## **Supporting Municipal Actions to Protect and Improve Water Quality**

MTAAP Meeting

October 7, 2016



## Today's Agenda

- Welcome & Introductions [20 minutes]
- Update on Municipal Case Study Phase [10 minutes]
- Presentation by Scott Haag and Lin Perez from ANSP [30 minutes]
- Promising Recommendations and Activity [1.5 hours]
- Wrap Up/Announcements [5 minutes]
- Lunch

#### **Introductions: DVRPC Team**

- Laura An
- Melissa Andrews
- Christina Arlt
- Alison Hastings
- Patty Elkis
- Chris Linn

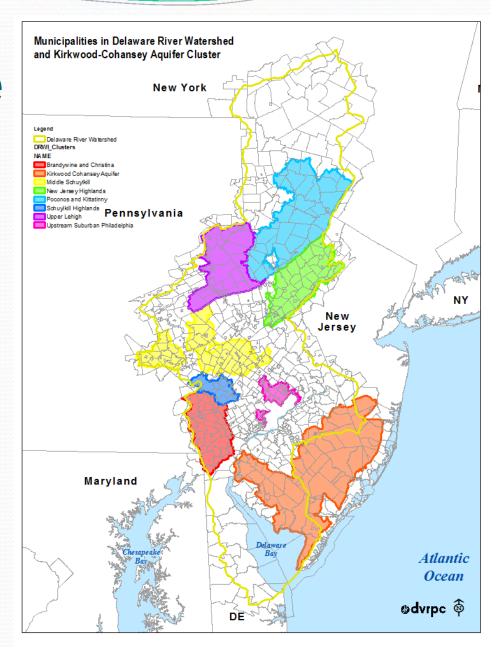
#### Introductions: MTAAP

## Purpose of this Project

- Improve the ability of organizations to assist municipalities in their efforts to improve and protect water quality.
- Main research questions:
  - What are the barriers to, and conditions of, success for municipal-based conservation practices?
  - What municipal technical assistance services are working?
  - How can they be replicated and improved?
  - Where and how could technical assistance be more effective?

