

Spring Creek Watershed Commission

November 18, 2020

Via Zoom

Nov 2020 SCWC Meeting

Time: Nov 18, 2020 07:00 PM Eastern Time (US and Canada)

Zoom Connection

<https://us02web.zoom.us/j/85747303733?pwd=V2VIS1VzbTZvOHhGZm5hWmt0aWxiUT09>, Meeting ID: 857 4730 3733, Passcode: 190450

- 1) **Call to Order:** Joanne Tosti-Vasey, Chair will call the meeting to order
- 2) **Introduce members:** – Joanne Tosti-Vasey (Bellefonte Borough), Chris Hurley (Patton Township), Jasmine Fields (State College alternate), Paul Takac (College Township), Prasenjit Mitra (Ferguson Township), George Harrigan (Harris Township), Terry Melton (ClearWater Conservancy and Nittany Valley Environmental Coalition), Mike Danneker (Spring Township), Brian Heiser (State College Water Authority), Ron Porter (Pennsylvania Interfaith Power and Light), Jason Detar (PA Fish and Boat Commission), Bill Sharp (College Township alternate), David Roberts (Sierra Club)
- 3) **Approval of minutes,** Motion to approve made by Chris Hurley, seconded by Prasenjit Mitra.
- 5) **Citizen Comments:** The public is invited to address the Commission on items not on the agenda. (5 minutes per commentary). Electronic copy of comments should be submitted to SCWC & will be added to meeting minutes.
 - David Roberts: comments regarding One Water Plan (David's full comments are in this document following the minutes).
 - The effort to conserve water resources in Pennsylvania has been ongoing since at least 1933 and the SCWC's efforts constitute just one phase of this effort.
 - Recent policies and developments have eliminated important conservation zones near Spring Creek Canyon.
 - The Clark County, VA, Water Plan is an effective model for using land use zoning to establish conservation easements.
 - The public participation and support for the SCWC will hopefully ensure that the watershed is protected for generations.
 - Links to relevant resources were attached in document.
- 5) **Educational Topic:**

Presentation title: "Combining Ecological Water Purification with Nutrient Upcycling: Lessons for a Healthy Watershed" by Rachel Brennan, associate

professor of civil and environmental engineering; agricultural and biological engineering at Penn State

- Unhealthy water systems:
 - Nitrogen from agriculture creates algal blooms in coastal areas that can starve the aquatic environment of necessary nutrients.
 - Examining these systems provides insight for potential future savings of financial or environmental resources.
 - Her lab's goal is to investigate upcycling of wastewater so as to prevent nutrient runoffs and save money on treatment.
- Ecological wastewater treatment:
 - Biodiverse habitats can filter water very well.
 - Eco-machines rely on organisms at vastly different scales to treat wastewater.
 - Ecological wastewater treatment was implemented in Fuzhou, China, where open canals received untreated wastewater. Biological system reduced contamination to levels surpassing United States wastewater standards.
 - Penn State has an ecomachine that uses less energy than conventional methods and meets advanced water quality standards.
- Duckweed:
 - Can live in ecomachines, doubles its mass rapidly, and is high in protein
 - Can bridge gap between waste nutrients and sustainable protein production, as it can serve as a sustainable alternative to fertilizer
 - Maintains crop yields and reduces runoff
 - Grows quickly and yields enough protein to serve as a viable source of protein for animals
- Questions:
 - Prasenjit – asked if transfer of oxygen from ammonia to nitrate has a negligible effect on atmosphere
 - Rachel – yes
 - Bill – there is another living machine in Centre County in Julian
 - Rachel – there is one in Gettysburg as well. The Penn State machine is one of three research living machines in the United States.
 - David Roberts – what are the costs involved, and what are some realistic scales for this setup?
 - Rachel – originally conceived to be in every home. Can be scaled up largely and compared to conventional treatment plants. They are cheaper to run up to 600,000 gal/day in climates with cold winters, more cheap in warmer climates.

- Rachel – ecomachines can be retrofitted into existing buildings and made with reclaimed materials to save costs.
- Terry – has Rachel eaten duckweed? What’s it like?
 - Rachel – no; her system is wastewater-based. People she’s spoken to say it is more palatable the smaller it gets.
 - Bill – can this be combined with aquaculture?
 - Rachel – yes; projects are in the works.
- David – can the duckweed absorb toxins in the water?
 - Rachel – duckweed harvested from these systems contains metals in levels far below the maximum safe limit for animal food. For domestic wastewater, shouldn’t be an issue.
- Michael Danneker – has anyone reached out to Harpster Farms on 45 to experiment with this?
 - Rachel – farm was consulted and is planned to be worked with during trial farms.
- Joanne – how would ecomachines interact with biosolids?
 - Rachel – hardly any biosolids are produced within machines. Biosolids are being eaten because in a healthy ecosystem they will be consumed.
- Bill – how would an ecomachine compare to a septic tank?
 - Rachel – septic tank can serve as first step for an ecomachine and would work by being connected to it.
 - George – are there any efforts to commercially develop that?
 - Rachel – not that she’s aware.
- Bill – could an ecomachine replace a septic tank?
 - Rachel - yes

