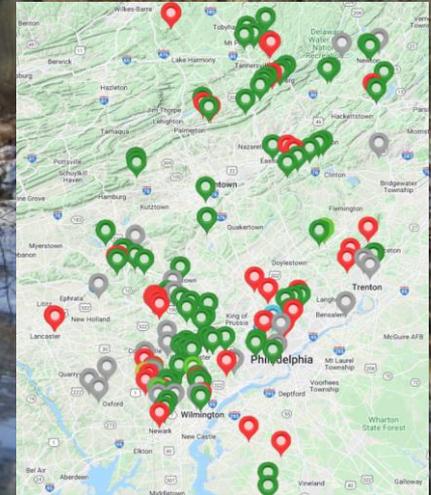


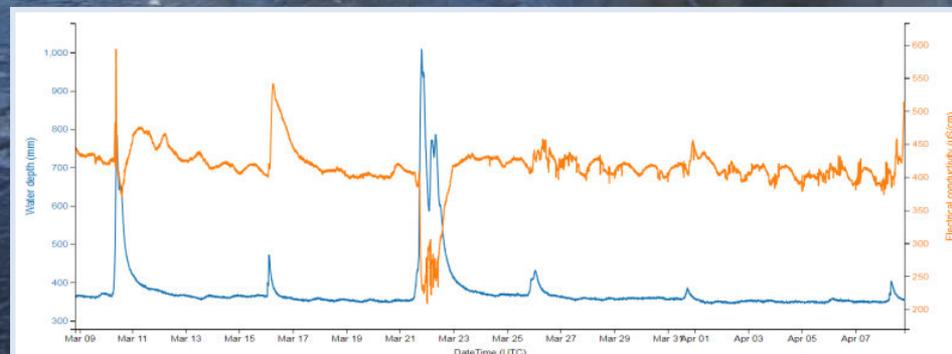
WELCOME!

EnviroDIY and monitoring in the DRB monthly meeting

Online, Thursday, February 16, 2023, 2:30-3:30p



 **Monitor My Watershed[®]**



STROUD
WATER RESEARCH CENTER

Today's Agenda

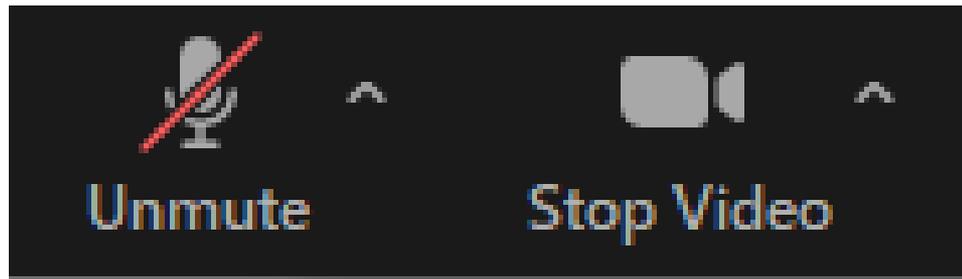
1. Introduction
2. Stroud Updates
3. Presentation – Salt pollution in Valley Creek and Valley Forge TU response
4. Discussion
5. Conclusion



Zoom Orientation



***Meeting is being recorded**



***Please mute when not speaking to the group**

These Monthly Meetings

Recordings available at: <https://wikiwatershed.org/drwi/>

The image shows a YouTube video player interface. At the top left is the YouTube logo. A search bar is located at the top center. The video content features a blue banner with the text "WELCOME! Monthly EnviroDIY-DRWI User Group Meeting Online, Thursday February 17, 2021, 2:30-3:30p". Below the banner are several images: a water quality monitoring station in a stream, a snow-covered stream, a map of the region with green and red location markers, and a "Monitor My Watershed" data graph. The video player includes standard controls like play/pause, volume, and a progress bar showing 0:07 / 1:00:14. Below the video, the title "February 2022 EnviroDIY-DRWI Monthly Meeting" is displayed, along with "24 views • Feb 17, 2022". Interaction buttons for like, dislike, share, and save are visible. At the bottom left is the channel name "Stroud Water Research Center Videos" with 571 subscribers. A red "SUBSCRIBE" button is at the bottom right.

