12 (prev. Site 6) Butternut Creek Genesee County; Genesee Twp T8NR7ES12	Butternut Creek	Genesee	Genesee Twp.	FRWC- Gen12	32.2 Fair	47.3 Good	42.1 Good	27.9	Fair	N/M	37.8 Good	26.6 Fair	35.5 Good	Unable to monitor	36.6 Good	44.5 Good	50.9 Excellent			
13	Site 13 (prev. Site 1) Farmer's Creek Lapeer County; Lapeer Twp T7NR10ES6	Farmer's Creek	Lapeer	Lapeer Twp.	FRWC- Lap13	N/M	N/M	N/M	N/M		24.5 Fair	18.0 Poor	N/M	21.2 Fair	N/M	N/M	N/M	NM			
14	Site 14 (prev. Site 4) Squaw Creek Lapeer County, Rich Twp T10NR10ES21	Squaw Creek	Lapeer	Rich Twp.	FRWC- Lap14	N/M	N/M	N/M	N/M		N/M	N/M	N/M	N/M	N/M	N/M	17.4	Poor	NM		
15	Site 15 (prev. Site 15) Brent Run Genesee County; Montrose Twp T9NR5ES15	Brent Run	Genesee	Montrose Twp.	FRWC- Gen15	39.8 Good	19.1 Fair	36.6 Good	33.1	Fair	33.8 Fair	30.2 Fair	21.6 Fair	37.7 Good	Unable to monitor	27.3	Fair	21.2	Fair	24.3 Fair	
16	Site 16 (prev. Site 16) Flint River, Richfield Genesee County; Richfield Twp T8NR8ES10	Flint River, Richfield	Genesee	Richfield Twp.	FRWC- Gen16	23.6 Fair	30.2 Fair	N/M	N/M		Replaced with Site #33	Site Replaced	Site Replaced	x	Site Replaced	Site Replaced	Site Replaced	Site Replaced			
17	Site 17 (prev. Site 17) Silver Creek Saginaw County Taymouth Twp T10NR5ES16	Silver Creek	Saginaw	Taymouth Twp.	FRWC- Sag17	N/M	N/M	N/M	N/M		N/M	N/M	N/M	N/M	N/M	N/M	33.8 Good	NM			
18	Site 18 (prev. Site 18) Indian Creek Lapeer County; Burlington Twp T10NR11ES30	Indian Creek	Lapeer	Burlington Twp.	FRWC- Lap18	36.4 Good	23.2 Fair	32.4 Fair	21.3	Fair	N/M	N/M	36.8 Good	34.0 Good	N/M	30.9	Fair	33.1	Fair	29.7	Fair

19	Site 19 (prev. Site 19) Hunters Creek Lapeer County; Lapeer Twp T7NR10ES8	Hunters Creek	Lapeer	Lapeer Twp.	FRWC- Lap19	14.1 Poor	19.2 Fair	14.2 Poor	26.6	Fair	17.0 Poor	24.7 Fair	22.4 Fair	11.4 Poor	N/M	23.1	Fair	21.3	Fair	17.3*	Poor
20	Site 20 (prev. Site 8B) Misteguay Creek Headwaters Genesee County; Clayton Twp T7NR5ES8	Misteguay Creek Headwaters	Genesee	Clayton Twp.	FRWC- Gen20	22.8 Fair	32.9 Fair	37.4 Good	34.6	Good	26.7 Fair	21.6 Fair	30.7 Fair	17.5 Poor	Unable to monitor	28.8	Fair	40.0 Good	34.0 Good		
21	Site 21 (prev. Site 15B) Brent Run Headwaters Genesee County; Mt. Morris Twp T8NR6ES23	Brent Run Headwaters	Genesee	Mt.Morris Twp.	FRWC- Gen-21	18.4 Poor	N/M	13.1 Poor	33.3	Fair	10.2 Poor	23.9 Fair	30.5 Fair	33.5 Fair	Unable to monitor	24.6 Fair	Unable to Monitor	11.3	Poor		
22	Site 22 (prev. Site 9B) Swartz Creek Headwaters Genesee County; Fenton Twp T5NR6ES6	Swartz Creek Headwaters	Genesee	Fenton Twp.	FRWC- Gen22	19.5 Fair	33.2 Fair	32.9 Fair	19.2	Fair	IS	32.0 Fair	41.0 Good	22.5 ^a Fair	22.5	Fair	40.8 Good	38.3 Good	43.4 Good		
23	Site 23 (prev. Site 11B) Thread Creek Headwaters Genesee County; Goodrich/Grand Blanc Twp T6NR8ES32	Thread Creek Headwaters	Genesee	GrandBlanc Twp.	FRWC- Gen23	36.7 Good	44.5 Good	42.3 Good	43.4	Good	N/M	26.7 Fair	33.2 Good	25.5 Fair	Unable to monitor	23.3	Fair	Unable to Monitor	20.6 Fair		
24	Site 24 (prev. Site 12B) Kearsley Creek Headwaters Genesee County; Atlas Twp T6NR8ES36	Kearsley Creek Headwaters	Genesee	Atlas Twp.	FRWC- Gen24	38.5 Good	29.5 Fair	32.4 Fair	27.3	Fair	43.5 Good	38.1 Good	27.3 Fair	41.5 Good	Unable to monitor	27.4	Fair	Unable to Monitor	45.3 Good		
25	Site 25 (prev. Site 13B) Gilkey Creek Headwaters Genesee County; Burton Twp T7NR7ES1	Gilkey Creek Headwaters	Genesee	Burton Twp.	FRWC- Gen25	41.9 Good	30.5 Fair	40.6 Good	34.7	Good	22.5 Fair	31.7 Fair	25.6 Fair	48.5 Excellent	31.8 Fair	10.7	Poor	Unable to Monitor	16.5 Poor		
26	Site 26 (prev. Site 6B) Butternut Creek, Headwaters Genesee County; Forest Twp T9NR8ES16	Butternut Creek, Headwaters	Genesee	Forest Twp.	FRWC- Gen26	46.8 Good	44.9 Good	59.7 Excellent	46.8	Good	53.9 Excellent	47.8 Good	49 Excellent	39.0 Good	52.3 Excellent	56.3 Excellent	45.5 Good**	37.8 Good			
27	Site 27 (prev. Site 5B) Hasler Creek Headwaters Lapeer County; Elba Twp T7NR9ES31	Hasler Creek Headwaters	Lapeer	Elba Twp.	FRWC- Lap27	14.0 Poor	N/M	N/M	24.8	Fair	18.6 Poor	30.7 Fair	33.4 Fair	24.0 Fair	23.7	Fair	20.8	Fair	32.1 Fair**	NM	

28	Site 28 (prev. Site 1B) Springbank Creek Lapeer County; Hadley Twp T6NR9ES17	Springbank Creek	Lapeer	Hadley Twp.	FRWC- Lap28	39.6 Good	33.7 Fair	27.1 Fair	29.8	Fair	36.7 Good	44.6 Good	32.7 Fair	39.5 Good	36.6	Good	40.5 Good	36.9 Good	21.8 Fair
29	Site 29 (prev. Site 4B) Evergreen Creek Tuscola County Watertown Twp T10NR9ES13	Evergreen Creek	Tuscola	Watertown Twp.	FRWC- Tus29	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	NM
30	Site 30 (prev. Site 7B) Pine Run Headwaters Genesee County; Vienna Twp T9NR6ES13	Pine Run Headwaters	Genesee	Vienna Twp.	FRWC- Gen30	N/M	16.4 Poor	36.3 Good	34.7	Good	37.5 Good	38.4 Good	21.6 Fair	21.7 Fair	17.2 Poor	26.8 Fair	Unable to Monitor	30.2 Fair	
31	Site 31 (prev. Site 20) Shiawassee River Argentine Genesee County; Argentine Twp T5NR5ES20	Shiawassee River, Argentine	Genesee	Argentine Twp.	SHIA- Gen31	x	x	x	17.1 = Poor	20.3=Fair*	24.5 Fair	31.2 Fair	23.7 Fair	Unable to monitor	29.2	Fair	Unable to Monitor	41.5 Good	
32	Site 32 (prev. Site 21) Shiawassee River Linden Genesee County; Fenton Twp T5NR6ES19	Shiawassee River, Linden	Genesee	Fenton Twp.	SHIA- Gen32	x	x	x	37 = Good	31.4 Fair*	46.4 Good	39.5 Good	35.6 Good	Unable to monitor	34.5 Good	26.8 Good**	46.2 Good		
33	Site 33 (replaced Site 16) Clark Drain, Richfield Park Genesee Co.; Richfield Twp T8NR8ES16	Clark Drain, Richfield Park	Genesee	Richfield Twp.	FRWC- Gen33	x	x	x	Replaced Old Site #16; Spring 2009	38.2 Good	35.7 Good	39.3 Good	48.5 Excellent	23.2	Fair	41.8 Good	24.6 Fair**	42.1 Good	
34	Site 34 (provisional site) Gilkey Creek Restoration Project (Applewood) Genesee County; City of Flint T7NR7E	Gilkey Creek Restoration Project/Apple wood {3 year site}	Genesee	City of Flint	FRWC- Gen34	x	x	x	x	17.6 = Poor	35.9 Good	19.4 Fair	37.5 Good	N/M	35.2 Good	25.3	Fair	NM	
35	Site 35 (provisional site) Gilkey Creek Restoration Project (Kearsley Park) Genesee County; City of Flint T7NR7E	Gilkey Creek Restoration Project/Kears ley Park {3 year site}	Genesee	City of Flint	FRWC- Gen35	38.6 = Good*	26.9 = Fair*	38.6 = Good*	x	40.8 = Good*	28.6 Fair	32.9 Fair	36.2 Good	22.4	Fair	42.3 Good	39.7 Good**	NM	

Household Hazardous Waste & Electronic Waste Collection Day!

