



SUMMIT
SOIL & WATER
CONSERVATION DISTRICT

2019 SPRING
NEWSLETTER

Slow it Down, Spread it Out, Soak it In,

For a Healthier “Life at the Water’s Edge.”

It seems that, as human beings, most of us yearn to spend some time in our lives near, or on, some body of water. Whether we dream of fishing in a cold trout stream, sailing on an inland lake, building sand castles on a Lake Erie beach, or photographing an ocean sunset, we yearn to be at the water’s edge. Well, here’s some good news for you. Because we all live in a watershed, we are all living at some water’s edge and we can affect the quality of the water beyond it.

The water’s edge is where massive environmental impacts happen. The amount of rainwater that passes through without being absorbed by vegetation influences the severity of the resultant flooding. Whether or not the rainwater gets filtered as it passes through the water’s edge at the streamside or beach, determines the amount of pollution that impacts the nearest body of water.

We all live in a watershed, but sometimes that concept seems vague and difficult to grasp. A watershed can be defined as the land area where all water above and below the ground drains to a common stream or body of water. Another definition is: “the land through which the stream flows and gathers momentum.”

In Northeastern Ohio, prominent watershed features such as gorges, hills, valleys, lakes, streams, and wetlands, are determined by the geology of the underlying bedrock, and by the surface features of the land. The above-ground features were influenced by the glaciers which eventually left this area 12-14 thousand years ago. We have a local set of land features that is dominated by glacial moraines, or hills, glacial till, and many kettle lakes which formed when glacier ice melted, and left depressions filled with water. In Summit County, with the great elevation changes, watershed boundaries in some areas are quite prominent. In the Western portion of Ohio, the land tends to be very flat and watershed boundaries are not so evident. Watershed boundaries may cross townships, villages, cities, counties, states, and even countries.



As we begin to understand the concept of a watershed, it is important that we learn to protect the resources within it. In Summit County, we have two major watersheds, each including many small streams: The Cuyahoga River watershed flows north into Lake Erie, and eventually the Atlantic Ocean; and the Tuscarawas River watershed drains into the Tuscarawas River, flows south into the Ohio River, then the Mississippi River, and finally into the Gulf of Mexico. The divide between these two watersheds may be seen if you travel South on Main Street and Manchester Road in Akron, in the vicinity of the Portage Lakes.

The quality of the water that enters the large rivers and the oceans is only as good as the quality of the rainwater as it runs across your lawn into the street and stormdrain. Stormwater and the sediment that it carries is the largest source of pollution in our waters.

Our theme for stormwater management in 2019 is “Runoff Reduction-Slow It Down, Spread It Out, Soak It In.” In order to decrease the amount of stormwater runoff, we can practice healthy landscaping practices. These healthy landscaping practices include installing rainbarrels and planting native plants and raingardens to slow down and filter stormwater, while providing valuable habitat for insects and wildlife. Other popular healthy landscaping choices include composting leaves and grass clippings, mowing high and often, testing your soil, limiting use or foregoing fertilizer, herbicide, and pesticide, using smart watering methods, and planting native grasses.

One of the most important ways to reduce runoff and pollution is to protect native trees and shrubs already next to the streams and shorelines, plant new buffer strips using native trees and shrubs around any water courses on your own property, and to encourage your communities to plant streamside and shoreline buffers, along streams, lakes, and ponds in public parks and other municipal properties. The native trees, shrubs, and herbaceous plants filter out pollutants and hold gallons of stormwater, soaking it up like sponges before it runs off into the stormdrain and eventually into the stream. This vegetative buffering also slows down the runoff and helps to prevent flooding.

