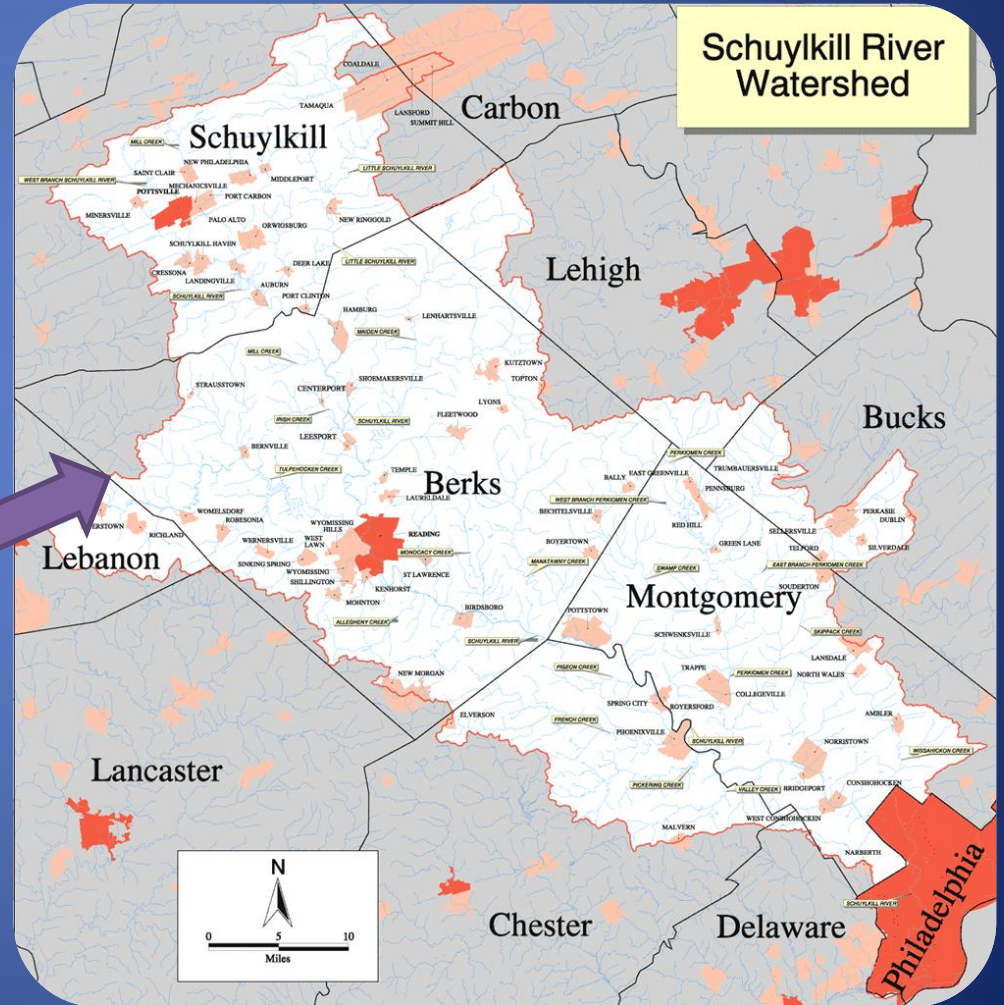
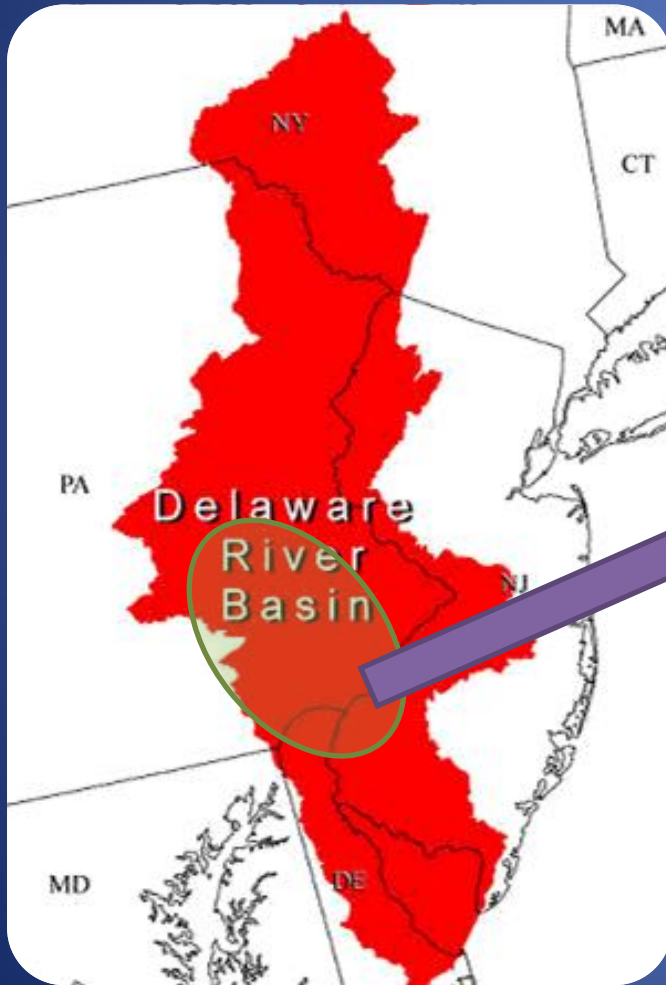


