



CONSERVATION MATTERS

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A publication of the Montgomery Soil Conservation District

Montgomery County Executive Appoints a New Board Supervisor



Recently, County Executive Doug Duncan appointed Pam Saul to the MSCD Board of Supervisors and the County Council confirmed the appointment. Pam replaces Eric Spates who served the Board faithfully for six years. Currently Pam is Farm Manager at Rolling Acres Farm in Brookeville, Maryland. She lives on the farm with husband, Don and two children, Kristina and Kimmy. The farm is owned by her parents, Samuel & Janice Nicholson. Rolling Acres Farm is a 200-acre equine facility that has a breeding program and a training program in the hunter/jumper discipline. The farm has 80 acres in hay production for the horses. Pam is responsible for daily care of the facility and 80+ horses. Pam is also active in various farm-related groups. She is a member of Farm Bureau, Co-Host Coordinator for Maryland Horse Council and currently in Class IV of the LEAD Maryland Foundation program.

The Montgomery Soil Conservation District (MSCD) Board of Supervisors consists of five residents of Montgomery County who all share an interest in promoting and encouraging conservation. Of these five Supervisors, four are appointed by the State Soil Conservation Committee, with one each nominated by Maryland Farm Bureau and Maryland Cooperative Extension and two at-large Supervisors nominated through a public nomination process.

The fifth Supervisor is appointed by the County Executive. In Maryland, there are 24 Soil Conservation Districts that work to address soil conservation and water quality issues.

In addition to Pam's appointment, the MSCD also recently welcomed new Associate Supervisors to help guide the policies and programs of the District. The MSCD Board of Supervisors appointed Tim McGrath, owner of Happy Choice Farm in Comus, Allen Belt, a hay producer and operator of a manure transport service in Beallsville, and Robert Butts the owner and operator of Waredaca Farm, a horse operation in Sunshine. All the new associates are a welcome addition to the Board of Supervisors.



Montgomery SCD Receives Statewide Awards

The Montgomery Soil Conservation District was recognized for several accomplishments at the recent Annual Meeting of the Maryland Association of Soil Conservation Districts (MASCD). MASCD is a nonprofit organization that provides coordination between the 24 Soil Conservation Districts in Maryland. Each year, MASCD holds an awards banquet to recognize the outstanding efforts of Districts around the state. This year, MSCD was recognized as the "Conservation Education District of the Year". This is the first time Montgomery SCD has received this honor since the award's inception in 1975. The staff and Supervisors put a tremendous amount of effort into educating the public about conservation, so this award was greatly appreciated.

MSCD also received the "Outstanding Newsletter" award for publishing "Conservation Matters". The newsletter award is bestowed based on content, timeliness, appearance and distribution.

This was a great honor for the District's relatively new publication.



MSCD Supervisors and Staff accept MASCD awards. Pictured left to right: MASCD President, Robert Wilson, MSCD Chairman, George Lechlider, MSCD Treasurer, Wade Butler, MSCD District Conservationist, J.G. Warfield, MSCD District Manager, David Plummer.

The final award MSCD received was 3rd Place for "Outstanding District Award". The Outstanding District Award recognizes the District that accomplishes the most across all disciplines. Providing technical assistance to the agricultural community, educating adults and children about soil conservation, promoting agriculture and conservation, and serving the local community are just a few of the categories that determine this award.

MSCD is very proud to have received these awards for the hard work and dedication shown by the Supervisors and staff.

EQUINE ASSISTANCE

The Montgomery Soil Conservation District (MSCD) has a new staff position dedicated to assisting the equine industry. The Equine Resource Conservationist (ERC) will focus on providing conservation planning and best management practice advice to horse owners in the County. The position was created to address the need for technical assistance among this growing community, and help horse owners meet the new county requirements for equestrian facilities. As the new ERC, Mr. Eddie Franceschi is available to answer questions and provide guidance for a variety of conservation practices. Mr. Franceschi has been

with MSCD since 1998 as a Soil Conservation Planner with the Maryland Department of Agriculture (MDA).

There are a number of best management practices (BMPs) being used by horse farm owners in Montgomery County to help conserve soil and improve water quality. Some of the most common BMPs applied on horse farms in the county are watering troughs, stream fencing, stream crossings, grassed waterways, manure storage structures and pasture management techniques. All of these practices are laid out as part of the Soil Conservation and Water Quality Plan designed to meet the landowner's objectives for the farm.

The MSCD administers a variety of cost share programs that may help reimburse landowners for some of the expenses associated with the installation of BMPs. The two main cost-share programs for conservation practices are the federal Environmental Quality Incentive Program (EQIP) and the Maryland Agricultural Water Quality Cost-Share Program (MACS). Both of these programs have their own guidelines and requirements, but they represent an excellent mechanism for helping landowners take better care of their soil and water resources.



