



Stormwater runoff is the rain and melting snow that flows off streets, rooftops, lawns, and farmland. The flowing water carries salt, sand,



Wildflower butterfly rain garden

soil, pesticides, fertilizers, leaves and grass clippings, oil, litter, and many other pollutants into our streams and rivers causing significant damage to our

environment. As care takers of Sleepy Creek, we can help stem this tide by doing some simple, inexpensive things:

- Slow, pool, absorb, and/or filter storm water to manage the rate of flow of runoff into the creek.
- Manage pollutants such as biological and septic waste, fertilizers (especially phosphorus), hazardous household materials (particularly auto fluids), and sediment that might be washed away with stormwater.

LANDSCAPING

Naturescaping

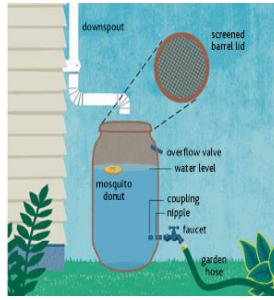
returns native plants and wildlife habitat to your yard or community. Naturescaping conserves water and energy, reduces water and soil pollution, and creates wildlife habitat. The practice encourages use of native plants



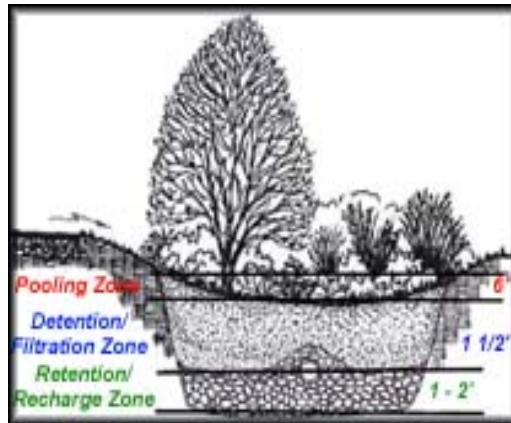
Naturescapes can be attractive, inexpensive, beneficial, and fun.

that are naturally resistant to local pests and diseases. Once established, native plants are more drought resistant and can often survive on rainwater alone. Naturescape areas can be created by replanting a section of lawn with a wildflower meadow, a hummingbird and butterfly garden, or plants and trees selected for seeds, fruit, and nectar, and installing nesting boxes.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. This water can be used on lawn or garden areas. Rainwater is naturally soft and devoid of minerals, chlorine, fluoride, and other chemicals. For every inch of rain that falls on a catchment area of 1,000 square feet, you can expect to collect approximately 600 gallons of rainwater. See www.sleepycreekwatershedassociation.org for more information.



Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop or paved areas can be diverted into these areas rather than into storm ditches. A rain garden can allow about 30% more water to soak into the ground. Swales are long, narrow depressions used to



How rain gardens work

collect and convey runoff, allowing pollutants to settle and filter out as the water is absorbed.

CONSTRUCTION SITES, INCLUDING YOUR HOME PROJECT

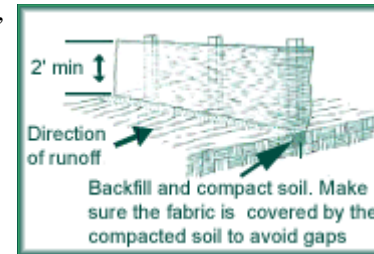
Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local water bodies. If you can influence the building of your home:

Landscaping

works in several ways:

- ▶ Increasing the amount of water that filters into the ground, recharging local & regional aquifers;
- ▶ Helping protect communities from flooding & drainage problems;
- ▶ Helping protect streams from pollutants carried by stormwater—lawn fertilizers & pesticides, oil & other fluids that leak from motor vehicles, and harmful substances that wash off roofs and paved areas.

- Grade to natural land contours to minimize grading cost and retain a greater percentage of the land's natural hydrology.
- Preserve existing wooded areas, mature trees, and natural terrain to give your new home a premium "mature landscape" appearance, provide additional recreational amenities, and improve marketability.
- Divert stormwater away from disturbed and/or exposed areas of the construction site into a detention pond.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible



Silt fencing

LAWN CARE

Properly established and maintained turf grass traps sediment, leaves, and other sources of nutrients, making it an excellent filter and absorber of stormwater. It retains fertilizers that have been properly applied in recommended amounts. Some soil has enough phosphorus to produce a healthy lawn and does not need to be fertilized.

Excess fertilizer, particularly phosphorus, is washed away by rains, along with leaves and grass clippings, and enters ponds and rivers through stormwater runoff. The added nutrients can degrade water quality and promote the growth of algae—leading to the greening of waterways.

An easy way for lawns to *self-fertilize* is to *leave grass clippings on the lawn* to provide nutrients and moisture. Another simple way to improve a lawn is to *aerate it, if the soil is compacted*. Compaction keeps air, water, and nutrients from entering the soil, and may increase the amount of nutrients that run off lawns.

Here are some *general guidelines for optimum turf in the Sleepy Creek Watershed* where soil is generally poor, acidic, and heavy shale.

- Use a mixture of grass species that can respond to variations in sun/shade and soil types. The best mixture contains Kentucky bluegrass and one or more fine fescues (not TALL fescues) such as creeping red fescue or Chewings fescue. Mix the percentage according to the amount of shade. (Bluegrass is less tolerant of shade.)
- **Lime the soil...** important in Morgan County.
- **Fertilize no more than once per year,**

Get a simple, free soil test from the county extension office to learn what nutrients your lawn needs.



