



Phase II Municipalities Program Effectiveness Reporting

On behalf of:

Burton
Davison Twp
Flint Twp
Genesee County
Mt. Morris
Vienna Twp

Clio
Fenton
Flushing
Grand Blanc
Mt Morris Twp

Davison
Fenton Twp
Genesee Twp
Linden
Swartz Creek

***March 1, 2021 – March 1, 2022
Reporting Period***

Prepared by:

***The Genesee County Drain Commissioner SWM
On behalf of Genesee County and contracted Communities***

This report summarizes activities completed for the period from March 1, 2021 to March 1, 2022, 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. This report is broken into six sections to coincide with the MI Waters website.

- PPP
- PEP
- IDEP
- **General Permit Requirements**

THE EFFECTIVENESS OF THE PEP PROGRAM AND THE IDEP PROGRAM ARE EVALUATED IN SEVERAL WAYS:

- **“BEAN COUNTING” ARE THE MEASURABLE GOALS IN TABLE 2 OF THE PERMIT APPLICATION (PEP) BEING MET SEE 2021-2022 PEP**
- **THE OUTFALLS IN THE IDEP PLAN BEING IDENTIFIED AND TESTED. SEE 2021-2022 IDEP**
- The calls reporting Illicit Discharge being followed up on and eliminated. See 2021-2022 IDEP
- Water chemical testing from Project GREEN
- Benthic Monitoring results indicating overall water quality
- Beach testing results
- Social Survey
- Report by Tetra Tech on Program effectiveness and trend analysis. Using monitoring data collected.

GENESEE GREEN

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.

Schools are encouraged to participate in a summit, where students can present their findings. This program was disrupted Spring of 2020 due to covid. Due to Covid, collections and the Symposium had challenges. Collections were taken on 15 or more sites. The Symposium was virtual in Spring 2021 and is planned to be virtual for May 2022. Samples for Spring 2022 are being taken and will be reported in next reporting cycle. All results, education and training on www.flintrivergreen.org

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. This reporting period teachers are doing one of 3 things:

- Mentors taking samples and bringing to school to be tested.
- Mentors taking samples and testing students doing study work online with results.
- Teachers and students along with Mentors doing program as designed, pre-covid.

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)

91-100:	Excellent water quality
71-90:	Good water quality
51-70:	Medium or average water quality
26-50:	Fair water quality
0-25:	Poor water quality

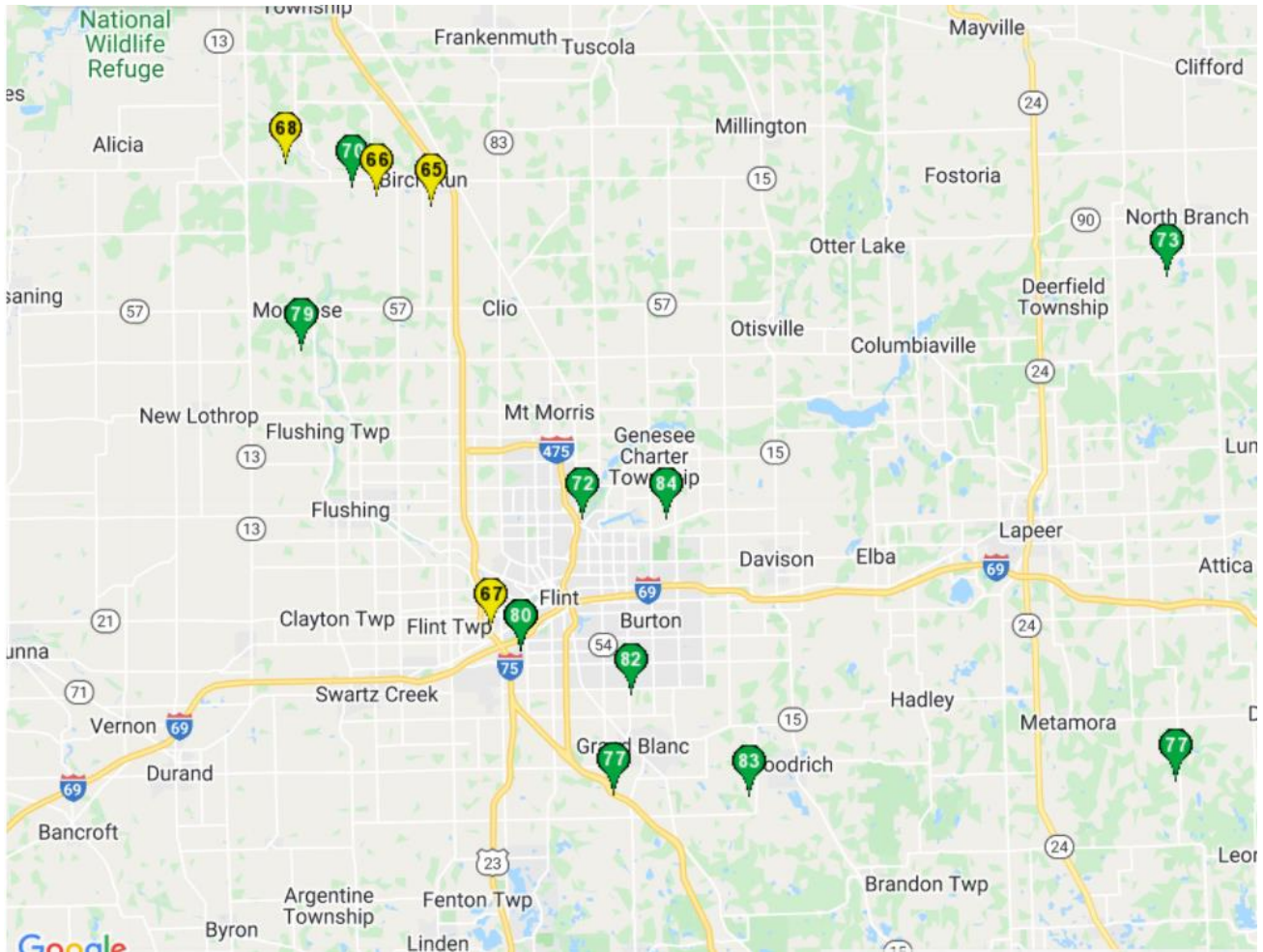
It should be noted that there was no discernible correlation between the Genesee GREEN Results and the Benthic Monitoring Results. Since the benthic monitoring results reflect the macroinvertebrates long term exposure to their environment the results are assumed to be more reflective of the overall health 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://flinrivergreen.org/> last reporting period to allow teachers to directly enter the data and make that data available to the public. Through a grant the teacher education has been expanded.

Below are the results from the reporting period. Tetra Tech used the historic data to compile a Program Effectiveness and Trend Analysis report. Attached at end of this Document.

2021 School Year data



MONTH /

LOCATION	SCHOOL	YEAR	WQI	WT WQI
Bottom Creek	North Branch High School	5 / 2021	73.09	73
Crampton Drain at Kearsley Armstrong	Armstrong Middle School	5 / 2021	83.79	84
Flint River @ Barber Memorial Park	Montrose Middle School	4 / 2021	78.93	79
Flint River @ Steeping Stone Falls	Mt. Morris Middle School	4 / 2021	72.12	72
Kearsley Creek near Goodrich High School	Goodrich Middle School	5 / 2021	83.12	83
Layman Drain - Grand Blanc Perry Innovation Center	Perry Innovation Center	4 / 2021	76.76	77

Mott Golf Course Bridge at hole #6	St. John Vianney	5 / 2021	60.01	67
Pierson Drain at Atherton HS	Atherton High School	4 / 2021	82.38	82
Runnels Drain at Dixie Hwy.	Marshall Greene Middle School	4 / 2021	64.77	65
Seven Ponds Nature Center	North Branch Middle School	5 / 2021	34.85	77
Silver Creek	Marshall Greene Middle School	4 / 2021	67.86	68
Silver Creek Elms Rd.	Marshall Greene Middle School	4 / 2021	66.31	66
Silver Creek Morrish Rd.	Marshall Greene Middle School	4 / 2021	69.61	70
Swartz Creek south of Powers	Powers Catholic High School	5 / 2021	82.23	82
Swartz Creek south of Powers	Powers Catholic High School	10 / 2021	80.25	80

2020-2021 School Year Data: Not all were able to collect data at the stream in 2020-2021. Missing WQI scores represent schools that monitored the watershed through other activities.

