

# NPDES Phase II Update

Protecting and Improving the watersheds within and around Genesee County



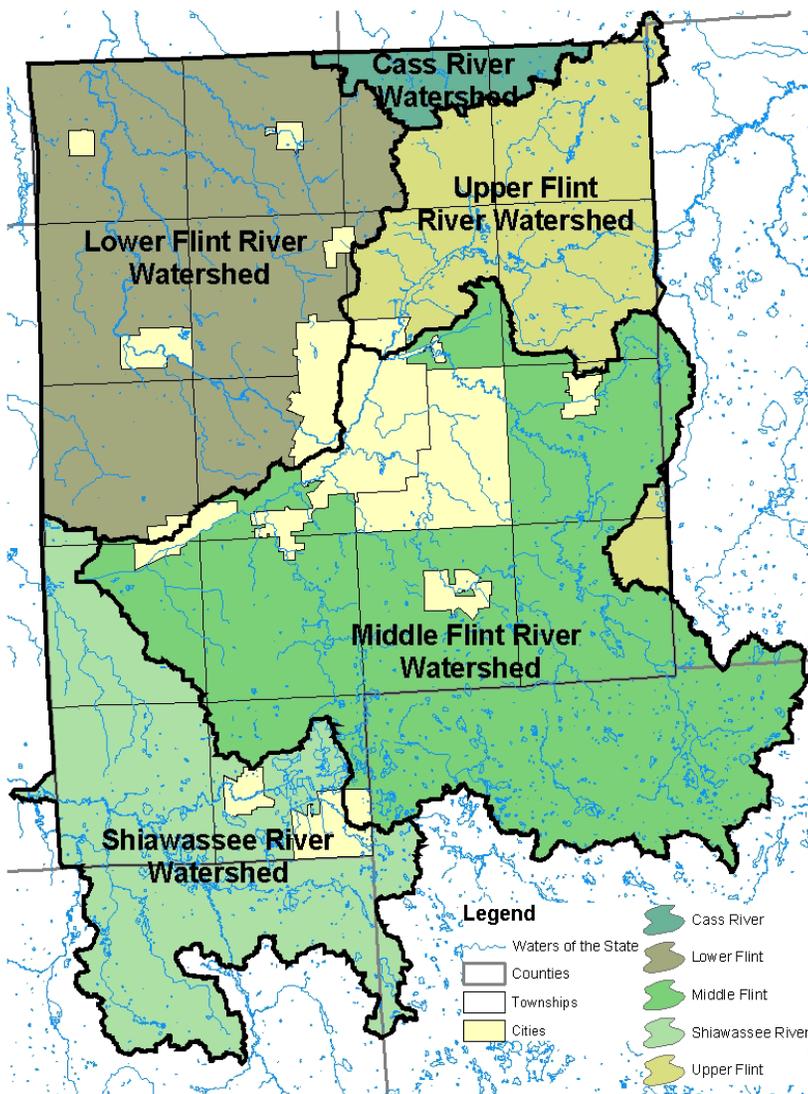
May 2005

Hello, This is our first update report on the National Pollution Discharge Elimination System (NPDES) Phase II program for Genesee County. During one of the many meetings we have, it was suggested that we distribute a newsletter that will summarize where we are at in this process. So if you are new to this and have never heard of NPDES before or you have been involved from the beginning it is our goal that this update and future updates will be informative.

*Susanne Kubic, Drain Engineer  
Genesee County Drain Commissioner's Office*

## What is a watershed?

A watershed is any area of land that drains to a common point. That common point may be a lake, the outlet of a river, or any point within a river system. Just as when you pour water in a bathtub, it all ends up in the drain, when it rains on the surface, that water flows to a particular body of water. That water can flow both above the ground through lakes, streams, and wetlands, or below the ground through groundwater and springs.



Within Genesee County there are 5 major watersheds. The Flint River Watershed was divided into 3 to make it more manageable. The Upper Flint Watershed is that area that enters the Flint River upstream of the City of Flint. The Middle Flint enters the Flint River within the City's boundaries, and the Lower Flint drains to the Flint River downstream of the City of Flint. The 2 other major watersheds are the Shiawassee in the southwest and the Cass in the north. A watershed can be located within another watershed. For instance there are 4 sub-watersheds that make up the Middle Flint. The Swartz Creek, Thread Creek, Gibson Drain & the Kearsley Creek. These areas could be subdivided even further. The size of a watershed is based on its physical characteristics. So although the Flint River watershed is very large, it along with other watersheds comes together to make the Saginaw Bay watershed.

## Why are we doing this?

The initial emphasis of the National Pollution Discharge Elimination System (NPDES) under the Federal Clean Water Act of 1972 was to control discharges from industrial and large municipal wastewater treatment plants. Once these discharges were substantially under control, it became apparent that the combined impact of various smaller widespread (non-point) pollution sources was preventing many streams and receiving waters from meeting state water quality standards. These diffuse sources include failing septic systems, stormwater runoff from residential lawns, agricultural fields, parking lots, roadways and construction sites, illegal dumping, and airborne deposition. Adequate control of all these point and non-point sources is necessary to restore and maintain the use of the nation's water resources.

