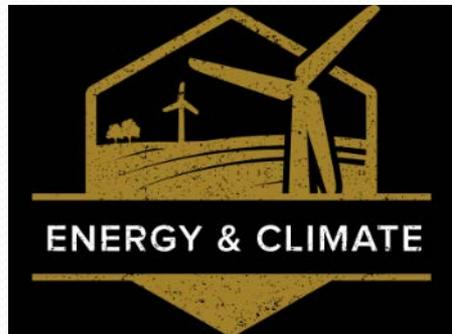


# Funding Options for Municipal Stormwater Management

Funding for MS4 Projects Workshop  
August 7, 2019, Ursinus College

Susan Myerov, Watersheds Program Director  
Pennsylvania Environmental Council





The Pennsylvania Environmental Council (PEC) protects and restores the natural and built environments through innovation, collaboration, education and advocacy.

PEC believes in the value of partnerships with the private sector, government, communities and individuals to improve the quality of life for all Pennsylvanians.

# Objectives

- Understand why we need stormwater management programs.
- Understanding various ways to finance stormwater programs.
- Understand why and how stormwater fees can be used as a financing tool.



# Why We Need Stormwater Management



Flooding



Erosion



Water Pollution



Damaged Infrastructure



Combined Sewer Overflow

# Impaired Streams Aquatic Life Use (ALU) Assessment, Ursinus College Area

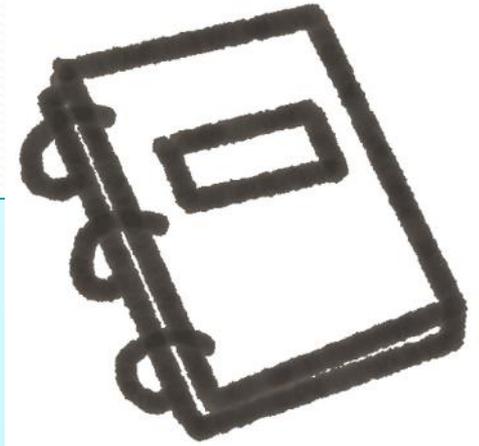


Source: DEP 2019 Pennsylvania Integrated Water Quality Monitoring & Assessment Report at [https://www.depgis.state.pa.us/integrated\\_report\\_viewer/index.html](https://www.depgis.state.pa.us/integrated_report_viewer/index.html)

# Permit Requirements

## MS4 Stormwater Management Plans must:

- Contain measurable goals for the six Minimum Control Measures (MCMs)
- Contain Specific Activities to meet goals for each MCM
- Enact or implement either:
  - An MS4 Stormwater Management Ordinance
  - An ordinance that satisfies an MS4 Stormwater Management Ordinance Checklist
- Submit a **Total Maximum Daily Load Plan** if applicable
- Submit a **Pollutant Reduction Plan** for impaired waterways



# Summary of Needs

- **Stormwater Management**
  - driven by runoff volume/flooding issues
- **MS4 Program**
  - Driven by water quality issues
  - TMDL and Pollutant Reduction Plan requirements



# Stormwater and MS4 Challenges

- Big responsibility for municipalities
- Federal/state regulatory drivers
- Positive community benefits
- Action today saves resources tomorrow
- How to fund stormwater programs?



**LOWER PROVIDENCE TOWNSHIP** EST. 1805  
PLANT ROOTS. GROW FUTURES.

## News

Winter 2019

### *Frequent Heavy Rain Events Spell Stormwater Trouble*

Stormwater runoff is rainfall or snowmelt that flows off the surface of the land instead of permeating into the soil. Today, construction standards to regulate this runoff are stricter than they've ever been. Stormwater management systems have become a major requirement of any large development project with permits required by the National Pollutant Discharge Elimination System (NPDES) to control runoff volume, rate and quality. However, that wasn't the case years ago and the extraordinarily heavy rain the Township experienced this year has exposed that fact.

Neighborhoods older than 10 or 15 years which includes much of the Township don't have nearly the same amount of stormwater design and infrastructure as newer developments. Minimal requirements and a desire to preserve natural features may have led to the deferment of the construction of manmade stormwater infrastructure in years past.