Encouraging and supporting your communities to establish riparian ordinances for new construction and restoration would go a long way toward improving the water quality in your own watershed and region. Scientific studies in a report included in the Clallam County Washington, Draft Shoreline Master Program have shown that shoreline and riparian buffers protect the natural resources and ecology of the shoreline environment. These buffers also protect people and property from landslides, flooding, and stream channel migration. Maintaining well-vegetated buffer zones adjacent to shoreline waters is a key element in achieving an ecological “no net-loss” strategy for many communities (Clallam County Washington Draft Shoreline Master Program). The establishment and maintenance of vegetated buffers is an integral part of their

pertinent policies and ordinances. The shoreline and streamside buffers also keep the Canada geese and other large waterfowl away because the birds are wary of predators that may hide in the vegetation.

Of course, “buffer effectiveness depends on a variety of factors, including slope, soil type and species and condition of the vegetation. For example, for a buffer to effectively remove nitrogen, the soils in the buffer must have adequate saturation and an abundant supply of carbon, nitrogen, and microbial organisms. The buffer must also have enough vegetation to slow the runoff so that the water has time to infiltrate into the soil where the nitrogen can be broken down or absorbed by plant roots.” (Straughan Environmental Services, Inc., 2003).

According to various scientific studies, included in the Clallam County Washington, Draft Shoreline Master Program there are ranges of buffer widths depending on the factors mentioned earlier and the ecological function that needs to be addressed. For instance,



the effective buffer width for fine sediment removal can be anywhere from 49-213 feet, while the width for nitrogen and phosphorous removal can be anywhere from 49 to 167 feet, according to the shoreline master program information. Another important buffer function is to shade the water, which lowers water temperature, increases oxygen, and provides increased habitat for terrestrial and aquatic animals. The buffer width for effective shade can be anywhere from 30 to 230 feet, and the width for general wildlife habitat is 33 to 328 feet. There are many studies that suggest that a minimum buffer width of 100 to 150 feet is adequate for most ecological functions.

You are probably wondering what would happen to your yard if you planted a buffer 100 feet wide by your stream or pond. You needn't worry because the Clallam study shows that a vegetated buffer of only 11 feet will reduce the nitrogen in your lawn runoff by 50%, which would decrease nutrient pollution and algae blooms. So, if you have a water's Edge on your property, please consider planting a vegetated buffer there. If you don't have one, please urge your local officials to establish riparian and shoreline ordinances for your own community.

A quote from www.earthforce.org says that "The water that flows along a river or stream is like a memory of the land through which it flowed." In these environmentally stressful times when our waters are truly being negatively impacted, it is important for us to remember that "Every conservation practice is multiplied many times over in the results toward saving our environment." We all have the chance to become stewards of our watersheds.

If you want to read more about vegetative buffer benefits you can go to http://www.clallam.net/realestate/assets/applets/SMP_0212_CommitteeDraft_cmbined_1_.pdf

For more information on Healthy Landscaping and Housekeeping practices that you can use to improve water quality in our watersheds call 330-926-2452.

Reference: www.earthforce.org

Clallam County Washington Shoreline Master Program



Don't Guess!

Soil Test for Healthy Soil!

We are aware of the air we breathe and the water we drink. We can see the pollen that makes us sneeze in the spring, and notice the green film forming on our ponds and lakes in spring and summer. But the soil beneath our feet is often overlooked as an essential element in a balanced, sustainable environment. Healthy soils are full of life. If that soil underfoot is healthy, as little as one teaspoon of it can contain as many as four billion microorganisms. We depend on this soil for growing plants and so much more.

Healthy soil is critical for good air and water quality and the health of our lawns and gardens. Healthy soil not only provides air, water, and nutrients for plants, but also serves as nature's environmental protector by functioning as a:

- ❖ Sponge, soaking up excess rainwater and slowing down excess runoff.
- ❖ Spigot, turning water flow on and off by storing and releasing water for plants.
- ❖ Snare, trapping urban pollutants such as oil, metals, and pesticides.
- ❖ Strainer, filtering and purifying the air and water that percolate through it.
- ❖ Supermarket, supplying valuable nutrients and antioxidants to plants.

If left undisturbed, native soil can easily perform these functions. But if native soil has been disturbed by construction or the development of roads, houses or shopping malls, it can no longer function as nature intended. The result is problems with run-off and erosion. Enhancing the quality of poor soil greatly improves air and water quality and creates a healthier environment.

