



# **Genesee County Phase II Municipalities Annual Report**

***November 1, 2016 – October 31, 2017  
Reporting Period***

***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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## Acronyms/Abbreviations

Acronyms/Abbreviations	Definition
BMP	Best Management Practice
CAER	University of Michigan – Flint, Center for Applied Environmental Research
EPA	Environmental Protection Agency
FRWC	Flint River Watershed Council
GCCD	Genesee County Conservation District
GCDC	Genesee County Drain Commissioner
GCRC	Genesee County Road Commission
GISD	Genesee Intermediate School District
GREEN	Global Rivers Environmental Education Network
IDEP	Illicit Discharge Elimination Plan
M&M	Monitoring and Mapping
MDEQ	Michigan Department of Environmental Quality
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
PEP	Public Education Plan
PPP	Public Participation Plan
PSD	Point Source Discharge
SEMCOG	Southeast Michigan Council of Governments
SESC	Soil Erosion and Sedimentation Control
SWAC	Storm Water Advisory Committee
SWM	Surface Water Management
SWPPI	Storm Water Pollution Prevention Initiative
WMP	Watershed Management Plan
WQI	Water Quality Index

# 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, 2016, to October 31, 2017, 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:

- Jurisdictional Permit
- 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 to a Jurisdictional permit*

With the new permit originally submitted to the MDEQ in April 2014, we are in the process of moving from a voluntary Watershed permit to a jurisdictional permit. To implement the permit requirements, 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.

### *Contract Communities*

In 2015 The Adhock Committee met, recommending the 3<sup>rd</sup> amendment to the contract. The Storm Water Advisory Group Passed a motion and those on Table 1-1 have signed a new 2015-2020 342 contract.

### **Note:**

- Of the Phase II communities, Grand Blanc Township is the only Phase II community that does not participate through this contract.
- In the 2013-2014 reporting cycle Mundy Township and Flushing Township were able to opt out of the NPDES Ph II permit, and have chosen to not to sign a new contract.
- The contract for Public Education services between City of Flint and Genesee County ended on September 1, 2014. City of Flint chose not to extend the contract. A letter by GCDC-SWM to the

MDEQ was sent 3/26/15 **notifying the State that Public Education efforts covered in this report are not being done on behalf of the City of Flint Effective Oct 1, 2014.**

- Although **\*Argentine Township** is not a Phase II community, they chose to sign the contract for services.

Table 1-1: Contract Communities

*Argentine Township	Fenton Township	City of Mount Morris
City of Burton	Flint Township	Mount Morris Township
City of Clio	City of Flushing	City of Swartz Creek
City of Davison	Genesee Township	Vienna Township
Davison Township	City of Grand Blanc	Genesee County
City of Fenton	City of Linden	

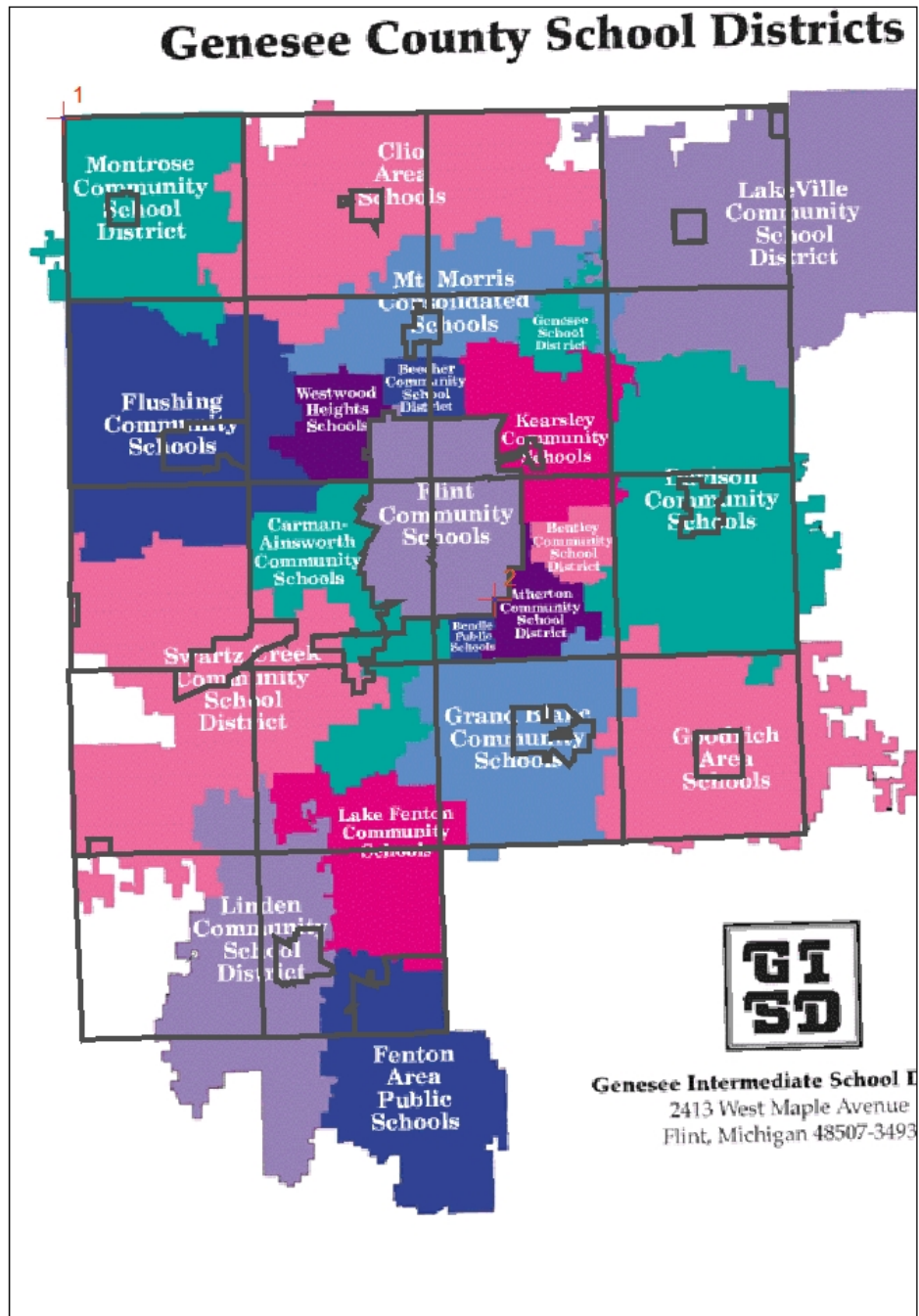
### ***Nested Drainage System Agreements***

The county has a nesting agreement with Bishop Airport. & the Schools below. The contracts between the Airport and County of Genesee and Schools and County of Genesee for nesting has been extended by agreement. During the next reporting cycle, amendment 2 of the contract with the airport and schools will be worked on. Below are schools that are currently being nested by Genesee County.

Table 1-2: Nested School Districts

<b>School District</b>	<b>Within an urbanized area</b>
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
Grand Blanc	Y
Kearsley	Y
Lake Fenton	Y
Linden	Y
Mt. Morris	Y
Swartz Creek	Y
Westwood Heights	Y

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.



Note: Genesee County has only nested those portions of districts that are located within Genesee County.

#### ***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.

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

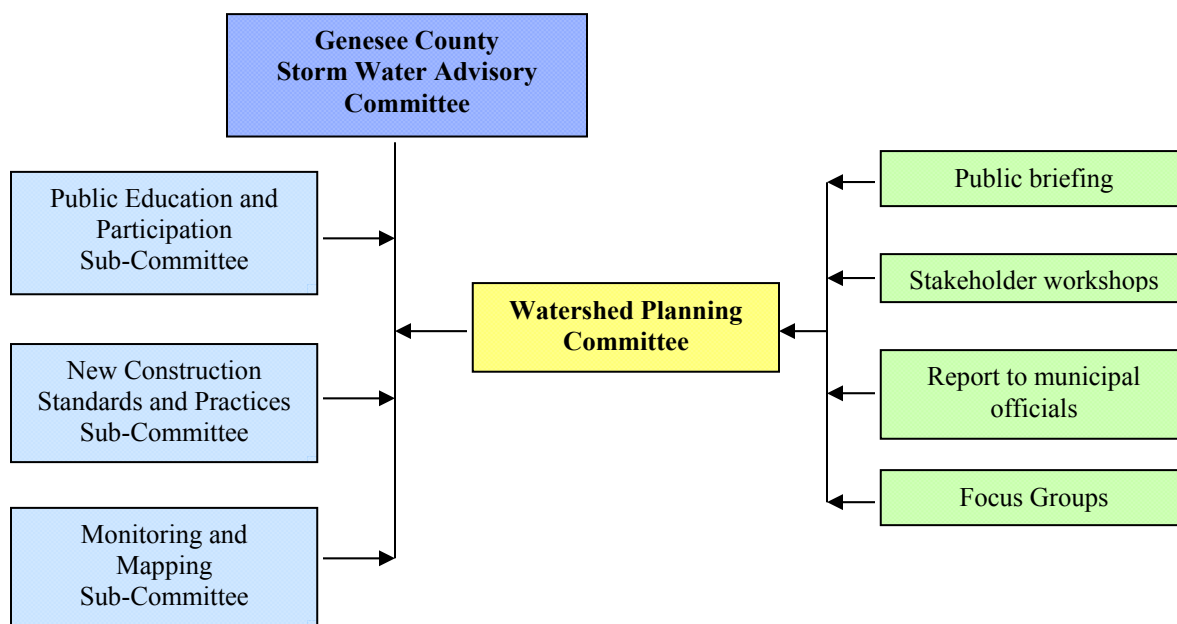
These sub-committees meet as needed along with stakeholders and/or individuals with specific specialized knowledge to implement the watershed plan, education plan and Illicit Discharge Elimination Plan (IDEP). A brief description of sub-committee duties is presented below Figure 1-2. With the new contract, in the next reporting cycle, each subcommittee will be a committee of the whole. This will streamline taking issues to be voted on from the subcommittee to the Storm Water Advisory Committee.

Figure 1-1 also shows the watershed planning decision-making process and sub-committee relationships. Previously under this permit Genesee County and Communities had a watershed permit. The 2015-2020 permits are all jurisdictional. Reporting will continue to be on a watershed base, but identification of communities represented will be given whenever possible.

SWAC meetings during this reporting period were held on:

- November 16, 2016
- December 21, 2016
- January 18, 2017
- February 15, 2017
- March 15, 2017
- April 19, 2017
- May 17, 2017
- September 27, 2017
- October 18, 2017

Figure 0-1: 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.



## PUBLIC EDUCATION AND PARTICIPATION SUB-COMMITTEE ACTIVITIES

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

Many of the Communities that used to be in the Phase II program and were able to opt out. With the 2014/15 permit it was decided that each subcommittee is now a committee of the whole made up of the contract members. (See Table 1-1) Non contract communities are invited, but are not voting members.

The purpose of the PE committee is to implement the Public Education Plan (PEP). This can be found in the Attachment 4 of new Permit Application. The PEP plan was revised to align with the new 2015 permit Application “Public Education Topics”. The actual implementation did not change. **The Public Education work is being done on behalf of the contract Communities (table 1-1)**

### PUBLIC EDUCATION PLAN

#### *Permit Requirements*

The planning and implementation of public education has been cross referenced to reflect the changes in the 2015-2020 permit application item #5 education topics listed below with the EPA-required elements:

- **A.** Promote public responsibility and stewardship in the applicant’s watershed(s).
- **B.** Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.
- **C.** Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.
- **D.** Promote preferred cleaning materials and procedures for car, pavement, and power washing.
- **E.** Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.
- **F.** Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.
- **G.** Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, and motor vehicle fluids.
- **H.** Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.
- **I.** Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.
- **J.** Promote methods for managing riparian lands to protect water quality.
- **K.** Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to stormwater runoff.

