

NESHAMINY WATERSHED ASSOCIATION



<https://neshaminy-watershed.org/join-us>



Master Watershed Steward Program

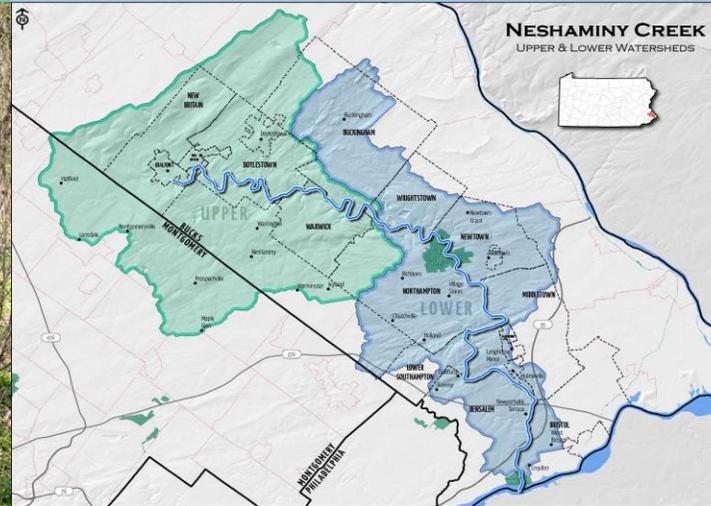


PennState Extension

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Master Watershed Steward Program



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PROGRAM MISSION & GOALS

- Educate and empower volunteers to protect environmental resources.
- Create partnerships and leverage resources to increase watershed restoration and awareness efforts
- Educate the community about water and natural resources
- Participate in restoration projects



Stormwater-the reason we need rain barrels

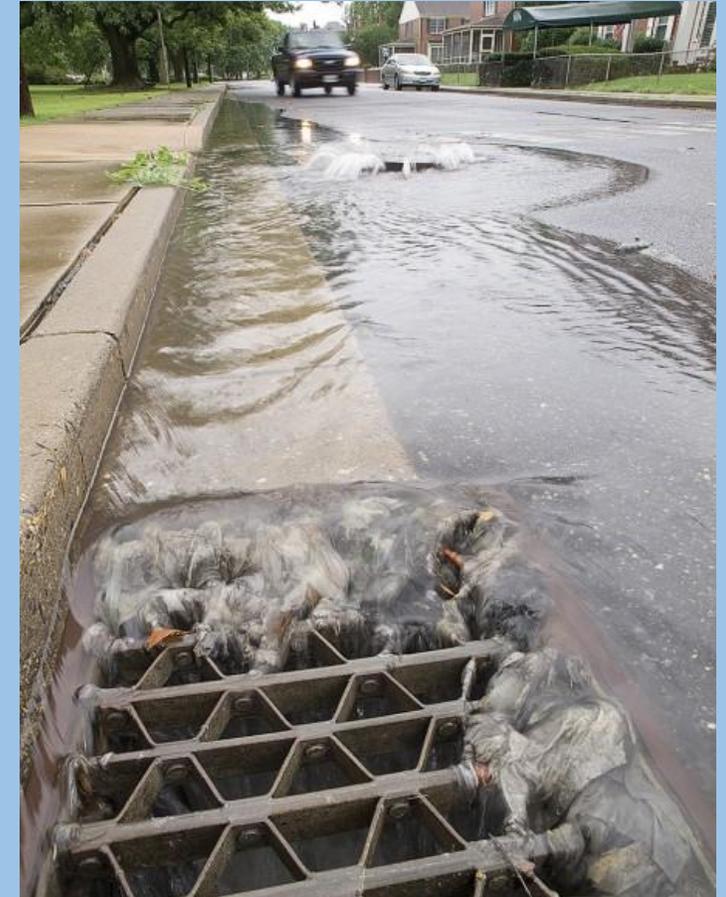


Lynnette Saunders, Ph.D., MWS

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What is stormwater?
Why is it a problem?
What can we do about it?