Lessons learned in the Schuylkill

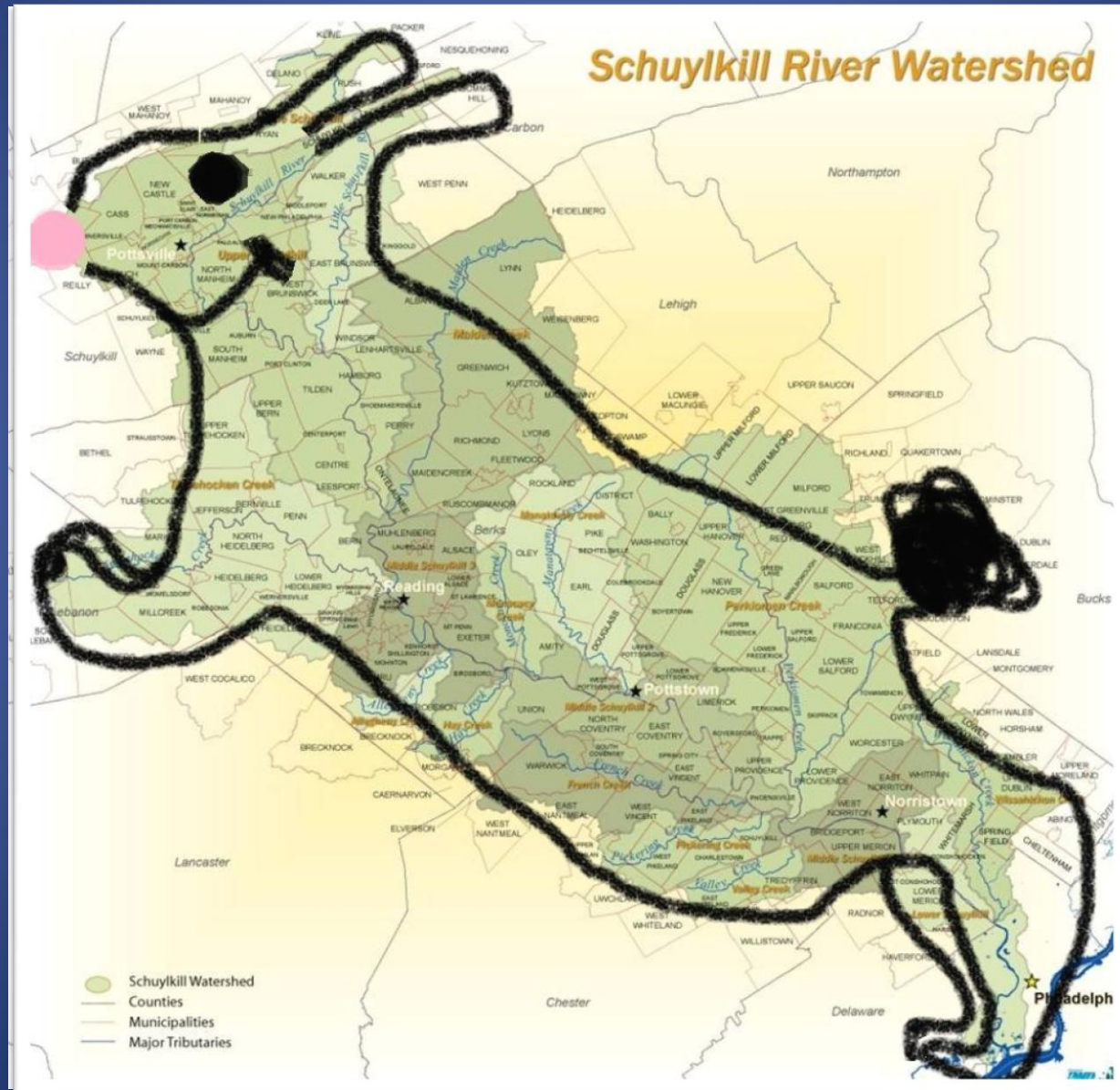
Taking the message upstream



Delaware River Basin

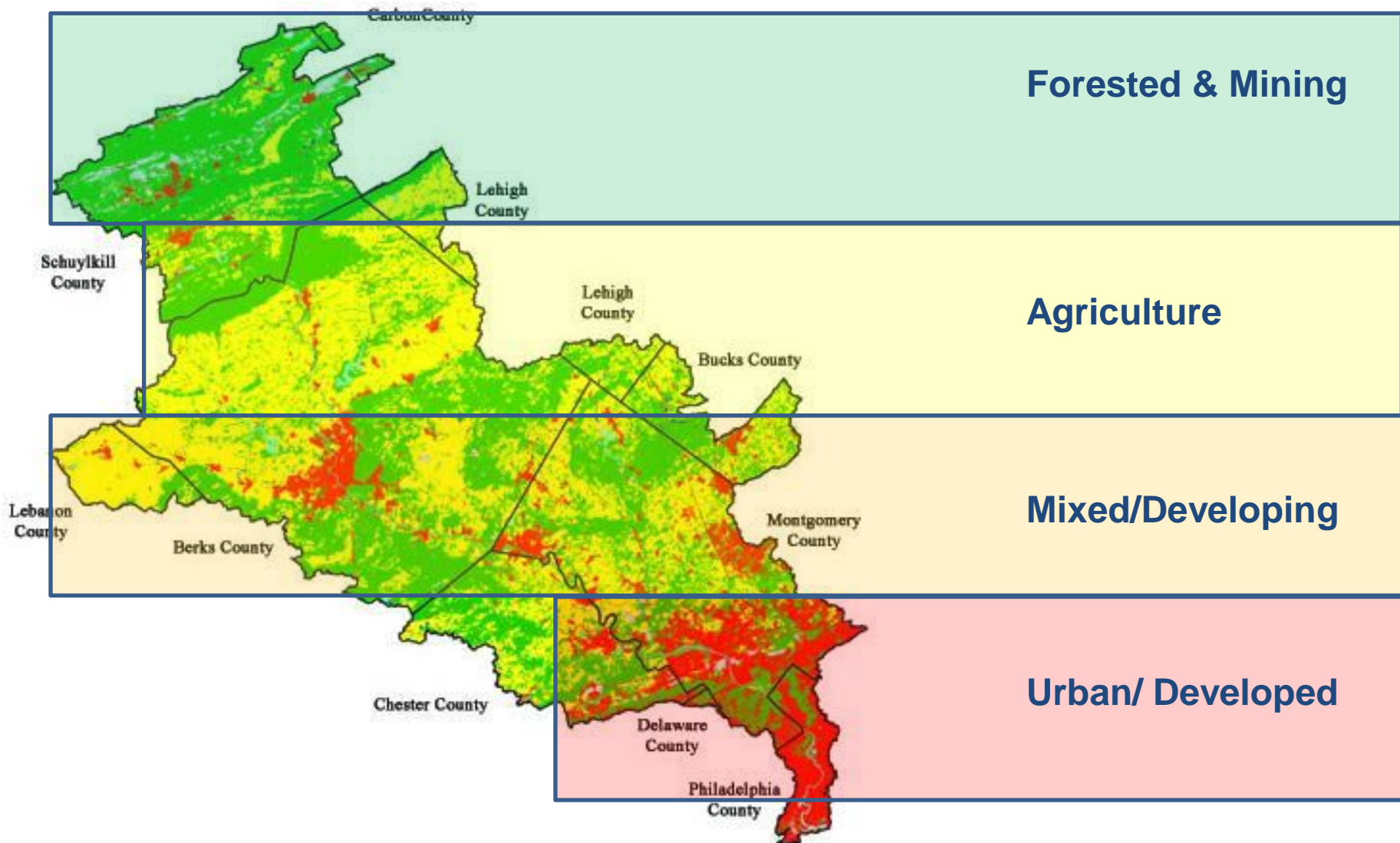


The Schuylkill Watershed





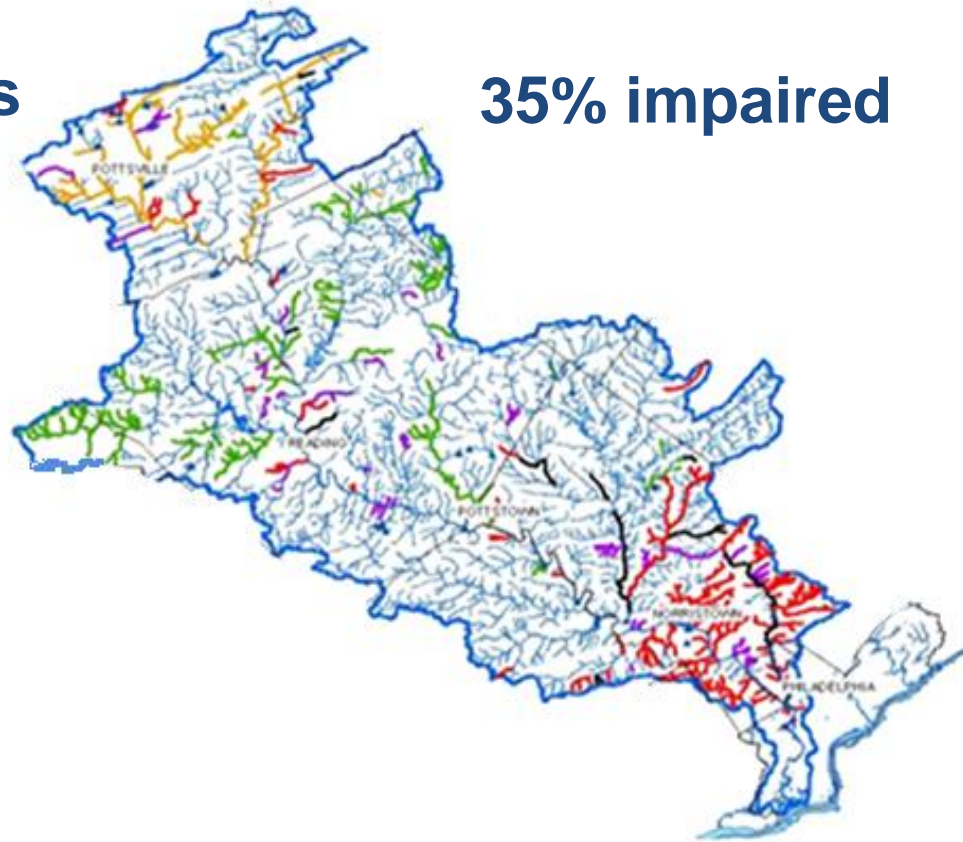
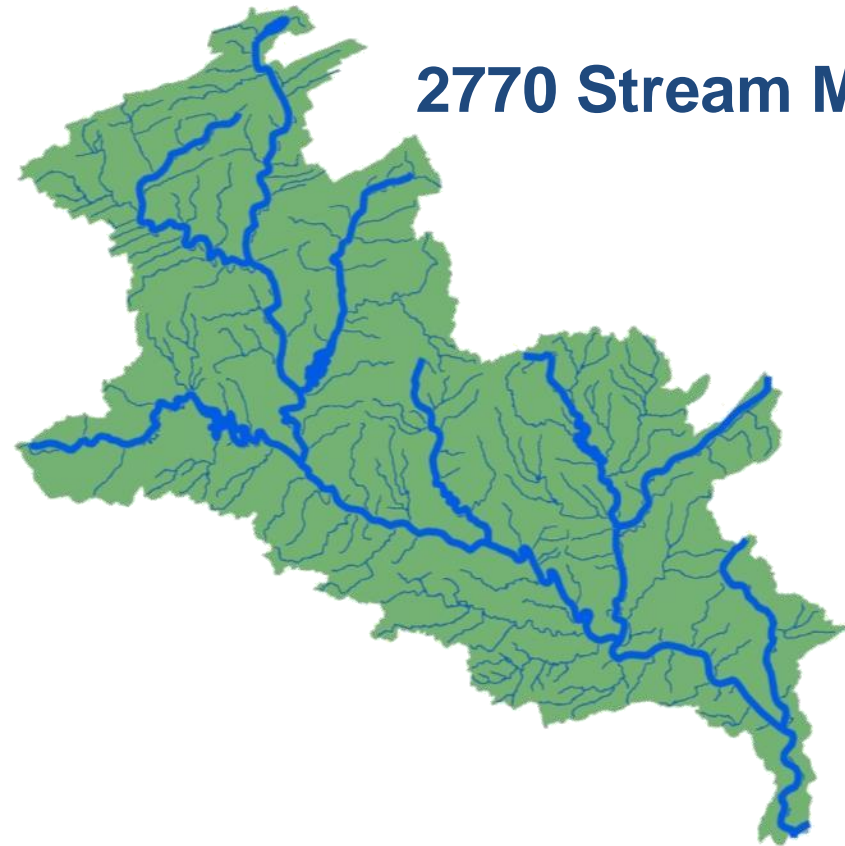
Schuylkill Watershed Land Use