These Monthly Meetings

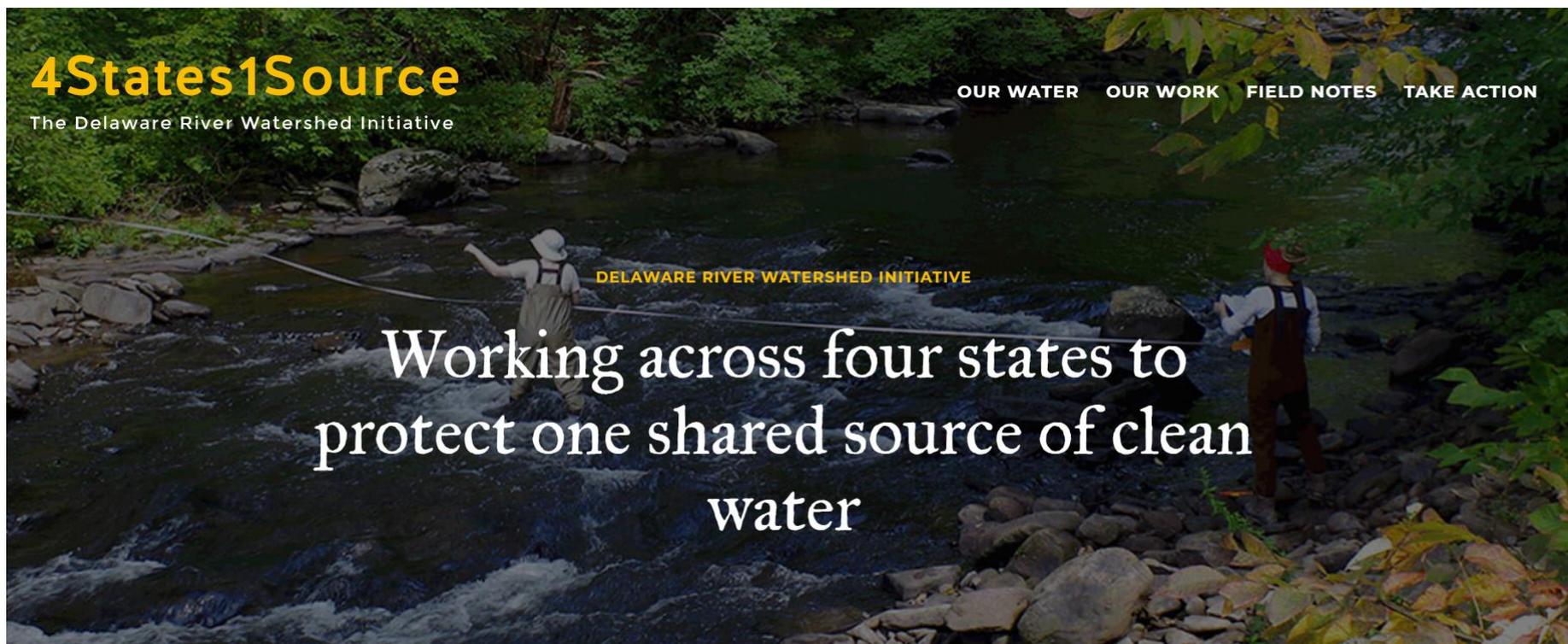
- Every third Thursday of the month
- 2:30-3:30p
- Zoom link will remain the same:
<https://us02web.zoom.us/j/81881801310?pwd=eUFmbXZLbmRibVcxa1dtNVhzRmNvZz09>
- Reminder email one week prior to each month's meeting
 - All are welcome, please share
 - **And let us know if others should be added**

REMINDER

- Attendees include:
 - Groups working in Delaware River Watershed Initiative (DRWI)
 - Groups working in Delaware River Basin (DRB) but not DRWI
 - Folks from outside the DRB
- Stroud Center support via DRWI and C-SAW

