



Protecting the river since 1965

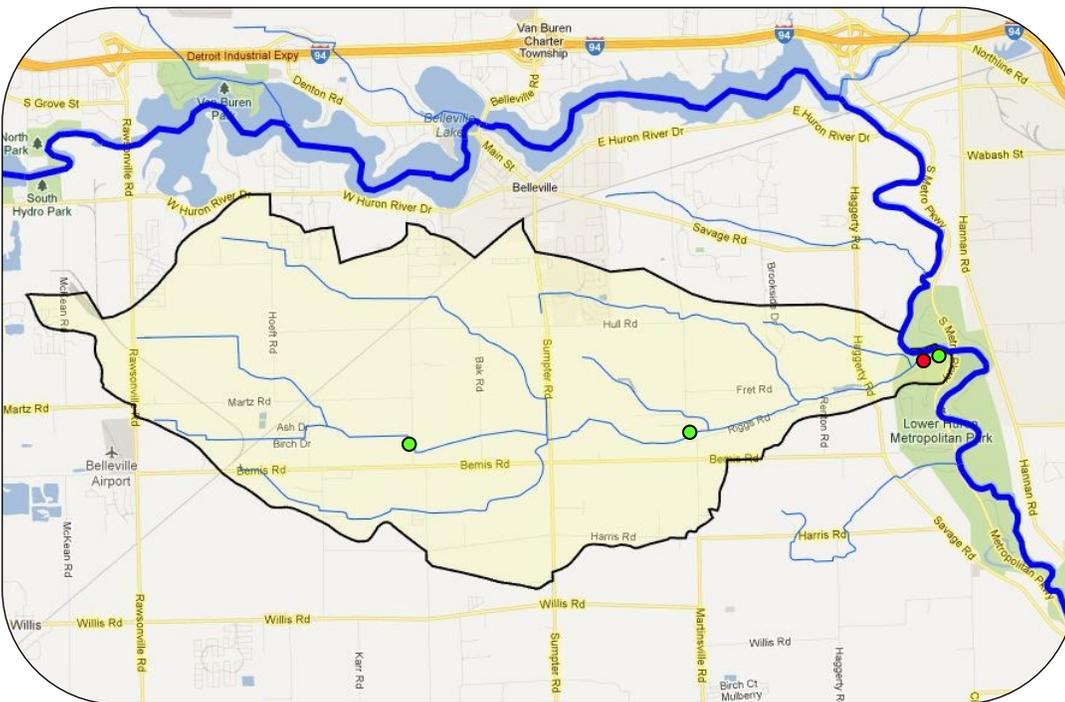
# Woods Creekshed Report

[www.hrwc.org/woods](http://www.hrwc.org/woods)

## Creekshed Profile

Woods Creek today flows through farms, wetlands, and large and medium yards, but 10,000 years ago it was under ancient Lake Erie. As the Lake receded, it left behind a flat lake plain made up of clay and silt, with some sand and gravel areas downstream. As settlers moved into the area, they named the stream Woods Creek, after the Wood family, because they held Van Buren Township's first meeting in Matthew Wood's home in 1827. The name also fit the creekshed's landscape of woodland swamps, most of which the settlers promptly cleared and drained to make way for farms. Woods Creek itself eventually became a county drain (Griggs Drain), but in 2008 members of Woods Creek Friends, a local citizens' watershed advocacy group, worked with HRWC and the Wayne Co. Dept. of Environment to reinstate the original name to reflect the clean, pleasant, pastoral setting the creek enjoys along much of its length. "Griggs Drain" is still the official name on maps and according to state and federal government.

Woods Creek has 25 miles of branching stream channels, and drains 10 square miles of land. From the highest headwater to the mouth, the creek's elevation drops 86 feet. The average slope is 12.5 feet per mile, making Woods Creek one of the flattest of creeks in the Huron Watershed (16 feet per mile is the average). There is one unnamed lake (open water > 5 acres) in the Woods creekshed, an impoundment created by a dam. There are 4 ponds (open water < 5 acres) which appear to be artificial. The creekshed lies in several municipalities: Van Buren and Sumpter Townships, the City of Belleville, and Ypsilanti Township.



● Monitoring sites for Aquatic Insects, Stream Habitat, and Stream Temperature

For more details on these parameters, please see inside.

