



# Sustainably Managing Rain Water at Home

Rain Gardens, Barrels and other Practices for  
Homeowners





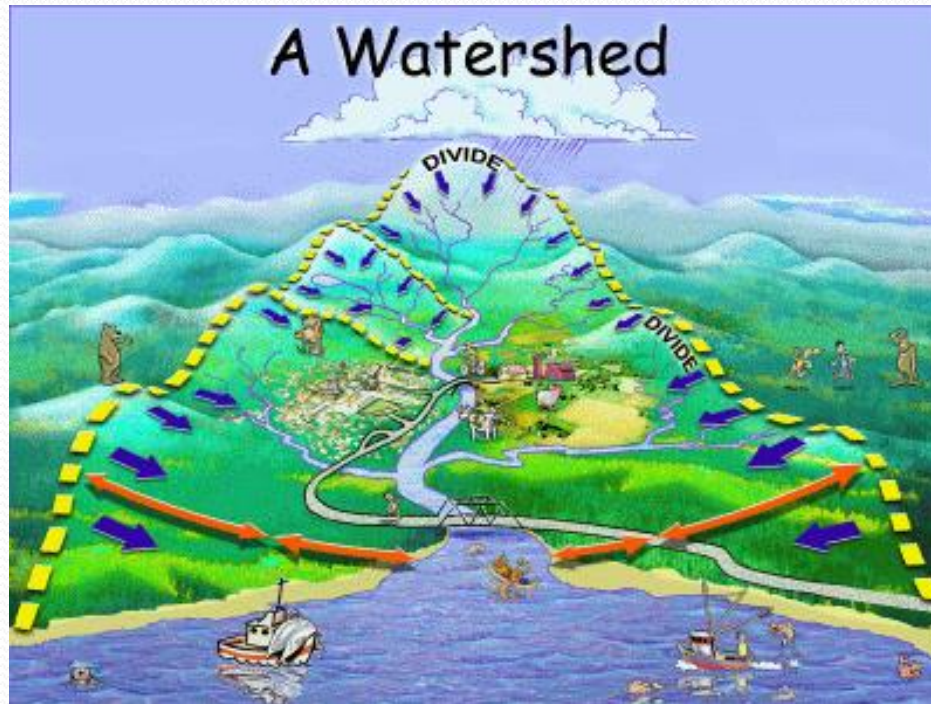
# About Us

- Since 1964, PWC has worked to conserve and protect the natural resources of the Perkiomen Creek Watershed
- Our Watershed encompasses 362 square miles and 55 municipalities in four PA counties: Berks, Bucks, Lehigh and Montgomery
- Environmental Education and Conservation programs reach thousand of people each year



# What is a Watershed?

- A stream, creek or river drainage area. It's boundaries are defined by the natural ridges separating one drainage basin from another.



# Rain Water → Stormwater

- **Stormwater**= rain water, snow melt, or other precipitation that runs off the land and flows downhill or through storm sewer systems to reach waterways.





# What we do to the land, we do to the water.



# Minimizing Pollution

- Keep storm drains clear of trash, yard waste and other debris; never dump anything down them.
- Check vehicles for leaks and have any fixed.
- Wash your car at a car wash.
- Cut household chemical use and dispose of them properly .
- Make sure your septic system is working; have it pumped regularly.
- Pick up after your pets.