Saturday, June 02, 2012
10:00 a.m. - 2:00 p.m.

Things you should bring...

Aerosol cans
Antifreeze
Fluorescent light bulbs
- compact and tube
Batteries
- household and car
Gasoline
Household pesticides
Herbicides, Fertilizers
Mercury
Used oil

Oil-based paint
Old prescriptions
Paint thinners
Tires - up to 7*
**No tractor or semi tires and they must be off the rim.*

Television Sets
Computer Monitors
Laptops & Notebooks
Printers & Copiers
DVD & VCR Players
Fax Machines
Cell Phones
Video Cameras
Stereo Equipment

Things you should NOT bring...

Commercial waste
Explosive material
Industrial waste
Latex paint

Medical waste
Radioactive material
TV Consoles

For more information or to volunteer, call:

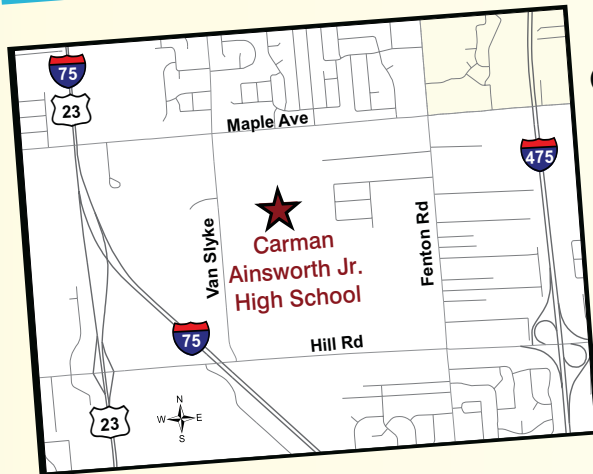
Genesee County
Recycle Hotline:
(810) 762-7744
or Keep Genesee County
Beautiful :
(810) 767-9696



Household Hazardous Waste & Electronic Waste Collection Day!



Facility locations...



**Carman-Ainsworth
Jr. High School**
1409 W. Maple Ave
Flint, MI 48507
10:00 a.m. - 2:00 p.m.
HHW, E-Waste, & Tires



Flint East - Water Service Center
3310 East Court Street, Flint MI
10:00 a.m. - 2:00 p.m. - HHW & Tires
Goodwill Industries - E-Waste
501 S. Averill Ave., Flint MI
10:00 a.m. - 2:00 p.m.

Coordinated by the Household Hazardous Waste Consortium of Genesee County including the Genesee County Metropolitan Planning Commission, General Motors Environmental Staff in Flint, UAW Local 599, Goodwill Industries, 5R Processors and Keep Genesee County Beautiful. Trash services provided by M.A.C. Transport Inc., and Recycling. Major support provided by the Genesee County Board of Commissioners, the City of Flint, and several local units of government.





Household Hazardous Waste & Electronic Waste Collection Day!

Saturday, October 13, 2012
10:00 a.m. - 2:00 p.m.

For more information call or email:
Genesee County Recycle Hotline:
(810) 762-7744
recycle@co.genesee.mi.us
or Keep Genesee County Beautiful:
(810) 767-9696

Things you should bring...

Household pesticides
Herbicides, Fertilizers
Fluorescent light bulbs
- compact and tube
Batteries
- household and car
Gasoline
Aerosol cans
Antifreeze
Mercury
Used oil



Oil-based paint
Old prescriptions
Paint thinners
Tires - up to 7*
**No tractor or semi tires and they must be off the rim.*

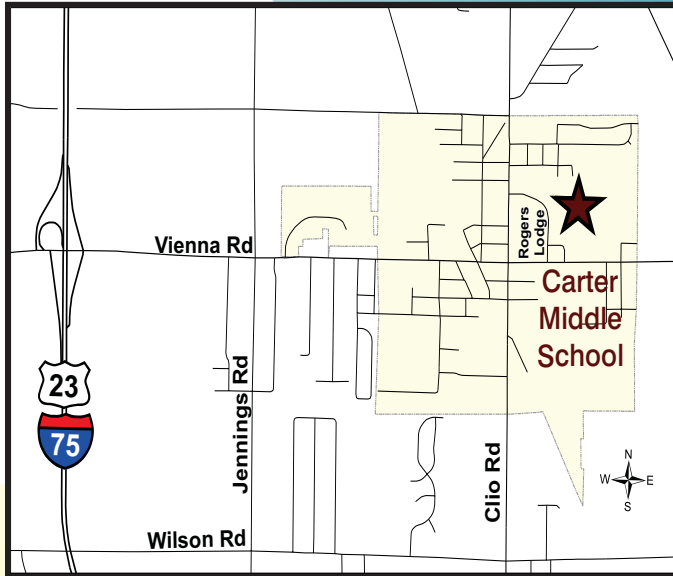
Television Sets
Computer Monitors
Laptops & Notebooks
Printers & Copiers
DVD & VCR Players
Fax Machines
Cell Phones
Video Cameras
Stereo Equipment

Things you should NOT bring...

Commercial waste
Explosive material
Industrial waste
Latex paint
Medical waste
Radioactive material
TV Consoles



Facility locations...



Carter Middle School
300 Rogers Lodge
Clio, MI 48420
10:00 a.m. - 2:00 p.m.
HHW, E-Waste, & Tires



Flint East - Water Service Center
3310 East Court Street, Flint MI
10:00 a.m. - 2:00 p.m. - HHW & Tires
Goodwill Industries - E-Waste
501 S. Averill Ave., Flint MI
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Coordinated by the Household Hazardous Waste Consortium of Genesee County including the Genesee County Metropolitan Planning Commission, General Motors Environmental Staff in Flint, UAW Local 599, Goodwill Industries, 5R Processors and Keep Genesee County Beautiful. Trash services provided by M.A.C. Transport Inc. and Recycling. Major support provided by the Genesee County Board of Commissioners, the City of Flint, and several local units of government.

Flint River & Community Cleanup

Saturday, April 28, 2012

9am – 12 noon

Come to Cleanup & Stay for Lunch!

Make a Difference In YOUR Community!!

~Join us at any of our 14 Locations~

Free Aluminum Water Bottle, Lunch, Water, Gloves, Rakes, & Garbage Bags

Genesee County (Contact – Rebecca Fedewa 810-767-9559)

Downtown Flint: Capital Theater, 134 E. Second Street

Atwood Stadium: 701 University Avenue, parking lot off off First Ave or Water Street

Flushing Riverview Park: Flushing: 230 S. Cherry St. (near the A&W Drive-In)

Gilkey Creek/Pierce Park: Pierce School - S. of Court St., W. of Dort Hwy.

Holloway Dam Canoe Access: Richfield Township, Carr Road at the Dam (between M15 & Henderson Roads)

Kearsley Park: Kearsley Park Blvd. N. of Robert T. Longway, 1/4 mile East of I-475

Thread Lake - McKinley Park: McKinley Center at Orville St. & Peer Avenue

Mott Park: Park at Mott Park, Nolen Drive & Weller Street

Vietnam Veterans Park: Downtown Flint: James P. Cole Blvd., between Hamilton Ave. & Robert T. Longway. In conjunction with the **Friends of the Flint River Trail's** Annual Trail Clean Up

Riverbank Park: Amphitheater at the Riverfront Residence Hall. Parking in lot on Garland and First Ave



Lapeer County (Contact Peter McCreedy 810-614-7594)

All Volunteers Check in at the Home Depot

Rotary Park: 101 E Nepessing St, Lapeer, MI

Cramton Park: S. Main Street, and W. Genesee St./Old M-21.

Hunters Creek:

Volunteer Appreciation Lunch!

Noon – 2 PM

Genesee County - In front of the Capitol Theater, Second Street, Flint, MI.

Lapeer County: Cramton Park



Partnering to protect, preserve and improve the Flint River Watershed
For Information Call: 810-767-6490 Visit: www.flintriver.org



Volunteers knee-deep in Shiawassee River clean up in Fenton

Published: Saturday, June 23, 2012, 11:30 AM Updated: Saturday, June 23, 2012, 11:44 AM



By **Amanda Emery | temery@mlive.com**

FENTON, MI – The Shiawassee River received a deep cleaning Saturday thanks to volunteers from the Fenton and Genesee County-area.