School	Teacher(s)	Grade	Mentor	Mentor Affiliation	Testing Site	WQI Score
Armstrong Middle School	Kate Tallmadge & Adrienne Temple	6th-8th	For-Mar Education Staff	Genesee County Parks	Crampton Drain	84
Atherton Jr. High School	Ashley Booker & Alison Macksood-Farnham	8th	Jessica Carleton	Genesee Conservation District	Pierson Drain at Atherton	82
Chatfield School	Annette Young, Tracy Boyle, & Sue Jostock	8th	Seven Ponds Educators	Seven Ponds Nature Center	Farmers Creek	82
Genesee Career Institute	Tracey Groom	11th-12th	Monica Walker	General Motors	Thread Creek at Rust Park	N/A
Goodrich Middle School	Brandon Kreft & Erin Doyle	9th-12th	For-Mar Education Staff	Genesee County Parks	Kearsley Creek, Goodrich	83
Hamady Jr. High School	James Hall, Jordan Robinson & Tammy Wylie	7th-8th	Patrick Scanlon	Genesee Conservation District	Clio Bike Path at Jennings	N/A
Kuehn-Haven Middle School	Kathy Dowd, Tiara McPhail, & Kelly Sanborn	7th	Anastasia Williams	Genesee Conservation District	Flint River at Barber Memorial Park	79
Marshall Greene Middle School	Todd Snellenberger & Mike Snyder	7th-8th	Julia Miller	MI Dept. of Environment, Great Lakes, and Energy	Silver Creek at Morseville Rd.	Fall: 68 Spring: 68
					Silver Creek Morrish Rd.	Fall: 73 Spring: 70
					Silver Creek Elms Rd.	Fall: 73 Spring: 66
					Runnels Drain at Dixie Hwy.	Fall: 74 Spring: 65
Mt. Morris Jr. High School	Elisabeth Rawling & Nicholas Finateri	7th-8th	Tom Jones, Autumn Mitchell	Genesee County Drain Commission, Flint River Watershed Coalition	Flint River at Stepping Stone Falls	72
North Branch High School	Carrie Wenta	10th	Seven Ponds Educators	Seven Ponds Nature Center	Bottom Creek	73
Perry Innovation Center, Grand Blanc	Jason Vallimont	6th-8th	Jaime Welch, Autumn Mitchell, & Darren Bagley	Flint River Watershed Coalition & Michigan State University Extension	Layman Drain, Grand Blanc	77
Powers High School	Julie Lawrence	10th-11th	Tom Hutchings	City of Flint	Swartz Creek south of Powers	Fall: 73 Spring: 82
Ruth Fox Middle School	Anne Sherrieb	7th	Seven Ponds Educators	Seven Ponds Nature Center	Seven Ponds Nature Center pond	77
St. John Vianney	Jason Tower	8th	Tom Hutchings	City of Flint	Mott Park Recreation Area Bridge (Golf Course Hole #6)	67
Swartz Creek High School	Carrie Church	9th-12th	Lee Ann Slosar/Julie Lenz	General Motors	Swartz Creek (West Branch)	61
The New Standard	Heather Dixon	8th	Autumn Mitchell	Flint River Watershed Coalition	Lake Drain at Coldwater Rd.	N/A

“Working with Todd and the results his class came up with was a nice way to show my World Geography students just how what they do affects others in regards to Human Interaction with the Environment standards.”
-Mike Snyder, 6th Grade World Geography Teacher at Marshall Greene Middle School, Birch Run

WQI Scores:
0-25=**Poor** 26-50=**Fair** 51-70=**Average** 71-90=**Good** 91-100=**Excellent**

View metadata for each test site at www.FlintRiverGREEN.org

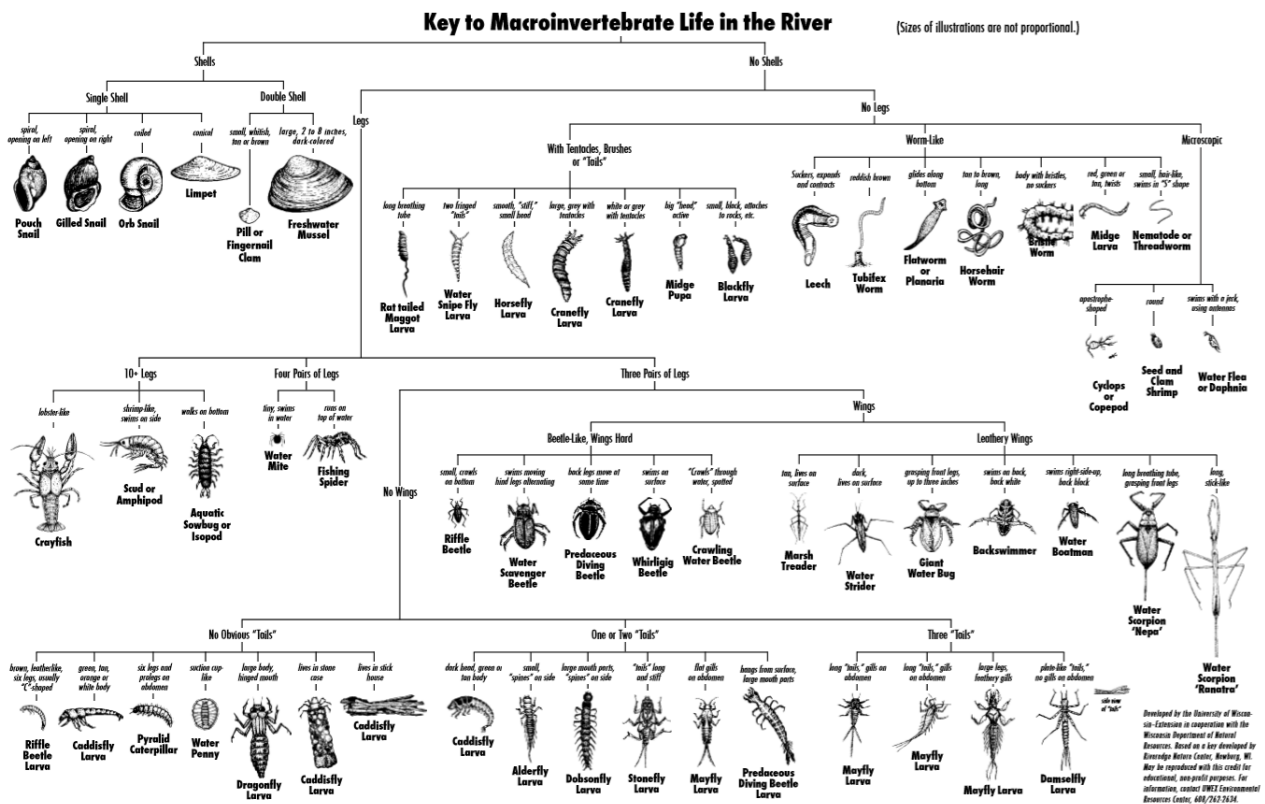
MACROINVERTEBRATE STUDY

Since 1999, the Flint River Watershed Coalition (FRWC) has executed a bi-annual Benthic Monitoring Program that has been designed to meet EGLE. 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.

