



Schuylkill Action Network Strategic Action Plan

2021-2025



www.SchuylkillWaters.org

Table of Contents

I. Introduction	3
II. Implementation, Evaluation, & Adaptation.....	6
III. Vision, Mission, Values.....	7
IV. Executive Steering Committee	8
V. Planning Committee	10
VI. Abandoned Mine Drainage Workgroup	12
VII. Agriculture Workgroup.....	14
VIII. Engagement & Stewardship Workgroup.....	17
IX. Pathogens & Point Source Workgroup.....	19
X. Stormwater Workgroup.....	21
XI. Watershed Land Collaborative (WLC) Workgroup.....	23
XII. Measuring Progress	25

I. Introduction

The 2021-2025 Schuylkill Action Network (SAN) strategic action plan was developed with input from SAN partners and key watershed stakeholders. The plan will guide our decisions and programming over the next five years. Specifically, the plan identifies our strategic priorities and outlines goals, objectives, and actions for each of the SAN workgroups and committees. We are thankful for all who provided input to help guide this collaborative plan!

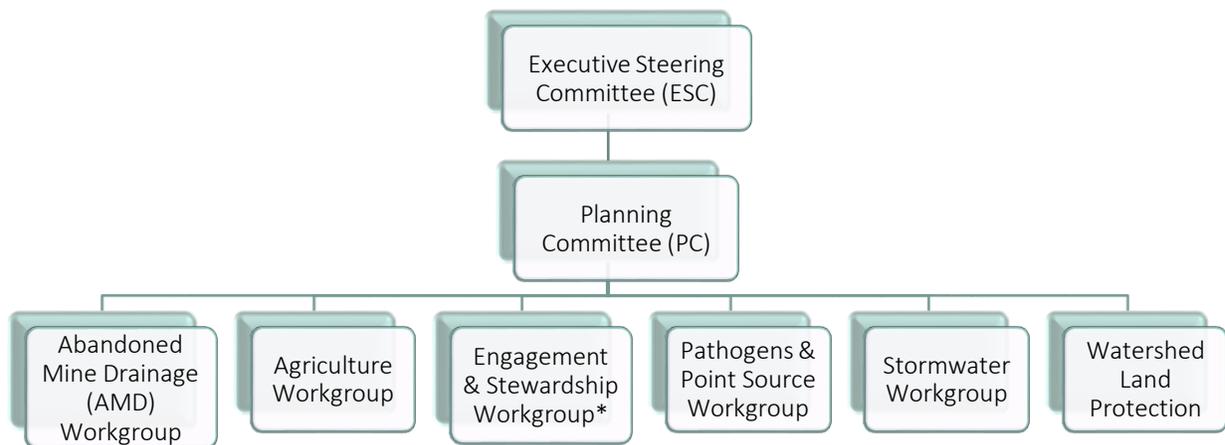
Who We Are – Schuylkill Action Network (SAN)

In 2003, the Philadelphia Water Department (PWD) embarked on an effort to identify and prioritize pollution threats to the Schuylkill River, which supplies about 40% of the City’s drinking water. This process led to the creation of a source water protection plan for the Schuylkill River Watershed. One of the primary goals of this plan was to create a mechanism for regional coordination across geographic, regulatory, and jurisdictional boundaries.

As a result, PWD, the U.S. Environmental Protection Agency (EPA), and the Pennsylvania Department of Environmental Protection (PA DEP) founded the Schuylkill Action Network (SAN) in 2003. The SAN is a collaborative network of environmental partners and stakeholders working to protect drinking water sources. The SAN takes a watershed-wide approach by partnering with upstream communities, water utilities, businesses, government agencies, academia, and environmental organizations to implement projects and provide educational, professional, recreational, and stewardship opportunities. The SAN has grown from a few key partners to a collaborative network of over 300 partners and 800 general members.

Visit our website for a more detailed timeline of the SAN’s history:
www.SchuylkillWaters.org/about-us/history

Today, the SAN consists of six workgroups that seek to address unique watershed issues and identify practical, science-based solutions. Each workgroup is led by a chair, or co-chairs, who are technical experts in their respective fields. Additionally, the Planning Committee (PC) provides day-to-day oversight, resources, and technical assistance for all of the workgroups, plans SAN events, facilitates strategic planning, and maintains funding and partnerships. Finally, the Executive Steering Committee (ESC) provides overarching leadership and strategic direction to the SAN. The Partnership for the Delaware Estuary (PDE) coordinates the SAN, providing administrative and technical support to partners and community members in the Schuylkill River Watershed.

