



### **What is Stormwater**

Stormwater is water that originates from rain, snow, and ice melt. Stormwater can soak into the soil (infiltrate), be stored on the land surface in ponds and puddles, evaporate, or runoff. Most runoff is conveyed directly to nearby streams, rivers, or other water bodies (surface water) without treatment.

Why does stormwater need to be managed? Over the past century or so we have built homes, roads, shopping centers, commercial buildings, and so on, all of which dramatically increased the amount of impervious surface. At the same time, we have modified the landscape to facilitate rapid drainage of stormwater runoff from our developments. This has had the effect of concentrating the stormwater runoff and decreasing infiltration. This causes three problems.

1. Flowing water is quite powerful and picks up soils, debris, leaves, and oils from the impervious surfaces it flows over. Unless treated, this material reaches surface waters, where it can pollute them beyond the point where the water is able to support wildlife or recreation.
2. The increased volume of water running off and the increased speed of the drainage means large quantities of water reach surface waters quickly. This can lead to flooding and scouring (erosion) of river channels.
3. Less water infiltrates, resulting in reduced soil moisture and less water percolating to groundwater. Consequently, plants may be stressed during dry periods and aquifer (groundwater) levels may decrease. Depleted groundwater levels may, in turn, reduce water levels in streams and reduce drinking water supplies.

### **Stormwater Management Plan Available for Public Inspection and Comment**

The Stormwater Management Plan is available on the Macomb Intermediate School District website for review and comment by the public.

- All comments should go to the Macomb Intermediate School District Operations Department at 586-228-3352.

## **Community Group/Organization/Resource**

[Visit the Clinton River Watershed Council Homepage](#)

[Visit the Southeast Michigan Council of Governments \(SEMCOG\) Homepage](#)

The Lake St. Clair Water Festival provides free, hands-on opportunities for 4th and 5th grade students to learn about using and preserving the Lake St. Clair Watershed.

[Visit the Lake St. Clair Water Festival Homepage](#)

## **Household Hazardous Waste**

When household hazardous waste is not correctly disposed of, it can enter our storm sewers and waterways. Improperly disposing of these items into storm sewers, sanitary sewers, on-lot sewage systems, or by dumping them onto the ground allows stormwater runoff to pick them up and carry them into our waterways. Once this waste enters our waterways, it causes water pollution that poses a threat to our health and can harm — and in some instances kill — animal and plant life.

Public Services host household hazardous waste collections for county residents. The collections are designed to accept unwanted household chemicals for proper disposal. Links for household hazardous waste collections are below.

[Visit the Oakland County Hazardous Waste Information Webpage](#)

[Visit the Macomb County Hazardous Waste Information Webpage](#)

[Visit the Wayne County Hazardous Waste Information Webpage](#)

## **Recreational Vehicle Waste Information**

Many RV owners fail to follow proper waste-disposal protocols, instead discharging their accumulated sewer wastes, including “black water,” directly into storm drains. The result is that untreated sewage is being released directly into our local waterway. Please see the link below to locate RV dump stations by state.

[Visit the RV Dumps – Michigan Information Webpage](#)

## **Riparian Landowner Information**

As a responsible waterfront property owner, practicing these Healthy Habits for Clean Water is especially important because you are directly at the water’s edge. Runoff does not have far to travel before reaching the waterway. Macomb County is home to the Clinton River, Belle River, and Anchor Bay Watersheds, as well as Lake St. Clair. Riparian landowners have a significant opportunity to make a big difference in protecting our water quality!

[Visit the Waterfront Wisdom Booklet Webpage](#)

## **Refuse Best Management Practices**

The District will review alternatives for refuse management, ensuring storm water compliance. The following BMPs apply at all facilities where any waste, scrap, trash, or debris is generated.

## **Pollution Prevention:**

- Keep all trash container lids closed at all times unless adding or removing material
- All waste receptacles (dumpsters or cans) should be leak-tight with tight-fitting lids or covers.
- Do not place outdoor waste receptacles near storm drains or ditches unless at a lower elevation.