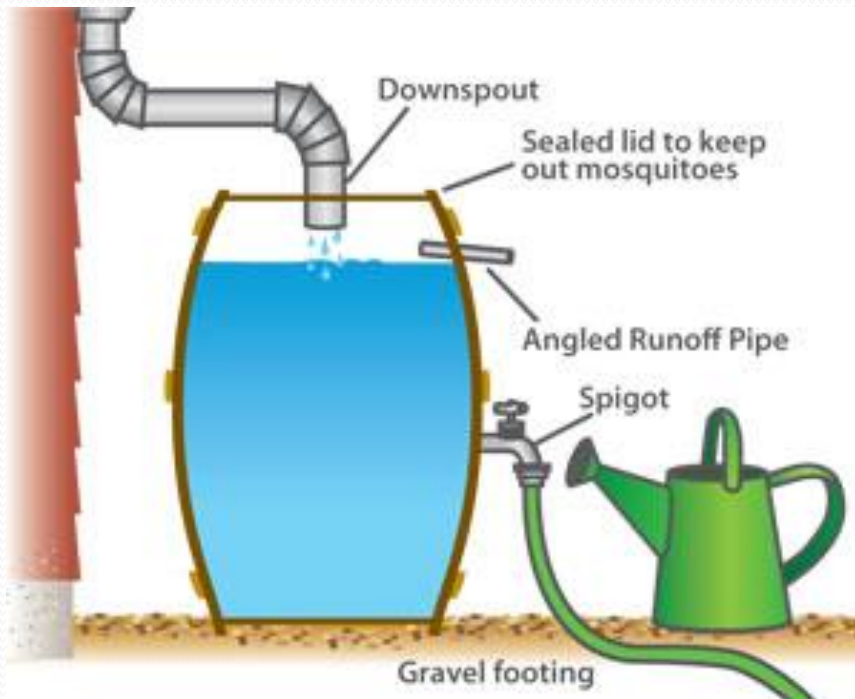


A photograph showing a flooded area. On the left, there is a large pool of murky, brown water. On the right, the water is clearer and blue, with green plants growing out of it. The background shows a line of trees and a street lamp under a cloudy sky.

What can you do to manage  
rainwater on your property?

# Install a Rain Barrel or Cistern

- Store FREE water for outdoor use
- Provide “soft” water for plants
- Hold back water to reduce runoff





# Rain Barrel Workshop

- Saturday, October 24, at 10 am
- Build your own barrel to take home and install for half the price of ready-built barrels!
- Barrels are limited, register at:  
[www.perkiomenwatershed.org/rain-barrel-building-workshop/](http://www.perkiomenwatershed.org/rain-barrel-building-workshop/)





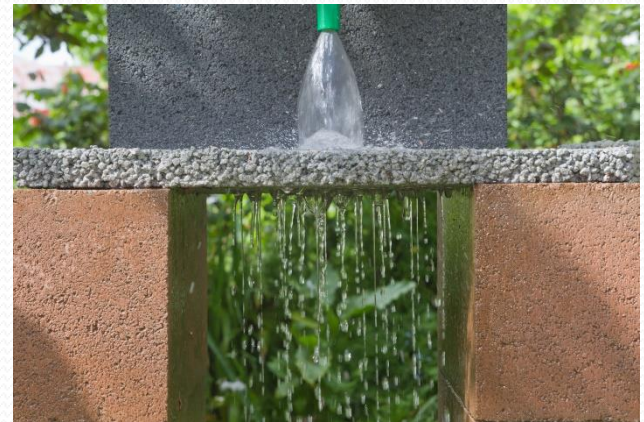
# Cisterns





# Permeable Pavement

- Range of sustainable materials and techniques that allow rainwater to be absorbed through the surface. ([Video](#))
  - Pervious concrete
  - Porous asphalt
  - Paving stones
  - Concrete or plastic based pavers
- Benefits:
  - Reduce stormwater runoff
  - Filter pollutants from rainwater





# Meadow Beats Lawn

- Deep roots encourage infiltration
- Native perennials use more water
- Less maintenance; more habitat
- Resource: Penn State Extension