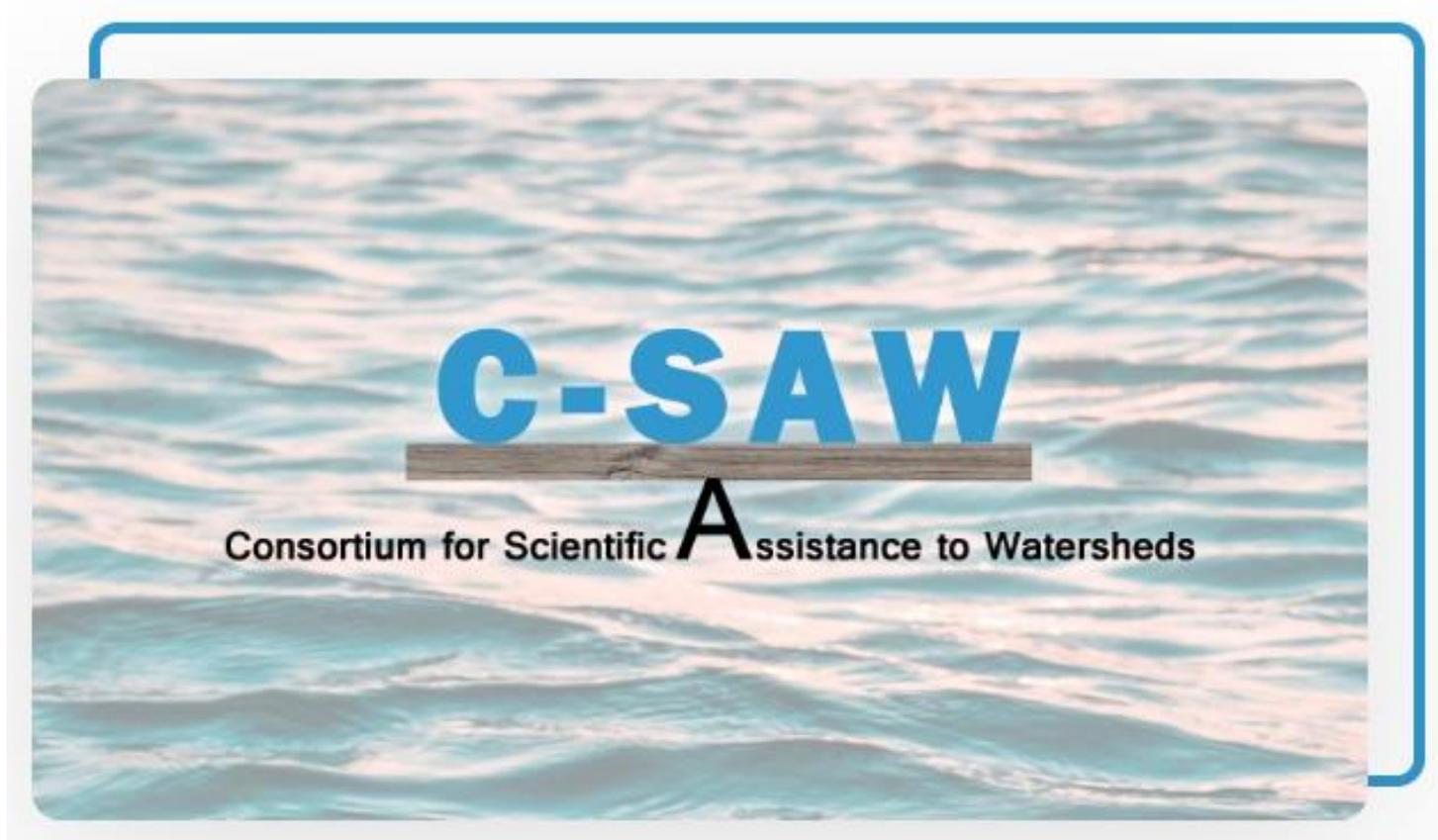
Delaware River Watershed Initiative (DRWI)