Stormwater is any water that runs off lawns, driveways, streets, parking lots, houses, etc. during a precipitation event.



Stormwater is a problem now because...

Pennsylvania used to look like this:



But now lots of it looks like this!



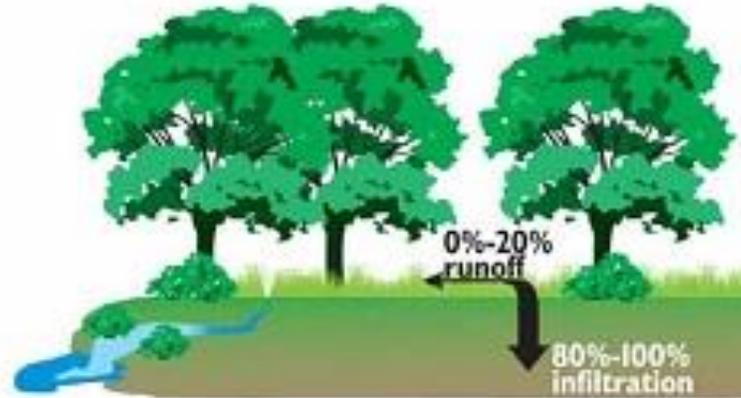
Streets, parking lots, buildings, houses and lawns do not let rain water soak into the ground. They are examples of *impervious surfaces*.



So stormwater that used to soak into the ground, now runs off.

INCREASE IN STORMWATER RUNOFF WITH URBANIZATION

NATURAL GROUND COVER
0% IMPERVIOUS SURFACE



LOW DENSITY RESIDENTIAL
10%-20% IMPERVIOUS SURFACE



URBAN RESIDENTIAL
35%-50% IMPERVIOUS SURFACE



COMMERCIAL/INDUSTRIAL
75%-100% IMPERVIOUS SURFACE



This increased stormwater runoff has a higher volume and speed, causing more damage to streams, rivers and aquatic life.

Eroded stream banks



Normal stream banks



Streets flood and must be closed. Some areas are hard for emergency vehicles to reach.



Local Roads

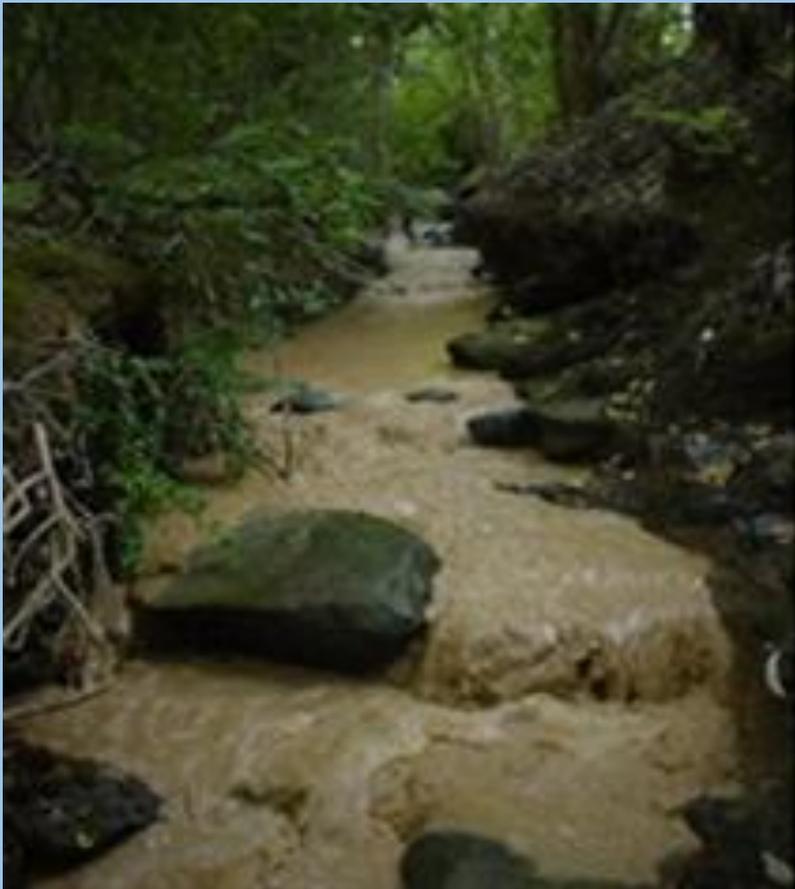
Flooded car on River Road



Bridges can be damaged.



