
MUNICIPAL STORMWATER



Objectives

- **BRIEF** overview of Stormwater & the MS4 Program
- Understand what municipalities are required to do for their Stormwater Management Program
- How you can help fulfill the municipalities stormwater permit requirements as a volunteer

What is Stormwater?

Stormwater occurs when precipitation from rain or snowmelt flows over the ground



Why is stormwater a problem?

- Erosion and Sedimentation
- Flooding
- Pollution carried to all waterways
- Inhibits habitats of aquatic wildlife
- Makes water resources unsafe for recreation and drinking



Sources of Polluted Stormwater

○ Point Sources

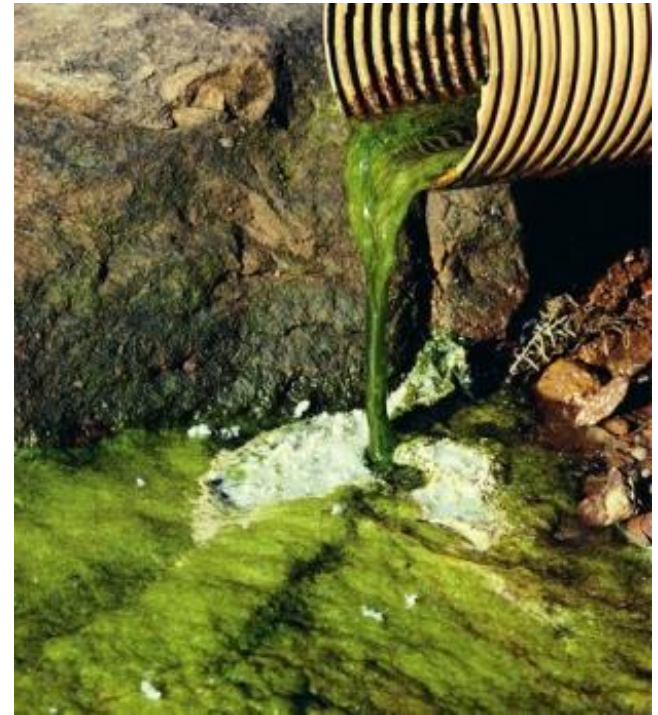
Point source pollution enters a surface water from a single point of discharge.

Examples of point sources: discharges from wastewater treatment plants, operational wastes from industries

○ Non-point sources

This source of pollution comes from many different sources which are carried across the land by rain and snowmelt.

Examples of non-point sources: agricultural run-off, abandoned mine sites, excess residential fertilizer



What is an MS4

Municipal Separate Storm Sewer System

An MS4 is :

