STORMWATER
steward
A *Stormwater SMART* publication

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at a glance

KEEPING OUR GRASS CUT AND WATER CLEAN!

The Problem:

Grass clippings and bits of leaves that are blown into the street after lawn maintenance can be just as bad as other forms of litter. They clog up gutters and storm drains, and what doesn't get stuck ends up in the nearest waterway (stream, pond, lake, and/or river) causing further problems. Any material (litter, grass clippings, leaves, etc.) in the storm drains reduces the amount of stormwater that can move through the drain system. Stormwater that should move quickly through the system may begin to back up; causing high water on roads or other, more hazardous, flooding situations.

Remember – there's no treatment or filtering of stormwater between the drain on your street to the nearest body of water. Even though grass clippings, leaves, and soil are natural forms of debris, when they are washed into our waters, they can destroy the natural balance of our waterways. Derived from fertilizer and natural sources, nutrients fuel excessive uncontrolled growth of aquatic weeds and algae, and degrade water conditions which can lead to fish kills.

Never pile grass clippings near a storm drain!

If you use a landscaping service, it is your responsibility to ask them to leave clippings on your lawn!

What's In It For Me?

- Save Money: Grass Clippings that are left on your yard reduce the need to buy fertilizer .
- Reduce Waste: Recycling your grass clippings reduces the use of plastic bags and landfill space.
- Save Water: Grass clippings are 75-85 percent water and decompose quickly which returns moisture to the soil.
- Healthier Lawns: As grass clippings breakdown, they slowly release nutrients (nitrogen,potassium, and phosphorus) back into the soil.

HOW DO I GET STARTED?

- Cut grass to a height of 2.5 to 3 inches. An easy guide is the width of a dollar bill. This will ensure roots will grow. Deep roots will keep your grass from needing frequent watering during the dry summer months
- Always have your soil tested before applying fertilizer and use organic, slow-release, or water insoluble fertilizers or compost
- Aerate the soil to prevent compaction and increase infiltration
- Use grass species that are adapted to your climate and pests
- Water deeply but less frequently
- You may also rake or blow clippings into a compost pile to use those nutrients in your garden or flower beds.

PIEDMONT TRIAD REGIONAL COUNCIL

Did you know?

In tree-lined commercial districts shoppers spend 12% more for goods

Shade reduces cooling costs by 8-12%.

100 large trees can remove 1000 lbs of air pollution including 400 lbs of ozone and 300 lbs of particulates

Your 12 inch diameter Sugar maple will intercept 2,312 gallons of stormwater runoff and provide $101 in benefits this year.

Parking Lot Forestry

Have you ever driven around a parking lot looking for some shade? Trees are the answer!

On hot sunny days trees shade vehicles and cool them down. In parking lots, tree cover can keep cars' internal temperatures 45°F cooler than those in uncovered lots. This reduction in temperature extends the lifespan of asphalt and increases the time shoppers want to spend in shopping districts. These impacts of trees have the potential to increase economic development in the Triad.

Trees reduce the temperature by creating shade as their leaves absorb 10-30% of the sun's energy before it reaches the ground. Trees also reduce temperatures through evapotranspiration (EVT). Plants absorb water from the ground through their roots and transport the water up to their leaves where they absorb heat from the air to evaporate the water, this process is EVT. All plants use EVT to cool themselves but larger trees reduce temperatures more since they have greater leaf area that absorbs the heat from the surrounding air.

http://www.parkingforest.org/

Improved Water Quality:

In addition to cooling the temperature of parking lots, trees can also absorb rainfall and reduce flooding or stormwater runoff. In rainy weather, trees capture some of the rain to increase groundwater recharge through infiltration and reduce stormwater runoff.

Parking lots can be designed specifically to slope towards the medians where trees or shrubs can use and filter the water. If the medians have curbs that keep the runoff from getting to the trees, the plants are still able to absorb part of the rain to reduce overall runoff. Pay attention to trees on your next shopping trip and see the benefits.