## **DRWI** Initiative

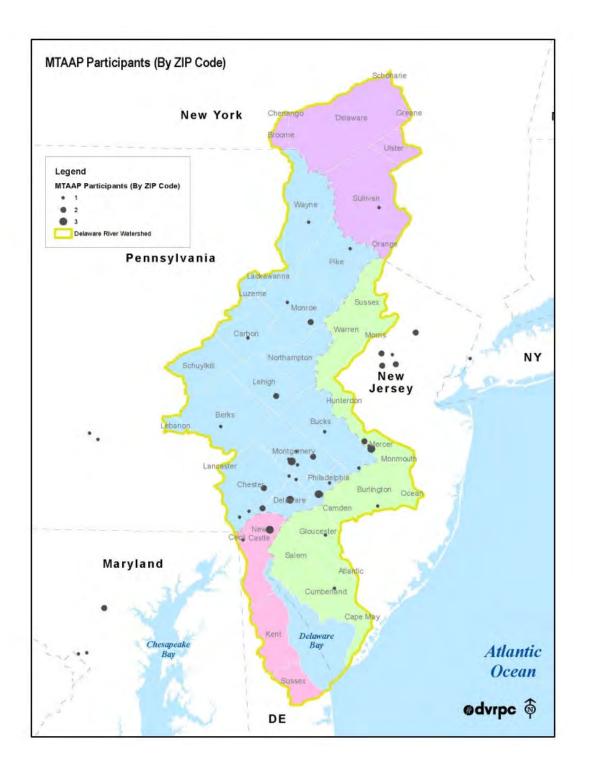
843 municipalities



#### Overview of the Project to Date

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## MTAAP Interviews

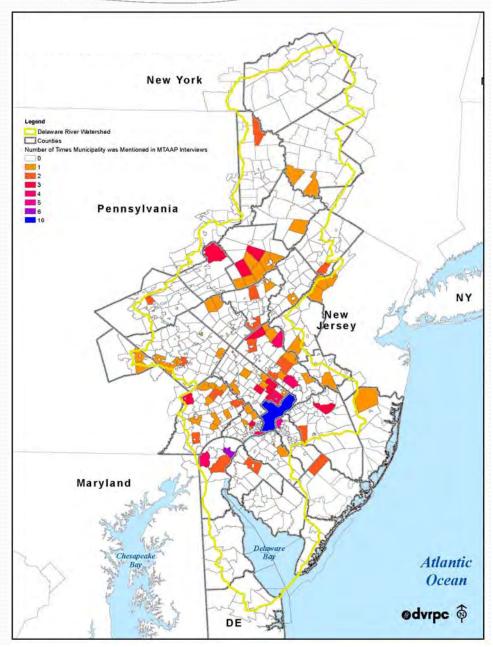


# Which municipalities should we talk to?

- Municipalities who have had success
- Municipalities who could do more
- Municipalities who have tried but failed

#### **Municipal Interviews**

 71 municipalities mentioned in MTAAP Interviews



#### **Case Studies**

- In-depth case studies (5-10 pages)
- Aiming for 20

#### Overview of the Project to Date

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## **Municipal Interviews**

- Abington Township, Montgomery County
- Buckingham Township, Bucks County
- Cheltenham Township, Montgomery County
- Durham Township, Bucks County
- East Bradford Township, Chester County
- East Goshen Township, Chester County
- East Greenville Borough, Montgomery County
- Evesham Township, Burlington County
- Hamilton Township, Mercer County
- Honey Brook Township, Chester County
- Kidder Township, Carbon County
- Lambertville city, Hunterdon County
- Lebanon Township, Hunterdon County
- London Grove Township, Chester County
- Lower Gwynedd Township, Montgomery County
- Lower Moreland Township, Montgomery County
- Lower Salford Township, Montgomery County
- Lower Saucon Township, Northampton County

- Montgomery Township, Montgomery County
- Newark CCD, New Castle County
- Newtown Town, Sussex County
- Pilesgrove Township, Salem County
- Pocopson Township, Chester County
- Radnor Township, Delaware County
- Reading city, Berks County
- Richland Township, Bucks County
- Smithfield Township, Monroe County
- Solebury Township, Bucks County
- Springfield Township, Bucks County
- Stillwater Township, Sussex County
- Tredyffrin Township, Chester County
- Upper Dublin Township, Montgomery County
- Upper Uwchlan Township, Chester County
- Warrington Township, Bucks County
- Warwick Township, Chester County
- Whitpain Township, Montgomery County
- Wyomissing Borough, Berks County

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#### **Shortlisted Consultants**











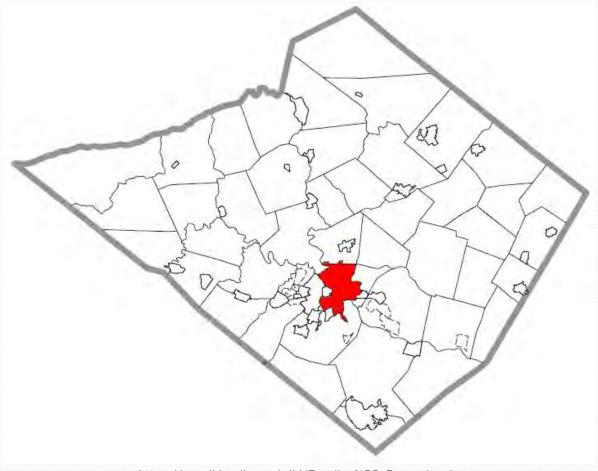




## **Background Information**

- Results from Preliminary Municipal Interview
- Fast Facts
  - 2010 Population
  - 2015 Population
  - Area in Square Miles
  - Water Area
  - Population Density
- Relevant Plans/Ordinances