Admiring the hummingbird garden

*Get Assistance & More Information on
Stormwater Management in the
Sleepy Creek Watershed*

Sleepy Creek Watershed Association
P.O. Box 991, Berkeley Springs, WV 25411
www.sleepycreekwatershedassociation.org

WV Department of Environmental Protection (DEP)
HC 63 Box 2545
Romney, WV 26757 304-822-7266
www.wvdep.org

**Eastern Panhandle
Conservation District Office**
151 Aikens Center, Suite 1
Martinsburg, WV 25404 304-263-4376
www.wvca.us

WV Division of Forestry
P.O. Box 1005
Berkeley Springs, WV 25411 304-258-6205
www.wvforestry.com or
www.morgancountytrees.com

**West Virginia University Extension Service
Morgan County Office**
129 Fairfax Street
Berkeley Springs, WV 25411 304-258-8400
www.morgancounty-wv.org/ExtensionService/
ExtensionService-Home.htm

**USDA-Natural Resources
Conservation Service**
151 Aikens Center, Suite 1
Martinsburg, WV 25404 304-263-7559
www.nrcs.usda.gov

USDA-Farm Service Agency
151 Aikens Center, Suite 5
Martinsburg, WV 25404 304-263-7547

See the SCWA web site for more resources

Membership and Renewal Form

Membership year is from January-December.
Dues should be paid by the first of the year.

Name _____

Address _____

City/State/Zip _____

Phone _____ Email _____

Individual — \$10 Group/Org — \$25

Family — \$15 Sponsor — \$100

Mail to: SCWA, Treasurer
P.O. Box 991, Berkeley Springs, WV 25411

**Base your fertilizer use
on the conditions of your
soil.**

**More is NOT better;
follow directions.**

**Don't fertilize plants
near streams.**

(See www.sleepycreekwatershedassociation.org for more information).

- Mow frequently enough to remove only one-third of the leaf structure each time, to maintain a height of 3 inches.
- Compost or mulch yard waste.
- **Cover piles of dirt or mulch** being used in landscaping projects to prevent runoff.

**Reduce your lawn and its
maintenance by rethinking
your landscape.**

- **Water only when necessary**, when turf lies down and shows a footprint when walked on. **Water slowly and heavily**; apply enough water to soak 4-6" into the soil. Consider using a soaker hose instead of a sprinkler. If you must water, water early in the day (between 6 - 10 am).
- Replant damaged areas annually.
- **Don't mow near stream banks**—leave a 35' buffer to protect the stream. Heavier vegetation at the edges of stream banks helps reduce and filter stormwater runoff.

WE CAN ALL HELP!

Each of us contributes to stormwater pollution; here are some ways you can help:



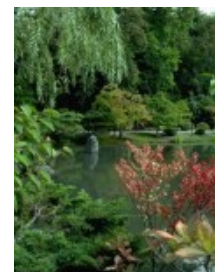
- Keep pesticides, oil, leaves, and other pollutants off streets and out of streams.
- Divert roof water to lawns and/or gardens where it can safely soak in, but especially away from paved surfaces.
- Plant a rain garden on your property.
- Install a rain barrel at your gutter's downspout to capture rooftop runoff.
- Next time you replace paved surfaces such as driveways, patios, and walkways, consider using porous pavement, rather than concrete or asphalt.

usually in the fall, with the recommended amount. Read directions carefully. **Use pesticides and herbicides sparingly** and in recommended amounts; **try organic mulch or safer pest and weed control methods** when possible.

The amount of pollution that you stop may seem small, but it all adds up to cleaner water for everyone to enjoy!

Good Plant Choices for Rain Gardens

	Common Name	Scientific Name
Sunny Sites	Butterfly Weed	<i>Aesclepias tuberosa</i>
	Blackeyed Susan	<i>Rudbeckia hirta</i>
	Joe Pye Weed	<i>Eupatorium fistulosum</i>
	Soft Rush	<i>Juncus effusus</i>
	Great Blue Lobelia	<i>Lobelia siphilitica</i>
	Switch Grass	<i>Panicum virgatum</i>
	Little Bluestem	<i>Andropogon gerardii</i>
	Marsh Marigold	<i>Caltha palustris</i>
	Turtlehead	<i>Chleone glabra</i>
	Buttonbush	<i>Cephalanthus occidentalis</i>
Shady Sites	Dogwood	<i>Cornus florida</i>
	Cardinal Flower	<i>Lobelia cardinalis</i>
	Caterpillar Sedge	<i>Carex crinita</i>
	Virginia Bluebells	<i>Mertensia virginica</i>
	Sensitive Fern	<i>Onoclea sensibilis</i>
	Wild Geranium	<i>Geranium maculatum</i>
Alumroot	<i>Heuchera richardsonii</i>	
Wild Columbine	<i>Aquilegia canadensis</i>	



A watershed is all the land area that drains to a given body of water.

We all live in a watershed!



*Sleepy Creek
Watershed Association*
*Protecting and Preserving Sleepy
Creek in Morgan County, WV*

**Stormwater
Management
On Your
Property**

This brochure was made possible through the generosity of the West Virginia Stream Partners Program (WV SPP). The WV SPP is a cooperative effort of DEP, DNR, the Division of Forestry, and the WV Conservation Agency.

P.O. Box 991
Berkeley Springs, WV 25411
sleepycreekwatershedassociation.org