Below are the results from the reporting period. Tetra Tech used the historic data to compile a Program Effectiveness and Trend Analysis report. Attached at end of this Document.

Benthic monitoring has the benefit that it is not just a snapshot of the river. What “bugs” are found gives a good idea of the general health of the water and soils allowing the more sensitive bugs to survive or not.



Weather prevented testing at 3 sites where water was too high or fast to safely collect samples.

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).

# of Sites	Current #	Previous #	Site Name	Site Location	Score	Habitat Assessment	Monitors at Site	2021, Spring Volunteers	
1	7	10	Flint River, Flushing	Flushing Twp T8NR5ES3	54.4	✓	Yes	3	Jaime Welch, Lisa Pasbjerg, Alexus Hardin, Derek Dor
2	8	9	Swartz Creek	Flint Twp T7NR7E	26.8	✓	Yes	3	Tiffany Minder, Glen Smith
3	9	13	Gilkey Creek	City of Flint T7NR7E	Discontinued				Discontinued
4	10	11	Thread Creek	Burton Twp T7NR7ES20	33.7	✓	Yes	2	Rich and Stephanie Miller
5	11	12	Kearsley Creek (For-Mar)	Burton Twp T7NR7ES2	27.3	✓	Yes	3	Leah Hart, Jon Amidon, Trinity Smith
6	12	6	Butternut Creek	Genesee Twp T8NR7ES12	64.7	✓	Yes	4	Nicole Ferguson, Ryan Kelsey, Rylee and Calvin Ferguson
7	15	15B	Brent Run	Montrose Twp T9NR5ES15	33.4	✓	Yes	3	Emily Sereisky, Matt Smith, Stephanie Hall
8	20	8B	Mistegusay Creek Headwaters	Clayton Twp T7NR5ES8	31.6	✓	Yes	3	Autumn, Alyssa, Tyler (U of M students, no last names provided)
9	21	15B	Brent Run Headwaters	Mt. Morris Twp T8NR6ES23	17.5	✓	Yes	4	Tim, Alyssa, Maia, Stephen (U of M students, no last name provided)
10	22	9B	Swartz Creek Headwaters	Fenton Twp T5NR6ES6	32.8	✓	Yes	2	Alexus Harden, Derek Dor
11	23	11B	Thread Creek Headwaters	Grand Blanc Twp T6NR8ES32	52.3	✓	Yes	4	Amber Rieder, Sam Lazar, Joey Garcia, Kristen Delay
12	24	12B	Kearsley Creek Headwaters	Atlas Twp T6NR8ES36	44.9	✓	Yes	3	Patrick Scanlon, Angela Passarelli, Whitney Hunt
13	25	13B	Gilkey Creek Headwaters	Burton Twp T7NR7ES1	35.5	✓	Yes	2	Alex Herrington, Crystal, Cristina
14	26	6B	Butternut Creek, Headwaters	Forest Twp T9NR8ES16	52	✓	Yes	3	Nicole Ferguson, Daniel Burkhardt, Christina Eisenman
15	30	7B	Pine Run Headwaters	Vienna Twp T9NR6ES13	40.9	✓	Yes	4	Darren Bagley and family
16	31	20	Shiawassee River Argentine	Argentine Twp T5NR5ES20	Discontinued		Yes		Both Shiawassee sites have been handed over. Flint River sites at
17	32	21	Shiawassee River Linden	Fenton Twp T5NR6ES19	Discontinued		Yes		Mott Park and Stepping Stone Falls will be replacing them
18	33	16R	Clark Drain, Richfield Park	Richfield Twp T8NR8ES16	39.8	✓	Yes	5	Nicole Ferguson, Brown and Kellie Alvarado, Calvin and Rylee
19	35		Gilkey Creek, Kearsley Park	City of Flint T7NR7E	37.2	✓	Yes	3	Jaime Welch, Rob & Kathy Coleen
20	38		Flint River, Mott Park Landing	City of Flint	25.3		Yes	3	Jaime Welch, Lisa Pasbjerg, Alexus Hardin
21			Flint River, Stepping Stone Falls		31.1		Yes	5	Ryan Kelsey, Nicole Ferguson, Alexus Hardin, Calvin & Rylee

# of Sites	Current #	Previous #	Site Name	Site Location	Score	Habitat Assessment	Monitors at Site	2020, Fall Volunteers
1	7	10	Flint River, Flushing	Flushing Twp T8NR5ES3	HAO only	Yes	2	Jaime Welch, Jeff Welch
2	8	9	Swartz Creek	Flint Twp T7NR7E	31.7	Yes	5	Molly Dallaire, Nicole, Calvin, Rylee Ferguson, Noah Ferguson
3	9	13	Gilkey Creek	City of Flint T7NR7E	Discontinued			Discontinued
4	10	11	Thread Creek	Burton Twp T7NR7ES20	35.7	Yes	3	Jaime Welch, Sarah Schietler, Rebecca Fedewa
5	11	12	Kearsley Creek (For-Mar)	Burton Twp T7NR7ES2	30.2	Yes	2	Molly Dalair, Nicole Ferguson
6	12	6	Butternut Creek	Genesee Twp T8NR7ES12	7.3	Yes	2	Rob & Kathy Cojeen (these monitors have been retrained, human error was determined to be the reason for the lower than normal score.)
7	15	15B	Brent Run	Montrose Twp T9NR5ES15		Yes		
8	20	8B	Mistegusay Creek Headwaters	Clayton Twp T7NR5ES8	31.6	Yes	4	Darren Bagley and family
9	21	15B	Brent Run Headwaters	Mt. Morris Twp T8NR6ES23		Yes		
10	22	9B	Swartz Creek Headwaters	Fenton Twp T5NR6ES6	53.5	Yes	2	Nicole Ferguson, Molly Dallaire
11	23	11B	Thread Creek Headwaters	Grand Blanc Twp T6NR8ES32	25.1	Yes	1	Mcnic Walker
12	24	12B	Kearsley Creek Headwaters	Atlas Twp T6NR8ES36		Yes		
13	25	13B	Gilkey Creek Headwaters	Burton Twp T7NR7ES1		Yes		
14	26	6B	Butternut Creek, Headwaters	Forest Twp T9NR8ES16	44.8	Yes	2	Mike Haley, Lisa VanOchten
15	30	7B	Pine Run Headwaters	Vienna Twp T9NR6ES13		Yes		
16	31	20	Shiawassee River Argentine	Argentine Twp T5NR5ES20	Discontinued	Yes		Both Shiawassee sites have been handed over. Flint River sites at
17	32	21	Shiawassee River Linden	Fenton Twp T5NR6ES19	Discontinued	Yes		Mott Park and Stepping Stone Falls will be replacing them
18	33	16R	Clark Drain, Richfield Park	Richfield Twp T8NR8ES16	42.7	Yes	3	Nicole Ferguson, Deanna Leddick, Molly Dallaire
			Gilkey Creek, Kearsley Park	City of Flint T7NR7E	37.7	Yes	2	Rob & Kathy Cojeen
20	38		Flint River, Mott Park Landing	City of Flint	34.5	Yes	3	Jaime Welch, Rebecca Fedewa, Sarah Scheitler
21			Flint River, Stepping Stone Falls		20.6	Yes	4	Nicole Ferguson, Deanna Leddick, Iain Forest, Porter Meinburg

Flint River- Fall of 2021 results will be reported in next reporting period. FRWC contract is based on old reporting cycle.