Volunteers met up at Bush Park, off of Lincoln Street in Fenton shortly after 7 a.m. to help in the annual clean up of the river.

They traveled the 6.1 miles down the Shiawassee River to Torrey Road and South Long Lake Road, picking up trash and moving logs and branches along the way.

Cheryl King, Fenton council woman and Shiawassee River clean-up organizer, said she began the clean ups 24 years ago.

"The first year there were a lot of people. We did it three weekends it was so bad." King said.

The clean ups are scheduled for the first Saturday of June each year, King said. This year more than 20 people came to the river to help in the efforts.

"People that have worked it and liked it come back because they know it is consistent." King said. "It gets better every year."

Volunteers have found trash along the banks of the river, including bowling balls, a table, and even a locked safe. King said the clean up is organized to help make it easier to navigate the river with a kayak or canoe.



[Enlarge](#)

Lathan Goumas | lgoumas@mlive.com

Lathan Goumas | MLive.com Volunteers waded down the Shiawassee River during an annual cleanup day in Fenton, Mich. on Saturday, June 23, 2012. A group of approximately 20 volunteers waded 6.1 miles down the river removing trash and debris.

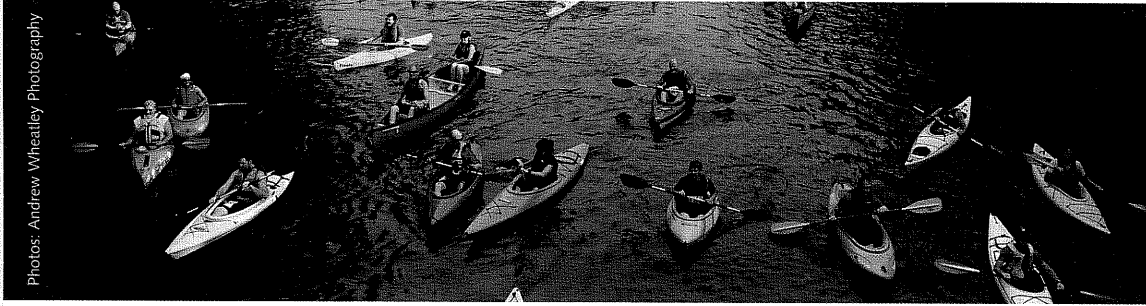
[Volunteers help clean up the Shiawassee River gallery \(9 photos\)](#)

BOATS, BIKES, & BRICKS



Flint's third annual
exhibition triathlon!

Photos: Andrew Wheatley Photography



SAVE THE DATE | Saturday July 14, 2012



The Flint River Corridor Alliance (FRCA) is a community-based organization of government, non-profit, and private sector stakeholders organized to initiate, support, and sustain projects in the Flint River Corridor that revitalize the river as a community asset while enriching the quality of life for the area's residents, businesses, and visitors.

BOATS, BIKES, & BRICKS July 14, 2012

Sign-in begins at 7:30 am, Race starts at 9:00 am

This 12K event is not a competitive race, but an exhibition triathlon that highlights various recreational opportunities the Flint River Corridor has to offer. You will run through Mott Park neighborhood, canoe/kayak on the Flint River, and bike along the Flint River Trail. *Celebration afterward.*



New for 2012! Hurley Health and Fitness will be implementing a Boats, Bikes & Bricks training program during the 6 weeks leading up to the triathlon.

For more information, please contact Danielle Campbell at (810) 262-2208

REGISTRATION

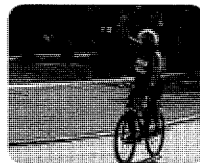
Register now at www.frcalliance.org/pages/bbb.html to receive the early registration discount!

**GET MORE INFO, TO VOLUNTEER,
OR TO BECOME AN EVENT SPONSOR**

Contact Cade Surface at the Flint River Corridor Alliance at (810) 424-5467



Follow us on facebook: www.facebook.com/frcalliance





Search Site



CROSSROADS/HUCKLEBERRY RAILROAD FOR-MAR MOUNDS WOLVERINE CAMPGROUND PARK DIRECTORY RESERVATIONS

Events

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Get away Write away

EMAIL SIGN-UP

REQUEST BROCHURES

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Day Out With Thomas

DONATE NOW!

April 2012						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 Native Plant Sale Order Forms Available	2	3	4 Spring Break 3-6 year olds - The Earth Mover: Erosion Spring Break 7-12 year olds - Shake, Rattle, and Roll.	5 Spring Break 3-6 year olds - Backyard Animals Spring Break 7-12 year olds - 90 Things You May Not Know about Backyard Animals	6 Spring Break 3-6 year olds - The Hunt for Giants Spring Break 7-12 year olds - The Great Egg Hunt	7 Seeds and Seed Eaters: For Individuals with cognitive disabilities. Birders Breakfast Club
8	9	10	11 Knee-High Naturalist - The Good Earth Wild Adventures - CSI Nature	12 Knee-High Naturalist - The Good Earth	13	14 Forest Pests on the Horizon
15	16	17	18 Knee High Naturalist - We Don't Live Here! Wild Adventures - Earth Day Par-tay Junior Master Gardener Classes	19 Knee-High Naturalist - We Don't Live Here	20	21 Webelo Scouting Outing: Forester Webelo Scouting Outing: Naturalist Hypertufa Workshop
22 F.A.N.s (Family Adventures in Nature) Family Foray for Fungus	23	24	25 Knee-High Naturalist - Be a Jr. Naturalist Wild Adventures - Cycles	26 Knee-High Naturalist - Be a Jr. Naturalist	27 Genesee Conservation District 2012 Spring Tree Sale!!!	28 Genesee Conservation District 2012 Spring Tree Sale!!! Global ReLeaf Tree Pick-Up Arbor Day Celebration
29	30					

Genesee County Parks and Recreation Commission
6140 Bray Road | Flint, MI 48505

800.648.PARK | parkwebteam@gcparks.org

MAY

Family Fun for Everyone!



The Mounds Off Road Vehicle Area

WEDNESDAY, MAY 2 Knee-High Naturalist: Butterfly Beauties

For-Mar
Learn about butterflies. Plant flower seeds that will attract butterflies to your yard. For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 4/30/12.

WEDNESDAY, MAY 2 Wild Adventures: A Wet Wonderland

For-Mar
Learn the importance of wetland areas and how you can help preserve them. Dress for mud and water. You will learn how to use a dip net!
For youth, ages 7-12.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 4/30/12.

THURSDAY, MAY 3 Knee-High Naturalist: Butterfly Beauties

For-Mar
Learn about butterflies. Plant some flower seeds that will attract butterflies to your yard.
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/1/12.

SATURDAY, MAY 5 Birders Breakfast Club

For-Mar
Have a cup of coffee and a donut. Learn about bird varieties with our expert birder. Program includes birding tips, information, and a naturalist led birding hike. Great for beginning birders and those who have been birding for years. Please bring your own binoculars. A limited number of binoculars are

SUNDAY, MAY 6 Monthly Mother Nature Story Corner

For-Mar
Through puppetry, stories, and themed activities learn the wonders of Mother Nature. For families, all ages.
Time: 2-3pm. Cost: \$3 per child.
Pre-registration not required, but organized groups are asked to call ahead.

WEDNESDAY, MAY 9 Knee-High Naturalist: Wet World

For-Mar
Explore the plants and animals of the wetlands.
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/7/12.

WEDNESDAY, MAY 9 Wild Adventures: Amazing Animal Mothers

For-Mar
We'll discuss amazing animal mothers and some of the incredible things they do. Just in time for Mother's Day, make a craft to take home to your own amazing mom.
For youth, ages 7-12.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/7/12.

THURSDAY, MAY 10 Knee-High Naturalist: Wet World

For-Mar
Explore the plants and animals of the wetlands.
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/8/12.

will have to be removed prior to riding the track. Handle bars should have grips with bar ends. Riders will be required to wear a long sleeve shirt, long pants, and closed toe shoes (gummy sole preferred), and a helmet. For youth, ages 5 & older. Parents are welcome to join in the fun, too!
Time: 5-8pm. Cost: FREE!
For more information or to register, contact Dennis Ybarra at 810-736-6462, 810-210-0480, or dennisbmxdad1@att.net.

SATURDAY, MAY 19 2012 Genesee County Parks Geocache Event

Cummings Center & Richfield County Park, Pavilion 3
Hosted by the Auto City Cachers. Registration begins at 9am. Geocachers will receive a free commemorative coin and be eligible for door prizes. There will be a potluck meal at 3pm. The Auto City Cachers will supply the hotdogs and buns. There are at least 40 new caches hidden in the parks, added to the more than 100 existing caches. Camping will be available at the EA Cummings Center on Friday and Saturday nights, May 18-19, for \$17 per night. Camping reservations can be made by calling 800-648-PARK, ext. 6. For families, all ages.
Cost: Geocaching is FREE! Camping is \$17 per night.

