

QUITTAPAHILLA WATERSHED ASSOCIATION

Meeting Minutes

Community Room, Annville Free Library, and Remotely Via Zoom (Hybrid Meeting)

Tuesday, August 19, 2025

Present: Michael Schroeder (President), Bob Connell, Joseph Connor (via Zoom), Karen Feather, Bryan Hoffman (Cleona Borough Authority & Leb Co Stormwater Consortium), Katie Hollen (LCCD), Kara Lubold (LCCD, via Zoom), Bill Osburn, Bryan Seipp (Ecosystem Planning & Restoration, EPR, via Zoom)

The meeting opened at 7:00 PM

1. **Minutes.** The minutes of the July 15, 2025 meeting were circulated electronically before the meeting and approved by consensus. They are housed, along with all other extant QWA meeting minutes, on the Meetings & Minutes page of our QWA website, at <https://www.quittiecreek.org/calendar.html>

2. Monitoring Program

- A. **Fieldwork updates.** Katie reported two successful fieldwork days on Tues Aug 12 and Wed Aug 13, with fieldworkers Alexis Biondi, Bob Connell, Chris Salvas, Michael Schroeder, and Gary Zelinske. *Chesapeake Bay Journal* Staff Writer Jeremy Cox joined us on Wed Aug 13 for an article in the Journal's "Our Waterways" that he plans to publish in the September issue. Katie further reported that she will send out a Doodle poll in September to determine dates for our October fieldwork.

B. Equipment updates

- 1) **Solinst Sensors.** Bob reported that the Solinst sensors continue to record data at five of our monitoring sites (the sixth, Q2, has a USGS monitoring station), and that the data is now being uploaded directly into our Water Quality Portal.
- 2) **ISCO auto-samplers**
 - a) **Next steps.** Both auto-samplers are now working. The next step is to wash and clean the sample bottles and hoses so they meet PA-DEP requirements. This will require a complex series of steps detailed by Kent Crawford in an email of July 19, reproduced below in these minutes in [Appendix 1](#). Bob is arranging a date & time with LVC Biology Prof Becky Urban to clean the bottles & hoses in the Bio lab.

b) Supplies updates. An email thread of Aug 8-12 with the subject line, “Automatic Samples Supplies Updates” among Kara, Kent & Bob is reproduced below in [Appendix 2](#).

- 3) Sonde Handheld Device Gone Haywire Again.** Katie reported that the handheld device for our multiparameter sonde is on the fritz again, after being repaired (under warranty) around a year ago, and that it is still under warranty. It was agreed that she should send it to the manufacturer for repairs.
- 4) Sieve Bucket for Macroinvertebrate Sampling.** Katie reported that Master Watershed Steward Tony Shaw recommends purchase of a sieve bucket from Forestry Suppliers, Inc. for around \$133. Mike responded that we have sufficient funds in our bank account. It was agreed that Mike should purchase the sieve bucket.
- 5) Macroinvertebrate Sampling Raw Data.** Mike reported no updates in the effort to secure the raw macro data from LVC graduate Charles Katona.

C. Data Management

- 1) LVC Student intern job description.** On July 31, Bob submitted a draft description for an LVC intern to help us with data management. That job description is reproduced below in these minutes in [Appendix 3](#).
- 2) Recording data in the field.** Bob reported that he had developed a new way to record data in the field that does not require a special app and that loads data directly into the cloud-based database that supports our Water Quality Portal. In an email of July 15, Bob wrote: “I am proposing a different solution for handling how we record our field measurements (sonde readings and flow measurements). The new approach uses the same open-source software that drives our data portal (and the majority of online databases on the web). It has the following advantages:
 - No need to use a special app. This runs on any browser on your laptop, tablet or smart phone.
 - Data goes directly to the database supporting our portal, instead of going first through the Google Cloud. This simplifies the handling of the data.
 - It can be customized by us to our liking.

. . . here is a link to it. I suggest loading it on your browser on your laptop and phone and bookmarking it. It is password protected so that a random person cannot get on our site and start changing our data. When you go to the link, it will ask you for a username and password . . . at

<http://quittiedata.org/FieldData/index.html> ..." Bob was again thanked for his excellent work.

3. **National Fish & Wildlife Foundation (NFWF) Grant.** Mike reported several developments relative to our NFWF grant, mainly focusing on sharpening our strategic priorities and undertaking relationship mapping exercises, in preparation for a big "summit" meeting on Mon Aug 25 from 10 am to 3 pm in the LCCD conference room with our consultants from Grow Conservation, Tali MacArthur at POWR, and other grant recipients. Another main topic was volunteer and community engagement. Emails and attachments on these topics are reproduced below in these minutes in [Appendix 4](#).
4. **LCCD Watershed Action Team.** The minutes of the WAT's meeting of August 7, 2025 are included below in [Appendix 5](#) to these minutes.
5. **"Digital Storytelling" Course at LVC.** Mike reported the digital content created by LVC students in spring semester in Prof. Pettice's course in digital storytelling is still forthcoming.
6. **Projects updates.** See the reports in item no. 4, above.
7. **Media & website.** Mike reported that he continues to post on Facebook about the QWA's monitoring program and continues to keep the website updated.
8. **Lebanon County Stormwater Consortium updates.** Bryan reported nothing of note, except that DEP's focus apparently continues to be on reductions in the volume of water flowing to the Chesapeake Bay, as opposed to reductions in pollutant loads, and that there are no specifics and no timeline associated with its new requirements.
9. **Education, outreach & special events.**
 - A. **Chesapeake Bay Journal article forthcoming.** Staff Writer Jeremy Cox accompanied our fieldworkers on Wed Aug 13 for an article for the "Our Waterways" series forthcoming in September.
 - B. **TLVC Sustainability Fair, Saturday, Sept. 27, 12-4 PM, Coleman Memorial Park.** The QWA has responded in the affirmative to TLVC's invitation to participate in its 25th anniversary event, "a community-focused Sustainability Fair . . . Join us in bringing together families and local partners to celebrate 25 years of conservation in our community. The fair will feature: Interactive exhibits and eco-friendly demonstrations; Fun activities for kids, including crafts and nature games; Opportunities to engage with conservation initiatives; Family friendly Fun, food, and

a festive atmosphere. . . . [the QWA's participation can be] through a booth, demonstration, or activity. It's a wonderful chance to connect with the community, share your mission, and promote environmental stewardship." We will bring a canopy, table, chairs, our EnviroScope model watershed, and tabling materials to the event.