## Reading City, Berks County, PA



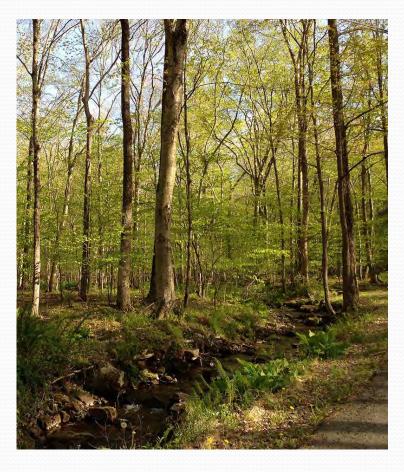
https://en.wikipedia.org/wiki/Reading%2C\_Pennsylvania

## Kidder Township, Carbon County, PA



By I, Mtruch, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=2490955

#### Lebanon Township, Hunterdon County, NJ



By Famartin - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=26391067

#### Lambertville City, Hunterdon County, NJ



By Jared Kofsky/PlaceNJ.com - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=21038494

#### Smithfield Township, Monroe County, PA



By Jerrye & Roy Klotz, MD - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=35002351

## Lower Saucon Township, Northampton County, PA



By JERRYE & ROY KLOTZ MD - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=23434411

## Tusten Town, Sullivan County, NY



By Evangeline.a - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=16879261

#### **Newark City, New Castle County, DE**



CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=84034

#### East Bradford, Chester County, PA



By MyWikiBiz at English Wikipedia - Transferred from en.wikipedia to Commons by Premeditated Chaos using CommonsHelper., Public Domain, https://commons.wikimedia.org/w/index.php?curid=17662329

#### Lower Salford, Montgomery County, PA



By Doug Kerr - originally posted to Flickr as Lederach, Pennsylvania, CC BY-SA 2.0, https://commons.wikimedia.org/w/index.php?curid=10221193

### Abington, Montgomery County, PA



Source: Abington Township

## Montgomery Township, Montgomery County, PA



#### Hamilton Township, Mercer County, NJ



By Eva and Rodney Hargis - IMG\_2953Uploaded by gamweb, CC BY-SA 2.0, https://commons.wikimedia.org/w/index.php?curid=23309587

#### Durham Township, Bucks County, PA



By Shuvaev - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=22766502

#### Case Studies Left to Be Assigned

#### Municipalities

Cheltenham Township, Montgomery County, PA

Warrington Township, Bucks County, PA

Tredyffrin Township, Chester County, PA

Radnor Township, Delaware County, PA

Whitpain Township, Montgomery County, PA

Camden City, Camden County, NJ

Evesham Township, Burlington County, NJ

Pilesgrove Township, Salem County, NJ

## **Project Timeline**

- October 2016 follow-up interviews if needed
- October 31 draft case studies due
- November 2016 DVRPC reviews draft case studies
- December 31 final case studies due
- January 2017 DVRPC finalizes and distributes report

## **Questions?**



https://tidysurveys.com/blog/2013/11/03/survey-questions-choose-right-type-survey-questions/

## **Scott Haag and Lin Perez**

## THE ACADEMY OF NATURAL SCIENCES

of DREXEL UNIVERSITY

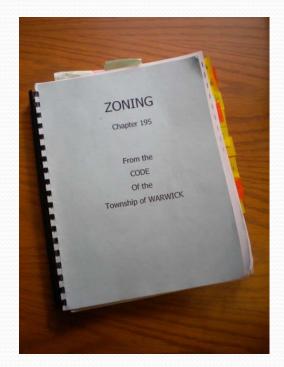
#### **Promising Recommendations**

Project Team Members' Early Choices
Set 1



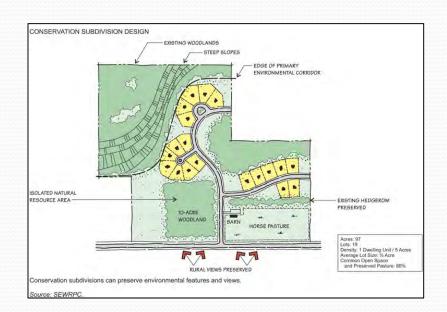
#### A. Create Legal Assistance Fund

- PA and NJ Municipalities have legal right to regulate development:
  - Planning & Zoning (codification)
  - Development review and approval processes
  - Enforcement