<https://4states1source.org/>



C-SAW

<https://www.c-saw.info/>



Goals for these monthly meetings

- **Time to check-in, ask questions, report issues, network, etc.**
- **Updates** from the Stroud Center
- **Presentations**
 - **Station Owner/Manager Presentations** – communicate about individual situations, local watershed work
 - **Focus Topic Presentations** – guest presenters talk about technical/ecological/other focus topics

**All of this to support gathering good data and using it purposefully*

Stroud Center project personnel

Stroud Center team:

David Bressler



Project facilitator

Rachel Johnson



Research Engineer
Technician

Christa Reeves



Northern DRB
technician and
organization
collaborator

Shannon Hicks



Research Engineer,
Mayfly and EnviroDIY
Inventor/Designer

Stroud Center project personnel

Master Watershed Steward Facilitators:

Carol Armstrong



George Seeds



Master Watershed
Steward Program



PennState Extension

Stroud Center project personnel

Stroud Center DRWI Leads:

Dr. John Jackson



Senior Research Scientist

Matt Ehrhart



Director of Watershed Restoration

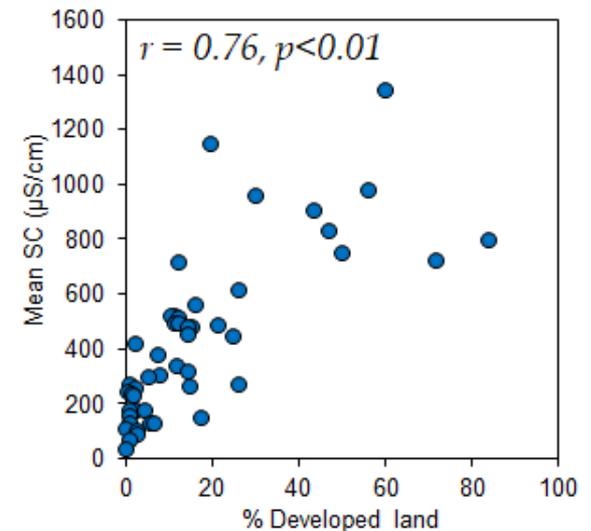
Dr. David Arcscott



Executive Director, President
Research Scientist

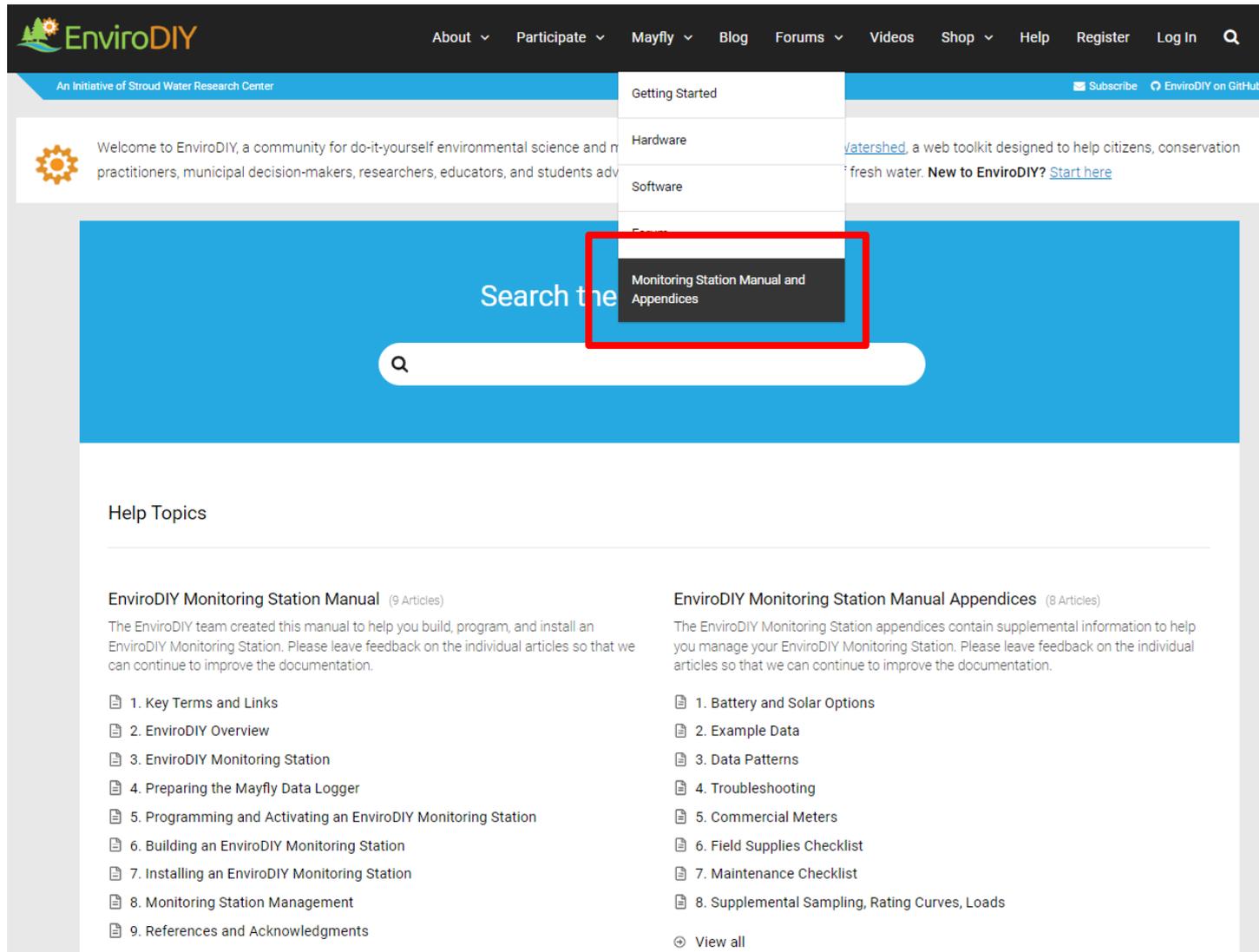
Stroud Center Perspective – EnviroDIY in the DRB