Black Eyed- Susan



Common Milkweed



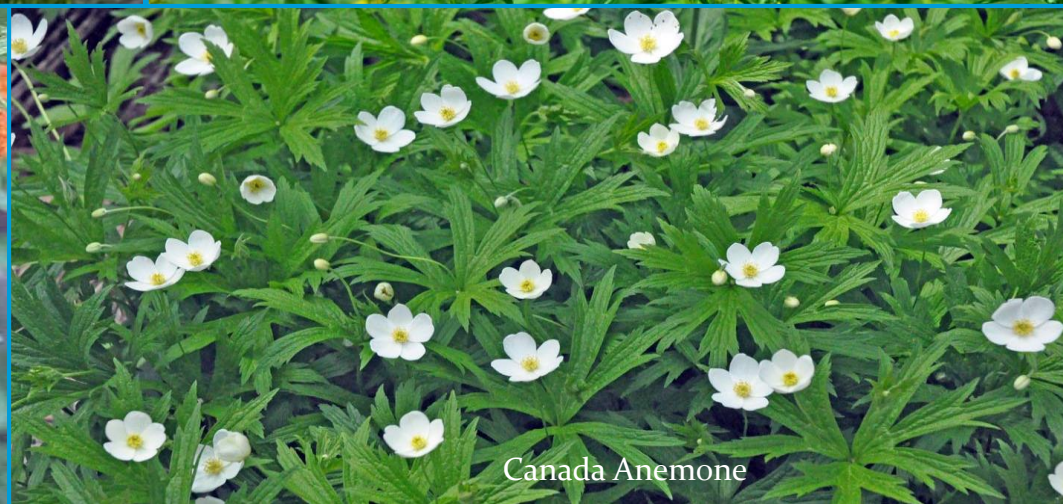
Blazing Star



Goldenrod



Butterfly Weed



Canada Anemone



# Plant a Tree

- Trees benefit:
  - Streams by reducing and treating runoff
  - Wildlife
  - Soil Health
  - Air Quality
  - Community and Human Health





# Plant a Bioswale

- A bioswale is a vegetated depression that captures stormwater run-off from nearby surfaces (e.g. parking lots, roads, roof tops, etc.)