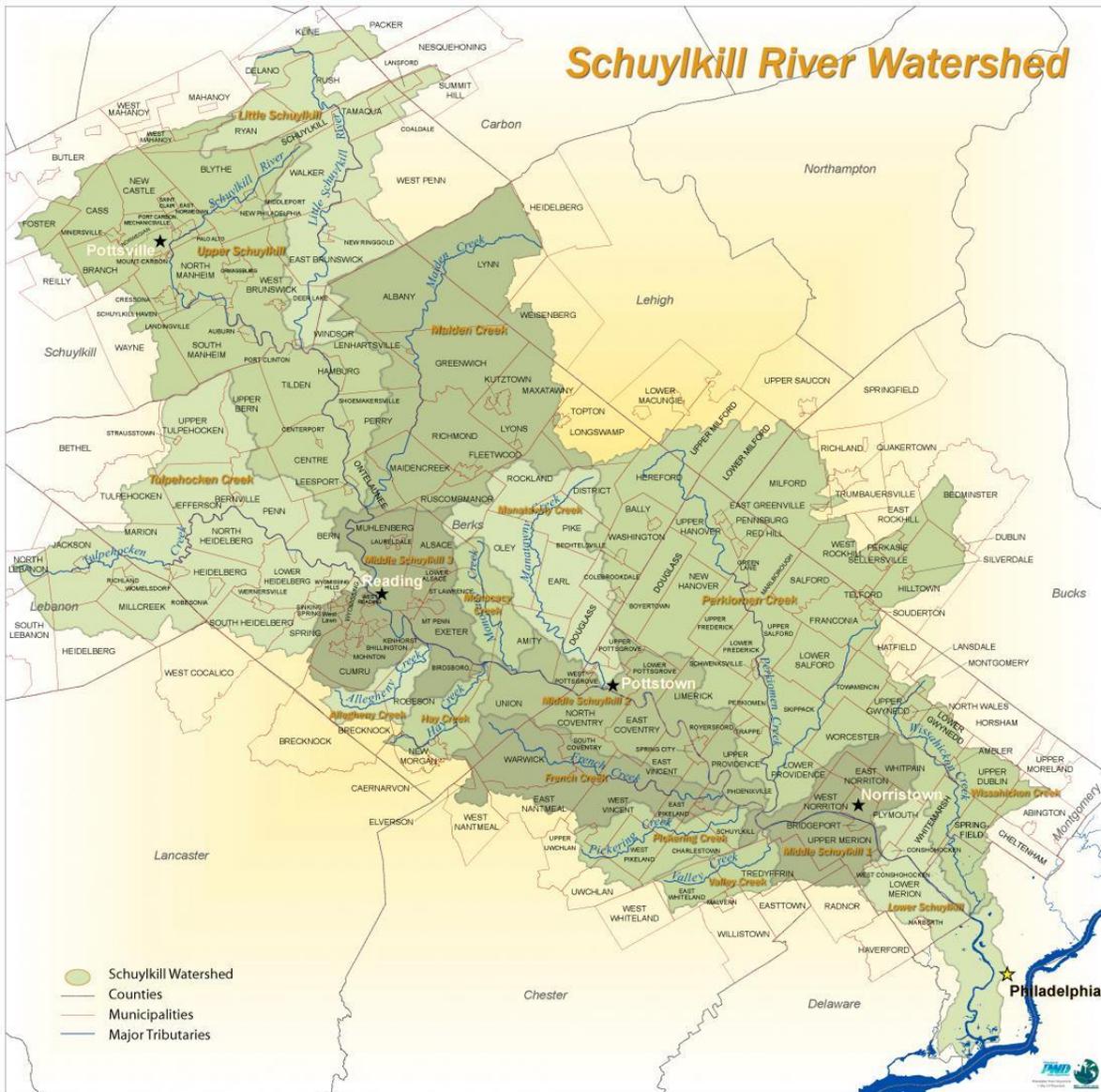


*The former Education & Outreach and Recreation Workgroups have been combined into the Engagement & Stewardship Workgroup

Where We Work – Schuylkill River Watershed

Following the passage of the Clean Water Act and the Safe Drinking Water Act in the early 1970s¹, Americans started to think very differently about our rivers and streams and how they impact our daily lives. The Schuylkill River, which was once seen as a place to dispose waste, is now a vital resource for our quality of life. From preserved forests, wildlife habitats, urban areas, farms, and open spaces, the watershed is home to a wide variety of recreational and life-sustaining activities.

With 130 miles of river and 2,000 square miles of land, the Schuylkill River Watershed spans parts of 11 counties and 235 municipalities. The river and its tributaries provide drinking water for nearly two million people and is the largest tributary to the Delaware River.



¹ The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972. <http://www.epa.gov/laws-regulations/summary-clean-water-act>. The Safe Drinking Water Act (SDWA) was established in 1974 to protect the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources. <http://www.epa.gov/laws-regulations/summary-safe-drinking-water-act>

Strategic Action Plan Development & SWOT Analysis

The 2021-2025 strategic action plan was developed through a collaborative effort, led by the Planning Committee (PC), with input from SAN partners and key stakeholders. The strategic action plan was officially approved by the SAN Executive Steering Committee on December 23, 2020.



Throughout the SAN’s strategic planning process, we identified the current and upcoming resources, skills, and environment needed for us to succeed by asking our partners and stakeholders about our **Strengths, Weaknesses, Opportunities, and Threats (SWOT)**. The SWOT analysis enabled us to assess what the SAN is doing well and what we can do to better leverage opportunities in the next five years. Below are some key feedback points and overall focus areas from the strategic planning process.



II. Implementation, Evaluation, & Adaptation

Implementation

While the SAN has had a strategic plan since its inception, this is the first strategic **action** plan. **Action** is our middle name, and it's what makes the SAN a successful national model for source water protection, collaboration, and implementation. The plan identifies workgroup and committee goals, objectives, and actions. Yearly work plans for each workgroup and committee further support and detail the plan.

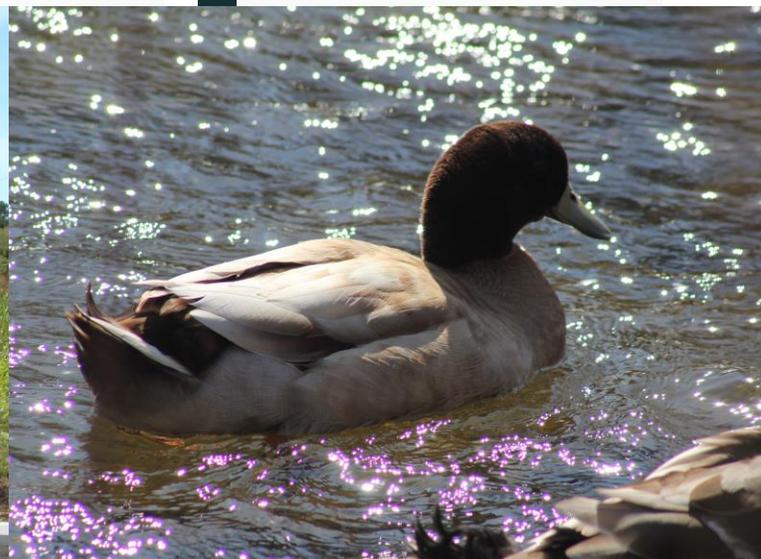
Evaluation

How we will evaluate our progress:

- Review progress towards strategic action plan goals, objectives, actions, and progress targets by Planning Committee and respective workgroups annually.
- Develop and evaluate workgroup and committee work plans annually.
- Develop an annual progress report to share success with partners and the public.

Adaptation

The SAN is a voluntary partnership dedicated to meeting our mission and vision for the Schuylkill River Watershed. The deadlines, actions, and commitments of this plan are subject to the capacity of partners and availability of sufficient resources to carry them out. The SAN leadership – Planning Committee and Executive Steering Committee – will periodically review the progress of the plan, make adjustments as needed to reflect the latest priorities, needs, and available resources, and continue to work toward the vision and mission of the SAN at an efficient and feasible pace.



