

**QUITTAPAHILLA WATERSHED ASSOCIATION**  
**Meeting Minutes**  
**Annville Town Hall and Remotely Via Zoom (Hybrid Meeting)**  
**Tuesday, October 15, 2024**

Present: Michael Schroeder (President), Alyssa Bellucci, Willie Bixler, Bob Connell, Kent Crawford, Karen Feather, Katie Hollen (LCCD), Kara Lubold (LCCD)

The meeting opened at 7:03 p.m.

- 1. Minutes.** The minutes of the Sept. 17 meeting were circulated electronically before the meeting and approved by consensus.
  
- 2. Monitoring Program Updates**
  - A. Fieldwork.** Katie reported two upcoming fieldwork dates for streamflow & water quality monitoring and water sampling: tomorrow Wed Oct 16 for monitoring sites Q1 (Quittie mainstem at Garfield St. in Cleona), Q2 (Quittie mainstem at Palmyra-Bellegrave Rd) and K1 (Killinger Creek), and one week later on Wed Oct 23 for monitoring sites S1 (Snitz Creek), BK1 (Beck Creek) and BM1 (Bachman Run). Meet at 8 am at LVC to pick up equipment and calibrate the sonde, and in the field at 9 am. On both days need water samples delivered to PA-DEP lab in Harrisburg. Lined up so far: Katie, Mike, Willie, Lydia Mohn (LCCD), and Hannah Hartman (LCCD).
  - B. Equipment.** Kent asked what he should do with the water test kits that came with the ISCO auto-samplers, since they are not useful to the QWA and neither ALLARM nor POWR wants them. He asked if the LCCD might want them; Katie responded, no, probably not, but she will take them in case a local high school might. Bob reported that the Hobo sensor at Bachman Run has a dead battery. He also reported that he had hoped to pick up the Hobo sensor deployed at Snitz Creek for repair but needs the key to the lock to access it. Willie said he'd give Bob one of his two keys. On the ISCO auto-samplers, it was noted that we need to set a date to test them using buckets of water; Kara and Bob agreed to identify a date.
  - C. Data Management.** Mike reported that he, Bob, and LVC student intern Joseph Beidler met at Mike's house on Wed. Sept. 25 to discuss integrating the data & photos produced by our summer 2023 and 2024 student interns into our Water Quality Portal (<http://147.185.239.141/qwa/>). The meeting was followed by a follow-up email exchange, reproduced below in **Appendix 1** to these minutes. Part of that email exchange was a link to a series of five instructional videos, now housed in Google Drive, that Bob created for using qGIS and our Water Quality Portal. Kent

asked whether qGIS could also be used to map and house data on past projects, including data on biological sampling of macroinvertebrates. Bob & Alyssa responded that Yes, that should be possible, and both were thanked for their excellent work.

- 3. Watershed Action Team Report.** Kara reported on the WAT meeting of October 3, 2024, the minutes for which are included below in **Appendix 2** to these minutes.
- 4. First Countywide Strategizing Meeting & Steps Moving Forward.** Mike reported that the minutes of our first countywide strategizing meeting on watershed work held on Fri Sept 6 have been finalized. Those minutes appear below in **Appendix 3** to these minutes. A second meeting that will include representatives of funding agencies is being planned for November or December.
- 5. NFWF Grant Approved!** Mike reported the good news that the grant proposal submitted on our behalf by Tali MacArthur of POWR to the National Fish & Wildlife Foundation has been approved! Background information on the grant and the Oct. 1-4 email exchange with Tali is pasted below in **Appendix 4** to these minutes. A meeting with Tali (on Zoom) is scheduled for 10 am Friday, Nov. 8. One aspect of that grant approval is that data produced by the QWA in its monitoring program will need to follow the protocols and procedures established in an EPA-approved Quality Assurance Project Plan (QAPP). Kent produced a draft QAPP in August 2020 that is currently housed on the Monitoring page of our QWA website (<https://www.quittiecreek.org/monitoring.html>, direct link to the QAPP here: <https://www.quittiecreek.org/documents/Monitoring/211020-QAPP-draft.pdf>) Kent agreed to revisit the draft QAPP with an eye toward refining it for EPA approval.
- 6. Projects update.** See the project updates in the WAT meeting minutes of Oct. 3 in Appendix 2 to these minutes. In addition, Katie reported that the owners of the property just upstream of our monitoring site on Killinger Creek are interested in having restoration work done on their property, and that there are three other properties upstream that might also be interested.
- 7. Upcoming Special Events.**
  - A. Saturday, Nov. 16.** Katie reported that the Lancaster-Lebanon Watershed Forum is scheduled for Saturday, November 16, at the Middle Creek Wildlife Management Area.
  - B. Farm Show, Jan. 4-11, 2025.** In our September meeting, Alexis Biondi suggested that the QWA be represented at the PA Farm Show, perhaps with a demonstration

of the utility of streambank fencing for livestock. Mike reported that since then he has spoken with Alexis, who reported that we are too late for 2025 but suggested we plan ahead for the Jan. 2026 Farm Show.