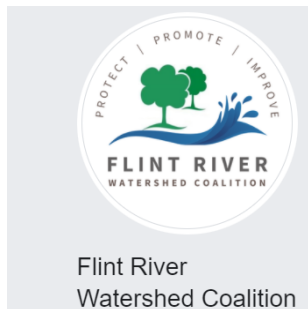
Keepers of the Shiawassee took over the 2 sites within the Shiawassee Watershed in 2020. They have also expanded to 3sites. Collection sheets available at Drain Office.

Spring 2021

Site	Location	Score	Habitat Assessment	Monitors	Volunteers
Rackam Park	Downtown Fenton	31.2	Yes	4	Gary Messenger, Sarah Baker, Pat Cockfield and Julia Gatzka
Duffied Rd	Duffield Road at Shiawassee	34.6	Yes	5	Gary Messenger, Pat Cockfield, Beth Jacob, Janell Tillman & Tom Lander
Yellow River	Lilie Road, Argentine	33.3	Yes	3	Gary Messenger, Pat Cockfield & Janell Tillman

Fall 2021

Site	Location	Score	Habitat Assessment	Monitors	Volunteers
Rackam Park	Downtown Fenton	40.4	Yes	6	Gary Messenger, Pat Cockfield, Janell Tillman, Maggie Yerman, Brent Judson & Natalie Guenther
Linden	Downtown Linden downstream of Dam	28.8	Yes	6	Gary Messenger, Pat Cockfield, Janell Tillman, Maggie Yerman, Brent Judson & Natalie Guenther



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- Apr 10 **Water Monitoring Training** For-Mar Nature Preserve & A...
 Sat 10:00 AM EDT · 27 guests
 Burton
- Jan 28 **Voice of the River Annual Celebration**
 Thu 7:00 PM EST · 139 guests
- Sep 26 **Fall Water Quality Monitoring** Flint River Watershed Coalition
 Sep 26, 2020 - Oct 10, 2020 · 14 guests
 Flint
- Aug 10 **Virtual Water Bug Petting Zoo**
 Mon 4:00 PM EDT · 42 guests
- Aug 1 **Flint River Flotilla 2020 - The Virtual Adventure** 119 N Grand Traverse St, Fili...
 Aug 1, 2020 - Aug 14, 2020 · 161 guests
- Jul 14 **Virtual Water Bug Petting Zoo** Flint River Watershed Coalition
 Tue 11:00 AM EDT · 86 guests
 Flint



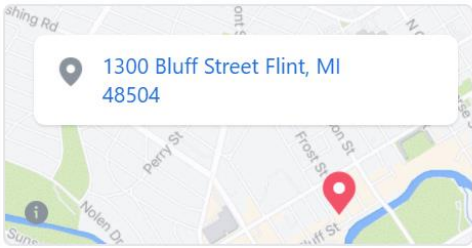
Flint River Watershed Coalition

Send message



About

See all



- Jump in & have some fun protecting, preserving, and improving our Flint River Watershed! www.FlintRiver.org
- Partnering to protect, preserve, and improve the Flint River and its watershed.



Flint River Watershed Coalition added an event.

Yesterday at 12:38 PM · 🌐



TUE, APR 19 AT 5:00 PM EDT
FRWC Water Monitoring Training



Flint River Watershed Coalition

Send message



Videos

See all



Our office will be closed Friday, December

SAVE THE DATE!

FLINT RIVER WATERSHED COALITION

STEWARDSHIP DAY

SATURDAY
4.30.22
9 - 11 AM

Pre-register & learn more:
bit.ly/FRWC2022

BEACH TESTING RESULTS

Blue bell beach in Genesee Township has been tested each summer by the Health Department. Results below. No Closures and Advisories for 2020-2021 reporting period.

Advisory Year	Start Date	Reopen Date	Days Closed	Type	Reason	Source
2019						
	8/27/2019		52	Closure	High bacteria levels	Unknown
	6/4/2019	6/7/2019	3	Closure	High bacteria levels	Unknown
2008						
	9/15/2008	9/30/2008	15	Contamination Advisory	High bacteria levels	Runoff
	7/28/2008	8/4/2008	7	Contamination Advisory	High bacteria levels	Unknown
2007						
	8/9/2007	10/31/2007	83	Closure	High bacteria levels	Unknown
2005						
	8/8/2005	10/1/2005	54	Contamination Advisory	High bacteria levels	Unknown

2021						
Bluebell Beach Mott Lake	09/01/2021 10:00 AM			Individual	Colilert-18 hour	40
Bluebell Beach Mott Lake	09/01/2021 10:00 AM			Individual	Colilert-18 hour	50
Bluebell Beach Mott Lake	09/01/2021 10:00 AM			Individual	Colilert-18 hour	29
	09/01/2021			Daily Mean	Colilert-18 hour	38.7088
	09/01/2021			30-Day Mean	Colilert-18 hour	23.2076
Bluebell Beach Mott Lake	08/24/2021 10:30 AM			Individual	Colilert-18 hour	23
Bluebell Beach Mott Lake	08/24/2021 10:30 AM			Individual	Colilert-18 hour	20
Bluebell Beach Mott Lake	08/24/2021 10:30 AM			Individual	Colilert-18 hour	34
	08/24/2021			Daily Mean	Colilert-18 hour	25.008
	08/24/2021			30-Day Mean	Colilert-18 hour	18.9618
Bluebell Beach Mott Lake	08/17/2021 8:30 AM			Individual	Colilert-18 hour	37
Bluebell Beach Mott Lake	08/17/2021 8:30 AM			Individual	Colilert-18 hour	41
Bluebell Beach Mott Lake	08/17/2021 8:30 AM			Individual	Colilert-18 hour	56
	08/17/2021			Daily Mean	Colilert-18 hour	43.96
	08/17/2021			30-Day Mean	Colilert-18 hour	15.9242
Bluebell Beach Mott Lake	08/10/2021 8:00 AM			Individual	Colilert-18 hour	47
Bluebell Beach Mott Lake	08/10/2021 8:00 AM			Individual	Colilert-18 hour	27
Bluebell Beach Mott Lake	08/10/2021 8:00 AM			Individual	Colilert-18 hour	26
	08/10/2021			Daily Mean	Colilert-18 hour	32.0734