● Monitoring site for Stream Flow, Phosphorus, Total Suspended Solids, and E. coli

# Creekshed Status and Trends



Dr. Dave Wilson, of the Woods Creek Friends group, regularly participates in HRWC's River Roundup event on Woods Creek. Credit: John Lloyd

## Creekshed Land Use

### *Encroaching impervious surface*

Total creekshed size: 10 square miles

Year 2000 land use:

Agriculture: 38%, 3.8 square miles

Residential & urban: 28%, 2.8 square miles

Forest: 3%, 0.3 square miles

Open: 15%, 1.5 square mile

Wetland: 16%, 1.6 square miles

Total impervious surface: 10%, 1 square miles

Numerous studies have shown that fish and insect communities are less diverse when the amount of impervious surface exceeds 10-12% of the total watershed area. Since 10% of the Woods creekshed is currently impervious, this means that the system is at the tipping point of losing much of its biological diversity.

## Creekshed Natural Areas

### *Many natural lands yet unprotected*

The creekshed's forests, wetlands, and grasslands soak up rainwater and runoff, filter pollutants from runoff, and provide wildlife habitat and beautiful places for us all to enjoy. Only 14% of the creekshed has intact natural areas; only a small fraction of these areas are protected from development (about .5% of the watershed, notably Lower Huron Metropark). Without its intact natural areas, the creekshed faces an uncertain future. It will be important to keep these lands natural, so they can keep the creekshed as healthy as possible.

## Stream Habitat

*Good near the mouth; mucky in upstream reaches*

Wood's Creek is a swift stream flowing through lovely riparian areas. The bottom substrate is a mix of sand, gravel, and cobble in the lower reaches, but the upstream areas have a lot of fine sediment and muck. All of the Huron River watershed downstream of Belleville, including Woods Creek, is located on "old lake plain" geology, which is flat and made of sand and silt. Therefore this fine sediment is primarily the result of past glacial activity and not human activities.

## Fish Community

### *Small bodied cool-water fish community*

Woods Creek is home to a variety of small fish typically found in small cool creeks. Bluntnose minnows, johnny darters, creek chubs, longnose dace, and bluegill have all been found in Woods Creek. The DNR reports that adult steelhead have been seen entering Woods Creek in the spring and attempting to spawn. A DNR electroshocking survey in 2000 failed to locate any young-of-the-year steelhead, however, so it is not known if steelhead successfully use Woods Creek as spawning grounds. (See Dams and Impoundments for more details).

## Aquatic Insect Community

*Good at the mouth; otherwise below average throughout*

Woods Creek has a lower insect diversity than many other creeks located within the Huron River watershed, but is better than the urban creeks (like Malletts or Millers). Sensitive insects including winter stoneflies are present, but never abundant. At the mouth of Woods Creek, where cobble and gravel is abundant, the insect community is rated as "good", but further upstream the population is far below average, but not yet "poor." The upstream insect populations are restricted by the high amount of fine sediment in the creek. However, this sediment may be primarily from natural sources (see Stream Habitat for more detail).

## Dams and Impoundments

### *Present and blocking fish passage*

While dams can provide recreational benefits, they greatly alter a stream's hydrology and degrade fish and insect habitat. There is a dam 0.6 miles upstream from the mouth that completely separates the mouth of the creek from many miles of upper tributary reaches. Steelhead from Lake Erie have the potential of spawning in Woods Creek, because the one dam separating these water bodies (Flat Rock Dam) has a fish ladder. However, because of the dam near Woods Creek mouth, steelhead cannot access most of the creek's habitat.

## E. coli

### *Occasionally high*

*E. coli* bacteria is a useful water quality indicator for the presence of fecal contamination. In Woods Creek, *E. coli* usually remains at levels that are safe for body contact. However, sometimes, after rains, high concentrations of bacteria make partial body contact unsafe (no drinking, or recreational activities).

## Phosphorus

### *Elevated*

Phosphorus is the limiting nutrient in most freshwater systems, and too much phosphorus can cause algal blooms and water quality problems. The target for area streams is < 50 µg/l. Woods Creek's mean total phosphorus (TP) is 65 µg/l, which is elevated, particularly after heavy storms (see below). This is likely due to residential and agricultural runoff.

## Color Coded Ranking

Excellent

Fair

Poor

## Total Suspended Solids

### *Low*

Total suspended solids (TSS) is a measurement of the amount of sediment and organic held by the stream. A high TSS indicates high turbidity and erosion problems. Good TSS values during rain storms are below 80 mg/l. Woods Creek's mean TSS is 8 mg/l.