The new MSCD Equine Resource Conservationist, Eddie Franceschi, discusses water quality issues with a new client.

For more information on conservation practices for your property, the opportunities for cost-share programs, or to get assistance from the ERC, please call the MSCD at 301-590-2855.

Patuxent Watershed Cost-Share Program

A special cost-share program is available to landowners in the Patuxent watershed. The Patuxent Watershed Protection Group established a cost-share program in 1998 to help landowners install best management practices (BMPs) on their property. The program works like most cost-share programs where the landowner will pay for the costs of implementing a BMP and after completion, will be reimbursed up to 80% of the costs of the project.

The Patuxent Watershed Cost-Share Program is administered by the Montgomery and Howard Soil Conservation Districts. Initially, this cost-share program was designed for projects on smaller lots and non-agricultural properties. However, recent changes in the program guidelines have made this cost-share funding available to agricultural operations as well as other landowners.

The Patuxent Cost Share Program is applicable to a variety of conservation practices typically used by farmers to prevent soil erosion and improve water quality. Some of the practices covered by this program are riparian forest buffers, grassed waterways, stream crossings, spring development, fencing, and stream bank protection. The program will reimburse a landowner up to 80% of the costs associated with a project not to exceed \$5000. The Patuxent Cost-Share Program is not designed to be used in conjunction with other cost-share programs.

For information on getting funding assistance through the Patuxent Watershed Cost-Share Program, please contact the MSCD.

Cover Crop Program Benefits Montgomery Farmers and the Bay

The 2005 Cover Crop program enrollment in Montgomery County was the largest ever. The sign-up of over 12,000 acres was more than double the acreage farmers in Montgomery County usually enroll in the cost-share program. The Cover Crop Program is part of the Maryland Agricultural Water Quality Cost Share (MACS) Program administered by the Maryland Department of Agriculture. This significant increase in cover crop acreage is an indication of the commitment Montgomery County

farmers have for protecting water quality and cleaning up the Bay.

“Cover crops” are small grains such as wheat, oats, barley, and rye that are planted in the fall after the farmer’s main crop is harvested. The cover crop is established to absorb excess nutrients, particularly nitrogen that may be left from the previous crop. Research indicates that cover crops may be one of the most efficient methods of reducing the amount of nutrients reaching the Chesapeake Bay. In recognition of the benefits of cover crops, the state has designated a portion of the revenue from the new “flush tax” to be used for expanded funding of the cost-share program.

The Cover Crop Program has a number of details related to the timing of planting, the type of establishment used, and the species of grain planted. The 2005 Cover Crop sign-up ended July 15 with over 25 Montgomery County farmers enrolling acreage. The standard payment rate was raised this year to \$25 per acre for wheat and rye plantings done by November 5, 2005. In addition, for acreage planted by October 15, 2005 there is an additional \$15 per acre bonus from MACS, for a total of \$40/acre. The Natural Resource Conservation Service will also pay participants an additional \$10/acre for any acres planted by September 30, 2005 through EQIP funding.

See Flier for the Annual 2005 Cooperators Dinner

Montgomery Soil Conservation District



*Pumpkin Chunkin Demonstrations provided by
MSCD Associate Supervisor and nationally ranked
pumpkin chunker, Tim McGrath.*

WASCOB Water and Sediment Control Basin

Talking with farmers across the county this year, there is one thing that is certain—the recent rainy weather has caused gullies to form in crop fields. Gullies rob fields of soil and nutrients, cause obstructions to navigation around the farm and deposit sediments in unwanted places on the farm as well as in streams and rivers throughout the region. Historically, in Montgomery County, farmers have used a few different methods to heal and repair gully erosion. This includes changing farming practices to reduce runoff, planting critical areas around the farm into permanent vegetation, and the construction of a grassed or stone lined waterway in the gullied swale. In addition to these traditional methods, the Montgomery Soil Conservation District (MSCD) is working with a farmer in Laytonsville to install a relatively new practice designed to address gully erosion. This practice, new to Montgomery County, is called a wascob, or water and sediment control basin. The MSCD offers technical assistance to help farmers implement all of these best management practices. MSCD also administers Federal and State cost-share programs that may be available to help pay for some of these projects as well.

Modern practices, including, no-till or reduced till, contour farming, strip cropping, crop residues, crop rotations and cover crops all help to reduce gully erosion.