Bluebell Beach Mott Lake	08/03/2021 8:00 AM	Individual	Colilert-18 hour	6
Bluebell Beach Mott Lake	08/03/2021 8:00 AM	Individual	Colilert-18 hour	4
Bluebell Beach Mott Lake	08/03/2021 8:00 AM	Individual	Colilert-18 hour	5
	08/03/2021	Daily Mean	Colilert-18 hour	4.9324
Bluebell Beach Mott Lake	07/27/2021 8:00 AM	Individual	Colilert-18 hour	7
Bluebell Beach Mott Lake	07/27/2021 8:00 AM	Individual	Colilert-18 hour	20
Bluebell Beach Mott Lake	07/27/2021 8:00 AM	Individual	Colilert-18 hour	20
	07/27/2021	Daily Mean	Colilert-18 hour	14.0946
Bluebell Beach Mott Lake	07/20/2021 8:00 AM	Individual	Colilert-18 hour	4
Bluebell Beach Mott Lake	07/20/2021 8:00 AM	Individual	Colilert-18 hour	19
Bluebell Beach Mott Lake	07/20/2021 8:00 AM	Individual	Colilert-18 hour	15
	07/20/2021	Daily Mean	Colilert-18 hour	10.4464
Bluebell Beach Mott Lake	07/06/2021 10:00 AM	Individual	Colilert-18 hour	21
Bluebell Beach Mott Lake	07/06/2021 10:00 AM	Individual	Colilert-18 hour	11
Bluebell Beach Mott Lake	07/06/2021 10:00 AM	Individual	Colilert-18 hour	10
	07/06/2021	Daily Mean	Colilert-18 hour	13.2192
Bluebell Beach Mott Lake	06/23/2021 9:30 AM	Individual	Colilert-18 hour	6
Bluebell Beach Mott Lake	06/23/2021 9:30 AM	Individual	Colilert-18 hour	1
Bluebell Beach Mott Lake	06/23/2021 9:30 AM	Individual	Colilert-18 hour	4
	06/23/2021	Daily Mean	Colilert-18 hour	2.8845
	06/23/2021	30-Day Mean	Colilert-18 hour	6.4536
Bluebell Beach Mott Lake	06/15/2021 8:00 AM	Individual	Colilert-18 hour	15
Bluebell Beach Mott Lake	06/15/2021 8:00 AM	Individual	Colilert-18 hour	9
Bluebell Beach Mott Lake	06/15/2021 8:00 AM	Individual	Colilert-18 hour	8
	06/15/2021	Daily Mean	Colilert-18 hour	10.2599
Bluebell Beach Mott Lake	06/08/2021 10:00 AM	Individual	Colilert-18 hour	2
Bluebell Beach Mott Lake	06/08/2021 10:00 AM	Individual	Colilert-18 hour	6
Bluebell Beach Mott Lake	06/08/2021 10:00 AM	Individual	Colilert-18 hour	5
	06/08/2021	Daily Mean	Colilert-18 hour	3.9149
Bluebell Beach Mott Lake	06/02/2021 8:30 AM	Individual	Colilert-18 hour	1
Bluebell Beach Mott Lake	06/02/2021 8:30 AM	Individual	Colilert-18 hour	7
Bluebell Beach Mott Lake	06/02/2021 8:30 AM	Individual	Colilert-18 hour	1
	06/02/2021	Daily Mean	Colilert-18 hour	1.9129
Bluebell Beach Mott Lake	05/25/2021 11:00 AM	Individual	Colilert-18 hour	24
Bluebell Beach Mott Lake	05/25/2021 11:00 AM	Individual	Colilert-18 hour	91
Bluebell Beach Mott Lake	05/25/2021 11:00 AM	Individual	Colilert-18 hour	59
	05/25/2021	Daily Mean	Colilert-18 hour	50.5089

Silver Lake- City Park beach in Fenton Township has also been tested each summer by the Health Department. Results below. No Closures and Advisories for 2020-2021 reporting period.

2021				
Silver Lake	08/30/2021 8:00 AM	Individual	Colilert-18 hour	72
Silver Lake	08/30/2021 8:00 AM	Individual	Colilert-18 hour	517
Silver Lake	08/30/2021 8:00 AM	Individual	Colilert-18 hour	137
	08/30/2021	Daily Mean	Colilert-18 hour	172.127
	08/30/2021	30-Day Mean	Colilert-18 hour	86.6908
Silver Lake	08/26/2021 2:00 PM	Individual	Colilert-18 hour	2419
Silver Lake	08/26/2021 2:00 PM	Individual	Colilert-18 hour	2419
Silver Lake	08/26/2021 2:00 PM	Individual	Colilert-18 hour	2419
	08/26/2021	Daily Mean	Colilert-18 hour	2419 *
	08/26/2021	30-Day Mean	Colilert-18 hour	81.9794
Silver Lake	08/24/2021 10:00 AM	Individual	Colilert-18 hour	2419
Silver Lake	08/24/2021 10:00 AM	Individual	Colilert-18 hour	2419
Silver Lake	08/24/2021 10:00 AM	Individual	Colilert-18 hour	2419
	08/24/2021	Daily Mean	Colilert-18 hour	2419 *
	08/24/2021	30-Day Mean	Colilert-18 hour	41.6599
Silver Lake	08/17/2021 11:00 AM	Individual	Colilert-18 hour	5
Silver Lake	08/17/2021 11:00 AM	Individual	Colilert-18 hour	10
Silver Lake	08/17/2021 11:00 AM	Individual	Colilert-18 hour	1
	08/17/2021	Daily Mean	Colilert-18 hour	3.684
	08/17/2021	30-Day Mean	Colilert-18 hour	13.3833
Silver Lake	08/10/2021 10:00 AM	Individual	Colilert-18 hour	11
Silver Lake	08/10/2021 10:00 AM	Individual	Colilert-18 hour	27
Silver Lake	08/10/2021 10:00 AM	Individual	Colilert-18 hour	60
	08/10/2021	Daily Mean	Colilert-18 hour	26.1198
	08/10/2021	30-Day Mean	Colilert-18 hour	17.8221
Silver Lake	08/03/2021 10:00 AM	Individual	Colilert-18 hour	3
Silver Lake	08/03/2021 10:00 AM	Individual	Colilert-18 hour	7
Silver Lake	08/03/2021 10:00 AM	Individual	Colilert-18 hour	4
	08/03/2021	Daily Mean	Colilert-18 hour	4.3795
	08/03/2021	30-Day Mean	Colilert-18 hour	21.3671
Silver Lake	07/27/2021 11:00 AM	Individual	Colilert-18 hour	110
Silver Lake	07/27/2021 11:00 AM	Individual	Colilert-18 hour	108
Silver Lake	07/27/2021 11:00 AM	Individual	Colilert-18 hour	157
	07/27/2021	Daily Mean	Colilert-18 hour	123.094
	07/27/2021	30-Day Mean	Colilert-18 hour	50.4189

Silver Lake	07/20/2021 9:00 AM	Individual	Colilert-18 hour	9
Silver Lake	07/20/2021 9:00 AM	Individual	Colilert-18 hour	21
Silver Lake	07/20/2021 9:00 AM	Individual	Colilert-18 hour	3
	07/20/2021	Daily Mean	Colilert-18 hour	8.2768
	07/20/2021	30-Day Mean	Colilert-18 hour	30.274
Silver Lake	07/13/2021 8:00 AM	Individual	Colilert-18 hour	68
Silver Lake	07/13/2021 8:00 AM	Individual	Colilert-18 hour	6
Silver Lake	07/13/2021 8:00 AM	Individual	Colilert-18 hour	9
	07/13/2021	Daily Mean	Colilert-18 hour	15.4277
	07/13/2021	30-Day Mean	Colilert-18 hour	30.6134
Silver Lake	07/06/2021 8:00 AM	Individual	Colilert-18 hour	122
Silver Lake	07/06/2021 8:00 AM	Individual	Colilert-18 hour	111
Silver Lake	07/06/2021 8:00 AM	Individual	Colilert-18 hour	20
	07/06/2021	Daily Mean	Colilert-18 hour	64.7
	07/06/2021	30-Day Mean	Colilert-18 hour	44.2312
Silver Lake	07/01/2021 10:30 AM	Individual	Colilert-18 hour	68
Silver Lake	07/01/2021 10:30 AM	Individual	Colilert-18 hour	44
Silver Lake	07/01/2021 10:30 AM	Individual	Colilert-18 hour	34
	07/01/2021	Daily Mean	Colilert-18 hour	46.6817
	07/01/2021	30-Day Mean	Colilert-18 hour	31.7768
Silver Lake	06/29/2021 9:00 AM	Individual	Colilert-18 hour	461
Silver Lake	06/29/2021 9:00 AM	Individual	Colilert-18 hour	164
Silver Lake	06/29/2021 9:00 AM	Individual	Colilert-18 hour	548
	06/29/2021	Daily Mean	Colilert-18 hour	346.026 *
	06/29/2021	30-Day Mean	Colilert-18 hour	29.4241
Silver Lake	06/22/2021 8:30 AM	Individual	Colilert-18 hour	4
Silver Lake	06/22/2021 8:30 AM	Individual	Colilert-18 hour	8
Silver Lake	06/22/2021 8:30 AM	Individual	Colilert-18 hour	6
	06/22/2021	Daily Mean	Colilert-18 hour	5.769
Silver Lake	06/15/2021 8:30 AM	Individual	Colilert-18 hour	11
Silver Lake	06/15/2021 8:30 AM	Individual	Colilert-18 hour	7
Silver Lake	06/15/2021 8:30 AM	Individual	Colilert-18 hour	9
	06/15/2021	Daily Mean	Colilert-18 hour	8.8493
Silver Lake	06/08/2021 10:00 AM	Individual	Colilert-18 hour	142
Silver Lake	06/08/2021 10:00 AM	Individual	Colilert-18 hour	157
Silver Lake	06/08/2021 10:00 AM	Individual	Colilert-18 hour	124
	06/08/2021	Daily Mean	Colilert-18 hour	140.347
Silver Lake	06/01/2021 8:30 AM	Individual	Colilert-18 hour	16
Silver Lake	06/01/2021 8:30 AM	Individual	Colilert-18 hour	11
Silver Lake	06/01/2021 8:30 AM	Individual	Colilert-18 hour	4
	06/01/2021	Daily Mean	Colilert-18 hour	8.8959