Stream Impairments

2770 Stream Miles

35% impaired

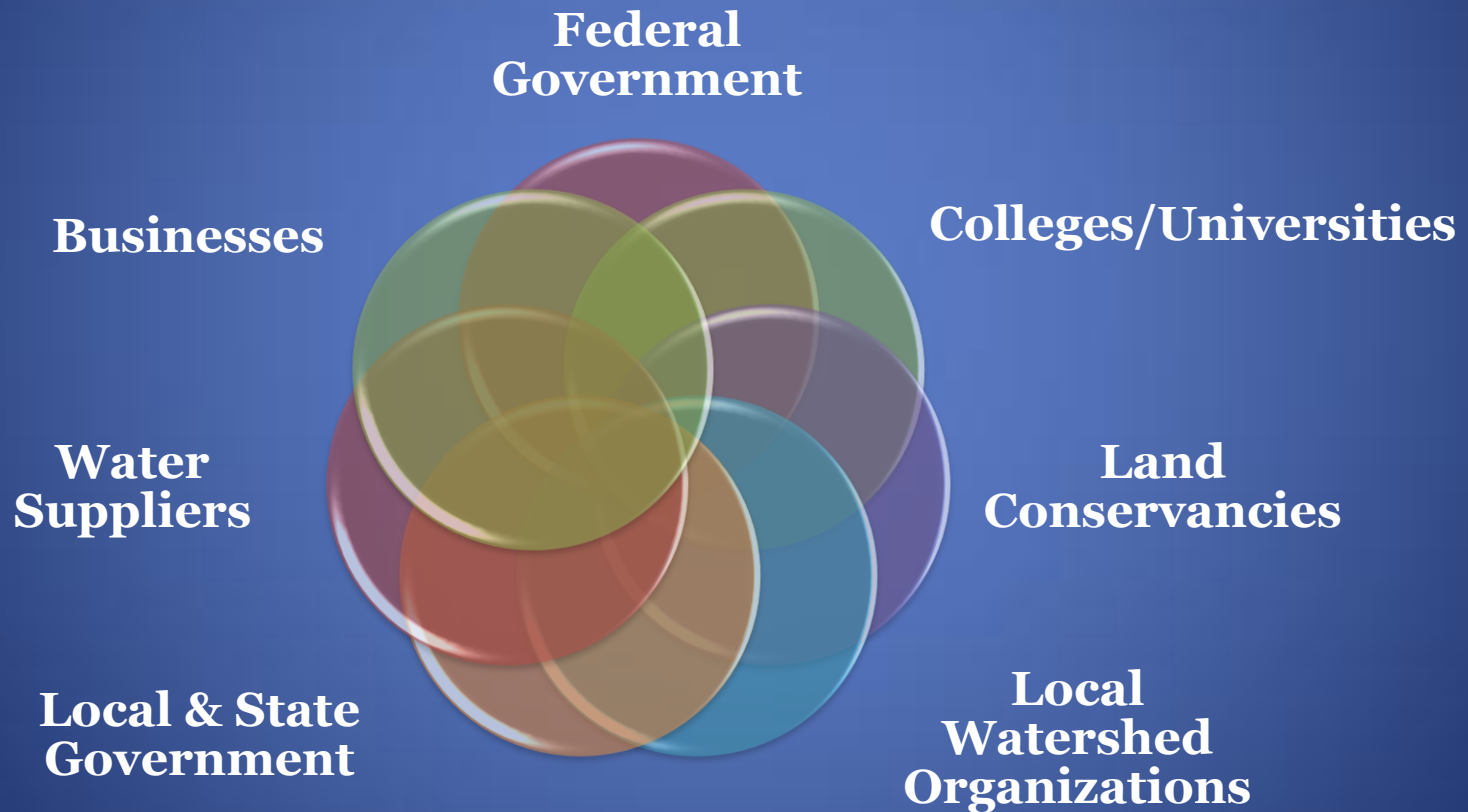


SAN MISSION

- *Members of the Schuylkill Action Network share information, expertise, and technology to help each other achieve a shared vision of clean water and a healthy environment for the Schuylkill River and its tributaries.*



The SAN “Network”



SAN Workgroups

Abandoned Mine Drainage

Agriculture

Land Protection

Pathogens/Compliance

Stormwater

Education & Outreach

Why are drinking water suppliers concerned



Source Water Assessment

The 1996 Safe Drinking Water Act Amendments required the assessment of all source water supplies across the country to identify potential sources of contamination, the vulnerability and susceptibility of water supplies to that contamination, and public availability of the information.

- Identify threats to Drinking Water Supply
- Involve all stakeholders in the process
- Identify protection priorities



<http://www.phillywatersheds.org>

From Assessment to Protection

Source Water
Assessment



Source Water
Protection





Safe Drinking Water  *Starts at the Source!*

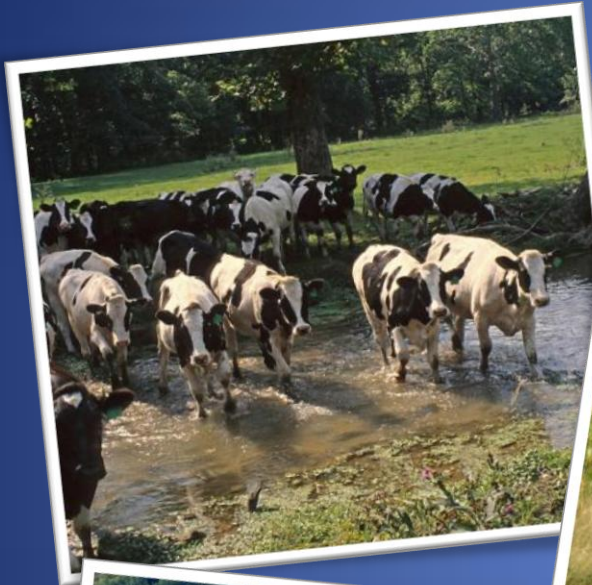
Also known as

Protecting Drinking Water

- Working together in a watershed
- Sharing information and resources
- Replicating programs
- Addressing common priorities



Regional Needs



Watershed-Wide Needs

Flow

ETC...