If crop management practices are not enough to fix an erosion problem, the next step in treatment is to consider treating the actual ground in the drainageway. If you disc through it, try not discing, or try double planting of the crop, or planting through but eliminating herbicide applications in the drainageway so either native vegetation or planted grass can establish permanent cover. Using these treatments has been effective in reducing gully erosion on farms throughout the county.

If these don't do the trick or if the watershed to the drainage is just too large (the limit for the above to work is around 5 ac. of watershed to the drainageway) the next thing to try is establishing a permanent stand of grass across the drainageway (turf type tall fescue works best), and to avoid cropping across the swale. The watershed size limit for this method, which we call critical area

stabilization, is about 10 ac. in size. This will vary based on site conditions like slope, soils, land treatment, etc.

Finally, if none of the above works, it is time to consider building a designed grassed or stone-lined waterway. A waterway design takes into consideration many factors, including the size of the watershed, the soils, slope and land treatment to determine the volume of runoff. The ten year storm runoff volume and the gradient of the waterway channel are used to determine the dimensions and cover treatment of the waterway. (5.1 inches of rain in 24 hours). The waterway shape is also an important factor in decreasing the likelihood for a gully to form. A parabolic or bowl shaped cross section works best. It spreads out the flow and thus will reduce the velocity of the runoff water. Other shapes such as a “V” ditch or a gully concentrate the flow. This increases the velocity of the flow and the likelihood for gully erosion to take place.



Stone rip-rap outlet for a waterway.

When water flow velocities are greater than 5 ft. per second, it is time to consider the use of a stone centered waterway or the use of stone for the whole waterway width. With rip-rap the waterway can handle velocities of up to 12 feet per second. In some cases, geotextile fabrics can be used for waterways in place of rip-rap. While the manufacturers claim that some of these geotextile products can handle velocities in excess of 20 ft. per

second, the Natural Resources Conservation Service engineers have approved their use in situations where velocities will not exceed 10 ft. per second.

Generally, heavy construction equipment and a good operator are needed to get the waterway graded properly. Many farmers have also installed waterways with farm equipment. This can be a lot of work but if done properly a good waterway can result.

Another factor for gully erosion on farms is the inlet and outlet condition to the drainageway. If concentrated flow enters the drainageway either from a road culvert, farm structures or other means, an inlet structure might be needed. Usually constructed out of rip-rap, a properly designed structure will slow down and spread out concentrated flow. At the waterway outlet special treatment might be required to get the waterway flow safely to the receiving channel. This could be another channel through a field, a woodlot or to a stream. The first two might only need a grass lined transition zone. However, if the runoff volume is high, there is a steep drop, or the waterway outlets to a stream, a rip-rap outlet structure is likely to be needed. A well built outlet will protect the waterway from a headcut gully working up the waterway and safely outlet the waterway flow to the receiving channel.

A wascob is a potential alternative form of gully treatment and repair. Wascobs have been used in the Midwest for years with beneficial results. Until now they have not been used in our area. Currently, Seneca Ayr Farms, operated by brothers John and Charles Linthicum and the latter's son Tom are in the process of installing and evaluating two systems on their newly acquired farm in Laytonsville, MD.

A wascob is a small terrace that is built across the drainageway. Usually 2-4 ft. in height, and with either very flat side slopes (10:1) that allow the terrace to be cropped or steep ones (2:1) that are kept in permanent grass. The steep side slopes will reduce its footprint. The size of the basin created by the terrace is designed to hold the same 10 year storm flow that is used to size a grassed waterway. The watershed coming to the terrace is ideally 3 ac. or less, but can be made larger in some instances. There is also a tile outlet from the basin. The tile outlet is designed to allow the basin to drain in 24 hours. This allows the basin to be cropped. Multiple wascob terraces can be built in a series down the

drainageway. Planter and harvester widths are taken into consideration for spacing so terraces blend into field operations. The benefits of the wascob are that crop ground isn't lost and that the rain fall is retained up in the watershed until it can safely outlet. This reduces the overall storm flow through the drainageway. Using a series of terraces to decrease storm runoff can also reduce the extent of erosion control practices needed further downstream. This scenario is similar to urban stormwater management practices, where water is held temporarily to reduce the potential for erosion. With the assistance of NRCS engineer Ken Wolfe, who previously had worked in the Midwest where he gained extensive knowledge of this practice, the first system was completed earlier this summer. The landowners are in the process of assessing the use and practicality of this practice for the rest of their farm. If successful, this practice could be useful on other farms in our area. MSCD has provided cost share assistance for this project as well.



Wascob terrace in action during storm event.

For anyone who would like to learn more about this interesting conservation practice, please attend our Cooperators Dinner on September 1, 2005, where this practice will be part of our farm tour.