For more information about the event, please contact the Auto City Cachers at autocitycachers@gmail.com.

SATURDAY, MAY 19 Stroll away with Nature

For-Mar, DeWaters Building
Meet at the DeWaters Building (off of Potter Rd.) for some fresh air and exercise as we stroll down our paved handicap and stroller accessible trail.

Ultimate Dash Training!

Beginners

Crawling through mud, jumping over fire, climbing ropes... you know you want to do it! Don't sit on the sidelines this year... here's the perfect training program to get you in shape for any obstacle race, triathlon or road race that you want to try. Our program is 100% outdoors. Training activities include (but are not limited to): Climbing up and over obstacles, running through trails, abdominal exercises, jumping, squatting, lifting, pushing, pulling, and more! This 8-week program is intended for beginners and will help you to improve your endurance, make you stronger, leaner, and PREPARE you to CONQUER any dash event or obstacle course race you have signed up for this summer! For adults, ages 18 & older.

Cost: \$49 per person for an 8 week program.

Register for Ultimate Dash Training-Beginners at www.hurleyfitnow.com.

Week 1

MONDAY, MAY 14

Richfield County Park, Pavilion 3

Time: 5:30-6:30pm

Week 2

MONDAY, MAY 21

Flushing County Park, Pavilion 1

Time: 5:30-6:30pm

Intermediate/Advanced

Take your training to the next level and push your limits as you get ready to participate in this summer's extreme sports! Our program is 100% outdoors, located in the Genesee County Parks. Training activities include (but are not limited to): Climbing up and over obstacles, running through trails, abdominal exercises, jumping, squatting, lifting, pushing, pulling, and more! This 8-week program is intended for intermediate/advanced participants and will push you to your limit. You will improve your endurance, increase your strength, and PREPARE to CONQUER any dash event or obstacle course race you have signed up for this summer! Thursday's Training Program is for intermediate/advanced participants. For adults, ages 18 & older.

Cost: \$49 per person for an 8 week program.

Register for Ultimate Dash Training-Intermediate/Advanced at www.hurleyfitnow.com.

Week 1

THURSDAY, MAY 17

Richfield County Park, Pavilion 3

Time: 5:30-6:30pm

Week 2

THURSDAY, MAY 24

Flushing County Park, Pavilion 1

Time: 5:30-6:30pm

Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/21/12.

SUNDAY, MAY 27

10th Annual...

Time: 8:30-10am. Cost: \$3 per person.
Pre-registration required by 5/3/12.

SATURDAY, MAY 5 **A Good Day for Ducks**

For-Mar
Explore the weather and how plants and animals cope with adverse conditions. For individuals with cognitive disabilities.
Time: 10:30am-noon. Cost: \$2 per person.
Pre-registration required by 5/3/12.

SATURDAY, MAY 5 **The Bees are Back in Town**

For-Mar
After a year without them, the Honeybees are back at For-Mar. Welcome our BBFs (best bee friends) back with all kinds of bee activities. Build a bee house project to take home.
For families, all ages.
Time: 2-3:30pm. Cost: \$3 per person.
Pre-registration required by 5/3/12.

SATURDAY, MAY 5 **Natural Woman Workshop**

For-Mar
Create your own personal spa products using natural materials. Learn how to plant, maintain, and harvest herbs for cooking, aromatherapy, for beauty treatments. Come with a clean face ready to try a peppermint facial steam. A variety of herbs will be available for sale during the workshop, courtesy of Walker Farms.
For adults, ages 16 & older.
Time: 6:30-9pm. Cost: \$16 per person.
Pre-registration required by 5/1/12.

For-Mar
Hike the Arboretum as we explore For-Mar's Crabapple collection. These wonderful trees provide such a wide range of flowers, forms, fruit and fall interest that you will wonder how you ever got along without them.
For adults, ages 16 and older.
Time: 10-11am. Cost: \$5 per person.
Pre-registration not required, but recommended.

SATURDAY, MAY 12 **Growing Gardeners: May Flowers, For Mom!**

For-Mar
Learn about the many types of beautiful flowers. Create a flower gift to give for Mother's Day!
For youth, ages 7-12.
Time: 2-3:30pm. Cost: \$3 per child.
Pre-registration required by 05/10/12.

WEDNESDAY, MAY 16 **Knee-High Naturalist:** **Fishing**

For-Mar
Learn about fish and fishing. Catch some "Backyard Bass!"
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/14/12.

WEDNESDAY, MAY 16 **Wild Adventures:** **Becoming a Bird Nerd**

For-Mar
Spring is a great time of year to look and listen for birds! Learn about local bird species and how to become an honorary bird nerd.
For youth, ages 7-12.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/14/12.

THURSDAY, MAY 17 **Knee-High Naturalist:** **Fishing**

For-Mar
Learn about fish and fishing. Catch some "Backyard Bass!"
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/15/12.

THURSDAY, MAY 17 **Parent/Rider BMX Clinic**

Richfield County Park, BMX Track
Ever wondered how to get involved in BMX racing? Here's your chance! Learn how to balance in the gate, approach obstacles on the track, where and when to pedal, basic BMX moves, and the rules of riding the track. You'll need a 20 inch or 24 inch bike. Your bike will be inspected for kickstands, chain guards, pegs, and reflectors, all of which

summer strolls we have planned and win a For-Mar prize! For families, all ages.
Time: 10:30-11:30am. Cost: \$3 per child.
Pre-registration not required, but organized groups are asked to call ahead.

SATURDAY, MAY 19 **Native Plant Sale**

For-Mar
The benefits of using native plants in landscaping range from water conservation to ecosystem preservation. They can be yours! Pre-order your plants or just stop by and talk with our native plant specialist.
For adults, ages 16 and older.
Time: 10am-1pm. Cost: Varies.
Pre-registration not required.

SUNDAY, MAY 20 **Family Adventures** **in Nature (F.A.N.s):** **5th Annual Slimy Salamander Stomp**

Hogbacks Area, Davison. Stanley Rd. fishing lot between Henderson Rd. and German Rd.
Join salamander fanatic, Teresa Yoder-Nowak, on a hunt for salamanders. Teresa has a crazy love for these creepy crawly creatures and 8 years experience studying them. Discover where and when to find salamanders. Dress to hike and get muddy!
For families, not recommended for children under 5 years.
Time: 2-5pm. Cost: \$3 per person.
Pre-registration not required, but organized groups are asked to call ahead.

WEDNESDAY, MAY 23 **Wolverine Campground** **Opens for the Season!**

Make your summer camping reservations online at geneseecountyparks.org or by calling 1-800-648-PARK, ext. 6.

WEDNESDAY, MAY 23 **Knee-High Naturalist:** **H is for Habitat**

For-Mar
Practice letter recognition while learning about animals and their habitats.
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/21/12.

WEDNESDAY, MAY 23 **Wild Adventures: Frogs** **and Salamanders**

For-Mar
For-Mar is home to many reptiles and amphibians. This week we'll discuss animals, especially those that loudly make their presence known this time of year!
For youth, ages 7-12.

THURSDAY, MAY 24 **Knee-High Naturalist:** **H is for Habitat**

For-Mar
Practice letter recognition while learning about animals and their habitats.
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/22/12.

FRIDAY, MAY 25 **Bluebell, Buttercup,** **and Clover Beaches** **Open for the Season!**

For families, all ages.
Time: 8am-8pm daily. Cost: FREE!

SATURDAY, MAY 26 **Growing Gardeners:** **The Scoop on Soil**

For-Mar
Soil is not just dirt! It's made up of many neat things and houses many cool critters! Come get the scoop on soil!
For youth, ages 7-12.
Time: 2-3:30pm. Cost: \$3 per child.
Pre-registration required by 05/24/12.

SATURDAY, MAY 26 **Tale on the Trail**

For-Mar
Running Bear invites you to join him for a fun day of reading and exploring. Enjoy reading colorful storybook pages with your family as you walk along the trail. This free event showcases the importance of integrating physical activity into daily life as well as healthy eating and how both can impact school performance. Children will meet the star of the story, Running Bear, and the first 25 children will receive a free copy of the book, "Running Bear and the Crim Kids." For families, all ages.
Time: 10am-1pm. Cost: FREE!
Pre-registration not required.

SUNDAY, MAY 27 **Spring Wildflower** **Photography Hike**

For-Mar
Learn basic tips on outdoor nature photography from photographer Lauren Boardman, followed by a traditional wildflower talk and hike lead by Lauren and a For-Mar naturalist. Cameras aren't required, but you're welcome to bring one if you'd like.
For families, but not recommended for children younger than 5.
Time: 2-3:30pm. Cost: \$3 per person.
Pre-registration not required, but organized groups are asked to call ahead.

Summer doesn't start any better than this! There will be bounce houses, breakdancing, a performance by JUICE, and fireworks!
For families, all ages.
Time: 4-10:30pm. Cost: FREE!
Pre-registration not required.