Funding

Conservation

Waste Water

**Drinking
Water**

Stormwater

**Public
Awareness**

Education



How we're meeting these needs

Sharing successes throughout the watershed

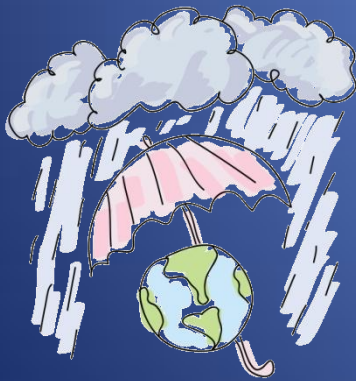
Examples of project:

- Stormwater Education
- Greening schools
- Watershed Awareness





Stormwater





Eyes on Philadelphia

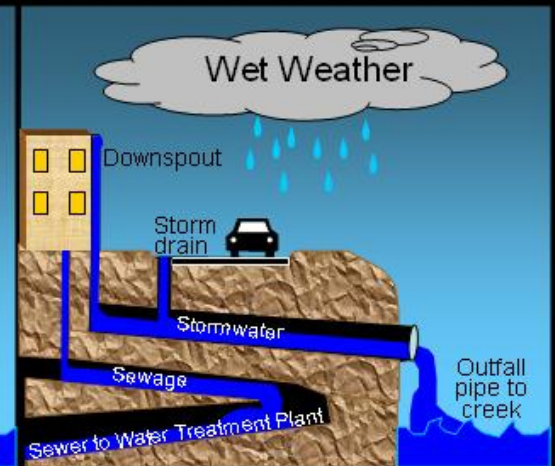
Types of Sewers in Philadelphia

Combined Sewer



60% of Philadelphia

Separate Sewer



40% of Philadelphia

Green City, Clean Waters



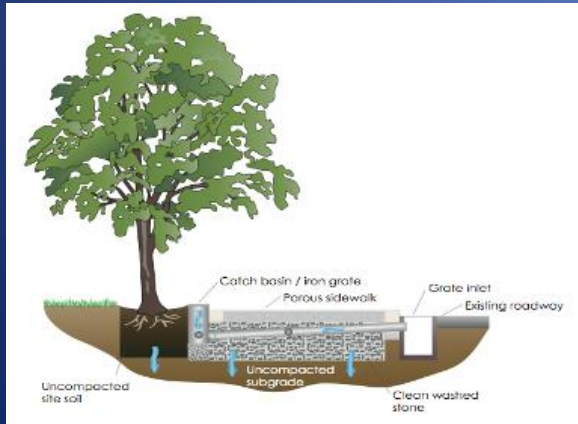




GREEN STREETS



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A



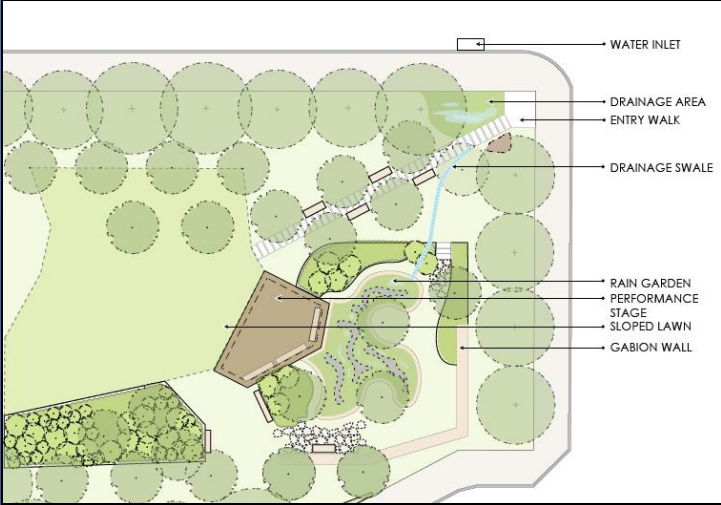
GREEN PUBLIC OPEN SPACES



Liberty Lands Park
Northern Liberties



Cliveden Park
East Mount Airy



GREEN PUBLIC FACILITIES

Herron Playground
Pennsport



GREEN SCHOOLS

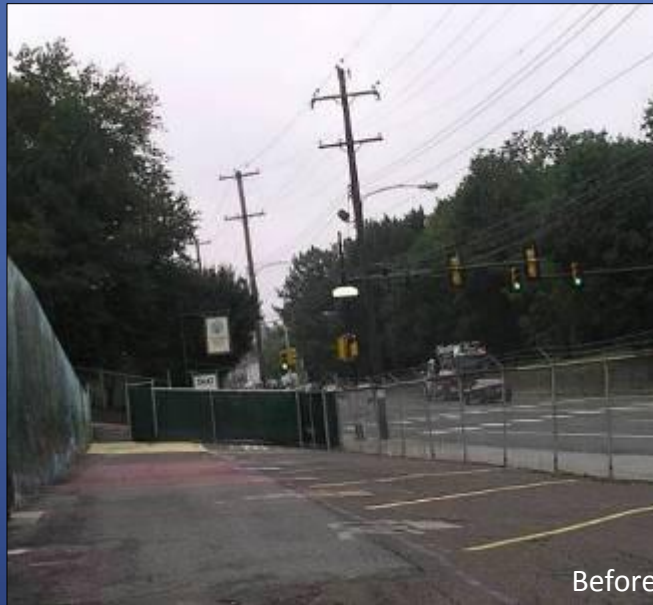


Before



After

Greenfield Elementary
Center City



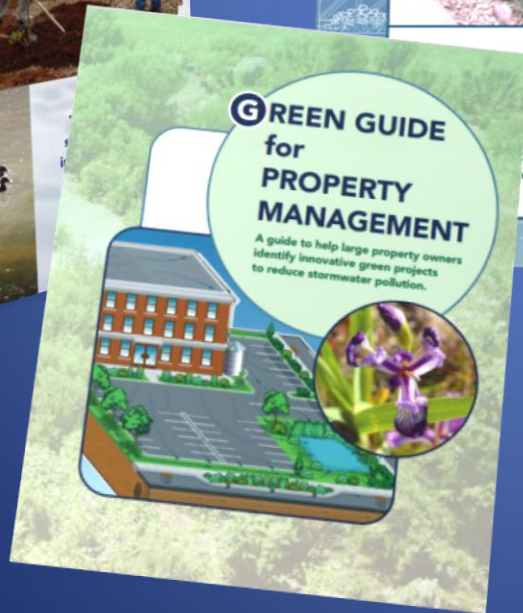
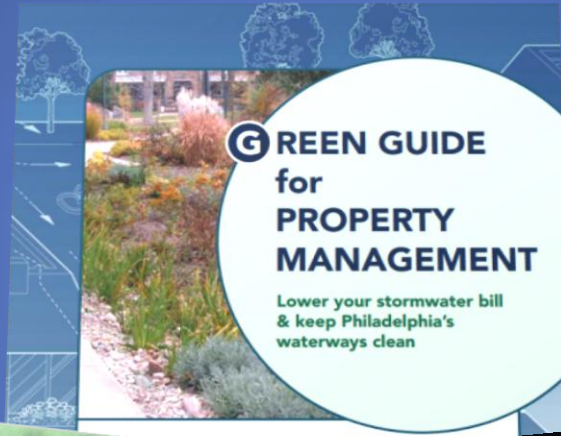
Before



After

Wissahickon Charter
East Falls

Stormwater Education Guides



City, Clean Waters
Businesses Program

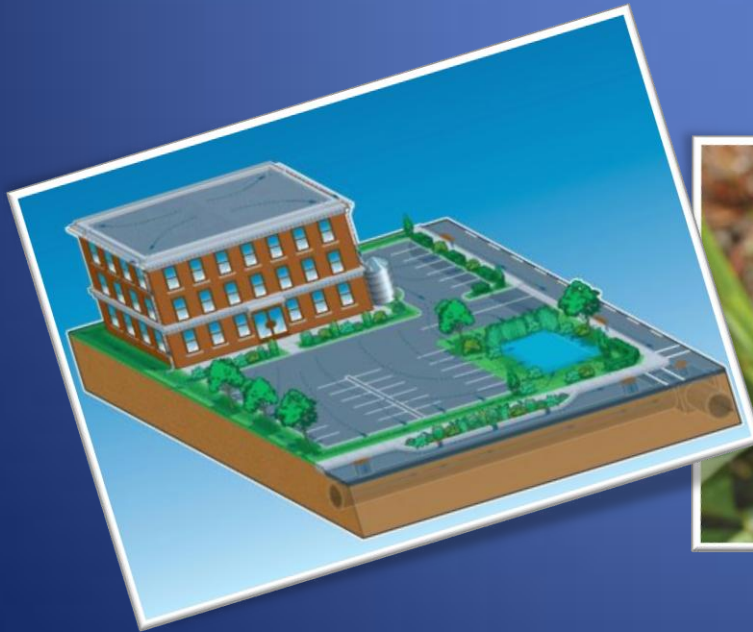
Help commercial property
reduce stormwater fees through
green projects on their property



EXAMPLE:

Green Guide for Property Management

A guide to help large property owners
identify innovative green projects to reduce
stormwater pollution.