- C. Water Week at Cornwall Manor, late October.** Daphne Messerschmidt & the Tree & Environment Committee at Cornwall Manor are organizing a "Water Week" in the last week of October with Bethany Canner of the Swatara Creek Watershed Association and Mike for the QWA presenting on "Where does our water come from and how is it doing health-wise? Where does our 'used water' go (sewage treatment plant)? And What's the condition of the water around us? (Furnace Run, Snitz Creek, source through The Woods past the tennis courts and beyond)"
- D. Possible field trips** to the City of Lebanon Authority's (COLA's) Wastewater Treatment Plant and the Cleona Pumping Station.

The meeting adjourned at 7:55 pm.

Respectfully submitted,

Michael Schroeder, Secretary Pro Tem

Appendix 1. ISCO Auto-Sampler Protocols & Logistics Moving Forward

Email from Kent Crawford to the Monitoring Team, Sat July 19

from: Kent Crawford
date: Jul 19, 2025, 11:05 PM
subject: Storm Sample Analyses

Hi all,

Good news. Yesterday, I spoke with Josh Lookenbill at Pa. DEP and the bottom line is that we have the green light to send storm samples to the DEP lab for analysis. Details follow.

Josh agreed with me that nutrients and sediment are the critical components to measure in the storm samples. By limiting the number of constituents to be analyzed, we can limit the burden for the laboratory and still get the most important information.

I mentioned 100 for the number of samples that we might send to the lab this year and Josh didn't object. That gives us an opportunity to cover different storms at different stations, although we will still need to be selective in the samples we submit. The samples we collect need to cover the entire hydrograph. Ideally, we would collect several samples during each high-flow event and pick selected samples to send for analysis. We should strive to get the following samples:

- Pre-storm
- First flush
- Rising limb of the hydrograph
- Peak flow
- Recession 1
- Recession 2

Also, this gives us incentive to get the second ISCO sampler in working order. Consider this: It is great to get storm samples from the Quittapahilla Creek at Garfield Street. But wouldn't it be much better to get simultaneous samples from the Quittapahilla Creek at Palmyra-Bellegrove Road so that we could compare the two stations? Similarly, samples from any two of the tributaries would allow for those comparisons as well.

Here is the way I think our efforts could work:

- Wash the ISCO sample bottles, bottle caps, and collection tubes so they are not contaminated (see note 1 below).
- Load the bottles into the ISCO autosampler.
- Make sure we have a fully charged battery for the sampler.
- Take a sample of distilled water (or ultrapure water) as an equipment blank (see note 2 below).
- Add preservatives as needed to the bottles designated for nutrient analyses (preservative is H₂SO₄).
- Take the sampler to the stream, secure it, and position the intake tube in the creek (see note 3 below).
- We (Bob) pre-program the automatic sampler(s) to collect samples at the designated time interval (see note 4 below).
- After the storm, retrieve the sample bottles.
- Process the samples (filter for dissolved nutrients) just as in our normal sampling routine.
- Transfer the samples to the pre-cleaned sample bottles we get from DEP.
- Put the samples on ice and deliver them to the lab.

Note 1: The washing procedure for collecting nutrients is rigorous. Here is the gist of it:

1. Wash the bottle with a non-phosphorus, laboratory grade detergent.
2. Rinse three times with tap water.
3. Rinse three times with distilled water.
4. Rinse with a 10% hydrochloric acid solution. Allow the acid to come in contact with all inner parts of the bottle.
5. Rinse three times with distilled water.
6. Air dry.
7. Do the same for the bottle caps.
8. Do the same for the collection tubes.

Note 2: I think we should submit an equipment blank along with our environmental samples. We would need to do this for the first use of the autosampler each year. This would serve as a quality control check on our cleaning procedures.

Note 3: The sampler needs to be tied down so that it does not wash away in the event of really high water. But, there is a limit as to how high above the water level the intake pump can draw water. Can it draw water up five feet? Six feet? I don't know. Further, the intake tube should be positioned in the thalweg and at the bottom of the creek. This will take some strategizing about how to secure the intake tube so that it is not ripped out by the strong current prevalent during high flow. Bricks, zip ties, rocks, whatever you can think of may be needed to assure that the intake tube is not washed away. I think Willie Bixler would be a good person to assist with this.

Note 4: Our sampling locations are on small streams. The storm runoff is pretty quick. Based on the hydrographs that we have seen from Bob and our Solinst gage-height records, we should collect a sample every hour. With 24 bottles in each autosampler, we could cover a 12-hour period (one bottle for nutrients and one bottle for total suspended solids).

I am so very proud of our work so far. We are getting our samples on schedule and the quality of our work is excellent. To maintain that quality, I recommend that we all review the training video that Mark Hoger made for us. Here is the link to that video.

<https://www.youtube.com/watch?v=mun7-laYZss>

Of course, using the autosampler and collecting storm samples provides another challenge. I feel confident it is a challenge we can meet.

Kent

Dr. J. Kent Crawford
Environmental Scientist

Response by Bob Connell, July 20:

Kent,

This is great news! Thanks so much for reaching out to PADEP. The QWA sampling team is definitely capable of doing this, but it will also be the most challenging type of sampling to perform. Planning and preparation will be the key to success. The process you outlined is a good road map for us to follow. We may want to have a strategy session to do some planning.

Things to consider could include:

- Can we use the LVC lab for acid rinsing our bottles and tubing? Will we need fume hood space to do so? Also, consider the need for protective gear (goggles, gloves, ...).
- What amount of forecast rain would be enough to have us start preparing (0.5, 1.0, 1.5")?
- Keeping in mind that the odds of a storm beginning during normal work-day hours is less than 25%, do we want to consider after-hours or weekend sample collections? Would the lab accept samples on the weekend?
- If we have a site that takes a long time to come down from peak (e.g. Bachman Run), can we do multi-day sampling?
- The interval between samples may have to depend on the amount of rain forecast. For example at Q1 on 6/28/25, the water level went from base flow to peak in ~2 hrs. On 6/30/25 at the same site, it went from base flow to peak in 6.5 hrs. So on 6/28, less than one hour interval would have been optimal whereas on 6/30 greater than one hour may have been optimal to capture the entire hydrograph. The interval may also need to vary by location.
- Equipment blanks will be very useful. We'll have to work out the logistics of doing an equipment blank with the autosampler.

I agree that we need to get the second sampler operational ASAP if possible. I will reach out to the Teledyne ISCO technical support people this week to see if we can resolve the "no liquid detected" problem with the second sampler.

Programming the samplers prior to the event will not be a problem. Katie, Kara and Mike all know how to operate the samplers. We've got a very capable team.

Thanks again for getting PADEP on board. That was the critical step to getting our stormwater sampling off the ground.