#### *Partnerships*

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

- Program implementation through partnerships:
  - Education Booth at various events throughout the County, Public Engagement
  - Maintain the “Our Water” website
  - Presentations throughout the County
  - Get public on the water with canoe trips, education information provided
  - Educate municipal staff through newsletters and involvement in educating the public

- School age watershed education
  - Through getting students on the water
  - Going into classes and educate on water subjects
- Use staff and volunteers to post signage
  - Storm drain stenciling and Storm drain markers
  - Creek Crossing signs over major waterways
- Researched events suitable for Phase II education community outreach
- Distributed Our water, Riparian, and septic system maintenance outreach materials
- Coordinated and maintained public education tools (watershed models, etc.)
- Researched “Our Water” campaign public relations and communications strategy

*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. *NOTE although this program is part of Monitoring and Mapping, there are education components to it.*
- *Macroinvertebrate Monitoring Program:* described in the Activities Update. *NOTE although this program is part of Monitoring and Mapping, there are education components to it.*
- 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 Enviroscape and craft projects that reinforce storm water messages as described in the Activities Update.
- *Facilitate and staff display booth at public events:* GCD schedules the display booth. Provide staff or training for volunteers.

### ***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. Since 2008, the Drain Commissioner’s Office hosts and updates the [www.ClearGeneseeWater.org](http://www.ClearGeneseeWater.org) webpage as needed throughout the reporting period. The “Our Water” webpage has been online since July 2006. In addition [www.gcdcswm.com](http://www.gcdcswm.com), the Drain Commissioner’s Office website also has content specifically for the NPDES Ph II permittees, including copies of this and past annual reports. Many Ph II permittees that have webpages provide a link to the [www.ClearGeneseeWater.org](http://www.ClearGeneseeWater.org) webpage.

*“Our Water” Newsletter:* Although this publication is available to the public, the purpose of the community updates is to keep the Communities updated with the changes to the permit program. There was only 1 newsletter produced this year. See attachment A. It was about the MI waters new online filing.

*Materials and Presentation for Riparian Land Owners:* An informational brochure was developed and served as a mail invite to a free workshop. All workshops were completed in the 2012-13 reporting period. A new workshop cycle has not begun during this reporting cycle. Copies of the brochure are made available to the interested communities to distribute. Also, brochures were made available for distribution at the booth events. The brochure contained information on basic stream bank stabilization techniques.

*Social Survey:* Genesee County performed a Social survey in 2005 to see the publics' base line level of knowledge in regards to storm water and the behaviors that lead to pollutants getting into surface water. GCDC-SWM received a SAW grant to perform a new social survey and see where we can cross reference information from the original 2005 survey. Surveys were completed in this permit cycle with the final results in attachment A.

*For-Mar on the Road:* GC Parks and Rec provides free science and nature based programs for k-8 education that meets MI science standards. 5<sup>th</sup> grade covers water and ecosystems. They have other programs throughout the County and year that touch on surface water and or stewardship. Attached

*Speaker Materials and Presentations:* An educational PowerPoint presentation was developed. 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. The following presentations were made during this permit cycle:

<b>Date</b>	<b># Participants</b>	<b>Group</b>	<b>Venue</b>	<b>Participants</b>
Oct 25 2016	8	Flint UAW Life Steps	GM Facility/Burton MI	Health fair at GM facility
Jan 24 2017	25	Business Networking International of Genesee County	Davison, MI	BNI Group
April 1 & 2 2017	421	Home & Garden Show	Dort Federal Event Center	Attendees
April 15 2017	100+	Canoe, Kayak Swap Meet	Birch Run Expo Center	Canoe, Kayak enthusiasts
April 20 2017	40	Earth Day Celebration- U of M	Flint Farmers Market	Market Shoppers
April 2017	20	Flint Township	Township Office	Employees
April 2017	20	Flushing Township	Township Office	Employees
May 2017	20	Montrose Township	Township Office	Employees
June 2017	20	City of Flushing	City Office	Employees

Note: In 2017 three other events were held: Steelheaders Outdoor Boat Show, Love our Lake-Thread Lake & Flint Park Lake, however the audience was not to Phase II communities under this contract, therefore they are not included above.

*Brochures:* 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 in 2009 and 2013. Over 2000 are handed out per year. 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. See attachment A

*Newsletter Articles:* Sometimes permittees, partners, or other publications will print an article on a stormwater topic. Any water related articles during this reporting period are included in attachment A. One article was published in the Genesee Conservation District newsletter pertaining to the “Our Water” program. The newsletter was distributed to over 2,500 Genesee County residents.

*Time of Sale Septic Brochure:* 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, interested communities and the realtors association to distribute to interested realtors wishing to provide this information to new property owners. (Not all communities have residents with septic systems.) See attachment A



*Promotional Giveaways:* GCDC purchased 5000 additional promotional giveaways (premiums) in August of 2016 and 1200 in April of 2017. Premiums purchased included water bottles, tote bags and in 2017 pet waste disposable bag dispensers were added. 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, provide stormwater education and give them an educational brochure. Each premium given represents someone from the public that has received storm water education.

*Information Booth:* A display booth was developed in 2006. 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.**

Date	Event	Location	Individuals reached at event
8/1/2017	National Night Out	Flint Twp. Police Dept.	216
8/19/2017	Back to the Bricks	Flint Twp. Downtown Flint	191
8/21/2017 - 8/27/2017	Genesee County Fair	Mt. Morris	875
8/24/2017 – 8/25/2017	Crim Health & Fitness Expo	Riverfront Banquet Center – Flint	981
8/16/2017 – 8/17/2017	Montrose Orchard	Montrose	325
9/23/2017	Flushing Harvest Festival	Downtown Flushing	169
9/28/2017	Davison Farmers Market	Davison Farmers’ Market – Davison	103

\*Demographic Data by community in Appendix A

Argentine Township, Mt. Morris Township and GCDC-SWM provided volunteers to assist with the County Fair

*Student Education:* GCDC-SWM contracted with the GCD to provide storm water education services to school-aged children on behalf of the Phase II permittees. During 2014-15 GCD reached thousands of students in the Phase II communities. In school presentations which include one or some of the following:

- Online Games (DiscoverWater.org)
- Hands on activities (build your own watershed)
- Games:
  - Water cycle relay race
  - Filter the Pollution
  - A-maze-ing water
  - Water trivia games (who wants to be a millionaire, a watershed game, the environmental council, conservation Style, and environmental jeopardy)
- Enviroscapes



GCDC has four “Enviroscape” interactive models that demonstrate how pollutants can reach bodies of water. The Conservation District keeps one of the Enviroscope models for their own education program (see next section.) The other three models are available to be checked out for use by teachers/educators and available for demonstrations at events. GCDC-SWM staff has met with the Genesee Intermediate School District (GISD) program coordinators to let them know what tools we have available for their teachers including the enviroscape.

Following is a list of the presentations made in 2016-2017:

Breakdown of GCCD Water Quality Presentations in Fiscal Year 2016-17

Month	Event	School aged children reached:
11/22/16	Syring Elementary	25-30 per class 2 classes
1/11/2017	Syring Elementary	20-30 per class 2 classes
1/25/2017	Syring Elementary	20-30 per class 2 classes
2/8/2017	Syring Elementary	20-30 per class 2 classes
2/22/2017	Syring Elementary	20-30 per class 2 classes
2/27/2017	Genesee Stem Academy	20-30 per class 3 classes

Month	Event	School aged children reached:
2/28/2017	Genesee Stem Academy	20-30 per class 8 classes
3/1/2017	Genesee Stem Academy	20-30 per class 3 classes
3/8/2017	Syring Elementary	20-30 per class 2 classes
3/14/2017	Genesee Stem Academy	20-30 per class 8 classes
3/15/2017	Genesee Stem Academy	20-30 per class 3 classes
3/20/2017	Syring Elementary	20-30 per class 2 classes
3/27/2017	Genesee Stem Academy	20-30 per class 3 classes
3/28/2017	Genesee Stem Academy	20-30 per class 8 classes
3/29/2017	Genesee Stem Academy	20-30 per class 3 classes
4/10/2017	Genesee Stem Academy	20-30 per class 3 classes
4/10/2017	Syring Elementary	20-30 per class 2 classes
4/11/2017	Genesee Stem Academy	20-30 per class 8 classes
4/12/2017	Genesee Stem Academy	20-30 per class 3 classes
4/18/2017	Career Technical Institute	20-30 per class 1 class
4/20/2017	Syring Elementary	20-30 per class 2 classes
4/24/2017	Genesee Stem Academy	20-30 per class 3 classes
4/25/2017	Genesee Stem Academy	20-30 per class 8 classes
4/26/2017	Genesee Stem Academy	20-30 per class 3 classes
4/26/2017	Moore Elementary	20-30 per class 3 classes
5/3/2017	Moore Elementary	20-30 per class 3 classes
5/8/2017	Genesee Stem Academy	20-30 per class 8 classes
5/9/2017	Genesee Stem Academy	20-30 per class 3 classes
5/10/2017	Genesee Stem Academy	20-30 per class 3 classes
5/10/2017	Moore Elementary	20-30 per class 3 classes
5/17/2017	Moore Elementary	20-30 per class 3 classes

Month	Event	School aged children reached:
5/18/2017	Syring Elementary	20-30 per class 2 classes
5/22/2017	Genesee Stem Academy	20-30 per class 3 classes
5/23/2017	Genesee Stem Academy	20-30 per class 3 classes
5/24/2017	Genesee Stem Academy	20-30 per class 3 classes
5/24/2017	Moore Elementary	20-30 per class 3 classes
5/25/2017	Syring Elementary	20-30 per class 2 classes
5/30/2017	Genesee Stem Academy	20-30 per class 8 classes
6/7/2017	Moore Elementary	20-30 per class 3 classes
7/12/2017	Boys & Girls Club (Burton)	15-25 per class 4 classes
7/17/2017	Communities 1 <sup>st</sup> Inc. Volunteer Youth Group	15-25 per class 1 class
7/19/2017	Boys & Girls Club (Burton)	15-25 per class 4 classes
7/26/2017	Boys & Girls Club (Burton)	15-25 per class 4 classes
8/2/2017	Boys & Girls Club (Burton)	15-25 per class 4 classes
8/4/2017	Bendle Elementary	15-25 per class 4 classes
8/11/2017	Bendle Elementary	15-25 per class 4 classes
8/18/2017	Bendle Elementary	15-25 per class 4 classes
9/12/2017	Genesee Stem Academy	15-25 per class 4 classes
9/15/2017	Syring Elementary	15-25 per class 2 classes
9/16/2017	Montrose Orchard's Kickoff Festival	15-25 per class 8 classes
9/17/2017	Montrose Orchard's Kickoff Festival	15-25 per class 8 classes
9/19/2017	Genesee Stem Academy	15-25 per class 4 classes
9/22/2017	For-Mar Nature Preserve Bio Blitz	15-25 per class 4 classes
9/23/2017	Flushing Harvest Festival	15-25 per class 8 classes
9/26/2017	Genesee Stem Academy	15-25 per class 4 classes
9/29/2017	Syring Elementary	15-25 per class 2 classes

On 1/8/17 the Enviroscope was checked out for a presentation at Mott Community College (Sierra Club) there were 15 adults and 1 child from Flint, Clio, Davisburg, Davison, Mt. Morris, Lapeer, Montrose, Flushing, Linden & Swartz Creek.