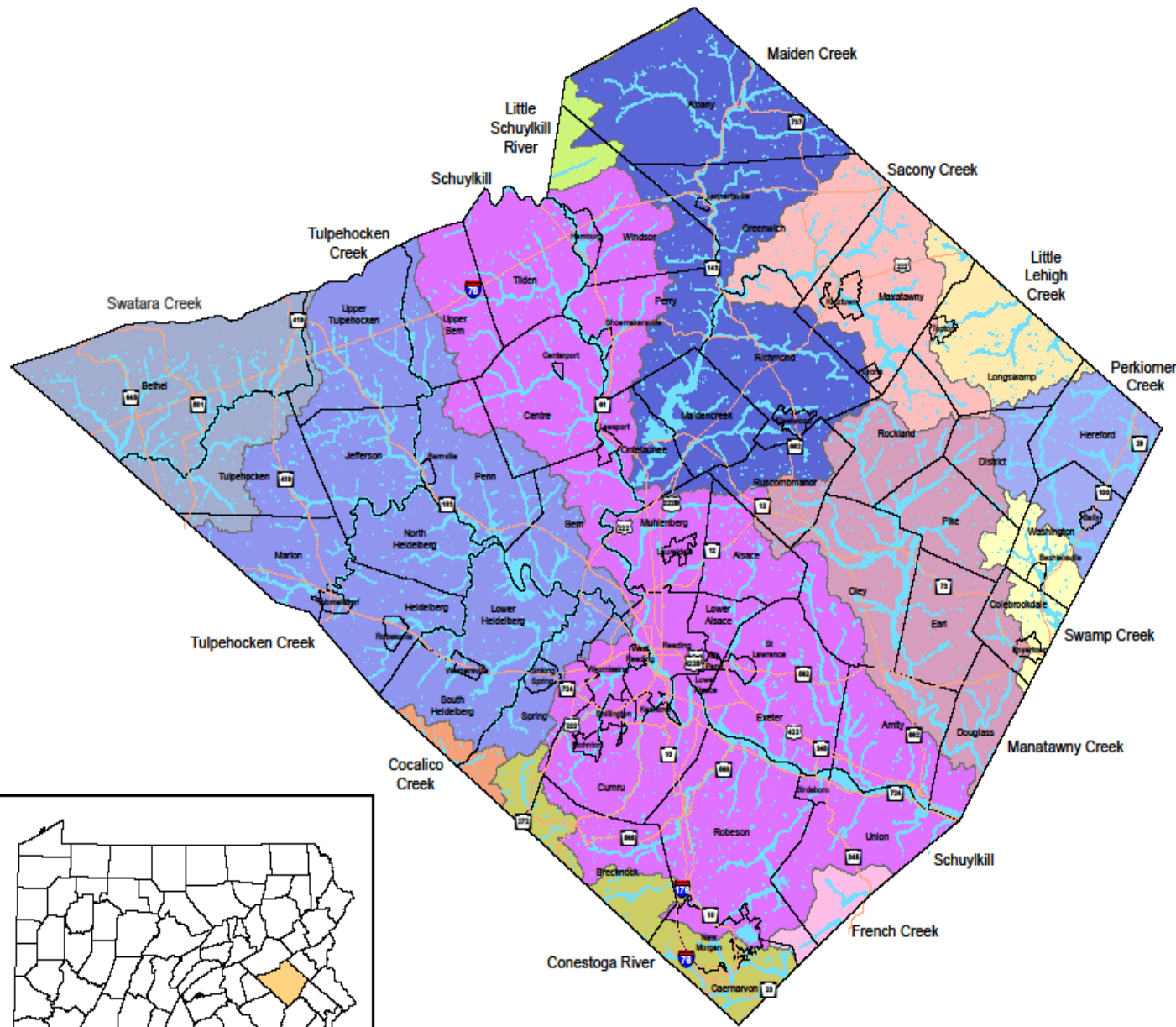
A state, city, town, borough, county, parish, district, association, or other public body

Any drainage system which conveys only storm water. (curbs, gutters, basins, storm pipes, ditches, swales, municipal streets etc..)

Does not include pipes that convey sanitary sewer.

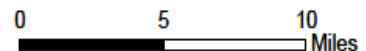
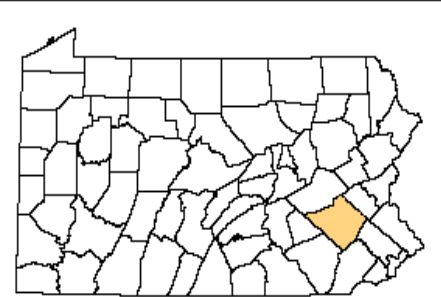
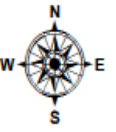
Water Resources Berks County, Pennsylvania

DRAFT



Watersheds

- Cocalico Creek
- Conestoga River
- French Creek
- Little Lehigh Creek
- Little Schuylkill River
- Maiden Creek
- Manatawny Creek
- Perkiomen Creek
- Sacony Creek
- Schuylkill
- Swamp Creek
- Swatara Creek
- Tulpehocken Creek
- Water Bodies
- 1% Floodplains
- Berks County Boundary
- Municipal Boundaries
- Major Roads



Source: Berks County Planning Commission, Berks County GIS, Berks County Mapping, Berks County Department of Emergency Services, FEMA (Latest Effective Date: March 21, 2017)