WEDNESDAY, MAY 30 **Knee-High Naturalist:** **Creatures Small and Furry**

For-Mar
Learn about the special adaptations small animals have to help them survive.
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/28/12.

WEDNESDAY, MAY 30 **Wild Adventures: Nature's** **Treasure, the Wild** **Flowers of For-Mar**

For-Mar
During the one hour hike you will learn about local wild flowers and other plant species. Learn how to press flowers, and add a page to your nature journal.
For youth, ages 7-12.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/28/12.

THURSDAY, MAY 31 **Knee-High Naturalist:** **Creatures Small and Furry**

For-Mar
Learn about the special adaptations small animals have to help them survive.
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 5/29/12.

THURSDAY, MAY 31 **BMX Clinic**

Richfield County Park, BMX Track
Ever wondered how to get involved in BMX racing? Here's your chance! You'll learn how to balance in the gate, approach obstacles on the track, where and when to pedal, basic BMX moves, and the rules of riding the track. You'll need a 20 inch or 24 inch bike. Your bike will be inspected for kickstands, chain guards, pegs, and reflectors, all of which will have to be removed prior to riding the track. Handle bars should have grips with bar ends. Riders will be required to wear a long sleeve shirt, long pants, and closed toe shoes (gummy sole preferred), and a helmet.
For youth, ages 5 & older. Parents are welcome to join in the fun, too!
Time: 5-8pm. Cost: FREE!
For more information or to register, contact Dennis Ybarra at 810-736-6462, 810-210-0480, or dennisbmxdad1@att.net.



For-Mar Nature Preserve & Arboretum

Pre-registration not required, but recommended.

SATURDAY, JUNE 2

It's Easy to Be Green

For-Mar, DeWaters Building

Activities that identify and demonstrate everyday routines related to the conservation of natural resources.

For individuals with cognitive disabilities.

Time: 10:30am-noon. Cost: \$2 per person.

Pre-registration required by 5/29/12.

SATURDAY, JUNE 2

Bee-come a Beekeeper for the Day

For-Mar

Join Beekeeper Carol Winn to learn about bee hives, equipment, wardrobe and the bee knowledge that it takes to bee-come a beekeeper. Hands-on bee activities and observation hive Q & A with a For-Mar naturalist.

For families, all ages.

Time: 2-3:30pm. Cost: \$3 per child.

Pre-registration required by 5/31/12.

SUNDAY, JUNE 3

Spring Wildflower Photography Hike

For-Mar

Learn basic tips on outdoor nature photography from photographer Lauren Boardman, followed by a traditional wildflower talk and hike lead by Lauren and a For-Mar naturalist. Cameras aren't required, but you're welcome to bring one if you'd like.

For families, suggested for children ages 5 & older.

Time: 2-3:30pm. Cost: \$3 per person.

Pre-registration not required, but organized groups are asked to call ahead.

SUNDAY, JUNE 3

Monthly Mother Nature Story Corner

For-Mar

Through puppetry, stories, and themed activities learn the wonders of Mother Nature.

For families, all ages.

Time: 2-3pm. Cost: \$3 per child.

Pre-registration not required, but organized groups are asked to call ahead.

MONDAY, JUNE 4

Ultimate Dash Training Program-Beginners Week 3

Crossroads Village

Refer to sidebar on page 4 for details.

Time: 5:30-6:30pm

For children, ages 3-6.

Time: 10-11:30am. Cost: \$3 per child.

Pre-registration required by 6/5/12.

THURSDAY, JUNE 7

Ultimate Dash Training Program-Intermediate/Advanced Week 3

Crossroads Village

Time: 5:30-6:30pm

Refer to sidebar on page 4 for details.

FRIDAY, JUNE 8 -

SUNDAY JUNE 10

USA BMX Great Lakes National Race

Richfield County Park, BMX Track

Grab your bike or grab a seat for these adrenaline-pumping BMX races! The event will run Friday, June 8 through Sunday, June 10. Licensed riders are invited to register. A license may be purchased at www.ababmx.com.

For race information, call 810.736.7100

ext. 0 or visit www.richfieldparkbmx.com.

SATURDAY, JUNE 9

Birders Breakfast Club

For-Mar

Have a cup of coffee and a donut. Learn about bird varieties with our expert birder. Program will include birding tips and information, and a naturalist led birding hike. Great for both beginning birders or those who have been birding for years. Please bring your own binoculars. A limited number of binoculars are available upon request. For adults, ages 16 & older.

Time: 8:30-10am. Cost: \$3 per person.

Pre-registration required by 6/7/12.

SATURDAY, JUNE 9

8th Annual Kids

Fishing Derby

Bluegill Boat Launch

Here fishy, fishy! Bring fishing gear if you have it. We'll supply the bait, boats, experts, and lunch. Co-sponsored by the Flint River Valley Steelheaders and Fishing Tackle Grab Bag.

For families, all ages.

Time: 9am-2pm. Cost: Purchase of a boat launch, annual or daily pass is required for entrance into the facility. Participation in the Fishing Derby is FREE!

Pre-registration not required.

<i>Daily Vehicle</i>	\$ 7
<i>Senior Daily Vehicle</i>	\$ 6
<i>Daily Vehicle w/Trailer</i>	\$10
<i>Senior Daily Vehicle w/Trailer</i>	\$ 8
<i>Resident Annual</i>	\$34
<i>Resident Senior Annual</i>	\$25
<i>Non-Resident Annual</i>	\$50
<i>Non-Resident Senior Annual</i>	\$40

Michigan Off-Road Vehicle Experience Tour (MORE Tour) 2012

Experience four different off-road vehicle facilities in four days! Start the tour on Wednesday, June 13 at Bundy Hill Off Road Park. Then it's on to Silver Lake State Park on Thursday, June 14. From there you'll go to Rocks and Valleys Offroad Park on Friday, June 15. End the tour on Saturday, June 16 at the Mounds Off-Road Vehicle Park and help us celebrate the Mounds 41st Birthday! Each park will offer camping and planned activities for the entire family. For more information about each facility, go to <http://www.bundyhilloffroad.com/>, http://www.michigan.gov/dnr/0,4570,7-153-10365_15070-34760--,00.html, <http://rocksandvalleys.com/>, <http://geneseecountyparks.org/pages/MoundsORV>.

WEDNESDAY, JUNE 13

Knee-High Naturalist: Nature's Treasures

For-Mar

The outdoors is full of hidden treasures. Create a treasure box and hike to collect some treasures.

For children, ages 3-6.

Time: 10-11:30am. Cost: \$3 per child.

Pre-registration required by 6/11/12.

WEDNESDAY, JUNE 13

Wild Adventures: A Space Bound Naturalist

For-Mar

We'll be discussing astronomy as well as what it might be like to live among the stars. Play skill building games used by NASA's astronauts training for life in space.

For youth, ages 7-12.

Time: 10-11:30am. Cost: \$3 per person.

Pre-registration required by 6/11/12.

THURSDAY, JUNE 14

Knee-High Naturalist: Nature's Treasures

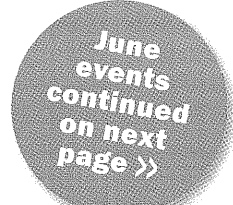
For-Mar

The outdoors is full of hidden treasures. Create a treasure box and hike to collect some treasures.

For children, ages 3-6.

Time: 10-11:30am. Cost: \$3 per child.

Pre-registration required by 6/12/12.



For-Mar on the Road

Senseless No More

Ages 3-6 Discover some amazing senses of animals while using your own senses in nature. Create your own summer sticker picture book.

Ages 7-12 Start your summer by awakening your senses. Get outside, enjoy a sensory hike and create a summer scrapbook for all of your memories!

Cost: FREE! *Pre-registration suggested, but walk-ins welcome.*

TUESDAY, JUNE 19

2-3pm Davison Roadside Park Pavilion

WEDNESDAY, JUNE 20

11am-noon For-Mar

2-3pm Linden County Park, Pavilion 2

THURSDAY, JUNE 21

11am-noon Buell Lake County Park, Pavilion 1

2-3pm Bluebell Beach, Pavilion 1

FRIDAY, JUNE 22

11am-noon Flushing County Park, Pavilion 1
2-3pm Richfield County Park, Pavilion 4

SATURDAY, JUNE 23

11am-noon Wolverine Campground, behind the camp store

Ambitious Amphibians

Ages 4-6 Sneaky and slimy? NO! The frogs of mid-Michigan are amazing amphibians! With a For-Mar naturalist, discover what it takes to live the life of a frog. Make your own sticky frog tongue.

Ages 7-12 Learn about the many species of salamanders that call Michigan home with a activity and a craft.