On 4/22/17 GCDC-SWM staff, Bill Poster did a presentation to the Boy Scouts on Soil and Water Conservation at earth day Camporee. There were 29 scouts. 24 were from Counties outside of Genesee, 2 from Flint Twp, 2 from Montrose and 1 Linden.

On 10/7/2017 GCDC-SWM staff, Bill Poster did a presentation "Leave No Trace Workshop" for 30 individuals. There were (16) webelos (8) boy scouts & (6) parents. Three (3) were from Grand Blanc, eight (8) from Grand Blanc Twp. and one (1) from Mundy Twp.

GCDC-SWM also contracted with the FRWC to support the Project Global Rivers Environmental Network (GREEN) Educational Program. (Program is also discussed in the M&M Sub-Committee -Section 7). In

Breakdown of Project Green Schools in Fiscal Year 2016-17

	School	Teacher	Students located within:
1	Bendle High School	Todd Barden	City of Burton
2	Carman Ainsworth Baker Career Academy	Trish Miller	Genesee County
3	Carman Ainsworth Middle School	Melissa Warburton	Flint Twp. Mundy Twp.
4	Carter Middle School	Ryan Niemi	City of Clio, Vienna Twp. Thetford & Montrose Twp.
5	Davison Middle School	Jody Kosiara	Richfield Twp., Davison Twp., City of Burton
6	Grand Blanc East Middle School	Deb Lacki	City of Grand Blanc, Grand Blanc Twp., Atlas Twp.
7	Grand Blanc East Middle School	Patricia Nelson	City of Grand Blanc, Grand Blanc Twp., Atlas Twp.
8	Grand Blanc East Middle School	Crystal Sobeck	City of Grand Blanc, Grand Blanc Twp., Atlas Twp.
9	Grand Blanc High School	Suzanne Powers	City of Grand Blanc, Grand Blanc Twp. Mundy Twp.
10	Holmes STEM Academy	Chris Ochodnicki	City of Flint, Mt. Morris Twp.
11	Kearsley Armstrong Middle School	Lisa Katzenbeger	Genesee Twp.
12	Lakeville Middle School	Andrea Thelen	Forest Twp., Richfield Twp.
13	Lakeville Middle School	Josh Henley	Forest Twp., Richfield Twp.
14	Mt. Morris Junior High School	Nick Carr	Mt. Morris Twp., City of Mt. Morris, Genesee Twp., Vienna Twp., Thetford Twp.
15	Mt. Morris Junior High School	Kim McCormick	Mt. Morris Twp., City of Mt. Morris, Genesee Twp., Vienna Twp., Thetford Twp.
16	Northwestern High School	Angela Lots	City of Flint



17	Northwestern High School	Nadina Adversa	City of Flint
18	Powers Catholic High School	Julie Lawrence	County Wide
19	St. John Vianney Catholic School	Jason Scott	County Wide
20	Swartz Creek Middle School	Brandolyn Forbes	Clayton Twp., Gaines Twp., City of Swartz Creek., Flint Twp., Mundy Twp.
21	Tucker Middle School	Jacqueline Harris	City of Flint, Mt. Morris Twp.
22	Westwood Heights – Hamady High School	Tammy Wylie	Mt. Morris Twp.

NOTE: many teachers had multiple classes participating

*Catch Basin Stenciling Program:* The Our Water Program 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, including City owned roads. A printed doorknob hanger is distributed to educate residents adjacent to the stenciling locations. See Attachment A

- 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 2010 GCDC purchased Storm drain markers like the shown to the right to be installed on catch basin grate covers located within road ditches and rear yards where stenciling is not possible. Markers are installed by GCDC-SWM staff when they are working on storm drains throughout Genesee County.
- By the end of 2017, GCDC-SWM will have ordered and installed 2600 storm drain markers. Storm drain markers are anticipated to have a 30 year life expectancy allowing for long term passive education.
- Volunteer stenciling groups were organized by both FRWC and GCD. Also GCDC-SWM staff worked with individual stenciling volunteer groups by providing technical support, supplies and catch basin locations for stenciling. Below is a list of volunteer groups that participated.



GCD: Held Storm drain stenciling events:

<u>Date</u>	<u>Municipality</u>	<u>Number of Participants</u>	<u>Location of stenciling</u>	<u>Door Hangers Distributed</u>	<u>Number of Drains Stenciled</u>
7/19/2017	Flint Twp.	12	Ridgecliffe, Foxboro, Thornfield, Jacque, Steeple Chase Ct. & Tall Oak Ct.	80	24
8/2/2017	Flint Twp.	4	Hickory Circle & Eastman Dr.	40	14

8/10/2017	Flint Twp.	14	Van Campden, Catalina, Simca, Renault, Belair & Riviera Dr.	60	24
9/25/2017	Burton	3	Maplewood Meadows, Aspen Circle, Willow Grove, Grand Oak Trail & Grand Oak Dr.	32	14
9/26/2017	Flint Twp.	2	Tahoe Tail, Cayuga Trail, Cabot Dr. Sussex, Post Dr. 7 Joal Dr.	68	27
9/25/2017	Flint Twp.	3	Western Hills, Sandstone Pass, Sierra Pass, Rocky Ridge, Briarcliffe, & Fernwood Dr.	37	16
9/22/2017	Flint Twp.	3	Hammerberg, Southgate & Brookgate Dr.	52	26
9/29/2017	Flint Twp.	3	Danbury, Lancaster, Trenton, Yorktown, Ramblewood & Ridgewood Ct.	44	26

FRWC: Held 17 Storm drain stenciling events:

<u>Date</u>	<u>Municipality</u>	<u>Volunteer Group</u>	<u>Volunteer Demographic</u>	<u>Adults</u>	<u>Child</u>	<u># homes</u>	<u># drains</u>	<u>Location of stenciling</u>
10/19/2016	City of Flint	Mott College English Class 102-12	Flint, Fenton, Linden	8	1	165	17	Kearsley Park, Pennsylvania, Cronk, Missouri, Minnesota, Kentucky, Nebraska & Franklin
10/21/2016	City of Flint	Mott College English Class 102-42	Flint, Linden, Clio, Montrose	10	0	156	14	Ohio, Wisconsin, Illinois, Arlington, Maplewood, Lynch St.
4/19/2017	City of Clio	Mott College Dual Enrollment English Class 102-42	City of Clio	14	2	145	33	Runnells, Baker, Grand Oaks, Libbie, McCord & Wicker
4/24/2017	City of Flint	Mott College English Class 102-42	City of Flint	23	0	0	52	Applewood Parking lot, Horrigan Dr. Drive into RTC lot & paid parking lot
5/9/2017	City of Flushing	Flushing HS Environmental Action Group	City of Flushing	2	7	61	4	Deland, Roberta, Waller, Audrey, Merle, Denies, McEwen, Potter, Cutler & Alberta St.
4/27/2017	City of Burton	Bendle High School	City of Burton	1	7	135	28	Martha Ave.
5/17/2017	City of Flint	Potter Elementary	City of Flint	3	8	168	19	Dexter, Dakota, Maryland, Delaware & Beechwood Ave.
5/24/2017	City of Flint	Potter Elementary	City of Flint	2	10	170	23	Risedorph, Woodrow ,Whitter, Bennett & Holly Ave.
6/21/2017	City of Flint	GM Workers Group 1	Flint, Clio, Fenton	10	0	265	32	Neuburt, Vermilya, Lincoln, Pettibone, Waldman, Tuxedo, Phillis & Edith Ave.
6/21/2017	City of Flint	GM Workers Group 2	Burton, Flint, Flushing, Fenton	8	0	200	16	Briarwood, Bayberry, Carmanbrook, Timber. Cranbrook, Greenbrook, Penbrook, Windsor, Park Forest Rockcreek, Lynbrook, Greenbriar, Laurel Crestbrook, Hargott, Campbell, Leland, Crawford, Alvord, Huron
6/21/2017	City of Flint	GM Workers Group 3	Linden, Flint, Grand Blanc, Montrose	9	0	280	35	
6/21/2017	City of Flint	GM Workers Group 4	Flint, Fenton, Davison	10	0	230	31	Ingleside, Pinehurst & Irving Ct.
6/21/2017	City of Flint	GM Workers Group 5	Flint, Burton, Flint Twp. Flushing, Montrose	8	0	160	15	Berrywood, Mulberry, Blueberry, Crestbrook, Blackberry & Greenbrook

7/1/2017	Davison	Green Mountain Alliance	North Carolina	4	11	120	8	Del Zingro Dr., S. Dayton Dr. Pear Tree, Apple Blossom, Orchard Cove, Collingwood, Plymouth, Amesbury & Salem Hickory, Maple, South, East, Lindenwood, Mott, Lyndon, Sherman & Doran St.
8/8/2017	Otisville	Michael & Vanessa McDonald	Otisville	2	0	88	19	
9/7/2017	Linden	Linden High School	Linden, Fenton, Fenton Twp.	<u>1</u>	<u>10</u>	<u>85</u>	<u>10</u>	
9/10/2017	Mt. Morris	Holmes STEM Academy	Flint, Mt. Morris	2	5	165	13	
			Mt. Morris & Flint					Minerva, Hunter & Home Ave.

GCDC: also stenciled (weather permitting) those storm inlets that were cleaned by staff approx 200

### Canoe Trips Summer 2017

Date of Paddle	Name of Paddle	Portion of Watershed Covered	# of Participants	Participant Municipalities
6/3/2017	Saturday Paddle with Sierra Club	Millville launch to Norway Lake road	31	Burton, Clio, Gaines, Grand Blanc, Flint, Flushing, Mt. Morris, Fenton
6/9/2017	Friday Paddle - Full Moon Float	Riverview to Riverview Park	33	Burton, Davison, Fenton, Flint, Flushing, Grand Blanc, Holly
6/17/2017	Saturday Paddle - Float through Flushing	Riverview Park to FTNP	5	Fenton, Grand Blanc, Flint
6/29/2017	Thursday - Twilight Paddle	Flushing Twp. Nature Park to Barber Park	14	Burton, Clio, Fenton, Flint, Flint Twp. Otisville
7/6/2017	Thursday Evening - Escape Your Day	M-15 to Irish Rd.	18	Burton, Fenton, Flint Twp., Flint, Genesee, Grand Blanc, Holly
7/9/2017	Sunday Paddle – Kayaking in the Parks	Irish road to Mott Lake	11	Grand Blanc, Flushing, Flint, Fenton
7/13/2017	Love Your Lakes – Flint Park Lake	Flint Park Lake	8	Flint, Grand Blanc, Fenton
7/20/2017	Thursday Paddle	Riverview Landing to River Road	21	Burton, Clio, Davison, Genesee, Grand Blanc, Fenton, Flint, Flint Twp., Swartz Creek
7/27/2017	Love Your Lakes – Thread Lake	Thread Lake	8	Flint, Grand Blanc, Fenton
7/29/2017	Saturday – Picnic on the Flint River	Holloway Dam to Irish Road	23	Burton, Davison, Fenton, Flint, Flushing, Grand Blanc, Swartz Creek
8/6/2017	Sunday Paddle	Irish Road to Mott Lake	24	Davison, Fenton, Flint, Flushing
8/26/2017	Saturday Paddle – Float in Flushing	Riverview Park to FTNP	16	Clio, Davison, Fenton, Flint, Grand Blanc, Goodrich
9/1/2017	Press and Friends Paddle	Holloway	7	Fenton, Flint, Swartz Creek
9/9/2017	Lazy Day Paddle	Holloway Dam to Irish Rd.	22	Clio, Davison, Fenton, Flint, Flint Twp. Linden, Swartz Creek
9/17/2017	Sunday Paddle in the Parks – Float Mott Lake	Mott Lake	11	Burton, Fenton, Flint, Flushing, Genesee, Grand Blanc
3/4/2017	** GCPC – Paid Paddle in Lapeer	Chatfield School to Cramton Park	15	Davison, Fenton, Flint, Grand Blanc
5/28/2017	** Sunday Kayaking in the Parks	Rotary Park to Saginaw St.	na	Lapeer

8/24/2017	** Thursday Paddle with Lapeer Chapter	Rotary Park to Saginaw St.	15	Burton, Fenton, Flint, Grand Blanc, Mt. Morris, Otisville
7/1/2017	** Mountain Alliance Paddle	Mountain Alliance paid paddle	17	Fenton

\*\* Denotes FRWC sponsored floats.