Knowing the soil types on your property and the fertility and the organic content ratio, are the single most critical factors that can determine success with plantings of any type including native plants. Knowing the prior land use of your property is also helpful. A soil test provides an excellent measure of soil fertility. It is a very inexpensive way of maintaining good plant health and maximum crop productivity. The standard soil test provides information on phosphorous (P), potassium (K), calcium (Ca), magnesium (Mg), pH, cation exchange capacity,

lime requirement, and base saturation. Additional tests are also available for iron (Fe), zinc (Zn), manganese (Mn), soluble salts, and nitrates.

You need to test your soil because soil fertility fluctuates throughout the growing season each year. Both quantity and availability of mineral nutrients are altered by the addition of fertilizers, manure, compost, mulch, and lime or sulfur, in addition to leaching (the downward movement of materials in solution). Mineral nutrients are also removed from soils as a result of plant growth and harvesting of vegetable gardens. The soil test will determine the current fertility level of the soil and will provide the necessary steps needed to maintain the optimum soil fertility year after year. Taking a soil test every two to three years is usually enough, but you can sample more frequently if you desire. Soil samples can be taken in the spring or fall for established sites, and any time that the soil is workable, for new sites.

The "pH" of the soil is one of the most important factors to consider. The term pH comes from the French words meaning "hydrogen power." Soil pH is the indication of the acidity or alkalinity of the soil. A pH of 7 is considered neutral. Below pH 7, the soil is acidic, and above pH 7, the soil is basic, or alkaline. If your soil pH is not compatible with your plants, the plants will not be able to take up nutrients.

Some plants grow well over a wide range of soil pH, while others grow best within a narrow pH range. Most turf grasses, flowers, ornamental shrubs, vegetables, and fruits, grow best in slightly acid soils, which have a pH range of 6.1 to 6.9. Plants such as rhododendron, azalea, mountain laurel, and blueberries, require a more acidic soil to grow well on, with a pH range of 4.09-5. Most soil nutrients are readily available when soil pH is at 6.5. When pH rises above this value, nutrient elements such as phosphorus, iron, manganese, copper, and zinc will become less available to plants. When soil pH drops below 6.5, manganese and aluminum can reach a toxicity level for some sensitive plants, and important microbial activity is greatly reduced. Fall is the ideal time to sample if you suspect a soil pH problem. If your soil turns out to be acidic,

then you need to add lime in the fall to raise the pH for more alkalinity. If your soil is alkaline, then you can apply sulfur in the spring, to lower the pH for more acidity.

The soil test takes the guesswork out of fertilization and is extremely cost effective. It not only eliminates the waste of money spent on unnecessary fertilizers, but also eliminates over-usage of fertilizers, hence helping to protect the environment. Excess fertilizer not taken in by plants, ends up in rainwater run-off during a storm, and the resulting stormwater ends up in lakes and streams. Once in the water body, these excess nutrients lead to algal blooms. When the algae decompose, they use up the valuable oxygen needed by the organisms that live in the water. This leads to algae covered lakes.

Such practices as composting, mulching, and using phosphorous-free and organic slow-release fertilizers, all contribute to healthy soil and clean water.

To improve soil health, feed your soil with compost. First, recycle your yard waste by turning it into compost. Leaves, chopped stalks, flowers, and grass all make great compost, in either a bin or a pile. Just add water, keep it moist, and wait six months. Turning over frequently will speed up the process. Then you can spread one to two inches over garden beds in the spring and fall, sprinkle one-half to three-fourth inch on lawns in the spring or fall, and till one to four inches into new garden beds and lawns.

Mulch feeds the soil, conserves water, and prevents weed growth. Add a layer of organic material such as leaves, wood chips, compost or grass clippings around your plants, (keeping it about an inch away from stems), in the spring or fall.