"When I meet people new to the Township, they almost always comment on its natural beauty," says Township Community Development Director Mike Mrozinski, who notes that it's a unique feature of Lower Providence that many natural features remain even though the Township is mature and almost fully built-out.

Finally, the addition of sheds, gardens, playsets and the like to backyards have had a cumulative impact on stormwater runoff. Bottom line: The Township is left with less than ideal stormwater management in some areas.

Residential stormwater issues are subject to very limited regulation, says Mrozinski. Most fall outside the scope of Township's authority. "For the majority of situations, the most effective way to solve this kind of issue is to work cooperatively with your neighbor," says Mrozinski. There are many things that homeowners can do to mitigate issues and the Township is happy to assist property owners and neighbors who want to work together.

Neighbors need to remember that water does not follow property boundaries and it is important to realize that activities on your property can adversely affect your neighbor. The first thing to do as a responsible neighbor is to familiarize yourself with how stormwater flows on your own property. Ask yourself how does water enter and exit my property? Are there areas of concentrated flow currently causing damage to your property or adjacent neighboring property? If so, flows can be re-directed to vegetated areas for infiltration. You can also install a rain barrel, cistern, rain garden, or dry well as needed to control roof run-off.

Informative resources for homeowners regarding stormwater best management practices, such as "A Homeowners Guide to Stormwater Management" can be found on the Township website, [www.lowerprovidence.org/stormwater-management](http://www.lowerprovidence.org/stormwater-management), and at the Penn State Extension, [extension.psu.edu/extension.psu.edu](http://extension.psu.edu/extension.psu.edu).

Questions can be directed to [mmrozinski@lowerprovidence.org](mailto:mmrozinski@lowerprovidence.org).



*Local stormwater challenges*



# Objectives

- Understand why we need stormwater management programs.
- **Understanding various ways to finance stormwater programs.**
- Understand why and how stormwater fees can be used as a financing tool.

# Evaluating Stormwater Finance Needs

1. What are your stormwater management needs?
2. What are your current and future costs?
3. What are your current revenue streams?
4. How much do you need?
5. How do you get it; potential funding sources?



*Rain garden*



*Roadside Swale*

# 1 - Stormwater Management Needs?



Flood Control



Upgrade and Maintain Infrastructure



Protect Parks /Reduce Erosion

# 2 - Current and future costs?



Permit New Development



Inspection/Maintenance

## MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) ANNUAL/PROGRESS REPORT

For the Reporting Period:  to

Annual Report →  Progress Report → Due Date:

New Permittee →  Renewal Permittee

Regulatory Compliance

# 3-Current revenue streams?



General fund – taxes

Municipal bonds

Dedicated water and sewer funds - fees

Grants

Partnerships

# 4-How Much More Do You Need?

## A very simplified accounting formula!

- $(\text{Total Projected Costs}) - (\text{Current Revenue}) = (\text{What You Need})$
- Timing
  - Annual
  - Over 5- year permit cycle
  - 20 to 25-year compliance period

### LABOR

% FTE of existing staff  
Hire additional staff  
Contractors

### OPERATIONS & MAINTENANCE

Software  
Supplies  
Equipment maintenance

### CAPITAL

Equipment  
Project identification  
Land acquisition

Source: US EPA Environmental Finance Center

# Costs of Inaction



Fort Washington Industrial Park – June 20, 2019



Hatboro from Hatboro Patch 2012

- Public Health and Safety Impacts
- Increased Flooding
- Increased Repair Costs
- Increased Water Pollution
- Decreased Recreational Opportunities
- Potential Lawsuits due to Increased Flooding
- Accelerated deterioration (and repair costs ) of roadways
- Regulatory enforcement

# Develop a financing strategy to support budget

- Identify appropriate funding sources for budget items
- Consider affordability, other costs, ability to raise fees