RUSLE-Soil Erosion Formula

RUSLE is not the mascot of the Montgomery Soil Conservation District, or the name of our new employee with a strange spelling. RUSLE is an acronym for a formula that we use to estimate the quantity of soil eroding from a particular site. The RUSLE acronym stands for “revised universal soil loss equation”. As our name implies we are the local *soil conservation* district and this formula is a very important tool that we use in predicting soil erosion. The soil loss equation was developed in the 1940’s and 50’s as a planning tool by research scientists and the U.S. Department of Agriculture. Several revisions and updates in the data tables have improved the accuracy of the formula since the 1950’s.

The formula is $A=RKLSCP$, where each of the letters is a variable in the formula that will affect the total and is usually described in tons of soil per acre.

A is the total after everything is multiplied out and expressed in tons of soil per acre.

R is a factor that takes into account the average *rainfall* and the intensity of storms for our area.

K is a factor of erodibility of the soil type for a particular site. This shows the susceptibility of a particular soil to erosion.

LS are factors in how *long* the slope is and the *steepness* of the site.

C is the type and quantity of *cover* such as grass or crops on the particular site and is usually a management decision.

P is the particular *practices* to reduce erosion applied to a particular site such as contouring or stripcropping.

Erosion is a natural process to a point, but it can be accelerated significantly by the treatment of the land. Each soil type has a *tolerable* limit or a T factor that the soil can sustain over time and not lose its productivity. T factors range from 1 to 5 tons per acre. Soil erosion is not visible until it gets up over 10 tons per acre. Five tons of soil is equivalent to an amount of soil the thickness of a dime spread over an acre. The fact that it takes over five hundred years or more to form one inch of topsoil that can be lost so quickly, makes soil

stewardship very important. The US has lost over 2/3 of its topsoil to date. Soil erosion is not only a problem for productivity, but it also creates a water quality problem when soil enters into our local streams, rivers and ultimately the Chesapeake Bay.

Several writers have documented the decline of civilizations throughout history in parallel with the destruction of their soil. Their stories are stark reminders not to take soil and soil stewardship for granted.

Fill on Agricultural Land

Fill dirt that moves off of a developing site must go to a site that has an approved sediment control plan and an approved storm water management plan. This obviously represents a substantial cost to the site developer or excavator. It may be considerably cheaper for them to encourage a farm owner to accept and utilize the fill material. However, if a landowner accepts the fill material, he or she must possess a sediment control permit from Montgomery County. This includes a sediment control plan and possibly a storm water management plan for the site. If one is accepting fill material without the proper permits and plans, that individual may be subject to a fine, may be required to obtain all permits at considerable expense, and may be required to remove all of the fill material and truck it off of his or her farm. These actions can make “Free Fill” quite expensive!

Under some circumstances a MSCD cooperater may accept fill as a construction component of an agricultural best management practice (BMP). This must be called for in the BMP design and documented in the soil conservation plan developed for the farm. Minor fill sites that are less than 5000 sq. ft. may be permitted. Therefore, it is important to contact the MSCD or the Montgomery County Department of Permitting Services prior to importing any fill onto your farm. Only normal and customary agricultural BMPs are eligible for this exemption. We do not consider filling and leveling land to be a normal and customary agricultural best management practice. Therefore if you have an opportunity to receive “free fill” to fill and level off some area of your farm, please remember to contact MSCD at 301-590-2855 or the Montgomery County Department of Permitting Services at 240-777-6320 for permit information.

Montgomery Soil Conservation District
18410 Muncaster Road
Derwood, MD 20855-1421



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Derwood, MD 20855

(Please tri-fold, seal and return)

Let Us Know If We Can Help You!

The Montgomery Soil Conservation District provides technical assistance for a variety of conservation practices free of charge. In addition, the Maryland Agricultural Cost-Share Program (MACS) may pay up to 87.5% of the installation cost of these practices for qualifying landowners:

- | | |
|---------------------------------|------------------------------|
| _____ Waste Storage | _____ Grassed Waterway |
| _____ Riparian Buffer | _____ Winter Cover Crop |
| _____ Diversion | _____ Field Border |
| _____ Heavy Use Area Protection | _____ Filter Strip |
| _____ Roof Runoff Mgt System | _____ Stream Fencing |
| _____ Trough or Tank | _____ Strip Cropping |
| _____ Nutrient Mgt Consultant | _____ Stream Crossing |
| _____ Spring Development | _____ Critical Area Planting |

(fold)

If you would like to see if you qualify for cost share, want more information on these or other conservation practices, need help with developing a conservation plan for your property or updating an old plan, please mail or fax this form to us and we will contact you.

Name _____

Address _____

Phone _____

Fax to 301-590-2849

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Montgomery Soil Conservation District

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