Important Contact Numbers

If you see soil that is eroding off-site onto adjacent land, into streams, creeks and ponds, or is being tracked onto public streets, contact the Loudoun County Erosion and Sediment Control hotline at

703-777-0116

For drainage problems on new homeowner lots or questions about new proposed construction sites, contact the Loudoun County Engineering hotline at

703-777-0116

For health issues concerning mosquito control or similar public health concerns, contact the Loudoun County Health Department at

703-777-0234

If you are concerned about flooding or dumping into storm drains or creeks, contact the Loudoun County Public Works Stormwater Hotline at

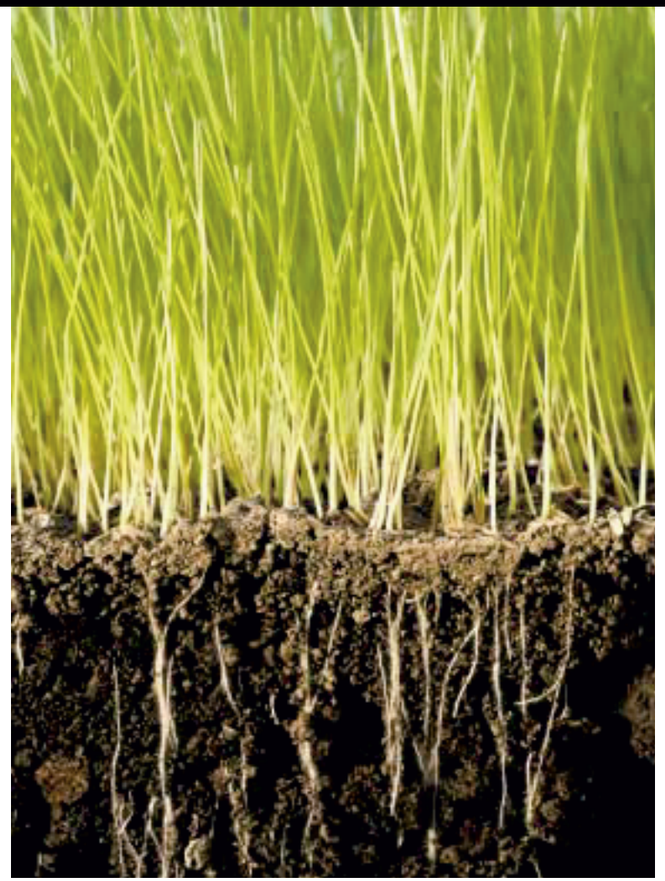
703-777-0117

Produced by the
Loudoun County Department of Building and Development, Engineering Division

Chesapeake Bay Program
A Watershed Partnership

DCR
Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

This project was supported with funding from the Environmental Protection Agency Chesapeake Bay Program through the Virginia Department of Conservation and Recreation.