**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. (18 of the 30 are within Genesee County) 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. Many of the Students that participate in GREEN and do chemical testing on the river also perform a Macroinvertebrate survey to show the students what kind of life lives in the Flint River and Shiawassee River.



**Good Housekeeping Education:** Education efforts that related to Good Housekeeping of permittee properties: (Program is also discussed in the Good Housekeeping -Section 5).

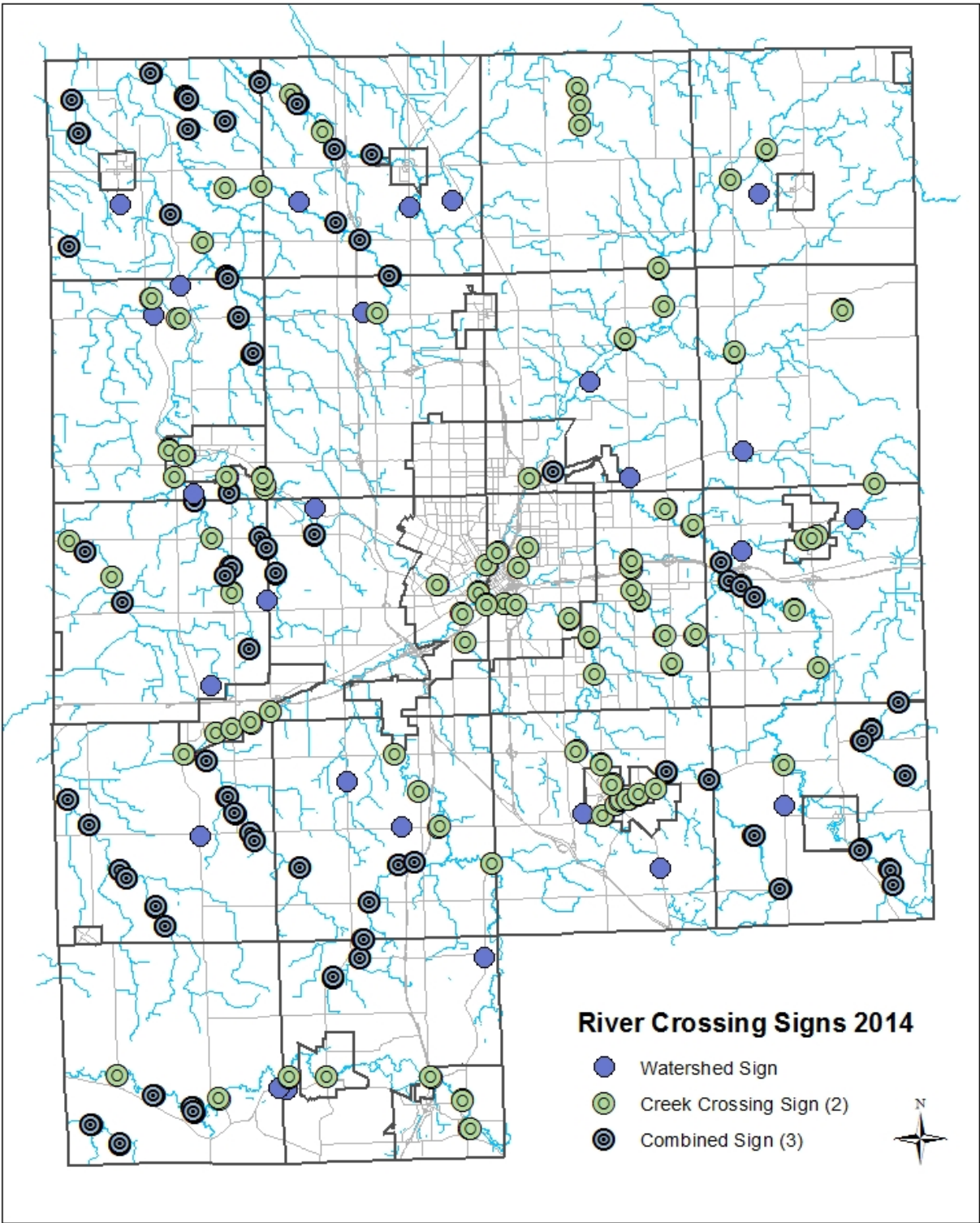
- March 27, 2017: Susanne Hogan of the GCDC-SWM spoke to the Genesee County Schools Maintenance Group meeting in regards to each nested permittee’s SWPPP and good housekeeping practices that have to be maintained. Also let them know that good housekeeping training is now available online. See [http://www.gcdcswm.com/PhaseII/SWPPI\\_SWO/SWPPI\\_SWO.htm](http://www.gcdcswm.com/PhaseII/SWPPI_SWO/SWPPI_SWO.htm) for links. Also spoke about specific BMP’s and solutions.
- Other communities have requested/taken the training materials for this program to educate their staff:
  - Flushing Schools requested materials

**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 & 2008. An additional 56 were placed in 2013-14 within the Cities. Stream/river crossing identification signs have also been placed to increase public awareness. No additional sign have been placed this reporting period.





River Crossing Signs Placed as of Oct 2014



*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 delivered and ongoing
- 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.
- Road Signs Installed and Maintained
- Storm drain Markers installed and ongoing
- Implementation of initial education efforts is done

Areas of need:

- Staffing constraints do not allow enough time dedicated solely to education efforts
- Develop additional education efforts

*Other Education Efforts:* 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 indirectly by a local community including Genesee County or a nonprofit group. These efforts are listed below and included in Appendix A to show all efforts of water education within Genesee County and its Communities.

- The FRWC coordinates a river cleanup on the Flint River and its tributaries both within Genesee and Lapeer counties. The Cleanup was on April 29<sup>th</sup> 2017. Volunteers removed debris/ trash along 13 different locations in Genesee County and 3 locations in Lapeer County on the Flint River and its Tributaries. Staff from the County and local municipalities including the Drain Office, Parks and Rec, City of Flushing, City of Flint and others assisted with the cleanup by provided staff or garbage removal.



- Community 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 at the City of Flushing Park walkway.
- There is an Annual River cleanup on the first week of June along the Shiawassee River, organized by a Fenton council members.
- Friends of the Shiawassee in another

watershed group that is focusing on the health of the Shiawassee River. Drain Office Staff has made arrangements for the FRWC to expand the Benthic monitoring program to include 2 sites on the Shiawassee. GCDC staff was contacted by Friends of the Shiawassee to expand or work in tandem with that program. They produced a press release for a Benthic program that is adding 8 sites both upstream and downstream on the Shiawassee outside of Genesee County. They also have been adding adopt a river signs along the river. They also had at least 1 native planting training.

- Flint River Corridor Alliance is a community based organization of Government, non-profit and private sector stakeholders, focusing on the Flint River as it goes through the City of Flint. They have completed the securing of grant money to remove the Hamilton and Fabri dams located within and owned by City of Flint. They have partnered with Genesee County Parks and Rec to facilitate the dam removals. They also sponsor an annual Floatilla on the Flint River and other events promoting the Flint River.
- Genesee County Parks provides education on many subjects including storm water. (**H2 knOw!**). Genesee County, specifically the Parks and rec owns many acres along the Flint River providing defined access for the public. They also provide support for many water programs.
- Household Hazardous Waste: The Our Water program supports this program by promoting it but this program is developed and managed by Genesee County Planning Commission, General Motors, UAW Local 599, Goodwill Industries, 5R Processors and Keep Genesee County Beautiful & several communities participate and/or support this program both financially and with staff or letting program use their property. In the spring and fall there are HHW and electronic waste collections. City of Flint hosts a permanent site at their Water service center (centrally located within Genesee County). 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.

- **October 22, 2016: Trinity Assembly of God-Mt. Morris, Flint Water Service Center**
- **May 13, 2017: Davison HS, Davison 48423, Flint Water Service Center**
- **August 23, 2017: Flushing HS Flushing 48433, Flint Water Service Center**
- **October 21, 2017: Bentley HS, Burton 48509, Flint Water Service Center**

## **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 Watershed Management plans 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. Most recent newsletter was Sept 2017 to direct the communities on how to submit this report to the MDEQ

## 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 did not hold any meetings.

Many of the Communities that used to be in the Phase II program and were able to opt out. With the 2014/15 permit it was decided that each subcommittee is now a committee of the whole made up of the contract members. (See Table 1-1) Non contract communities are invited, but are not voting members.

### **Work is being done on behalf of the contract Communities (table 1-1)**

### **STORM WATER ORDINANCE**

The CSP Sub-Committee had worked to establish a template Ordinance for Communities to adopt within Genesee County that would satisfy the new Permit Application. After reviewing State requirements and sample ordinances the CSP Sub-Committee reviewed and tailored the ordinance template. The Ordinances (regulating mechanism) and standards are done and provided to permittees. The local governments may elect to adopt stricter standards. During the training for the new permit application it was expressed by the State that Townships do not have to pass an actual ordinance. Townships may pass an alternative regulatory mechanism for those outfalls under their jurisdiction. Each community will have to adopt an ordinance/regulatory mechanism, whether they choose the Sub-Committee's or another 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.

Genesee County received a SAW grant to provide guidance to the communities to help facilitate the adoption of the ordinances. That work was performed in this permit cycle by producing a power point to present to the local communities that had not adopted the ordinances. Presentation was made to Sept 2017 Advisory group.

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

- Section 5 Good Housekeeping

It should be noted that the standards currently in place deal with water quantity. The new standards will also deal with water quality, and any new ordinances will expand the Community'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 has developed 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. Long-term BMP operation, maintenance, and schedule issues will be addressed in the enforcement portion of the manual.

Each community individually are addressing ordinances/resolutions for post construction and IDEP individually in their Permit Application(s) (due April 1, 2014). They may choose to use the ordinance template and BMP manual that were developed by the subcommittee or use other appropriate ordinances/resolutions. See Permit Application(s) for individual commitments.

## MONITORING AND MAPPING SUB-COMMITTEE ACTIVITIES

The Monitoring and Mapping (M&M) Sub-Committee did not meet during this reporting period:

Many of the Communities that used to be in the Phase II program and were able to opt out. With the 2014/15 permit it was decided that each subcommittee is now a committee of the whole made up of the contract members. (See Table 1-1) Non contract communities are invited, but are not voting members.