Cost: FREE! *Pre-registration suggested, but walk-ins welcome.*

TUESDAY, JUNE 26

2-3pm Davison Roadside Park

WEDNESDAY, JUNE 27

11am-noon For-Mar

2-3pm Linden County Park, Pavilion 2

THURSDAY, JUNE 28

11am-noon Buell Lake County Park, Pavilion 1

2-3pm Bluebell Beach, Pavilion 1

FRIDAY, JUNE 29

11am-noon Flushing County Park, Pavilion 1
2-3pm Richfield County Park, Pavilion 4

SATURDAY, JUNE 30

11am-noon Wolverine Campground behind the camp store

THURSDAY, JULY 5

11am-noon Linden County Park, Pavilion 2
1:30-3pm Davison Roadside Park Pavilion

FRIDAY, JULY 6

10-11:30am Buell Lake County Park, Pavilion 1
1:30-3pm Bluebell Beach, Pavilion 1

SATURDAY, JULY 7

10-11:30am For-Mar
2-3pm Wolverine Campground, behind the camp store

Linden County Park, Clover Beach Pavilion
Let's go fishing! Bring the whole family to learn the best ways to catch fish in your county parks. We'll discuss local fish species and the importance of green fishing. For families, all ages.

Time: 6-7pm. Cost: FREE!

Pre-registration suggested, but walk-ins welcome.

SATURDAY, JULY 7**Citizen Science: NABA Butterfly Count**

For-Mar

With a For-Mar naturalist, you will count butterflies as part of the 37th annual NABA butterfly count. Counts are used to track butterfly populations of North America. This count may include the use of your personal vehicle to count butterflies at various locations outside of For-Mar. Bring a sack lunch.

For adults, 16 and older

Time: 9am-3pm. Cost: FREE!

Pre-registration not required, but organized groups are asked to call ahead.

SATURDAY, JULY 7**For-Mar's Family Picnic & Kite Day**

For-Mar

Bring your family and a picnic basket to For-Mar for some family entertainment, we'll provide the ice cream! Kite program activities will take place at 11am and 1pm. For families, all ages.

Time: 11am-2pm. Cost: FREE!

Pre-registration not required, but organized groups are asked to call ahead.

SUNDAY, JULY 8**Mother Nature's Story Corner**

For-Mar

Through puppetry, stories and themed activities, learn the wonders of mother nature. For families, all ages.

Time: 2pm-3pm. Cost: \$3 per child.

Pre-registration not required, but organized groups are asked to call ahead.

MONDAY, JULY 9**Fairy Houses and Gnome Homes**

Linden County Park, Clover Beach Pavilion
What happens if you build houses for fairies and gnomes? Will they come to visit or to stay?

For families, all ages.

Time: 7-8pm. Cost: FREE!

Pre-registration not required.

Michigan Rocks!

Ages 3-6 Let's Rock! We'll explore the different types of rocks found in Michigan and their significance. Learn how to care for your own pet rock.

Ages 7-12 Discover how glaciers helped shape Michigan's landscape and learn how to read a topographic map. Make your own landscape while simulating geologic forces.

Cost: FREE! *Pre-registration suggested, but walk-ins welcome.*

TUESDAY, JULY 17

2-3pm Davison Roadside Park Pavilion

WEDNESDAY, JULY 18

11am-noon For-Mar
2-3pm Linden County Park, Pavilion 2

THURSDAY, JULY 19

11am-noon Buell Lake County Park, Pavilion 1
2-3pm Bluebell Beach, Pavilion 1

FRIDAY, JULY 20

11am-noon Flushing County Park, Pavilion 1
2-3pm Richfield County Park, Pavilion 4

SATURDAY, JULY 21

11am-noon Wolverine Campground, behind the camp store

Who Grows Underground?

Some veggies grow above ground, but many grow underground! They are called root vegetables, and we eat them all the time! Come learn which ones they are.

For children, ages 4-6 and 7-12.

Cost: FREE! *Pre-registration suggested, but walk-ins welcome.*

WEDNESDAY, JULY 11

10-11am Richfield County Park, Pavilion 4
1:30-3pm Flushing County Park, Pavilion 1

THURSDAY, JULY 12

11am-noon Linden County Park, Pavilion 2
1:30-3pm Davison Roadside Park Pavilion

FRIDAY, JULY 13

10-11:30am Buell Lake County Park, Pavilion 1
1:30-3pm Bluebell Beach, Pavilion 1

SATURDAY, JULY 14

10-11:30am For-Mar
2-3pm Wolverine Campground, behind the camp store

What Smells So Wonderful?

Did you know that just smelling something can change your mood? Or that adding herbs to your food is healthy and super tasty! Come learn all about herbs, aromatherapy, and other medicinal plants. Plus, plant your own herb!

For children, ages 4-6 and 7-12.

Cost: FREE! *Pre-registration suggested, but walk-ins welcome.*

WEDNESDAY, JULY 18

10-11am Richfield County Park, Pavilion 4
1:30-3pm Flushing County Park, Pavilion 1

THURSDAY, JULY 19

11am-noon Linden County Park, Pavilion 2
1:30-3pm Davison Roadside Park Pavilion

FRIDAY, JULY 20

10-11:30am Buell Lake County Park, Pavilion 1
1:30-3pm Bluebell Beach, Pavilion 1

SATURDAY, JULY 21

10-11:30am For-Mar
2-3pm Wolverine Campground, behind the camp store

What Lies Beneath

Ages 4-6 Discover the incredible world of worms. These simple creatures will amaze and impress you with their "feets" (or lack thereof) of environment enrichment. Make your own pet worm!

Ages 7-12 Magnificent mushrooms! These fun funguses play a very important role in recycling resources in the environment. Learn the parts and functions of a mushroom as you build your own.

Cost: FREE! *Pre-registration suggested, but walk-ins welcome.*

TUESDAY, JULY 24

2-3pm Davison Roadside Park Pavilion

WEDNESDAY, JULY 25

11am-noon For-Mar
2-3pm Linden County Park, Pavilion 2

THURSDAY, JULY 26

11am-noon Buell Lake County Park, Pavilion 1
2-3pm Bluebell Beach, Pavilion 1

FRIDAY, JULY 27

11am-noon Flushing County Park, Pavilion 1
2-3pm Richfield County Park, Pavilion 4

SATURDAY, JULY 28

11am-noon Wolverine Campground, behind the camp store

Pollination Station

What is a pollination station? It's a flower! Come learn about the magical world of flowers and pollinators. Plus, pot your very own flower!

For children, ages 4-6 and 7-12.

Cost: FREE! *Pre-registration suggested, but walk-ins welcome.*

WEDNESDAY, JULY 25

10-11am Richfield County Park, Pavilion 4
1:30-3pm Flushing County Park, Pavilion 1

THURSDAY, JULY 26

11am-noon Linden County Park, Pavilion 2
1:30-3pm Davison Roadside Park Pavilion

FRIDAY, JULY 27

10-11:30am Buell Lake County Park, Pavilion 1
1:30-3pm Bluebell Beach, Pavilion 1

SATURDAY, JULY 28

10-11:30am For-Mar
2-3pm Wolverine Campground, behind the camp store

July events continued on next page >>



Bluegill Boat Launch

Time: 10:30-11:30am. Cost: \$3 per child.
Pre-registration not required, organized groups are asked to call ahead.

SUNDAY, JULY 22
Cub Scout Wolves
Outing: Birds

For-Mar
Join other Cub Scouts for a program just for you! Earn your Bird Arrow Point Elective Achievement and have fun meeting other Cub Scouts.
For youth, ages 7-12.
Time: 1-3pm. Cost: \$3 per person.
Pre-registration required by 7/20/12.

SUNDAY, JULY 22
Cub Scout Bears
Weather Outing: Weather

For-Mar
Join other Cub Scouts for a program just for you! Earn your Weather Arrow Point Elective Achievement and have fun

Pre-registration not required.

WEDNESDAY, JULY 25
Flash Mob Dancin'!

(Session 4)
Davison Roadside Park Pavilion
Refer to listing under July 11 for full description.
Time: 7-8pm. Cost: FREE!

WEDNESDAY, JULY 25
For-Mar on the Road for Families: What Lies Beneath

Flushing County Park, Pavilion 1
Fantastic fungus, wonderful worms, and bunches of bacteria! Learn about the world of decomposers and how they keep our planet clean. Complete an experiment to see the effects of non-biodegradable rubbish in the environment.
For families, all ages.
Time: 6-7pm. Cost: FREE!
Pre-registration suggested, but walk-ins welcome.

THURSDAY, JULY 26
For-Mar on the Road for Families: What Lies Beneath

Linden County Park, Clover Beach Pavilion
Fantastic fungus, wonderful worms, and bunches of bacteria! Learn about the world of decomposers who keep our planet clean. Complete an experiment to see the effects of non-biodegradable rubbish in the environment.
For families, all ages.
Time: 6-7pm. Cost: FREE!
Pre-registration suggested, but walk-ins welcome.

THURSDAY, JULY 26
BMX Clinic

Richfield County Park, BMX Track
Refer to page 8, July 12 listing for full description.
Time: 5-8pm. Cost: FREE!

SATURDAY, JULY 28
Family Adventures in Nature (F.A.N.s): Dissect-a-Squid with Bill Heyworth

Dissect a squid, gross! Don't worry; a squid dissection is not as icky as it sounds. We'll look at the cephalopod family both alive today and extinct (squid, octopus, cuttlefish and more). Then we'll get our hands dirty actually dissecting a squid and looking at its different parts. One squid per person.
For families, all ages.
Time: 10am-noon. Cost: \$5 per person.
Pre-registration required by 7/26/12.