Bob

Response from Kent, July 21:

Bob,

Yes, we will have to work out lots of details. The questions you are asking all need to be considered. I think we can get the acid for washing from DEP. And yes, I am hoping that LVC will allow us to use their lab for the washing process. Even though we are dealing with fairly dilute acid, protective garb (gloves, lab coat, goggles) is required. The perfect storm for sampling will never arrive. But, we need to be prepared for it and then be ready to hit the field when the weather forecast looks favorable. Remember that the sampler can be deployed at any time -- let's say 9:00 a.m. for a storm that is predicted to hit at midnight. So, there is some flexibility to accommodate the hours of a normal work day. But, the sampler has to be programmed to start sampling at 11:00 p.m. or be programmed to start sampling at a specific time. All this is possible with our team of "experts." But, don't be surprised if there is a "dry run" or two. Weather forecasts are not always accurate.

DEP will provide a new Standard Analysis Code (SAC) for submitting the samples to the lab. This SAC will tell the lab to analyze for the nutrient suite and total suspended solids.

We can talk more if there are more questions.

Kent

Appendix 2. Automatic sampler supplies update

from: Kara Lubold
to: Bob Connell, Michael Schroeder, Katie Hollen, Kent Crawford
date: Aug 8, 2025, 12:06 PM

subject: Automatic sampler supplies update

Hello Bob, Mike & Kent,

I received an email from Nathan at DEP letting me know that the supplies we requested for the automatic samplers are ready for pickup. After coordinating with both Nathan and Katie, I'll be heading to DEP on August 12th to drop off the monitoring samples and pick up the supplies. The timing worked out perfectly!

Let me know if you have any questions. Have a great weekend!

-Kara

Kara Lubold
Environmental Grant Coordinator
Lebanon County Conservation District

Response from Kent:

Great news, thanks for the update.

I am still in a bit of a quandary about the lab code (SAC) and the bottle requirements for the automatic sampler samples. I am forwarding the key part of an email from Nate Alexander at DEP.

- 2x 500 mL HDPE bottles unpreserved, unfiltered
- 1x 500 mL HDPE bottle unpreserved, filtered
- 1x 125mL HDPE bottle unfiltered and preserved with H₂SO₄
- 1x 125mL HDPE bottle filtered and preserved with H₂SO₄.
- Please make sure to write an "F" on the filtered bottles. Use SAC Code 691 to request these tests on your BOL sample submission sheets.

Nate checked this bottle array with the DEP lab and indeed, they verified that these five bottles would be needed for the constituents we are targeting (total and dissolved nutrients, total suspended solids). So, for now, this is the scenario we will go with. This is difficult because of the large volume of filtration needed (one 500 mL bottle plus one 125 mL bottle). Also, we will need

to be creative in programming the auto-sampler to collect the amount of water (at least 1750 mL) we need.

O.K., I guess we can live with that. But, what about our current bi-monthly sampling? That sampling is for total and filtered nutrients and for TSS (and other constituents as well) and we don't need to filter 500 mL for any of that.

So, are we doing our current bi-monthly correctly?

I will try to get in touch with the DEP lab so that I understand thing.

Kent

Dr. J. Kent Crawford
Environmental Scientist

Response from Bob, Aug 12:

Thank you very much Kara. This will get us started. We can also check next week with Becky Urban about the lab availability.

Bob

Response from Kara, Aug 12:

I picked up the automatic sampler supplies from DEP. They didn't have 10% HCl, so he gave us 3-500mL bottles to make a 1:1 dilutions, 4-cubitainers of ultra pure h2O, and approx 750 mLs of detergent.

Kara Lubold

Appendix 3. LVC Student Intern Job Description

Draft by Bob Connell, July 31, 2025

Intern Position with the Quittapahilla Watershed Association: Online database and web site development

Job Description. The Quittapahilla Watershed Association (QWA) is a volunteer organization dedicated to the protection of the health of the waters of the Quittapahilla Creek and its tributaries in Lebanon County, PA. The QWA maintains a web site at www.quittiecreek.org and an online data portal for its water quality information at www.quittiedata.org. QWA is looking for a self-motivated student with an Information Technology background to assist in maintaining and improving its online data portal.

The position could involve assisting QWA's Data Managers in any of the following:

- transfer of data from automated sensors into QWA's data portal (MySQL database)
- transfer of observations made in the field by volunteers using phone apps into the data portal.
- development of interactive, online maps using GIS.

Based on the student's skills and interests, a project plan would be developed related to the above needs. A monthly Zoom call with QWA data managers would assess progress and help address hurdles.

Required Skills. Computer Science or Data Science background with knowledge of web site development using HTML and PHP languages as well as database development skills using SQL. In addition to these, knowledge of JavaScript would be a plus.

Appendix 4. NFWF Grant Materials

Item 4A: Relationship Mapping Materials: July 20

from: Ryan Szuch

to: Michael Schroeder, Bob Connell, Katie Hollen, Kara Lubold, Alyssa Bellucci, Kent Crawford, Alexis Biondi

cc: Katie Ombalski, Tali MacArthur
date: Jul 20, 2025, 6:15 PM
subject: QWA Relationship Mapping Meeting

Hello QWA Core Team,

I hope you have all been doing well!

I have attached an agenda for our Relationship Mapping meeting on Thursday. Please keep in mind the homework assignment that I sent previously (attached again), which I hope to get completed by some of you by Wednesday. It will help to have some independent partner ideas suggested prior to us discussing it as a group.

I have also attached the Strategic Framework with a few revisions based on our last meeting and a markup that Mike provided. The most significant change is that I drafted a shorter Vision so that you have something more succinct than the one-page Vivid Vision. Please feel free to recommend changes or improvements to that new Vision.

I have time at the end of Thursday's agenda for us to discuss meeting plans for the future. You can consider if you would like to have separate meetings to close out the Strategic Framework and Community Engagement Tasks and then open the Volunteer Engagement Task (which is next in the project schedule), or if you prefer to tackle some of these things all during one meeting when we next get together.

If you have any concerns or questions, please let me know. I look forward to connecting with you again on Thursday!