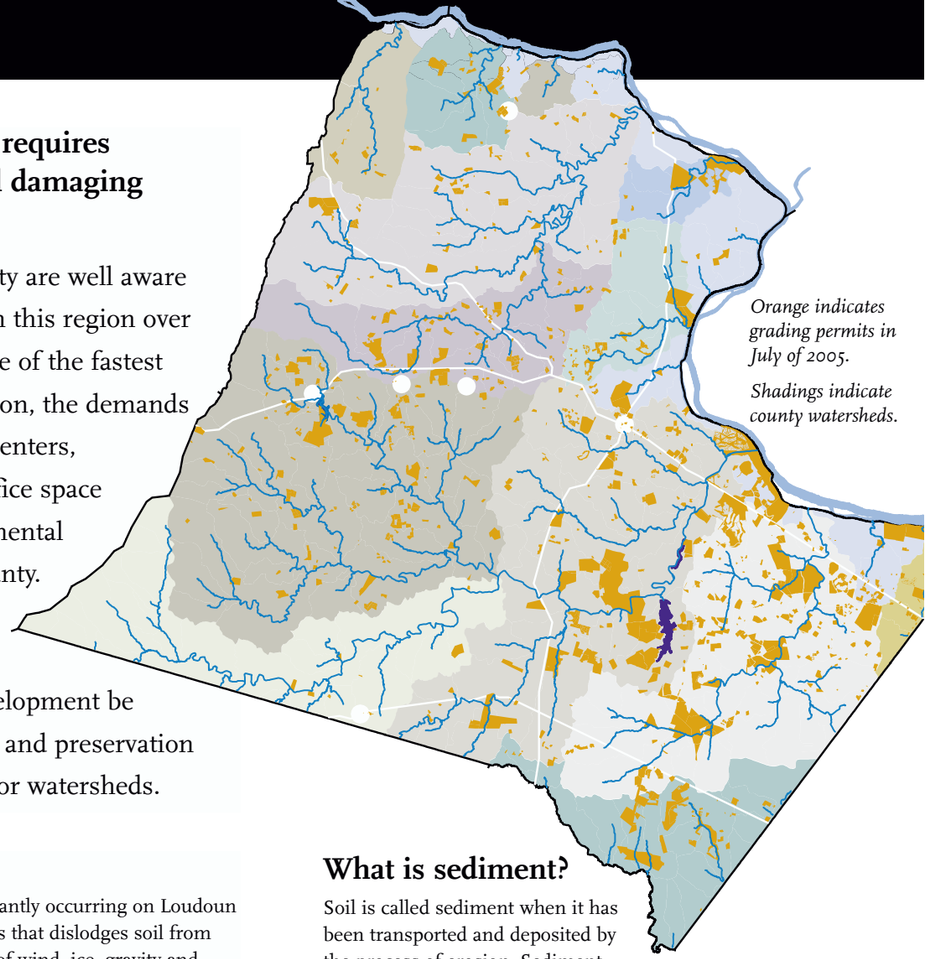
Let's Keep Dirt in its Place

The Importance of Erosion and Sediment Control for Loudoun County

A Citizen's Guide

Loudoun's rapid growth requires a watchful eye to control damaging erosion and sediment.

Residents of Loudoun County are well aware of the tremendous growth in this region over the past several years. As one of the fastest growing counties in the nation, the demands for housing, schools, retail centers, recreational facilities and office space have created many environmental challenges for Loudoun County. It is extremely important that the potential environmental damage from this rapid development be controlled for the protection and preservation of Loudoun County's 15 major watersheds.



Orange indicates grading permits in July of 2005.

Shadings indicate county watersheds.

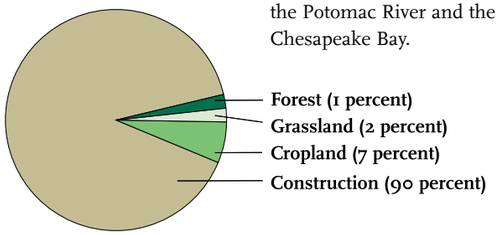
The erosion factor.

Erosion is an ecological process constantly occurring on Loudoun County's 333, 498 acres. It is a process that dislodges soil from the land's surface through the forces of wind, ice, gravity and water. Serious problems may develop when erosion happens at an unnatural pace due to man's clearing and grading of the land. This is called accelerated erosion and it accounts for approximately 70 percent of the erosion occurring each year.

The typical construction site erodes at a rate two-hundred times greater than erosion from cropland and two-thousand times greater than erosion from woodland *(see adjacent chart)*. The composition of the soil, such as texture, organic content, structure, and permeability all affect the rate of erosion. Loudoun County has numerous highly erodible soils that can be easily transported by water, which affects areas as far away as the Chesapeake Bay. The county, with steep slopes, numerous waterways and a climate that produces heavy thunderstorms also significantly impacts the potential for erosion.

What is sediment?

Soil is called sediment when it has been transported and deposited by the process of erosion. Sediment actually consists of numerous solid fragments of organic and inorganic material. These small particles of soil, rock and vegetative debris are no longer anchored in their original location and are easily transported by water runoff across denuded ground, such as construction sites. Sediment can be suspended in water for many hours or days before eventually settling to the bottom of our backyard streams, wetlands, ponds, lakes, creeks or larger waterways, such as the Potomac River and the Chesapeake Bay.



Damage caused when sediment deposits choke vegetation.

What impact does sediment have on our county?

Sediment is the number one pollutant of surface water and is a large and costly water quality problem in Virginia. It transports pollutants and pathogens affecting the recreational value and the aesthetics of our waterways. Sediment in waterways used as a source of drinking water also poses a health risk. The suspended particles cloud the water screening out sunlight which impacts water quality by degrading the habitat for aquatic organisms, plants and fish. It also promotes the growth of nuisance weeds and algae. Neighborhood flooding and further erosion is produced when stormwater drainage channels become clogged with sediment. In addition, sedimentation decreases the capacity of reservoirs to hold water and restricts infiltration of moisture into our wells and ground water storage.