Holloway Dam Public Access



For-Mar Nature Preserve & Arboretum



WEDNESDAY, AUGUST 8

10-11am Richfield County Park, Pavilion 4
1:30-3pm Flushing County Park, Pavilion 1

THURSDAY, AUGUST 9

11 am-noon Linden County Park, Pavilion 2
1:30-3pm Davison Roadside Park Pavilion

Nature's Rainbow

Colors are one of the things that make nature so beautiful! All the colorful flowers are a marvelous sight! But there are reasons for the many great colors. Come learn all about nature's rainbow!

For children, ages 4-6 and 7-12.

Cost: FREE! Pre-registration suggested, but walk-ins welcome.

WEDNESDAY, AUGUST 15

10-11am Richfield County Park, Pavilion 4
1:30-3pm Flushing County Park, Pavilion 1

THURSDAY, AUGUST 16

11am-noon Linden County Park, Pavilion 2
1:30-3pm Davison Roadside Park Pavilion

Way To Be Chemical Free!

We need to be kind to Mother Earth for she is kind to us! Come learn the ways to be earth-friendly in the garden. She will thank you by producing a very healthy garden!

For children, ages 4-6 and 7-12.

Cost: FREE! Pre-registration suggested, but walk-ins welcome.

WEDNESDAY, AUGUST 22

10-11am Richfield County Park, Pavilion 4
1:30-3pm Flushing County Park, Pavilion 1

THURSDAY, AUGUST 23

11am-noon Linden County Park, Pavilion 2
1:30-3pm Davison Roadside Park Pavilion

Who's Hungry For Your Garden?

All of the delicious produce you grow attracts many other animals than just us! Come learn about the numerous creatures who would love to nibble your garden, and ways to stop it!

For children, ages 4-6 and 7-12.

Cost: FREE! Pre-registration suggested, but walk-ins welcome.

WEDNESDAY, AUGUST 29

10-11am Richfield County Park, Pavilion 4
1:30-3pm Flushing County Park, Pavilion 1

THURSDAY, AUGUST 30

11am-noon Linden County Park, Pavilion 2
1:30-3pm Davison Roadside Park Pavilion

FRIDAY, AUGUST 10

10-11:30am Buell Lake County Park, Pavilion 1
1:30-3pm Bluebell Beach, Pavilion 1

SATURDAY, AUGUST 11

10-11:30am For-Mar
2-3pm Wolverine Campground, behind the camp store

FRIDAY, AUGUST 17

10-11:30am Buell Lake County Park, Pavilion 1
1:30-3pm Bluebell Beach, Pavilion 1

SATURDAY, AUGUST 18

10-11:30am For-Mar
2-3pm Wolverine Campground, behind the camp store

FRIDAY, AUGUST 24

10-11:30am Buell Lake County Park, Pavilion 1
1:30-3pm Bluebell Beach, Pavilion 1

SATURDAY, AUGUST 25

10-11:30am For-Mar
2-3pm Wolverine Campground, behind the camp store

FRIDAY, AUGUST 31

10-11:30am Buell Lake County Park, Pavilion 1
1:30-3pm Bluebell Beach, Pavilion 1

Pre-registration required by 8/2/12.

**SATURDAY, AUGUST 4
Family Adventures in Nature (F.A.N.s): Wild about Wetlands**

For-Mar

Learn about wetland creatures through an up-close observation pool activity. Then create an underwater pond viewer and take a trip with the For-Mar naturalist to the groundwater pond to test them out. For families, all ages.

Time: 2-3:30pm. Cost: \$3 per person.

Pre-registration required by 8/2/12.

SUNDAY, AUGUST 5**Monthly Mother Nature Story Corner**

For-Mar

Through puppetry, stories, and themed activities learn the wonders of Mother Nature.

For families, all ages.

Time: 2-3pm. Cost: \$3 per child.

Pre-registration not required, but organized groups are asked to call ahead.

MONDAY, AUGUST 6**Anime/Manga**

Linden County Park, Clover Beach Pavilion
YouTube's most popular art instruction guru, Mark Crilley, author of Mastering Manga, teaches you to create using authentic manga style. "There's more to manga than big shiny eyes and funky hair." For teens, ages 13-19.

Time: 7-8pm. Cost: FREE!

Pre-registration not required, but class is limited to 25 participants.

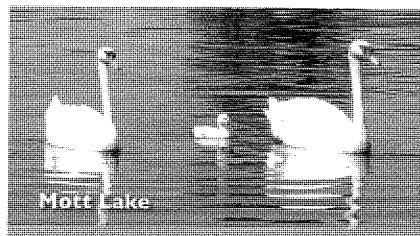
TUESDAY, AUGUST 7**M.A.D.S. Personal Defense Mini Course**

Flushing County Park, Pavilion 1

This two hour mini course is an introduction to the principals of M.A.D.S., Mindset+Awareness+Decision+Skills=Outcome. Participants will be introduced to several fundamental physical personal defense principles and will also learn some basic self-defense techniques. For ages 15 & older.

Time: 6-8pm. Cost: FREE!

Pre-registration not required, but program is limited to 24 participants.

**Creepy Crawlies**

Ages 4-6 2, 4, 6, 8, who do we appreciate? With a naturalist, discover and gain a new appreciation for critters that creep and crawl. Make your own creepy crawly to take home.

Ages 7-12 Discover some amazing qualities of creepy crawly critters with a For-Mar naturalist. Participate in a creepy crawlies critter hunt and create your own slimy pal to take home.

Cost: FREE! Pre-registration suggested, but walk-ins welcome.

TUESDAY, AUGUST 14

2-3pm Davison Roadside Park Pavilion

WEDNESDAY, AUGUST 15

11am-Noon For-Mar
2-3pm Linden County Park, Pavilion 2

THURSDAY, AUGUST 16

11am-noon Buell Lake County Park, Pavilion 1
2-3pm Bluebell Beach, Pavilion 1

Zoo Who?

Ages 4-6 Join a For-Mar naturalist in discovering animals that are only found in Michigan zoos! Make your own animal zoo to take home.

Ages 7-12 A For-Mar naturalist reviews common animals found in Michigan and will surprise you with animals found in Michigan zoos, too! Make an exotic animal mask.

Cost: FREE! Pre-registration suggested, but walk-ins welcome.

TUESDAY, AUGUST 21

2-3pm Davison Roadside Park Pavilion

WEDNESDAY, AUGUST 22

11am-noon For-Mar
2-3pm Linden County Park, Pavilion 2

THURSDAY, AUGUST 23

11am-noon Buell Lake County Park, Pavilion 1
2-3pm Bluebell Beach, Pavilion 1

Stop on Over

Ages 4-6 Almost all the species of birds in Michigan migrate for the winter, after natural resources become scarce. Explore the birds of Michigan with an activity and a craft.

Ages 7-12 As fall approaches the birds in our area begin to prepare for their annual migration south to escape Michigan's harsh winter. Join a For-Mar naturalist in exploring the reasons why birds migrate. Make a bird feeder to help fuel the birds on their journey.

Cost: FREE! Pre-registration suggested, but walk-ins welcome.

TUESDAY, AUGUST 28

2-3pm Davison Roadside Park Pavilion

WEDNESDAY, AUGUST 29

11am-noon For-Mar
2-3pm Linden County Park, Pavilion 2

THURSDAY, AUGUST 30

11am-noon Buell Lake County Park, Pavilion 1
2-3pm Bluebell Beach, Pavilion 1

FRIDAY, AUGUST 17

11am-noon Flushing County Park, Pavilion 1
2-3pm Richfield County Park, Pavilion 4

SATURDAY, AUGUST 18

11am-noon Wolverine Campground, behind the camp store

FRIDAY, AUGUST 24

11am-noon Flushing County Park, Pavilion 1
Time: 2-3pm Richfield County Park, Pavilion 4

SATURDAY, AUGUST 25

11am-noon Wolverine Campground, behind the camp store

FRIDAY, AUGUST 31

11am-noon Flushing County Park, Pavilion 1
2-3pm Richfield County Park, Pavilion 4



AUGUST

Family Fun for Everyone!

Summer Playground Programs!

The FREE summer playground and lunch program is back! Kids ages 4-18 can drop in daily for crafts, gardening, nature, games, and all kinds of fun stuff! Monday-Friday, June 18 - August 24. (No programs Wednesday, July 4.)

Time: 11am-3:30pm, lunch is served at noon and snack is served at 3pm.
Cost: FREE! Pre-registration is not required, but parents/guardians must complete a release form before kids can participate.

Bluebell Beach, Pavilion 1
Flushing County Park, Pavilion 1

Davison Roadside Park Pavilion
Linden County Park, Pavilion 2

Back for
2012!