SOCIAL SURVEY

In 2006 GCDC-SWM did a baseline social survey. Through a SAW grant a new survey was performed in 2016 and compiled in 2017. The same survey was not used. The original 2006 survey was custom made. By 2016 there had been many water quality surveys produced and the 2016 survey was revised to follow best practices.

The complete survey results and conclusions for the 2017 survey with in the appendix compiled results for the 2006 survey are located at http://www.gcdcswm.com/Phasell/Survey%20Results/survey_results.htm

Then next Social survey is planned for 2022 in the next permit cycle.

The executive Summary and Introduction have been included following:

EXECUTIVE SUMMARY

In late winter and early spring of 2016, the Our Water consortium in conjunction with the Genesee County Drain Commissioner’s office conducted a social survey within the urbanized watershed areas of Genesee County. The format was a mail survey with the option given to complete it on-line. Administered by the Genesee County Drain Commissioner’s office, and partially funded through a Department of Environmental Quality Stormwater, Asset Management and Wastewater (SAW) Grant, the social survey produced a statistically significant sample for the County. A total of 958 were mailed out and 345 responses were collected for a confidence level of 94.7% for the survey. Individual responses from residential landowners are confidential and anonymous. The survey assessed: public awareness, perception, and knowledge of the watershed and storm pollution issues; current activities impacting water resources; and willingness to take action to protect water resources. Following are some of the key findings revealed by the survey.

RESULTS

Perceptions of Current Water Quality

Thirty-four percent of respondents indicated that they thought that the current water quality had stayed the same over time, all though 32% said they didn’t know. Respondents were not required to answer for each of the activities. Hence the high “No Response” rate. When asked whether local water quality was “good” for various activities the following results were reported:

Question #	Poor	Okay	Good	No Response
For canoeing / kayaking / other boating	8%	30%	34%	28%
For eating locally caught fish	29%	21%	15%	35%
For swimming	22%	35%	18%	25%
For picnicking and family activities	6%	31%	44%	19%
For fish habitat	14%	26%	23%	37%
For scenic beauty	6%	36%	48%	10%

The overwhelming majority of respondents perceive the non-contact recreational uses to be ‘good’ to ‘okay’; only a small fraction rated these uses as ‘poor.’ Non- contact recreational uses include; canoeing, kayaking, boating, picnicking, family activities, and general scenic beauty.

Your Water Resources

About 64% of respondents said they spent leisure time on Genesee County water body in the last year. The activities that they indicated they did, in order of preference were:

- 1.0 For scenic beauty 74%
- 2.0 Hiking/walking/cycling along shoreline 46%
- 3.0 For fish habitat 37%
- 4.0 For swimming 35%
- 5.0 For canoeing / kayaking / other boating 35%
- 6.0 For eating locally caught fish 29%

The six top waterbodies mentioned were the Holloway Reservoir, Mott Lake/Bluebell Beach, the Flint and Shiawassee Rivers and Fenton and Silver Lakes.

If local residents' needs are being met by the currently perceived water quality conditions, then it will be difficult to motivate them to improve conditions. For marketing purposes it would be best to communicate proposed actions as necessary to preserve the current level of amenities for the future rather than improving conditions for activities that may not be supported.

Personal Responsibility

The results of the questions on benefits and responsibilities statements indicate that respondents believe it is their responsibility to help protect local water quality, their actions have an impact, and believe that their quality of life depends on it. They do not appear to be willing to sacrifice water quality even if slows economic development. They are only somewhat inclined to change how they do things and even less likely to want to pay for improvements. These results suggest a slight disconnect between comprehending the importance of water quality and respondents' willingness to take immediate action or pay to ensure its continuance into the future.

A deep analysis through the creation of constructs by combining the answers from multiple questions confirms the above findings. Respondents recognize the importance of having good water quality and that their actions impact it. They also recognize that the cost of protection (economics) influences decisions.

These findings are encouraging since it commonly requires a high level of conviction by individuals to carry through with their intentions (to protect water quality) if the barriers to implementation are high.

Water Impairments, Sources of Pollutants, and Consequences of Poor Water Quality

Water quality testing and expert opinion have identified: sediment, bacteria, oil and grease, arsenic, pesticides, and temperature as key water impairments. These impairments emanate from multiple sources and impact waterbodies in a variety of ways (consequences). Sources of these impairments are located throughout the watershed and have led to the State classifying two areas as not attaining some of the designated uses. The survey results indicated a *low* awareness of the sources of water impairments, the impairments themselves, and the consequences associated with the presence of these impairments.

Practices to Improve Water Quality

The survey looked at respondents' awareness of, and willingness to adopt various best management practices (BMPs) designed to protect water quality. Results from this section are complex. In summary, the respondents believe they are doing a good job of implementing BMPs (about 50% reported they were currently using many of the practice), which may or may not be true. Respondents were overwhelmingly willing to adopt the majority of the residential practices surveyed. BMPs requiring construction received the least support, perhaps due to the perceived expense.

Awareness Indicators

Indicators to measure respondent awareness of the "types", "sources" and "consequences" of pollutants were constructed using the respective sections. An indicator for respondent awareness of the "practices to improve water quality" was also constructed. The indicators were calculated by re-coding the answers and then summing the new values for each respondent and dividing by the number of responses that apply.

Respondents indicated an overall awareness of pollutants, sources, consequences and the practices available to improve water quality. The gap between their awareness scores and knowledge scores reported above points to a lack of confidence in what they think they know is true and being confident enough to make decisions. These results indicate that although there needs to be a continued general education effort there is also an emerging need for technical information and support aimed at improving local water quality that people can access and implement behavioral changes and building confidence in their actions.

Making Management Decisions

This section solicited responses on perceived constraints to adopting new management practices. Examples of constraints included cost, skill level required to implement, and available equipment. Only two of the nine constraints pose barriers (out-of-pocket expenses and access to necessary equipment) to roughly one-third of the residential respondents.

The results of questions on constraints were supported by two indicators, one on behavior and the other on adopting key practices that were constructed from a variety of questions. The indicator results suggest that overall, respondents do not perceive themselves having major constraints to changing their behavior (attitude) nor to adopting key practices (structural). There is a substantial standard deviation on these indicators but results (based on valid responses) are fairly robust and therefore reliable.