Innovative Stormwater Practices

- Reducing Paved Areas & Turf
- Trees Planted Near Pavement
- Basins or Ponds
- Rain Gardens
- Created Wetlands
- Swales
- Underground Projects
- Downspout Planters
- Sidewalk Stormwater Planters
- Tree Trenches
- Stormwater Curb Bumpouts
- Rainwater Harvest & Reuse
- Porous Pavement
- Green Roofs

K Stormwater Curb Bumpouts

often looks just like a series of trees planted along a street

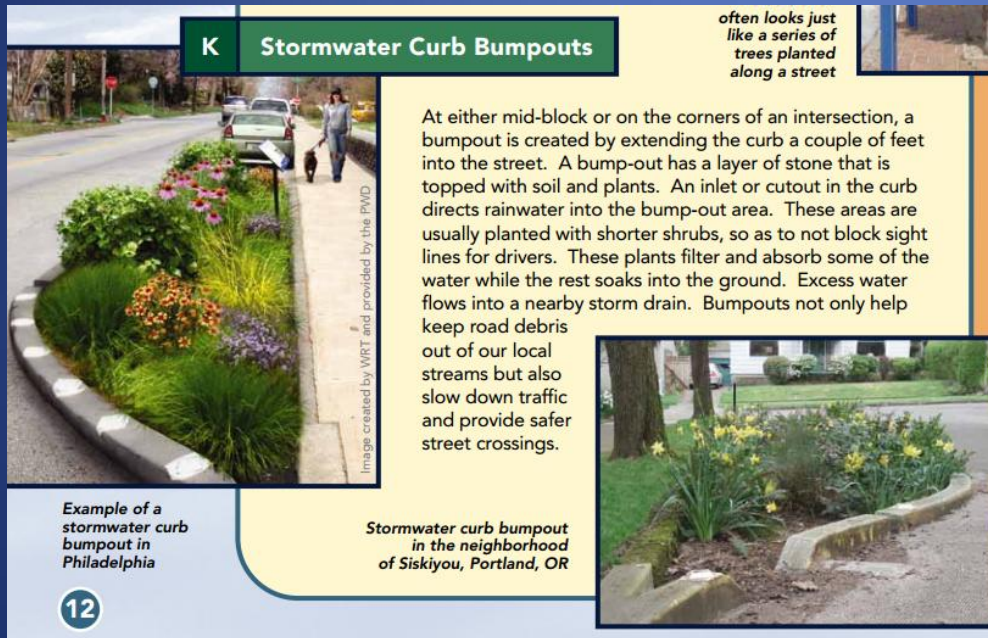
At either mid-block or on the corners of an intersection, a bumpout is created by extending the curb a couple of feet into the street. A bump-out has a layer of stone that is topped with soil and plants. An inlet or cutout in the curb directs rainwater into the bump-out area. These areas are usually planted with shorter shrubs, so as to not block sight lines for drivers. These plants filter and absorb some of the water while the rest soaks into the ground. Excess water flows into a nearby storm drain. Bumpouts not only help keep road debris out of our local streams but also slow down traffic and provide safer street crossings.

Image created by MRT and provided by the PMD

Stormwater curb bumpout in the neighborhood of Siskiyou, Portland, OR

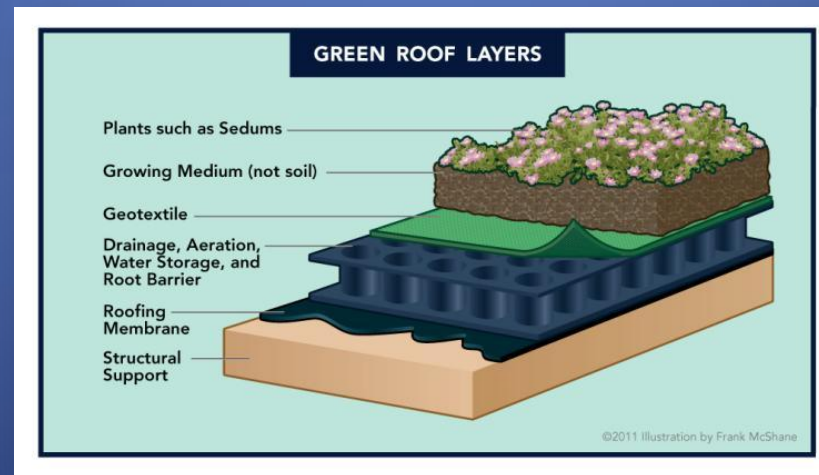
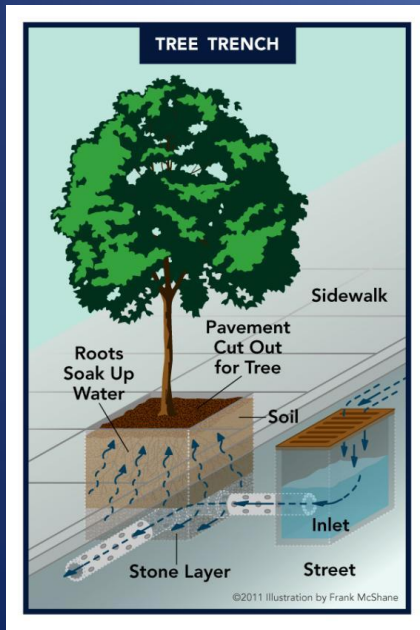
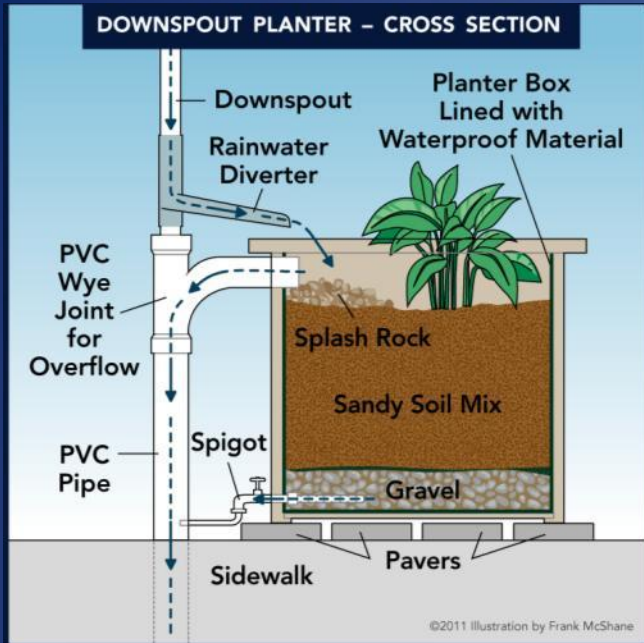
Example of a stormwater curb bumpout in Philadelphia

12



Diagrams and Schematics

- Simple language and descriptions
- A good 1st step
- Available online for download



Real World Examples

- Pictures of projects that have been implemented
- Can be applied throughout the watershed