The meeting adjourned at 7:58 pm.

Respectfully submitted,

Michael Schroeder, Secretary Pro Tem

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### **Appendix 1. Oct. 3-4 email exchange on “Photos Map,” Water Quality Portal & qGIS (Bob, Alyssa, Mike, Joseph)**

from: Bob Connell  
to: Beidler, Joseph  
cc: Michael Schroeder, Alyssa Bellucci  
date: Oct 3, 2024, 5:41 PM  
subject: Photos Map

Hi Joe,

After our meeting last week, I did some digging and found that qGIS can do what I was suggesting you do with Google Earth. That is to stretch an image file to overlay an existing map in qGIS. I also found the map of the Reaches used by Rocky. I've attached a copy of that map to this message (RockyReaches.png).

I'm also attaching a group of files that comprise a map layer for the Quittie and its tributaries. Save all these files into a folder on the computer that you will be running qGIS on.

Last of all, I've attached a video of how to do all this in qGIS. Because one video is too large, I've made smaller videos of each stage of the process. I'll email the other videos in separate emails.

Any questions, let me know. I think the final product will be good.

Bob

7 Attachments

from: Michael Schroeder to Bob Connell, Joseph Beidler, Alyssa Bellucci  
date: Oct 4, 2024, 11:05 AM  
subject: Re: Photos Map

Bob & Alyssa & Joe,

This is great, Bob -- excellent work! For ease of access, I've put these instructional videos into our Google Drive folder, "QWA Monitoring - Data & Images" -- folder "04 Water Quality Portal QGIS Instructional Videos Oct 2024" -- here:

[https://drive.google.com/drive/folders/1xmz8L\\_Dlj2Ifsc-uEnu4KkDqbYrbwSTO?usp=drive link](https://drive.google.com/drive/folders/1xmz8L_Dlj2Ifsc-uEnu4KkDqbYrbwSTO?usp=drive_link)

One small correction: the attached map "RockyReaches.png" is one that I created in Photoshop, mainly so I (and we) could visualize the "big picture" of the summer 2023 interns' work. This big map doesn't identify the beginning & end points of each reach, just their general locations.

The maps in the final report that Rocky produced

([https://www.quittiecreek.org/documents/2023 Interns/Final\\_Report\\_2023\\_Interns.pdf](https://www.quittiecreek.org/documents/2023_Interns/Final_Report_2023_Interns.pdf))

identified the reaches by using snapshots of the basemap of the Lebanon County Parcel Viewer (<https://www.arcgis.com/apps/webappviewer/index.html?id=dc37fec2f8044fc3a7f2898ed5d602ac>) and then superimposing the names of property owners and the locations & ID numbers of the reaches. The maps in Rocky's report are the ones we should be using to identify the specific locations of the reaches as represented in our Water Quality Portal. That's what I'm thinking anyway.

Also, for what it's worth I can't open the .cpg or .qmd or .shp or .shx or .dbf files --

Thanks again, great work!

Mike

Michael Schroeder  
QWA President

One attachment

from: Bob Connell to Michael Schroeder, Joseph Beidler, Alyssa Bellucci  
date: Oct 4, 2024, 5:45 PM  
subject: Re: Photos Map

Hi Mike,

Thanks for the clarification on the maps. I think it will come down to whatever Joe feels he can accomplish within the time available during his internship. The process would be the same whether he uses the map of all of the reaches that I provided, or if he uses the 35 maps of more detail provided in Rocky's report. Each map would have to be overlaid on the stream theme as I did in the videos. But instead of doing it once, it would have to be done 35 times.

If Joe does not have the time to do all 35 files, he could just use the one map that I provided and populate that database for those reaches. Later on, we could refine the location of those points using Rocky's maps.

I would also suggest that when making the new theme for the photos, that in addition to the reach ID and the link fields, Joe create a field for each of the other columns in the tables in Rocky's report and populate those fields with the data from his report. That way, all of the data in the report would be available when someone clicks on that location.

With regard to the files that wouldn't open, those files collectively make up what qGIS views as a layer. In this case, it is the streams layer. So for most software, those files are meaningless. But taken together if they are in the same folder, qGIS uses them as a layer. I hope that helps explain what's going on with them.

