

Watershed Happenings

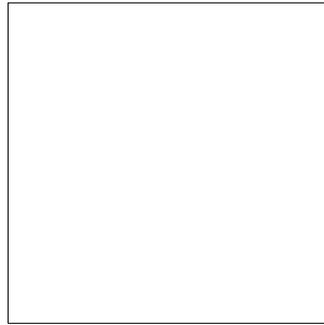
Spring is here!

The birds are chirping, the snow has melted, and the signs of Spring are all around us.

For all of the great things about May in North Dakota, there are also some challenges. Wet soils are more prone to runoff and the soil erosion that comes with it. Saturated soils are more prone to loss of soil structure when stressed by tires, tracks, feet, or hooves. High flows in streams can lead to excessive bank erosion in unstable reaches.

I would like to challenge all of you to do some simple observation while you're out in your fields this month. Where am I seeing soil erosion? What does this soil loss mean for my operation? What can I do to prevent this?

I invite you to contact us if you need help paying for your ideas, especially if you're operating in the vicinity of Turtle Creek. It doesn't cost a thing to talk with us and the worst we can possibly do is say no.



Turtle Creek Watershed Project
South McLean Soil Conservation District
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Turtle Creek Watershed Project



Working with producers and land owners to restore our streams and lakes to their healthy natural conditions.

This Month's Mailer:

- ◆ Soil Erosion
 - Wind erosion
 - Water erosion
 - Phosphorus & erosion
- ◆ A challenge for producers

To Learn More:

- ◆ Read through this pamphlet.
- ◆ Visit our website.
- ◆ Call, visit, or email our watershed coordinator at the South McLean Soil Conservation District.

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Don't hesitate to contact us!

On Soil Erosion

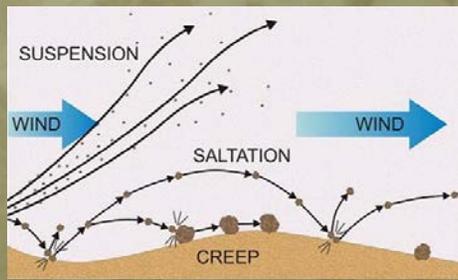
How soil moves

Soil erosion is just a different way to refer to movement of soil and sediment from one location to another. There are a number of ways soil particles can be transported, but the most important agents of erosion in our everyday lives include the usual suspects; *water* and *wind*.

Wind

Images of the dust bowl are etched in the American consciousness. Sometimes it's called eolian or aeolian soil erosion, every American is keenly aware of what the wind can do to our land if it isn't managed properly, especially in a state as windy as North Dakota.

Many practices that help prevent wind erosion are already widely used. Shelterbelts, no-till cropping, and cell grazing all help prevent soil loss through wind. Many crop producers have begun planting off season cover crops in part to further address this problem. The most important things are to keep your soils intact and your ground covered.



Wind can cause erosion by fully suspending particles, dragging them across the surface, or through an intermediate phase called saltation.

Water

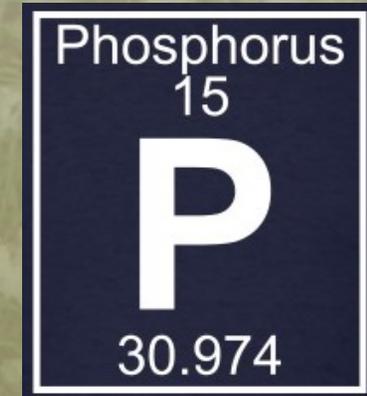
Running water is very efficient at moving sediment. The high density of water means that once it starts flowing it has a lot of energy behind it. But in order for this to happen in your fields, it must first flow over the surface as runoff or overland flow.

When a drop of water falls on your field under normal conditions, it seeps in rather than flowing over the surface. This 'seeping in' is known as infiltration. Infiltration is a great thing; in addition to providing moisture to plants, it prevents soil erosion by precluding runoff and the soil erosion that comes with it.

Two conditions can cause runoff. Either water comes in faster than the soil can take it up, or the soil is already saturated and cannot take in any more water. When water runs over the surface it is free to pick up soil, some of which has already been detached by the force of falling raindrops. Runoff can even start to channel and cut into the soil in the form of rills and gullies.

Water erosion problems are typically addressed in one of two ways. The least costly and generally preferred way is to help water infiltrate, thereby preventing runoff in the first place. Plant roots and soil structure help with this. Vegetative buffers, field borders, grassed waterways, and riparian buffers are all great ideas. Where water erosion is severe, sediment basins and other structures can be used to prevent sediment from entering our waters.

About Phosphorus



Along with E.coli and sediment, we are concerned about high levels of two chemical pollutants in Turtle Creek; nitrogen and phosphorus. Of these two chemical pollutants, phosphorus is paired most closely with soil erosion. The reason for this is that while nitrogen typically stays dissolved in water, phosphorus has a tendency to attach itself to sediment particles.

So how do we stop this expensive nutrient from moving from the field where we want it to Turtle Creek where we don't want it? Since most phosphorus is attached to the soil, you can keep it in place by keeping your soil in place. If you stop soil erosion you stop phosphorus loss. You'll end up with healthier soils, cleaner waters, and better production to boot.