## GENERAL FUND

- Staff
- Engineering
- Monitoring
- Asset management
- Training and technology

## GRANT

- Demo projects
- Initial SW mgr support

## Partnership

- Education and outreach
- GIS services

## Fee System

- Projects
- Long-term SW mgr support
- O&M

# 5-Potential Sources of Funding

## Multiple Sources

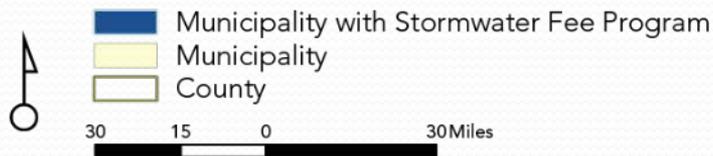
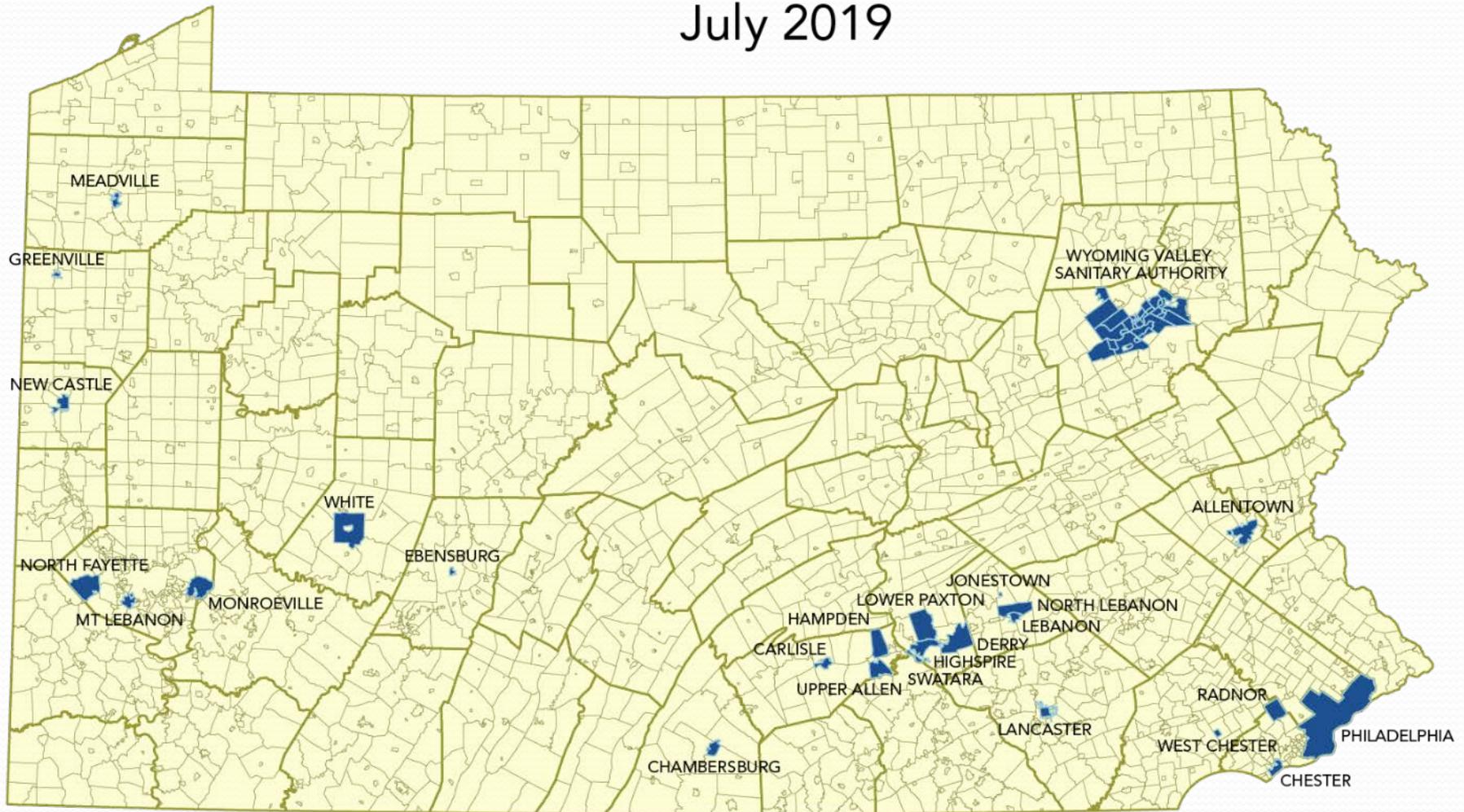
- General fund
- Bonds
- Grants
- Loans
- Fees
- Other