III. Vision, Mission, Values

Our Vision:

Clean water and a healthy Schuylkill River Watershed accessible for all.

Our Mission:

To improve water resources through collaborative action in the Schuylkill River Watershed.

How Will We Achieve Our Mission?

SAN partners work together to protect, improve, and promote the environmental, social, and economic value of water resources in the Schuylkill River Watershed. By uniting governments, nonprofits, businesses, water utilities, and local communities around a shared vision, the SAN aims to ensure the Schuylkill River Watershed is protected as a vital source of clean water for all.

Our Values:

Action

- Implementing programs, restoration projects, and other on-the-ground initiatives for clean water, healthy habitats, & strong communities

Collaboration

- Forming diverse, inclusive, adaptive, and trusting partnerships that communicate and work together effectively

Resilience

- Making decisions that create positive ecosystem, climate, and community impacts for the present and future

Leadership

- Guiding partners toward shared source water protection goals and providing opportunities and resources to maximize effective collaboration and beneficial outcomes

Equity

- Working to ensure our collaborative action benefits community members fairly across race, ethnicity, gender, sexuality, religion, income, age, or ability, with added intent to connect historically disconnected communities.

Science

- Utilizing and promoting research-based practices, technology, and innovative solutions

IV. Executive Steering Committee



About

The SAN Executive Steering Committee (ESC) provides leadership, oversight, and support in order for the SAN to achieve its mission, goals, and objectives listed in this plan.

Goal

To advance drinking water and watershed protection by facilitating communication and decision making on a regional, state, and federal level, and to work collaboratively to ensure the SAN has the necessary information and resources to support its work.

Objectives & Actions

1. **Lead** - Provide leadership on issues, policies, and practices influencing land use, source water, and drinking water protection and enhancement.

The Partnership for the Delaware Estuary houses SAN organizational documents including Formation Documents, Standard Operating Procedures, Letters of Support, and Strategic Plans.

2. **Envision** - Increase the SAN's ability to advance a progressive agenda through overarching support.

- b. **Share** data, solutions, and lessons learned regarding emerging watershed issues.
 - c. Communicate and translate implications of **new policies and practices** that impact SAN partners and their work.
 - d. Review and approve **SAN organizational documents**.
-
- a. Assist the Planning Committee with the **facilitation of strategic planning and goal setting** on at least a 5-year cycle.
 - b. Annually **review** progress on the current strategic action plan and **adapt** as needed.
 - c. Actively **identify** opportunities, challenges, and needs of the SAN.

3. Collaborate - *Facilitate strategic partnerships to support restoration, preservation, and engagement efforts within the watershed.*

All around the country we are seeing silo -busting examples of integrated and inclusive approaches to water resource management. These approaches exemplify the view that all water has value and should be managed in a sustainable, inclusive, integrated way. We call this perspective One Water.

U.S. Water Alliance

- a. Integrate Clean Water Act (CWA) and Safe Drinking Water Act (SDWA) program goals to implement the **One Water** framework.
- b. Remove barriers to better foster watershed-based collaborations at local and regional scales.
- c. Elevate SAN's visibility by promoting source water protection resources, sharing SAN success stories, and directing potential projects and partners to SAN as opportunities present themselves.

4. Finance - *Support the identification and acquisition of resources needed to meet the annual and long-term needs of the SAN.*

- a. Explore innovative funding strategies to support SAN operational funding.
- b. Identify and communicate project funding opportunities to SAN members.

V. Planning Committee



About

The SAN Planning Committee (PC) oversees the day-to-day operation of the network and individual workgroups in order to secure resources, facilitate communication, and provide technical assistance to partners. The PC also plans SAN events, facilitates strategic planning, and maintains general administration and procedures to ensure a continuously engaged network.

Goal

To sustain and expand the network by leveraging partners' expertise, skills, and resources to protect and restore the Schuylkill River Watershed.

Objectives & Actions

1. **Direct** - Provide leadership and strategic direction to the SAN in order to achieve its mission.

- a. Facilitate **strategic planning** on a 5 year cycle.
- b. **Assess progress** towards strategic action plan goals annually and adapt as needed.
- c. Support workgroups in developing and implementing **annual work plans**.

- d. Promote a **One Water** approach to source water protection.
- e. Integrate emerging watershed issues into SAN's work, including **climate change and resiliency, environmental equity and justice, and contaminants of emerging concern**.
- f. Elevate concerns and recommendations to the Executive Steering Committee.
- g. Transfer lessons learned from other **watershed collaborations** to the SAN.

2. **Oversee** - Administer the day-to-day operations of the network.

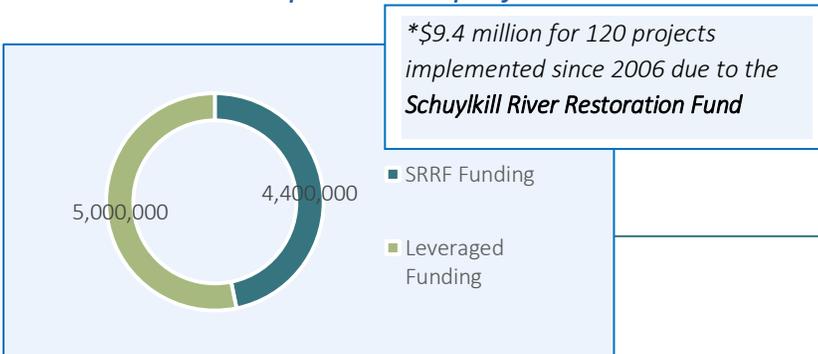
- a. Maintain the overall **organizational structure** of the network.
- b. Implement SAN's **Standard Operating Procedures (SOP)** to facilitate decision-making and improve processes as needed.
- c. Provide **technical assistance** to workgroup chairs and partners.

3. **Finance Operations** - *Secure operational funding to support SAN administration.*

- a. **Secure and increase** operational funding to support the continued growth of the network.
- b. Explore diverse and **innovative funding strategies** for operational funding of the network.

4. **Finance Projects** - *Increase funding for restoration and protection projects.*

- a. Grow the **Schuylkill River Restoration Fund (SRRF)*** to \$500,000 annually.
- b. Increase the number of **funders** contributing to the SRRF annually.
- c. Provide **technical assistance** and support to partners applying for funding.
- d. Investigate new funding opportunities to support **project implementation**.



