Best Practices for the Creation and Maintenance of a Collaborative Water Resource Network in Southwestern Pennsylvania: A Summary of Interviews

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INTRODUCTION

The Water Center at the University of Pennsylvania is facilitating the creation of a collaborative integrated water resource stakeholder network in Southwestern (SW) Pennsylvania (PA). To inform this work and stimulate thinking about possible network structure and processes, a study of other successful collaborative water networks[1] around the country has been undertaken. This report presents a summary of these findings.

Eight collaboratives generously offered their insights around successes and challenges faced in network formation and implementation:

- Christina Basin Clean Water Partnership
- Delaware Estuary Comprehensive Conservation and Management Plan
- Delaware River Basin Source Water Collaborative
- Ohio River Basin Alliance
- Safe Water Conservation Collaborative
- Salmon Falls Watershed Collaborative
- Schuylkill Action Network
- Lower Susquehanna Source Water Protection Partnership

Included in this study due to their collaborative network management styles and their intentional inclusion of diverse water stakeholders, their recommendations regarding network formation good practices are particularly useful, as are their reflections on successes and challenges. Information pertaining to their network vision, mission and goals, network structures, formation timelines, funding mechanisms, and network management practices has also been captured in this report.

Local context and aspirations of SW PA water stakeholders will ultimately determine the final vision, structure and processes of a SW PA water network. But we hope that information from this study will stimulate thinking and ensure this nascent network benefits from the experiences of others.

[1] Throughout the report, the term 'network' will be used as shorthand for all of the different forms of networks, alliances, collaboratives or coalitions.

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KEY RECOMMENDATIONS

The following high level recommendations were offered by interviewees:

- **NETWORK FORMATION PROCESS AND STRUCTURE**
    - Trust-building and the fostering of interpersonal relationships between network stakeholders is essential for the success of any collaborative effort. Sufficient time and space for relationship building must be made for this, especially at the beginning of the process.
    - It is important to first consult local and regional stakeholders when creating a network in order not to duplicate existing efforts or alienate potential members and allies.
    - Collaborative decision making should be woven into every step of the network formation process.
    - Hierarchical structures that disempower members should be avoided.
    - There is real value in bringing in a third-party 'neutral' facilitator or coordinator, for both the network creation and network management phases.
    - It is helpful to distill water issues down to a few that network members can both agree upon and create effective action around.
    - Highly complicated network structures should be avoided.
    - Government-mandated action items can be useful for rallying collective action. This can create political will and increases the chances that funding will be made available.
    - Where a government agency is already directly working on a potential working group topic, there is the risk that there will be insufficient external funding to support network member efforts. Instead, workgroup topics should be framed in novel ways to be additive/complementary rather than duplicative.
    - Working groups should focus on some issues that resonate with citizens.
- **CAPACITY**
    - It is important to create diverse opportunities for participation that take into account different organizational and individual capacities - this allows both resource-rich and resource-scarce organizations to participate to the extent that their capacity allows.
    - The workload should be distributed equitably throughout the network in a manner consistent with each organization's capacity.
    - If possible, avoid asking for member dues - this creates an obstacle for involvement for low-resource stakeholders.
- **ENGAGEMENT**
    - **Internal**
        - Providing and communicating tangible benefits and incentives for network members is essential for sustaining stakeholder involvement. These could include:
            - Networking opportunities
            - Collective action opportunities

        - Educational/capacity development opportunities
        - Seminars
        - Trainings
        - Funding opportunities
        - Advancement of common goals
    - Frequent network-wide check-ins are critical.
        - Frequent meetings between subgroups and subcommittees are important.
            - It is recommended that meetings occur at least quarterly, with monthly meetings considered to be the ideal frequency.
        - There should be some discipline around meeting management. Agendas for each meeting should be set and communicated in advance to ensure that members in attendance are able to accomplish their goals and use their time efficiently.
        - A culture of seeking feedback from network members should be fostered. For example, distribution of surveys after meetings can help gauge interest, bring issues to the surface, and garner new ideas.
- **External**
    - There is real value in creating citizen connections to the water through both recreational and environmental education-related activities.
    - It is important to involve a local person or organization that understands local interests and can generate outreach and community involvement.
    - Providing authentic opportunities for stakeholders to shape network direction is very important. For example, holding open public comment periods for each document created by the network is highly recommended.

- **NETWORK MAINTENANCE**
    - A key strategy for ensuring successful ongoing collaboration is for the network to employ a paid staff person or persons dedicated to keeping day to day activities going including ensuring high-quality internal and external communications.
    - It is not necessary to view workgroups as permanent entities - it is acceptable for them to dissolve when their goals are accomplished.
    - Regular outreach to network members to gauge levels of interest, enthusiasm, concerns, and topical issues is very important. Surveys, one-on-one conversations, and informal feedback mechanisms can all be used to serve this purpose.
- **DATA**
    - Identify quantifiable metrics that the network would like to track early in the network creation process and ensure all members are clear on data collection protocols to ensure a standardized and consistent approach. Metrics should relate to network performance itself, as well as water quality/quantity related information.

- Consider where there might be opportunities to standardize particular data collection methods across the network to enhance collaboration and the reporting of network output metrics.

SUCCESSES

Working collaboratively has led to many successes in improved water resource management. To help provide SW PA water stakeholders with ideas of what might be possible, interviewees shared examples of the accomplishments of which they were most proud.

- **Christina Basin Clean Water Partnership:**
  - Increased collaborative funding opportunities including being awarded a $1m grant for a target watershed project
  - Scientifically verified improved water quality in the headwaters of the Christina Basin
  - Enhanced interorganizational information sharing and communication
  - A shared and widespread realization that interstate collaboration is necessary for downstream drinking water quality
  - Advancement of the idea that preventative measures taken upstream are far more effective and less expensive than conventional reactionary measures to improve water quality
  - The creation of non-traditional partnerships leading to enhanced collaboration

- **Delaware Estuary Comprehensive Conservation and Management Plan:**
  - Increased interagency communication in the region
  - The Comprehensive Conservation and Management Plan created the opportunity for partners to get their organizational and watershed-based goals on paper and solidified in a 10-year regional planning document that members can reference when seeking grant funding
    - The original 1996 Comprehensive Conservation and Management Plan was the first regional planning document for the Delaware Estuary Program and established comprehensive goals and targets for habitats, waters, and a high quality of life for residents of the Delaware Estuary
    - The Comprehensive Conservation and Management Plan was then revised in 2019 with contributions from hundreds of scientists, experts, and stakeholders through a 3-year revision process to create a more streamlined and public friendly document

- **Delaware River Basin Source Water Collaborative:**
  - Creating interstate collaboration on issues facing the Delaware River
  - Greater connection of basin-wide and local actors, issues and needs
  - Creation of a framework for ongoing collaboration among officials, planners, water suppliers and other stakeholders and practitioners

- **Lower Susquehanna Source Water Protection Partnership:**

- Creating networking opportunities for members, leading to improved interorganizational collaboration
- Creating opportunities for diverse stakeholders to collaborate on water issues
- The Partnership is able to act as a hub for the sharing of information and ideas

- **Ohio River Basin Alliance:**
  - Fiscal sponsorship agreement with the Ohio River Valley Water Sanitation Commission (ORSANCO)
  - Important role in MG Toy's Ohio River Basin inspection tour
  - Participation in the ORSANCO/United States Army Corps of Engineers (USACE) Planning Assistance to States (PAS) initiative, which led to the development of the soon-to-be-approved Ohio River Basin plan
  - Securing commitment from outstanding people representing important or key organizations to lead working groups

- **Safe Water Conservation Collaborative:**
  - Creation of a land conservation prioritization model
  - Establishment of a functioning structure for the Collaborative
  - Recruitment and retention of active, engaged partners on workgroups and the steering committee
  - Publishing of an operations guide
  - Creation of a website which clearly and transparently communicates the workings of the Collaborative
  - Documentation and publishing of landowner legacy stories, which are a helpful tool for outreach
  - Several news stories about the Collaborative have been published
  - Construction and maintenance of a landowner outreach matrix which allows users to know who within the partnership is most closely connected to landowners for outreach
  - The compilation of a skills and interest survey which has led to the creation of a "knowledge matrix" of who partners are and what skills they have

- **Salmon Falls Watershed Collaborative:**
  - A joint designation of the watershed as a priority for funding by two state NRCS offices
  - The relationships that came from the network continue to be helpful and collaborative
  - Improvement of the SFWC's name recognition and public perception
  - SFWC informed the formation of another stakeholder group - the Saco River Watershed Collaborative
  - Maine and New Hampshire NRCS collaboration on forestry
    - USDA NRCS landowner sign up has produced 22 EQIP contracts, enrolling 3976 acres of private working forest lands
  - Conservation Activity Plan

- York County Forest Works
- Low-impact development outreach
- Tours of stormwater BMPs and watersheds
- Somersworth low impact development ordinance
- Berwick shoreline survey and storm water review
- Collection and analysis of PWS water quality data
- Awarded a US Water Prize
- Unified communications and messaging
- New partnerships