- Primary Goal
 - Support Station owners, managers, and volunteers
 - Use stations for local purposes
- Secondary Goal
 - Analyze basin-wide data set
 - Develop tools to characterize and contextualize watersheds



EnviroDIY manual

- EnviroDIY manual - <https://www.envirodiy.org/knowledge-base/>



The screenshot shows the EnviroDIY website interface. At the top, there is a navigation bar with the EnviroDIY logo and links for About, Participate, Mayfly, Blog, Forums, Videos, Shop, Help, Register, and Log In. Below the navigation bar, there is a blue banner with the text "An Initiative of Stroud Water Research Center" and a search bar. A dropdown menu is open, showing options for Getting Started, Hardware, Software, and Monitoring Station Manual and Appendices. The Monitoring Station Manual and Appendices option is highlighted with a red box. Below the search bar, there is a section for Help Topics, which includes two main categories: EnviroDIY Monitoring Station Manual (9 Articles) and EnviroDIY Monitoring Station Manual Appendices (8 Articles). Each category has a list of articles with numbered titles and brief descriptions.

EnviroDIY
An Initiative of Stroud Water Research Center

Getting Started
Hardware
Software
Monitoring Station Manual and Appendices

Welcome to EnviroDIY, a community for do-it-yourself environmental science and practitioners, municipal decision-makers, researchers, educators, and students advocating for fresh water. [New to EnviroDIY? Start here](#)

Search the

Help Topics

EnviroDIY Monitoring Station Manual (9 Articles)
The EnviroDIY team created this manual to help you build, program, and install an EnviroDIY Monitoring Station. Please leave feedback on the individual articles so that we can continue to improve the documentation.

1. Key Terms and Links
2. EnviroDIY Overview
3. EnviroDIY Monitoring Station
4. Preparing the Mayfly Data Logger
5. Programming and Activating an EnviroDIY Monitoring Station
6. Building an EnviroDIY Monitoring Station
7. Installing an EnviroDIY Monitoring Station
8. Monitoring Station Management
9. References and Acknowledgments

EnviroDIY Monitoring Station Manual Appendices (8 Articles)
The EnviroDIY Monitoring Station appendices contain supplemental information to help you manage your EnviroDIY Monitoring Station. Please leave feedback on the individual articles so that we can continue to improve the documentation.