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. **Work is being done on behalf of the contract Communities (table 1-1)**

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

## 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 the spring of 2017, the GCDC offered a voluntary Good Housekeeping inspection for municipalities nested under the County's Stormwater Permit. Three communities including the City of Flushing, Flint Township, and Mount Morris Township opted to participate. A representative from Tetra Tech visited the three municipalities to discuss their current Good Housekeeping practices and concerns. Areas of discussion included proper materials storage and handling, waste storage and disposal, catch basin cleaning and maintenance, grounds maintenance, erosion control, spill control and reporting, staff training, and Stormwater Management certification

A copy of the Power Point presentation and the BMP manual developed by this sub-committee are available on the GCDC-SWM website.

[http://www.gcdswm.com/PhaseII/SWPPI\\_SWO/SWPPI\\_SWO.htm](http://www.gcdswm.com/PhaseII/SWPPI_SWO/SWPPI_SWO.htm). Also contract participants or nested jurisdictions are able to **download** or borrow a disc with the video entitled "Storm Warning: Stormwater Pollution Prevention" by ExCal Visual LLP. The Power Point presentation and the BMP manual explain the importance of preventing contamination from storm water run-off and ways employees can be involved at their facility. Subject matter of written and video material meets the permit requirements for employee training.

### 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
- Contracts

From time to time, individualized training is offered to each nested agency/ Municipality under the contract. The training focused on establishing and strengthening the Good Housekeeping practices listed above. Tetra tech visited the following communities to review with staff their good housekeeping practices and look for improvements:

- Flint Township
- Mt. Morris Township
- City of Flushing

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

## 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.

No activity occurred during the reporting period.

### **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.

GCDC-SWM received a **SAW grant** in this permit cycle. It included:

- Storm sewer asset management for the GCRC within the urbanized areas.
- Social survey
- Post construction education

The saw Grant is a 2-year grant and work is complete by Oct 1, 2017.

## GENESEE GREEN

Project Green, now referred to as Genesee GREEN, has grown in Genesee County from approximately 100 students in 1990 to in excess of 1000+ in 2017. 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 seven years in Genesee County under the direction of the Genesee County Intermediate School District (GISD).

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. In 2017, participation included seven schools.

Schools are also encouraged to participate in a summit, where students are able to present their findings. May 19, 2017, the student summit was held at Kettering University where students presented their collected data.

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. Many of the students get the opportunity to present their results, compare results to other sites, and get additional education at the Summit dated May 19, 2017.



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.

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- 89 Good, 50- 69 Average (Fair), 25- 49 Marginal (poor), 0- 24 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.

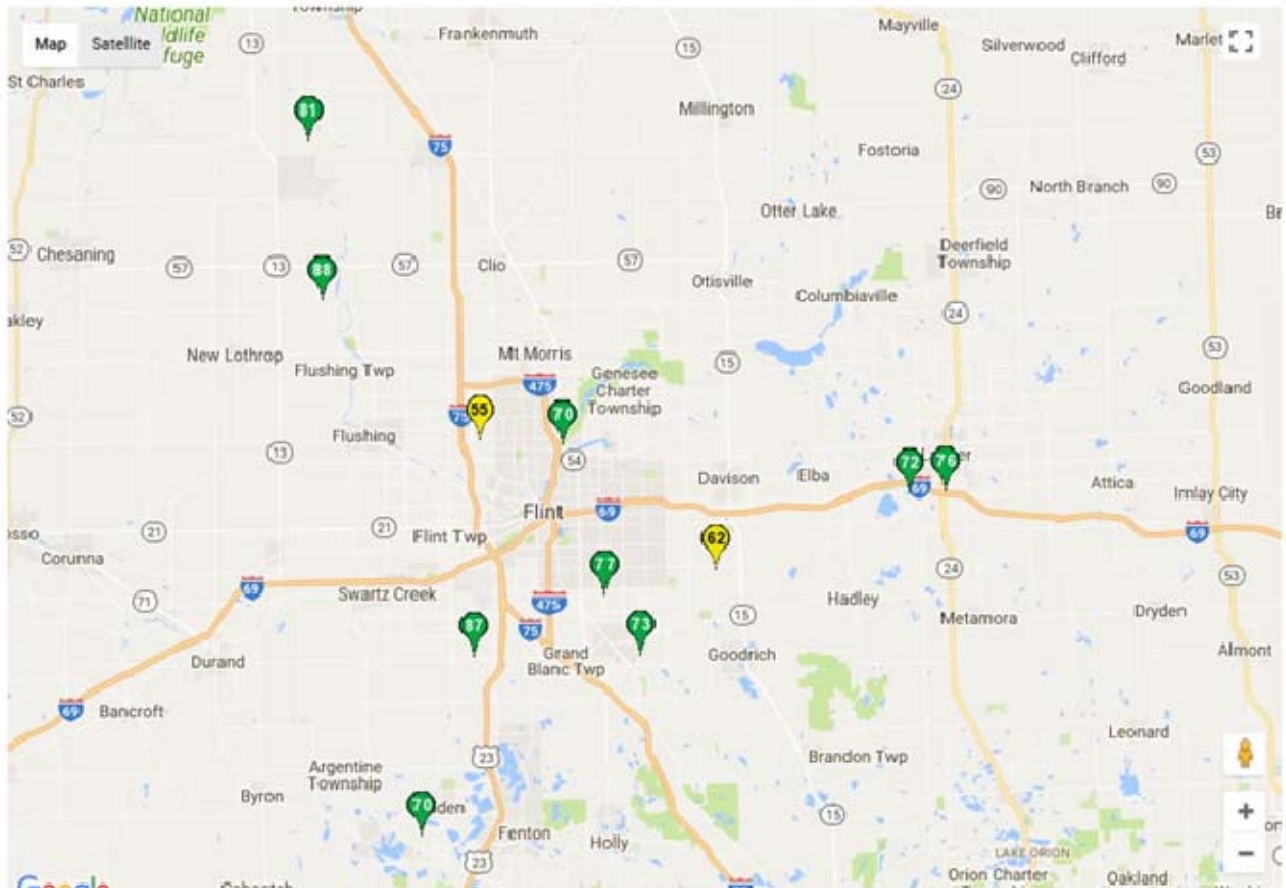
[Reference: *Mitchell, Mark K. and William B. Sharp, 2000. Field manual for Water Quality Monitoring: An environmental education program for schools, (twelfth edition), Kendall/Hunt Publishing Company, Dubuque, Iowa*]

Much effort was spent by Tom Jones from GCDC-SWM to update the Green Website <http://flintrivergreen.is-great.org/> to allow teachers to directly enter the data and make that data available to the public.

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. On the Genesee Green Website there was a gap between 2010-2015 sampling years. Our data shows that we recorded data from 2011-2013.

### Genesee Green Results

Location	School	Year	WQI
Clio Bike Path	Carter Middle School	2017	68.83
Clio Bike Path	Carter Middle School	2017	80.48
Clio Bike Path	Carter Middle School	2017	80.48
Clio Bike Path	Carter Middle School	2017	80.48
Crampton Drain at Kearsley Armstrong	Armstrong Middle School	2017	72.79
Crampton Drain at Kearsley Armstrong	Armstrong Middle School	2017	72.79
Davison Black Creek	Davison Middle School	2017	72.79
Davison Black Creek	Davison Middle School	2017	59.95
Davison Black Creek	Davison Middle School	2017	75.84
Farmers Creek	Chatfield	2017	69.21
Thread Creek at Bristol Road	Baker Career	2017	66.63
Unlisted Location	Northwestern Academy	2017	71.13
Unlisted Location	Lakeville Middle School	2017	73.68



Flint River Green Location Map for 2017

## 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”. Two of the studied sites showed an improvement in water quality from Fair to Good (green font). Macroinvertebrate study was last updated in April & May for 2013 which was included in the 2012-2013 Annual Report.

### Macroinvertebrate Study Results

ID_No	Location	Sampled Years	Water Quality Index (WQI)	Water Quality Fall 2016/Spring 2017
<b><i>Lower Flint River Watershed</i></b>				
A-L	Pine Run Headwaters	1999-2000, 2003-2017	Fair	No Change
B-L	Misteguay Creek Headwaters	1999-2000, 2004-2017	Fair	Good/Fair
C-L	Flint River, Flushing	1999-2017	Excellent	Good/Excellent
D-L	Brent Run	1999-2003, 2005-2017	Good	No Change
E-L	Brent Run Headwaters	1999-2000, 2004-2017	Poor	Fair/Poor
A-M	Swartz Creek	1999-2017	Good	No Change
B-M	Thread Creek	1999-2017	Fair	No Change
C-M	Thread Creek Headwaters	1999-2017	Good	No Change
D-M	Kearsley Creek	1999, 2001-2017	Good	No Change
E-M	Kearsley Creek Headwaters	1999-2003, 2005, 2007-2017	Good	No Change
F-M	Gilkey Creek	1999-2013	Poor	Discontinued
G-M	Gilkey Creek Headwaters	2002-2017	Poor	Fair/Poor
I-M	Gilkey Creek Restoration (Kearsley Park)	2009-2017	Fair	No Change
J-M	Swartz Creek Headwaters	2007-2017	Good	No Change
A-U	Butternut Creek Headwaters	2000-2017	Good	No Change
B-U	Flint River, Richfield	2000-2003	Replaced	Replaced with Clark Drain Site
C-U	Clark Drain, Richfield Park	2009-2017	Good	No Change



D-U	Butternut Creek	1999-2017	Good	No Change
A-S	Argentine	2008-2017	Fair	Good/Fair
B-S	Linden	2008-2017	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).

## 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 during the 2016-2017 IDEP field investigations.

Below figure 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.

In 2017, a total of 256 outfalls were investigated. Four illicit discharges were found during this investigation period.

2017 Outfalls Investigated

Outfall ID	Owner	Receiving Waterbody	Priority	Date Investigated
7536502	City of Swartz Cr.	Swartz Creek, West Branch	High	6/1/2017
7607502	GCDC	Messmore & Cronk 0464	High	6/1/2017
7607503	GCDC	Messmore & Cronk 0464	High	6/1/2017
7608755	GCDC	Chapman Drain 0009	High	6/1/2017
7617251	GCDC	Chapman Drain 0009	High	6/1/2017
7618001	GCDC	Messmore & Cronk 0464	Medium	6/1/2017
7618003	GCDC	Messmore & Cronk 0464	Medium	6/1/2017
7618004	GCDC	Messmore & Cronk 0464	Medium	6/1/2017
7618005	GCDC	Messmore & Cronk 0464	Medium	6/1/2017
7618009	GCRC	Private ditch to 0464	High	6/1/2017
7619001	GCDC	Messmore & Cronk 0464	High	6/1/2017
7616004	GCRC	Chapman Drain 0009	High	6/6/2017
7619252	GC School	Flint River by way of GCRC Storm	High	6/6/2017
7621501	GCDC	Ryant Drain 0509	Medium	6/6/2017
7621503	GCDC	Ryant Drain 1496	High	6/6/2017
7632281	GCDC	Swartz Creek, West Br 0122	High	6/6/2017
6604001	GCRC	Howland Drain 0382	High	6/7/2017