- **Schuylkill Action Network:**
  - Leveraging the skills and resources of all network members
  - Connecting with people and sharing lessons learned with each other
  - The partnership has been able to jointly apply for more diverse sources of funding
  - Achievement of agriculture implementation activities
    - 6,000 feet of streamside plantings
    - 15 conservation plans completed
    - 9 farm BMPs completed, 6 in process
  - 1,107,506 pounds of trash removed in the 2019 Schuylkill Scrub
  - $9,200,000 funded and leveraged through the Schuylkill River Restoration Fund
  - $14,000,000 invested in Abandoned Mine Drainage (AMD) projects
  - 17.5 percent of the watershed is permanently protected
  - Abandoned mine drainage treatment systems completed including Reevesdale tunnel remediation, Mary D mine discharge, Pine forest remediation, Otto mine drainage treatment, Bell Colliery treatment system
  - Monitoring water quality and flow
  - Pathogen control and compliance
    - Wastewater cryptosporidium study
    - City of Reading consent decree - $100M upgrade
    - Watershed land protection collaborative team
  - Developed Schuylkill Watershed Land Prioritization Tool for source water protection
  - Improved communication about spills through the Delaware Valley Early Warning System
    - 362 events reported, mostly low-risk events

CHALLENGES

While interviewees were strong advocates for networked collaborations, they nevertheless recognized a range of challenges that, had they been considered early on, may have been surmounted. These include:

- **CAPACITY**
  - Obtaining sustained funding
  - Stretched capacity of network members (personnel, funding, interest)
  - Member involvement in too many other initiatives making it difficult to allocate time and resources to this network
- **DATA**
  - Reluctance of members to share data/lack of data-sharing capacity
  - A lack of standardization around data gathering
  - Absence of a metric or performance management system that aggregates the individual and joint achievements of each of the network partners' work in order to demonstrate the value of the network, for instance when applying for funding.
  - Managing databases that are constantly changing and require routine updates takes time and money
- **COORDINATION**
  - Not having dedicated staff responsible for undertaking the daily operational tasks including sending out updates, organizing meetings, and keeping lines of communication open
  - Lack of a neutral third-party facilitator
- **ENGAGEMENT**
  - Issues with getting messaging out in a unified, collaborative way
  - Staff turnover - often, "champions" of member organizations are the only point of contact with an organization, and when they move on from their organization, that connection is sometimes lost
  - Difficulty finding a balance where all stakeholders feel their interests are being addressed
  - If the geographic scale of an area is too large, it can be difficult to find points of commonality
- **MISCELLANEOUS**
  - Lack of an initial driver or a government mandate for action
  - Appearance of new networks with better funding opportunities 'distracting' existing network members

NETWORK VISIONS, MISSIONS, & GOALS

A set of visions, missions and goals guide the efforts of each of the networks. Visions look toward the future and generally describe the improved state of the waters that the networks aspire to contribute to. Network missions, on the other hand, tend to be more concrete and framed in the present, describing what the networks do on a daily basis in pursuit of the vision. Many networks have also established goals, which are the high level milestones to be reached on the way to achieving the future vision. Finally, each network has articulated a set of methods and strategies to achieve the milestones. Below, the visions, missions, and goals of each network are presented, with methods and strategies found in Annex 2.

Key Takeaways

- 'Collaboration' is a key aspect of virtually all visions/goal statements
- Strong emphasis on involving a diversity of stakeholders within these collaborations
- The idea of mutually beneficial partnerships features in most network mission/goals
- These networks emphasize creating and maintaining connections as a primary purpose
    - E.g. common forums for conversations, information sharing, creating a common voice on certain issues
- Vision/Mission statements are bold and aspirational, focusing on the long term change the networks wish to contribute to
- Goals are more tangible, focused on what the network believes it can achieve (and measure) and where we see a strong emphasis on the collaboration/connection aspect

- **Christina Basin Clean Water Partnership:**
    - Mission:
        - To restore the waters of the Brandywine, Red Clay, and White Clay Creeks, and Christina River in Delaware and Pennsylvania to fishable, swimmable, and potable status.
    - Goals:
        - Employ a full-time watershed-governance structure
        - Raise funds for restoration through innovative watershed financing
        - Develop a water quality trading bank

- **Delaware Estuary Comprehensive Conservation and Management Plan:**
    - Vision:
        - The Comprehensive Conservation and Management Plan (CCMP) for the Delaware Estuary aims to make watershed improvements to benefit millions of people who live, work, and play in the tri-state region (PA, NJ, DE).
    - Goals:
        - Theme 1: Clean waters
            - Reduce nutrient pollution and its impacts
            - Reduce other pollutants and their impacts

        - Sustain flow for drinking water and ecosystems
    - Theme 2: Strong communities
        - Increase community resilience and access
        - Improve public awareness and stakeholder engagement
    - Theme 3: Healthy habitats
        - Prevent wetland loss
        - Stem forest loss
        - Increase and improve shellfish habitat

- **Delaware River Basin Source Water Collaborative:**
    - Mission:
        - To identify and explore issues impacting water resource sustainability for the more than 15 million people who rely on surface and ground water from the basin for drinking water.
    - Goals:
        - Heighten awareness of issues and decisions affecting water resources and create a framework for ongoing collaboration among officials, planners, water suppliers and other stakeholders and practitioners
        - Connect basin-wide and local actors, issues and needs
        - Create a framework for ongoing collaboration among officials, planners, water suppliers, and other stakeholders and practitioners

- **Lower Susquehanna Source Water Protection Partnership:**
    - Vision:
        - Improve source water protection efforts in the Lower Susquehanna region.
    - Mission:
        - To examine ways in which agencies and organizations can collaborate to address common issues and challenges related to protecting sources of drinking water on a regional scale.
    - Goals:
        - Provide a forum for government and nongovernment agencies, water suppliers, watershed organizations, regional planners, and any other groups working towards source water protection in the Lower Susquehanna River Basin.
        - Promote information sharing through establishing and maintaining a coordinated dialogue.
        - Identify and address key regional priorities for source water protection in the Lower Susquehanna River Basin.
        - Support existing watershed protection initiatives and develop new initiatives, as needed, to further source water protection.

        - Facilitate cooperation and coordinate efforts between Partners and non-Partners alike to better organize source water protection in the Lower Susquehanna Region.

- **Ohio River Basin Alliance:**
    - Vision:
        - ORBA develops a collaborative, unified voice of states, tribes, commissions, and other stakeholders for water resource priorities of the Ohio River Basin sufficient to sustain healthy ecosystems and river communities and vibrant water-dependent economies.
    - Mission:
        - Form a successful collaboration that will recommend strategies and coordinate actions to address complex water resource challenges and priorities with a unified voice.
    - Goals:
        - Nation's Most Valuable River Transportation and Commerce Corridor:
            - Provide for safe, efficient, and dependable commercial navigation within the Ohio River Basin to ensure a competitive advantage for our goods in global and regional markets; sustain a water use system to efficiently and effectively support agricultural, industrial, and energy productivity.
        - Healthy and Productive Ecosystems:
            - Conserve, enhance, and restore ecosystems within the Ohio River Basin to support natural habitats and the fish and wildlife resources that depend upon them.
        - Abundant Clean Water:
            - Ensure the quality and quantity of water in the Ohio River Basin is adequate to support the economic, social, and environmental functions that are dependent on it.
        - World-class Nature-based Recreation Opportunities:
            - Enrich the quality of life for people and recreation-based economies by maintaining and enhancing riverine, lake, and wetland-associated recreation within the Basin.
        - Reliable Flood Control and Risk Reduction:
            - Provide reliable flood protection and risk reduction through well-managed and maintained infrastructure, including appropriate floodplain connections for water conveyance and ecosystem benefits, and management of surface and stormwater runoff to better protect life, property, and economies.
        - Knowledge and Education to Inform Decisions:
            - Ensure that research and education adequately inform Ohio River Basin-wide economic, social, and environmental decisions; enhance the profile

of education organizations in the Basin that synergize efforts to garner effective public involvement in the stewardship and management of the Basin's resources.

- **Safe Water Conservation Collaborative:**
  - Vision:
    - To form a vibrant network collaborating on land conservation and stewardship practices to protect safe, clean drinking water for communities in the Eastern Panhandle of West Virginia.
  - Mission:
    - Protecting drinking water through land conservation.
  - Goal:
    - The overall goal of the project is to use land conservation to help protect drinking water supplies throughout the state and to ensure water utilities, land conservation organizations, and community groups work together to protect drinking water supplies.

- **Salmon Falls Watershed Collaborative:**
  - Vision:
    - Clean, safe, and sustainable water for current and future generations.
  - Mission:
    - The SFWC was created in order to bridge the divide between Maine and New Hampshire in order to improve water quality throughout the Salmon Falls watershed.
  - Goals:
    - Protect water supply sources in the Salmon Falls River watershed through coordinated land and water conservation, planning, and management.
    - Develop and sustain mutually beneficial partnerships to accomplish shared goals for clean water.