5. **Collaborate** - *Increase and enhance SAN partnerships for an active and engaged network.*

- a. Maintain and strengthen **relationships** with pre-existing SAN partners and members.
- b. Identify, build, and expand **partnerships** with **underrepresented** water users in the Schuylkill River Watershed.
- c. Connect with and support **historically disconnected communities**.
- d. Promote **watershed-based collaborations** to address water quality challenges.

6. **Measure Impact** - *Track the progress and metrics of the SAN workgroups and partners.*

- a. Assist workgroups in **tracking progress** towards annual work plan goals and long-term strategic action plan goals.
- b. Collect information for an **annual SAN Progress Report****.
- c. Coordinate the development of a **“State of the Schuylkill”** watershed report as resources become available.

**SAN Progress Reports can be found at: www.schuylkillwaters.org/resources/publications

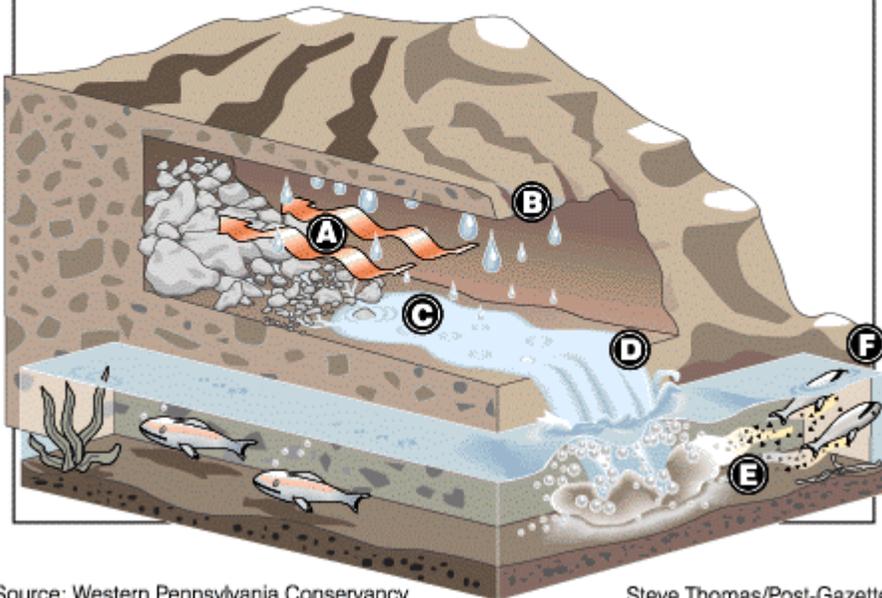
7. **Communicate** - *Serve as a facilitator to support communication among SAN partners.*

- a. Support general communication among partners via meetings, emails, and calls.
- b. Expand social media presence and followers on Facebook, Twitter, Instagram, and Flickr.
- c. Support SAN staff in maintaining the SAN website, www.schuylkillwaters.org, and a database of members and list-servs on MailChimp.

VI. Abandoned Mine Drainage Workgroup

Here's a look at what AMD is and how it affects the surrounding environment.

- Ⓐ During mining, pyrite is exposed to oxygen.
- Ⓑ Ground water seeps into the mine.
- Ⓒ Oxygen, water and pyrite react to form sulfuric acid and in turn dissolve metals from the rocks.
- Ⓓ Water drains out of the mine.
- Ⓔ Dissolved metals react with oxygen and fall out of solution into the stream water, turning a bright color.
- Ⓕ Aquatic animals and plants are killed by the drainage.



About

The Abandoned Mine Drainage (AMD) workgroup addresses AMD pollution, including acidity, metals, and coal silt from Pennsylvania's Anthracite Southern Coal Region, one of the primary sources of pollution in the headwaters of the Schuylkill River.

Goal

To reduce the impact of abandoned mine lands on water quality.

Objectives & Actions

1. **Remediate** - Remediate AMD pollution from untreated discharges, streams, and lands.



2. **Maintain** - Maintain existing treatment systems.

- a. Create a prioritized list of untreated discharges and coal silt lands with potential solutions.
 - b. Design, construct, and complete treatment system projects.
 - c. Reduce the amount of coal silt impacting the watershed.
 - d. Research innovative practices for treating AMD.
-
- a. Conduct AMD sampling, in accordance with the monitoring plan, until a baseline of water quality data is established.
 - b. Analyze AMD sampling data to assess system maintenance and address issues.
 - c. Continue limestone application where appropriate.

3. **Restore Habitat** - *Improve stream health to support optimum vegetation, habitat, and aquatic life.*

- a. Identify and prioritize **local at-risk riparian and in-stream habitats** that have sub-optimal habitat for fish and aquatic life related to AMD.
- b. Raise stream **pH** to 6.0 or above as needed to support fish and aquatic life.
- c. Implement in-stream **restoration projects and reforestation projects.**

4. **Collaborate** - *Encourage participation, partnership, collaboration, and sustainability in AMD projects.*

- a. Maintain, strengthen, and build **partnerships***.
- b. Develop **maps and educational signage** for the public to better understand AMD problems and solutions.
- c. Share lessons learned and expertise through **compelling storytelling media.**
- d. Engage with the **mining industry** to encourage reclamation or re-mining of abandoned lands.

5. **Finance** - *Identify and secure funding for treatment systems, restoration projects, and operation and maintenance.*

- a. Apply for grants, contracts, and **other funding opportunities** to support workgroup projects.
- b. Explore **innovative and sustainable funding strategies**, including in-kind services, for operation and maintenance of treatment systems.