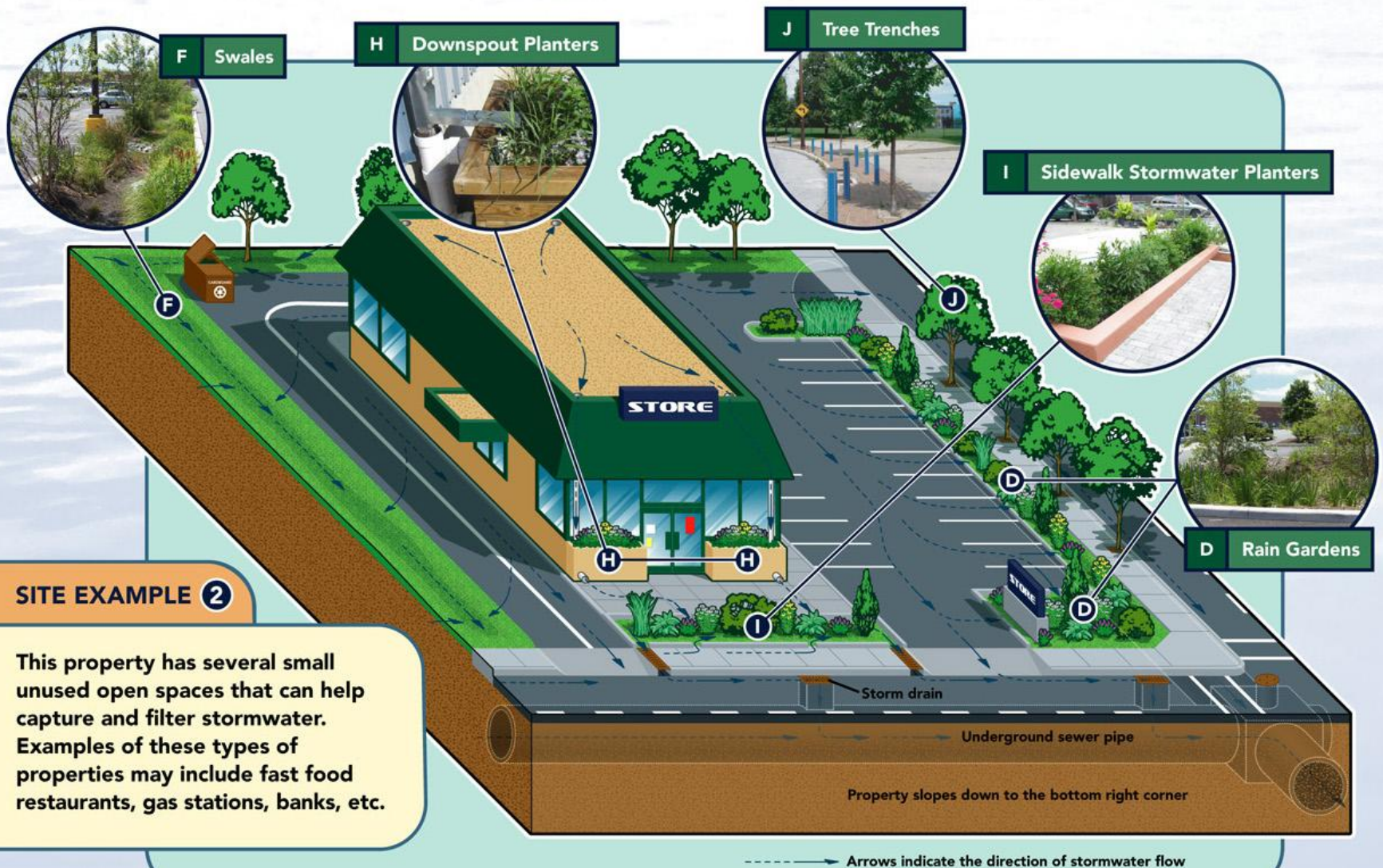


Relevant Information

Stormwater Projects	Typical Cost Ranges (per Square Foot)
Basins or Ponds (C)	\$0.19 – \$0.41
Created Wetlands (E)	\$0.27 – \$0.54
Reducing Paved Areas & Turf (A)	\$0.27 – \$0.69
Swales (F)	\$1.17
Trees Planted Near Pavement (B)	\$1.22
Rain Gardens (D)	\$1.54 – \$1.58
Underground Projects (Subsurface Infiltration) (G)	\$1.19 – \$2.68
Tree Trenches (J)	\$2.37
Rainwater Harvest & Reuse (L)	\$3.20
Stormwater Curb Bumpouts (K)	\$4.09
Sidewalk Stormwater Planters (I)	\$4.09
Downspout Planters (H)	\$5.76
Porous Pavement (M)	\$2.34 – \$23.38
Green Roofs (N)	\$34.12

The above costs include materials, installation, design and engineering, but can vary depending on site constraints or any unforeseen issues.

Site Examples



What Works

- Everyone's worried about stormwater
 - Flooding, MS4 Program, Changing weather
- It's happening (everyone wants a green roof)
- The information is needed (filling a gap)
 - Helping to get it out there (e.g. print sharing)
- Philadelphia is leading the charge

What's Challenging

- Philadelphia government is unique
- Lots of local decision makers (237 municipalities)
- Uncertainty over regulations
- Not exactly championed by current regs. (e.g. stormwater authorities)
- Lots of problems, not lots of \$\$

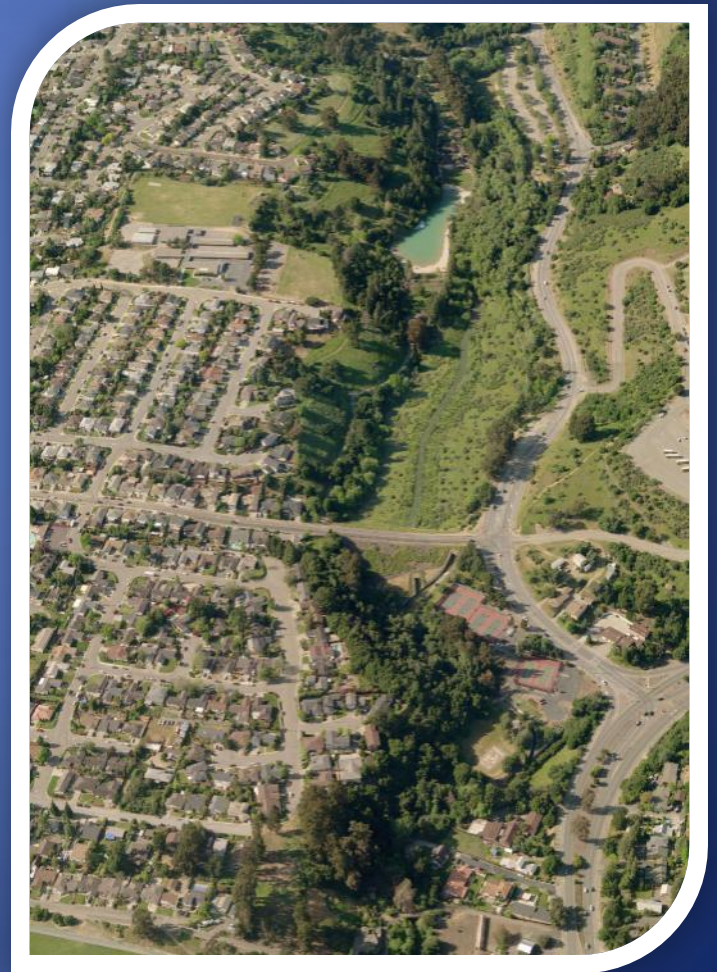


Working with Schools



Why Schools?

- Many opportunities for stormwater management
- Largest streamside landowner
- Catalyst for community change
- Active and willing partners



Schuylkill Action Students (SAS)



- School and local partners working together for clean water
- Restoring School campuses to keep water clean
- Getting Students involved in making a difference.
- Educating students through hands-on learning

Recruit Schools

School
Support

Clean Water
Projects

Types of SAS Projects

- Streamside tree planting
- Rain Gardens
- Meadows
- Stormwater Basin Naturalization



Benefits of working with schools

- Community driven projects
- School ownership
- Student and community volunteers
- Ongoing maintenance
- Lots of opportunities