Credit: Christina Arlt, Warwick Twp, PA

- Planning & Zoning
  - Zoning tied to comprehensive planning
  - Zoning balances right of property owner to use property without impinging upon rights of neighboring property owners AND best interest of community.
  - Threat of legal challenge can be enough to dissuade municipality to make changes



- Development reviews:
  - Municipal solicitor's opinion can be enough to dissuade municipality/board/other professional staff
- Enforcement requires
  - Available staff
  - Strong staff knowledge
  - Strong administration
  - Willingness to take legal action



- Other examples to learn from or inform recommendation?
  - Did Chester County try this with first Landscapes Comprehensive Plan?
  - Lancaster County's growth management plan (requires downzoning in rural areas) – legal challenges?

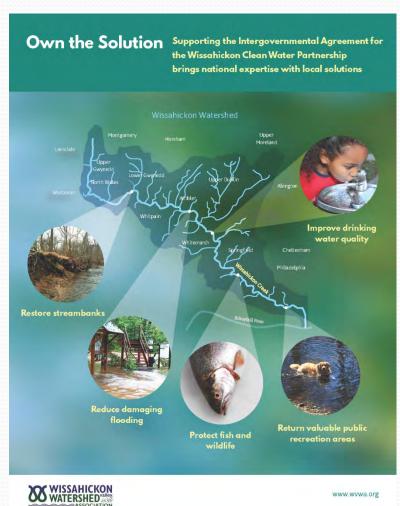


- Lots to figure out/discuss:
  - Financial assistance for municipalities that...
  - Technical assistance for municipal solicitors that...
  - Where would funding come from...



#### B. Utilize Multi-Municipal Partnerships

- Improved, transparent guidance from PADEP so municipalities know that their efforts will be approved
- Wissahickon Clean Water Partnership
  - Role of a trusted nonprofit partner (WWVA)

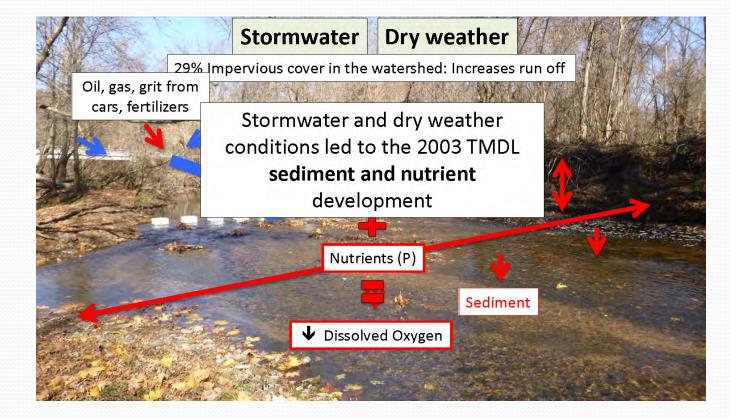




#### **B.** Utilize Multi-Municipal Partnerships

TMDLs and MS4 Pollution Reduction

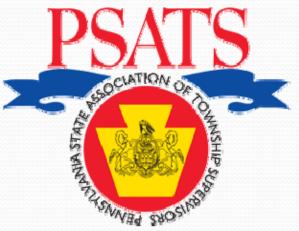
Plans



# C. Go Where Municipalities Already Go



#### Municipal Organizations









Delaware League of Local Governments Online Directory

#### **NJLM Ordinance Library**



**Abandoned Property** 

Abandoned Property Rehabilitation Act

Affordable Housing

Agricultural Issues

Alarms

Alcoholic Beverages

Animals

Annual Budget for Municipalities

Background Checks

Bonding

Capital Improvements Carbon Monoxide Detectors

Coin Drops

Contract Awards

Development

**Development Regulations** 

Development - Special Improvement District

Drug Issues

Drunk Driving Free Zone **Economic Development Electronic Payment** 

Emergency, Rescue Services

Ethics

Faulkner Act Charter Study Commission

Fences

Filming

Fire Prevention

Flag Displays

Garbage-Solid Waste

Graffiti

Hand Held Lasers

Health

Historic Preservation

Home Based Businesses

Housing Issues

Ice Retardant Systems

Interlocal Services

John's Law

Kindness Month Sample Proclamation Land Preservation (See Open Space

Length of Service Awards Program (LOSAP)