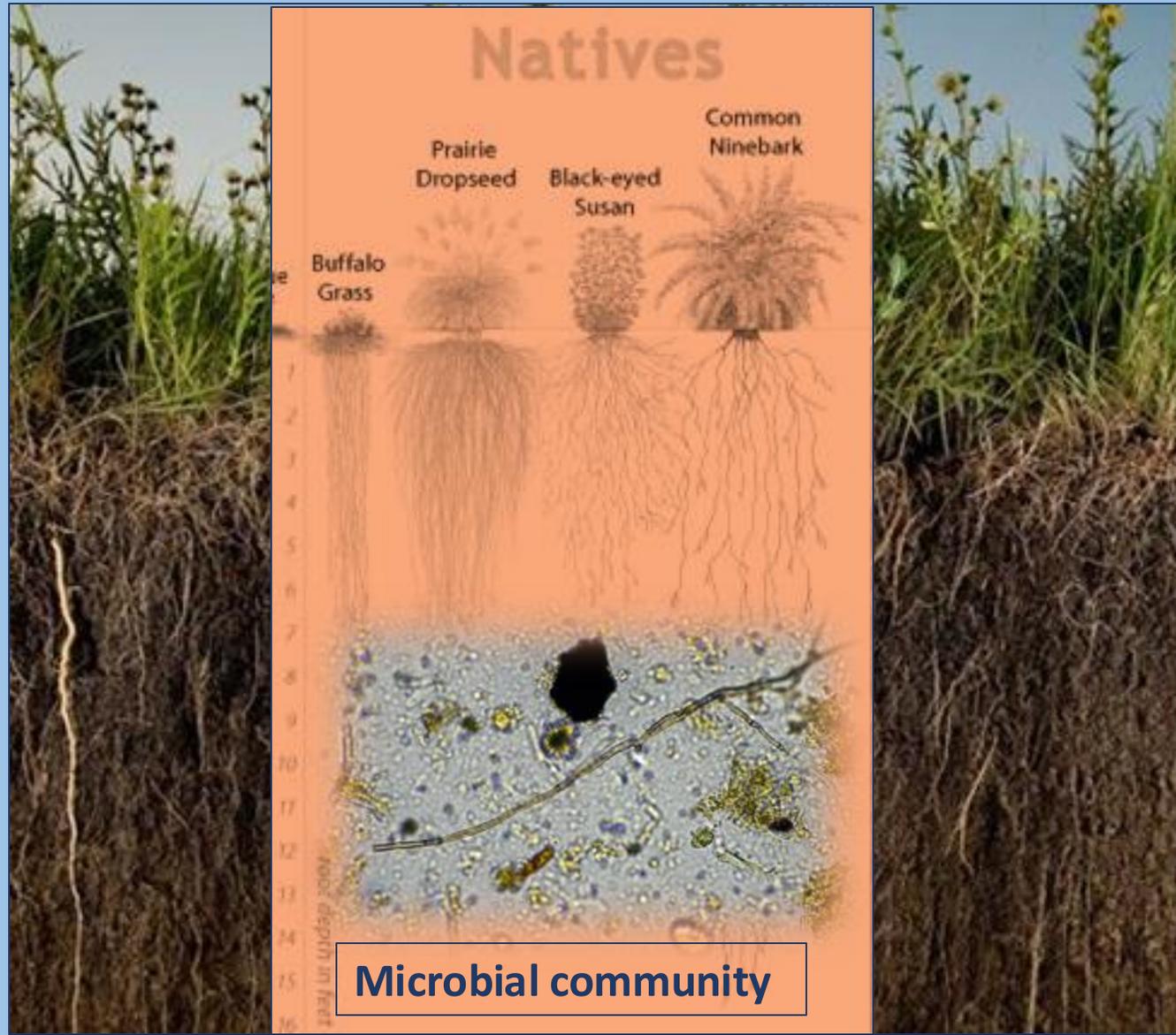
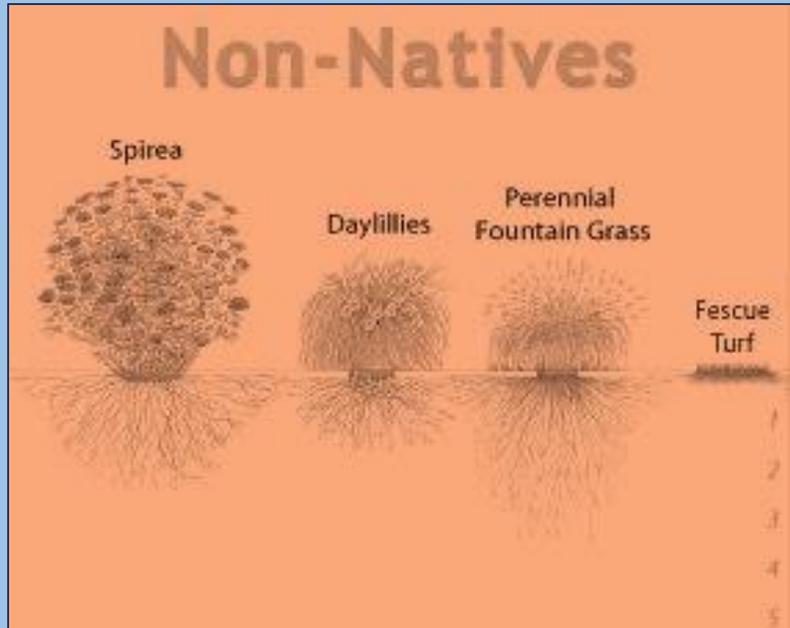
Oil, trash, lawn clippings, pet waste, fertilizers, pesticides, soil, etc. runoff with stormwater and pollute area streams and rivers.