1. Battery and Solar Options
2. Example Data
3. Data Patterns
4. Troubleshooting
5. Commercial Meters
6. Field Supplies Checklist
7. Maintenance Checklist
8. Supplemental Sampling, Rating Curves, Loads

View all

EnviroDIY and monitoring resources

- Guidance materials - <https://wikiwatershed.org/drwi/>

Shortcuts to General Resources

- [EnviroDIY Field Visit Data](#)
- [EnviroDIY Monitoring Station Help Resources](#)
- [Salt Monitoring Resources](#)
- [Data and Data Visualization Resources](#)
- [Volunteer Management Guidance Materials](#)
- [WikiWatershed Toolkit](#)
- [Project Updates](#)

Shortcuts to Meetings, Workshops, Conferences

- [Monthly EnviroDIY-DRWI User Group Meetings](#)
- [User Support Workshops and Trainings](#)
- [Conference Presentations](#)
- [Watershed Ecology Workshops](#)

Stroud Center Updates

- A number of groups doing Salt Snapshots
 - Be in touch with the Stroud Center if you'd like assistance in doing this



Stroud Center Updates

Watershed Salt Snapshot – Instructions

Overview

The following is a method for documenting salt levels in streams and rivers across a watershed by measuring the concentration of chloride (Cl^-) (milligrams/liter, mg/l) during baseflow conditions. Measuring electrical conductivity is also recommended as it can provide explanatory information and is directly related to chloride concentration.

The intent of this method is to 1) determine salt levels that aquatic life is exposed to the majority of the time (i.e., during baseflow conditions) in streams of a watershed(s) and 2) identify specific areas of the watershed(s) that may be contributing to or preventing salt contamination of nearby streams.

The basic method:

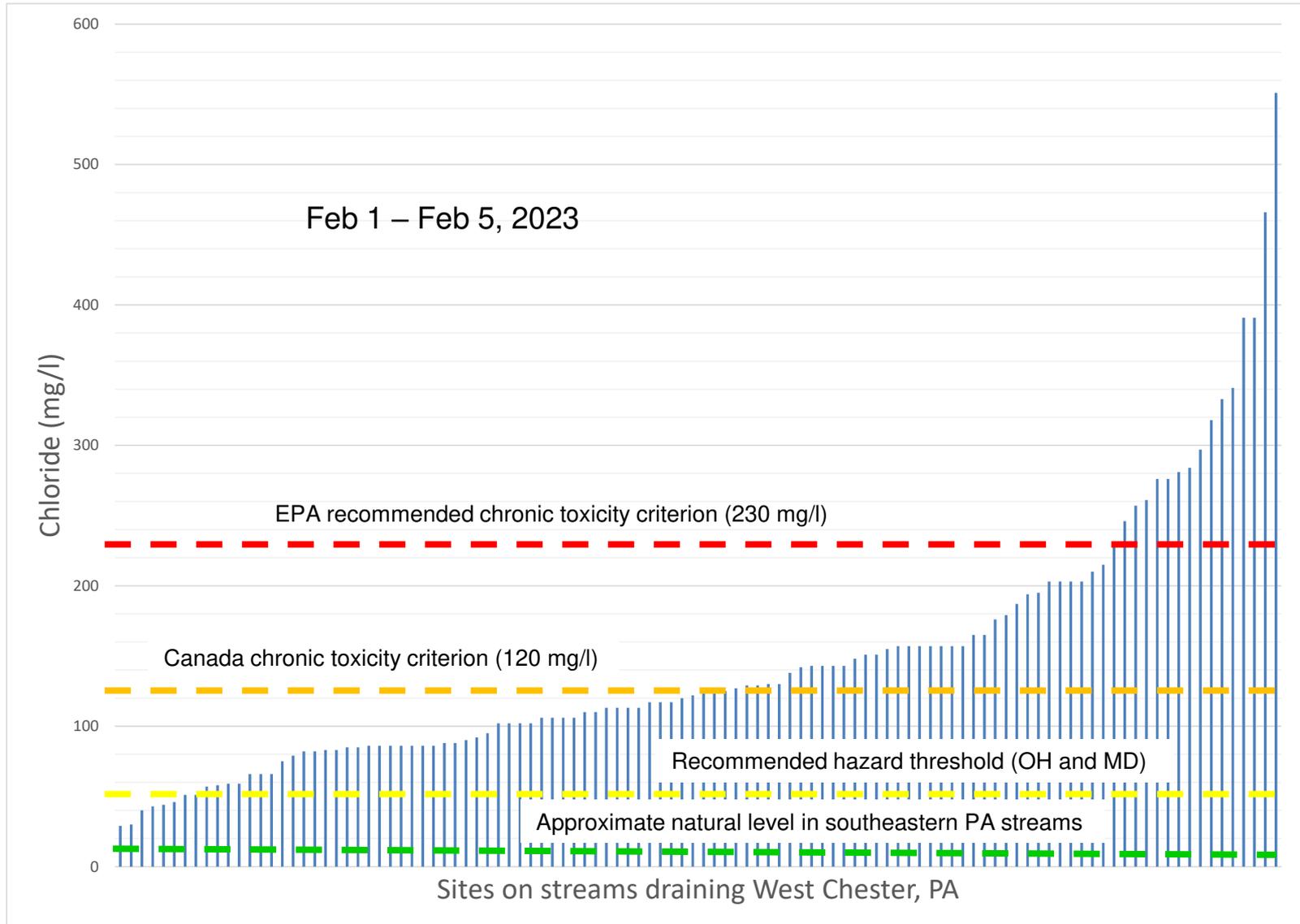
Over a short period of time (less than a week, to ensure consistency in data) a group of people fans out across a watershed (or other area of interest) during baseflow conditions and collects water samples from pre-determined stream sites. Sites are strategically chosen to help identify specific areas of the landscape that may be contributing to or protecting nearby streams from salt contamination. The samples are returned to a central meeting location where they are measured for chloride (mg/l) and specific conductivity ($\mu\text{S}/\text{cm}$). Because sampling is recommended to occur over a relatively short time period, it is important to consider the number of people available to conduct the work and the number of sites that can be visited in the allotted time. Judgment will be required to balance desired number of sites with personnel and time availability.

