

EAST POLK SOIL & WATER CONSERVATION

District Newsletter

East Polk SWCD

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BUFFER UPDATE

Buffer Update: Compliance Tracking and Enforcement

Now that the November 1, 2018 deadline has passed, we move to the next stage of compliance tracking. All buffer related parcels in the county are to be reviewed within a 3-year time frame. East Polk SWCD will be reviewing 1/3 of parcels each year.

Random spot checks will be done in addition to the tracking of all parcels within the 3-year span. These checks may be conducted via aerial photo review or on-site review depending on the availability of updated aerial photos, the practice that is being checked, and the access to farms. A combination of both aerial photos and on-site review may also be used. There will be 25-50 parcels on a random spot check every year outside of the scheduled area.

Additionally, the SWCD will review parcels of emphasis more frequently. Examples of those types of parcels include previously non-compliant, alternative practices, and cost-share funded projects.

The East Polk SWCD can assist you with an onsite determination to ascertain the need for a buffer along the public water or public ditch on your property. We can also assist with determining if the site qualifies for an approved alternative practice, seeding, and staking. Our goal is to work with you to bring you into compliance with the Buffer Law. The East Polk SWCD is not in the role of enforcement; Polk County has elected jurisdiction of enforcement.

If you have seeded your buffer or need an extension to seed next spring and have not contacted the SWCD please contact Rachel Klein by email, klein.eastpolk@gmail.com, or by phone, 218-563-2777. All parcels are updated individually and in order to avoid any enforcement letters from Polk County, we need to hear from you.

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Insert: Tree Order Form



Trees can now be ordered individually or in bundles of 25.

Please see the inserted order form to order your trees for Spring of 2019.

If you have questions about what trees to plant or need help with a tree plan, please contact Kelsey at hedlund.eastpolk@gmail.com or call 218-563-2777



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P.O. Box 57
McIntosh MN 56556
Phone: 218-563-2777
Eastpolkswcd.org

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- District 1:** Kenneth Pederson - Secretary
- District 2:** Bruce Grundyson - Treasurer
- District 3:** Al Bauer - Vice Chairman
- District 4:** Scott Balstad - Chairman
- District 5:** Lawrence Vettleson - PR/Equip

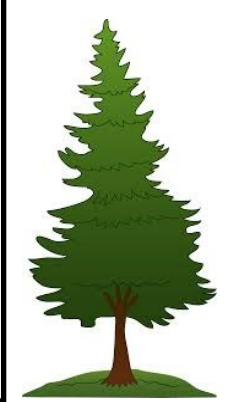
District Manager - Lisa Erickson - newtoneastpolk@gmail.com

District Technician - Rachel Klein - klein.eastpolk@gmail.com

District Technician - Kelsey Hedlund - hedlund.eastpolk@gmail.com

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Find us on
the web at:
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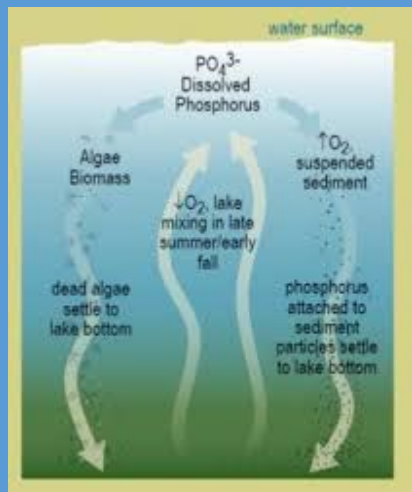


**ORDER TREES FOR
2019, TODAY!**
***See attached order form**
Deadline Feb 9th, 2018

PHOSPHORUS IN OUR LAKES



Non point pollution causes lakes to become impaired.



Phosphorus and its Effect on Lakes

As everyone knows, Minnesota is the land of 10,000 lakes and they are well loved by residents and recreationists alike. Something else that has caught lake lovers' attention over the last few decades – the negative effects of excess phosphorus in our lakes.

What is Phosphorus?

Phosphorus is a naturally occurring element found in rain, plants/organic matter, and in the soil. Phosphorus is an essential nutrient required by plants and plays major roles in the process of photosynthesis, nutrient transport, and energy transfer within the plant. A plant with adequate phosphorus grows more vigorously and tends to be healthier. Phosphorus is essential to plants grown for agriculture but is also commonly used on lawns, as it gives the grass a nice deep green appearance.