Best regards,

Ryan
Ryan Szuch
Founder and President
Grow Conservation LLC
York County, Pennsylvania

**Attachment 1: Quittapahilla Watershed Association Relationship Mapping
Agenda for 7/24/25 Meeting**

1. Education Partners (1:00-1:15)
2. Advocacy Partners (1:15-1:30)
3. Project Facilitation Partners (1:30-1:45)
4. Water Monitoring Partners (1:45-2:00)
5. Stretch Break (2:00-2:05)
6. Organizational Growth Partners (2:05-2:20)
7. Lebanon Valley College Partnership (2:20-2:30)
8. Relationship Building – Core Team Actions (2:30-2:50)
9. Planning for Project Tasks (2:50-3:00)
 - a. Schedule meeting/s to close Strategic Framework and Community Engagement Tasks and begin Volunteer Engagement Task

Attachment 2: Quittapahilla Watershed Association Relationship Mapping Homework – Prep for 7/24/25 Meeting

To prepare for the July 24th Relationship Mapping meeting, the consulting team asks that each member of the QWA Core Team consider the following prompts. If possible, please make some notes in this document ahead of time on which existing and potential partners come to mind for you. We ask that you think of relationships within the context of the draft Strategic Plan Framework (see headings below). **Ideally, please send your ideas to Ryan by the end of the day on July 23rd.** He will compile them for discussion on the 24th.

As you consider each Strategic Priority, please try to think of two types of partner individuals or organizations: (1) those that QWA presently has a relationship with, whether that be a strong or loose tie, (2) ideal or desired relationships that QWA would benefit from having. You should try to think about partners across all types of organizations/people: public or government entities, private companies, nonprofit organizations, academic or research institutions, influential individuals, or others.

Strategic Priority #1 – Education

QWA will provide education on watershed science and water quality to the Lebanon County community and will keep residents and leaders informed about the condition of the Quittie and efforts to improve it.

Present Partners:

Desired Partners:

Strategic Priority #2 – Advocacy

QWA will engage county and municipal leaders to ensure that protective and proactive measures are taken to ensure the long-term health of the Quittie.

Present Partners:

Desired Partners:

Strategic Priority #3 – Project Facilitation

QWA helps to facilitate projects that improve the condition of the Quittie.

Present Partners:

Desired Partners:

Strategic Priority #4 – Water Monitoring

QWA collects, analyzes, interprets, and makes available critical water quality data for the Quittie.

Present Partners:

Desired Partners:

Strategic Priority #5 – Organizational Growth

QWA acknowledges that in order to successfully work towards Strategic Priorities #1-4 above, it must grow and evolve as an organization to ensure that it sustains itself and can work toward the long-term protection of the Quittie.

Present Partners:

Desired Partners:

Lebanon Valley College

The QWA Request for Proposal asked the consultants to help solidify the QWA's relationship with Lebanon Valley College (LVC). During the strategic planning workshop, we created the below objectives regarding that relationship. If you have additional thoughts on how QWA and LVC could mutually benefit from a stronger relationship, please note them here:

Potential LVC Objectives from strategic planning workshop:

- Establish regular internship program for QWA
- Encourage professors to use Quittie for case studies in courses
- Identify mentorship opportunities for student-volunteer engagement on the Quittie

Attachment 3: Quittapahilla Watershed Association Strategic Plan Framework
July 20, 2025

Mission

The Quittapahilla Watershed Association strives toward a healthier Quittapahilla Creek that provides increased benefits to the community by engaging in project facilitation, water monitoring, advocacy, and education.

Vision

The Quittapahilla Watershed Association (QWA) is a valued community organization that actively pursues the health and well-being of Quittapahilla Creek. The public and key stakeholders within the watershed are well-informed on the importance of watershed management and improving water quality and what they can do to help. The QWA facilitates efficient and effective water quality improvement projects as demonstrated through a robust water quality monitoring program, which supports educational materials, advocacy efforts, and success stories about completed projects.

Vivid Vision

Education

Community members look to the QWA as a trusted educational resource on watershed management and water quality. The QWA regularly disseminates information about the Quittie watershed including water quality monitoring results and what they mean, upcoming events to help the watershed, and QWA volunteer opportunities. Information is readily available and clearly communicated through QWA's website, social media, and print materials.

Advocacy

The QWA has successfully engaged county and municipal leaders to ensure that protective and proactive measures are taken to ensure the long-term health of the Quittie. The QWA's annual water quality summary is relied upon by the PA Department of Environmental Protection (DEP) and local governments to help guide management of the Quittie watershed.

Project Facilitation

The ecosystem of partners working in the Quittie watershed continuously implement projects that improve the water quality of the Quittie. Project implementation is efficient and effective.

Project priorities are identified and acted upon through comprehensive planning (e.g., the Watershed Implementation Plan) and collaboration processes (e.g., the Watershed Action Team). The QWA helps facilitate project implementation through grant writing, letters of support, and provision of a volunteer workforce.

Water Monitoring

QWA volunteers work closely with PA DEP and Lebanon County Conservation District to implement a Water Quality Monitoring Program to establish baseline conditions of the watershed and monitor change through time. These data are summarized annually and shared with the community through QWA's website and social media outlets. An annual summary report card is created that includes trends, comparisons between the four main tributaries, and notable findings. The water monitoring data supports educational materials, advocacy efforts, and success stories about completed projects.

Through all these mission areas, the QWA works collaboratively with partners across the private, public, and nonprofit sectors.

The QWA recognizes that in order to achieve its vision across these mission areas, the organization will need to grow and evolve. A broader based of active participants and more structure is needed for the QWA to succeed.

The ultimate vision of the QWA is that the Quittie be delisted as an impaired water and fully function to provide benefits and improved quality of life for the community of Lebanon County and the region.

Value of Collaboration

Through all of its work, the QWA emphasizes community relationships and collaboration. Key partners for sustained and strengthened relationships include the Lebanon County Conservation District (LCCD) and Lebanon County Planning Department. The QWA will continue participation in the County's Watershed Action Team.

Strategic Plan Outline

This outline conceives three hierarchical levels. **Strategic Priorities** cover the mission areas of the QWA and the organizational foundation needed to address them. **Goals** address "what" the QWA needs to do in order to address its Strategic Priorities. **Objectives** begin to describe "how" QWA will go about achieving its Goals – they start to operationalize the strategic plan.

Strategic Priority #1 – Education

QWA will provide education on watershed science and water quality to the Lebanon County community and will keep residents and leaders informed about the condition of the Quittie and efforts to improve it.