6) Old Business:

a. One Water Report: See notes from the October 21 Working Group Meeting

- Main concerns are financial resources. Joanne asks if a committee should be set up to identify alternative sources.
 - Current committee: Joanne, Bill, Paul, Jasmine, David. Paul will set up a meeting.
- Another work session meeting will be held in February.
- Bill – how do we move forward with preparing presentations?
 - Paul – will follow up.
- Terry – advised with using Corey’s report to guide script.
 - Bill – the original report was pre-COVID and is now too expensive to be practical.

b. Related Plans

1. Centre County Watershed Planning – Joanne Tosti-Vasey

- SCWC plans to work with the Centre County watershed planners (they focus on Slab Cabin).
2. Susquehanna River Basin Plan – Prasenjit Mitra
- Topics: stormwater management (especially flood management), climate change, past projects to highlight
 - Group is avoiding politically charged language
- c. **Caitlin Teti Master’s Project Plan** – May not be proceeding due to personal issues on Caitlin’s end.
- d. **Atlas Project** – no recently published articles, but some are upcoming. December 18 is the next Atlas meeting.
- e. **Education Committee** – Educational Topics for 2021 – Chris Hurley
- Same themes will be used for 2021. Potential topics:
 - Centered Outdoors activities in the watershed
 - Buffer restorations and restored properties along watershed waterways
 - Living Filter project
 - Environmental approach, considerations, and practices in the watershed
 - Hydrology and green infrastructure
 - Water resource monitoring
 - MS4 Partner stormwater management restoration and update on the MS4 permitting program
 - Understanding and stewarding water quality: legal perspective
 - Committee will be able to contact speakers after dates for future meetings are identified.
 - Joanne – would like to see all 6 meetings with educational topics.
 - Bill – the committee did a great job with finding speakers this year.

7) New Business:

- a. Pending Resignation of Gabrielle Stewart as our Coordinator/Website Manager. Her final day is December 21.
- Joanne asked that anyone knowing a potential candidate for replacement should reach out to her, Bill, Paul, or Prasenjit with the candidate’s information.
 - Bill asked if job posting could be put on that website. Paul can do this if needed.

8) Financials

- a. **Report:** June-August – Prasenjit Mitra, Jon Eaton, Bill Sharp

(LAST REPORT)

August 2020

Project Fund:	Debit:	\$00.00	Credit:	\$00.00	Balance:	\$2,150.63
General Fund:	Debit:	\$4,816.49	Credit:	\$ 2,044.71	Balance:	\$15,877.17

September 2020

Project Fund: **Debit:** \$00.00 **Credit:** \$00.00 **Balance:** \$2,150.63
General Fund: **Debit:** \$40.00 **Credit:** \$ 2,044.71 **Balance:** \$15,837.17

October 2020

Project Fund: **Debit:** \$00.00 **Credit:** \$00.00 **Balance:** \$2,150.63
General Fund: **Debit:** \$180.00 **Credit:** \$ 0.00 **Balance:** \$15,657.17

b. Invoices to municipalities within the Watershed: Accountant information was not yet to Gabrielle before meeting. After this meeting, it was determined that the 2020 invoices were missing and that delinquent account information may have to wait until 2021.

a. Paul – the sooner the invoices are sent, the better, as budgets are currently being done.

9) Once Around the Watershed: Members are asked to share relevant water related news from their municipality.

- Jasmine – new MS4 permit issued to State College Borough on July 1. A stream restoration project will be done at Walnut Springs and street sweepers will be used to reduce pollution.
- Michael – Spring Township also has a new permit and will be placing decals near drains and waterways to remind people not to dump.
- Joanne – Bellefonte is working with an agricultural engineering class at the PSU Sustainability Institute to investigate changing the dam at Tallyrand Park. Three measures were proposed; the Borough decided to examine the most drastic change first and Penn State will provide a second group to keep working on it next year.
- Prasenjit – Ferguson Township is debating a stormwater fee. Some form will likely pass in February.

10) Meetings for 2021:

The meetings will all be held at 7:00 p.m. on Zoom (unless the pandemic ends, in which case they will be held in Bellefonte).

January 20, 2021

March 17, 2021

May 19, 2021

July 21, 2021

September 15, 2021

November 17, 2021

The next work session will be held in the third week of February.

The November 18 Spring Creek Watershed Commission Meeting is sponsored by Harris Township and air on Channel 7. The CNET recording will be made

available after the meeting and will be posted to <https://cnet1.org> and linked from <https://www.springcreekwatershedcommission.org/>.