Types of Phosphorus Pollution

Phosphorus pollution can be categorized into two sources, nonpoint source and point source. For this article we will be focusing on nonpoint source pollution. Nonpoint pollution typically results from land runoff, precipitation, drainage, and seepage. When rainfall or snowmelt travel over or through the soil, it picks up natural and human-made pollutants depositing them into lakes, rivers, wetlands, and groundwaters.

Around lakes, nonpoint source pollution can include fertilizer, both for agricultural and lawn uses, sediment from areas where erosion is occurring, and bacteria and nutrients from pet wastes and faulty septic systems. Ashes from fire pits, grass clippings, and leaves are also very high in phosphorus.

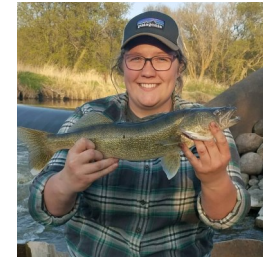
Phosphorus is also found in soil particles at the bottom of a lake. When the sediment and soil particles become disrupted, additional phosphorus is released into the water. This can be caused by a boat motor running in shallow water. For example, a 50-horsepower boat motor can disrupt the water column beneath it up to 15ft in diameter. Waves caused by boats driving too fast near shorelines can also cause bank erosion. Shoreline erosion is more likely to happen where there is turf grass or no vegetation holding the soil in place.

How Does Phosphorus Affect Lakes?

When excess nutrients and minerals enter the water body or lake, a process called eutrophication occurs. Eutrophication is when a body of water becomes overly enriched with minerals and nutrients that cause excessive growth of plants and algae. Eutrophication is a natural process that occurs in an aging lake or pond as the concentration of plant nutrients gradually builds up over time – usually centuries. This process can be accelerated due to human interference. Research suggests that just one pound of phosphorus can feed the growth of 300 to 500 pounds of algae.

NEW EMPLOYEES

Kelsey Hedlund:
District Technician



My name is Kelsey Hedlund and in August 2018 I joined the East Polk SWCD as the District Technician. My responsibilities include assisting with shoreline restorations, tree sales, the Wetland Conservation Act, and lake and stream monitoring. Previously I worked for the Soil Conservation District in Stutsman County, North Dakota as the technician and planted over 300,000 trees! I am originally from East Grand Forks, MN and now reside in McIntosh. I went to college at the University of MN in Crookston for Natural Resource Management. I have a love for the outdoors, trees and plants. On my spare time you can find me hunting, fishing, and spending time with my dog. I also bartend in the area. I look forward to meeting the landowners and working along side you to help promote conservation on the land we cherish around us.

Rachel Klein:
District Technician



My name is Rachel Klein and I am a District Technician at the East Polk SWCD. Two years ago, I worked for the District as the Area Certification Specialist with the Minnesota Ag Water Quality Certification Program. I briefly left the for a year to explore another opportunity but have been back with the District since February 2018. My responsibilities include the buffer program, being the county feedlot officer for all of Polk County, administering the Wetland Conservation Act program, and assisting with our lake monitoring program. I attended the University of Minnesota Crookston and have my bachelor's degree in Agronomy with a minor in Agricultural Business. My husband and I have a Minnesota Ag Water Quality Certified hobby farm/feedlot in Red Lake County. We have horses, laying hens, dairy goats, and a small herd of cattle and sheep.

HIGHLY ERODIBLE LAND

Information from the NRCS:

Highly erodible land (HEL) is cropland, hay land or pasture that can erode at excessive rates. It would contain soils that have an erodibility index of eight or more. If a producer has a field identified as highly erodible land, that producer is required to maintain a conservation system of practices that keeps erosion rates at a substantial reduction of soil loss. Fields that are determined not to be highly erodible land are not required to maintain a conservation system to reduce erosion.

It is the landowner/operator's responsibility to restrict all drainage activity, including land clearing and tree removal, to only that allowable under the wetland compliance provisions. Conducting drainage or land clearing activity without a prior evaluation by NRCS could result in converting a wetland and a possible violation of the USDA required wetland compliance provisions.