Septic Systems

Thirty-five percent of residential property owners had septic systems. The average age for respondents' septic systems was 33 years, while the median score was 35 years. The age of the septic systems presents a looming problem.

Information Sources and Policy

The top trusted source indicated by residential respondents was MSU Extension, by about 18% over other sources. The other five sources ranged between 50% - 63% support with no other clear preference. MSU Extension was also the most trusted source in the 2006 survey.

The primary disseminators of information with regard to stormwater management are the Drain Commissioner's Office and the Flint River Watershed Coalition. Both sources were rated by respondents as being in the moderate range with regard to trust. This has implications with how messages/information is distributed; supporting sources should always be clearly cited, thus lending credibility to the message.

It is also recommended that MSU Extensions and the County Health Department's roles be expanded/strengthened based on the respondent reported trust level. Partnering for the purposes of disseminating information as well as joint events are two possible actions that might be explored.

Information Methods

Newsletters/brochures/fact sheets and the internet, were the methods of communication that were most preferred.

The top two preferred information formats are indeed the primary avenues that the "Our Water" group disseminates information. Cross pollinating between the two is a necessity and should be continued. Other vehicles should refer to these two primary methods of information. Based on the results from the 2006 survey, newspapers/magazines should be a part of the media methods employed. Radio appears to have a declining audience.

RECOMMENDATIONS

The following recommendations are based solely on the results of the Social Survey and the detected changes from the 2016 survey. Furthermore, there are not intended to be any recommendations that duplicate NPDES Phase II storm water permit requirements (e.g. street sweeping). The recommendations are as follows:

1. Move to the next stage in the public education process. Respondents indicated they knew the key actions that need to be taken to protect local water quality. Public education should move towards incorporating more information on impairments and the consequences associated with them; techniques available to protect waterways (e.g. no-mow buffers); and providing technical assistance for the practices such as rain barrels and rain gardens.

2. Focus marketing messages on enjoying the local scenic beauty, and Hiking/walking/cycling along the shoreline. These are the most important activities to respondents.
3. All existing and new programs should be cross referenced with the constraints identified by respondents as documented in this report, and then tailored to help the target audience reach the desired behavior. For example, work with local suppliers to provide technical information for the installation of rain barrels.
4. Institute a proactive septic system program aimed at the inspection and maintenance of existing systems.
5. All information disseminated should refer back to the ‘Our Water’ website. Information should be coordinated between agencies. Not all information sources carry equal credibility with all stakeholders, so the message and delivery mechanism (e.g. internet) should be coordinated to be most effective.
6. The internet is increasingly becoming the preferred information delivery method. Efforts should be made to strengthen links between the subwatershed program information page and trusted information sources, such as with the MSU Extension.

INTRODUCTION

PURPOSE OF THE STUDY

The social data collected for this project is intended to develop indicators to serve both as intermediate measures for the purpose of performance review, and information to assist in the design of effective outreach and education interventions for Non-Point Source (NPS) pollution management. The purpose of the evaluation is to collect baseline information on environmental awareness and attitudes for the Genesee County watersheds. This project was in part funded through a Department of Environmental Quality Stormwater, Asset Management and Wastewater (SAW) Grant.

PROBLEM DEFINITION AND RATIONALE

Data collection is for socio-behavioral information. Municipal NPS projects, both structural and non-structural, aim to reduce pollution and involve the interaction of humans with their natural environment. Evaluating the effectiveness of programs to reduce NPS water pollution, therefore, needs to include an assessment of the human behavior underlying the pollution. Water quality problems have built up over many decades and may take decades to amend. Even when appropriate practices are put into place, there will be a lag before water quality shows improvement. Confirming the adoption of corrective practices, and beneficial attitudinal changes, are more immediate indicators of anticipated water quality change.

Evaluating the social component of NPS water quality programs and projects involves more than identifying changes in behavior in critical areas of the watershed; it also requires consideration of the continuum of knowledge, awareness, attitudes, constraints, and capacity that eventually leads to behavioral change. Because decisions regarding individual behaviors are influenced by a complex interplay of factors, measuring the precursors or contributing factors leading to the change will give managers additional information that will help insure that funded activities will accomplish water quality goals, and provide direction for future projects. If an NPS project or program positively influences the precursors, it is advancing the goal of achieving the desired behavioral change.

Measuring change in behavioral precursors requires the use of a variety of *social indicators* that represent or reflect those precursors. *Social indicators are measures that describe the capacity, skills, knowledge, values, beliefs, and behaviors of individuals, households, organizations, and communities.* By measuring these indicators, water quality managers can determine whether policies, programs, and initiatives are likely to lead to the intended behavioral change in a watershed's most critical areas and, ultimately, to improvements in water quality.

In 2006 a phone survey was administered prior to the commencement of the public outreach effort. The purpose of the survey focused on determining the public's current actions and willingness to adopt the *Seven Simple Steps* program (<http://www.cleargenesee.org/>). Since 2006, the science of stormwater management social surveys had advanced significantly, as evidenced by the SIPES program (see below) and although not statistically significant, the information collected will be used for comparison when applicable.

TOOLS

This project used the Social Indicator Planning and Evaluation System (SIPES) for NPS management and an on-line data tool – the Social Indicators Data Management and Analysis (SIDMA) system (both can be found at <http://35.8.121.111/si/Projects/ProjectsHome.aspx>).

STUDY DESIGN AND ANALYSIS

Questions

The data collected for this project was intended to serve both as an intermediate measure for the purpose of performance review, and as information to assist in the design of effective interventions outreach, and education interventions for NPS pollution management. Data will help to answer a variety of questions related to awareness, attitudes, and behavior related to NPS pollution. Questions in the survey aimed to help determine public awareness or misconceptions about topics such as:

- Connections between storm water and pollution
- The community's level of concern about pollution
- Individual practices that contribute to NPS
- Individual characteristics and barriers to behavior change

Questions and answers have been designed to provide information in order to work towards the following intended outcomes:

- Increased awareness of relevant technical issues and/or recommended practices;
- Changed attitudes to facilitate desired behavior change;
- Reduced constraints to behavior change;
- Increased capacity to leverage resources in critical areas;
- Increased capacity to support appropriate practices;
- Increased adoption of practices to maintain or improve water quality;
- Increased adoption of improved management of septic systems; and
- Increased efficiency and effectiveness in delivery of information to the public.

Sample Size

The project planned to survey a sample population of the target audience, of 383 residential landowners. A total of 958 were mailed out and 345 responses were collected for a confidence level of 94.7% for the survey. Individual responses from residential landowners are confidential and anonymous.

Survey Process

The survey process included a series of mailings. Respondents were given the option to complete the survey on-line or return the survey by mail. Identification numbers, included in the mailed survey packet, were required to access the on-line system in order to ensure that duplication did not occur.

The survey was administered using the following steps:

Step 1: Sent an initial letter of introduction to notify the homeowner that they would be receiving a survey and to stress the importance of completing and returning it.

Returned letters were dropped and replaced on the master list of recipients.

Step 2: Two to two-and-a-half weeks after the introduction letter was mailed, the survey itself was delivered, along with an accompanying letter and pre-paid return envelope.

Step 3: One to two weeks after the survey was delivered, a reminder post card explaining the importance of filling out the survey is sent.

Step 4: Three to four weeks after the first survey is sent out, a second survey and accompanying letter were mailed out.

Step 5: A final survey and letter were mailed out two to three weeks after the second survey was delivered.

Respondents who submit surveys have their names removed from the follow-up list and are not contacted again throughout the process.