**Examples of new partners to involve from the SAN strategic planning process in 2020:*

- Local consultants
- Local tourism/recreation
- National Association of Abandoned Mine Land Programs
- Penn State University Master Watershed Students
- Senior Volunteer Programs
- Trout Unlimited
- United States Geological Survey
- University of Pennsylvania Students



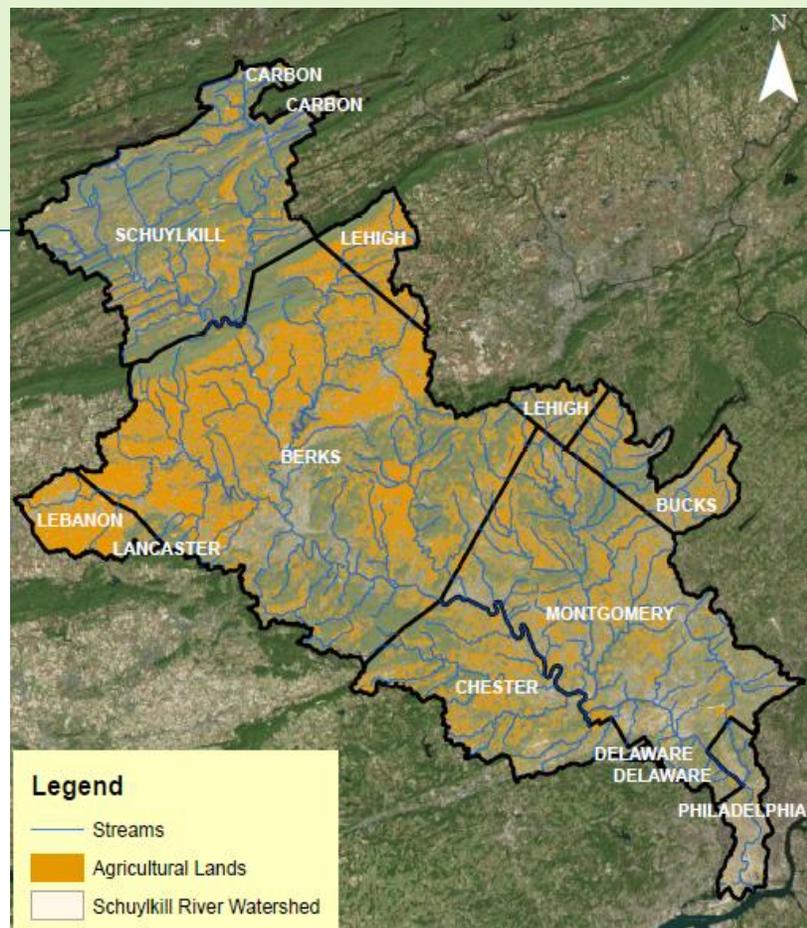
VII. Agriculture Workgroup

About

The Agriculture workgroup engages and educates farmers to implement **agricultural best management practices (BMPs)** and to conserve and improve agricultural lands. This work ultimately improves land, habitat, and water quality by reducing the amount of agricultural runoff, which includes pollutants such as sediment, nutrients, pesticides, herbicides, and pathogens.

Goal

To reduce agricultural impacts on water quality and habitat & enhance the productivity and profitability of the land.



6 Cisterns & Rain Barrels
See "Rainwater Capture & Reuse" on page 7 for more information.

3 Downspouts & Gutters on Buildings
See "Around the Barnyard" on page 9 for more information.

4 Buffered Stream with Trees & Fencing
See "Protecting the Streams" on page 8 for more information.

5 Stream Crossing
See "Protecting the Streams" on page 8 for more information.

1 Liquid Manure Storage
See "Making the Most of Manure" on page 6 for more information.

2 Dry Manure Storage
See "Making the Most of Manure" on page 6 for more information.

AN EXAMPLE FARM

This farm shows many of the stormwater projects listed in the previous pages:

- Liquid Manure Storage
- Dry Manure Storage
- Down Spouts & Gutters on Buildings
- Buffered Stream with Trees & Fencing
- Stream Crossing
- Cisterns & Rain Barrels

Illustration by Frank McShane

Objectives & Actions

1. **Implement Projects** – *Improve land management, habitat, and water quality through on-the-ground projects that reduce the amounts of sediment, nutrients, pesticides, herbicides, and bacteria from polluting local waters.*

- a. Maintain existing BMPs to ensure **long-term water quality benefits**.
- b. Install new **BMPs** on active agricultural lands, focusing in priority watersheds and impaired waterways.
- c. Encourage farmers and landowners to implement **soil health practices**, such as cover crops or no-till farming.
- d. Restore and protect **natural habitats** on farm properties.
- e. **Preserve** farm properties from future urbanization and development.

2. **Plan** – *Develop and implement comprehensive plans, tools, and resources that guide the conservation and agricultural sectors toward a sustainable future using a whole farm approach.*

- a. **Prioritize** farm properties and subwatersheds in need of project implementation.
- b. Work **collaboratively** to develop and implement **Conservation Management Plans, Nutrient Management Plans, Development Plans, Watershed Plans**, and others as needed.

3. **Collaborate** – *Partner with diverse stakeholders to promote the connection between agriculture and healthy land and water.*

- a. Maintain and strengthen **partnerships** among a diverse array of sectors, perspectives, and interests.
- b. Work with other **collaborative initiatives** to leverage and share resources.
- c. Expand upon **localized momentum** for agricultural conservation and restoration by including **new partners and geographies** in the





4. **Engage** – *Educate local stakeholders and communities to encourage sustainable actions.*

- a. Forge strong **relationships** with farmers and landowners that merge their needs with on-the-ground solutions.
- b. Utilize innovative outreach methods to involve the **next generation** of farmers and agricultural landowners.
- c. Educate the public on **sustainable local consumption** and the **farm-to-water connection**.
- d. **Empower** farmers to become local champions for communicating the success of implementing BMPs.

5. **Evaluate** – *Monitor, assess, and communicate land management and water quality science as it relates to agricultural land.*

- a. **Monitor** the habitat and water quality downstream of BMP installations.
- b. Analyze and assess the **impacts** of implemented BMPs on **land, water, and community**.
- c. Translate and **communicate** the results of monitoring and analysis to landowners, farmers, partners, and the public.

6. **Finance** – *Identify and secure funding for agricultural BMP projects, conservation, and education.*

- a. Apply for **grants, contracts, and other funding** opportunities to support workgroup projects.
- b. Explore **innovative and sustainable funding strategies**, including in-kind services.

VIII. Engagement & Stewardship Workgroup



About

Formerly the Education & Outreach workgroup and the Recreation workgroup, this newly combined Engagement & Stewardship workgroup unites environmental education, outreach, recreation, stewardship, and volunteerism in the Schuylkill River Watershed. The Engagement & Stewardship workgroup is designed to share resources and expertise among partners, promote environmental recreation and engagement opportunities to all communities, and ultimately enhance the perception and utilization of the Schuylkill River Watershed.