## Multiple Departments

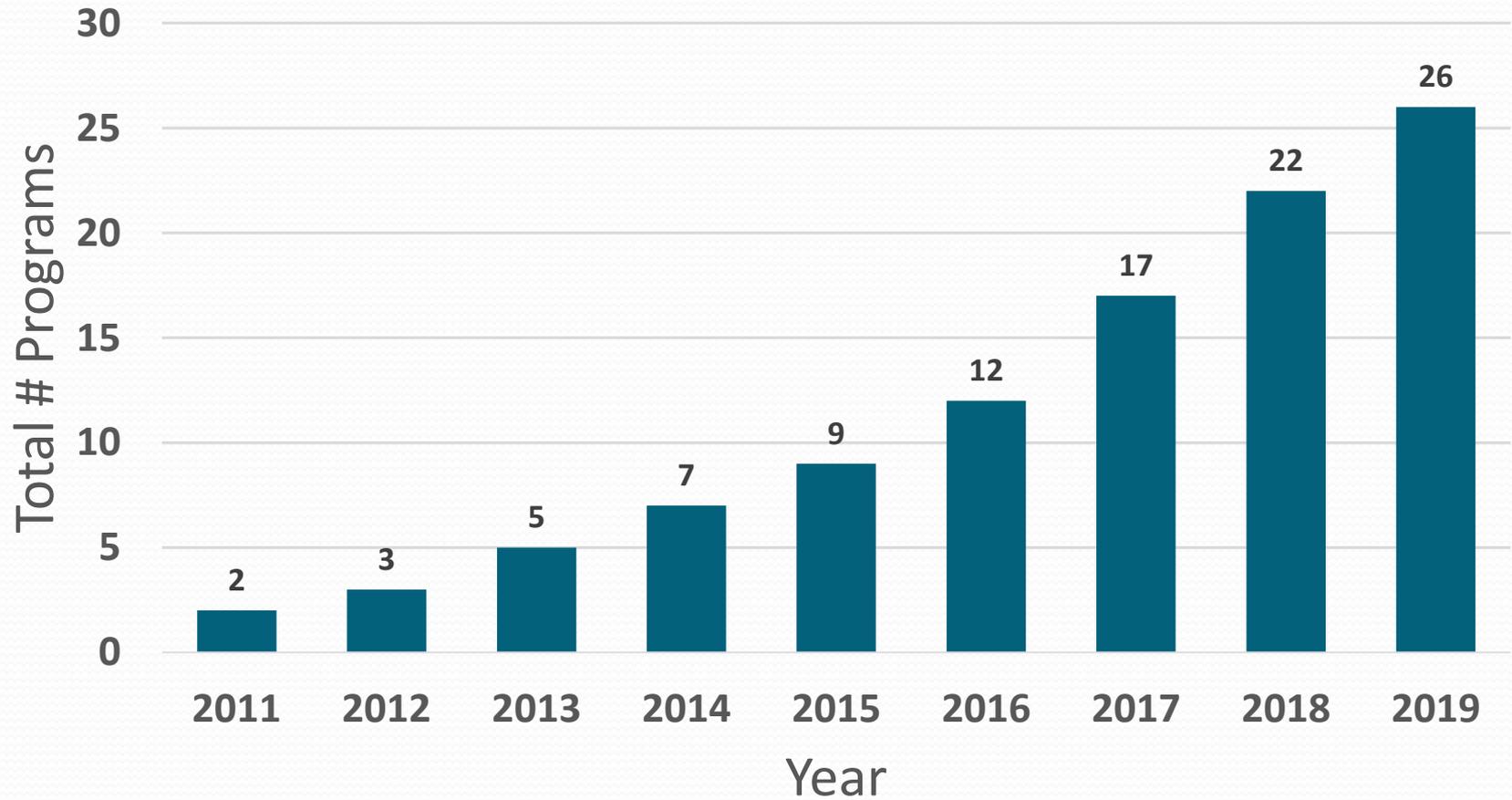
- Public Works
- Streets\
- Parks and Recreation
- Engineering
- Community Development
- Planning
- Other