License Fees

Lighting Nuisances

Local Assistance Board

Mailboxes

Municipal Facilities for Public Use

Municipal Fees

Municipal Officials and Employees

Newsracks

Noise and Nuisances

Open Public Records

Ordinance-Code Violations & Penalties

Outdoor Sales & Displays

Pay to Play

Peddlers & Solicitors

Pedophile Free Zones (See Sex Offender Free Zone)

Personnel Issues

Planning & Engineering

Plumbing

Police and Fire

Pools

**Professional Service Contracts** 

Property Issues (See also Sidewalks and Rental Properties)

Public Meetings

Public Safety Recreation

Recreation Advisory Committee

**Rental Properties** 

Respiratory Protection

Salaries

Schools

Sewers

Security Cameras

Sex Offender Free Zone

Sexual Harassment

**Shade Trees** 

Sidewalks & Streets

Signs

Skateboards

Smoking (See Tobacco & Smoking Issues)

Snow Removal

Storage Tanks

Stormwater Issues

Tattoo & Body Piercing

Telecommunications and Cell Towers

Tobacco and Smoking Issues

Towing

Traffic - Parking Issues

Traffic - Right of Ways

Traffic & Road Issues

Trucks

Vehicle Storage Vital Statistics

**Wastewater Treatment Systems** 

Zoning - Land Use

**Abandoned Property** 

Abandoned Property Rehabilitation Act

Affordable Housing

Agricultural Issues

Alarms

Alcoholic Beverages

Animals

Annual Budget for Municipalities

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Plumbing

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Pools

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Property Issues (See also Sidewalks and Rental Properties)

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Public Safety

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Recreation Advisory Committee

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Traffic - Right of Ways

Traffic & Road Issues

Trucks

Vehicle Storage

Vital Statistics

**Wastewater Treatment Systems** 

Zoning - Land Use

#### **PSAB Ordinance Library**



Adult Entertainment Alcoholic Beverages

Amplified Noise From Vehicles

Amusement Devices Animal Nuisance Audit Of Accounts Award For Arrest

Crossing Guards
Curbing Of Dogs

**Dangerous Structures** 

Excessive Noise Feeding Wildlife

Feral Cats Fire Losses

General Curfew For Minors

Junked Motor Vehicles Landlords Tenants

Laser Beam Pointer Devices

Maintenance Of Curbs and Sidewalks

Mayor Council Compensation

Motor Vehicles

Notices on Poles Prohibited

Numbering Buildings Office Of Manager Outside Burning

Portable Storage Containers

Property Maintenance 1
Property Maintenance 2
Public Trash Collection

Real Estate Tax Certifications

Recycling

Regulation Of Partition Fences

Removal Of Snow Secretary Treasurer

Shade Tree Commission 1 Shade Tree Commission 2 Shade Tree Commission 3

Shade Trees
Sidewalks
Skateboards

**Smoke Detectors** 

Snow And Ice Emergencies

**Snow Emergencies** 

**Speed Limits** 

Stagnant Water Pools

**Swimming Pool** 

**Tampering With Property** 

Tax Collector

Trees 1

Trees 2

Trees Overhanging

Vector Control Vehicles And Traffic Warrantless Arrests Waste Dumpsters

Water And Sewer Rates

Wireless Towers Yard Sale Permits

Yard Waste

# C. Go Where Municipalities Already Go

 Figure out how we can get model ordinances and other expert content into the hands of municipalities by partnering with trusted municipal organizations.

## D. Experiential Learning



httpa://commons.wikimedia.org

I was in the Peace Corps in India as an agricultural volunteer with no water background. I grew up in a time when being outside was the first option. My fascination with water led me to go into civil engineering.

My parents always took us out – I had an early, deep connection with the landscape.

Working in an EAC and seeing good things happen from it gets to be kind of addictive.

