

### What is NPDES and why are you involved?

The Federal Clean Water Act of 1972 requires municipalities to obtain stormwater permits under the National Pollution Discharge Elimination System (NPDES) permit program. By 1990, it became apparent that non-point source pollution was contributing to the decreased water quality in our streams and rivers. Non-point source pollution is pollution that comes from diffuse sources. As rain water and snowmelt travel overland, they pick up man-made and natural pollutants, like spilled motor oil and phosphorus, and deposit them into our local water bodies.

In an effort to reduce non-point source pollution, Phase I of the NPDES program was established. It required permit coverage for municipalities with populations of 100,000 or more. In 1999, Phase II of the NPDES program was created. Phase II permits are necessary for certain small municipal separate storm sewer systems (MS4s) and small construction sites. In addition to drain permitting, there are other NPDES elements. These include public education and participation; watershed management; new construction standards; monitoring and mapping; and the Storm Water Pollution Prevention Initiative (SWPPI). In Michigan, the Michigan Department of Environmental Quality (MDEQ) administers the NPDES program under the supervision of the U.S. Environmental Protection Agency (EPA). When communities in Genesee County were faced with meeting the NPDES Phase II mandate, they requested that the County take the lead. The Genesee County Drain Commissioner's Office coordinates and implements these programs under the County Public Improvement Agreement (P.A. 342). They help local units of government and public organizations collaborate to protect our local natural resources and provide the most effective program for Genesee County using the least resources possible.



### Our Water booth reaches about 4000 people in 2008

The Genesee County Water Quality Consortium has an active public education campaign. We go to popular events with our education booth to teach people about the watershed, and how to care for it. A watershed is the area of land that drains to a stream or river. Our challenge is to find interesting ways to teach people about it.

Throughout 2008, we took the booth

on water quality.

This year, booth staffers kept track of where visitors live, to help us target educational needs. Maps of Genesee County were used to help visitors identify where they live in the watershed. Visitors also took a short survey to determine their knowledge of the watershed and their awareness of the *Our Water* Campaign. Of the 909 visitors, 99 (10.9%) completed the survey. For a full report on this survey, see the "Phase II Annual Report for 2008, Appendix F" on the Genesee County Drain Commissioner's Office Surface Water Management website: <http://www.gcdcswm.com/PhaseII/AnnualReport/AnnualReport.htm>.



*Our Water promotional bags, water bottles and piggy banks were used to draw visitors to the information booth at the 2008 Genesee County Fair.*

to nine events, reaching more than 4,000 with the *Our Water* Campaign's educational messages.

Our largest event was the Genesee County Fair in August. The booth was located in the Farm Bureau tent. Municipal volunteers, drain office staff and staff with the University of Michigan-Flint Center for Applied Environmental Research worked seven days at the booth. We interacted with nearly twice as many people this year as last year -- 909 vs. 532!

Booth staffers drew visitors to the tent with tote bags and coloring books. These items, and educational brochures, were given to any visitor who tried to answer a question



*The Our Water information booth and the dedicated volunteers and staff that educated 909 visitors at this year's County Fair.*

**A special thank you to all the volunteers who helped make this event a success!**



## Why you received this newsletter

You are receiving a copy of this newsletter because of your involvement with Genesee County's NPDES Phase II Program. Through this newsletter we will keep you informed of the status of the public education campaign, the best management practices committee and the illicit discharge elimination program and help you stay up-to-date on statewide changes relevant to NPDES permitting. New editions of this newsletter will be sent out periodically.

The University of Michigan – Flint Center for Applied Environmental Research (CAER) has partnered with the Genesee County Drain Commissioner's Office to provide assistance with the coordination, implementation and evaluation of the Phase II public education campaign. As part of this collaboration, CAER designs and writes this newsletter on behalf of the Genesee County Drain Commissioner's Office.

CAER's primary contact for the NPDES Phase II Program is Danielle Gartner. If you are interested in contributing an article for publication in future editions of the newsletter, you can contact Danielle by email at [danyg@umflint.edu](mailto:danyg@umflint.edu) or by phone at (810) 424-5456.

## Who's involved in Genesee County's Phase II program?

The following communities have partnered for Phase II permitting services: Argentine Township, Burton, Clio, Davison, Davison Township, Fenton, Fenton Township, Flint Township, Flushing, Flushing Township, Genesee Township, Grand Blanc, Linden, Mt. Morris, Mount Morris Township, Mundy Township, Swartz Creek, Vienna Township, Genesee County Drain Commissioner, and the Genesee County Road Commission.

Other education and coordination partners include the Genesee County Conservation District, the Flint River Watershed Coalition, the University of Michigan-Flint's Center for Applied Environmental Research, and the Genesee Intermediate School District.

Discussions with the City of Flint are underway for partnering on future education programs.