Twenty-seven PA Municipalities have Fee Programs

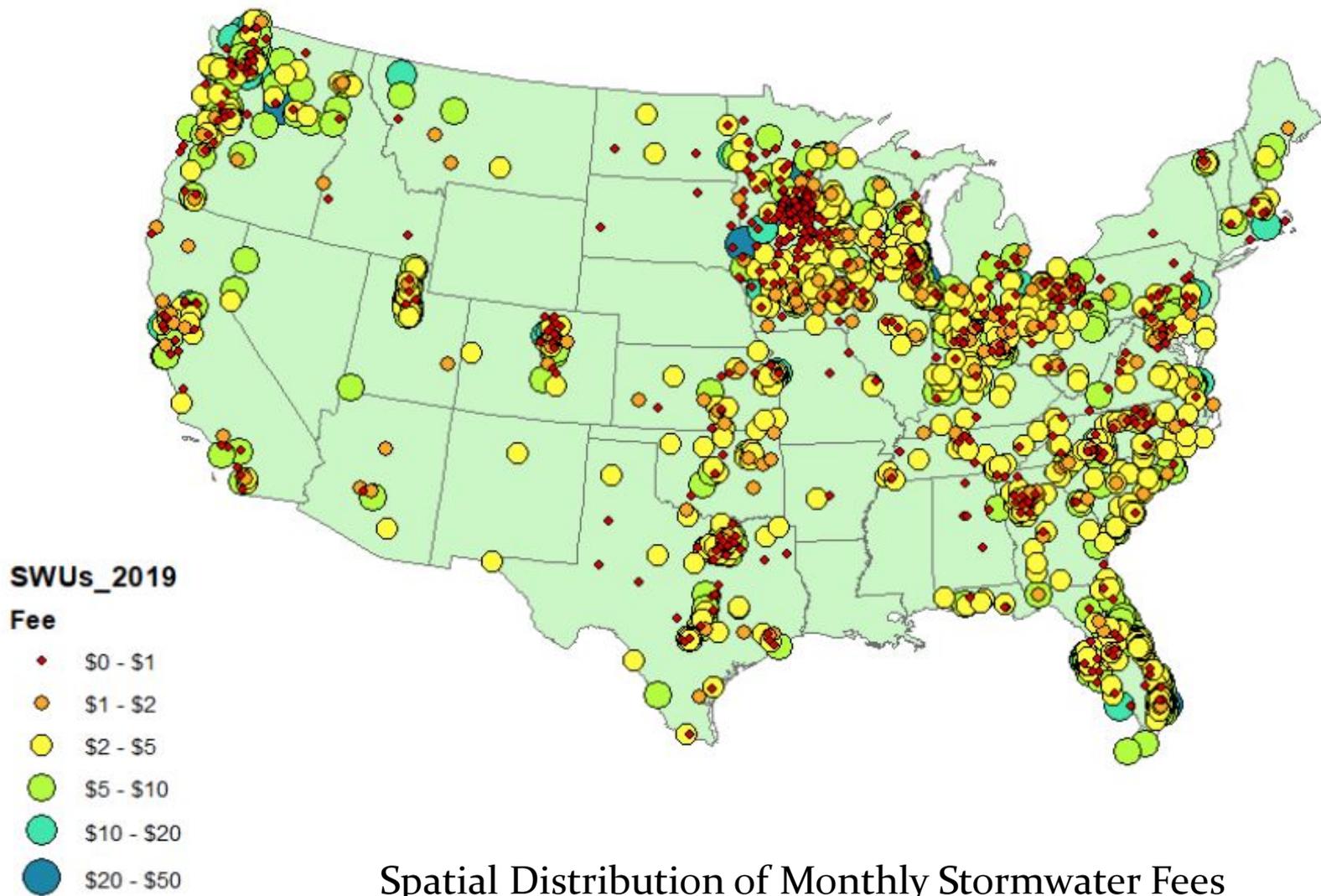
# Pennsylvania Municipal Stormwater Fee Programs July 2019



# Stormwater Fee Programs in PA



## Monthly Fees 2019



## Spatial Distribution of Monthly Stormwater Fees

Western Kentucky University Stormwater Utility Survey 2019



# Objectives

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- Understanding various ways to finance stormwater programs.
- Understand why and how stormwater fees can be used as a financing tool.