#### Radnor Middle School Watershed Program





www.rtsd.org/, http://web.mit.edu/wplp/sms/radnor.htm

## University of Maryland Watershed Stewards Academy



#### Session 1: Introduction, Orientation

Tuesday, September 20th 6:00-9 pm\*

Topics: Water Cycle – Introduction to the WSA, Significance of Participation, Sense of place. Overview of Watershed Issues from a National to Local Scale. (VP/DJ)

We will introduce the course, its objectives, and its requirements, including the Capstone project. We will introduce and get to know one another, including why we are here and where we are from. We will introduce the concept of watersheds, including our place in them.

We will begin to explore the concept of community, what defines community, and the composition of a thriving community.

We will explore the water cycle and the interrelatedness and connections it shows within community. We will explore the water cycle in relation to watersheds, including how this cycle has been disrupted (local watershed issues especially related to stormwater, or polluted runoff). We will also look at different solutions and tools in order to accomplish the work.

#### Session 2: Storm-water Management Tour

Part 1: Infiltration: Rain Gardens, Conservation Landscaping, Permeable pavement, Green roofs, and Water harvesting. Perspectives and Practice on Neighborhood Part 2: Site Assessments. Putting It All into Practice: Class Project Site Assessment and Planning

Saturday, Sept 24th 11 - 3 pm (Forest Heights Municipal Center) (JM/VP/JB)

We will tour several sites that demonstrate possible solutions for stormwater problems. Among the sites to be visited, stewards will see a green roof, rain garden, permeable pavers, etc. Stewards will understand modern water resource issues locally and globally. We will also learn about native plants, including what it means to be native, why native plants are used, and why non- native plants, particularly invasive plant species may pose problems. We will identify soils and plants for use in our stewardship projects.

We will learn about specific good stewardship practices that can reduce stormwater pollution, such as green roofs, rain barrels, conservation landscaping, and rain gardens. We will explore the nuts and bolts of these practices to determine suitable locations, best design practices (design, installation, and maintenance), and risks; the basics of;

#### **Penn State Extension Watershed Ambassadors**





#### Master Watershed Steward Program Lehigh & Northampton Counties

#### CALL FOR VOLUNTEERS

The Penn State Extension Master Watershed Steward Program in Lehigh and Northampton Counties will be training a new class in spring of 2016. We are looking for individuals that have an interest in the environment, a willingness to learn more and most importantly, a strong desire to make a difference in the community. So whether you are a teacher, an accountant, a construction worker, a homemaker, a student, or have another background, YOU can become a Master Watershed Steward.

To become a certified Master Watershed Steward, you must complete 40 hours of training and fulfill 50 hours of volunteer service. After becoming certified, you can maintain your status by giving at least 20 volunteer hours and attending at least 10 hours of continuing education annually.

> Master Watershed Stewards volunteer in the community to improve the health of our streams, rivers and other natural resources by:

- organizing educational events
- · organizing stream clean ups
- designing demonstration rain gardens
- · monitoring steams for bacteria
- working with municipal officials to plant teaching adults and children about the environment
- native meadows

and in many other ways

The new training program will begin in March of 2016 and run through mid-June with a mixture of weekday evening classroom sessions and Saturday field trips. For more information, contact Erin Frederick at 610-391-9840 or elf145@psu.edu. Information can also be found at extension psu.edu/Lehigh

Coordinating Program Partners

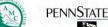














extension.psu.edu

### **Program Structure**

- Run by entity focused on education
- Targeted groups
- Incentivized or required education
- Funding source
- Program content



www.beforeitsnews.com

#### **Promising Recommendations**

Project Team Members' Early Choices Set 2



# E. Create Watershed-based Mitigation Plan and Bank

- Mitigation Banks
  - Most common known example: Wetland Banking
    - "No net loss of wetlands"
  - Form of compensatory mitigation
  - Happens off-site, but location has rational nexus (i.e. watershed)
  - Pay-ahead do something now for an impact we know is going to happen in the future



Credit: Nick Carson at English Wikipedia - Transferred from en.wikipedia to Commons., Public Domain, https://commons.wikimedia.org/w/index.php?curid=99 59121