If you or Joe have any questions that I may be able to help with, please let me know.

Bob

## Appendix 2. Watershed Action Team Meeting Minutes, Oct. 3, 2024



### Lebanon CAP Watershed Action Team

October 3, 2024 - Minutes

Members Present: Bethany Canner, Hannah Hartman, Abigail Harvey, Darren Heisey, Kara Lubold & Mike Schroeder

#### 1. Applications

- None at this time

#### 2. In-Process Projects

- Hammer Creek Estates: \$250,000 of CAP funding for construction-related expenses
- Gerald Horst bridge replacement: \$23,600 of ACAP funding for design and permitting
- Syner Rd. Phase II: \$213,950.00 of CAP funding- design and permitting in progress

#### 3. Completed Projects

- Personnel changes at ARRC have led to revisiting completed projects for adjustments, Syner Rd. Phase I and Phase II

#### 4. Partner Updates

- o Clear Creeks Consulting, Rocky Powell
  - o Beck Creek 6 – No formal word yet on 319 grant.
  - o Snitz Creek 2 – Same as last month
  - o Snitz Creek 3 – Same as last month
  - o Snitz Creek Project 4 – Environmental inventories and H&H in progress. Preliminary Design delayed.
  - o Killinger Creek Project – Site walk with Construction Contractor conducted on September 19, 2024. Construction cost estimates due October 11th. Applying for National Fish and Wildlife Foundation (NFWF) grant for construction funding for Phase 1 – Huber and Burkholder Properties and design and permitting funding for Phase 2 – Kreider Property. Grant application deadline November 5<sup>th</sup>. The Lebanon Valley Conservancy is taking over as the Project Sponsor.
  - o Bachman Run – Final Design for stream project in progress. Bender Lane Bridge replacement design in progress
- o Lebanon Consortium/MS4, Darren Heisey
  - o SQ1- Recent rain event helped vegetation growth, but still issues with 22<sup>nd</sup> St. Any further vegetation replacement is paused until 2026 bridge replacement/realignment project. Second phase will delay bridge realignment, projects need to be completed together in order to offset impacts to wetlands and align with permitting requirements. Land studies currently maintain invasive species at SQ1 by spot spraying.



### Lebanon CAP Watershed Action Team

- SQ6- Project is on hold for now. DEP extended MS4 permit period to an unknown date. This will affect design and credits are unknown.
  - Lion's Lake- Shoreline restoration and all park improvements included. Bid occurred in September. Contract extended to mid-2025 due to growing season of shoreline vegetation.
  - Lebanon Valley Conservancy, Abigail Harvey
    - Working with Bryan Seipp at EPR on Killinger Creek project, TLVC will be serving as grant administrator. An application review meeting is scheduled for Oct. 7.
    - TLVC is in the process of rebuilding the Watershed Committee, would like to be more involved with stream restoration work in the future. Requested committee members to have any interested volunteers email Abigail.
  - Quittapahilla Watershed Association, Mike Schroeder
    - Recently awarded a Small Watershed Grant from NFWF which will assist efforts in Lebanon County. A consultant will be hired to develop a strategic plan that will include elements related to water quality data management and interpretation, public communication, and outreach, as well as volunteer. QWA is one watershed group included within a package for the grant.
    - Recap of watershed restoration strategy meeting recap. See #5
    - Mike has reached out to LVC students for internship opportunities. Two students have expressed interest. One will be assisting QWA with portal. Second student is a possibility for a LCCD unpaid internship.
    - Mike received suggestions for volunteer outreach; United Way, LVC students,
  - Swatara Watershed Association, Bethany Canner
    - SWA Continuing on with Swatara Creek sign project
    - Oct. 12<sup>th</sup> small tree planting event on main stem of Swatara, having difficulty getting trees from K-10
    - Bethany will be attending Penn State Ext. tree planting maintenance along Spring Creek on the Rockledge property. Extended invitation to committee members to help on Saturday October 12.
5. Other
- Leb. Co. stream restoration projects strategizing meeting recap
    - Fri, Sept. 6- Meeting lasted over 2 hours
    - First hour- Rocky presented Hx of watershed restoration efforts and his role.
    - Discussed main priorities of CAP funding (Ag. & natural stream restoration, mainly focused on Ag)
    - Discussion moved on to issues of grant criteria, which is usually varied, competition for scarce resources and how we can avoid competing against ourselves.



### **Lebanon CAP Watershed Action Team**

Second hour- focused on next steps and how to move forward. Second strategy meeting, Hammer Creek meeting, and growing WAT by inviting strategy meeting attendees. It was suggested the WAT serve as a vehicle for watershed restoration planning and prioritization.