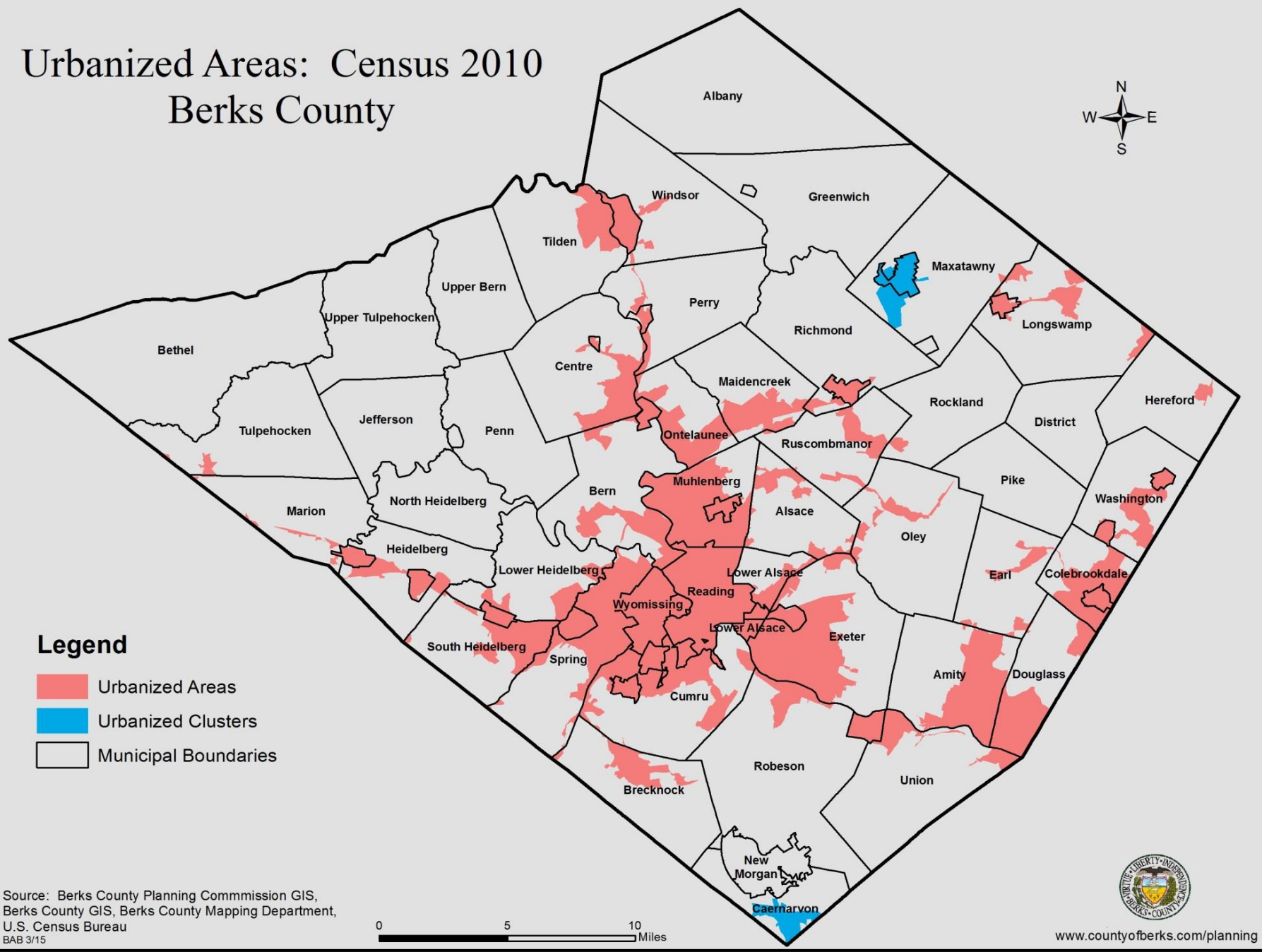
Published by the Berks County Planning Commission