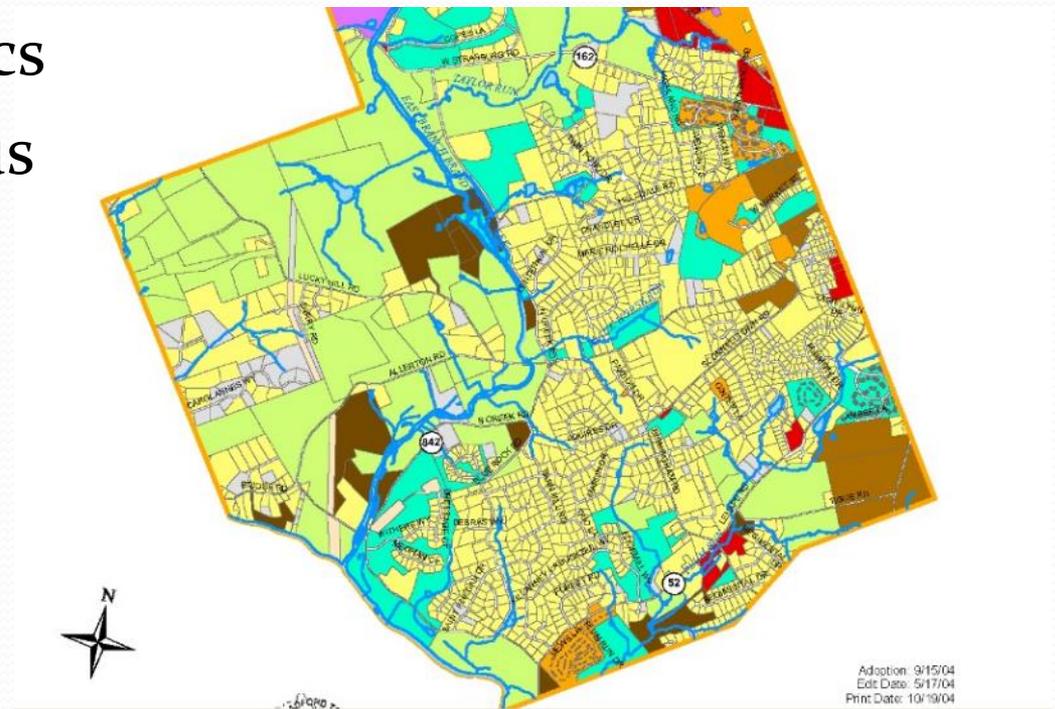
# Why Focus on Fees?



- **Base on actual costs/revenues**
- **Predicable \$ stream**
- **Applies to all properties**
- **Based on your land use characteristics**
- **Based on impact to environment**
- **More equitable**
- **Includes offset/credits**

# Technical Considerations

- Land use characteristics
- Pervious vs. impervious
- Hydrology and soils

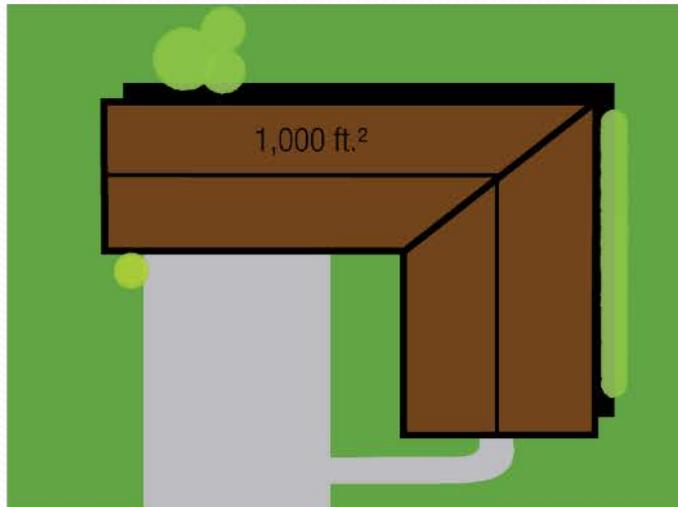


# Credit Systems and Equity

- Base fee for impervious surface typical approach
  - You pave you pay
- Fee system requires credit program
  - Install green stormwater infrastructure to reduce fee
- Consider equity:
  - Small lots
  - Small/large lot credit options
  - Low income areas