- CAP and other funding sources
  - Kara is in the process of finding additional grant and other funding sources to continue stream restoration work in Leb. Co.
- Open discussion-
  - Kara would like to continue ensuring WAT meetings are productive and to increase memberships. Current members asked to contact her with any suggestions.

#### **6. Next Meeting**

- November meeting rescheduled from Thursday, November 7 to Friday, November 8 @ 9:00 am to avoid conflict with the Hammer Creek Partnership meeting.



### **Appendix 3. First Strategizing Meeting on Restoration Work in the Quittapahilla & Adjacent Watersheds – Meeting Minutes**

Conference Room, Lebanon County Conservation District  
2120 Cornwall Rd., Lebanon PA 17042  
Friday, Sept. 6, 2024

With representatives of:

- Lebanon County Conservation District (LCCD)
- Quittapahilla Watershed Association (QWA)
- Doc Fritchey Trout Unlimited (DFTU)
- The Lebanon Valley Conservancy (TLVC)
- Clear Creeks Consulting, LLC (CCC)
- Ecosystem Planning & Restoration (EPR)

Present:

- Russ Collins, Past President, DFTU, and Member, QWA
- Bob Connell, Member, QWA
- Katie Doster, former District Manager, LCCD
- Abigail Harvey, Executive Director, TLVC
- Hannah Hartman, District Manager, LCCD
- Katie Hollen, Watershed Specialist, LCCD and member, QWA
- Ned Gible, Board Member, TLVC
- Kara Lubold, Environmental Grant Coordinator, LCCD, and Member, QWA
- Rocky Powell, Owner & Operator, CCC
- Michael Schroeder, President, QWA
- Bryan Seipp, Senior Environmental Scientist and Forester, EPR
- Rich Starr, Vice President & Senior Water Resources Scientist, EPR
- Pat Welch, Board Member, TLVC

Additional acronyms:

- ACAP: PA's Agriculture Conservation Assistance Program (see <https://www.pa.gov/en/agencies/pda/about-pda/boards-commissions/state-conservation-commission/agriculture-conservation-assistance-program.html>)
- BMP: Best management practice (of many types)
- CAP: Countywide Action Plan, funded by PA-DEP (see <https://www.lccd.org/cap>)
- EPA 319: A funding source: the federal Environmental Protection Agency's 1987 amendment to the Clean Water Act establishing the Section 319 Nonpoint Source Management Program
- LCCD-WAT: Watershed Action Team of the LCCD

- MS4: Municipal Separate Stormwater System; see <https://www.penndot.pa.gov/Doing-Business/LocalGovernment/StormWaterManagement/Pages/MS4-Information.aspx>
- PA-DEP: PA Dept of Environmental Protection
- TMDL: Total maximum daily load (defined as the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards)
- WIP: Watershed Implementation Plan. The QWA's WIP, approved in 2021, is here: <https://www.quittiecreek.org/documents/210127-WIP-2021-Final.pdf>

1. Before the meeting, Rocky Powell prepared and had distributed two documents: "A Brief History of Quittapahilla Creek Watershed Restoration Efforts" (10 pp.) and "Table 1 - Project Status for Quittapahilla Creek and Hammer Creek Watersheds" (3 pp.). Both documents accompany these meeting notes.
2. The meeting opened at 9:00 AM with opening remarks by Michael Schroeder, who summarized the purpose of the meeting: to initiate a sustained conversation so that we can collaborate and not compete against each other and ourselves for scarce funding resources for stream restoration work in the Quittapahilla and adjacent watersheds in Lebanon County and adjacent counties. He then turned the floor over to Rocky.
3. Rocky summarized the history of restoration efforts in the Quittapahilla watershed and his role in those efforts, dating back to the late 1990s at the invitation of David Lasky, then President of the QWA. He noted that in 2003-2004 he walked the entire watershed, gathering data that went into his 2006 report, which formed the basis of the 2021 WIP (all housed on the Studies & Documents page of the QWA website, here: <https://www.quittiecreek.org/documents.html>).
4. Rocky further noted that in the mid-2010s and at the direction of PA-DEP, responsibility for restoration efforts in the Quittapahilla watershed should be divided between the QWA and the municipalities with MS4 mandates issued by the EPA and PA-DEP. These included the Lebanon County Stormwater Consortium (City of Lebanon, Cleona Borough Authority, and the townships of Annville, North Cornwall, North Lebanon, and South Lebanon) as well as other boroughs and townships. The Consortium focused its efforts primarily on the Quittapahilla mainstem and the lower reaches of the major tributaries.
5. The QWA decided to focus on the four main tributaries flowing from South Mountain: Snitz Creek, Beck Creek, Bachman Run, and Killinger Creek. The basic strategy was outlined in the 2006 Report and subsequently agreed upon and outlined in the WIP. Work in the subwatersheds would be prioritized based on their documented loadings of nutrients and sediment to the overall watershed – Snitz, Killinger, Beck and Bachman and from upstream to downstream in each tributary. Interested landowners who approached the QWA or its

partner organizations would not be turned away, but the general strategy agreed to was to move from highest priority to lowest and from upstream to downstream.