Program Benefits:

Violations of the Highly Erodible Land or Wetland Conservation provisions may result in the loss of USDA benefits, including program payments. In order to maintain your USDA program eligibility, contact us prior to performing any land clearing, tile or open ditch drainage, drainage maintenance, filling, leveling, or dredging on land that has not been evaluated by your local NRCS office.



5L FARMS– MN WATER QUALITY CERTIFIED FARM

5L Farms is the fifth East Polk farm to be certified in Minnesota’s Ag Water Quality Certification Program (MAWQCP). They are also the largest farm in Minnesota to become certified.



LARRY IS ALSO ON THE BOARD OF SUPERVISORS FOR THE EAST POLK SWCD



Lon and Lawrence Vettleson, partners in the 5L Farms north of Gully with the sign that they are a Minnesota Water Quality Certified Farm.

5L Farms, with all the Vettleson names starting with “L” was started by the father, Lealand Vettleson. The other four names are his son Lawrence and Lealand’s grandsons: Lawrence “Gus”, Lealand “Lee” and Lon. Lawrence Vettleson and his son, Lon now operate the farm.

MAWQCP is a voluntary opportunity for farmers and agricultural landowners that recognizes the lead they’ve taken in implementing conservation practices that protect the water. Those who implement and maintain approved farm management practices will be certified by the Minnesota Department of Agriculture (MDA).

To begin the certification process, the Vettlesons applied at the East Polk SWCD. Whole-farm planning and evaluation assistance for water quality was provided to help them get certified. A water quality risk assessment was done for their farm operation. Where needed assistance was also provided to help them develop site-specific solutions for risks to water quality.

They looked at several different factors in their farm operation that can affect runoff and water quality:

- Physical field properties like potential to erode, organic matter, leaching potential
- Nutrient management for N and P
- Tillage management
- Pest management
- Irrigation management
- Drainage management
- Conservation practices installed or needed to correct a resource problem.

This year they had 2000 acres in wheat, 2000 acres in soy beans, 485 acres in edible black turtle beans and 1000 acres in sunflowers. They also have 600 acres north of Trail that they are using for wild life restoration. They are restoring it back to the way it was years ago. To protect water quality, the Vettleson’s also maintain grass buffers near major water courses that are next to their fields.

The Vettleson’s worked with agronomists from Gully and Oklee to get the rate of how much fertilizer to apply each year to their soil. They don’t do any fall application of fertilizer because they feel they would lose some of the fertilizer during spring run-off. In many cases they apply fertilizer below the recommended rates and are still able to realize good yields. They do no-tillage and reduced tillage in their operation saving them 2/3 of the amount of fuel each year compared to more conventional tillage operations. No-till farming is a way of growing crops from year to year with little to soil disturbance through tillage. Reduced and no tillage on their fields keeps erosion below the allowable soil loss which is critical. It helps maintain soil health and by keeping the soil in place helps protect water quality.

All of the fields for each crop grown by the Vettleson’s had to score at least 8.5 out of a possible 10 points to be eligible to get certified. That’s a pretty high standard – every field and every separate crop grown on that field had to score better than 8.5. 5L Farms active cropland fields ranged in scoring from 8.57-9.52. The advantage of being certified is that for 10 years “Certified farms will be considered to be in compliance with any new State water quality rules or laws and considered to be meeting their contributions to any targeted reductions of pollutants during the period of their certification.”

Glen Kajewski, Area Certification Specialist, worked with the Vettleson’s reviewing their operation, looking at maps, doing field reviews, performing the assessment and made the recommendation for certification to MDA. He works part-time in 12 Northwest Soil and Water Conservation through the East Polk Soil and Water Conservation District SWCD.

Phosphorus on lakes continued...

Photosynthesis is a process used by plants and some other organisms, which includes algae, to convert light energy into chemical energy. Aquatic plants and algae will use the energy from sunlight to power a chemical reaction that removes carbon dioxide from the water and release oxygen back into the water. However, when excess phosphorus causes additional algae blooms, the amount of oxygen available in the water, the amount of sunlight reaching the plants at the lake bottom, and the overall water quality become major concerns.

Algae, plants, and fish all use oxygen and when excessive amounts of phosphorus are in the water, the algae and plants grow too rapidly. The larger sized algae and plants will then be using more oxygen which can lead to an overall decrease in oxygen levels in the lake. Oversized algae blooms can form a mat over the lake surface limiting the amount of sunlight that can reach the plants growing on the lake bottom. Without sunlight, those plants are not able to perform photosynthesis, which further depletes the water of oxygen causing the plants to die more quickly.