Goal 1A – Create tailored educational and communications tools for a variety of audiences and stakeholder groups

Potential Objectives:

- Develop different types of media: flyers, handouts, videos, social media posts, website content
- Develop education/communication pieces for key audiences and stakeholder groups:
 - Teachers
 - School-age children
 - Retirement communities
 - Landowners along waterways
 - Homeowners associations
 - Agricultural community
 - Sportsmen associations
 - Civic organizations

Goal 1B – Assess gap/need between existing curriculum on watersheds/water and ability of local school districts to teach it with local relevance

Potential Objectives:

- Select different grade levels to address
- Identify volunteer/s that can analyze the curriculum

Goal 1C – Establish relationships with local school districts so that QWA can engage teachers and students

Potential Objectives:

- Select priority school districts
- Identify key teachers and administrators
- Schedule outreach attempts to these key people

Goal 1D – Provide field excursions or educational tours to the community

Potential Objectives:

- Determine some target audiences for these trips: adults, retirement age, youth, college-age
- Identify sites to visit and partners to collaborate with for the trips

Goal 1E – Strengthen relationship between QWA and Lebanon Valley College (LVC)

Potential Objectives:

- Establish regular internship program for QWA
- Encourage professors to use Quittie for case studies in courses
- Identify mentorship opportunities for student-volunteer engagement on the Quittie

Strategic Priority #2 – Advocacy

QWA will engage county and municipal leaders to ensure that protective and proactive measures are taken to ensure the long-term health of the Quittie.

Goal 2A – Educate residents and leaders on the benefits of the Quittie

Potential Objectives:

- Gain clarity on drinking water sources, recreational uses, and ecological benefits of the Quittie, both presently and desired
- Integrate with Strategic Priority #1 to develop materials tailored for this purpose

Goal 2B – Engage with key municipalities on land use planning and ordinances

Potential Objectives:

- Assess which municipalities should be priorities by analyzing land use trends (possible goal of 6 target municipalities to start)
- Begin attending Planning Commission meetings of target municipalities

Goal 2C – Engage in County Comprehensive Planning process

Potential Objectives:

- Correspond with county officials to understand key points in process to engage
- Analyze planning documents and develop recommendations that will benefit Quittie

Goal 2D – Raise public awareness of issues affecting the Quittie

Potential Objectives:

- Monitor Leb Town notices about meetings/events affecting the Quittie and amplify them via QWA media
- Work with Leb Town to drive up subscriptions to keep more residents informed

Goal 2E – Coordinate with grassroots groups in the County that are focused on impacts of development

Potential Objectives:

- Identify such groups
- Work to establish relationships with these groups
- Find ways to collaborate on matters that affect Quittie

Strategic Priority #3 – Project Facilitation

QWA helps to facilitate projects that improve the condition of the Quittie.

Goal 3A – Conduct assessment of project efficiency and appropriate organization roles for watershed improvement projects that affect the Quittie

Potential Objectives:

- Consider full life-cycle of projects (cost in dollars and effort, and benefits)
 - Planning
 - Landowner outreach
 - Obtaining funding
 - Design
 - Build
 - Maintain
 - Monitor

Goal 3B – Facilitate implementation of priority projects based on Goal 3A

Potential Objectives:

- Assist with grant writing
- Provide letters of support for projects of other organizations
- Provide volunteer workforce to support project implementation or maintenance
- Identify willing landowners and solicit landowner permission

Goal 3C – Tell success stories of completed projects

Potential Objectives:

- Integrate with Strategic Priority #1 to develop materials tailored for this purpose
- Integrate with Strategic Priority #4 to collect monitoring data that helps demonstrate success

Goal 3D – Participate in training on watershed restoration approaches

Potential Objectives:

- Identify appropriate training opportunities (e.g., Watershed Restoration Workshop by Stroud Water Research Center)
- Fundraise or obtain financial support for members to attend

Strategic Priority #4 – Water Monitoring

QWA collects, analyzes, interprets, and makes available critical water quality data for the Quittie.

Goal 4A – Gain clarity on added value of QWA data for PA DEP and other entities (e.g., LVC)

Potential Objectives:

- Establish point-of-contact at DEP to continuously engage regarding data collection and use
- Modify monitoring efforts, if needed, to maximize usefulness to DEP while minimizing effort

Goal 4B – Sustain and improve dissemination methods for monitoring data

Potential Objectives:

- Maintain and improve website data portal
- Create storymap
- Develop report card that summarizes data and what it means for the Quittie
- Ensure data points are captured that feed into tailored communications pieces (Strategy #1)

Goal 4C – Sustain and improve collection methods for monitoring data

Potential Objectives:

- Grow volunteer workforce for monitoring
- Sustain critical functional roles for monitoring work (field operations, equipment, data management, communications)

Strategic Priority #5 – Organizational Growth

QWA acknowledges that in order to successfully work towards Strategic Priorities #1-4 above, it must grow and evolve as an organization to ensure that it sustains itself and can work toward the long-term protection of the Quittie.

Goal 5A – Clearly define general roles (e.g., membership) and volunteer leadership roles

Potential Objectives:

- Define what it means to be a member of the QWA
- Identify vital volunteer leadership roles and write position descriptions for them

Goal 5B – Evaluate potentially new organizational structure or relationships

Potential Objectives:

- Identify options (e.g., part of another nonprofit, a unique 501(c)3)
- Assess pros and cons of options
- Revisit relationship with The Lebanon Valley Conservancy and explore possible changes
- Consider Memorandum of Understanding with LCCD
- Consider using Strategic Priorities as standing committees

Goal 5C – Recruit more volunteers to fill leadership roles and base membership

Potential Objectives:

- Identify potential sources of new volunteers (e.g., LVC, homeowners associations)
- Identify critical volunteer needs (integrate with rest of Strategic Priority 5)
- Apply new outreach and communication tools for recruitment (integrate with Strategic Priority #1)

Goal 5D – Evaluate risk management situation

Potential Objectives:

- Consider liability waiver forms for volunteers
- Consider need for insurance policy or ability to rely on that of another entity in concert with Goal 5B

Goal 5E – Cultivate alliances and partnerships with like-minded organizations

Potential Objectives:

- Use Relationship Mapping to identify key opportunities for new partners
- Assign relationship-building tasks to specific members of Core Team

Strategic Plan Development Alternatives

As QWA considers further development or refinement of this Strategic Plan Framework, the following alternatives could be analyzed and included:

1. Solidify Objective level of Plan through discussions of the Core Team and other stakeholders
2. Add all or some elements to make either the Goals or Objectives “SMART.” SMART stands for:
Specific: clearly defined with precise language

Measurable: add metrics or indicators on how you would track progress or measure success

Achievable: ensure the Goal/Objective is realistic and attainable within a given timeframe

Relevant: ensure the Goal/Objective aligns with your final consideration of your Vision and your values

Time-Bound: set deadlines or timeframes for achieving each Goal/Objective

SMART is a common framework for goal-setting; however, the applicability and appropriateness of each element varies for a given organization and its stage in development. It is recommended that QWA apply what aspects of SMART feel useful or helpful, but not force the full framework on itself if it does not add value.