# Equivalent Residential Unit (ERU) Most Commonly Used Fee Unit

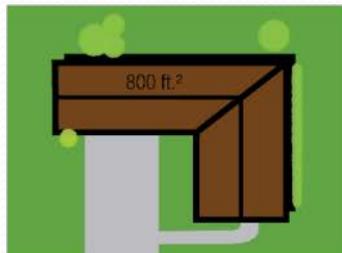
$$\text{Stormwater Fee} = \text{ERU} * \text{Standard 1.0 ERU Rate}$$



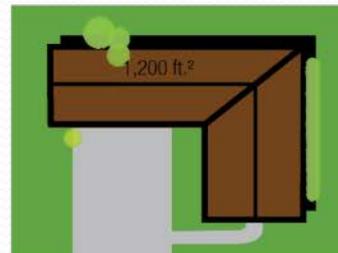
1 ERU = 1,000 ft.<sup>2</sup> of impervious area

The municipality will set a standard for impervious area and equate it to one equivalent residential unit. From this number, the municipality will be able to assess each parcel and determine the fee. For this example, we will assume that 1 ERU = \$1.00 stormwater utility fee.

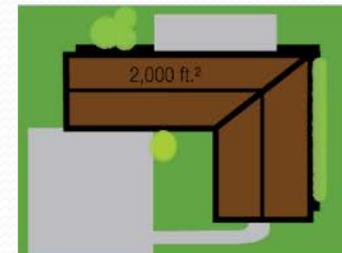
**Advantages:** The relationship between impervious area and stormwater impact is relatively easy to explain to the public - you pave, you pay.



.80 ERU = 800 ft.<sup>2</sup> of impervious area  
.80 cents



1.2 ERU = 1,200 ft.<sup>2</sup> of impervious area  
\$1.20

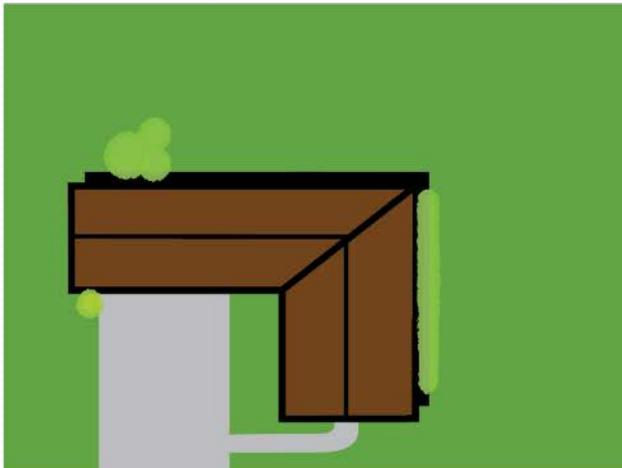


2.0 ERU = 2,000 ft.<sup>2</sup> of impervious area  
\$2.00

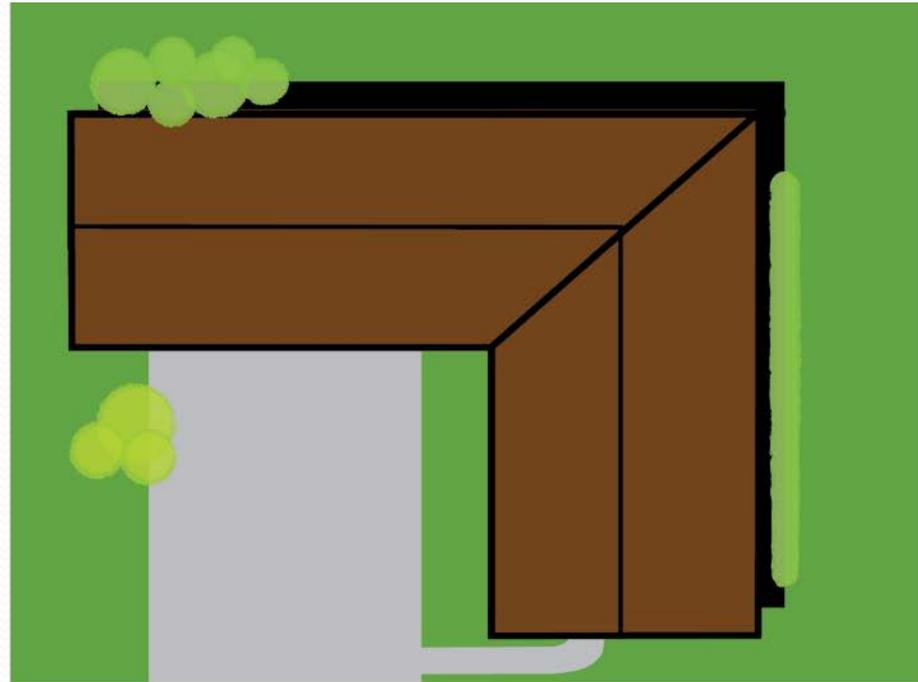
# Residential Tier System (RTS)