How the costs of sediment affect you!

Eventually all of us must pay for the impacts of erosion through cleanup costs or losses in the quality of our recreational and natural resources. Some of these costs are:

- The processing of safe drinking water becomes more complicated and expensive.
- Sediment in our waterways increases pathogen growth; therefore, increasing the risk of water-borne disease to swimmers, livestock and wildlife.
- Taxes must be used to pay for the maintenance of public streets, stormwater management ponds and sediment-clogged storm drainage systems.
- Erosion and sediment on public and private property affects the value and aesthetics of the land.

On a larger scale, sediment that comes from the county and other jurisdictions affects the Potomac River and the Chesapeake Bay by impacting recreational activities, degrading ecological environments and negatively affecting local economies.

How can we control erosion and sediment problems?

Preserving the county's natural resources requires the commitment of the development community, county and state regulatory agencies and all of our citizens.

The Development Community's Commitment

Developers, land owners, engineers, builders, and construction personnel must all be conscientious about the development process to ensure that every effort is made to minimize land disturbance and to control erosion on construction sites. The law requires property owners that disturb an area greater than 5,000 square feet, about a quarter of an acre, to submit a plan for review by the county. These plans must address all of the applicable Virginia Erosion and Sediment Control Handbook's (VESCH) minimum standards for erosion control. Development projects are "Bonded" by the county as a precaution to ensure compliance with erosion control measures.

Loudoun County's Commitment

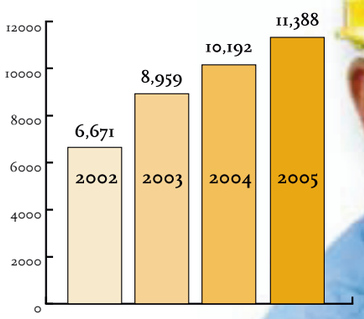
The Loudoun County Department of Building and Development, Erosion and Sediment Control Team's primary responsibility is to minimize the degradation of properties, stream channels, waters and natural resources by establishing requirements for the control of erosion, sediment deposition and stormwater runoff and to administer and enforce procedures for the health, safety and general welfare of our citizens. The Erosion and Sediment Control Team consists of certified professional staff that ensures land disturbing operations comply with the Virginia Department of Conservation and Recreation's minimum standards for erosion and sediment control and the County's regulations governing land disturbing activities.

Sediment runoff being diverted to protect Sleeter Lake.

Since 2002, The Loudoun County Erosion and Sediment Control Team has inspected and monitored more total disturbed acreage than any other county in the Potomac Watershed Region. Presently, Loudoun County's Erosion and Sediment Control program is one of only a few jurisdictions that is fully accredited by the state. The Virginia Department of Conservation and Recreation regulates erosion and sedimentation control programs throughout the state. Many of these programs are administered by local jurisdictions, such as Loudoun County.

It is extremely important during the construction process to contain the impacts of erosion on land that is being disturbed. Therefore, development sites in the county are inspected on a regular schedule by county staff to ensure that sites are complying with all standards.

Soil loss from a site can be minimized through the use of a variety of different practices and techniques, which include, minimizing clearing and grading, protecting existing trees and vegetation, seeding, mulching, or applying stone to disturbed areas. Sediment can also be trapped through the use of silt fence, super-silt fence, check dams, diversion dikes, sediment traps, sediment basins, and inlet/outlet protection.



The number of inspections by Loudoun County's Erosion and Sediment Control team per year.

Turbidity curtain acting as a floating sediment barrier.

How you can help.

1. Land owners should maintain an adequate stand of trees, shrubs and grass to minimize erosion and runoff from their own property.
2. Limit the use of fertilizers and other products than can be easily washed into streams and rivers.
3. Apply for a grading permit when you plan on disturbing 5,000 square feet or more of land or if your property contains steep slopes greater than 15 percent.
4. Report excessive sediment runoff from construction sites to Loudoun County's Building and Development hotlines. See the back of this brochure for phone numbers.
5. Correct drainage problems on your property, such as rills and gullies, while they are small and can be easily corrected.
6. Preserve vegetated buffer areas adjacent to any water courses.
7. Do not dump auto motor oil or antifreeze, dog waste, paint, yard waste, plastics or other litter into storm drainage systems.
8. Do not trespass or interfere with ongoing construction work.
9. Do not confront contractors or owners about sediment problems, instead contact Loudoun County staff members.