Oxygen is also used by the microorganisms involved in the decomposition process of plant material and algae. If the water body is already stressed due to decreased oxygen levels, the bacteria will die before the decomposition process is complete – causing the water to become green and have a foul smell. This impacts not only the oxygen available in the water, but also water clarity, and overall water quality – which in turn, greatly impacts recreational use of lakes.

Fish and other aquatic organisms can also be affected by low oxygen levels. Eutrophication takes place during the summer months when the weather and water are warmer. Warm water naturally holds less oxygen than when it’s cooler. Low oxygen levels can also lead to fish kills. Fish kills is the term used when there is not enough oxygen left in the water for the fish to breath. Fish kills can happen in any body of water and is the same occurrence as the Dead Zone in the Gulf of Mexico.

How to Reduce Phosphorus

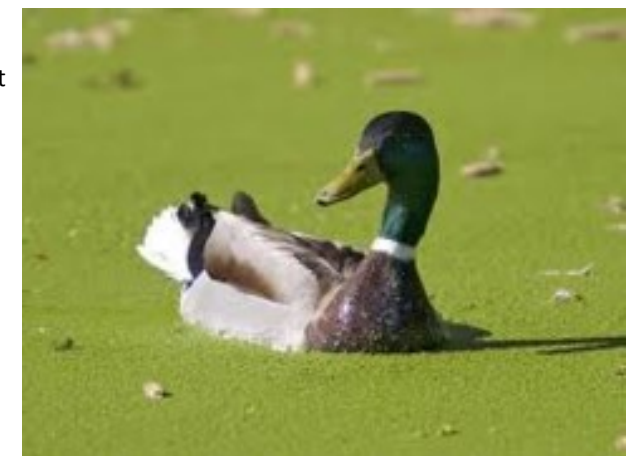
Ways that we can reduce phosphorus pollution affecting lakes include obeying no wake zones, reducing boat speed when possible, raking up leaves and grass clippings away from the water, picking up pet waste and disposing of it properly, keeping bonfires away from the shoreline and cleaning out the ashes regularly. Did you know that ashes can be great for your garden? They offer a natural way to raise the PH, making your soil less acidic. Ashes also provide calcium, potassium, and other trace minerals. It may also keep slugs and snails away from your plants.

The last and most important thing that you can do to help reduce phosphorus runoff into lakes is to limit your use of lawn fertilizer that contains phosphorus. Minnesota’s Phosphorous Lawn Fertilizer Law states that fertilizers containing phosphorous cannot be used on lawns or turf in Minnesota unless you have a soil test or plant tissue test showing a need for phosphorous or that a new lawn is being established. All fertilizer has three numbers on the packaging that stands for the three nutrients included. An example is 29-0-4. Those number stand for nitrogen(N), phosphorus(P), and potassium(K). When selecting fertilizer make sure to choose on with the second being zero. Buyer beware – organic and natural fertilizers can also contain high amount of phosphorus.

Conclusion

Phosphorus is a critical plant nutrient and plays a role in our ecosystem but too much can be harmful to our environment. It can even come in forms that we would think are harmless. If you are concerned about erosion along your shoreline or the runoff coming from your property, consider putting in a raingarden or restoring your shoreline with native plants. Both will reduce runoff and filter water. Shoreline restoration will also aide in reducing erosion.

If we all work together, we can enjoy our lakes for years to come.



PROTECTING OUR WATER

Driving around the countryside in the summer, we have come across sites where liquid concrete wash water has been dumped along roadsides on the edge of ditches. This can pose a threat to water quality. The following information was taken from the Minnesota Pollution Control Agencies “Concrete, Patio, Stucco and Other Washout Guidance” available at www.pca.state.mn.us.