Stormwater Fee (Residential) =  $ERU * \text{Average ERU Rate @ Tier Level } n$ ,  
where  $n$  denotes the size category of the lot

Stormwater Fee (Non Residential) =  $ERU * \text{Standard 1.0 ERU Rate}$



Tier 1: Small Residential



Tier 3: Large Residential

# Residential Tier System (R) Requires data/analysis of housing stock/land use

**SWMAAC  
Recommendation**

Six “tiers” based on amount of impervious area.  
A property’s tier determines the monthly charge.



Tier	Amount of Square Feet of Impervious Area	Percent of Total Accounts
Tier 1	>0 and <=1,000 sf	18%
Tier 2	>1,000 and <=1,500 sf	17%
Tier 3	>1,500 and <=2,000 sf	16%
Tier 4	>2,000 and <=2,500 sf	14%
Tier 5	>2,500 and <=3,000 sf	9%
Tier 6	>3,000 sf	26%

- Each Tier is charged based on the recommended monthly fee of \$6.70/1,000 ft<sup>2</sup> of Impervious Area using the midpoint of the range
- **Median Monthly Fee:**
  - Residential: \$11.73
  - Commercial: \$25.87

Borough of West Chester



# Fee Development Steps

- Feasibility Study
- Public Education
  - Pre/post implementation
- Adopt Ordinance
- Create Billing System
- Provide Credits/Exemptions
- Develop O & M Program
- Prepare for legal challenges
- Implementation

# Other Considerations

- Emphasize community involvement (e.g. steering committee)
- Selling to residents (*Water Words that Work*)
- Stress fee not tax
- Opportunities for NGO assistance to municipalities...EACs, watershed groups, advocating, being involved.



# Authority

## General Authority

- Stormwater Management Act, 32 Pa. Stat. § 680.1
- Municipal Planning Code, P.L. 805, No. 247

## Create a Utility (an “Authority” in PA)

- Municipal Authorities Act 53 Pa. Stat. § 5607, allows for the creation of an authority that performs “storm water planning, management and implementation.”



# Implementing a Fee Directly

## 2016 Legislative Session

- **HB1325 – Passed!** Allows **Second Class Township** to assess fees for stormwater management activities and facilities. (codified 53 Pa. Stat. § 67705)

Legislation enabling Boroughs, 1<sup>st</sup> Class Townships, and Cities under consideration



# Developing an Ordinance

- Purpose
- Authority
- Findings
- Definitions
- Fee Calculation
- **Credits available**
- Account and Billing
- Enforcement and Penalties
- Review and Appeal

# Credits

The most effective way for owners of a property reduce the fee is to **reduce the amount of impervious surface** area on the property. Incentive to reducing runoff.





# Successful financing strategies are:

- Community-based
  - Local drivers and priorities
  - Local champions
- Integrated
  - A mix of financing mechanisms (cost reduction, revenue generators, incentives)
  - A mix of funding sources (fees/taxes)
  - Include rebates/credits
- Mirror the resource
  - Different stakeholders contribute in different ways

# Funding Options for Municipal Stormwater Management

Questions?

Susan Myerov, Watersheds Program Director  
Pennsylvania Environmental Council

[smyerov@pecpa.org](mailto:smyerov@pecpa.org)