If you must fertilize, choose wisely. Look for the new "phosphorous-free" fertilizers and organic or "slow release" fertilizers. Chemical or inorganic fertilizers are "quick release" and can run off with the soil at the first rain event, polluting our streams and rivers.

For more information on soil testing, obtaining soil test kits, composting, native plants, watering, and availability of organic fertilizers contact Summit Soil and Water Conservation District, at sswcd.summitoh.net, or 330-926-2452.

Selected Sources:

King County, Washington, Solid Waste Division;

Columbiana County, Ohio, *salemnews.net*;

International Plant Nutrition Institute;

Soils in Our Environment, Gardiner, Miller;

The Ohio State University, ohioline.osu.edu

USDA/NRCS - "Unlock the Secrets in the Soil."



2019 Camp Canopy

The Ohio Forestry Association is once again sponsoring Camp Canopy (previously the Ohio Forestry & Wildlife Conservation Camp) this year. The camp is scheduled for June 9-14, 2019 at FFA Camp Muskingum near Carrollton, Ohio. This co-ed residential camp is open to high school students entering their freshman

year through seniors graduating in 2019. This is a wonderful opportunity for students to learn about Ohio's forests, wildlife, conservation, tree identification,

ecology and much more. There are camp scholarships. College scholarships will be awarded to top scorers on the final exam at camp. These scholarships are offered by Ohio State, Ohio University, Hocking College and the Ohio Forestry Association. For more information students and parents may go to www.campcanopy.com or call 888-388-7337. You may also call Summit SWCD at 330-926-2452.

Summit SWCD Spring Stormwater Workshops... Training Our Community Stormwater Professionals!

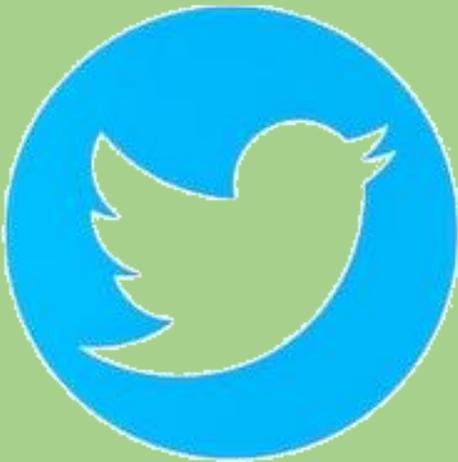
Stormwater Specialists at Summit SWCD hosted a Wetland and Stream workshop on March 5, 2019 with over 55 attendees from the fields of environmental consulting, engineering, and surveying. The workshop covered the stormwater permitting process and procedures of federal and state agencies regarding impacts to federal and state protected waterbodies. Army Corps representatives, Tina Stonemetz and Shawn Blohm discussed Section 404 of the Clean Water Act, Nationwide Permits, and Jurisdictional Determinations. Ed Wilk from the Ohio EPA discussed Section 402 of the Clean Water Act, Isolated Wetland Permitting, Stream Eligibility mapping, and the matrixes used to categorize wetlands, streams, and their water quality.

Topics discussed included:

- What is the water of the US, water of the State?
- What types of permits are issued by the Army Corps and OEPA?
- What types of activities require a permit?
- What are the requirements, including applicability and mitigation, of those permits?

- What is enforcement and what to do if there are potential unauthorized impacts?
- How does the Summit SWCD use this information when completing SWPPP reviews as part of the MS4 program?

The second workshop held this Spring was on April 9th and focused on applying and enforcing existing regulations that provide water quality, stormwater management, and protection of our communities' natural resources. Specifically, the local erosion and sediment control ordinance, post construction water quality, and the riparian setback ordinance were discussed. Representatives from Summit County Communities were in attendance and there was a discussion and question and answer feature at the end of the workshop to review protocol/interpretations, precedence, and possible changes or modifications to existing regulations. Summit SWCD will continue to provide educational opportunities throughout the year. Check out our website at sswcd.summit.oh.net to see what workshops are coming up.



**Check us out on our website at
sswcd.summitoh.net and on social media.**

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