So what can we do about stormwater?

- We can try and keep stormwater on each property and not let it runoff in the first place.
- This can be accomplished in a number of ways...

POWER OF PLANTS



- Rain gardens, also called bioswales, can stop the runoff from parking lots.



Rain gardens or bioswales can be used in cities too, such as Philadelphia.



Both of these structures absorb stormwater from city streets and sidewalks.

Tree trenches along streets can soak up stormwater.



- Detention/retention basins can intercept stormwater and retain it for a short time, this allows sediment to settle out, and water to slowly drain into a nearby stream causing less erosion. Do you have a basin in your neighborhood?



Mowed basins, no habitat

- Basins should be planted with native plants which help soak up the stormwater and provide seeds, nectar and habitat for native birds and pollinators.

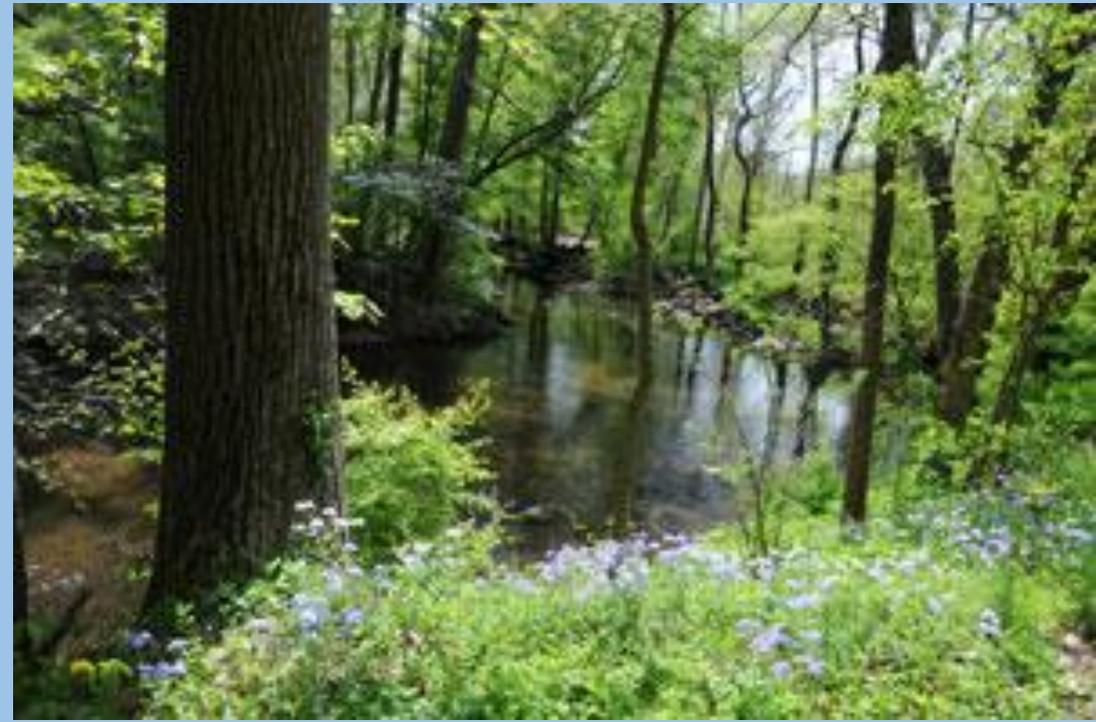


- *Riparian buffers* can be used to help protect streams from stormwater damage.
- A riparian buffer consists of plants along the banks of a stream, the plants help slow down and soak up the stormwater. The plants can also filter out sediments and excess nutrients.



Pennypack Creek,
streambank
erosion due to too
much stormwater
and lack of
riparian buffer.

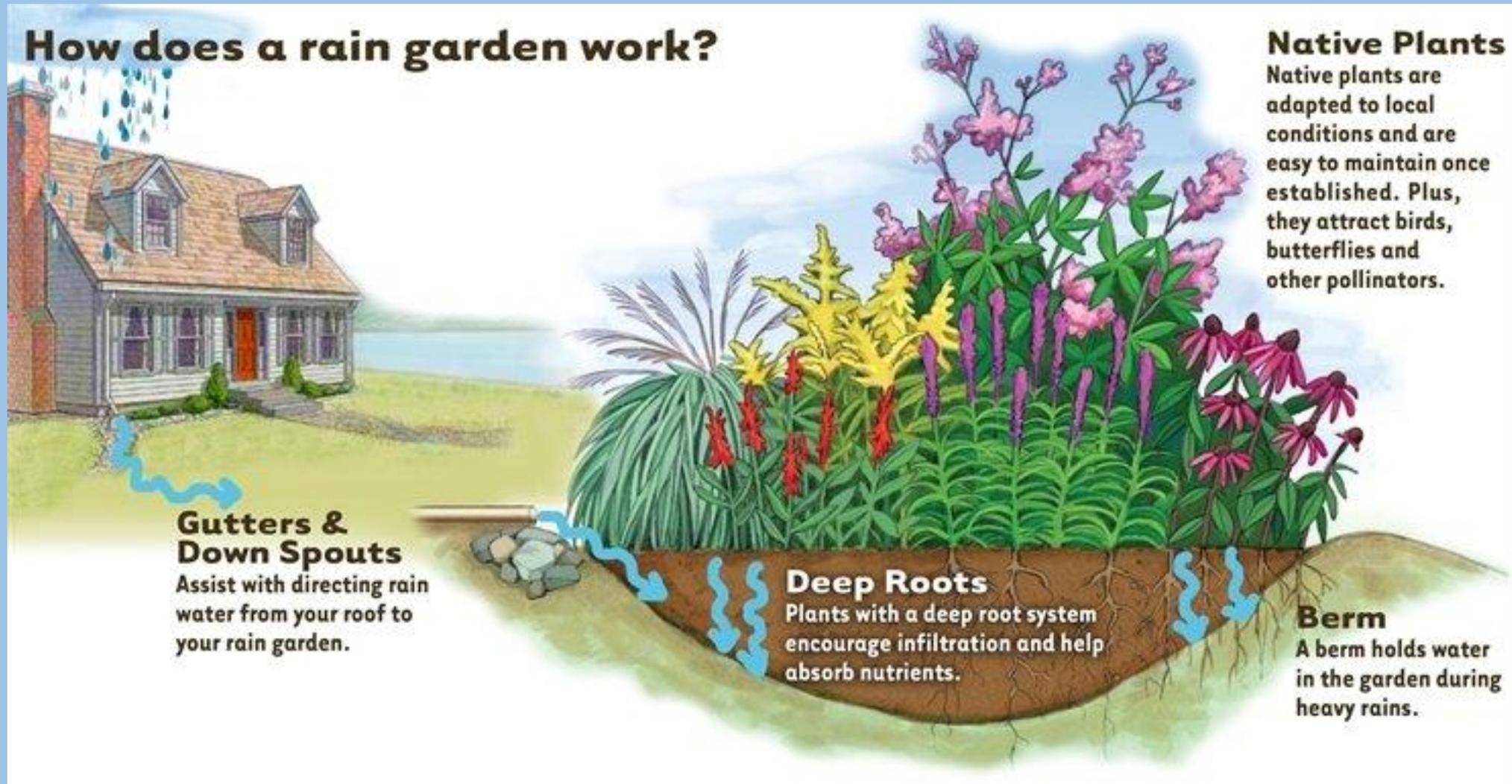
Area of
Pennypack
Creek with
good riparian
buffer.