- **Schuylkill Action Network:**
  - Vision:
    - Clean water and a healthy environment for the Schuylkill River and its tributaries.
  - Mission:
    - To improve water resources in the Schuylkill River watershed by working in partnership with local watershed organizations and land conservation organizations, businesses, academics, water suppliers, recreational communities, local governments, and regional, state, and federal agencies to transcend regulatory and jurisdictional boundaries in the strategic implementation of protection measures.
  - Goals:

- Executive Steering Committee
  - To advance drinking water and watershed protection for the Schuylkill River and its tributaries by facilitating communication and decision making on a regional, state, and federal level.
  - Work collaboratively to ensure the availability of resources, expertise, and commitments to support the work.
- Planning Committee
  - Focus efforts on improving watershed management, especially activities that will enhance the quality and flow of Schuylkill waters for the protection of public health and aquatic resources.
  - Create and maintain an effective network that maximizes the resources of its membership to protect and restore the Schuylkill watershed.
- Abandoned Mine Drainage Work Group
  - Maximize reduction and/or treatment of abandoned mine drainage discharges.
- Agricultural Work Group
  - Maximize reduction and/or prevention of agricultural impacts to water quality.
- Education and Outreach Work Group
  - Improve public support for watershed protection actions.
- Recreation Work Group
  - Engage recreational users of the watershed in activities that lead to increased awareness and advancement of watershed protection and restoration strategies.
- Pathogens/Compliance Work Group
  - Facilitate and strengthen communication and coordination among regulatory agencies, downstream water users, and basin stakeholders regarding point source compliance programs and drinking water protection strategies.
- Stormwater Work Group
  - Maximize reduction and/or prevention of stormwater runoff pollution.
- Watershed Land Protection Collaborative Work Group
  - Promote a sustainable landscape in the Schuylkill River watershed through strategic conservation and efficient land resource use to protect the integrity of water supplies for future generations.

THE NETWORK CREATION PROCESS

Different drivers were responsible for the creation of the networks showcased in this paper. This section provides a high level overview of those drivers and also captures the principal actors, stakeholder engagement activities, processes and timeframes for each network's establishment.

Key Takeaways

- Solicit and incorporate diverse stakeholder input into every step of the network creation process.
- Network creation takes time! Relationship and trust building are key parts of this.
- Drivers for network creation should be communicated clearly upfront. This helps to clarify a network purpose.

- **Christina Basin Clean Water Partnership:**
  - Since 1993, the states of Delaware and Pennsylvania, along with the U. S. Environmental Protection Agency (USEPA), the Delaware River Basin Commission, and the Christina Basin Clean Water Partnership have been working together to restore interstate streams in the Christina Basin to Clean Water Act standards.
  - Initiated through a regulatory issue related to the TMDLs
  - The group came together to resolve water quality issues
  - The Brandywine Red Clay Alliance (BRCA), the University of Delaware Water Resources Center, and Chester County government entities initially took control because no other organizations had the capacity to facilitate the network.
  - Timelines:
    - Timeline for network formation: Less than 2 years
    - Overall timeline of network: 1993 - present

- **Delaware Estuary Comprehensive Conservation and Management Plan:**
  - In 1996, the Partnership for the Delaware Estuary (PDE) was created and established as one of 28 national estuary programs in the United States. A primary purpose of the Delaware Estuary Program is to develop and subsequently implement a Comprehensive Conservation and Management Plan (CCMP) to protect the Delaware Estuary.
  - PDE reviewed the original 1996 plan, which was lengthy and outdated, and decided to create a more streamlined, public-friendly document.
  - The process started with a set of listening sessions.
  - There was sustained stakeholder input for the initial three years that helped to outline the three themes, goals, and sub-goals.
  - Plan development process consisted of:
    - In 2017, expert committees developed a document that brought new workshop participants up to speed on all the prior efforts made since 1996.

        - 12 - 15 workshops were subsequently held to solicit stakeholder input into a revised plan, rotating between geographic areas to incorporate diverse opinions.
        - These stakeholder workshops were promoted on their website, their listserv, and their partners' listservs in order to invite a second round of diverse input from different non-expert stakeholders.
        - Two different consultants were contracted to develop and facilitate workshops.
        - After the plan was drafted, they held a 60-day public input period.
    - Timelines:
        - Timeline for network formation: 3 years
        - Overall timeline of network: 1996 - present

- **Delaware River Basin Source Water Collaborative:**
    - In 2015, EPA initiated the formation of this collaborative to direct more energy and attention to the upper reaches of the Delaware River.
    - The initial effort stemmed from a basin-wide forum on drinking water resources. The forum involved two components:
        - Presentations by speakers from public and private interest groups, broadcast via teleconference to six locations along the river basin
        - Decentralized meetings in regional offices inviting community members, water operators, municipal and public works officials, and representatives of environmental groups
    - Subsequent to the forum, EPA hosted four different webinars to bring people together on water issues and provide water-related educational opportunities
    - Concurrent with these activities was the creation of the Delaware River Watershed Initiative (DRWI), funded by the William Penn Foundation.
    - As the DWRI grew in strength and number, a decision was made to support this initiative.
    - Timelines:
        - Timeline for network formation: six months, but such a short timeline is not recommended, with the network dissolving within a few years.
        - Overall timeline of network: 2015 - 2017

- **Lower Susquehanna Source Water Protection Partnership:**
    - The Lower Susquehanna Source Water Protection Partnership was formed in 2012 by the Susquehanna River Basin Commission to examine ways in which agencies and organizations could collaborate to address common issues and challenges related to protecting sources of drinking water on a regional scale.
    - At the start of the process in 2012, the partnership met regularly to:
        - Raise awareness about source water protection issues among a broad group of stakeholders
        - Form subgroups and workgroups for specific issues and events.

- There was an attempt to explore a more formal structure through a strategic planning process in 2016.
    - However, members opted to continue on as an informal group committing to regular biannual meetings, with a steering committee meeting more regularly to facilitate meeting planning and other activities.
- Timelines:
    - Timeline for network formation: 1 year
    - Overall timeline of network: 2012 - present

- **Ohio River Basin Alliance:**
    - ORBA is an outcome of an October 2009 Ohio River Basin summit which was co-led by the US Environmental Protection Agency, the US Army Corps of Engineers (USACE), the Ohio River Valley Water Sanitation Commission (ORSANCO), and the former Ohio River Basin Water Resources Association.
    - Up until 2009, the lack of a unified voice with clear priorities for the Ohio River Basin was preventing the region from being effective in securing federal funding. To address this issue, ORBA started out as an informal, ad hoc collaboration with a steering committee. The decision to begin as an informal collaborative effort was made due to initial regional opposition to the formation of a formal collaborative water resource network.
    - In 2013, ORBA developed bylaws, but remained an unincorporated nonprofit organization. ORBA participated in America's Watershed Initiative in 2015. In 2016, the goals from that initiative were adopted by the Steering Committee for ORBA with minor modifications. Utilizing the USACE/ORSANCO Planning Assistance to States, the goals were further refined and objectives and strategies were prioritized for each goal. This included webinars; four goal-focused stakeholder teleconferences; a Basin-wide summit with facilitated input on priorities and strategies with "dot voting" within each goal; and three focus groups in Pittsburgh, Cincinnati, and Nashville to fill gaps. ORBA nearly disappeared, but in 2016 was reinvigorated thanks to the commitment of a highly experienced recently retired individual able to work close to full time on OBRA at zero cost to the network. 2017 brought fiscal sponsorship from ORSANCO - which reduced elements of distrust and perceived competition. In 2020, ORBA reorganized its four working groups to six working groups, each focused on one of the Ohio River Basin goals.
    - Timelines:
        - Timeline for network formation: 8 years
        - Overall timeline of network: 2009 - present

- **Safe Water Conservation Collaborative:**
    - In 2014, there was a chemical spill in West Virginia's Elk River. That crisis prompted a piece of state legislation which required that each utility in the state create a source water protection plan. The utilities did not have the staffing, funding, technical capacity, or at times the ability to work outside their jurisdiction to implement the source water

protection plans. The West Virginia Rivers Coalition created a program called Safe Water West Virginia to assist utilities in implementing priority strategies from their source water protection plans. In the Eastern Panhandle in particular, there was a lot of interest in land conservation as a source water protection strategy. This interest led to a regional drive to create a coalition to bring together land trusts & farmland protection boards, water utilities, and community groups to work on source water protection and land conservation. This idea became the Safe Water Conservation Collaborative, which is a regional conservation coalition of non-traditional and cross-sectoral partnerships which work together to have a bigger impact.