Goal

To improve public awareness of, equitable engagement in, and support for environmental activities such as recreation, education, and stewardship in the watershed.

Objectives & Actions

1. **Collaborate** – *Partner with and include diverse stakeholders to develop effective, innovative, and unified messaging, and share resources and expertise.*
 - a. Maintain, strengthen, and build **partnerships** among a diverse array of sectors, perspectives, and interests.
 - b. **Share and leverage** lessons learned, resources, expertise, technical assistance, and opportunities among partners.
 - c. Identify **common ground** between partner interests, plans, and initiatives.
2. **Educate** – *Teach communities about the value of natural resources, water quality, and watershed protection to demonstrate positive behavioral changes.*
 - a. Work with formal and informal **educators** to supplement their curriculums with outdoor education opportunities, tools, training, and resources.
 - b. Highlight the **economic, ecological, and health benefits** of protecting and restoring the watershed in all messaging and outreach materials.
 - c. Promote safe, sustainable **recreation** throughout the watershed.
 - d. Promote **awareness** of local watershed success stories using various forms of **compelling media** to demonstrate effective **local management** options.

3. **Engage** – *Connect communities to the environment, foster involvement, and highlight and promote leadership.*



- a. Utilize tailored, effective, and consistent **messaging** and **outreach materials** to reach communities.
- b. Create and share opportunities for **stewardship and volunteerism**, including restoration projects, cleanups, plantings, and community science.
- c. Create and share **innovative events, activities, programs, and resources** that **connect** recreators to the watershed.
- d. Promote and highlight recreational, educational, and employment opportunities, **prioritizing youth and disconnected communities**.

Some *workgroup programs and initiatives* include Storm Drain Marking, a Schuylkill Street Art Contest for K-8 students, the Schuylkill Scrub cleanup initiative, the Schuylkill Sojourn, a Recreation Pocket Guide, and more! For additional information visit: www.SchuylkillWaters.org

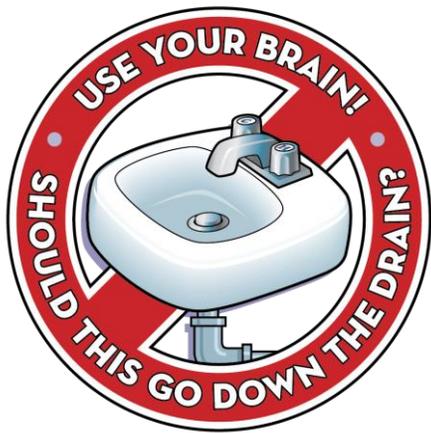
4. **Implement Programs & Projects** – *Improve opportunities and access for recreation, education, and involvement across the Schuylkill River Watershed.*

- a. Improve public access to natural spaces for recreation, prioritizing areas with limited and/or inequitable access.
- b. Implement classroom programs and share resources for teachers that assist with environmental education.
- c. Install comprehensive educational signage in high traffic recreation areas, especially near restoration projects.

5. **Finance** – *Identify and secure funding to advance outreach capacity, recreation, environmental education, and stewardship.*

- a. Apply for grants, contracts, and other funding opportunities.
- b. Explore innovative and sustainable funding strategies, including in-kind services, from new sectors and/or for new projects.

IX. Pathogens & Point Source Workgroup



About

The Pathogens & Point Source workgroup shares information about water quality, wastewater, technological improvements, regulatory updates, effective water management best practices, and contaminants of emerging concern (CECs) among partners and the public. The workgroup emphasizes coordinated efforts among upstream and downstream water users that protect source water.

Goal

To improve drinking water quality through holistic education, outreach, science, and communication among regulatory agencies, water utilities, stakeholders, and the public.

Objectives & Actions

1. **Collaborate** – *Encourage participation, cooperation, and collaboration between diverse stakeholders.*
 - a. Maintain, strengthen, and build **partnerships** with water and wastewater utilities, regulators, and emergency management.
 - b. Facilitate **discussions** between water and wastewater utilities on CECs, watershed issues, shared services, cooperative models, and innovative solutions to shared problems.
 - c. **Share** the latest information and resources among partners, including **best practices, monitoring data, technical expertise, science, funding, and regulatory updates.**
 - d. Use other collaboratives as **models** to replicate successes and leverage resources for source water protection.
2. **Educate** – *Through compelling media, increase awareness on best management practices, drinking water protection, and the value of water quality for both partners and the public.*
 - a. Provide **educational opportunities** to water and wastewater utilities via presentations, resource sharing, and informational forums.
 - b. Improve public safety communication around water issues by promoting the **Delaware Valley Early Warning System** and emergency preparedness platforms.
 - c. Apply a **One Water** approach to connect CECs, drinking water and wastewater, natural resources, public health, and socioeconomic benefits.
 - d. Demonstrate and encourage **positive personal actions*** that will improve water quality and cost saving through public behavioral changes.

3. **Elevate** – *Research areas of concern and form innovative, sustainable solutions.*



4. **Monitor** – *Gather comprehensive information on the state of our source water to aid in the identification and restoration of problem areas as well as in the formation of sound policy.*

5. **Finance** – *Identify and secure funding for source water protection efforts.*

- a. **Investigate** evolving water issues and their implications for source water protection strategies.
- b. Support **holistic planning** efforts aimed at reducing pathogen introduction into the watershed.
- c. Include **CECs** that may not be pathogens as a **priority** for the workgroup.
- d. Identify opportunities where advanced **treatment technologies and infrastructure improvements** can be championed.
- e. Examine the makeup of Schuylkill River Watershed communities to ensure that **diverse** community voices are heard and that everyone has access to **safe drinking water**.

- a. Help coordinate pathogen and CEC **monitoring** efforts.
- b. Increase monitoring downstream of point sources, prioritizing those that could influence the water quality at drinking water **intakes** (e.g., *Wildcat sewers, Act 537, Chapter 94*).

- a. Apply for grants, contracts, and other **funding** opportunities to support workgroup projects.
- b. **Explore** new, innovative, and sustainable funding strategies for infrastructure improvement, operation and maintenance, and monitoring of pathogens and CECs.