3. Analyze what resources (money or effort) or key partners/relationships will be vital to achieving each Goal/Objective
4. Decide on an overall timeframe for this Strategic Plan Framework. (e.g., Is this a 5-year plan?)

Progress Check-In Questions

Whatever the final end product that QWA chooses, it is recommended that the QWA Core Team check-in every 1-2 years on progress made relative to this Strategic Plan Framework. Example check-in questions to consider at these times could be:

1. How have we done on each Goal/Objective? Is it complete? Is it a work in progress? Have we not yet begun?
2. For those not complete, what barriers or roadblocks have we encountered that are slowing or preventing progress? Can we make any changes to address barriers or roadblocks?
3. For those we did complete, what benefits did we realize? Did the outcome meet expectations?
4. Does the Strategic Plan Framework still align with our present vision for the Quittapahilla? What has changed or shifted since we wrote this? What Goals/Objectives need added, removed, or adapted as a result?

Response from Mike, July 23:

Ryan & all,

I'm attaching two items: my completed relationship mapping "homework" on the Word doc, and a rough sketch map image of the QWA's relationships using our five "strategic priorities," with the inner ring showing "present partners" and the outer ring showing "desired partners." I wanted to refine it more before submitting but just don't have the time at the moment.

Thanks & looking forward to meeting remotely at 1 pm tomorrow,

Mike

Michael Schroeder
QWA President

Attachment 2: Strategic Priorities & Relationship Mapping – Rough Sketch

Sketch of the QWA's five "strategic priorities," with the inner ring showing present partners and the outer ring showing desired partners:

Relationship Mapping

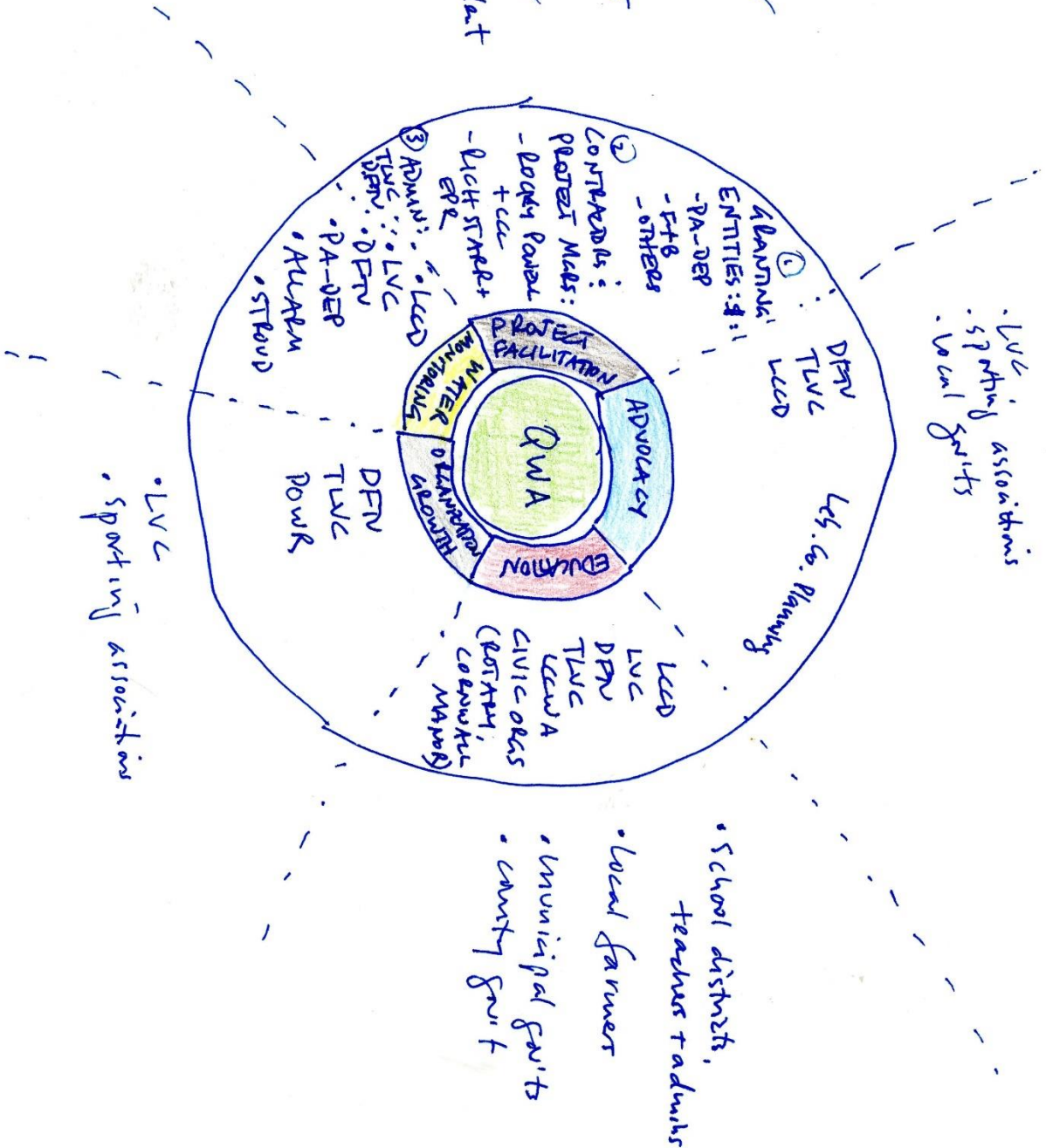
Sketch

Map for QWA

22 July 2025

Mizael
Sukmoko

QWA Provider



Emails of Aug 16-17 re: Community and volunteer engagement

Email from Ryan Szuch to Michael Schroeder, cc'd Katie Ombalski, Sat Aug 16

Hi Mike,

I hope you are having a good weekend. I have a few things to communicate in this message.

First, I have attached the final version of your Strategic Framework. I did not make many changes since the last draft other than to reorder the Strategic Priorities into the same order they are stated in the Mission. I hope this document proves useful to guide future direction of the QWA. If you would like to discuss it further at any point prior to the end of the project, please let us know.

Second, I converted the Powerpoint slide of the relationship map into the attached Excel file. It is organized by Strategic Priority and existing versus new/strengthened relationships. I also created a "notes" column for extra information captured during the relationship mapping meeting. Katie and I have significant time left in our budget for the Community Engagement task. So one of the things I would like to discuss when we meet on the 25th, is what else could Katie and I could do for QWA to accelerate community engagement? For example, one idea would be for us to perform research and compile lists of given stakeholder types that you and your core team identified, such as HOAs or private corporations with a strong presence in the watershed. We could perhaps begin to build the framework for communications pieces targeted toward different stakeholder groups. We can also consider your relationship map relative to your Strategic Framework and provide our recommendations for where you should prioritize community engagement effort in the near-term. We can discuss these or other ideas on the 25th.