SIDMA DATA ANALYSIS AND INTERPRETATION

The SIDMA report presents the frequency of the results and the averages for each survey question. The report also produces calculated scores for the social indicators. Average values for each question provide a quick and easy way to understand how respondents answered each question. The SIDMA report provides an idea of the overall strengths and weaknesses within the watershed. Are people familiar with the practices you are hoping to have installed? Does the population as a whole understand the sources and consequences of the pollutants of concern? These are the sorts of questions answered by frequency and average data. The SIDMA report also helps to find important relationships in the survey results. While the averages will help identify characteristics that may facilitate or impede practice adoption for the watershed, it may miss important trends that can help focus future efforts.

ORGANIZATION OF THIS DOCUMENT

The surveys for the residential land owners contained thirteen (13) categories of questions. This document looks at each questionnaire category. Within each category, information is presented on the specific questions asked, the raw results, and a brief analysis with observations. A copy of the survey instrument used is in Appendix A. A summary of overall recommendations follows the survey categories results.

The following survey question categories are included in this report:

- 1.0 Rating of Water Quality
- 2.0 Your Water Resources
- 3.0 Your Opinions
- 4.0 Water Impairments
- 5.0 Sources of Water Pollutants
- 6.0 Consequences of Water Pollutants
- 7.0 Practices to Improve Water Quality (residential)
- 8.0 Septic Systems
- 9.0 Specific Constraints to Practices
 - 8.1 Rain Gardens
 - 8.2 Rain Barrels
- 10.0 Reported Behavior
- 11.0 Making Management Decisions
- 12.0 Information Sources and Policies
- 13.0 About You (demographics)

Enforcement Response Procedure on behalf of 342 contract members

Each permittee has made their own enforcement response to address violations to compel compliance with an ordinance or regulatory mechanism implemented in the Permit Application. (Storm Water Master Plan), i.e. written notices, citations, fines...The ERP includes procedures for their response tracking and resolution of violations. Answers to questions 1, 13 & 15.

Many of the permittees rely on Genesee County Drain Commissioner's Office- Surface Water Management to assist them with aspects of the ERP. **Below is the County's ERP commitments /goals from their 2019 adopted permit application. This includes what they will do on behalf of the contracted partners listed on page 1 of this document..**

1. Provide the ERP. The ERP shall include the applicant's expected response to violations to compel compliance with an ordinance or regulatory mechanism implemented by the applicant in the SWMP (e.g., written notices, citations, and fines). The ERP shall contain a method for tracking instances of non-compliance, including, as appropriate, the name of the person responsible for violating the applicant's ordinance or regulatory mechanism, the date and location of the violation, a description of the violation, a description of the enforcement response used, a schedule for returning to compliance, and the date the violation was resolved. The applicant may keep an electronic file or hard copy file of the enforcement tracking.

IDEP

Appendix 2 contains supporting documentation.

The County's procedure is:

- Potential illicit connections to the County's MS4, a Nested Jurisdiction's MS4 or to a Municipalities MS4 that has contracted IDEP services with the County shall be followed up on per page 8 of the Illicit Discharge Elimination Plan (IDEP).
- Written notification policy is on the last paragraph of page 8 of IDEP.
- When an illicit connection is confirmed, written notifications go to all appropriate parties including the MDEQ
- Tracking down and elimination of Illicit Discharges is outlined on page 9 of IDEP
- Each site and illicit discharge are unique it is usually the initial notification gives the property owner 30-days to correct the illicit discharge. At the end of 30-days, the property owner will receive a follow up phone call. Extensions are common based on extenuating circumstances. A temporary fix can be performed to prevent an illicit discharge until the final for corrective action can be taken. The GCDC-SWM or appropriate Governmental Agency with authority over the MS4 will work with the property owner to have an illicit connection removed. Once the connection has been removed, either the correction is witnessed or a follow up test (such as dye) to confirm the disconnection.
- The police through 911 can issue tickets. There is no policy granting authority to issue citations or fines.

Tracking: Illicit connections are tracked through a database. Spills are documented and tracked through a Spill Notification Complain Reporting Form (See page 27-28 of IDEP). Records are kept at the GCDC-SWM Office.

Authority for enforcement is discussed on page 1 & 2 of IDEP.

POST CONSTRUCTION

Appendix 2 and 6 contains supporting documentation.

The County's procedure is:

- Failure of a Post Construction BMP can either be failure to maintain or an actual failure of the BMP itself.
- If the Failure of a Post Construction BMP to the County's MS4 system does not have the potential to release an illicit discharge:
 - Written notification will be sent to the owner of the property and the owner of the MS4.
- If the Failure of a Post Construction BMP to the County's MS4 system has the potential to release an illicit discharge, it shall be considered an illicit discharge for the purposes of notification.
 - Written notification policy is on the last paragraph of page 8 of IDEP.
 - When a failure of a Post Construction BMP to the County's MS4 system is confirmed, written notifications go to all appropriate parties including the MDEQ.
- Each site is unique, usually the initial notification gives the property owner 30-days to correct the Failure of a Post Construction BMP. At the end of 30-days, the property owner will receive a follow up phone call. Extensions are common based on extenuating circumstances. A temporary fix can be performed to prevent any illicit discharge until the final corrective action/ maintenance can be taken. The GCDC-SWM or appropriate Governmental Agency with authority over the MS4 will work with the owner of the MS4 and the property owner to have the failure of a Post Construction BMP corrected/ maintained. The correction/ maintenance will be confirmed.

Tracking: Approved sites with Post Construction BMP's and Failures of Post Construction BMP are tracked through a database. Records are kept at the GCDC-SWM Office.

Authority for enforcement is discussed in the Procedure for Post Construction Stormwater runoff program and Authority for enforcement is discussed on page 1 & 2 of IDEP. And on page 14 & 15 of the Genesee County Design Standard Requirements.

13. Provide the procedure for responding to illegal dumping/spills. The procedure shall include a schedule for responding to complaints, performing field observations, and follow-up field screening and source investigations as appropriate.

- When a County Agency/Nested jurisdiction becomes aware of a potential illicit discharge, a Spill Notification Complain Reporting Form would be filled out based on the information available.
- If it is an emergency or is actively happening, 911 should be called. Only Police can ticket and activate emergency response. General County Agencies/ Nested Jurisdictions are not able to issue fines (pursuant to the individual law(s) each agency or nested jurisdiction operate under).
- Genesee County Drain Commissioner's Office –Surface Water Management (GCDC-SWM) is to be notified based on Spill Notification Complain Reporting Form.
- Based on the information given, GCDC-SWM will have a staff person investigate and

document. Staff shall visit the site of an active suspected discharge within 3 business days for an initial site investigation. Every effort will be made to investigate the same day as the GCDC-SWM office is notified. If the suspected discharge is not active, staff shall visit the site within 30 business days. Based on the type of illicit discharge (see decision making flow chart on page 6 of IDEP), GCDC-SWM will respond with the most appropriate action within the limits of the law.

- Any other Governmental Agencies that need to be notified will be and noted on the Spill Notification Complain Reporting Form or attached to that form. For emergencies, due to time an initial phone call may be given. Emails, copies of documentation or letters will be sent as written notification.
- A follow up investigation may be required based on the actions taken to address the problems. If so, a second investigation may occur either by GCDC-SWM staff or a subcontractor. This second inspection would involve follow-up field screening and source investigations. Depending on what is necessary, this second investigation should occur within 2-weeks.

15. Provide the procedure that includes a requirement to immediately report any release of any polluting materials from the MS4 to the surface waters or groundwaters of the state, unless a determination is made that the release is not in excess of the threshold reporting quantities in the Part 5 Rules, by calling the appropriate MDEQ District Office, or if the notice is provided after regular working hours call the MDEQ's 24-Hour Pollution Emergency Alerting System telephone number: 800-292-4706

We use the Spill Notification form (Page 27-28 of the IDEP plan)