Within Michigan, the Michigan Department of Environmental Quality (MDEQ) manages this program. The MDEQ is allowing local units of government to establish goals to improve water quality through development and implementation of a watershed management plan. In 2001, Genesee County designated the Drain Commissioner's Office as the county agency responsible to engage in watershed management activities and establish a system of stormwater management services under Act 342, Public Acts of Michigan, 1939, as amended ("Act 342"). Although not all of the communities located within Genesee County are regulated under the NPDES Phase II program, all the communities have signed a contract under Act 342 with the Genesee County Drain Commissioner's Office to provide stormwater management services which includes:

- Applying for Certificate of Coverage on communities' behalf under Michigan's Phase II Watershed-based Stormwater Permit.
- Organize and direct the development and implementation of a Public Participation Plan (PPP) for each watershed.
- Organize and oversee the Public Education and Participation Sub Committee
- Organize and oversee the New Construction Standards and Post Construction Practices Sub Committee
- Organize and oversee the Monitoring and Mapping Sub Committee
- Facilitate the watershed workgroups in developing the Watershed Management Plan (WMP).
- Assist the contract communities in preparing individual Storm Water Pollution Prevention Initiative (SWIPPIs)
- Coordinate between the communities and the school districts that have signed contracts as nested jurisdictions.

## Committee Structure

The **Advisory Committee** is the decision making body made up of those communities that have signed a contract. This group is responsible for voting on the proposed implementations developed by the subcommittees and workgroups. The members of the Advisory Committee were split into one of three groups to serve on one of the subcommittees. The **Public Education and Participation Subcommittee** is responsible for the development of the Public Education Plan. The **Construction Standards and Practices Subcommittee** is responsible for establishing a unified review process and adopting a standard for best management practices. The **Monitoring and Mapping Subcommittee** is responsible for the methods that are going to be used to monitor the water for improvement or degradation. Each of these groups have workgroups made up of stakeholders, the public,

and the municipal officials. If you are unclear which subcommittee your community serve on there is a current list on our website [www.gcdcwws.com/SWM](http://www.gcdcwws.com/SWM) under NPDES ph II along the left side.

The **watershed workgroups** are made up of those communities that are physically located within that watershed. Since watersheds do not follow municipal lines a community can be located within more than 1 watershed. The Municipal officials may assign a staff member or a resident to represent their Community. With 5 watershed masterplans required instead of 1, the MDEQ has allowed the communities to stagger the due dates of the Storm Water Master Plans every 6 months from March of 2005 to March 2007.



## 2004 Update

Within 2004 much of the work was done to lay the groundwork for this program through the Sub committees and Work groups.

### Public Education & Participation Subcommittee:

The Public Education Subcommittee is responsible for the complete storm water education plan. The committee works with the Genesee County drain office and U of M's Center for Applied Environmental Research (CAER) Department to draft the Education Plan. Using the Michigan

Department of Environmental Quality's (MDEQ) required elements as a starting point the committee had worked on the following items in 2004:

- Identify existing programs and organizations that are already educating on required elements
- Identify gaps in existing programs
- Develop baseline survey of
  - General public's knowledge
  - Focus groups knowledge
  - Quantify behaviors that need to be changed
  - Marketing preferences and influences
  - Demographics
- Identify target audiences and the behaviors that need to be changed.
- Draft media campaign

You may have been asked to participate in the survey. A random phone survey was done of the residents within Genesee County, and more recently a written version was sent out to Municipal Elected Official and Planning Boards. Thank you for taking the time to fill these out. These will be used to help prioritize our education plan and identify educational needs.

Once the draft media campaign is compiled it will go before the Advisory Board for approval so this committee may begin implementation. The media campaign is being developed on a countywide basis.

### **Monitoring and Mapping Subcommittee:**

In 2004 the Monitoring and Mapping Subcommittee is responsible for the illicit discharge program, which will identify and map all municipal discharges to open waters. This includes developing a way to monitor the water quality within the watersheds. After reviewing their various options with their costs, advantages and disadvantages, the following watershed monitoring methods will be used throughout the watershed to help evaluate the effectiveness of the Watershed Management Plans implementation.

- **Benthic macroinvertebrate monitoring:** The presence or absence of certain species of benthic macroinvertebrates is a good indicator of the health of a stream. A benthic macroinvertebrate is an organism having no backbone that dwells on the bottom of a water body. The presence of organisms tolerant to pollution and few or no organisms sensitive to pollution indicates pollution in the water.
- **Frog and toad survey:** Like benthic macroinvertebrates, frogs and toads are sensitive to changes in water quality. The absence or decline of a frog and toad population indicates a loss of the quality of their wetland habitat and ultimately their ecosystem.
- **Stream crossing watershed survey and photographs:** The stream crossing watershed survey is an approach used to collect information about the quality of a stream. Going back to the same sites can over time give an indication if the site is getting better, worse or staying the same.
- **Basic Water quality monitoring:** Typical water quality monitoring parameters may include dissolved oxygen, ammonia, nitrate, pH, phosphate, and temperature. Volunteers will take grab samples at pre-determined locations and use simple test kits to conduct the analysis.
- **Hot spot testing at hazardous sites:** Various hot spots of pollution are believed to exist around the five major watersheds in Genesee County. As they are identified they will be tested for more pollutants than in the basic water quality program. Currently there are no hot spots identified.