Outfall ID	Owner	Receiving Waterbody	Priority	Date Investigated
6604002	GCRC	Howland Drain 0382	High	6/7/2017
6604003	GCRC	Hewitt Drain 0018	High	6/7/2017
6608324	GCDC	Bloss 0167	Medium	6/7/2017
6617001	GCDC	Lum & Extension, Branch #2	High	6/7/2017
6617252	GCDC	Howland Drain	High	6/7/2017
6618251	GCDC	Lum & Extension, Branch #2	High	6/7/2017
7633509	GCRC	Howland Drain	High	6/7/2017
7633510	GCRC	Howland Drain	High	6/7/2017
6602001	GC School	Municipal Storm Sewer	High	6/12/2017
6603751	GCDC	George Drain	High	6/12/2017
7628557	GCDC	Swartz Creek, West Br 0122	High	6/12/2017
7628558	GCDC	Swartz Creek, West Br 0122	High	6/12/2017
7628751	GCDC	Swartz Creek	High	6/12/2017
7632282	GCRC	Swartz Cr, West Br of 0122	High	6/12/2017
7632284	GCRC	Swartz Cr, West Br of 0122	High	6/12/2017
7632293	GCDC	Swartz Cr, West Br of 0122	High	6/12/2017
7633103	GCRC	Swartz Cr, West Br of 0122	Medium	6/12/2017
7726508	GCRC	Thread Creek, Pierson Branch 1319	High	7/6/2017
7726509	GCRC	Thread Creek, Pierson Branch 1319	High	7/6/2017
7726751	GCDC	Gilkey Creek 0017	Medium	7/6/2017
7726752	GCDC	Gilkey Creek 0017	Medium	7/6/2017
7735001	GCRC	Thread Creek, Pierson Branch 1319	High	7/6/2017
7735002	GCRC	Thread Creek, Pierson Branch 1319	High	7/6/2017
7736001	GCRC	Gilkey Creek 0017	High	7/6/2017
7736002	GCRC	Gilkey Creek 0017	High	7/6/2017
7736008	GCRC	Gilkey Creek 0017	Medium	7/6/2017
7736009	GCDC	Gilkey Creek 0017	High	7/6/2017
8727759	GCDC	Crampton Drain 0012	High	7/6/2017
8727760	GCRC	Crampton Drain 0012	Medium	7/6/2017
8727761	GCRC	Crampton Drain 0012	Medium	7/6/2017
8734755	GCRC	Kearsley Creek	High	7/6/2017

Outfall ID	Owner	Receiving Waterbody	Priority	Date Investigated
8734756	GCRC	Kearsley Creek	High	7/6/2017
8734760	GCRC	Kearsley Creek	High	7/6/2017
8734763	GCDC	Kearsley	High	7/6/2017
8735502	GCRC	Kearsley Creek	High	7/6/2017
8805251	GCDC	Parker & Scothan 0036	*High	7/6/2017
7609001	GC School	Flint River via GCDC pipe	High	7/17/2017
7619251	GC School	GCRC	High	7/17/2017
7619751	GCDC	Ryant 0509	High	7/17/2017
7620503	GCDC	Ryant 0509	High	7/17/2017
7621001	GCDC	Ryant Drain	High	7/17/2017
7630501	GC School	Ditch to overland flow	High	7/17/2017
8629751	GCRC	Hartshorn Drain 0458	High	7/17/2017
8629753	GCRC	Hartshorn Drain 0458	High	7/17/2017
8629759	GCDC	Hartshorn & Ext 0458	High	7/17/2017
8632001	GCRC	Hartshorn Drain 0458	High	7/17/2017
8632003	GCRC	Hartshorn Drain 0458	High	7/17/2017
8632018	GCDC	Hartshorn, Pierson Br 0928	High	7/17/2017
7702008	City of Burton	Kearsley Creek	High	7/19/2017
7702010	GCRC	Callahan #0146 to Kearsley Creek	High	7/19/2017
7702011	GCRC	Callahan #0146 to Kearsley Creek	High	7/19/2017
7703251	GCDC	Municipal Storm ditch	Medium	7/19/2017
8710757	GCDC	Flint River (Mott Lake)	*High	7/19/2017
8711751	GCRC	Flint river via wetlands to Mott lake	*High	7/19/2017
8721251	GCRC	Coggins outlet	*High	7/19/2017
8721252	GCDC	Coggins outlet	*High	7/19/2017
8722001	GCRC	Carpenter Drain 0050	*High	7/19/2017
8722754	GCRC	Carpenter Drain 0050	*High	7/19/2017
8723501	GCRC	Carpenter Drain 0050	*High	7/19/2017
8723502	GCRC	Carpenter Drain 0050	*High	7/19/2017
8723503	GCRC	Carpenter Drain 0050	*High	7/19/2017
8726512	GCDC	Crampton Drain 0012	High	7/19/2017

Outfall ID	Owner	Receiving Waterbody	Priority	Date Investigated
8726516	GCDC	Crampton Drain 0012	High	7/19/2017
7702002	GCDC	Kearsley Creek	High	7/19/2017
8536262	GCDC	French Drain 0219 to Flint River	High	7/25/2017
8536263	GCDC	French Drain 0219 to Flint River	High	7/25/2017
8536264	GCDC	French Drain 0219 to Flint River	High	7/25/2017
8536265	GCDC	French Drain 0219	High	7/25/2017
8536266	GCDC	French Drain 0219	High	7/25/2017
8621747	GCRC	Cattail Swamp Drain 0401	None	7/25/2017
8629001	GCRC	Root Drain 0185	Medium	7/25/2017
8629002	GCRC	Root Drain 0185	Medium	7/25/2017
8629005	GCRC	Root Drain 0185	High	7/25/2017
8629006	GCRC	Root Drain 0185	High	7/25/2017
8629501	GCRC	Root Drain 0185	High	7/25/2017
8629503	GCRC	Root Drain 0185	High	7/25/2017
8630251	GCRC	Root Drain 0185	Medium	7/25/2017
8630252	GCRC	Root Drain 0185	Medium	7/25/2017
8630751	GCRC	Root Drain 0185	High	7/25/2017
8630753	GCRC	Root Drain 0185	Medium	7/25/2017
8630759	GCDC	Root Drain 0185	Medium	7/25/2017
8631501	GCDC	Flint River	High	7/25/2017
8631508	GCDC	Blackmore Drain 0005	High	7/25/2017
6601251	GCDC	Sherwood 0162	High	7/31/2017
6601253	GCRC	Sherwood 0162	Medium	7/31/2017
6601254	GCRC	Sherwood 0162	Medium	7/31/2017
6602251	GCDC	Call Ext 0767	High	7/31/2017
6602252	GCDC	Call Ext 0767	High	7/31/2017
6602253	GCDC	Call Ext 0767	High	7/31/2017
7625760	GCDC	Gibson 0423	High	7/31/2017
7635001	GCRC	CallDrain 0767	High	7/31/2017
7635754	GCRC	Call Ext 0767	Medium	7/31/2017
7636252	GC School	Parkwood	High	7/31/2017

Outfall ID	Owner	Receiving Waterbody	Priority	Date Investigated
7636751	GCDC	Sherwood 0162	Medium	7/31/2017
7636753	GCDC	Sherwood 0162	Medium	7/31/2017
7730001	GC School	Gibson (watercourse)	High	7/31/2017
7730002	GC School	Gibson (watercourse)	High	7/31/2017
6702539	GCDC	Myers Drain	High	8/21/2017
6702751	GCDC	Myers Drain 0408	High	8/21/2017
6702752	GCDC	Myers Drain 0408	High	8/21/2017
6703253	GCRC	Meyers Drain 0408	Medium	8/21/2017
6703254	GCRC	Meyers Drain 0408	High	8/21/2017
7721251	GCDC	Robinson & Curtis 0344	High	8/21/2017
7721252	City of Burton	Robinson & Curtis 0344	High	8/21/2017
7721751	City of Burton	Thread Creek	High	8/21/2017
7721752	City of Burton	Thread Creek	High	8/21/2017
7721753	City of Burton	Thread Creek	High	8/21/2017
7722001	City of Burton	Robinson & Curtis 0344	High	8/21/2017
7722002	City of Burton	Robinson & Curtis 0344	High	8/21/2017
7722258	GCDC	Robinson & Curtis 0344	High	8/21/2017
7722753	GCDC	Robinson & Curtis 0344	High	8/21/2017
7733760	City of Burton	Thread Creek	High	8/21/2017
8527784	City of Flushing	Flint River	High	9/6/2017
8527861	City of Flushing	Flint River	High	9/6/2017
8527862	City of Flushing	Flint River	High	9/6/2017
8527866	City of Flushing	Flint River	High	9/6/2017
8527868	City of Flushing	Flint River	High	9/6/2017
8601770	City of Mt. Morris	Benjamin Run Tributary	Low	9/6/2017
8601771	City of Mt. Morris	Benjamin Run Tributary	Low	9/6/2017
8627502	Mt. Morris Twp	Hartshorn, Branch #1 0358	Low	9/6/2017
9614502	City of Clio	Pine Run	High	9/6/2017
9614523	City of Clio	Pine Run	High	9/6/2017
9614524	City of Clio	Pine Run	High	9/6/2017
9614525	City of Clio	Pine Run	High	9/6/2017