- Timelines:
  - Timeline for network formation: 3 years to date - the network formation process is still underway as of 2020
  - Overall timeline of network: 2017 - present

- **Salmon Falls Watershed Collaborative:**
  - The Collaborative developed organically. One member of the New Hampshire Source Water Protection Program started to look at watersheds for source water issues, then contacted his counterpart in ME to initiate collaboration. Then the EPA started the National Source Water Collaborative and solicited project proposals for the development of regional source water collaboratives. The two states and one representative from the EPA started identifying and recruiting interested parties such as municipalities, private property owners, forestry agencies, public water supplier staff members, rural water associations, planners, city managers, and the two state drinking water source protection programs. They then subcontracted meeting facilitation to an outside facilitator specializing in collaborative learning.
  - One of the core principles of the network was to not increase anyone's workload but rather to identify functions that people were already performing and ask them to focus some of their time on the watershed. Then the Collaborative drafted justification language around why the work was important so individuals could ask their supervisors to allocate resources toward the Collaborative.
  - Timelines:
    - Timeline for network formation: It took 7 years to create the network, do the initial visioning session, distill the information from the vision into an action plan, then act on the low-hanging fruit from that plan.
    - Overall timeline of network: 2009 - present

- **Schuylkill Action Network:**
  - In 2003, the Philadelphia Water Department (PWD) completed a source water assessment for the Schuylkill River Watershed. This assessment identified threats to drinking water in the Schuylkill River Watershed, including pollutants from agriculture, abandoned mines, stormwater, and sewage. Since the majority of the watershed is

outside of the City of Philadelphia's jurisdictional boundaries, PWD knew they had to work with upstream partners to address these threats. The U.S. Environmental Protection Agency (EPA), Pennsylvania Department of Environmental Protection (PADEP), and PWD spearheaded the creation of the SAN, a network of partners collaborative in various workgroups to address pollution sources.

- In 2004, PWD and the Partnership for the Delaware Estuary (PDE) received a $1.15 million EPA Targeted Watershed Implementation Grant for SAN partners to take action on the ground.
- In 2009, through the Partnership for the Delaware Estuary (PDE), a full time SAN Coordinator was hired to oversee the day-to-day operation of the SAN, facilitate collaboration amongst members, and advance workgroup goals by securing funding and resources for priority projects.
- Timelines:
  - Timeline for network formation: 3 - 4 years
  - Overall timeline of network: 2003 - present

NETWORK FUNDING

The need for funding for both establishing as well as maintaining a network was raised as a key issue for all of the networks interviewed.

Key Takeaways

- Seek diverse and preferably long-term funding sources.
- Involve funding/resource partners in the process of network creation to enhance buy-in and commitment and likely alignment with resource partner goals.
- Ensure the ambition of the network matches resources available - be realistic.

- **Christina Basin Clean Water Partnership:**
  - In 2012, the Partnership received a $1 million targeted watershed initiative grant that was applied for by several groups in the Partnership working in collaboration
  - There is no sustained funding anymore
  - The partnership is 100% volunteer-driven
  - The Brandywine Red Clay Alliance provides funds to purchase small goods for meetings
  - They do not pay speakers, do not pay for meeting space, the email list is free, and there are no member dues

- **Delaware Estuary Comprehensive Conservation and Management Plan:**
  - Funding to support CCMP implementation derives from a variety of sources, including the National Estuary Program (NEP) through the EPA. Over the past 10 years, this base funding has remained relatively stable at approximately $600,000 annually for each program. Agency partners consistently have provided the match required for the NEP funds to PDE in the form of in-kind services to support CCMP activities for a total NEP investment of approximately $1.2 million annually.
  - Not including the match required for NEP funds, PDE normally raises two to three times the NEP funding amount annually from other sources for its annual budget of $2.5–$3 million.
    - A portion of these funds ($62,000–$85,000 annually) has come from the State of Delaware through the DNREC budget to help support PDE's core operations and activities in Delaware.
    - Nearly all other non-NEP sources of support to PDE from government agencies derive from competitive grant programs and contracts. These sources include other federal funds, such as grants through other EPA programs, and grants from other federal agencies for specific projects and programs. Typically, they also include grants and contracts from the PWD and other local governments, and grants from state programs, such as the Coastal Zone Management and Nonpoint Source (319) grants for specific activities that meet those grant programs'

requirements. In total, government grants and contracts typically account for the vast majority of PDE's annual budget.
        - The remaining amount of PDE's budget derives largely from private-sector funding, much of which comes from such foundations as the William Penn Foundation, the Geraldine R. Dodge Foundation, and the Welfare Foundation. Corporate grants, sponsorships, and donations also are part of this private-sector funding, as are individual donations.
            - In 2008, PDE developed a Fundraising Plan that focused on involving its Board of Directors to raise private-sector funding; PDE continues to implement and update this plan.
    - Funding allocations:
        - Promotional materials
        - Facilitator salary
        - Staff pay
        - Creation of the Comprehensive Conservation and Management Plan document
        - Printing costs
        - PDE flash drives given away at a conference
        - A technical report for the estuary and basin

- **Delaware River Basin Source Water Collaborative:**
    - There was no formal funding mechanism in place
    - The only expenditure was staff time from EPA Region 3

- **Lower Susquehanna Source Water Protection Partnership:**
    - Annual budget is $80,000/year
        - $25,000 is for the partnership
        - $55,000 is for equipment purchases
    - The host organization (Susquehanna River Basin Commission) has an internal budget for source water protection-related activities that includes:
        - Staff time for Lower Susquehanna Source Water Protection Partnership
        - Operation and maintenance of a Susquehanna Basin-wide early warning system
            - Includes equipment service contracts and parts, calibration supplies, staff labor, and data/communication plans
        - Other miscellaneous activities related to the Partnership
    - Funding comes also comes from the EPA Clean Water Act
    - Members are not charged dues or fees to attend events and speakers are not paid

- **Ohio River Basin Alliance:**
    - They operate with an annual budget of $15,000 from annual summit sponsorships and registration fees. They seek to leverage others for funding and in-kind contributions.

- The PAS included $150,000 from KY, $200,000 from USACE and $45,000 (in kind) from ORSANCO and $5000 (in kind) from ORBA. Additionally, ORBA provided volunteer time valued at more than $40,000. This funding is used to implement USACE's work in support of ORBA's goals.
- A formal fiscal sponsorship agreement exists with both ORSANCO and with the Foundation for Ohio River Education. ORBA can utilize either organization, depending on the nature of the project.
- Funding for conferences, business travel, and one-time consulting work comes from conference fees and sponsorships.

- **Safe Water Conservation Collaborative:**
  - Annual budget is $30,000 per year
  - Funding comes from the Chesapeake Bay Land and Water Initiative, a program of the Land Trust Alliance and Chesapeake Bay Funders Network, which provides grant support, policy, communications, partnership building and training resources to organizations working to preserve land and protect water quality in the Chesapeake watershed.

- **Salmon Falls Watershed Collaborative:**
  - They received in-kind support from the EPA to form the network
  - They applied for and received small state grants to fund a project coordinator through the regional estuary program

- **Schuylkill Action Network:**
  - EPA provided $1.5 million to help SAN form in 2004.
    - This grant was implemented over 3 years
    - Funding goes through PDE who acts as SAN's fiscal sponsor
  - Current annual budget is around $200,000, with current funding sources being:
    - A contract with the Philadelphia Water Department (PWD)
      - The PWD contract is around $135,000 - 75% of funding
      - The PWD funding is on a four-year cycle and renewal of that funding is not guaranteed
    - Match funding comes from other grant sources including Aqua PA, Schuylkill River Restoration Fund, and the PA DEP Growing Greener program
  - They are currently trying to diversify their funding sources.

NETWORK STRUCTURE, COORDINATION, & MANAGEMENT

Key Takeaways

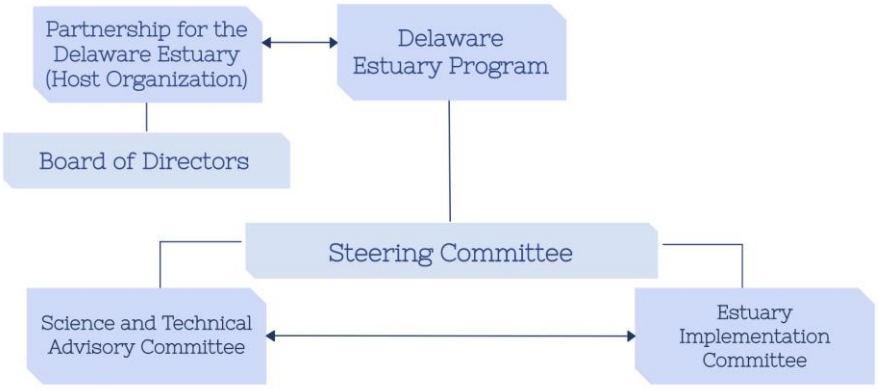
- Collaborative governance structures are especially effective to ensure that all members' voices are heard.
- It is strongly recommended that there be paid staff in one or more organization to facilitate the maintenance and coordination of the network.
- Frequent meetings and forums for ongoing communication are important for maintaining network-wide transparency and collaboration.
- Smaller networks may choose to have more flexible structures (i.e. temporary or issue-specific work groups).