## Conductivity

### *Natural levels*

Conductivity is a measurement of the amount of ions (also known as salts) dissolved in water. Conductivity is a quick and easy measurement to make, and is useful as an indicator of potential problems. Conductivity levels in Woods Creek are at natural background levels, suggesting low pollution.

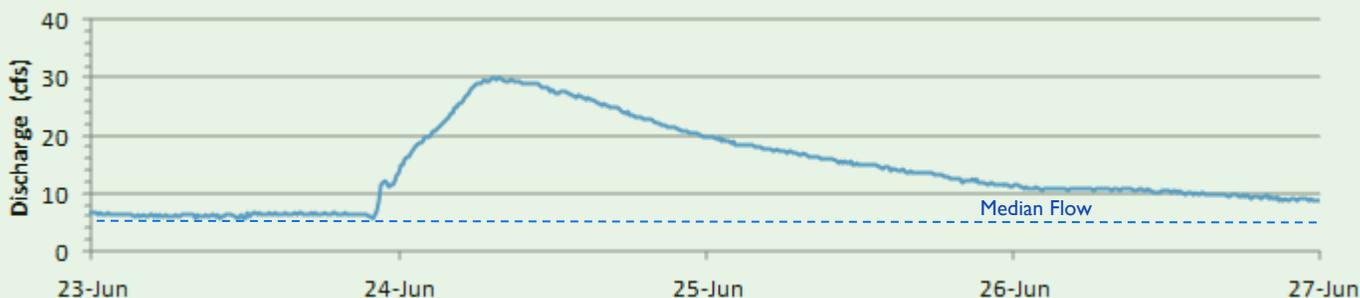
## Stream Flow

### *Natural flow dynamics*

Stream flow is an important underlying factor for determining likely erosion rates, stream habitat quality, and aquatic community diversity. An important measure is "flashiness" or the rate a stream rises and falls through a storm event (see below). Woods Creek has a flashiness rating that is average for comparable Michigan streams, and more natural than most in the Midwest and other Wayne County streams.

## 2010 Storm Event Graph

0.93 inches of rain fell June 23-24.



## Successes and Challenges

### Successes

- A local Woods Creek Friends group formed in 2007 to assess and improve the quality of the Creek. The group established monitoring stations and achieved the renaming of the creek, among other achievements.
- Woods Creek Friends, Van Buren Township and the Alliance of Downriver Watersheds planted and maintain a “Grow Zone” along the creek in Lower Huron Metropark. The Grow Zone includes native plantings along the riparian zone of Woods Creek and provides a buffer to filter nutrients and pollutants.
- All local townships have stormwater ordinances to protect Woods Creek under future development. Sumpter Township passed ordinances to further protect creek wetlands, buffer zones and natural features. Ypsilanti Township also protects wetlands and natural features.
- In 2000, Wayne County passed an On-Site Sewage Disposal System Evaluation & Maintenance Ordinance that requires septic system inspection at time of sale and tank pumping.

### Challenges

- The dam near the mouth of Wood’s Creek blocks fish passage in a location that could be spawning habitat for steelhead. Removing this dam would be good for the creek and the lower Huron River fishery.
- Woods creekshed’s communities and residents must promote compact development and preserve natural areas. It is extremely important to limit increases of impervious surfaces in order to maintain the creek’s integrity.
- We need to reduce phosphorus runoff to Wood’s Creek. Likely sources of phosphorus are excessive fertilizers in residential areas and agricultural application and stream bank erosion.



Woods Creek as it flows through the Lower Huron Metropark. In this section, the banks are heavily fortified against erosion. Credit: David Wilson

## What you can do!

### At home

- If you live near a creek or intermittent stream leave a vegetated buffer strip adjacent to the waterway—ideally a suite of native plants, 50 feet wide.
- Don’t use phosphorus fertilizer. State law prohibits application of phosphorus fertilizer without a soil test to prove that the phosphorus is needed.
- If you have pets, clean up after them and dispose of their waste properly. Pet waste left on the ground can contribute bacteria to the stream.
- If you own property with a natural area, work with a South East Land Conservancy to establish an easement to protect it from future development.
- Install a raingarden, rainbarrels, and other methods which reduce runoff from your property.
- Have your septic system checked regularly.