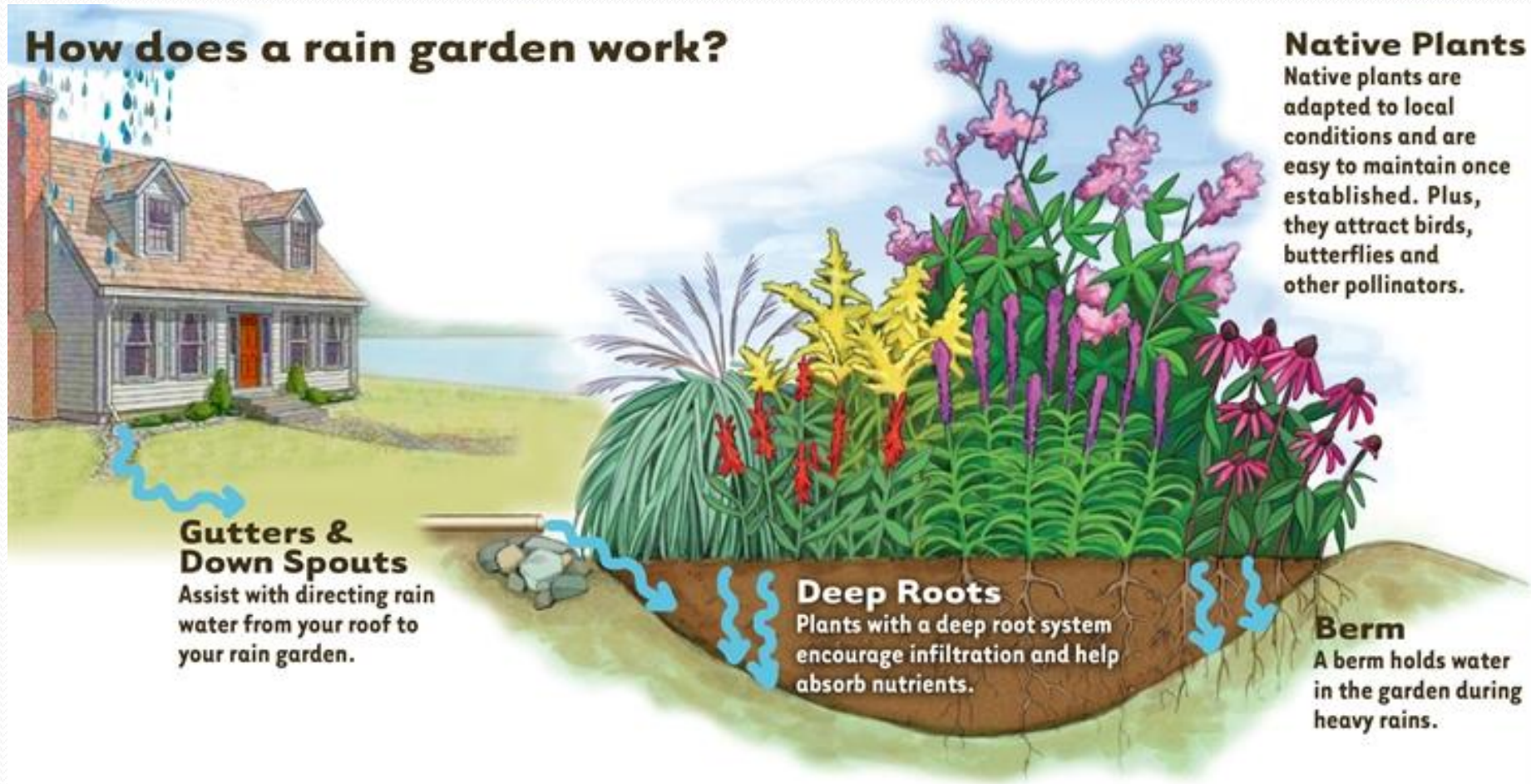
# Naturalize existing Water Channels





# Build a Rain Garden

## How does a rain garden work?





# Site Selection

- Source, Soil and Slope



Will the soil allow  
infiltration?





# Excavation

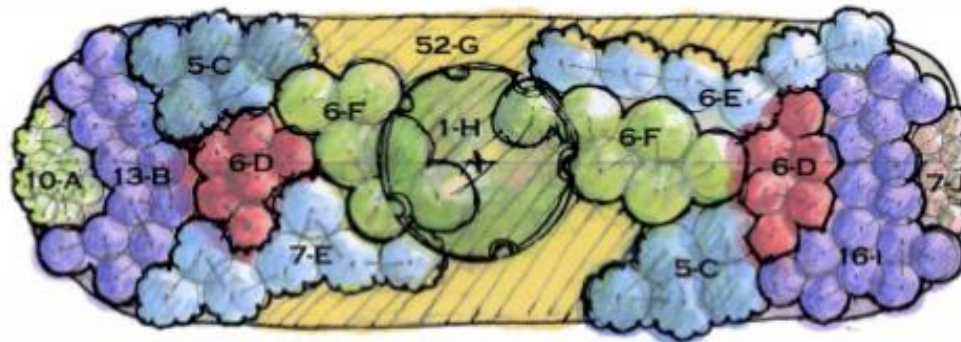
- Dig down 10-12”
- Till in amendments until 6” ponding depth
- Create level bottom; do not compact
- Excess soil can be used to build berm





# Plant Selection

- Rain Garden Manual of New Jersey
- Lowimpactdevelopment.org



- A - *Chelone glabra* (White Turtlehead), 12" o.c.  
 B - *Iris versicolor* (Blue Flag), 18" o.c.  
 C - *Amsonia tabernaemontana* (Blue-Star Flower), 2' o.c.  
 D - *Lobelia cardinalis* (Cardinal Flower), 18" o.c.  
 E - *Amsonia hubrechtii* (Narrow-leaf Blue Star Flower), 2' o.c.  
 F - *Thelypteris palustris* (Marsh Fern), 2' o.c.  
 G - *Oenothera fruticosa* (Narrow-leaved Sundrops), 12" o.c.  
 H - *Ilex decidua* (Possumhaw)\*  
 I - *Aster novae-angliae* 'Purple Dome' (New England Aster), 18" o.c.  
 J - *Chelone lyonii* (Pink Turtlehead), 12" o.c.

note: o.c. = on center

\* Get a male-female pair of Possumhaw and plant together in same hole



**BUTTERFLIES SWALE RAINGARDEN**  
 250 SF  
 Full Sun  
 Piedmont

Scale: 1/4"=1'









# Cost of a Rain Garden

- \$3-\$5 per square foot
- Average rain garden is 100-200 square feet
- Compost/mulch/sand= \$25/CY
- Plants (\$1/plug or \$5/1 gal pot)
- Other potential costs:
  - Equipment rental
  - Seed
  - Rock



# Rain Gardens and Bioswales

- Slows, infiltrates and reduces runoff
- Filter pollutants
- Restore habitat
- Attractive landscaping
- Create community enhancements







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