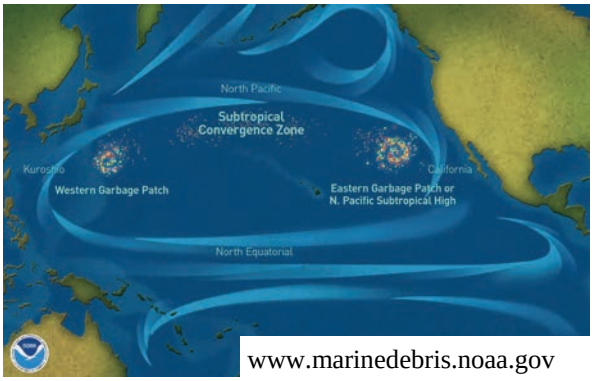
Native Trees for Small Areas

Crabapple picture by Ryan Somma

Common Name	Scientific Genus	Size and light requirements
1. Redbud	Cercis	15-20 feet, sun to part shade
2. Serviceberry	Amelanchier	4-25 feet, sun to part shade
3. Amur Maple	Acer	15-20 feet, sun to partial shade
4. Crabapple	Malus	15-18 feet, sun, well-drained soil
5. Spice bush	Lindera	6-12 feet, sun to partial shade
6. Buckeye	Aesculus	15-25 feet, sun to partial shade
7. Alder	Alnus	15-20, sun to partial shade
8. Winterberry	Ilex	6-15 feet, sun to partial shade
9. Little Gem Magnolia	Magnolia	15-20 feet, sun
10. Blackhaw viburnum	Viburnum	12-15 feet, sun to partial shade

Cyber Stormwater: Marine Debris Tracker

Harmful debris is washed by stormwater from our land into our waterways. Our small streams are connected to larger rivers that then carry the trash into our oceans. Litter is found in the most remote parts of the ocean. The "Great Pacific Garbage Patch," is the world's largest concentrated area of floating trash and is made up of two distinct garbage patches and the region between them.



www.marinedebris.noaa.gov

Plastic litter pollution is a huge deal, not only in the Piedmont Region, but around the world. Plastic takes a long time to go away. Disposable diapers, bottles, and other plastics can take more than 450 years go disintegrate. In the meantime, animals that don't know the difference between plastic and food ingest a lot of this material. Thirty-five percent of fish caught have plastic in their stomachs. Turtle hospitals committed to rehabilitating injured sea turtles, often operate on the turtles to remove the litter from their stomachs so they can eat real food and survive. What does this mean for you? There's a pretty strong possibility compounds found in plastics are also in our seafood and other wildlife.

Marine debris tracker tracks the debris that is found on land and in water and shows what is removed from our waters.

To learn more visit:

http://www.marinedebris.engr.uga.edu/

Your Water Footprint is. . .

Similar to our carbon footprint, which estimates how much carbon we use, our water footprint is an estimation of how much water we use in our daily life. The average American uses 1,190 gallons of water a day. While this number seems high, most people forget about the amount of water needed to grow and cook our food, heat our house and power our cars. The majority of people know we need clean water to brush teeth, wash dishes, clean our hands, bodies and clothes and be healthy, but they forget what else water is used for in our daily lives. It takes twice as much water to make the plastic in a water bottle than it does to fill the water bottle with water. Therefore, the calculation that claims the average water use in the US as 1,190/person/day includes all uses of water. Find out how much water you use by visiting:

http://www.gracelinks.org/3404/water-footprint-calculator

Davidson County
Randolph County
Rockingham County
Archdale
Asheboro
Burlington
Elon
Gibsonville
Graham
Green Level
Haw River
Lexington
Mebane
Oak Ridge
Summerfield
Randleman
Reidsville
Thomasville
Trinity

Get Involved: Treelympics 2014

The Environment Online, or ENO is a virtual network for sustainable development. ENO is celebrating 10 years of planting trees in 157 countries at over 10,000 schools by organizing "Treelympics". "Treelympics" is a contest for tree planting by students, staff parents or the entire, school, between March 21st and October 24, 2014. Steps to take to join the contest:

1) Register your school online at the treelympics website by May 22, 2014
2) Organize a tree planting event.
3) Students, teachers, staff and parents plant the trees

4) Submit information on the planters and trees planted (location, species, number)
5) Await the results

The ENO Treelympics results are only based on data submitted online at:

http://treelympics.org

Categories include: Children 6-12, Children and youth 13-18, and schools who planted the most number of trees . All Treelympics participants will receive a certificate. The winners, however, will be given a trip to Finland to receive their awards.

Book a Stormwater SMART Program:

Our calendars fill up quickly so if you know you want a visit from Stormwater SMART staff please let us know now. Examples of our programs for schools, libraries and civic clubs include:

Water Quality Ask the Bugs - learn about the life in freshwater ecosystems.
Dragonfly Pond – Use maps to determine how development choices affect the natural resources necessary for life.
Incredible Journey - Simulate the movement of water through Earth's systems
Enviroscape Model ® – Using a watershed model assists students in identifying characteristics of landforms and sources of water pollution.
Planting for Water Quality - Explore planting with native plants and learn how they filter stormwater
Pollution detection and elimination - Understand sources of water pollution
Rain Gardens – landscape amenities for pollution reduction
Rules and Regulations of Stormwater - Current and future

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PIEDMONT TRIAD
REGIONAL COUNCIL

Stormwater SMART was created by the Piedmont Triad Regional Council (formerly Piedmont Triad Council of Governments) to help Phase II communities comply with National Pollution Discharge Elimination System (NPDES) and Jordan Lake Public Education and Outreach requirements. Stormwater SMART is supported through dues paid by member governments.