6. It was noted that PA's ACAP funding is focused on two main priorities: (1) agricultural BMP projects, and (2) stream restoration projects, and that the lion's share is earmarked for (1) ag BMPs. It was also noted that the criteria used by grant reviewers vary enormously; that competition for scarce resources is fierce; and that we want to actively avoid competing against ourselves for those scarce resources.
7. Discussion focused on the differences between the stream restoration priorities and BMPs utilized by the organizations working in the Quittapahilla watershed and those currently being prioritized by PA-DEP. The emphasis in the Quittapahilla watershed has been on *reducing nutrient and sediment loadings* by focusing efforts on sources of these pollutants. This approach has included implementation of *agricultural BMPs* to reduce the volume of runoff and provide water quality treatment for runoff from individual farms. Implementation of *urban stormwater BMPs* has emphasized control the volume of stormwater during individual storm events by slowing down and retaining stormwater. This management approach reduces the streambank and streambed erosion associated with uncontrolled storm flows and captures the nutrients and sediment being conveyed during the storms. *Stream restoration* has focused on designing channels that neither erode or fill with sediment by conveying the smaller amount of sediment transported from restored upper stream reaches; utilizing channel stabilization techniques that address streambank and streambed erosion; and restoring in-stream habitat to support fish and macroinvertebrate communities. It was noted that in recent years, PA-DEP has been prioritizing projects that include *legacy sediment removal*, that is, excavating and lowering the stream channel and floodplain by several feet along entire stream reaches. This "trap it and store it so doesn't flow downstream" aptly summarizes PA-DEP's current approach. This has resulted in many stream reaches being converted to large wetlands that function as large sumps where sediment is trapped and stored. This approach often creates braided stream channels that shift with each storm flow event and influx of sediment. Supporting fish and macroinvertebrate communities in a constantly shifting system is difficult at best.
8. Rocky noted that EPA 319 and PA-DEP Growing Greener Plus reviewers have adopted the practice that stream restoration projects get broken into two phases, usually separated by at least two years: (1) design & permitting, and (2) construction. Costs for (1) average around \$150K, while costs for (2) are generally substantially higher and growing.
9. After the first hour, the discussion turned to how best to move forward, given this larger context.

10. Rich Starr reported that the Hammer Creek Planning Group, whose participants he listed, will meet in November to prioritize their potential funding sources. He also noted that Hammer Creek has received American Rescue Plan funding, and that a working group is currently preparing a WIP for Spring Creek in Derry Township in Dauphin County.
11. Consensus was reached that, moving forward, the LCCD-WAT would serve as a suitable umbrella organization to facilitate the coordination and collaboration of the organizations and businesses represented at this meeting.
12. Discussion was held on how to prioritize future projects for watersheds within the county. One option discussed was that for projects that include CAP funding, interested bodies would bring their proposals to the LCCD-WAT for its evaluation of their relative merits, and out of this process the LCCD would develop a list of prioritized projects, and a schedule and timeline. In this option, for projects that *do not* include CAP funding, the LCCD-WAT would still serve as an umbrella organization for dialogue and exchange of information among all interested parties about upcoming and anticipated project proposals.
13. The exact process by which future projects will be prioritized and scheduled was left to future discussions.
14. "Document the need" was emphasized as the main element of such proposals, including a detailed narrative describing existing conditions and the work proposed, along with photos, maps, and any other documentation. For the Quittapahilla watershed, it was suggested that proposals follow the priorities established in the 2021 WIP. (Please see the Post-Meeting Note at the end of these minutes.)
15. Rocky noted that he intends to retire by 2028 and hopes to see all the projects he has designed and worked on through to completion by then.
16. Rich noted that "we write proposals for folks" and that he, Bryan Seipp, and EPR intend to follow along much the same track that Rocky has followed over the past 25 years.
17. Bryan noted the importance of wetland mitigation banking projects and EPR's role in helping partners secure funding for such projects. ("Wetland mitigation banking is the restoration, creation or enhancement of wetlands for the purpose of compensating for unavoidable impacts to wetlands at another location. Wetland mitigation banking is commonly used to compensate for wetland impacts from development, but it also used for impacts from agriculture." See NRCS at <https://www.nrcs.usda.gov/programs-initiatives/wmpb-wetland-mitigation-banking-program>).