Due to the end-of-year budget planning meetings for the municipalities throughout the area, the Spring Creek Watershed Commission's airing has not yet been scheduled on CNET. CNET expects to air the meeting the week of December 7 and will let us know after the schedule is created.

Airing times:

12/8 at 4 a.m. and noon

12/10 at 2 p.m.

12/12 at 4 p.m.

12/13 at 12:00 a.m.

11) Motion to adjourn: made by Chris, seconded by Prasenjit.

David Roberts Public Comments:

I have a few comments concerning the development of a Spring Creek Watershed One Water Plan. The current Spring Creek Watershed Commission now has the baton in a marathon effort to protect our watershed, a marathon that goes back far beyond the formation of this Commission. I recently perused a PA Board of Fish Commissioners' News Bulletin for Fishermen, dated July 1933. OLIVER DEIBLER, then Commissioner of Fisheries said, "We owe to future generations of Pennsylvania's anglers and to ourselves the responsibility of assisting in every way possible the comeback of our streams that only nature can assure." Commissioner Deibler was referring to the recovery of riparian vegetation necessary for the survival of our cold-water trout fishery following the extensive and destructive logging that took place across the State in the early 20th Century.

More recently, but still over 20 years ago in 1998, the Spring Creek Watershed Commission was tasked through the joint efforts of the Chesapeake Bay Commission and local conservation visionaries to take up the baton to protect the Watershed. The Bay Commission identified threats to our watershed and issued a carefully considered study which recommended the development of a comprehensive water plan for the protection of Spring Creek, its tributaries, springs, headwaters, and recharge areas. The need for protection and conservation of our watershed is no less today in 2020 than it was in 1933 or 1998. We need to continue the effort to allow nature to protect and enhance the Spring Creek Watershed, its cold water fishery, our water supply resources, and the very health and happiness of our communities.

There has been recent elimination of conservation zones for the Spring Creek Canyon area that run counter to the need for continued protection. An argument for the elimination of the Spring Creek Canyon Secondary Conservation Zone was the possible reduction of development value to a few tracts of farmland within the zone. The Conservation Zone did not prevent development but rather established science based conservation standards for the protection of sensitive zones on those properties. Rather than eliminating important and effective conservation zones we should follow the example set in many areas of the United States where conservation easement plans

provide compensation to property owners through tax relief or other funds in order to protect critical watershed zones. We even have local Comprehensive Planning documents that suggest the use of Conservation Easements to protect sensitive areas.

Along with easements, land use planning should be a fundamental component of an effective water plan to conserve and protect critical natural areas for groundwater recharge, wetland preservation, maintenance of cold water spring flow, control of stormwater runoff, and reduction of impervious surfaces within the watershed.

I suggest the Commission look at the Water Plan enacted by Clark County, Virginia in 2018. Clark County, in Virginia's Shenandoah Valley, is a karst watershed with many similarities to our watershed. Clark County undertook a comprehensive study conducted by the United States Geological Survey to identify critical watershed areas and then enacted land use zoning to establish Conservation Easements and provide for compensation to land owners. The Clark County Water Plan also calls for coordination, cooperation, and mutual assistance across watershed boundaries. The Clark County web site is well worth a look.

Many other resources are available. The Chesapeake Bay Trust has a 2017 Conservation Land-Use Policy Toolkit that provides local governments in the Chesapeake Bay Watershed with information about land use policy tools they can use to slow the conversion of farmland, forestland, and wetlands.

Water plans are being developed and implemented all over the World in response to the many challenges our fresh water resources face. Locally, when this Commission restarted the development of a water plan, hundreds of people showed up to support the effort.

It is my fervent hope that this Commission will continue this marathon for a One Water Plan and fulfill the desire of the local community, the Chesapeake Bay Foundation, the Susquehanna River Basin Commission, and of course our native Brook Trout to have a healthy watershed for generations to come.

Thank you for your continued efforts to develop a One Water Plan for the Spring Creek Watershed.

David Thomas Roberts - November 18, 2020

A few very interesting web site resources about Water Plans.

Clark County Virginia Environmental and Water Services

<https://www.clarkecounty.gov/government/planning-zoning/environmental-water-resources>

USGS Clark County Report

<https://pubs.usgs.gov/sir/2010/5112/>

Clark County Virginia Conservation Easement Authority

<https://clarklandconservation.org>

Chesapeake Bay Case Studies - Counties & Cities Develop Effective Watershed Programs Including Lancaster, PA and Lycoming County, PA

https://www.chesapeakebay.net/documents/Case_Studies.Our_Waters_Our_Towns_LGAC_1108_11.pdf

Chesapeake Bay Trust

https://www.chesapeakebay.net/channel_files/25223/chesapeake_land_use_policy_report_final_5-31-2017.pdf

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