Volunteers from the general public will be trained to carry out certain aspects of the monitoring program. The benefits of using volunteers to conduct monitoring include increasing public participation, increasing public education and decreasing the cost of the monitoring program. Including established volunteer programs in the monitoring effort may be beneficial. Established groups include the adopt-a-stream program, public school projects such as GREEN (Global Rivers Environmental Education Network), or other organized activities such as 4H clubs, scouting groups, and senior citizen groups.

Starting in 2005, the illicit discharge elimination program (IDEP), which will identify and map all point discharges to open waters, will be implemented by a physical assessment of each pipe outletting to an open drain or watercourse. This work will begin in the Gibson Drain with funding provided by a CMI grant through the MDEQ.

### **New Construction Standards & Post Construction Practices Subcommittee:**

This group is responsible for establishing a unified review process and adopting a standard for best management practices. This group did much of their work in 2003. One of the items they worked on was a review process that was developed to allow environmental concerns to be addressed prior to the design phase. Currently many environmental concerns are treated as an afterthought if they are even considered in the design. Another responsibility of this group was to review available Best Management Practices (BMP's) for both new construction and good housekeeping of existing sites. Currently once a private storm system is installed there is no mechanism to ensure that it is properly maintained. This committee has adopted the Soil Erosion & Sedimentation Control Guidebook from the Michigan Department of Management and Budget as the basis for the BMP requirements. Several of the BMP's were amended to bring those best management practices into line with existing County requirements.

### **Watershed Workgroups:**

#### **Middle Flint River Watershed Workgroup:**

The watershed workgroup met monthly throughout 2004 to develop the watershed management plan for the Middle Flint River. Throughout this process there were also four stakeholder workshops and two Public Meetings. Stakeholders are representatives from different groups such as Agricultural, Golf Courses, Realtors, Businesses, Environmental Groups, Lake Associations, etc... Both the Stakeholders and the Public were invited to express their concerns and goals for the watershed. This watershed management plan was due on **March 1, 2005**. It is currently at the MDEQ for review and comment. If you would like a copy, it is available on our website [www.gcdcwws.com/SWM](http://www.gcdcwws.com/SWM) under NPDES ph II along the left side. Final copies will be printed once the MDEQ comments are received and any revisions are done. The watershed plans are living documents and will require annual updates.

#### **Lower Flint River Watershed Workgroup:**

This watershed workgroup is 6 months behind the Middle Flint with the watershed management plan due on **September 1, 2005**. Dates for the upcoming workgroup, stakeholder and public meeting are located in the 2005 Calendar on the next page. We welcome any concerns, goals that you wish to share.

**Watershed Management Plan due dates:**

**Shiawassee River Watershed**  
**Upper Flint River Watershed**  
**Cass River Watershed**

**Due March 2006**  
**Due September 2006**  
**Due March 2007**

## 2005 Calendar

May 17, 2005

- 10:30AM **Public Education Committee** meeting Location Gen. Co. Drain Comm. Office

May 23, 2005

- 9:00AM **Shiawassee River Watershed Stakeholder** meeting Location Fenton Twp Hall
- 1:30PM **Lower Flint River Watershed Stakeholder** meeting Location Vienna Twp Hall

May 25, 2005

- 9:00AM **Shiawassee River Watershed workgroup** meeting Location Gen. Co. Drain Office
- 10:30PM **Lower Flint River Watershed workgroup** meeting Location Gen. Co. Drain Office

June 29, 2005

- 9:00AM **Shiawassee River Watershed workgroup** meeting Location Gen. Co. Drain Office
- 10:30PM **Lower Flint River Watershed workgroup** meeting Location Gen. Co. Drain Office

July 25, 2005

- 1:30PM **Lower Flint River Watershed Stakeholder** meeting Location Vienna Twp Hall

July 27, 2005

- 9:00AM **Shiawassee River Watershed workgroup** meeting Location Gen. Co. Drain Office
- 10:30PM **Lower Flint River Watershed workgroup** meeting Location Gen. Co. Drain Office

August 2005

- **Lower Flint River Watershed Public** meeting Date and Location TBA

August 31, 2005

- 9:00AM **Shiawassee River Watershed workgroup** meeting Location Gen. Co. Drain Office
- 10:30PM **Lower Flint River Watershed workgroup** meeting Location Gen. Co. Drain Office

\*All Watershed workgroups are the last Wednesday of the month unless otherwise noted.

\*\*Most current times and locations are on our website [www.gcdcwws.com/SWM](http://www.gcdcwws.com/SWM) under NPDES ph II