18. Katie Doster noted that PA's ACAP has allocated Lebanon County \$4.1 million over three years, and that \$500,000 is the maximum request to ACAP for grant proposals (see <https://www.pa.gov/en/agencies/pda/about-pda/boards-commissions/state-conservation-commission/agriculture-conservation-assistance-program.html>). Katie further noted that the LCCD is generally notified about each year's funding amount around January of each year.
19. Steps moving forward. Consensus was reached that a second strategizing meeting should be called to bring funding agencies into the conversation, especially PA-DEP, the Fish & Boat Commission, and the Nature Conservancy. Suggested individuals to invite included Mike Morris of the Bureau of Clean Water at PA-DEP (email: [michamorri@pa.gov](mailto:michamorri@pa.gov)) and, at the Nature Conservancy, Jonathan Niles, Stream & Wetland Restoration Specialist (email: [jonathan.niles@tnc.org](mailto:jonathan.niles@tnc.org)) and Su Fanok, Director of Freshwater Conservation (email: [sfanok@tnc.org](mailto:sfanok@tnc.org)).
20. Moving forward, it was also agreed that organizations represented at today's meeting would be invited to future CAP meetings.
21. Mike and Kara agreed to collaborate in drafting notes of today's meeting.

The meeting adjourned at 11:36 AM.

Respectfully submitted,

Michael Schroeder  
QWA President

Post-Meeting Note: After the meeting, Rocky circulated by email a document titled "Criteria for Scheduling Projects in Quittapahilla Creek and Hammer Creek Watersheds," included below in Appendix A to these minutes. Rocky suggested that this document should serve as a template for future project proposals. Rich suggested an abbreviated version of these criteria to avoid having to write several pages of information for a project that may not be advanced for pursuing funds. It was agreed to continue discussion on this point.

#### **Appendix A. Criteria for Scheduling Projects in Quittapahilla Creek and Hammer Creek Watersheds**

Rocky Powell, Clear Creeks Consulting, LLC  
September 30, 2024

1. All projects should be implemented in two phases.

- a. Design and Permitting
  - b. Construction
2. Phase 1 – Design and Permitting Criteria
- a. Project Sponsor(s) have been identified
  - b. Proposed Project should be identified and prioritized in a PADEP approved management plan
  - c. Project Sponsor should document Need/Justification for the Project including:
    - 1) Maps and aerials showing Project Location
    - 2) Detailed Narrative describing existing channel and floodplain conditions, such as:
      - a) Streambank erosion (extent and severity; potential for worsening conditions, etc.)
      - b) Active streambed degradation or aggradation (extent and severity; potential for worsening conditions, etc.)
      - c) Poor in-stream habitat conditions (embedded riffles, shallow or no pools, no overhead cover, etc.)
      - d) Floodplain and Riparian condition (channel-floodplain disconnected, lack of buffers, livestock grazing impacts, cultivated fields draining directly to channel, etc.)
      - e) Other factors contributing to increased pollution or habitat loss.
    - 3) Photo documentation of existing conditions.
  - d. Project Sponsor should explain the Purpose of the Project and How it will address the Problems Identified including:
    - 1) Detailed narrative describing project objectives, such as:
      - a) Stabilize eroding streambanks and streambed
      - b) Reestablish stable meander geometry
      - c) Reduce nutrient and sediment pollution
      - d) Improve In-stream habitat
      - e) Reconnect channel with active floodplain
      - f) Establish riparian buffers
      - g) Create wetlands to treat runoff and provide habitat
      - h) Limit future impacts
    - 2) Detailed narrative describing Design Approach and Project Components
      - a) Channel Stabilization
        - i. Removal of debris jams, bank grading and stabilization with native materials, planting riparian buffer, installation livestock fencing and crossings
      - b) Natural Channel Design
        - i. Channel grading and installation of in-stream structures to stabilize eroding streambanks, establish stable bankfull channel cross-sectional

geometry, provide grade control, improve in-stream habitat and establish riparian buffers

- ii. Channel reconfiguration and installation of in-stream structures to establish stable meander geometry, provide grade control, improve in-stream habitat and establish riparian buffers
  - iii. Channel and Floodplain restoration by excavation and grading to reconfigure the channel, establish stable bankfull channel cross-sectional and meander geometry, lower and stabilize streambanks to reconnect channel to an active floodplain, create wetlands and riparian buffers with diverse plant communities that provide water quality treatment of runoff from cultivated fields.
- c) Legacy Sediment Removal Design
- i. Excavation and grading of channel and floodplain to the basal gravel layer (pre-settlement streambed)
  - ii. Reconnecting the stream channel with a very active floodplain
  - iii. Forming a baseflow stream channel-wetland complex.
- d) Regenerative Stormwater Conveyance
- i. Stabilizing erosion gullies that have developed at storm drain outfalls or along the edge of cultivated fields to provide flow attenuation and energy dissipation utilizing:
    - Riffle grade control/step-pool sequence,
    - Riffle grade control and shallow moat areas on adjacent floodplains,
    - Rock weir/sand seepage grade control berms..

