

STORM WATER MANAGEMENT

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What is stormwater?

Stormwater occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces such as driveways, sidewalks, and streets prevent this water from naturally soaking into the ground thus we have what is known as stormwater.

Why is stormwater a concern and why should I care?

Stormwater will flow over land surfaces, roadways, sidewalks, parking lots, construction sites, business parks, etc and pick up debris, chemicals, dirt, and other pollutants. This stormwater will flow into a storm sewer or directly to a receiving stream or lake. Almost all stormwater is UNTREATED before it enters these receiving streams. These pollutants will have adverse effect on plants, fish, animals and even people. The water from these receiving streams is used for drinking water supplies by local communities.

What has the City been doing about stormwater pollution?

Increased public knowledge and concern about water quality led to the formation of the Federal Water Pollution Control Act Amendments of 1972. In 1977, these acts were amended and are now commonly know as the Clean Water Act (CWA). The CWA established a regulatory process called the National Pollutant Discharge Elimination System (NPDES) which controls water quality by regulating point source discharges such as industrial wastewater and municipal sewage.

Throughout the same period, subsequent enactments modified some of the earlier CWA provisions. One of these enactments established the Water Quality Act (WQA), which provided a legal framework mandating the EPA to implement a phased program for the regulation of municipal and industrial storm water discharge.

In 1990, Phase 1 of the EPA's storm water program was promulgated. This program relied on NPDES permit coverage to regulate the runoff from medium and large municipal separate storm sewer systems (MS4s). This generally includes any municipality over 100,000 people. MS4s are defined as drainage systems that may include: municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains that are owned or operated by a public body and designed or used for collecting or conveying storm water.

The Storm Water Phase II Final Rule, promulgated in 1999, is the second step in controlling municipal storm water discharge. The Phase II program regulates additional MS4s with population less than 100,000 but greater than 10,000. Phase II also mandates NPDES permits to implement programs and practices to control polluted storm water runoff. The City of Findlay was one of the communities designated under the Phase II Rule. With the designation, the City of Findlay was required to submit for permit coverage by May 1, 2007. This required the City of Findlay to submit a Storm Water Management Program (SWMP) to Ohio EPA for approval.

The SWMP is required to reduce the discharge of pollutants to the “maximum extent practicable”, protect water quality and satisfy the appropriate water quality requirements of the CWA. The SWMP will address the six minimum control measures with the implementation of best management practices (BMPs). The six minimum controls that must be addressed include the following:

- Public education and outreach
- Public participation/involvement
- Illicit discharge detection and elimination
- Construction site runoff control
- Post-construction runoff control
- Pollution prevention/good housekeeping

The SWMP has addressed each of these minimum controls and identified the BMPs and measurable goals that the City of Findlay will use for evaluation and assessment of its SWMP.

The City of Findlay’s SWMP is currently under review by the OEPA but the City has already started implementing some of the BMPs found in the SWMP. This plan has been design for improvements that span the next five years.

What are some types of stormwater pollution?

Sediment, nutrients, bacteria, debris, and household wastes are a few examples of stormwater pollution.

What effects does stormwater pollution have to the receiving streams?

Sediment can be harmful to aquatic life such as plants, fish and animals that depend on the water for their livelihood. Sediment can carry chemicals that could cause the oxygen levels in the receiving streams to be dangerously low and unsupportive of plant and fish life. Sediment can also destroy habitats that support aquatic insects and plants.



Nutrients such as nitrogen and phosphorus can cause excessive plant growth such as algae. This algae clogs waterways, block sunlight and reduces oxygen that is available for aquatic life. Common sources for nutrients are fertilizers (lawn and farm), detergents and excrement.

Bacteria can cause disease and other health hazards in both animals and humans. Bacteria can enter the waterways from animal excrement or pet waste, as well as leaking sewers and septic tanks that are not maintained properly.

Debris such as plastic bags, six-pack rings, cans, bottles, cigarette butts, and the like can be washed into the waterways and choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds. This debris could also contain toxic chemicals and bacteria.



Household wastes which consist of insecticides, pesticides, paint solvents and thinners, petroleum products (gasoline, oil, and grease), auto fluids, etc. deplete oxygen in waterways and could cause toxic effects in living organisms that may be ingested by people.



I have heard the words point source and non point-source used when talking about stormwater, what do they mean?

"Point source" is defined as pollution coming from a single source, such as an industry or wastewater treatment plant. "Point source" is a discrete conveyance of an effluent's discharge usually through pipes or man-made ditches into a receiving stream. The Clean Water Act put restrictions on how much and what kind of pollutants can be disposed of into the rivers and lakes. Thus usually all "Point sources" are regulated through the NPDES (National Pollutant Discharge Elimination System) via a permit issued from the EPA or the designated state authority.

"Non-point source" is pollution which does not have a specific source such as an industry or sewage treatment plant but comes from many diverse sources. "Non-Point Source" pollution comes from the cumulative effect of a region's residents going about their everyday activities. "Non-Point Source" pollution is caused by rainfall or snowmelt moving over and through the ground. As runoff moves, it picks up debris which contains pollutants and deposits them into the lakes, creeks and rivers. The following are several sources of "Non-Point Source" pollution:

- ☀ Excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas;
- ☀ Oil, grease, and toxic chemicals from urban runoff and energy production;
- ☀ Sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks.
- ☀ Salt from irrigation practices and acid drainage from abandoned mines;
- ☀ Bacteria and nutrients from livestock, pet wastes and faulty septic systems.

How can I help to stop stormwater pollution?

- ☀ Never dump anything down the storm drains.
- ☀ Pick up after your pet and dispose of waste properly.
- ☀ Use fertilizers sparingly and avoid pesticides. Learn about integrated pest control.
- ☀ Compost your yard waste
- ☀ Vegetate bare spots in your yard.
- ☀ Wash your car in your yard instead of on your driveway.
- ☀ Check your vehicles for leaks.
- ☀ Recycle used motor oil
- ☀ Sweep up debris on your driveway and sidewalks instead of washing it into the street and then to the stormwater system.
- ☀ Direct downspouts away from paved surfaces.
- ☀ Have your septic tank pumped and system inspected regularly.

Are there projects that I can volunteer for to help with stormwater pollution clean-up?

Yes, Volunteers are always needed for river clean-ups which the City of Findlay has coordinated in the past. When dates of river clean-ups have become available they will be posted on the City website and in the Courier.



The City of Findlay is currently conducting a storm water placard program which consists of applying vinyl placards on all catch basins in the City's storm water system. These placards contain the words "NO DUMPING -DRAINS TO THE BLANCHARD RIVER" and have the phone number of the Water Pollution Control Center (419-424-7187) for the reporting of illegal dumping into these catch basins. Volunteers are always welcome to assist in the completion of this program.

