

The Valley Creek Restoration Partnership

12 Years and \$3 Million in Projects Later

Inception

- ▶ Owen Owen's vision
 - ▶ The core idea for the new entity came out of his book *Living Waters*.
 - ▶ His focus was sharpened by a visit to a TU group in Lititz, PA
 - ▶ as well as discussions regarding the organization with Mary McLaughlin of the Darby Creek Watershed Association.
 - ▶ Initially the organization was conceived to encompass two watersheds; both Valley Creek and West Valley Creeks.
 - ▶ It took a lot of discussing, listening, and revising to come to the idea of an organization that would meet the test of non-profit partners such as Mitsie Toland at the Open Land Conservancy and John Hoekstra at Green Valleys Association.

Relationships

- ▶ Relationships within the already established Valley Creek Coalition were important.
- ▶ It was still difficult to convince the potential partners that another organization would be beneficial to them.
- ▶ The concern was that the new watershed partnership would compete for the same funding pool.
- ▶ All of the environmental non-profits had dedicated and longtime individual volunteers that were strong advocates for clean water.

Why a Partnership and NOT a Watershed Association?

- ▶ Partnership allows an overlay structure on top of existing organizations
- ▶ We did not want to duplicate or usurp existing organization's roles
- ▶ We did not want to be membership-based like the existing organizations
- ▶ This type of organization allowed for each existing organization to lend their own individual expertise

ORGANIZATIONAL STRUCTURE

- ▶ Non-Profit Partners are the only ones with voting authority.
- ▶ The Partnership has no executive officers.
 - ▶ It has a Chairperson to guide meetings.
 - ▶ It has no treasurer because it has no money and handles no money
 - ▶ It is an unincorporated partnership (It is not a 501(C)(3))
- ▶ Non-Profit Partners may be grant holders of partnership sponsored projects.
- ▶ Other members (advisors) may lead projects and be grant holders on behalf of partnership sponsored projects

Non-Profit Partners

- ▶ Green Valleys Watershed Association
- ▶ Open Land Conservancy of Chester County
- ▶ Valley Forge Chapter of Trout Unlimited
- ▶ West Chester Fish, Game, & Wildlife Association

- ▶ Later The League of Women Voters joined

Governmental Partners

- ▶ Local
 - ▶ East Whiteland Township
 - ▶ Tredyffrin Township
- ▶ County
 - ▶ Chester County Conservation District
 - ▶ Chester County Water Resources Authority
- ▶ State
 - ▶ Pennsylvania Fish and Boat Commission
 - ▶ Pennsylvania Department of Environmental Protection
- ▶ Federal
 - ▶ Valley Forge National Historical Park
 - ▶ USGS

Research, Education & Communication Partners

- ▶ Cabrini College
- ▶ Stroud Water Research Center
- ▶ Drexel University
- ▶ Villanova University
- ▶ Meliora Design
- ▶ Viridian Landscape Studio
- ▶ PECO

GOALS of the Partnership

- ▶ Restore the Valley Creek Watershed
- ▶ HOW?
 - ▶ Pick a single tributary
 - ▶ Work to restore it from the headwaters downstream
 - ▶ Control the stormwater runoff entering the drainage
- ▶ BUT, never allow an opportunity to improve a stream go by without taking advantage of it.

Two primary sources of information on Valley Creek

- ▶ *The Valley Creek Watershed Technical Compendium* produced by Chester County Water Resources Authority: July 2004
- ▶ *The Valley Creek Restoration Plan* Funded by the Valley Creek Trustee Council, Authored by Chuck Marshall and Ann Murphy
- ▶ **Additional research and technical reports**
 - ▶ USGS, PA DEP, Stroud Water Research Center, Delaware Riverkeeper Network, Doctoral and Master student theses, investigations by numerous colleges and universities

Partnership Timeline

- ▶ 2002 formation of the Partnership
- ▶ 2004 - Valley Forge Park Buffer Project -\$14,500; Valley Creek Summit 1 - \$2,500
- ▶ 2005 - Handicapped Fishing Deck - \$8,000; Retrofit Sidley Rd Stormwater Basin - \$16,000; ArcView GIS Training & Software -\$7,500; Valley Creek Stream Bank Stabilization - \$25,000
- ▶ 2006 - Crabby Creek Study for Restoration - \$33,000; Summit on Crabby Creek Study - \$2,000; Monitoring Equipment - \$1,500
- ▶ 2007 - Crabby Creek Habitat Grant - \$20,000; Demo Rain Garden \$8,000; Valley Forge Revetment - \$20,000;
- ▶ 2008 - Crabby Creek Relocation/Restoration, Infiltration Device Design and Final Report - \$403,000; Crabby Restoration Extension - \$12,000; Valley Creek Habitat, Woody Debris Study & Habitat Assessment - \$50,000; Turnpike Widening Plan Review - \$12,450; Supported Tredyffrin Township Maude Circle Infiltration Project - \$500,000 est.
- ▶ 2009 - Hillside Elementary School Green Roof - \$215,000; Crabby Creek Celebration Luncheon - \$1,500
- ▶ 2010 - Crabby Creek Restoration Repairs - \$32,000; Robins Lane Infiltration Trench - \$110,000; Turnpike Widening Plan Review - \$15,000
- ▶ 2011 - Conestoga High Bioswale - \$86,000; 2009-2011 Various Backyard Ecology projects - \$45,000
- ▶ 2012 - Back Yard Ecology Programs - \$975; Basin Retrofit Study - \$45,000
- ▶ 2013 - Hilltop Lane Infiltration Trench - \$25,000; Friendship Drive Infiltration Trench - \$64,000; Additional funding the above - \$68,000
- ▶ 2014 Wilson Run Modeling and Equipment - \$16,900, Crabby Creek TreeVitalize - \$6,723

▶ The TOTAL: \$ 2,025,105

▶ This includes another \$200,000 of funds that matched several of the grants mentioned in the timeline.