### 3. Phase 2 – Construction Criteria

- a. Project Sponsor(s) have been identified
- b. All permits and approvals have been obtained.

## **Appendix 4. NFWF Grant: Summary of Grant and Email exchange with Tali MacArthur of PEC/POWR re NFWF Grant Approval, Oct. 1-4, 2024**

### **POWR-Facilitated NFWF SWG Grant overview**

Michael Schroeder, President, Quittapahilla Watershed Association  
Oct. 2, 2024

Yesterday, Oct. 1, we (the QWA) got word from Tali MacArthur of the PA Organization for Watersheds & Rivers (POWR, at <https://pawatersheds.org/>) that we were successful in our grant proposal for a Small Watershed Grant (SWG) from the National Fish & Wildlife Foundation (NFWF). This document summarizes the grant program and our proposal, so we are clear on what the grant is and what we are obliged to do.

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### **Chesapeake Bay Small Watershed Grants Spring 2024 Request for Proposals**

The following overview copied & pasted from: <https://www.nfwf.org/programs/chesapeake-bay-stewardship-fund/chesapeake-bay-small-watershed-grants-spring-2024-request-proposals>

#### **OVERVIEW**

The National Fish and Wildlife Foundation (NFWF), in partnership with the U.S. Environmental Protection Agency (EPA) and the federal-state Chesapeake Bay Program (CBP) partnership, is soliciting proposals through the Chesapeake Bay Stewardship Fund to protect and restore water quality and habitats of the Chesapeake Bay and its tributary rivers and streams.

Through the Small Watershed Grants (SWG) Program, delivered in partnership with EPA and the CBP partnership, NFWF is soliciting proposals for projects within the Chesapeake Bay watershed that promote voluntary, community-based efforts to protect and restore the diverse and vital habitats of the Chesapeake Bay and its tributary rivers and streams.

NFWF will award funding through two distinct funding opportunities. All SWG Program proposals must directly align with one or more of the SWG PROGRAM PRIORITIES outlined further in this Request for Proposals.

SWG Implementation (SWG-I) grants of \$150,000-1,000,000 will be awarded for projects that result in direct, on-the-ground actions to protect and restore water quality, species, and habitats in the Bay watershed.

SWG Planning and Technical Assistance (SWG-PTA) grants up to \$150,000 will be awarded for projects that enhance local capacity to implement future on-the-ground actions, consistent



with SWG Program priorities, through community-based assessment, planning, design, and other technical assistance-oriented activities.

Further details for each program, including associated PROGRAM PRIORITIES, FUNDING AVAILABILITY AND MATCH, and ELIGIBILITY CRITERIA are provided throughout this solicitation. In developing and submitting applications, prospective applicants should select the most appropriate program based on the details of their proposed project and alignment with associated program details. Applicants are encouraged to review the CBSF Quick Reference Guide and Applicant Toolbox for further insight in selecting the appropriate funding opportunity based on their proposed project.

While NFWF does not require consultation prior to application, we strongly encourage interested applicants to contact NFWF staff or its contracted field liaisons (contact information on page 15) to discuss their proposed project to gather constructive feedback in developing a competitive proposal, and to obtain guidance on the most appropriate program and funding opportunity for project consideration. Interested applicants may schedule virtual project consultations with NFWF staff [here](#).

Including funds made available through the Bipartisan Infrastructure Law, NFWF estimates awarding \$20 to \$30 million in grants through the SWG Program in 2024, contingent on the availability of funding, through major funding provided by the EPA CBP Office. Other important contributions are provided by Altria Group, the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS), and the U.S. Forest Service.

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**Email of March 21, 2024, from Michael Schroeder to Tali MacArthur (POWR) finalizing the language on the QWA’s section of the grant proposal:**

This project will assist the leadership of the Quittapahilla Watershed Association, also located in Lebanon County, develop a strategic plan that will include elements related to water quality data management and interpretation, public communication and outreach, as well as volunteer recruitment and retention. This organization has successfully developed an active water quality monitoring effort but has yet to translate that effort into a sustained and ongoing approach to informing the prioritization and implementation of new restoration projects. Nor have they meaningfully engaged the public with the data and what the findings mean for “the Quittie” and their communities. The group has recently ‘onboarded’ some new volunteers and they are ready to take on this challenge to be a more public-facing, action-oriented organization.