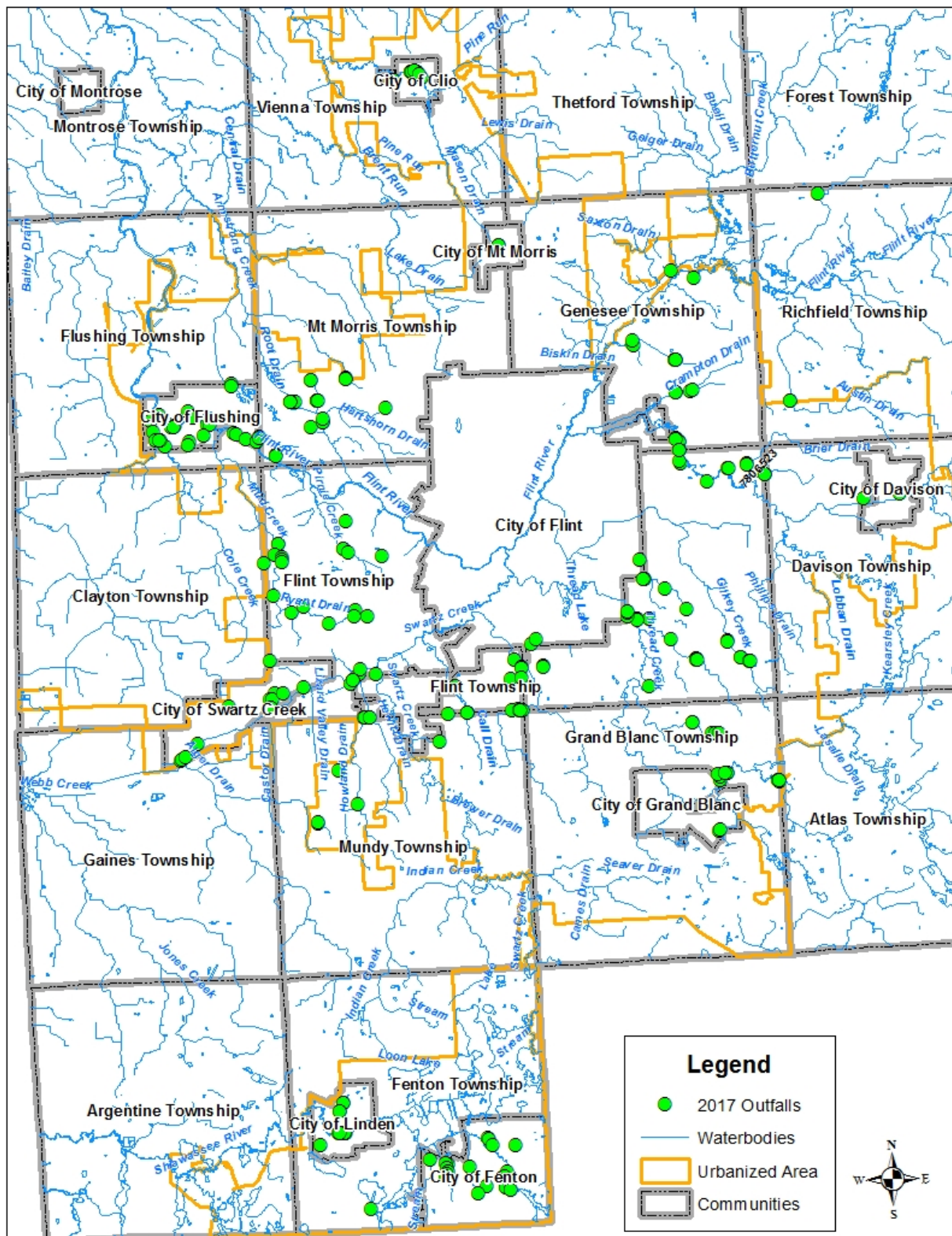
Outfall ID	Owner	Receiving Waterbody	Priority	Date Investigated
9615757	City of Clio	Pine Run	High	9/6/2017
9615758	City of Clio	Pine Run	High	9/6/2017
9615759	City of Clio	Pine Run	High	9/6/2017
9615760	City of Clio	Pine Run	High	9/6/2017
9615761	City of Clio	Pine Run	High	9/6/2017
9615762	City of Clio	Pine Run	High	9/6/2017
5617511	C of Linden	Shiawassee, Spring Meadows 1521	High	9/7/2017
5617512	C of Linden	Shiawassee, Spring Meadows 1521	High	9/7/2017
5619751	C of Linden	Shiawassee River	High	9/7/2017
5620001	C of Linden	Shiawassee River	High	9/7/2017
5620002	C of Linden	Shiawassee River	High	9/7/2017
5620506	C of Linden	Shiawassee River	High	9/7/2017
5620515	C of Linden	Shiawassee River	High	9/7/2017
5620518	C of Linden	Shiawassee River	High	9/7/2017
5620519	C of Linden	Shiawassee River	High	9/7/2017
5620520	C of Linden	Shiawassee River	High	9/7/2017
5620527	C of Linden	Shiawassee River	High	9/7/2017
7702751	City of Burton	Kearsley Creek	High	9/11/2017
7716751	City of Burton	C of Flint-Robinson & Curtis	High	9/11/2017
7721756	City of Burton	Thread Creek	Medium	9/11/2017
7727008	City of Burton	Thread Creek	Low	9/11/2017
7727009	City of Burton	Thread Creek	Low	9/11/2017
7727757	GCDC	Thread Cr, Pierson Br 1319	High	9/11/2017
7728251	City of Burton	Thread Creek	Medium	9/11/2017
7730753	City of Burton	Gibson Drain 0145	High	9/11/2017
7731003	City of Burton	Gibson Drain 0145	High	9/11/2017
5623752	C of Fenton	Shiawassee River	Medium	9/12/2017
5626262	C of Fenton	Shiawassee River	High	9/12/2017
5626502	C of Fenton	Adams Drain 0124	High	9/12/2017
5627002	C of Fenton	Lake (Shiawassee)	High	9/12/2017
5627760	C of Fenton	Egyptian Drain 0867	High	9/12/2017

Outfall ID	Owner	Receiving Waterbody	Priority	Date Investigated
5627761	C of Fenton	Egyptian Drain 0867	High	9/12/2017
5627762	C of Fenton	Egyptian Drain 0867	High	9/12/2017
5627763	C of Fenton	Egyptian Drain 0867	High	9/12/2017
5627764	C of Fenton	Egyptian Drain 0867	High	9/12/2017
5627765	C of Fenton	Egyptian Drain 0867	High	9/12/2017
5635001	C of Fenton	Adams Drain 0124	High	9/12/2017
5635251	C of Fenton	Adams Drain 0124	High	9/12/2017
5636011	C of Fenton	Shiawassee River	High	9/12/2017
5636030	C of Fenton	Shiawassee River	High	9/12/2017
5636031	C of Fenton	Shiawassee River	High	9/12/2017
5636032	C of Fenton	Shiawassee River	High	9/12/2017
5625002	C of Fenton	Shiawassee River	High	9/13/2017
5625508	C of Fenton	Shiawassee River	Medium	9/13/2017
5625510	C of Fenton	Shiawassee River	Medium	9/13/2017
5625511	C of Fenton	Shiawassee River	High	9/13/2017
5626266	C of Fenton	Shiawassee River	Medium	9/13/2017
5632251	Fenton Twp	Egyptian Drain 0867	High	9/13/2017
5636005	C of Fenton	Shiawassee River	Medium	9/13/2017
5636006	C of Fenton	Shiawassee River	High	9/13/2017
5636040	C of Fenton	Shiawassee River	Medium	9/13/2017
8524517	GCDC	Bowman Drain GCDC 0062	High	9/14/2017
8525009	City of Flushing	Bowman Drain 0062	High	9/14/2017
8526514	City of Flushing	Flint River Tributary	High	9/14/2017
8526515	City of Flushing	Flint River Tributary	High	9/14/2017
8526516	City of Flushing	Flint River Tributary	High	9/14/2017
8526517	City of Flushing	Flint River Tributary	High	9/14/2017
8526770	City of Flushing	Flint River Tributary	Medium	9/14/2017
8526771	City of Flushing	Flint River Tributary	Medium	9/14/2017
8526772	City of Flushing	Flint River Tributary	Medium	9/14/2017
8527772	City of Flushing	Flint River	High	9/14/2017
8527501	City of Flushing	Cole Creek 0764	Medium	9/18/2017



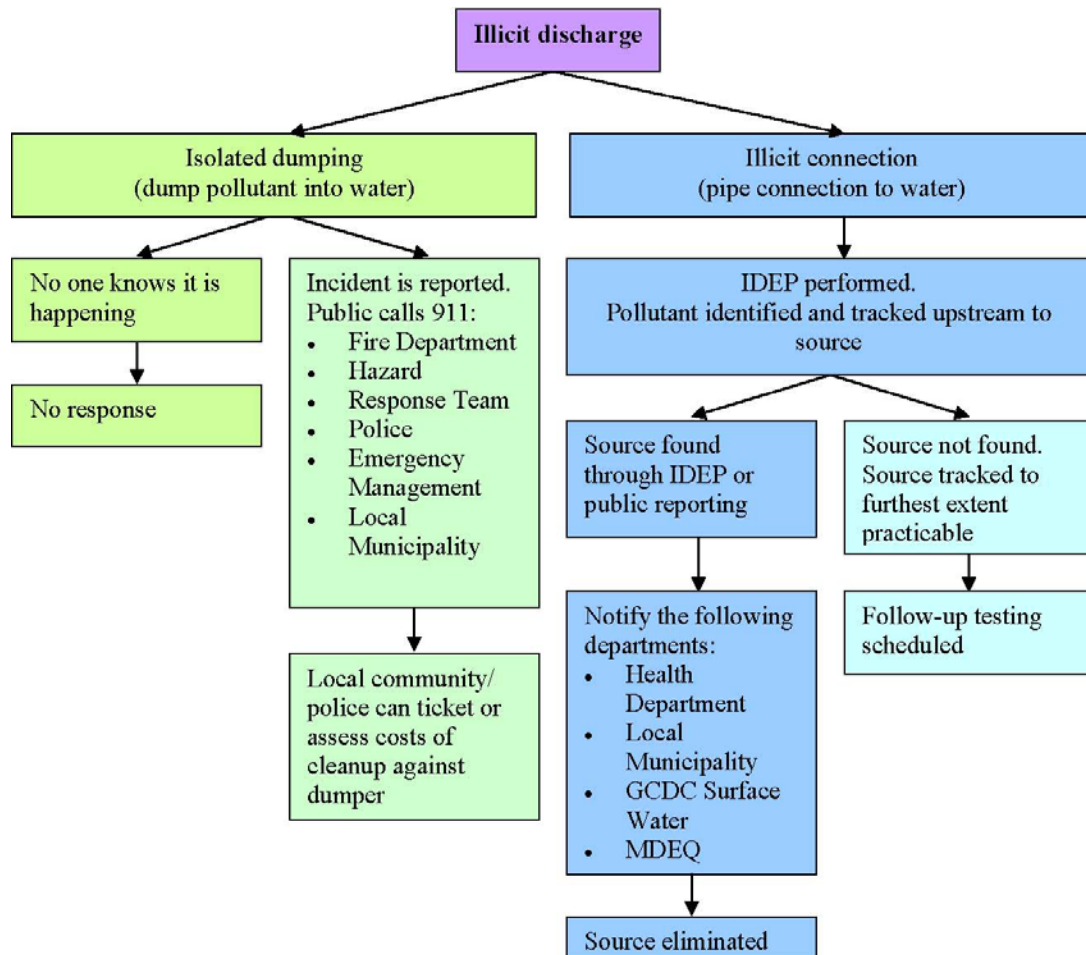
Outfall ID	Owner	Receiving Waterbody	Priority	Date Investigated
8534011	City of Flushing	Cole Creek 0764	High	9/18/2017
8534251	City of Flushing	Cole Creek 0764	Medium	9/18/2017
8534252	City of Flushing	Cole Creek 0764	Medium	9/18/2017
8534254	City of Flushing	Cole Creek 0764	Medium	9/18/2017
8534256	City of Flushing	Cole Creek 0764	Medium	9/18/2017
8535012	City of Flushing	Flint River Tributary	Medium	9/18/2017
8535013	City of Flushing	Flint River Tributary	Medium	9/18/2017
8535252	City of Flushing	Flint River Tributary	Medium	9/18/2017
8536002	City of Flushing	Flint River	High	9/18/2017
8536005	GCDC	Flint River	High	9/18/2017
8536260	City of Flushing	Flint River	Medium	9/18/2017
7701009	City of Burton	Kearsley Creek	Medium	9/19/2017
7701251	City of Burton	Brier Creek Drain 0130	Medium	9/19/2017
7701252	GCDC	Brier Creek Drain 0130	Medium	9/19/2017
7701501	City of Burton	Kearsley Creek	Medium	9/19/2017
7701777	City of Burton	Cochran Drain 0174	Medium	9/19/2017
7701778	City of Burton	Cochran Drain 0174	Medium	9/19/2017
7730501	City of Burton	Gibson Creek (via I475 & GC0145)	High	9/19/2017
7731251	City of Burton	Gibson Creek (via I475 & GC0145)	High	9/19/2017
7806501	GCDC	Cochran 0174	High	9/19/2017
7806523	City of Burton	Cochran 0174	High	9/19/2017
8830751	GCRC	Cullen & Powers #0014	*High	9/19/2017
8830752	GCRC	Cullen & Powers #0014	*High	9/19/2017
6711752	GCDC	Thread Creek	Medium	9/21/2017
6711754	GCRC	Thread Creek	High	9/21/2017
6711755	GCRC	Thread Creek	High	9/21/2017
6711756	City of Grand Blanc	Thread Creek	Medium	9/21/2017
6711757	GCDC	Thread Creek	Medium	9/21/2017
6712751	GCRC	Thread Creek	High	9/21/2017
6712752	GCDC	Thread Creek	High	9/21/2017
6712753	GCRC	Thread Creek	High	9/21/2017