## The NPDES Phase II's decision-making structure

The Genesee County Storm Water Advisory Committee (SWAC) guides the implementation of the entire Phase II Program. Many communities in Genesee County are member to the SWAC, including those that are part of the NPDES Phase II Program and/or members to the Genesee County Storm Water System Service District under P.A. 342.

The SWAC has three sub-committees. Each community serving on the SWAC also serves on at least one of these sub-committees. For a list of sub-committees

and their duties, see "Sub-committees oversee construction, monitoring and public education" on page 3. Sub-committees meet regularly along with stakeholders and/or individuals with specialized knowledge to implement the Public Education Plan and the Illicit Discharge Elimination Plan (IDEP) and to oversee other NPDES Phase II Program activities.

Members of SWAC also serve on the Watershed Planning Committees for the watershed in which their community is located. Work conducted by the Watershed Planning Committees is used to develop the Lower Flint, Middle Flint, and Shiawassee River Watershed Management Plans (WMPs).

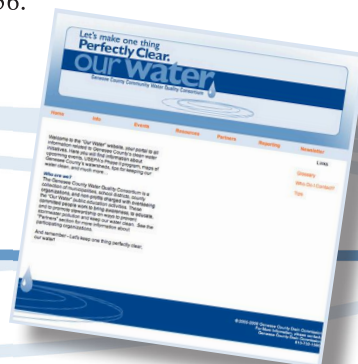
## Check out our perfectly clear website!

[www.cleargeneseeewater.org](http://www.cleargeneseeewater.org)

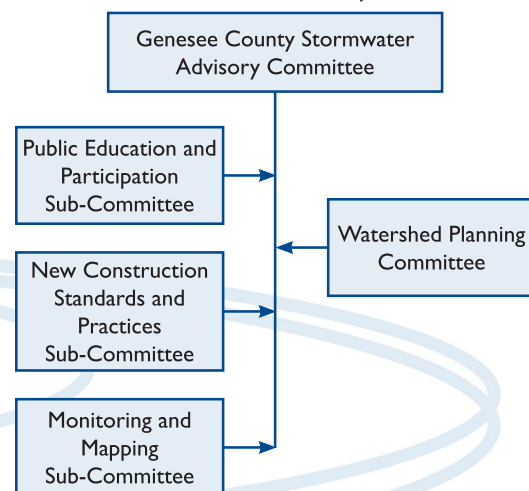
Have you been to the *Our Water* Campaign website lately?

The site is continually updated, so keep checking back. Many of the updates are organizational in nature. Modifications include a new masthead and layout, additional informational tabs and links at the homepage, and easy-to-follow navigation tools. If you come across any information relevant to the *Our Water* Campaign that you feel should be on the website, send

your thoughts to Danielle Gartner at UM-Flint's Center for Applied Environmental Research. Danielle can be reached by email at [danyg@umflint.edu](mailto:danyg@umflint.edu) or by phone at (810) 424-5456.



NPDES Decision-Making Relationships in Genesee County





## Sub-Committees oversee construction, monitoring and public education

### Construction Standards and Practices (CSP) Sub-Committee:

This sub-committee oversees new construction standards, post construction practices and updating ordinances to ensure compliance with the U.S. Environmental Protection Agency (EPA) requirements. Throughout the last reporting cycle, the CSP sub-committee has been working with communities to establish a Storm Water Ordinance for communities within Genesee County. The ordinance is currently in draft form and is ready for legal review. The CSP sub-committee is developing a Best Management Practices (BMP) manual as a companion piece to the ordinance. The manual will deal with minimum standards for construction and post construction BMPs. The manual is slated for completion in the summer of 2009.

### Monitoring and Mapping (M&M) Sub-Committee:

This sub-committee oversees organization and implementation of watershed monitoring, field sampling protocols, and mapping guidelines. The M&M sub-committee manages several water quality monitoring programs such as the Road-Stream Crossing Survey, 319 Nonpoint Source Grant Projects, Project GREEN, and the Benthic Macroinvertebrate Study. They also monitor the Illicit Discharge Elimination Plan (IDEP) Program and oversee the Hot-spot Water Quality Monitoring Program. In 2008, field crews found less than 40 illicit connections in the Lower Flint River, the Middle Flint River, and the Shiawassee River Watersheds.

### Public Education and Participation (PEP) Sub-Committee

This sub-committee oversees the implementation of the Public Education Plan. In the last reporting cycle, the PEP sub-committee and partners presented actions for cleaner water to 14 community groups; developed an educational brochure; purchased and gave away promotional premiums; set up the *Our Water* informational booth at nine community events; gave EnviroScope watershed model demonstrations to 11,000 individuals and students; added 210 river/stream crossing and/or watershed signs; and continued the catch basin stenciling program. Look forward to the continuation of these programs and the creation of informational guides, classroom maps, and evaluation plans in 2009.