- **Christina Basin Clean Water Partnership:**

  - **STRUCTURE**
    - Volunteer coordination, organization, and meeting host
      - Brandywine Red Clay Alliance
    - Policy committee
      - Pennsylvania Department of Environmental Protection
      - Delaware Department of Natural Resources and Environmental Control
      - Delaware River Basin Commission
      - U.S. Environmental Protection Agency, Region III
    - Co-coordinators for both Delaware and Pennsylvania
      - Chester County Water Resources Authority
      - University of Delaware Institute for Public Administration Water Resources Center
      - Chester County Conservation District
      - Delaware Nature Society
    - Task force
  - **COORDINATION & MANAGEMENT**
    - Volunteer-run - no centralized office site
    - Partner organizations and state co-coordinators facilitate and host meetings and

events and maintain email list

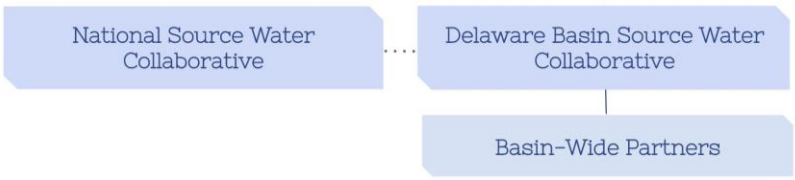
- **Delaware Estuary Comprehensive Conservation and Management Plan:**



  - **BACKGROUND**
    - The PDE coordinates the efforts of a group of core partners to protect and enhance the Delaware Estuary through the CCMP.
    - The Department of Environmental Protection is a core partner, along with the New Jersey Department of Environmental Protection, Delaware Department of Natural Resources, Delaware River Basin Commission, Philadelphia Water Department and the EPA (Regions 2 and 3).
    - The core partners serve as active members on various committees, including the steering committee, estuary implementation committee, and science and technology advisory committee that serve in a guidance capacity for the estuary program.
  - **STRUCTURE**
    - Network host and 501(c)3 nonprofit organization
      - Partnership for the Delaware Estuary (PDE)
    - PDE Board of Directors
    - Steering Committee
      - Partnership for the Delaware Estuary
      - U.S. Environmental Protection Agency, Region 2
      - U.S. Environmental Protection Agency, Region 3
      - Pennsylvania Department of Environmental Protection
      - New Jersey Department of Environmental Protection
      - Philadelphia Water Department
      - Delaware Department of Natural Resources and Environmental Control
      - Delaware River Basin Commission
    - Estuary Implementation Committee
      - Partnership for the Delaware Estuary
      - Philadelphia Water Department

        - Delaware Department of Natural Resources and Environmental Control
        - Pennsylvania Department of Environmental Protection
        - Delaware River Basin Commission
        - U.S. Environmental Protection Agency, Region 2
        - U.S. Environmental Protection Agency, Region 3
        - New Jersey Department of Environmental Protection
    - Science and Technical Advisory Committee
        - Partnership for the Delaware Estuary
        - Delaware Department of Natural Resources and Environmental Control
        - Delaware River Basin Commission
        - U.S. Environmental Protection Agency, Region 3
        - New Jersey Department of Environmental Protection
        - Pennsylvania Department of Environmental Protection
        - Philadelphia Water Department
        - Other organizations where representatives have technical and scientific expertise (e.g., academia, NGO, agencies)
    - Ad hoc teams
        - Forests
            - The Nature Conservancy
            - The Pinchot Institute
            - Natural Lands
        - Strong Communities
            - Pennsylvania Environmental Council
            - Delaware Nature Society
            - Bayshore Center at Bivalve
    - Staff contributors from the Partnership for the Delaware Estuary
    - Three themes
        - Goals for each of the themes
            - Strategies for sub-action
- **COORDINATION & MANAGEMENT**
    - There are two employees who dedicate a portion of their work hours to the facilitation of the network and also review results and reporting associated with the Comprehensive Conservation & Management Plan (PDE Executive Director and PDE Estuary Program Coordinator)
        - Amount of employee time devoted to network coordination varies each year. More time is allocated during the reporting period as well as periodic plan revisions
            - Approximately 50% of the Estuary Program Coordinator's time is dedicated to network-related work on an annual basis, with review of associated materials by the Executive Director

- **Delaware River Basin Source Water Collaborative:**



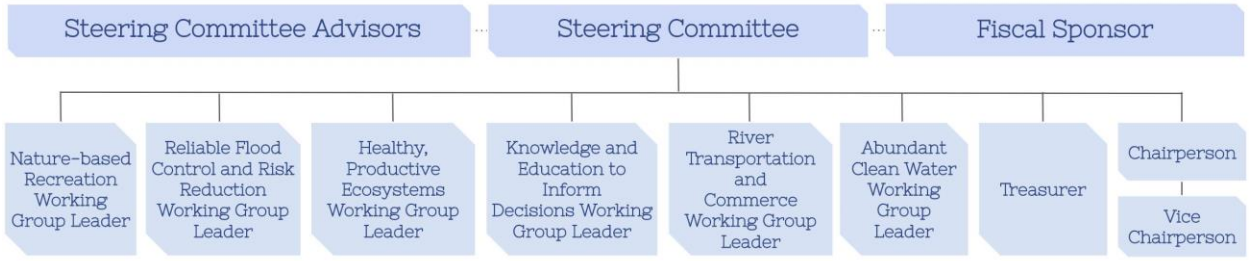
  - **STRUCTURE**
    - Affiliate of the National Source Water Collaborative
    - Member-led coalition of both state and federal government agencies and organizations
    - Local partners:
      - US Environmental Protection Agency Region 2
      - US Environmental Protection Agency Region 3
      - State environmental and health agencies of Delaware, New Jersey, New York and Pennsylvania
      - Delaware River Basin Commission
  - **COORDINATION & MANAGEMENT**
    - Coordination and facilitation was conducted by EPA Region 3

- **Lower Susquehanna Source Water Protection Partnership:**

  - **STRUCTURE**
    - Lead organization
      - Susquehanna River Basin Commission (SRBC)
    - Steering committee
      - Steering committee members are chosen via direct solicitation during forums and whenever vacancies occur
      - Steering committee members include:
        - Susquehanna River Basin Commission
        - Pennsylvania Department of Environmental Protection
        - U.S. Environmental Protection Agency
        - Pennsylvania American Water
        - Capital Region Water

        - Pennsylvania Rural Water Association
        - Pennsylvania State University
        - Alliance for the Chesapeake Bay
    - Working groups
        - Only formed occasionally to address specific issues. One recent example comprises of entities with continuous water quality monitoring assets; i.e., public water suppliers and SRBC. This working group was convened to discuss data sharing in ways that expand early warning systems to attempt to optimize water treatment practices based on seasonal and episodic conditions of water sources
- **COORDINATION & MANAGEMENT**
    - The host organization (SRBC) has assumed the lead role with respect to coordination, planning, and event organization. SRBC uses portions of their USEPA Clean Water Act funding to compensate for staff time spent on the coordination of the Partnership
    - The majority of member events are hosted at SRBC's conference setting

- **Ohio River Basin Alliance:**

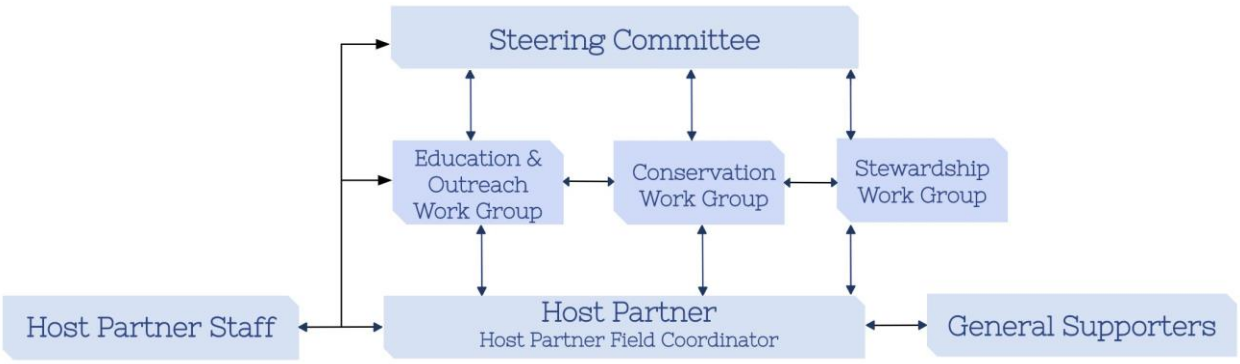


- **STRUCTURE**
    - Originally there was an elected Steering Committee with four standing working groups. In 2020 they reorganized the working groups to correspond to the six Ohio River Basin-wide goals. The leaders of each working group are appointed by the steering committee based on expertise and strategic interest. Members of the working groups are appointed by the Steering Committee based on expertise. In addition, informal advisors from important organizations are invited to participate in steering committee calls - e.g., USEPA, USACE, USGS and more.
    - Steering committee
        - Chairperson (elected)
        - Treasurer (appointed by the Steering Committee)
        - Other members are elected except working group leaders which are appointed by SC and join SC; the fiscal sponsor also appoints one member.
        - Steering committee members include:

        - ORBA Chairperson
        - ORBA Vice-Chairperson
        - Treasurer
        - Representatives from the following organizations:
            - Miami Conservancy District
            - Ohio River Parks Project and Indiana University
            - West Virginia Conservation Agency
            - American Commercial Barge
            - West Virginia Department of Environmental Protection
            - Thomas More College
            - Wildwood Inn and Llama Farm
            - Kentucky Division of Water's Director's Office
            - Foundation for Ohio River Education
            - Tennessee Valley Authority
            - Electric Power Research Institute
            - Ohio River Valley Water Sanitation Commission (ORSANCO)
            - National Wildlife Federation
- Working groups
    - Resilient and Sustainable Flood Control and Risk Reduction
        - Provide resilient flood protection and risk reduction through well-managed and maintained infrastructure, including appropriate floodplain connections for water conveyance and ecosystem benefits, and management of surface and stormwater runoff to better protect life, property and economies
    - The Nation's Most Valuable River Transportation Corridor
        - Provide for safe, efficient and dependable commercial navigation within the Ohio River Basin to ensure a competitive advantage for our goods in global markets
    - Healthy, Productive Ecosystems
        - Conserve, enhance and restore ecosystems within the [Ohio River Basin] to support natural habitats and the fish and wildlife resources that depend upon them
    - World-class Recreation Opportunities
        - Enrich the quality of life for people and recreation-based economies by maintaining and enhancing riverine, lake and wetland- associated recreation within the basin
    - A Vibrant Economy
        - Sustain a water use system to efficiently and effectively support agricultural, industrial, and energy productivity
    - Abundant Clean Water

        - Ensure the quality and quantity of water in the Ohio River Basin is adequate to support the economic, social and environmental functions that are dependent on it
    - **COORDINATION & MANAGEMENT**
        - The ORBA Chairperson and Vice Chairperson facilitate the Alliance
        - USACE assists setting up teleconferences and hosts the website
        - ORSANCO provides office and conference room space as needed
        - ORBA has no paid employees although the network benefits from nearly full time professional services from a retired volunteer (currently Vice-Chair)

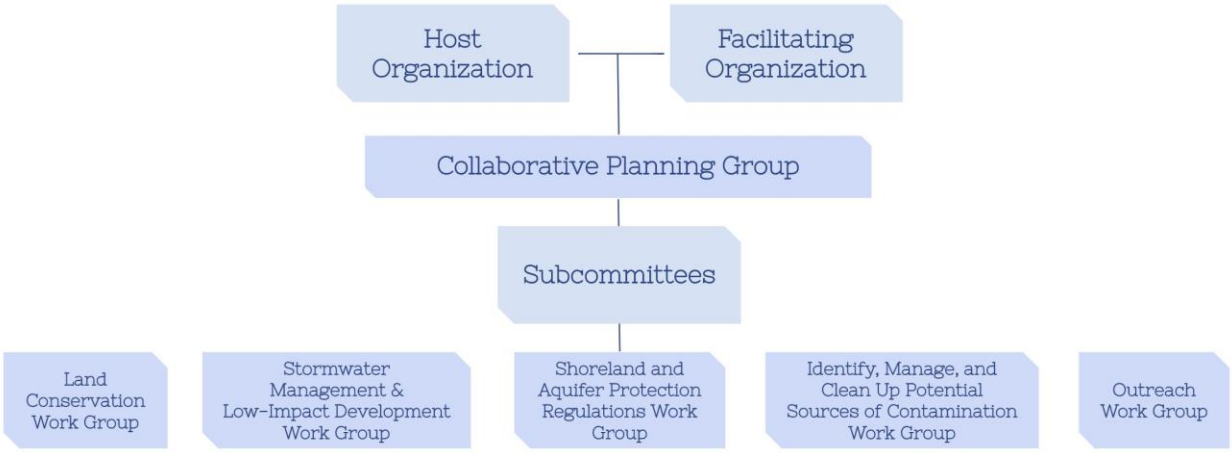
- **Safe Water Conservation Collaborative:**



    - **STRUCTURE**
        - Host organization (West Virginia Rivers Coalition)
            - One field coordinator devotes a portion of their paid time to the facilitation of the Collaborative, with staff support from their Program Director, Executive Director, Operations Manager, and Staff Scientist.
        - Steering committee
            - There are six water utilities in their service area, five of which are on the Steering Committee
            - A local partner that initiated the Collaborative as a staff person for West Virginia Rivers Coalition in 2017-2019
            - The chairs of each of the three work groups
            - Local individuals with specialized interests or knowledge
        - Three workgroups
            - One workgroup per stated goal of the Collaborative:
                - Conservation
                - Education & Outreach
                - Stewardship
        - General supporters

        - There are 50 individuals who are not involved in any of the decision-making bodies, but are available for targeted support and engagement
    - **COORDINATION & MANAGEMENT**
        - They strive to maintain transparency via their website using recordings of webinars, a publicly accessible operations guide, meeting notes, etc.

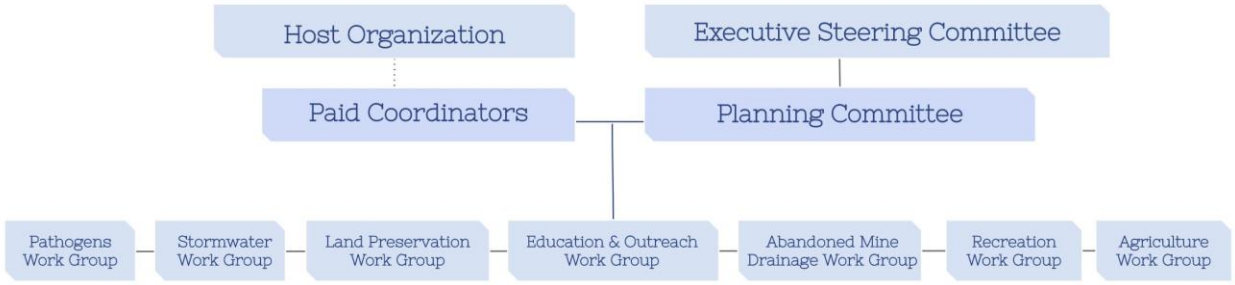
- **Salmon Falls Watershed Collaborative:**



    - **STRUCTURE**
        - Paid lead convening organization
            - Piscataqua Region Estuaries Partnership
        - Network facilitating organization
            - Wells National Estuarine Research Reserve
        - Collaborative planning group
            - Collaborative planning group members were invited to participate on an individual basis, and were chosen for their interest in the Collaborative
            - Collaborative planning group members:
                - Acton Wakefield Watersheds Alliance
                - City of Somersworth, NH
                - Granite State Rural Water Association
                - Maine Center for Disease Control and Prevention Drinking Water Program
                - Maine Non-point Education for Municipal Officials (NEMO)
                - Maine Rural Water Association
                - New Hampshire DES Drinking Water Source Protection Program
                - New Hampshire DES Watershed Assistance Section
                - South Berwick Water District
                - Strafford Regional Planning Commission
                - Town of Berwick Water Department
                - U.S. Environmental Protection Agency

        - U.S. Forest Service
        - USDA Natural Resources Conservation Service
    - Working groups
        - Working group members consist of volunteers from the larger planning group. The working groups are:
            - Land Conservation
            - Stormwater Management and Low-Impact Development
            - Shoreland and Aquifer Protection Regulations
            - Identify, Manage, and Clean Up Potential Sources of Contamination
            - Outreach
- **COORDINATION & MANAGEMENT**
    - The Piscataqua Region Estuaries Partnership facilitates and coordinates the network

- **Schuylkill Action Network:**



- **STRUCTURE**
    - Host organization (Partnership for the Delaware Estuary)
        - Acts as a fiscal sponsor while also providing support services (office space, technological support, human resources support, etc.).
    - There are two paid coordinators
        - One person provides overall coordination support - coordinating different meetings and providing support to make sure everything goes smoothly.
        - One person manages website updates, communication, and social media
    - Executive steering committee
        - Delaware River Basin Commission
        - Pennsylvania Department of Environmental Protection
        - Philadelphia Water Department
        - Schuylkill River Greenways
        - Partnership for the Delaware Estuary
        - U.S. Environmental Protection Agency
    - Planning committee

        - Members: All ESC organizations listed above, and: Aqua PA; Spotts, Stevens, and McCoy (SSM Group)
        - Rotation cycle: no formal rotation cycle, members can join if nominated from another PC member and a majority vote from the committee
        - Method of committee member selection: Program staff from ESC member organizations and workgroup chairs
    - Working groups:
        - Abandoned mine drainage
        - Agriculture
        - Pathogens and point source
        - Stormwater
        - Land preservation
        - Education and outreach
        - Recreation
    - Each working group has a technical chair to lead and to help facilitate discussion
- **COORDINATION & MANAGEMENT**
    - Two full-time coordinators of the network
    - All working groups are set up to meet quarterly to discuss projects, challenges, and projects.