Third, the next task within your project is around Volunteer Engagement. This can be a main topic on the 25th as well. We can discuss how you presently manage and communicate with the volunteers that you have, and then talk about what efforts or deliverables Katie and I could perform to help with volunteer recruitment and management. One thing that we did for another POWR client (Swatara Watershed Association and Manada Conservancy) was to develop discrete, one-page volunteer position descriptions for their top volunteer needs.

Lastly, if you would like any help preparing for the QWA presentation for the Watershed Partner Meeting on the 25th, we are available to assist. We could help create Powerpoint slides or talking points, whatever you might need.

If you have any questions or concerns, please let us know. Otherwise, we'll look forward to seeing you on the 25th.

Best regards,

Ryan

Ryan Szuch
Founder and President
Grow Conservation LLC

Attachment 1: Screenshot of Excel Spreadsheet:

1	Quittapahilla Watershed Association - Relationship Mapping				
2	Strategic Priority	Sub-category of	Existing Relationships	Relationships to Add or Strengthen	Notes
3	Project Facilitation	Grants	DEP, USEPA, F&BC, NFWF, DFTU	DCED, DCNR C2P2, municipal governments private donors (for either money or supplies): Bells & Evan, Hershey, Community Foundations, private foundations	Community Foundations could be key short-term target.
4		Project Management and Technical Assistance	Clear Creek Consulting (Rocky Powell), Ecosystem Planning & Restoration (Rich Starr, Bryan Seipp)		
5		Administration	DFTU, TLVC, LCCD	expand with LCCD, Ducks Unlimited	TLVC has capacity issues to manage more administrative load.
6	Water Monitoring		LCCD, LVC, DEP, DFTU, QWA volunteers, ALLARM, Stroud, Cleona Borough	PSU - Master Watershed Stewards, County GIS Department (for a story map), additional municipal governments, marketing/design firms (potential discounted or donated support)	
7	Advocacy		LCCD, TLVC, DFTU, LCCWA, County Planning Department, Annville Township	TLVC, local sporting associations (such as Palmyra and Quittie Rod & Gun Clubs, Lebanon County Federation of Sportsmen), other municipal governments, County government, local healthcare providers, HOAs, local churches, VFW, Visit Lebanon Valley, farmers (Brent Kahler), South Mountain Partnership, Piedmont Environmental Council, grassroots groups for smart growth	Categorized 4 relationship needs for advocacy: 1 - the targets of the advocacy are often municipal governments, 2 - individual advocacy volunteers, 3 - advocacy partners (such as those to left), 4 - avenues through which to spread advocacy message (HOA newsletters, radio)
8	Education	General	LCCD, TLVC, DFTU, LVC, LCCWA, Annville Free Library, County Planning Department, Cornwall Manor, Rotary, Annville Elementary, Historic Old Annville	school districts, Elizabethtown College, local farmers, municipal governments, County government (beyond existing partners), other libraries, marketing/design/printing companies (potential discounted or donated support)	rely on LVC more and perhaps Elizabethtown College, identify teachers in school districts to liaise with QWA on how to integrate with curriculum (Annville-Cleona first target), identify liaisons within key stakeholder groups (e.g., Miranda for farmers), look to Lancaster Clean Water Partners as a peer doing effective engagement
9		Targets for Tabling Events	existing community events	retirement communities, HOAs	
10	Organizational Growth		DFTU, TLVC, LCCD, POWR	LVC (adjunct or retired professors), local sporting and civic associations, Boy/Girl Scouts, HOAs, local churches, VFW, local corporate group volunteers (e.g., Kohls), Chamber of Commerce, law firms (potential discounted or donated support)	
11					
12	List of Acronyms				
13	ALLARM = Alliance for Aquatic Resource Monitoring (Dickinson College)		F&BC = Pennsylvania Fish and Boat Commission		NFWF = National Fish and Wildlife Foundation
14	C2P2 = Community Conservation Partnerships Program		GIS = geographic information system		POWR = Pennsylvania Organization for Watersheds and Rivers
15	DCED = Pennsylvania Department of Community and Economic Development		HOAs = home owners associations		PSU = Penn State University
16	DEP = Pennsylvania Department of Environmental Protection		LCCD = Lebanon County Conservation District		TLVC = The Lebanon Valley Conservancy
17	DFTU = Doc Fritchey Chapter of Trout Unlimited		LCCWA = Lebanon County Clean Water Alliance		USEPA = United States Environmental Protection Agency
18			LVC = Lebanon Valley College		VFW = Veterans of Foreign Wars
19					
20					
21					
22					
23					
		Sheet1			

Mike's response, Aug 17:

Ryan,

Thanks for this. The QWA meets this Tuesday evening and I will put on the agenda the questions and issues you raise here. We will discuss and get back to you about next Monday and the next steps.

thanks!

Mike

Michael Schroeder
QWA President

Appendix 5. Lebanon County Conservation District Watershed Action Team Meeting Minutes, August 7, 2025



Lebanon CAP Watershed Action Team

Thursday, August 7, 2025 at 9:00 a.m.

Members Present: Bethany Canner, Russ Collins, Reid Garner, Hannah Hartman, Darren Heisey, Katie Hollen, Dan Kreiser, Kara Lubold, Rocky Powell, Bryan Seipp, and Rich Starr

1. Applications

- Beck Creek 1- \$184,700.00- deferred to 2026 CAP round

2. In-Process Projects

- Hammer Creek Estates: \$250,000 of ACAP funding for construction-related expenses
- Gerald Horst bridge replacement: \$23,600 of ACAP funding for design and permitting
- Syner Rd. Phase II: \$213,950 of CAP funding for construction-related expenses- in progress
- Wengert Memorial Park Seeded Slope: \$27,313.92- in progress
- Hess: \$10,000- Non-Fed match commitment for NFWF INSR grant- in progress
- Gingrich Run 1: \$204.325- streambank restoration and stabilization, concrete dam removal
- Snitz 2: \$241,385.50- streambank protection, constructed wetland and riparian buffer- in progress
- Heisey: \$241,065- HUA, cattle walkway & fencing (replacing HCE)- in progress

3. Partner Updates

- Clear Creeks Consulting, Rocky Powell
 - o Beck 6: Channel construction stages 1 and 2 are complete. All wetlands have been installed. Stages 3 and 4 are starting. Project on schedule in spite of days lost to rain and high flow. At the end of the meeting, Rocky showed the most recent drone footage of the project.
 - o Snitz 2: Phase 1 channel construction complete. Phase 1 wetland construction complete. Excess topsoil is being provided to the farmer who gave up land for the project. Russ asked if this gave leverage with landowner to expand project. Rocky was unsure. Project on schedule in spite of initial delay and days lost to rain and high flow.
 - o Bachman Run – Horst Properties: Submitted permit application to DEP in May, received comments, and submitted responses to initial comments. E& S permit approved by LCCD in May. In July, received and responded to a second round of DEP comments. SESI also received a second round of DEP comments today about the Bender Lane culvert design.
 - o Snitz 3 and 4: Same as last month.
- Lebanon Consortium/MS4, Darren Heisey
 - o Darren and Rocky will talk with DEP today about permit comments for the Bender Lane culvert design.
 - o Lions Lake Shoreline Stabilization: Substantially complete. Structures are completed; the only things remaining are fall overseeding and plantings.
 - o SQ1: Continuously maintained under a 2-year contract with LandStudies for trash removal and invasive species removal.