Also, please remember that the water that runs down the storm drain goes directly to the nearest stream. This stormwater is not cleaned or treated in any way so please don't put anything down a storm drain.



- Rain gardens can be installed which soak up stormwater runoff, look great and can provide nectar for pollinators.



- A rain garden can be of any size, every little bit helps!



- Homeowners can also reduce the size of their lawn and plant more native plants. Mowed lawns actually don't slow down or absorb rain water runoff very much at all.
- Native plants also provide nectar, seeds and habitat for birds, butterflies, other wildlife, and look great!



Homeowners can also help reduce runoff by installing rain barrels, which come in lots of styles.



Let's build a rain barrel: You will need:

- A food grade barrel that has never contained any toxic substances
- Rain barrel conversion Kit
- Drill holes for the bottom drain, outlet, inlet and connection to the downspout.



You can Paint your rain barrel and use it as a Planter!



The Rain Barrel Base

- A rain barrel needs to be elevated somewhat for the water to flow out.
- A rain barrel full of water weighs over 400 pounds so make sure it has a very stable base!
- Create a very level and compacted area, sand may be useful.
- Create a base of concrete blocks or pressure treated wood.

- Concrete block base with paver top



- To catch more water, connect barrels in a series using the overflow outlets.



Enjoy your rain barrel and use the water on your flowers and landscaping in dry times. Do **not** use on edible plants*.





INVASIVE REPLACE-IVE PENNSYLVANIA

REPLACE YOUR

*Invasive
Plant*

WITH A

*Native
Species!*



Pennsylvania
Department of Agriculture

Master Watershed
Steward Program
PennState Extension

Western Pennsylvania
Conservancy



Pennsylvania
Department of Conservation
and Natural Resources
Bureau of Forestry

Thank You !



TREE PLANTING

volunteer event

Saturday, October 4
9 am - 12 pm

 **SILVER LAKE PARK**

1006 Bath Rd, Bristol, PA 19007

Please register at
SilverLakeNatureCenter.org



Bucks County
Parks & Recreation



Silver Lake
Nature Center



BARTLETT
TREE EXPERTS

SCIENTIFIC TREE CARE SINCE 1907



BUCKS BEAUTIFUL