B48 2/19



Urbanized Areas: Census 2010

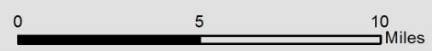
Berks County



Legend

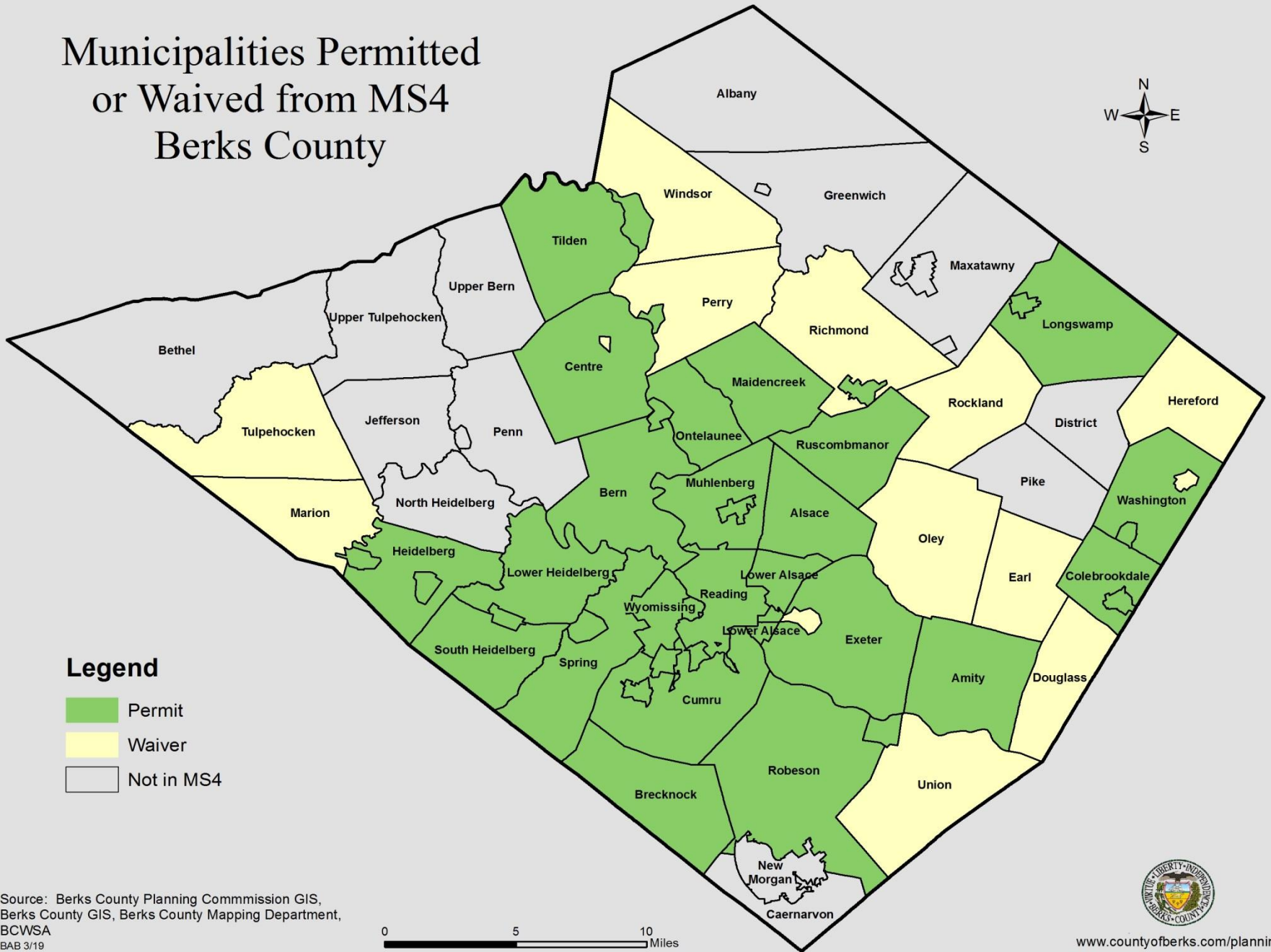
- Urbanized Areas
- Urbanized Clusters
- Municipal Boundaries