Lebanon CAP Watershed Action Team

- SQ6: In design, recently got grant approval from DEP to begin design for reimbursement. The design and scope of the project will be limited by landowner interest. The project is going ahead despite uncertainty about the new permit.
- Still waiting on new MS4 permit. Still waiting on a response to questions submitted about the draft permit. In the draft permit, stabilization was not creditable because it does not lead to a volume reduction.
- Lebanon Valley Conservancy, Dan Kreiser
 - Started a Friends of Wengert Memorial Park group - spearheaded by Dan Kreiser and supported by Lebanon Valley Rails to Trails. The first meeting is August 14th at 4pm and anyone who is interested is welcome to join.
 - Wengert Park Seeded Slope: Same as last update. The contractor will reseed and continue invasive removal. The contractor will be doing maintenance for one year.
 - 25th Anniversary Sustainability Fair on September 27 at Coleman Park.
 - The Watershed Committee will coordinate with consultants to apply for construction funding for the first phase of the Killinger Creek project, which is already designed and permitted. They will seek a different funding source than the last application.
- Swatara Watershed Association, Bethany Canner
 - Continuing work with capacity-building grant.
 - Wrapping up water trail signage project. Two more signs need to be installed but require zoning approvals.
- Trout Unlimited, Russ Collins
 - Russ noted that his main project is coordinating with the Barry Farm landowners.
- EPR, Bryan Seipp/Rich Starr
 - Barry Farm: EPR and DFTU are figuring out what the landowners want and how to fit their requests with what DEP will approve in the project design.
 - Historic Schaefferstown Farm: Further ahead than planned. They have floodplain widths and are working on the concept design.
 - Heisey Farm: After back and forth with the landowner, the landowner has agreed on the floodplain width and where soil will be placed. EPR is putting together a concept plan. The project is about one month behind schedule but should still be good for the funding timeline.
 - Hammer Creek Estates: Addressing DEP comments, including a wider channel and lower floodplain. Will meet with DEP next week. Hoping to finalize design and get permits approved by September, meaning the project can go out to bid and begin construction in October/November.
- Spring Hill Partners, Reid Garner
 - Hoffman farm: 200ft of stream is deeply incised and headcutting. Upstream is a massive wetland complex with good hydrology that is dominated by reed canary grass. Will get a bog turtle hit. Legacy sediments are likely present but the wetlands will not be excavated, so the solution will be to fill the headcut. The stream extends onto GLRA property and GLRA is supportive of the project. LCCD will seek ACAP funding for vegetation maintenance in the wetlands. Looking into funding sources for design & permitting.



Lebanon CAP Watershed Action Team

- Ironmaster Rd: Should qualify for a permit waiver. Deeply incised headwater reach downstream of culvert. Goal is to raise it up and fill gully. Finished feasibility study and reviewed it with landowners. Looking into funding sources for design & permitting.
- 4. **Lebanon County Conservation District Update**
 - Environmental Conservation grant- open 7/10/25, live on website: [Projects — Lebanon County Conservation District](#)
 - Partners who have shovel-ready projects for next year may apply for CAP funding at the link above.
- 5. **Other**
 - Rescheduled November WAT meeting for 9:00 a.m. on Friday, November 7, 2025.
 - Two recurring issues were discussed throughout the meeting:
 - The DEP permit approval process is challenging and time-consuming. Several partners noted that they have received comments from DEP about things that were already included in the permit package.
 - DEP has a very strict interpretation of true "restoration," meaning projects are not eligible for waiver 16 unless they use a legacy sediment removal approach. If a project is not covered by waiver 16, the permit fees can be very expensive.
- 6. **Next Meeting**
 - Thursday, September 4, at 9:00 a.m.



Lebanon CAP Watershed Action Team

Appendix 1. – Rocky Powell Updates, 8/7/2025

August 7, 2025 Watershed Action Team Projects Update – Quittapahilla Creek Projects

Beck Creek 6

Channel Construction Stage 1 – Completed work along Stations 6+15 to 15+25.

Channel Construction Stage 2 – Completed work along Stations 16+25 to 21+25.

Channel Construction Stages 6 - 8B– Completed work along Stations 1+35 to 4+25.

Wetlands Construction – Completed all work wetlands

Scrub-Shrub Wetlands W-1, W-2 and W-3

Wet Meadow Wetlands WM-1 to WM- 6

Channel Construction Stages 3 and 4 - Starting tie-in of upstream and downstream ends of relocated channel to existing channel.

Project on schedule in spite of days lost to rain and high flows.

Snitz Creek 2

Channel Construction Phase 1 – Completed work along Stations 1+83 to 11+33.

Wetland Construction Phase 1 – Completed work along Stations 12+25 to 5+25

Construction Phase 2 – Installing construction access road and E&S from Culvert Street to Station 12+25.

Tree clearing scheduled to start 8/18/2025.

Providing excess topsoil from wetland excavation to Glenn Krall on several fields he identified in need.

Project on schedule in spite of initial delay and days lost to rain and high flows.

Bachman Run – Horst Properties

Permit Application & Supporting Documentation – Uploaded to DEP ePermits website 5/1/2025

PADEP Comments received 5/11/2025

Response to PADEP Comments uploaded to DEP ePermits website 5/28/2025

E&S Permit Application – Approved by LCCD 5/28/2025

E&S Approval Letter uploaded to DEP ePermits website 5/29/2025

Second Round of PADEP Comments received 7/2/2025

Responded to Second Round of PADEP Comments on 7/25/2025

Bender Lane Culvert Design – PADEP Second Round of Comments received 8/07/2025

Snitz Creek 3

Same as last month

Snitz Creek 4

Same as last month