NETWORK DELIVERABLES

The nature of what a network produces or delivers in terms of tangible programming featured strongly in interview conversations. Key deliverables for each network are listed below.

Key Takeaways

- Programming such as workshops, webinars, learning opportunities, and networking events are highly valued by members.
- Regular newsletters and other forms of communication aid in creating awareness of and involvement in the network.
- Use of technologies such as websites and mapping tools improve network transparency and enhance awareness of engagement opportunities for members.

- **Christina Basin Clean Water Partnership:**
  - Annual network-wide bus tour of BMPs in the region
  - Quarterly events:
    - They have different topics including USGS talking about research, water quality, nonprofit projects, they share different funding opportunities and share info that would be relevant to the group
  - They have an organizational chart on their website. They do grant reporting through the organizations that collaborated on the grant. The University of Delaware has pulled together a lot of documents and has written about the history of the Partnership.

- **Delaware Estuary Comprehensive Conservation and Management Plan:**
  - Climate vulnerability workshops
  - Expert workshop and stakeholder workshop reports
  - Monthly to twice-monthly meetings for network members.
    - Meetings are designed to assist with network-wide coordination, but also double as networking opportunities
  - Annual tracking report summaries for the Comprehensive Conservation and Management Plan project results
  - State of the Estuary Report
  - Technical Report for the Delaware Estuary and Basin

- **Delaware River Basin Source Water Collaborative:**
  - Biannual webinars for continuing education for water resource professionals
  - Creation of detailed website with collaborative information, specifics about water source, contact information, and other resources

- **Lower Susquehanna Source Water Protection Partnership:**
  - Host two networking events per year

- Meeting agendas, meeting minutes, fact sheets, and presentations are all publicly available on their website
- Continuing education courses

- **Ohio River Basin Alliance:**
  - Production of bylaws
  - USACE-led climate change adaptation study
  - The Nature Conservancy-led Basin report card
  - ORSANCO (as ORBA's fiscal sponsor) is currently executing a US Army Corps of Engineers Planning Assistance to States (PAS) Initiative
  - Charters for the six working groups to guide implementation efforts
  - ORBA is currently executing a US Army Corps of Engineers Planning Assistance to States (PAS) Initiative that resulted in the development of an Ohio River Basin Strategic Plan in March of 2020. This document provides clear strategies and an action plan for ORBA to achieve eight Ohio River Basin goals

- **Safe Water Conservation Collaborative:**
  - Created a "prioritization map" to visually demonstrate how they prioritize high-value land based on their GIS Prioritization Model (v1)
  - Created resources specifically for landowners
  - Developed a 5 year action plan, "Private Lands, Public Waters", with the help of involved stakeholders in 2018
  - Planning outreach events in 2020 for prioritized landowners
  - Developing a toolkit for engaging conservation easement holders in implementing conservation practices

- **Salmon Falls Watershed Collaborative:**
  - 5 year plan
  - Action plan
  - Infographic to communicate what they're about and what they're doing
  - Twice-monthly newsletter

- **Schuylkill Action Network:**
  - Bus tour of BMPs in the region
  - Training workshops for network members
  - Annual conference for all working groups
  - Website
  - Strategic plan
  - Quarterly newsletter
  - They post training opportunities and workshops on their website
  - They create an internal yearly work plan document for each of the work groups

- They have an internal login on their site for members, which includes meeting minutes, annual plans, and other internal docs. Anyone can join and get login credentials.
- Creation of a grant directory which is accessible to all members of the network
- Members can apply for a funding partnership

SUSTAINING NETWORK ENERGY & MEMBER COMMITMENT

A challenge faced by all networks is how to sustain member commitment and leadership. Interviewees provided examples of strategies employed to achieve this.

Key Takeaways

- Frequent and well-planned meetings are helpful to maintain network-wide communication, transparency, and collective action.
- Providing incentives for network members to remain involved is essential for long-term. network sustainability and member commitment. These incentives can be either tangible (e.g. funding opportunities) or intangible (e.g. increased collaboration or networking opportunities).
- Tours of area Best Management Practices (BMPs) can be of assistance in exposing members to diverse water management strategies in their region.
- Sustained funding is essential.

- **Christina Basin Clean Water Partnership:**
    - Quarterly network-wide meetings
        - They try to move the meetings and the content around for each meeting
        - At each meeting, they invite representatives from the county, the EPA, and the DEP to give updates on what current projects are
            - The intent is to keep members informed of regional and local initiatives and to create partnerships
        - One meeting consists of an annual bus tour of unique BMP projects within the watershed
        - Other 3 meetings per year consist of 10-12 partners, hosted in different locations.
            - They send out a general invitation to organizations on their mailing list.
            - The DWRC keeps that list and acts as a facilitator.
            - They have different topics including USGS talking about research, water quality, nonprofit projects
            - They share different funding opportunities and share information that would be relevant to the group
            - Brandywine Red Clay Alliance organizes and hosts those meetings with support from the CBCWP

- **Delaware Estuary Comprehensive Conservation and Management Plan:**
    - Monthly calls with core members to check in on progress being made on the Comprehensive Conservation and Management Plan
    - They are trying to be much more inclusive and reach a broad range of stakeholders and send out a simple Google Form to stakeholders across the region to collect data

- They are incentivizing partners to get more involved and contribute their data through tiered prizes - cover photos and stories in newsletters, PDE “swag bags”, etc.
- They continue to make all of their resources available on their website, send out periodic updates and emails to their listserv, and include stories from their partners in their quarterly Estuary News newsletter.

- **Delaware River Basin Source Water Collaborative:**
  - The decision was made to support the William Penn Delaware River Watershed Initiative rather than to continue with operation of the Collaborative

- **Lower Susquehanna Source Water Protection Partnership:**
  - Steering committee conference calls every other month
  - The Partnership meets twice a year to focus on issues of concern, with smaller workgroups tackling key action items between these meetings. Some of the key focus areas include:
    - Improving spill response activities across agencies, water suppliers, and emergency responders
    - Encouraging collaborative/innovative approaches to addressing stormwater issues
    - Connecting Best Management Practice implementation strategies to source water protection
    - Exchanging information on water quality monitoring/studies and data sharing
  - Continually assessing risks to drinking water sources throughout the Lower Susquehanna Region

- **Ohio River Basin Alliance:**
  - They are currently beginning that planning process as they move from annual summits to implementation of the basin-wide strategy.

- **Safe Water Conservation Collaborative:**
  - Twice per year, they bring network members and partners together in person for a high-level big picture conversation and networking opportunity
    - This helps to bring the human aspect into network connections
  - They are working to begin distributing a monthly newsletter wherein they can share everything happening in the Collaborative
    - They are incorporating successes and headshots into their newsletter to make it really people-focused
  - They are undergoing a strategic planning process whose outcome would be a collective sense of ownership over the collaborative.
    - One of the goals is to incorporate the work that member organizations are already doing into the actions of the collaborative

- As of spring 2020, they have started doing monthly webinars and corresponding surveys.
    - They have done three so far, attended by 30-40 people.
- They incorporate as many touches as possible with partners.
    - This can be difficult when many partners are involved.
        - Personal conversations are important; it is important to be responsive and timely in interactions
- Foster new ideas from members and partners, even if those ideas are not necessarily aligned with priority actions. If there is energy around a new issue, they try to support that
- They have created a page on their website to tell stories about landowners' personal experiences with land conservation on their properties
- They routinely solicit ideas and opinions from network members about what they deem to be important issues

- **Salmon Falls Watershed Collaborative:**
    - Network management has lapsed due to a lack of sustained funding

- **Schuylkill Action Network:**
    - They have an annual conference for all working groups. At the conference, they highlight different presentations from each working group to maintain communication between all groups. This helps to break silos, create more of a watershed-wide view, and provides an opportunity for everyone to network.
    - Early on, they started with a 2-3 year strategic plan with a vision and mission statement, but have since moved to update their plan on a 5-year cycle and are updating it now.
        - They've been doing strategic planning sessions with each workgroup
        - They want as much feedback as possible from partners in the watershed
        - They want the strategic plan to be more concise