## How the Flint River Watershed Coalition partners with us

*In this and subsequent editions of the Newsletter, we will highlight the valuable work of one of the partners in the Phase II Program.*

The Flint River Watershed Coalition (FRWC) is a non-profit organization formed in 1997. The FRWC engages residents of Genesee County in watershed and stormwater education and activities. Some programs offered by the FRWC in conjunction with the *Our Water* Campaign include:

### Storm Drain Stenciling:

The FRWC works with community and neighborhood groups to stencil catch basins to help keep pollution out of storm drains. The FRWC organizes and provides the training and supplies.

**River Walks:** The FRWC hosts walks that focus on the value of the Flint River watershed, simple steps to protect our

local water resources, and recreational opportunities available. The walks are free open to the public; six walks were held in 2008.

**Canoe Trips:** In 2008, the FRWC hosted



*Water enthusiasts learn about our local rivers by taking their canoes and kayaks out on the water with the FRWC.*

two canoe trips to encourage people to become familiar with local rivers.

**Public Education Presentations:** Through their Speakers Bureau program, the FRWC gives presentations on your local watershed and steps that can be taken to protect and improve it. In 2008, the FRWC spoke to 11

organizations, reaching 219 individuals.

**Water Quality Monitoring:** The FRWC also conducts the Project Global Rivers Environment Network (Project GREEN), reaching more than 1,100 area students, and benthic macroinvertebrate monitoring with the Phase II Monitoring and Mapping sub-committee.

*Contact the FRWC at [www.flintriver.org](http://www.flintriver.org) or (810) 767-6490 to participate in these programs.*



*Two volunteers investigate the insects and other invertebrates living at the bottom of the stream.*



## Low Impact Development has high impact on cost savings

As a municipal leader, you are asked to save money on infrastructure and find ways to make your community more marketable. You are expected to learn about and comply with federal regulations for water quality and storm water management. Fortunately, you don't have to do this alone.

A cutting-edge strategy called Low Impact Development (LID) can help you meet your community's obligations and objectives.

LID is a set of ecologically friendly practices for site development and storm water management. LID minimizes impact on the environment with design and planning techniques that conserve water. Many U.S. cities have successfully used Low Impact Development in municipal development codes and storm water management plans.

There are many benefits to municipalities that implement Low Impact Development. For instance:

- ◆ Site water quality is protected by reducing sediment and nutrient-loading.
- ◆ Costs to maintain infrastructure and utilities are reduced.
- ◆ Local plants and animals are protected.
- ◆ Environmental protection and growth

are kept in balance.

- ◆ Public and private collaborations are increased.
- ◆ Your community's marketability is enhanced.

Interested in learning more? Feel free to attend the next Construction Standards and Practices Sub-Committee meeting on February 3, 2009. The next NPDES Phase II Newsletter will explore how other communities successfully use LID practices to meet Phase II mandates and save money.

Additionally, a LID manual specific to the State of Michigan was just released. A PDF version of the document can be found at [www.semcog.org](http://www.semcog.org).

Information for this article was gathered from the US EPA's "Low Impact Development (LID): A Literature Review," published in October 2000. A PDF of the document is available at the following website: [http://www.lowimpactdevelopment.org/pubs/LID\\_litreview.pdf](http://www.lowimpactdevelopment.org/pubs/LID_litreview.pdf)

### Common LID practices include, but are not limited to:

- ◆ Creating bioretention areas
- ◆ Building grass swales
- ◆ Installing vegetated roof covers (i.e. green roofs)
- ◆ Reducing impervious surfaces
- ◆ Redirecting rooftop runoff



*This driveway with permeable/porous covering helps reduce polluted runoff by allowing stormwater to soak into the ground.*

## Stenciling connects storm drains to stream health

The Genesee County Drain Commissioner's Office has a catch basin stenciling program to help keep pollution out of storm drains. Since November 1, 2006, more than 900 stencils have been painted on roads within Genesee County. Many of these were

done by the Drain Commissioner's staff as they cleaned out the catch basins. About 400 of these were painted since October 2007. Stencil volunteers place doorknob



hangers on residential homes adjacent to the stenciling locations. These door hangers educate residents about the connection between storm drains and our lakes and streams. Recently, the Flint River Watershed Coalition began coordinating the volunteer stenciling program. Although building support for the program has been challenging, the FRWC already has at least 14 volunteer groups organized for next year's storm drain stenciling.

## Upcoming Events

*Look forward to the next edition of the NPDES Phase II Newsletter featuring articles on:*

- ◆ Stormwater Pollution Prevention Initiative (SWPPI) requirements
- ◆ Low Impact Development case studies
- ◆ Illicit discharge elimination
- ◆ Household Hazardous Waste disposal
- ◆ New updates and partner highlights