TUESDAY, AUGUST 7

For-Mar on the Road for Families: CSI Nature: A Warbler's Tale

Bluebell Beach, Pavilion 1
Learn about endangered and extinct animals in Michigan, and specifically a tiny bird that's in danger of going extinct! For families, all ages.

Time: 6-7pm. Cost: FREE!
Pre-registration suggested, but walk-ins welcome.

TUESDAY, AUGUST 7

Cooking Matters For Families (Week 4)

Davison Roadside Park, Pavilion 1
Refer to listing under July 17 for full description.

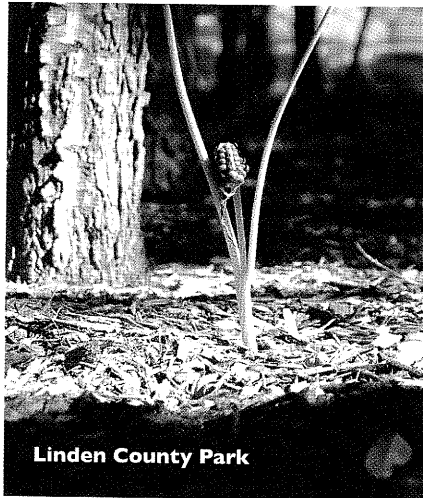
Time: 6-8pm. Cost: FREE!

WEDNESDAY, AUGUST 8

Belly Dancing for Fun & Fitness

Davison Roadside Park Pavilion
Did you know that Belly Dancing is the perfect non-impact exercise that's good for people of all ages? There's even a new line dancing option! Aiyana from Troupe Sabba Zimora gets us shimmying and belly rolling!

For families, all ages.



Linden County Park

THURSDAY, AUGUST 9

For-Mar on the Road for Families: CSI Nature: A Warbler's Tale

Linden County Park, Clover Beach Pavilion
Learn about endangered and extinct animals in Michigan, and specifically a tiny bird that's in danger of going extinct!

Time: 6-7pm. Cost: FREE!
Pre-registration suggested, but walk-ins welcome.

SATURDAY, AUGUST 11

Birders Breakfast Club

For-Mar
Have a cup of coffee and a donut. Learn about bird varieties with our expert birder. Program will include birding tips and information, and a naturalist led birding hike. Great for both beginning birders or those who have been birding for years. Please bring your own binoculars. A limited number of binoculars are available.

Time: 8:30-10am. Cost: \$3 per person.
Pre-registration required by 8/9/12.

SATURDAY, AUGUST 11

Invasive Plant Walk

For-Mar
Invasive plants are everywhere in Michigan. The question is, "Do you know what they are, and how to identify them?" We can help! Get a first-hand look at some of the invasive plants found in our area during this hour long hike. For adults, ages 16 & older.

Time: 10-11am. Cost: \$5 per person.
Pre-registration not required, but recommended.

SATURDAY, AUGUST 11

Family Adventures in Nature (F.A.N.s): Night Under the Stars

For-Mar
Telescopes, campfires and night hikes... oh my! This is a night at For-Mar not to be missed. Head Astronomy Professor, Rajib Ganguly, from the University of Michigan-Flint, will set up telescopes and some astronomy experiments that will excite the whole family. Night hikes will be taking place to and from the telescopes. For families, all ages.

Time: 9-11pm. Cost: FREE!

Linden County Park



Flushing County Park

many others. For children, ages 8-12.
Time: 8:30am-3pm. Cost: FREE!

To register, please visit www.statems.net/community and indicate session of interest and how many children you are registering. Children will be registered on a first come, first serve basis and registration will be limited to 30 children per session. The event is FREE and each child will receive t-shirts, lunch, and graduation certificates upon completion of the program. For more information, please call the Community Coordination Department at 810.238.7672, ext. 205

THURSDAY, AUGUST 16

For-Mar on the Road for Families: Creepy Crawlies

Linden County Park, Clover Beach Pavilion
Michigan is home to many interesting insects. Be prepared to get dirty looking for bugs of all shapes and sizes.

Time: 6-7pm. Cost: FREE!
Pre-registration suggested, but walk-ins welcome.

SATURDAY, AUGUST 18

Shrubs 101

For-Mar
Shrubs are a critical part of any

SEPTEMBER OCTOBER

Family Fun for Everyone!



Davison Roadside Park



For-Mar's Harvest Festival

SUNDAY, SEPTEMBER 23
Cub Scout Bears Weather
Outing: Water and
Soil Conservation

For-Mar
Have fun with other scouts and earn your Water and Soil Conservation Arrow Point Elective Achievement.
For youth, ages 7-12.
Time: 1-3pm. Cost: \$3 per person.
Pre-registration required by 9/21/12.

WEDNESDAY, SEPTEMBER 26
Knee-High Naturalist:
Life in a Log

For-Mar
Look at live trees and inside a fallen log to learn why both are important to a healthy forest.
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 9/24/12.

bring your digital camera if you have one. For families, recommended for children ages 5 and up.
Time: 2-3:30pm. Cost: \$3 per person.
Pre-registration not required, but organized groups are asked to call ahead.

WEDNESDAY, OCTOBER 3
Knee-High Naturalist:
No Bones About It!

For-Mar
Learn about animals without backbones and their important role in the natural world.
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 10/1/12.

WEDNESDAY, OCTOBER 3
Wild Adventures:
Animal Architects

For-Mar

WEDNESDAY, OCTOBER 10
Wild Adventures:
Fall Colors

For-Mar
Autumn is a beautiful time of year in mid-Michigan! Learn how trees and local wildlife prepare for winter. Make and taste apple cider.
For youth, ages 7-12.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 10/8/12.

THURSDAY, OCTOBER 11
Knee-High Naturalist:
Colors of the Season

For-Mar
Enjoy autumn's beauty as we learn about colors. Make and taste apple cider.
For children, ages 3-6.
Time: 10-11:30am. Cost: \$3 per child.
Pre-registration required by 10/9/12.

SATURDAY OCTOBER 13
Birders Breakfast Club

For-Mar
Have a cup of coffee and a donut. Learn about bird varieties with our expert birder. Program will include birding tips and information and a naturalist led birding hike. Great for both beginning birders and those who have been birding for years. Please bring your own binoculars. A limited number of binoculars are available.
For adults, ages 16 & older.
Time: 8:30-10am. Cost: \$3 per person.
Pre-registration required by 10/11/12.

SATURDAY, OCTOBER 13
Growing Gardeners:
Fabulous Fall

For-Mar
Learn about the great plant items of fall, like beautiful fall leaves and festive pumpkins. Create a fabulous fall craft!
For youth, ages 7-12

SATURDAY, OCTOBER 20
Conifer Identification

For-Mar
Is it a pine, a spruce, a fir? Conifers appear to look alike, unless you know what to look for! Join us as we hike the grounds and explore the subtle differences between these evergreen wonders that will make identification a snap.
For adults, ages 16 and older.
Time: 10am-noon. Cost: \$10 per person.
Pre-registration not required, but recommended.

SATURDAY, OCTOBER 20
Stroll away with Nature

For-Mar, DeWaters Building
Meet at the DeWaters Building (off of Potter Road) for some fresh air and exercise as we stroll down our paved handicap and stroller accessible trail. Enjoy a small activity and snack for the kids after the hike.
For families, all ages.
Time: 10:30-11:30am. Cost: \$3 per child.
Pre-registration not required, but organized groups are asked to call ahead.

SATURDAY, OCTOBER 20
Family Adventures
in Nature (F.A.N.s):
Spooky Critters

For-Mar
Some critters just make our skin crawl by thinking about them. This F.A.N.s night is dedicated to learning how even the spookiest of critters play an important role in nature.
For families, all ages.
Time: 79pm. Cost: \$3 per person.
Pre-registration required by 10/18/12.

FRIDAY, OCTOBER 26
Haunted Hayride

For-Mar
Be prepared to be scared at For-Mar's first ever haunted hayride. Hayrides run at 8pm, 9pm, and 10pm.
For adults, ages 16 and older.
Time: 8-11pm. Cost: \$3 per person.
Pre-registration not required, but organized groups are asked to call ahead. 20 person limit per ride.

SATURDAY, OCTOBER 27
For-Mar Halloween
Hayride & Trick
or Treat Trail

For-Mar
Our trick-or-treat trails are filled with your child's favorite storybook characters! Hayride will pick-up every hour starting at 11am.
For families, all ages.
Time: 11am-2pm. Cost: \$3 per person.
Pre-registration not required, but organized groups are asked to call ahead. 20 person limit per ride.

SATURDAY, OCTOBER 27
Growing Gardeners:
Pumpkin Party!

For-Mar
Learn all about pumpkins and their many uses. Paint your own pumpkin to take home!
For youth, ages 7-12.
Time: 2-3:30pm. Cost: \$3 per child.
Pre-registration required by 10/25/12.

SATURDAY, OCTOBER 27
Haunted Hayride

For-Mar
Be prepared to be scared at For-Mar's first ever haunted hayride. Hayrides run at 8pm, 9pm, and 10pm.
For adults, ages 16 and older.