APPENDIX 1: ORGANIZATIONAL FACT SHEET

Organization	Types of Member Organizations	Number of Partners	Year Founded	Areas of Concern	Size of Area
Christina Basin Clean Water Partnership	Federal government, state government, county government, water utilities, watershed commissions, watershed nonprofits, planning commissions	18	1993	Water quality, bistate coordination, stream restoration, innovative BMPs	565 mi^2
Delaware Estuary Comprehensive Conservation and Management Plan	Federal, state, municipal, non-profit organizations	8 (plus hundreds of regional collaborators)	1996	Clean water, strong communities, and healthy habitats	14,916 mi^2
Delaware River Basin Source Water Collaborative	Federal government, state government, local government, water-related associations, environmental organizations, planning organizations	25	2015	Drinking water and regional collaboration	14,119 mi^2
Hudson River Watershed Alliance	Water-related community-based volunteer groups, inter-municipal councils, initiatives of agencies and organizations, and local advocates	36	2004	Water-related education, outreach, and community resilience	13,400 mi^2
Lower Susquehanna Source Water Protection Partnership	Federal government, state government, watershed associations, political organization, academic institution	40	2012	Source water protection	9,215 mi^2
Ohio River Basin Alliance	Local, state and federal government agencies, private industry, academia, tribal groups, and not-for-profit organizations.	210	2009	Healthy ecosystems, vibrant water-related economies, and thriving river-adjacent communities.	204,000 mi^2
Safe Water Conservation Collaborative	Water utilities, land conservation organizations, farmland protection boards, land trusts, community groups, watershed groups, clean water organizations, state and federal government agencies, private sector	25	2017	Protecting drinking water through land conservation	534 mi^2
Salmon Falls Watershed Collaborative	State organizations, watershed groups, national government, state government, municipal government, planning departments	17	2010	Drinking water and source water protection	330 mi^2
Schuylkill Action Network	Federal, state, regional, county, nonprofits, universities, water suppliers, water utilities, private sector companies	100	2003	Drinking water and watershed protection	1,916 mi^2

APPENDIX 2: METHODS FOR THE ACCOMPLISHMENT OF NETWORK VISIONS, MISSIONS & GOALS

- **Christina Basin Clean Water Partnership:**
    - Methods:
        - Support partner organizations in their efforts to improve and restore water quality in the watershed
        - Bistate collaboration
        - Share innovative ways to protect and restore water quality.
        - Share water-related research
        - Network with partners as it relates to information exchange and funding opportunities

- **Delaware Estuary Comprehensive Conservation and Management Plan:**
    - Methods:
        - Theme 1: Clean Waters
            - Promote infrastructure-related improvements to reduce pollutants from point sources
            - Support innovative planning and design practices to reduce nutrients from stormwater and agricultural runoff through promotion, education, and implementation
            - Promote land use planning by local municipalities that prevents, reduces, and/or more efficiently manages stormwater runoff to prevent pollution
            - Provide outreach and information to property owners to assist in reducing non-point sources of nutrients
            - Conduct research and monitoring on nutrient impacts in the Estuary for biological and ecological endpoints
            - Conduct outreach and technical assistance programs to reduce non-point sources of contaminants
            - Promote the identification, cleanup, and revitalization of contaminated sites
            - Support adaptive management and reporting of pollution reductions
            - Coordinate and promote research and monitoring efforts associated with causes of water quality impacts throughout the Delaware Estuary
            - Conduct and coordinate education, research, monitoring, and communication about fish and shellfish consumption to protect human health

        - Improve, sustain, and enhance spill communication and response with Delaware Estuary partners
    - Theme 2: Strong Communities
        - Inform and collaborate with decision-makers and water resources managers to ensure that main-stem Delaware River flow meets the needs of the Delaware Estuary
        - Conduct research and monitoring on water quality and habitat requirements of estuary-dependent species
        - Promote water conservation and water efficiency by utilities and industrial water users
        - Provide outreach and technical assistance to promote water conservation and infiltration by residential and commercial users and communities
        - Promote and assist in implementing regional sediment management
        - Restore working waterfronts
        - Provide tools and technical assistance to waterfront communities and partners to improve economic and environmental resilience
        - Protect and enhance natural areas and public access
        - Connect people to natural areas and waterfronts in the Delaware Estuary
        - Through marketing and communications, build awareness and brand for the Delaware River and Bay
        - Utilize events to increase stewardship and engage new people
        - Develop and promote programs that engage teachers and schools in stewardship of the Estuary
        - Develop and promote programs with local communities and partners that forester volunteer stewardship and experiential learning
        - Publish and share outreach materials and scientific results
        - Engage key stakeholders to coordinate science and management of the Estuary
        - Conitor, develop, and promote opportunities to added impacts of outreach
    - Theme 3: Healthy Habitats
        - Establish clear baselines for tidal wetland conditions and track changes over time
        - Restore, enhance, and manage tidal wetlands for maximum health and resilience
        - Develop and implement natural and nature-based techniques to stabilize and restore eroding shorelines, and build and protect wetlands, infrastructure, and other key resources
        - Protect, enhance, and improve non-tidal wetlands
        - Inventory, map, and increase connectedness and resilience of forests

        - Promote stewardship practices by local partners for the health and sustainability of forests
        - Protect and manage high-value and threatened forests
        - Inventory, map, protect, and enhance habitat critical for fish and crabs
        - Restore oyster beds and productivity in and around Delaware Bay
        - Inventory, restore, and manage mussel populations
        - Protect and restore horseshoe crabs and their habitat
        - Manage and improve populations of rare, endangered, or otherwise important native species in the Delaware Estuary
    - Finance Strategy
    - Monitoring Approach

- **Delaware River Basin Source Water Collaborative:**
    - Methods:
        - The Collaborative conducted meetings and webinars to discuss source water protection in the region through strategies including:
            - Increased EPA funding
            - Improved interstate collaborative activities

- **Lower Susquehanna Source Water Protection Partnership:**
    - Methods:
        - The Partnership members consistently express that 1 to 2 annual events for the purposes of networking, information exchange, and topical presentations and/or discussions help to accomplish the goals
        - The SWP partnership committee meetings are implemented through SRBC's annual staff objective-setting and accountability process
        - The steering committee discusses & sets event themes, establishes responsibilities, and coordinates the events
        - Continual solicitation of feedback from the members is sought and used by the steering committee to inform activities & events
        - A participant survey questionnaire is part of every group event and the results of all such questionnaires form a principle data set the steering committee uses to guide event planning

- **Ohio River Basin Alliance:**
    - Methods:
        - Include all Ohio River Basin stakeholders in collaboration to identify consensus priorities
        - Leverage existing authorities, resources and capabilities to accomplish ORBA’s goals
        - Capitalize on existing collaborations

        - Utilize goal-focused working groups to pursue objectives through strategic actions, utilizing existing collaborations where possible and through facilitation of collaboration where there are gaps

- **Safe Water Conservation Collaborative:**
    - Methods:
        - Finalize a conservation plan to protect zones and parcels most important for safe drinking water
        - Conduct landowner outreach on opportunities for easements; and for already-eased lands, adoption of best management practices for water quality
        - Provide overall coordination and supporting emerging leadership of the Collaborative to advance implementation of a five-year action plan
        - Promote source water protection policies that accelerate land conservation to benefit water quality
        - Build the field for land conservation that benefits water quality beyond the project's geographical scope through sharing "lessons learned" with other regions and partnerships.

- **Salmon Falls Watershed Collaborative:**
    - Methods:
        - Land conservation and the protection of working farms and forests
        - Improved land use planning practices and policies
        - Best Management Practices
        - Education, training, and technical assistance
        - Conserve land
        - Improve stormwater management
        - Create shoreline and aquifer protection regulations
        - Identify, manage, and clean up potential sources of contamination

- **Schuylkill Action Network:**
    - Methods:
        - Support existing efforts and implement actions to restore and protect water quality in the Schuylkill River watershed
        - Promote the long-term coordinated stewardship and restoration of the watershed and educate others regarding their roles in protecting the watershed and water supplies
        - Transfer the experience and lessons learned to other communities
        - Enhance intergovernmental communication and coordination by working together on the identification and resolution of environmental issues with shared regulatory responsibility
        - Maximize reduction and/or treatment of abandoned mine drainage discharges

- Maximize reduction and/or prevention of agricultural impacts to water quality
- Improve public support for watershed protection actions
- Engage recreational users of the watershed in activities that lead to increased awareness and advancement of watershed protection and restoration strategies.
- Facilitate and strengthen communication and coordination among regulatory agencies, downstream water users, and basin stakeholders regarding point source compliance programs and drinking water protection strategies
- Maximize reduction and/or prevention of stormwater runoff pollution
- Promote a sustainable landscape in the Schuylkill River watershed through strategic conservation and efficient land resource use to protect the integrity of water supplies for future generations
- Support existing efforts and implement actions to restore and protect water quality in the Schuylkill River watershed
- Promote the long-term coordinated stewardship and restoration of the watershed and educate others regarding their roles in protecting the watershed and water supplies
- Transfer the experience and lessons learned to other communities
- Enhance intergovernmental communication and coordination by working together on the identification and resolution of environmental issues with shared regulatory responsibility