Baseflow: the resting state of a stream between precipitation events; a stream or river's normal flow state when not influenced by recent precipitation runoff, often composed primarily of groundwater; the flow that would exist in a stream without the contribution of direct overland runoff from rainfall or melting snow/ice.

Equipment/Supplies

- [Chloride QuanTab® Test Strips, 30-600 mg/L](#) or other chloride measurement method
- Conductivity meter (e.g., [Hanna DiST@3 Waterproof EC Tester](#))
- Conductivity meter calibration solution (e.g., [1413 \$\mu\text{S}/\text{cm}\$ Conductivity Standard](#))
- 500-1000mL clean plastic or glass bottles with lids (one bottle per site).
- Waterproof bottle labels (if possible). Bottles can be directly labeled if necessary or labels can be prepared with normal paper and covered with packaging tape after labeling is completed
- Small plastic cups/containers (one per site) – for chloride strip measurements, should be small enough so chloride strip can stand upright on its own
- Pencils
- Watershed Salt Snapshot Data Sheet
- Portable/collapsible table (big enough to hold all sample bottles)
- Optional: white board to record sample results for group discussion
- Optional: large map to record sample results and locations for group discussion

Stroud Center Updates



Updates from Local Policy/Practice Workgroup

- Updates from the first meeting of workgroup leaders – David Manning, PA Master Watershed Steward and Schuylkill Water Steward with Green Valleys Watershed Association