Protecting Our Water: Proper Disposal of Liquid Concrete Wash Water

Background

The chutes of concrete mixers and hoppers of concrete pumps are typically rinsed out after delivery of concrete. Tools, hand mixers and wheel barrows are also washed to prevent hardening. Hardened concrete is relatively benign. However, liquid concrete wash water is a caustic material due to a high pH and it contains hazardous metals such as chromium. These materials can leach into the ground and contaminate groundwater. The high pH can inhibit plant growth and harm aquatic life if the runoff migrates to a lake or stream. Solids from liquid waste that are improperly disposed of can clog storm drain-pipes and cause flooding. In order to comply with the prohibition of discharging any materials other than treated stormwater, there must be a means to prevent the discharge of washout water from the cleanup of stucco, paint, form release oils, curing compounds, and other construction materials.

The Minnesota Pollution Control Agency (MPCA) believes that groundwater and surface water can be protected from liquid concrete and other washout wastes through proper use of BMPs at NPDES/SDS construction stormwater permitted sites. Installing washout facilities not only prevents pollution but also is a matter of good housekeeping at a construction site.

Washout at construction sites

Washout facilities are used to contain all concrete and liquid wash water generated by the construction activity. Liquid and solid washout wastes must be contained in a leakproof container and cannot contact the ground. The washout containers should be covered to prevent exposure to rainfall and potential overflow.

Washout facilities should also be used for cleaning other cementitious (cement-like) construction materials from tools and equipment such as stucco, mortar, plaster and grout. Depositing the wash water into a container allows evaporation and hardening to occur for easier disposal and to prevent runoff of liquids.

While the Construction Stormwater Permit does not allow concrete chute rinse water to come into contact with the ground, the permit does allow the wasting, the end of the load of plastic structural concrete to come into contact with the ground. After drying, 2 of 4 September 2018 | wq-strm2-24 the remaining solids may be used as a fill material, a component in recycled aggregate or any other commercially useful application. Up to 0.5 cubic yards of concrete solids may be managed/buried on-site. If concrete solids are buried on-site, they should be at least two feet below the surface and must not be buried within three feet of the groundwater table. Quantities larger than 0.5 cubic yards of concrete solids must either be managed with the rest of the site’s solid wastes or obtain an approval from the MPCA’s solid waste program for other beneficial use options.

Protecting our Waters Continued...

There are circumstances where concrete washout may be allowed onto a prepared compacted roadbed. This allowance is intended for slip form paving type machines that cannot be readily moved off the paving area to a washout station. The area where wash water will flow onto must be compacted and will be paved over the next day. There must be a barrier of some type to keep the wash water on the compacted roadbed until it dries. This allowance is not intended for truck washouts.

A concrete washout sign must be installed at each temporary washout facility to inform the site personnel to use the designated facilities. The facility should be located close to the concrete pouring or mixing operation and be easily accessible by concrete mix trucks. It is also important to locate the facility so that spills or overflows will be directed away from storm drain inlets, curb and gutters, water conveyances or surface waters. The facility will need to be inspected regularly for leaks, damage, or potential overflow and receive regular maintenance.

Washing of applicators and containers used for paint, concrete, or other materials

The permittee must comply with the prohibition of discharges other than stormwater (Item 2.3) that includes the washout and cleanout of stucco, paint, concrete, form release oils, curing compounds, and other construction materials. The permittee must provide effective containment for all liquid and solid wastes generated by washout operations and provide an effective means to eliminate the discharge of these wastes to the site or receiving waters. To comply, the permittee should evaluate and incorporate methods in the Stormwater Pollution Prevention Plan to prevent these discharges such as:

1. Direct all wash water into a leak-proof container or leakproof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation
2. Handle washout or cleanout wastes as follows:
 - Do not dump liquid wastes in storm sewers
 - Dispose of liquid wastes properly
 - Remove and dispose of hardened concrete waste consistent with the handling of other construction wastes
3. Locate any washout or cleanout activities as far away as possible from surface waters and stormwater inlets or conveyances, and, to the extent practicable, designate areas to be used for these activities and conduct such activities only in these areas.

To read the guidance material in its entirety go to

<https://www.pca.state.mn.us/sites/default/files/wq-strm2-24.pdf>.

Additional information can be found at the following websites:

United States Environmental Protection Agency Concrete Washout Guidelines:

<http://www.epa.gov/npdes/pubs/concretewashout.pdf>.

Minnesota Department of Transportation Concrete Guidance

(except for reference to ground contact with low infiltration soils)

<http://www.dot.state.mn.us/environment/erosion/construction.html>.

For more information, call the MPCA Stormwater Hotline at

651-757-2119 or 800-657-3804