# E. Create Watershed-based Mitigation Plan and Bank

- Mitigation banks usually require:
  - Plan (idea of what needs to be done where and why)
    - Sending Area/Receive Area
    - Wish List projects
  - Fund (admin funds as well as fees/fines for cash flow)
  - Implementation
    - Credits (do now)
    - Debits (impacts later)



Credit: Abington Township, PA

# E. Create Watershed-based Mitigation Plan and Bank

- Lots to figure out/discuss:
  - Geographic extent? Subwatersheds?
  - "No net loss of permeability?"
  - Is this for stormwater only? Or all water quality?
  - Upstream/downstream projects?
  - Regular line-items in municipal budgets?
  - Baseline vs. Nice-to-have

## F. Connect Academic Researchers with Ordinance Writers

- Where to host?
  - Stormwater Clearinghouse?
  - PSATS/NJ League?
- Is this information useful for codes?
- How to fund?



### G. Celebrate!

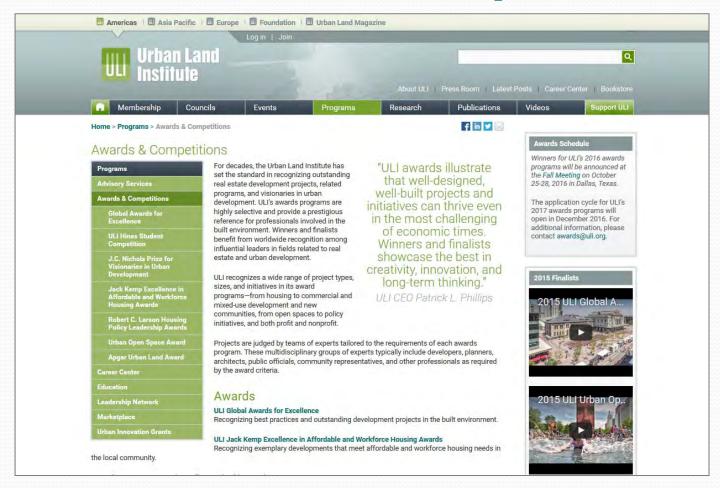


## G. Celebrate Projects



Figure 6.5-16. Rain Garden in State College, PA. http://www.dep.state.pa.us/dep/subject/advcoun/stormwater/Manual\_DraftJan 05/Section06-StructuralBMPs-part1.pdf

### G. Celebrate Developers



### G. Celebrate Municipalities



https://twitter.com/psats/status/464832673207160832

### G. Celebrate Municipalities

- Piggyback on an existing awards program?
- Create a new awards program?

# H. Create Stormwater Clearinghouse for Municipalities

- Funding sources
- Legal information
- Sample plans and ordinances
- Costs and benefits of conservation activities
- Sample educational materials for varied groups



There is a need to show measurable results, but we are just guessing about the actual impact.

We could use a little more data to help prioritize projects.

We are required to reduce phosphorus content by 99 percent, but we don't know how to attain that.

We don't have good guidelines on what we should be doing.

The EPA said that street sweeping doesn't count to address TMDLs, so why are we doing this?



Purchase Options

A purchase option is a right to purchase or lease land or other property interests without any obligation to do so.

Read more... ⊕ ⊕

Read m

Acquiring Land & Easements Financing Conservation Model Documents



Research & Education



Land Use Regulation & Design Library



Parks, Trails & Recreation



Sign Gallery



**Studies** 



Stewardship & Management



Other



**Experts** 





DEP > Businesses > Water > Bureau of Clean Water > Stormwater Management > Municipal Stormwater > MS4 Resources

RELATED INFO

**FUNDING OF** 

MS4 RESOUR

#### MS4 RESOURCES

The following is a selection of resources for those seeking more information on MS4s or assistance with implementing stormwater management programs or other permit requirements. Links to resources outside of DEP's website does not necessarily constitute an endorsement.

#### MAPS

eMapPA

This DEP application can be used to view urbanized areas (UAs) based on the 2000 and 2010 censuses along with other facilities and features.