Updates from Local Policy/Practice Workgroup

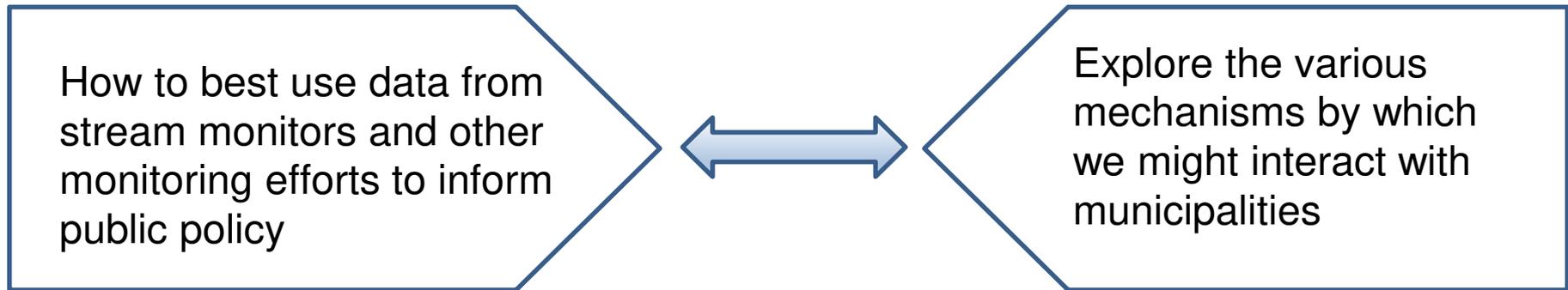
- Structure of workgroup
- Objectives (charge) for workgroup
- Municipal entities of interest
- Mechanisms of engagement

Updates from Local Policy/Practice Workgroup

- *Current leadership:*
 - Ian Brastow, Lopatcong Creek Initiative/New Jersey Highlands Coalition (NJ)
 - David Manning, PA Master Watershed Steward and Schuylkill Water Steward with Green Valleys Watershed Association (PA)
 - Christa Reeves, Musconetcong Watershed Association (NJ)
 - Alex Jackson, Brodhead Watershed Association (PA)
 - Erin Landis, Wissahickon Trails (PA)
 - Joe Debes, PA Master Watershed Steward and Stroud Center volunteer (PA)
- *Support:*
 - David Bressler, Stroud Water Research Center (PA)
- *Meetings:* 1st Thursdays, 11 am (Zoom)

Updates from Local Policy/Practice Workgroup

- **Defining the ‘charge’ for the workgroup**
 - *Central to the charge:* Exploring the means by which individuals can most effectively engage municipal entities in relation to stream and watershed concerns.



Updates from Local Policy/Practice Workgroup

- **Municipal entities**

- Environmental Advisory Groups (EACs, ECs)
- Zoning Hearing Boards
- Planning Commissions
- Boards of Supervisors
- (School Boards)

Updates from Local Policy/Practice Workgroup

- **Engaging municipalities**

Individual



- Environmental Advisory Groups
- Zoning Hearing Boards

Watershed association



- Planning Commissions
- Boards of Supervisors

Grouping of watershed associations



- Collection of municipalities

- What triggers engagement?
- How do the data map to the needs, interests, and policies of municipalities?
- What might be the exact nature of engagement?

Any questions before we move on?



Today's presentation

- Salt pollution in Valley Creek – the data and the response by Valley Forge Trout Unlimited, Pete Goodman, VFTU



Mentors currently available

- Carol Armstrong (MWS), mnem.np@gmail.com, 610-659-7477
- George Seeds (MWS), geoseeds@verizon.net, 484-886-9586
- Rachel Johnson (Stroud Center), rjohnson@stroudcenter.org, 973-557-8995
- Christa Reeves (Musconetcong Watershed Association/Stroud Center), christa@musconetcong.org, 727-520-5849

Conclusion

Next month's meeting will be on:

Thursday March 16, 2023
2:30-3:30p

Onward!

Stroud Water Research Center contacts:

- David Bressler, dbressler@stroudcenter.org, 410-456-1071
- Shannon Hicks, shicks@stroudcenter.org, 610-268-2153 x267
- Rachel Johnson, rjohnson@stroudcenter.org, 973-557-8995
- Christa Reeves, christa@musconetcong.org, 908-537-7060

Master Watershed Stewards contacts:

- Carol Armstrong, mnem.np@gmail.com, 610-659-7477
- George Seeds, geoseeds@verizon.net, 484-886-9586