Source: Berks County Planning Commission GIS,
 Berks County GIS, Berks County Mapping Department,
 U.S. Census Bureau
 BAB 3/15



www.countyofberks.com/planning

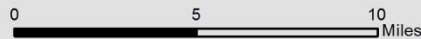
Municipalities Permitted or Waived from MS4 Berks County



Legend

- Permit
- Waiver
- Not in MS4

Source: Berks County Planning Commission GIS,
Berks County GIS, Berks County Mapping Department,
BCWSA
BAB 3/19



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MS4 Requirements

- Municipalities must have a stormwater management program which includes:
 - Stormwater Management Ordinance (Act 167 or other)
 - Implementation of 6 minimum control measures
 - Pollution Reduction Plan (PRP) or Total Daily Maximum Load Plan (TMDL) for impaired streams

Minimum Control Measures

- MCM #1 Public education and outreach
- MCM#2 Public participation and involvement
- MCM#3 Illicit discharge detection and elimination
- MCM #4 Construction site stormwater runoff control
- MCM#5 Post-construction stormwater management
- MCM#6 Pollution prevention & Good housekeeping for municipal operations

Goals of MS4



QUALITY

&



QUANTITY

Impacts of Municipal Stormwater Management Program

- Increased costs for treatment of Drinking Water
- Stormwater Fees
- How you drain your pool
- Where you wash your car

How you as a volunteer can help

- Participate in municipal public meetings regarding stormwater
- Help municipalities identify storm drains, outfalls
- Report illicit discharges (erosion coming off a construction site, chemical spills, excessive salt application)
- Participate in clean up days, rain garden projects, tree plantings



How you as a volunteer can help

- Introduce organizations you work with to your municipal stormwater program and events
- Offer to be a stormwater exhibitor table at municipal events
- Be a good example and steward by installing BMP's on your own property
- Outreach to your child's school



Who you can work with

Berks County MS4 Steering Committee /Cooperative Education Program

- The Berks County MS4 Steering Committee and Cooperative Education Program were formalized in 2013
- There are 3 Education Partners: Berks Nature, Berks County Conservation District and the Berks County Planning Commission
- The Education Partners strive to provide education and outreach requirements for MCM's 1,2 and 6.

Previous Events

○Aquapolluzza

○Rain Barrel Workshops

○Tree Plantings



Who you can work with

Berks County Conservation District

- In addition to being an education partner for the Berks County MS4 Steering Committee, the Berks County Conservation District puts on several programs throughout the year regarding stormwater. The District also handles complaints regarding stormwater on construction sites. They also review erosion and sedimentation plans for development projects.

Berks County Water and Sewer Association SWP Program

This first in the state program which was formalized through the approval of the Berks County Source Water Plan, is a new organization that will be holding many activities as previously discussed.

Who you can work with

Berks Nature

Berks Nature is an Education Partner working with the BCMS4SC. Berks Nature holds numerous events and programs throughout the year that educate county residents on the mission of clean water.

Schuylkill Action Network

The Schuylkill Action Network was formed through a partnership of the Delaware Estuary, DEP and the Philadelphia Water Department to look at the entire Schuylkill River watershed. They have several sub-committees which collectively work towards goals of stormwater quality and awareness.

When you volunteer

- Please notify the municipality in which you are volunteering
- If you are handing out brochures, stickers, etc. count how many you started with and ended with
- Save copies of brochures, stickers, etc. to put in municipal file
- Take a picture of the booth, table, activity in which you volunteered at

Stormwater Resources

Department of Environmental Protection

<http://www.dep.pa.gov/Business/Water/CleanWater/StormwaterMgmt/Stormwater/Pages/default.aspx>

Berks County Planning Commission

<http://www.co.berks.pa.us/Dept/Planning/Pages/BerksCounty'sAct167Page.aspx>

Berks Nature

<http://www.berksnature.org/insideourwatersheds/>

Berks County Conservation District

<http://berkscd.com/watersheds/pollutionprevention/>

Penn State Extension

<http://extension.psu.edu/natural-resources/water>

Schuylkill Action Network

<https://schuylkillwaters.org/our-work/stormwater>



Thank you



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