Limerick Elementary School





Before and After



Lingelbach Elementary School





Before and After



Lankenau High School



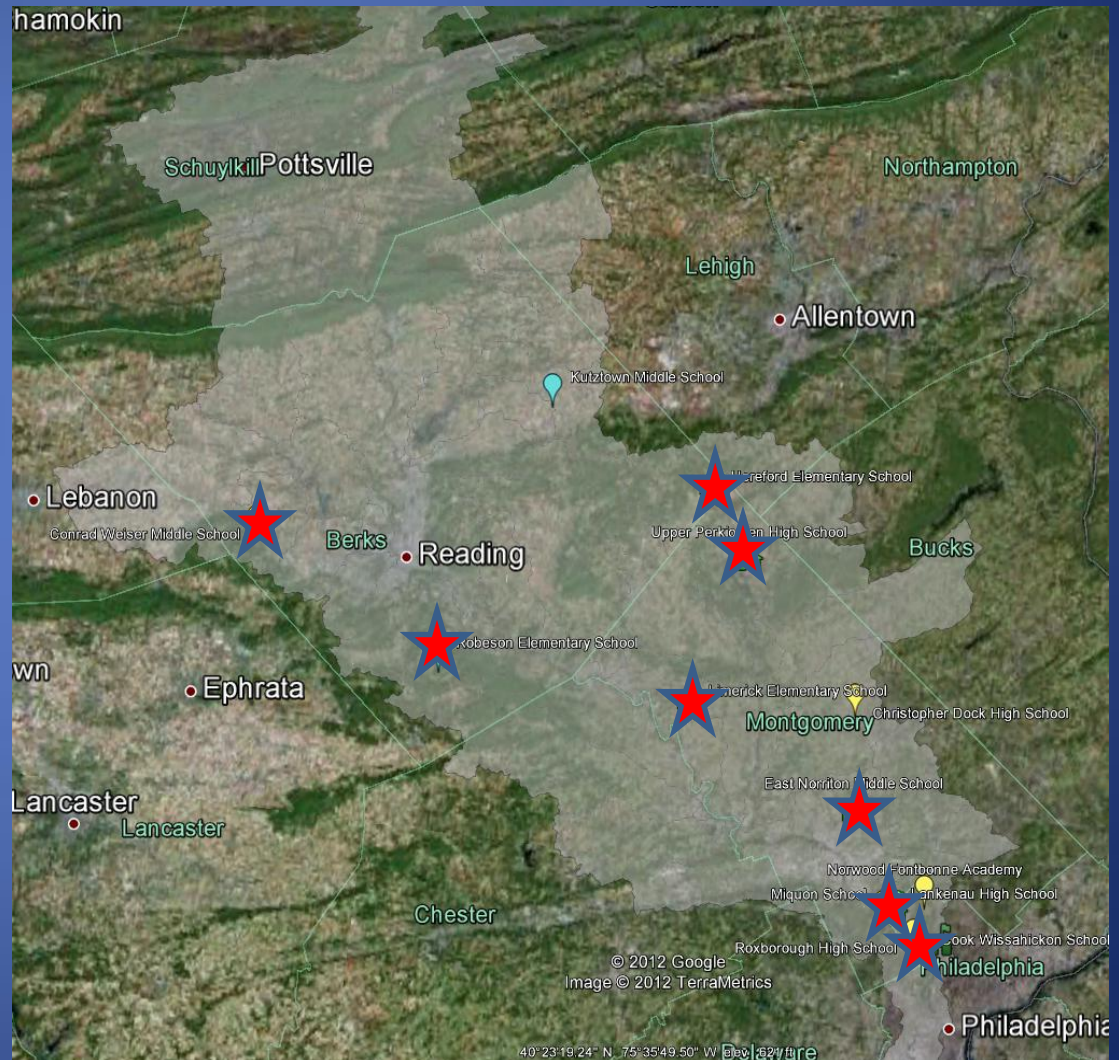


Before and After



Completed SAS Projects

- 8 Projects Completed
- Schools on waiting list
- Funding support growing



What Works

- School are anxious to get involved
- Connects easily with curriculum
- Watershed partners receive support
- Lots of schools, lots of opportunities

What's Challenging

- Process takes time (building relationships)
- Required adequate funding
- Keeping up with demand
- School administrative support critical



Raising Watershed Awareness



Green Sticker (Pharmaceutical Take Back) Program

Medicines: The Right Way to Throw Away

Help protect our drinking water sources by throwing away any medicines you no longer want the right way.

Here's How

- 1 Remove and destroy all labels from medicine bottle, or use a marker to cross out your name, the doctor's name and Rx number.
- 2 Remove lid from an empty coffee can or other container.
- 3 Add coffee grounds or kitty litter to the container. Do not overfill.
- 4 Open the medicine bottle and dump the pills, tablets or liquid into the same container.
- 5 Place lid on container to seal it.
- 6 Throw sealed container into household trash.

Other Ways You Can Help

Think about the way you buy and use your medicines.
Buy only what you need.
Keep track of the medicines you have.
Always check expiration dates.
Check for local events that collect leftover medicines.
Ask your doctor and pharmacist to talk to people about the right way to throw away medicines.
Keep medicines out of reach of children and teenagers.



To learn more visit www.whitehousedrugpolicy.gov
Direct Link: www.whitehousedrugpolicy.gov/drugfact/faqs.html#18

THANK YOU FOR HELPING TO MAKE OUR ENVIRONMENT SAFER

Philadelphia Water Department
www.phila.gov/water

Women's Health & Environmental Network
www.WHEN.org

- Initiated in in two Philadelphia neighborhoods
- Replicated in upstream community (Norristown)
- Aims to educate medication consumers on the proper disposal of their unwanted medicines from their own home.
- Never Flush!!



Physicians for Social
Responsibility

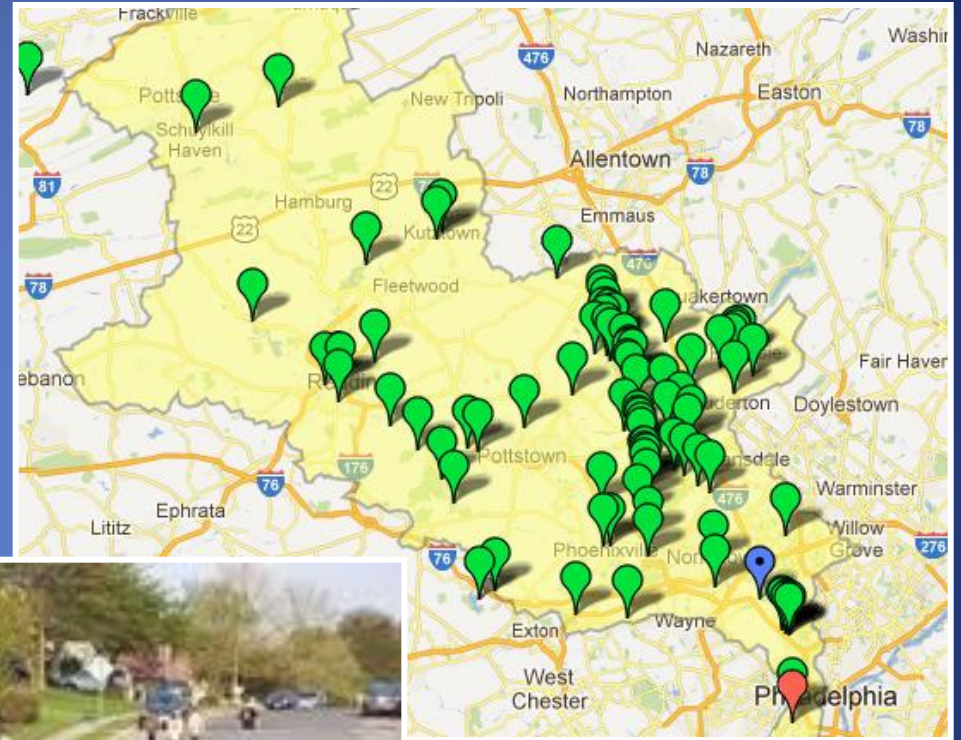
Green Sticker (Pharmaceutical Take Back) Program

- Phase 1 – surveyed 120 customers on their disposal practices.
- Phase 2 - currently underway
 - Pharmacy staff affixing stickers to medicines
 - Displaying signage in the store
 - Giving out flyers to customers for 3 months.
- Phase 3 - conclude project with a customer survey and then compare survey results to determine if pharmacy customers:
 - recalled receiving flyers & read them
 - recalled any information on disposal of their medications
 - recognized the logo used in the flyer, signage and stickers



Schuylkill Scrub

- Watershed-wide cleanup event
- 90 cleanups and thousands of volunteers registered
- Attracts media attention



Schuylkill Shots Photo Contest



- To promote the Schuylkill's:
- Recreational opportunities
 - Wildlife and scenic beauty
 - Clean source for drinking water

The poster is titled "Schuylkill Shots Photography Competition" in a white font on a purple background. It features several sections of text and images. At the top right is a photo of people kayaking. Below the title is the "Background" section, which describes the Schuylkill River's history and current state. The "Judging" section details the categories and the judging process. The "Who May Enter" section states that anyone can participate. The "Prizes" section lists the rewards for each placement. At the bottom, there is a URL for the contest and a small logo for the Schuylkill Action Network. The poster also includes a photo of a man holding a fish.

Schuylkill Shots Photography Competition

Background
The Schuylkill River travels approximately 180 miles from springs in Schuylkill County to the Delaware River in Philadelphia. It has been a source of drinking water for over two centuries, currently providing water for over 2 million people. The River became really polluted during the Industrial Revolution, but has gotten much cleaner in recent years. Not only have fish and wildlife returned to the waterway, but also rowers, fishermen, triathletes and anyone else looking for a fun place to spend time outdoors. We need your help to show how awesome the Schuylkill River is!

Judging
There will be a 1st place, 2nd place and honorable mention winner in each of the following three categories:
Wild & Scenic - Highlight the scenic beauty and wildlife thriving in and along the Schuylkill and its streams.
Fun on the Schuylkill - Show us your favorite thing to do on the Schuylkill.
Tip Top Tip - Show us how you use and rely on fresh water daily.

Photos will be judged on content, clarity, and creativity. A panel of Schuylkill Action Network judges will select the top 10 photos from each category. Once these submissions are selected, the voting will be opened up to the public and the winners will be chosen based on the highest number of votes recorded at the close of the contest.

Who May Enter
Anyone, any age, from anywhere can submit up to 3 photos per category.

Visit www.facebook.com/SchuylkillWaters to submit photos.