**Personal actions and behavioral changes that the workgroup encourages within the public include pharmaceutical takeback programs, connecting with where their waste and drinking water comes from, and a “What Not to Put Down the Drain” fact sheet. More information is available at:*

<https://schuylkillwaters.org/our-work/pathogens-and-point-source>

X. Stormwater Workgroup



About

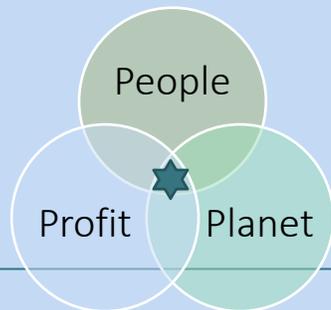
The Stormwater workgroup implements projects that mitigate stormwater runoff and address the associated flooding and pollution that impairs waterways and threatens drinking water supplies. In the face of climate threats, aging infrastructure, and continued development pressure, it is crucial to manage stormwater through effective planning, education, collaboration, stewardship, and best management practices (BMPs).

Goal

To promote and implement stormwater **best management practices (BMPs)** that improve water quality and our communities.

Objectives & Actions

1. **Implement Projects** – Promote and participate in the installation of stormwater BMPs following the latest technical guidance.



2. **Plan** – Support the development of local and regional plans that promote inclusive, just, and resilient watershed-wide approaches to stormwater management.

- a. Implement projects designed for **managing runoff** to **reduce stream flashiness, minimize erosion, improve groundwater recharge, and filter pollutants**.
 - b. Support and highlight stormwater projects that provide additional **environmental, social, and economic benefits** to the community.
 - c. Connect municipalities and other partners to **technical assistance programs** from universities, non-profits, and agencies to aid with project implementation.
 - d. Track project **metrics** through partners and grant programs.
-
- a. Urge planners and other workgroup members to consider a **triple bottom line framework*** when addressing stormwater.
 - b. Encourage efforts to install more stormwater BMPs in **underserved riparian and floodplain communities**.
 - c. Promote and facilitate **comprehensive** BMP planning between upstream and downstream users.
 - d. Identify municipal codes and policies that act as **barriers** to stormwater BMPs, and create **solutions**.

3. **Educate** – Increase awareness of stormwater impacts and solutions throughout the watershed.



- a. Conduct workshops, tours, and other **educational events** about stormwater BMPs.
- b. Create and share guides and online resources about stormwater BMPs that encourage **positive behavioral change** and sound stormwater management.
- c. Provide opportunities for **students** to participate in the creation and stewardship of stormwater BMPs.
- d. Facilitate conversations that **connect** the issue of stormwater runoff with flooding, stream conditions, climate change, environmental justice, infrastructure, drinking water, wildlife, recreation, public health, and local economies.
- e. Highlight **local success stories** with visual results through compelling media to both partners and the public.

4. **Collaborate** – Encourage participation, cooperation, and partnership among diverse stakeholders.

- a. Maintain and strengthen pre-existing **partnerships**.
- b. Identify **new partnership opportunities*** to help complete stormwater BMPs.
- c. Share stormwater **information** among partners to strengthen knowledge and build capacity.
- d. Provide a **forum** for stormwater experts to share information and innovative concepts.

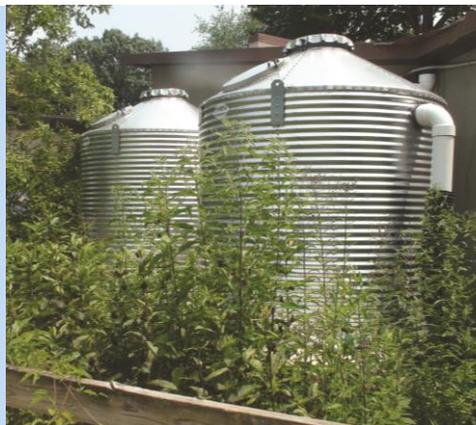
5. **Finance** – Identify and secure funding for stormwater BMPs.

- a. Apply for **grants, contracts, and other funding opportunities** to support workgroup efforts.
- b. Explore creative and sustainable funding strategies** for **community stormwater improvements**.
- c. Direct resources to projects with the greatest **benefits**, balancing environmental, social, and economic impacts.

*Examples of new partners to involve from the 2020 Strategic Planning process include:

- Municipalities & Public Works
- Counties
- Transportation
- HOAs
- Schools and Universities
- Contractors

Holistic stormwater management approaches can help connect these & other diverse stakeholders.



****Municipal Stormwater Fees** are one example of a creative funding strategy that is gaining momentum in Pennsylvania. Similar to other utility fees, local residents are billed to provide local governments with a stable source of revenue to pay for growing stormwater management and infrastructure costs in the community.