Outfall ID	Owner	Receiving Waterbody	Priority	Date Investigated
6712754	GCRC	Thread Creek	High	9/21/2017
6723005	City of Grand Blanc	Perry Drain 1132	Medium	9/21/2017
6723007	GCDC	Perry Drain 1132	High	9/21/2017
6711751	City of Grand Blanc	Thread Creek	Medium	9/21/2017
7809001	Davison Twp	Stockman Drain 0659	High	9/25/2017
8628001	GCRC	Cattail Swamp Drain 0401	Medium	9/25/2017
8628003	GCRC	Cattail Swamp Drain 0401	Medium	9/25/2017
9622001	Vienna Township	Haven & Dexter Street Outlet	Low	9/25/2017
9622002	Vienna Township	Haven & Dexter Street Outlet	Low	9/25/2017
9622003	Vienna Township	Haven & Dexter Street Outlet	Low	9/25/2017
6502150	City of Swartz Cr.	Swartz Creek, West Branch 0122	High	9/28/2017
6503762	City of Swartz Cr.	Swartz Creek, West Branch	Medium	9/28/2017
6503763	City of Swartz Cr.	Swartz Creek, West Branch	Medium	9/28/2017
6503764	City of Swartz Cr.	Swartz Creek, West Branch	Medium	9/28/2017
7631001	City of Swartz Cr.	Swartz Creek, West Br 0122	High	9/28/2017
7631002	City of Swartz Cr.	Swartz Creek, West Br 0122	High	9/28/2017
7631003	City of Swartz Cr.	Swartz Creek, West Br 0122	High	9/28/2017
7631004	City of Swartz Cr.	Swartz Creek, West Br 0122	High	9/28/2017
7631251	City of Swartz Cr.	Swartz Creek, West Br 0122	High	9/28/2017
7631603	GCDC 1231	West Br Swartz Creek	High	9/28/2017
7810030	City of Davison	Black Creek 0704	High	9/28/2017



2017 Outfall Investigation Locations

## Illicit Discharge Notification System Process



### Illicit Discharges October 1, 2016 to September 29, 2017

Sample Location	Background and Follow-up Inspection
Outfall 8727759 GCDC	On July 6, 2017, Tetra Tech field crews sampled dry-weather flow from GCDC Outfall 8727759. Lab testing confirmed E. coli levels above the threshold for investigative action.
Outfall 7702002 GCDC	On July 19, 2017, Tetra Tech field crews sampled dry-weather flow from GCDC Outfall 7702002. Lab testing confirmed E. coli levels above the threshold for investigative action.
Outfall 8527862 Flushing	On September 6, 2017, Tetra Tech field crews sampled dry-weather flow from Flushing Outfall 8527862. Lab testing confirmed E. coli and Ammonia results above the threshold for investigative action.
Outfall 5620519 Linden	On September 7, 2017, Tetra Tech field crews sampled dry-weather flow from Linden Outfall 5620519. Lab testing confirmed E. coli, Ammonia, and Surfactant results above the threshold for investigative action.

## 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. PSDs are updated on an annual basis. Municipalities that were designated by GCDC as containing 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

A complete copy of outfalls in a GIS Layer has been provided periodically to the MDEQ at their request. The 2015-16 Annual report Appendix B has a list of all the outfalls identified through Aug 30 2016. Attachment B of this 2016-17 annual report has the outfalls from September 1, 2016 through September 30, 2017.

Due the large number of outfalls for Genesee county and City of Burton, ongoing efforts to map outfalls is being done. Genesee County received an Asset management grant that will assist the County's ability to map the Road Commission storm water infrastructure. This has allowed us to locate and map outfalls more efficiently. City of Burton had hired an engineering firm to compile storm plans within their community. This list will be used to identify outfalls within the City.

Due the large number of outfalls for Genesee county and City of Burton, ongoing efforts to map outfalls is being done. Genesee County received an Asset management grant that will assist our ability to map the Road Commission storm water infrastructure. This will allow us to locate and map outfalls more efficiently.

Follow up from Incident Reports from Tetra Tech  
or illicit discharges reported from public

<b>Sample Location</b>	<b>Background &amp; Follow-up Inspection</b>	<b>Results &amp; Comments</b>
ID #6502257 5075 Brady Street City of Swartz Creek	On 4/29/16, Tetra Tech sampled Outfall #650257. Sampling results from 36" RCP emptying into Swartz Creek shows a high concentration of E.coli and Surfactant. GCDC-SWM conducted a site inspection and found that 5075 Brady Street washer discharge line and kitchen wastewater line connected to storm sewer. On 10-14-16, follow-up site inspection confirmed illicit connection has been eliminated.	CLOSED
2171 E. Parkwood Drive City Of Burton	On 5/16/16, Homeowner called and complained about his floor drain is connected to our storm sewer and that causing flooding in his basement. This is considered an illicit connection. We have contacted the homeowner several times to schedule a dye test to confirm	ON-GOING
ID #6715516 12063 S. Saginaw St City of Grand Blanc	On 6/30/16, Tetra Tech conducted dry weather flow inspection of outfall 6715516. Inspection shows a 4" plastic pipe discharging into a "beehive" type catch basin. Tetra Tech sampling results shows high level of E. Coli. GCDC-SWM conducted follow-up inspections and identified the source. 2-24-17: Follow-up inspection confirmed illicit connection was eliminated.	CLOSED
ID #6716252 340 Reid Rd City of Grand Blanc Sec-16	7/5/16: During dry weather flow investigation, Tetra Tech observed flow from a 36" pipe flowing southwest. Tetra Tech conducted sampling and found a high level of E. Coli. GCDC-SWM identified the source and working with City of Grand Blanc to eliminate the connection.	ON-GOING
ID #7810504 425 E. Clark Street City of Davison Sec-10	7/5/16: Tetra Tech identified dry weather flow from a 15" RCP at City of Davison storm water outfall. City of Davison is working to identify and eliminate the source. 9-11-17: City of Davison identified the source and eliminated illicit connection.	CLOSED
ID #7810046 Main St. Crossing Black Creek City of Davison Sec-10	On 7/5/16, Tetra Tech sampled outfall #7810046. City of Davison 18" PVC pipe located on south wall of the culvert crossing Black creek at Main street. Tetra Tech sampling results show elevated levels of E. coli and ammonia from the 18" PVC pipe. City of Davison identified the source and working with the Fire Dept. to eliminate the source.	ON-GOING

ID #8706506 City of Mt. Morris	On 7/13/16, Tetra Tech sampled outfall #8706506. City of Mt. Morris storm sewer (24" RCP) connected to GCDC-SWM system at intersection of Walter and Coy street. Tetra Tech sampling results shows a high concentration of E.coli from 24" RCP. . 2-21-2017: City of Mt. Morris identified the source and eliminated the illicit connection.	CLOSED.
Universal Coating on Energy Drive Genesee Twp, Sec-20	On 10/18/16, Lisa Milton, GCDC-WWS forwarded an email from MDEQ that mentioned about some unauthorized dumping into sanitary sewer by Universal Coating. This is related to Industrial Pretreatment program. GCDC-SWM did not conduct any follow-up.	FILE CLOSED
Bray Road (11-08-200-021) Genesee Twp	On 10-18-16, GCDC-SWM received a complaint from the property owner about sanitary sewer line overflowing from Dutch Village (Mobile home community) and flooded their property. GCDC-SWM conducted a site inspection and confirmed the illicit connection. GCDC-SWM contacted Genesee Twp, and MDEQ about the illicit connection. Genesee Twp worked with Dutch Village management to stop overflowing of the sanitary sewer line.	FILE CLOSED
3105 Flushing Rd Flint Twp, Sec-10	On 11-17-16, Residents complained about strong raw sewage smell. GCDC-SWM conducted a site inspection and confirmed that City of Flint sanitary sewer line leaking and discharging to county drain. GCDC notified City of Flint Water Pollution Dept. about the illicit connection. On 12-7-16, City of Flint eliminated the illicit connection.	FILE CLOSED
Protech Auto Services 105 Terrace St Flushing Twp, Sec-27	On 2-27-17, received a complaint through PEAS about oil leaking to Flint River Flint River at the back of this business. GCDC-SWM conducted a site inspection and found no sign of oil leak or discharge. We talked with the staff of Protech Auto Services and explained that oil leaking or discharging into water of the state not acceptable under Clean Water Act.	FILE CLOSED
5246 Flagler Street Flint Twp, Sec-20	On 5-12-17, GCDC-SWM maintenance crew identified soapy discharge from sump lead into roadside ditch. We conducted a site inspection and confirmed that overflow line from water softener is connected to sump crock. Homeowner re-routed the overflow to sanitary line and eliminated the illicit connection.	FILE CLOSED
ID# 6097 / 6011 Lakeview Park Dr. Fenton Twp Sec 30	On 5-18-17, MDEQ emailed us about potential laundry sink or washer connection to 18" storm water outlet that run between two properties. On 8-11-17, we conducted inspection at both houses and confirmed that their washer line not connected to 18" storm outlet. On 9-26-17, we conducted a video of 18" outlet and found no sign of washer line connection.	CLOSED



100 Vienna St City of Clio Vienna Twp, Sec-23	On 6-5-17, we received a complaint from MDEQ about spill of floor stripper into MS4 over the weekend. Fire Dept. flushed cleanup water into storm sewer. GCDC-SWM conducted a follow-up inspection at the site and did not observe any sign of floor stripper in the storm sewer.	FILE CLOSED
3100 Genesee Rd Genesee Twp, Sec-35	On 6-6-17, GCDC-WWS called about smell and sign of gasoline at driveway of 3100 Genesee road. There was a remediation site across street on west side. GCDC-SWM conducted a follow-up inspection and observed a trace of oil in the driveway.	ON-GOING
Beacon & Bridge 110 Broad St City of Linden	On 9-13-17, GCDC-SWM received an email from MDEQ about an oil spill on the ground occurred last night. We conducted a follow-up site inspection and found a trace of oil around the catch basin on the property. However, we did not observe that migration occur into roadside catch basin.	FILE CLOSED
ID#6716252 Reid Rd Grand Blanc MI	On 7/8/17 Tetra Tech contacted GCDC-SWM office about a potential illicit discharge. Illicit connection is confirmed, but City and GCDC-SWM staff still tracking down source. Clean video of pipe has been ordered.	ON-GOING
ID #8727759 N. Genesee Rd south of Hillcrest Dr. Genesee Twp	On 7-6-17, Tetra Tech sampled dry weather flow from a 42" CMP southwest corner of Crampton drain. Lab results indicated high level of E. Coli. GCDC-SWM working to identify the source.	ON-GOING
ID# 2140 Painted Post Flushing MI	On 8/9/17 received complaint from DEQ. Resident called them that address is allowing oil from containers to drain from truck bed to ground on regular basis. Site visit: not able to contact complainant nor property owner of suspected spill. Pavement show minor staining. Letter sent to property owner explaining that non storm water is not allowed to drain to storm sewer system.	FILE CLOSED
ID #8527862 Flushing Twp South end of S. McKinley Rd	On 9-6-17: Tetra Tech Sampled dry weather flow from 24" RCP discharging into Flint River. Lab results showed high level of E. Coli. GCDC-SWM working to identify the source of illicit connection.	ON-GOING
ID #5620519 Fenton Twp, Sec-20 West of N. Bridge Street	On 9-7-17: Tetra Tech Sampled dry weather flow from 24" RCP discharging into Shiawassee River. Lab results showed high level of E. Coli and surfactant. GCDC-SWM working to identify the source of illicit connection.	ON-GOING