Prizes
1st Place Wild & Scenic - \$300 Gift Card to Calumet Photo
Fun on the Schuylkill - \$300 Gift Card to REI
Tip Top Tip - \$300 Gift Card to Amazon.com
2nd Place \$100 Gift Card
Honorable Mention \$50 Gift Card

All winning drawings will be displayed at various events next spring.
Protecting Schuylkill Waters

Schuylkill Shots Photo Contest



- Over 150 Participants
- 6,000 + Votes
- Images for outreach use for all SAN Partners
- Visible way to get message out there

SAN Website:

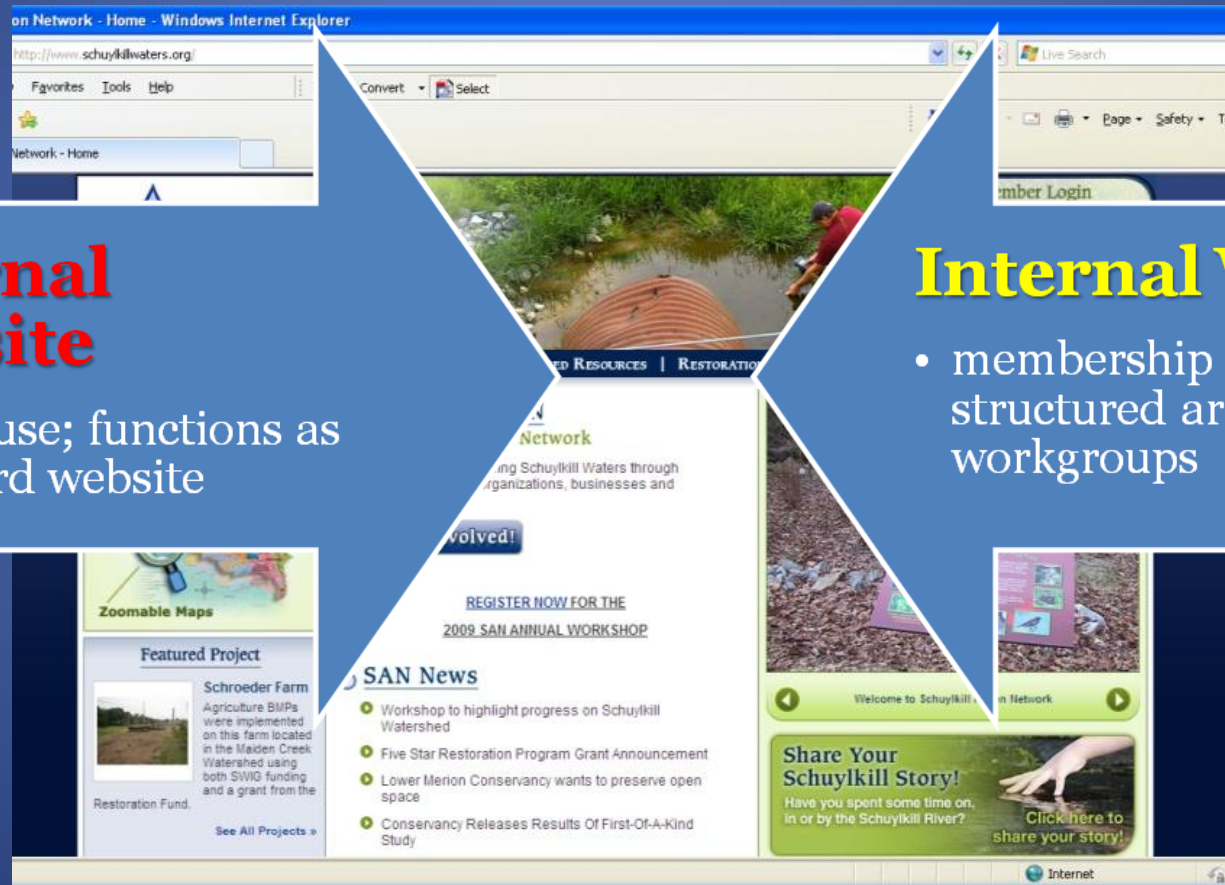
www.SchuykillWaters.org

External Website

- public use; functions as standard website

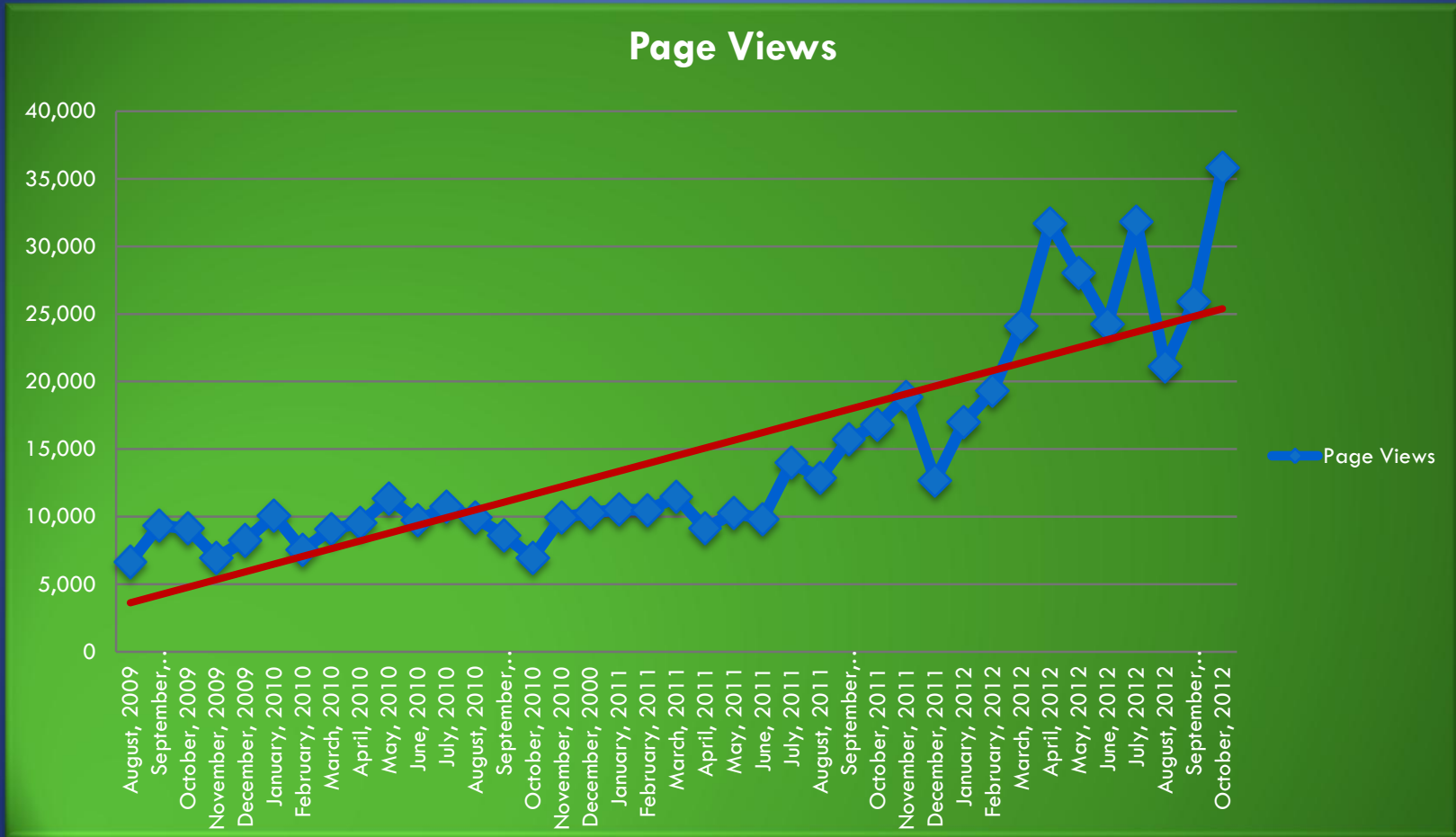
Internal Website

- membership required; structured around workgroups



SAN Website:

www.SchuylkillWaters.org



446,139 VISITS – UP FROM 178,000 LAST YEAR

Reaching New Audiences with New Partnerships



What Works

- The sky is the limit
- Active vs. passive participation
- Specific and targeted audience
- Keeping it simple
- Watershed Words that Work

What's Challenging

- The sky is the limit
- Competition for attention
- Limited reach with limited resources
- Diverse needs/interests

Contact Info

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SAN Coordinator

Partnership for the Delaware Estuary

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tdavidock@DelawareEstuary.org



www.SchuylkillWaters.org