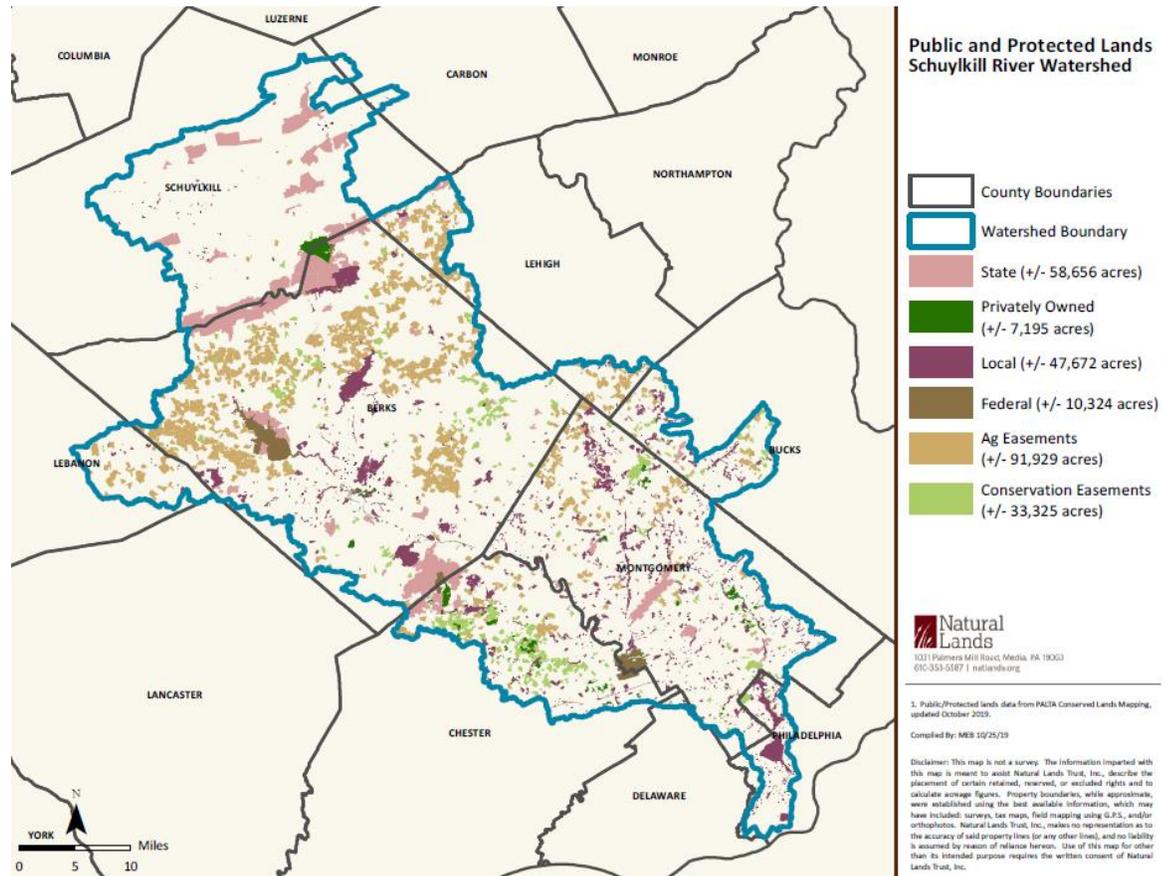
XI. Watershed Land Collaborative (WLC) Workgroup

About

The Watershed Land Collaborative (WLC) works to conserve high priority lands for drinking water protection and open space preservation. The WLC aligns with the goals and timeframe of Delaware River Watershed Initiative's (DRWI) Schuylkill Highlands Cluster.

Goal

To conserve natural lands and open spaces for water quality improvement.



Objectives & Actions

1. **Preserve** – Conserve and protect natural lands, especially high priority habitats.

- a. Use **models** to identify and prioritize land for conservation.
- b. Protect **500 acres** of priority watershed lands annually as part of the Schuylkill Highlands Cluster.
- c. Secure **agricultural easements** and **riparian buffer** protections.
- d. Direct development away from critical natural areas, encourage **redevelopment** of urban and suburban infrastructure, and **offset** any new development with conservation practices.

“A partnership of conservation groups aims to preserve unprotected areas in northern Chester and southern Berks Counties. Ongoing land protection efforts across the region will be supplemented by stormwater management projects and restoration of farmland and riparian buffers. The partners will also work with farmers, suburban landowners, and students to promote environmental stewardship... Work with municipalities will emphasize open space protection, green stormwater infrastructure, management of unpaved roads, and ordinances that protect water resources.”

The Schuylkill Highlands Cluster, 4states1source.org

2. **Restore** – *Implement land restoration activities on conserved properties.*

- a. **Reforest**/restore natural cover on conserved lands.
- b. Work with **landowners** to implement best land management practices on their conserved lands to further protect water quality.
- c. Monitor **water quality and aquatic life** downstream of land acquisition and restoration sites.

3. **Engage** – *Increase awareness of the values of preserving natural lands for water quality, provide technical assistance, and foster stewardship values.*



- a. Provide targeted outreach, technical assistance, and workshops to **municipalities** for implementing conservation measures.
- b. **Communicate** successes of land protection projects to communities, landowners, and partners through **compelling story-driven media**.
- c. Connect local communities to preserved lands by promoting **recreational opportunities** and accessibility.
- d. Share the **economic and public health benefits** of reforestation, stormwater management, and land preservation with partners and the public.

4. **Collaborate** – *Partner together and share expertise for effective land preservation and project implementation.*

- a. Maintain, strengthen, and build **partnerships**, especially with local and state government agencies, landowners, communities, and land trusts.
- b. Share **lessons learned and best practices** from larger initiatives with local partners.

5. **Finance** – *Identify and secure funding for land preservation transactions and restoration projects.*

- a. Apply for grants, contracts, and other **funding opportunities** to support workgroup projects.
- b. Support and work with the **Schuylkill River Restoration Fund** to administer a land transaction assistance program for land trusts, municipalities, and nonprofits.
- c. Explore new, innovative, and sustainable **funding strategies** for land preservation transactions.

XII. Measuring Progress

Listed below are overarching progress targets to evaluate our success at reaching the goals, objectives, and actions listed in this plan. If there is not a timeframe associated with a progress target, it is assumed that the timeframe is that of the strategic action plan: 5 years. These targets do not determine an end goal but encourage continuous achievable progress.

Protect & Restore

- Complete **5** AMD remediation projects
- Increase pH of AMD treatment outflow to **6.0** or above to support fisheries and aquatic life
- **25** new or updated comprehensive nutrient management plans
- **40** new or updated manure handling systems
- **150** agricultural BMPs implemented
- **100** acres of riparian buffer planted
- **5 million** pounds of trash removed from the watershed
- **5,000** acres preserved

Educate & Engage

- **500** new members on the SAN's email list-serv
- **2,000** combined new followers on social media
- **100,000** volunteers at **2,000** trash cleanups, including the Schuylkill Scrub
- **15** SAN events, including public events, workshops, trainings, and project tours
- **1,500** students reached
- **50** schools engaged
- **150** storm drain medallions and/or street art stickers installed
- **5** new water access points for recreation

Collaborate

- **20** new organizational partners engaged in workgroups
- **5** sub-watershed coalitions supported
- Increased diversity among SAN leadership and workgroups
- **10** water utilities engaged with the SAN

Finance

- Annual funding secured for SAN administration and coordination
- Increase the Schuylkill River Restoration Fund to **\$500,000** per year
- **2** new water utilities financially supporting the SAN
- Funding secured to develop a State of the Schuylkill report
- Funding secured to meet SAN project implementation goals
- **\$500 million** in infrastructure investment in the watershed