PA Urbanized Areas (PDF)

This map of PA UAs is based on 2010 census data.

EPA Urbanized Area Website

•

2010 UA maps

#### MODELING/PLANNING TOOLS

MS4 Requirements Table <u>web-based GIS application</u>
 This application provides a visual representation of the information contained in the MS4 Requirements Table.

· Statewide MS4 Land Cover Estimates (PDF)

This document contains percent impervious and pervious cover, both inside and outside of urbanized areas, for each municipality with an MS4 in PA, which may be used to develop pollutant loading estimates for Pollutant Reduction Plans and TMDL Plans.

PA Stormwater Manual DRAFT Compliance Spreadsheet (XLSX)

Use of the Chesapeake Bay Performance Standards curves to calculate BMP pollutant load removals requires an estimate of the stormwater pre-to-post development volume increase. The pre-to-post volume increase is most easily calculated using this spreadsheet.

- · Expert Panel Reports
  - Final CBP Approved Expert Panel Report on Stormwater Performance Standards (Long Version) (PDF)
  - Final CBP Approved Expert Panel Report on Stormwater Retrofits (Long Version)
     (PDF)
  - · Final Recommendations of the Expert Panel to Define Removal Rates for Individual

### Clearinghouse Development

- Connect trusted municipal source and trusted expert source
- Add new information, as needed, to trusted expert source
  - Determine municipalities' knowledge gaps
- Promote clearinghouse throughout region
  - Funding source?

### **Small Group Discussions**

- Purpose:
  - Provide feedback on early/promising recommendations
  - Help determine usefulness and feasibility
  - Start to develop recommendation
- Go through two rounds
  - Choose group to discuss specific recommendation.
  - 10-15 minutes per round

### **Small Group Discussions #1**

Group A: Create Legal Assistance Fund –
Conference Room Front – Alison Hastings

Group B: Watershed-based planning and partnerships – Pennsylvania Room – Chris Linn

Group C: Go to Where Municipalities Already Go – Conference Back – Christina Arlt

Group D: Experiential Learning

New Jersey Room – Melissa Andrews

### **Small Group Discussions #2**

Group E: Create Watershed-based Mitigation Plan and Bank – Conference Room Front – Alison Hastings

Group F: Connect Academic Researchers with ordinance writers – Pennsylvania Room – Chris Linn

Group G: Celebrate –

Conference Back – Christina Arlt

Group H: Create Stormwater Clearinghouse – New Jersey Room – Melissa Andrews

#### **Next Steps**



#### Municipal case studies

- October 2016: Write case studies
- November 2016: Review case study drafts
- December 2016: Complete case studies

#### Recommendations survey

- Create list of recommendations
- Develop recommendations survey
- Send survey to the MTAAP and collect responses
  - Look out for the survey link in January 2017

#### **Next MTAAP** meeting:

- Meeting #4
- At DVRPC's Offices
- Late January or early February 2017
  - TBD from evaluation form responses
- Results of recommendations survey and MTAAP feedback

#### **Evaluations**

#### Municipal Technical Assistance Advisory Panel (MTAAP) October 7, 2016 Meeting Survey Help us find out what worked and what didn't work about today's meeting 1. Please rate the overall quality of the MTAAP meeting. 2. Was the MTAAP meeting a good use of your time? Not a valuable use of my time C C C C Excellent use of my time 3. What did you like best about the MTAAP meeting? 4. What could have been improved about the MTAAP meeting? 5. Do you have suggestions for this project and/or the MTAAP that would help us achieve the deliverables? 6. Would you be able to attend an MTAAP meeting in Philadelphia on the following dates? \_\_\_\_ Friday, 1/20/2017 \_\_\_\_ Tuesday, 1/24/2017 \_\_\_\_ Thursday, 2/9/2017 \_\_\_\_ Wednesday, 2/15/2017

## **Questions?**



https://tidysurveys.com/blog/2013/11/03/survey-questions-choose-right-type-survey-questions/

#### Please Join Us For Lunch!



http://espressoandcream.com/2012/08/vegetarian-lasagna-with-goat-cheese-and-summer-squash.html