#### **Protocols:**

- Return leaking dumpsters to the owner for replacement.
- Repair or replace missing or poorly fitted lids or covers on waste receptacles promptly.
- Never place liquids or liquid-containing wastes in a dumpster or trash receptacle.
- Sweep up around outdoor waste containers regularly.
- Do not wash out waste containers or dumpsters outdoors.

#### **Illicit Discharge Elimination**

**The two greatest sources of water quality problems** in the Clinton River and Lake St. Clair are polluted stormwater runoff and illicit discharges that contain bacteria and nutrients.

**REPORT A POLLUTER - 24-Hour Toll Free Water Pollution Hotline 1-877-679-4337**

#### **When to Call**

**Please contact us if you observe:**

- A strong sewage odor
- Discharges or dumping of pollutants into drains, ditches, ponds, lakes, or rivers
- Sewage on the ground surface

**Be prepared to give the following information:**

- Location of complaint
- Source of pollution, if known
- Responsible party, if known
- Any other relevant observations

*\*You may remain anonymous if you desire.*

#### **Prevent Illicit Discharges**

##### **Only rain in the drain.**

Never dump motor oil, chemicals, pet waste, or dirty wash water down the storm drain or into ditches. All these materials pollute our lakes and streams.

##### **Scoop it.**

Keep pet waste cleaned up from lawns, sidewalks, and streets, and away from drainage ditches and storm drains. When dog waste is left behind, it washes into storm drains and ditches. From there, it heads straight to your local lakes and streams.

##### **Sweep it.**

Fertilizer left on sidewalks and driveways will easily wash into storm drains and ditches. So, save money and our lakes and streams by sweeping fertilizer back onto the lawn.

## **Landscaping Native, Non-Native, and Invasive Species**

### **What is a Native Plant?**

Native plants (also called indigenous plants) are plants that have evolved over thousands of years in a particular region. They have adapted to the geography, hydrology, and climate of that region. Native plants occur in communities, that is, they have evolved with other plants in association with animals, parasites, and disease-causing organisms. As a result, a community of native plants provides habitat for a variety of native wildlife species such as birds and butterflies.

### **What is a Non-Native Plant?**

While native species occur in their natural regions without the direct or indirect activities of humans, “non-native” species occur outside that natural range. In North America, many non-native plants were brought over for agricultural, medicinal, and ornamental purposes. Many plants were introduced accidentally as well. The introduction of the non-native organisms continues to be a problem today due to our increased travel and international trade. Not all non-native plants or animals become a problem. However, some of these plants have certain aggressive traits that make them an invasive species.

### **What is an Invasive Species?**

Invasive species are those non-native species that can significantly disrupt natural communities causing environmental or economic harm. In a new environment, invasive plants are released from the natural constraints of their native ranges. They lack the control of herbivores, parasites, diseases, and competition that was present in their native habitats. Invasive plants exhibit both rapid growth and reproduction rates because of abundant seed production, reproduction through vegetative clones, and/or extended growing seasons.

### **Why are Invasive and Non-Native Plants a Concern?**

Invasive, non-native plants displace native plants and animals, and so disrupt ecological processes, and degrade biological resources. Invasive plants often lack the natural population controls that keep them in check in their native ecosystems. Controls existing in the new ecosystem (herbivores, parasites, diseases, and native plants) are not adapted to make use of the non-native invaders. This disparity of population controls, in addition to their rapid growth and reproduction, creates a situation in which the invasive plants are better competitors. They reduce the amount of sunlight, water, nutrients, and space available to native plants, eventually competing with and replacing natives. This represents a loss in habitat and food source for wildlife. Invasive plants have even been shown to alter hydrological patterns and soil chemistry. In the big picture, invasive plants reduce biodiversity.

## **Post- Construction Policies**

Development and redevelopment projects include the Macomb County Procedures and Design Standards for Stormwater Management.