Who will benefit: The Quittapahilla Watershed Association will benefit from strategic planning that includes effective communication and outreach and capacity building for water quality data management and interpretation to support project prioritization and planning. Various communities within the lower watershed, including Lebanon will benefit.

## **QWA Letter of Support for the Grant Proposal, March 2024**

**Sent to Tali MacArthur March 25, 2024, for inclusion in the grant proposal** (which included more PA watershed associations than just the QWA):

Mr. Jake Reilly, Program Director  
National Fish and Wildlife Foundation, Chesapeake Bay Fund  
1133 Fifteenth St. NW  
Washington, DC 20005

Re: Project Proposal for the Pennsylvania Organization for Watersheds and Rivers  
Project: Direct Strategic Planning and Technical Support to Community-based Partners  
for Watershed Restoration Action

March 25, 2024

Dear Mr. Reilly:

I write on behalf of the Quittapahilla Watershed Association in support of the grant application being submitted by the Pennsylvania Organization for Watersheds and Rivers (POWR) for funding under the NFWF Small Watershed Grants Planning and Technical Assistance Grant for implementation of its Direct Strategic Planning and Technical Support to Community-based Partners for Watershed Restoration Action project.

The Quittapahilla Watershed Association is a small, non-profit organization whose mission is to protect and improve the water quality in the watershed. The group, which includes conservationists and other local activists, has undertaken dozens of projects funded by state and federal grants to improve the watershed and educate its citizens, including an extensive long-term water quality monitoring program. Our efforts help ensure healthy local waterways and a positive future for the Chesapeake Bay. We work with other partners in the watershed such as the county conservation district, the local chapter of Trout Unlimited, and the Swatara Watershed Association.

While we have some technical knowledge and organizational and project management skills, we are a very small all-volunteer organization and would benefit greatly from the direct and targeted support of a consultant to guide our efforts to develop a strategic plan that will include elements related to water quality data management and interpretation, communication, and outreach, as well as volunteer recruitment and retention. We are excited to have the opportunity to translate our water quality monitoring initiative into a sustained and ongoing approach to informing the prioritization and implementation of new restoration projects.

Therefore, we support and commit to fully engaging in POWR's proposed project. We are confident that it will facilitate restoration project prioritization and implementation actions by bringing together local partners, stakeholders, and a strategic planning and communications consultant. This project is critical to achieving goals related to improving water quality and stream health for the benefit of the local communities while building our internal organizational capacity. POWR's proposed project supports the shared goal of restoring, conserving, and protecting the abundant yet fragile waterways and habitats locally and in the Chesapeake Bay watershed in PA. It is opportunities like this that POWR provides to advance watershed protection that are invaluable to community organizations like ours who are working to restore and protect the "Quittie" and its watersheds as well improve the quality of life for local communities' members.

POWR's leadership and administrative role is a critical component of the success of this project specifically and community-based watershed organizations large and small generally. POWR fills this role effectively, and the Quittapahilla Watershed Association fully supports POWR in this role.

For all of the reasons mentioned above, I trust you will give serious consideration to POWR's application for funding support from NFWF's Small Watershed Grants Planning and Technical Assistance program.

Sincerely,

Michael Schroeder  
President, Quittapahilla Watershed Association  
189 School House Lane  
Anncville, PA 17003  
<http://www.quittiecreek.org>

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**Email from Tali MacArthur announcing the grant approval, Oct. 1**

from: Tali MacArthur  
to: Michael Schroeder  
date: Oct 1, 2024, 1:46 PM  
subject: Great news: NFWF proposal approved for funding!

Mike,

I wanted to share the good news that the NFWF proposal POWR submitted has been approved for funding!

There were many steps we had to take to finalize everything (and we are actually still waiting on the contract execution), but we've been given the go ahead to contact our partners.

I just spoke to Kent Crawford, as the element of the project involving the Quittapahilla Watershed Association has triggered EPA/NFWF to require a QAPP.

I have a meeting with them about it tomorrow. Kent will be sending my your existing QAPP.

I am hoping that any requirements EPA/NFWF have can be handled internally and with the support of the consultant we end up working with.

Still, congratulations are in order. As soon as we have a fully executed contract I will initiate the first steps pf project implementation. Probably sometime in November.

Sincerely,

Tali

Tali MacArthur  
Program Manager for Watershed Outreach, PEC/POWR