

Watershed Wonders

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This term may or may not be familiar to many of you reading this article. Let us get one thing covered: a watershed is not a shed that has water in it, but is a term that has a very important meaning when we delve into the realm of water movement through the environment and also water quality. It is important to know that water quality is certainly everyone's business as we all play a role in how good or bad that our water quality is based on our daily activities. Through this week's article, we will explore what the term watershed means, how water moves through our environment, basics about factors influencing water quality, why we need healthy watersheds, and what we can all do to ensure a healthy water source.

Let us answer the very first question on your minds, defining a watershed. A watershed describes a set area of land in which all the water within said area will drain to a common location. This includes all the small creeks, ditches, rivers, and lakes within this area in addition to the air, soil, groundwater, and municipalities within the area. Watersheds are defined from small scale such as a farm field or larger such as the Upper Maumee Watershed, which describes all water that drains to the Maumee River between Fort Wayne and Defiance. The largest watershed in the United States is the Mississippi River Watershed, which drains an astounding 1.15 million square miles comprising of 31 states and two Canadian provinces!

The movement of water within the watershed is greatly defined by the water cycle. The water cycle has four basic stages that make it up which are condensation, evaporation, collection and precipitation, all of which describe the different changes that water undergoes as it moves through the environment. When water falls from the atmosphere as precipitation, it could take to several paths. It could be soaked up into the soil and percolate down the soil profile and become groundwater available for plants to use during their growth. According to the National Oceanic & Atmospheric Administration (NOAA), some water travels deeper into the soil profile into underground reservoirs known as aquifers that is eventually pumped out of the ground by a rural well.

Water could also flow across the landscape directly into local rivers or streams. When water flows across the surface, it is going to pick up several substances or pollutants with it such as oils from cars, litter, fertilizers, pesticides, or eroded soil. We hear a lot recently about water quality, especially as it relates to Lake Erie, which makes this article very relevant. It is easy to think that we do not live right next to Lake Erie so we do not have an impact on the quality of the water in the lake. This could not be farther from the truth. There is a saying that "all roads lead to Rome", in our case all our water leads to Lake Erie as all of our bodies of water whether it be a small stream or large river will eventually lead to Lake Erie. Within Paulding County, there are several small creeks like Blue Creek, which are eventually going to flow into the Auglaize River or the Maumee River. In the case of Blue

Creek, water will travel to the Auglaize River that will then drain into the Maumee River at Defiance. Water will then travel down the Maumee to Toledo where it will empty into Lake Erie.

While it may take some time for this water to get from Paulding County to Lake Erie, the important thing to know is that everything that we do upstream here has an impact on the quality of the water for our neighbors downstream. Be mindful of your activities by doing things such as making sure your car is mechanically sound with no oil or fuel leaks. Soil test your field or garden to see the current inventory of nutrients and to see what additions may need made to ensure that your plants have enough nutrients they need while not leaving behind excess nutrients they do not. Farmers can install practices such as cover crops when they do not have an actively growing crop to hold their soil in place and prevent soil erosion. Any rainfall event can carry these excess nutrients or car fluids away in what is called runoff and make its way to our local streams and then rivers. Sediment from soil runoff clogs the gills of fish while the presence of excess nutrients creates conditions that are conducive to the growth of toxic algae.

So why all the talk about watersheds and water quality? According to the Environmental Protection Agency (EPA) an estimated \$450 billion in foods, fiber, manufactured goods, and tourism rely on a healthy and clean watershed. This can be maintained by being mindful of what goes into our local waterways. Water is all around us as our Earth is covered 70% by water. According to the Nature Conservancy, 50-60% of US waters are designated as “impaired or threatened”. An impaired designation means the body of water does not support an intended use such as drinking, swimming, or fishing, which is what the Ohio EPA has designated for Lake Erie. The key thing to ensuring our water quality is understanding that we are all in this together and if we do, everyone can enjoy a clean and healthy waterway.