How do we get to \$3,000,000+?

- ▶ ADDITIONAL WORK IN THE WATERSHED
- ▶ Supported by Partners and Advisors of the Valley Creek Restoration Partnership
- ▶ PennDOT mitigation projects for the Route 202 Expansion
 - ▶ Constructed wetlands near Uptown Worthington, EWT
 - ▶ Stream restoration and stabilization Ecology Park, EWT
- ▶ Tredyffrin Township Stormwater Projects:
 - ▶ Sidewalk Infiltration Beds in the Conestoga HS area
 - ▶ Under-street stormwater storage and Infiltration Conestoga HS area
- ▶ Day-lighting of Little Valley Creek - Uptown Worthington - O'Neill Properties

Time Line Highlights

- ▶ VFNHP Riparian Buffer Project
- ▶ Crabby Creek Walk
- ▶ Summit #1 “What Do We Know About Valley Creek?”
- ▶ Crabby Creek Initiative - multiple projects in the watershed
- ▶ Valley Forge Sewer Revetment Project

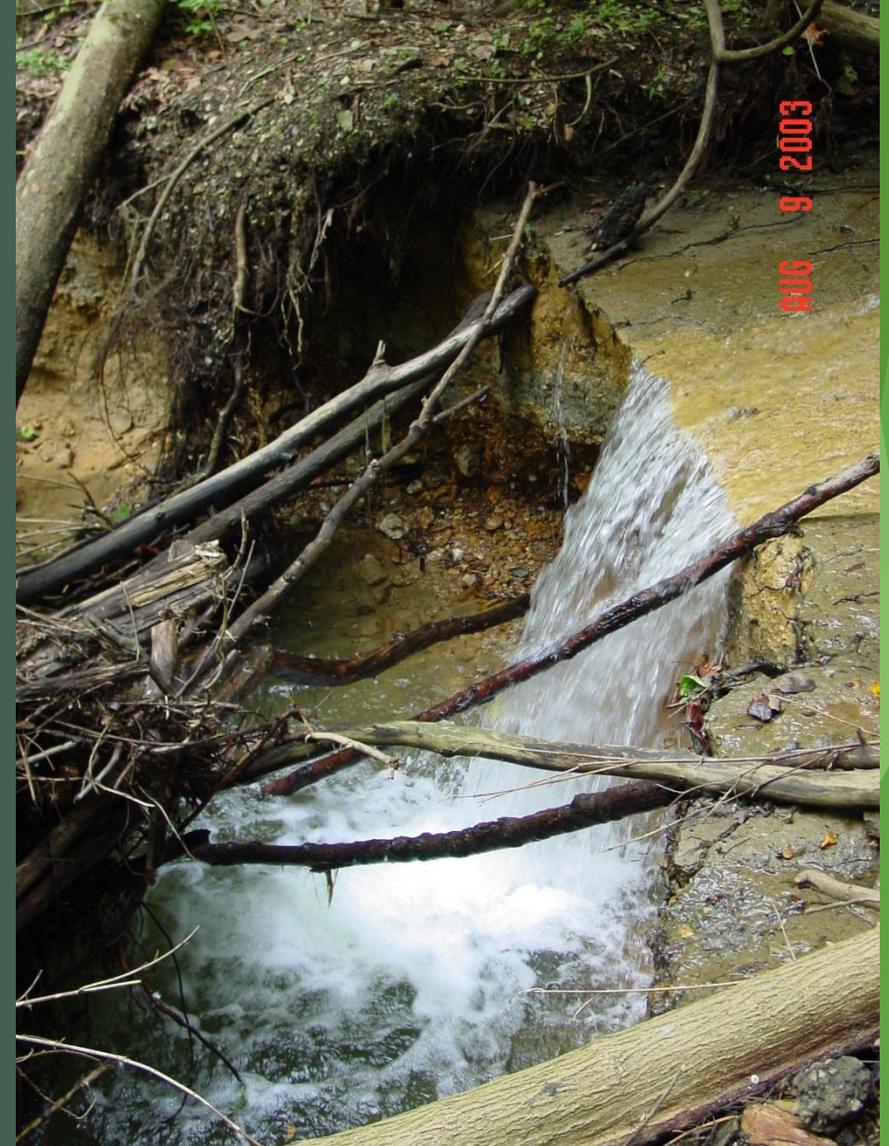


Valley Forge Riparian Buffer Project



Photographs of the Crabby Creek Walk

► August 9, 2003



Valley Creek Summit I

- ▶ April 20, 2004
- ▶ Purpose:
 - ▶ Understand the health of Valley Creek
 - ▶ Identify and prioritize problems
 - ▶ Outline roles, actions, and next steps of the Partnership
- ▶ Provided historical and current conditions
- ▶ We produced a paper and distributed our learnings.
- ▶ The Goal of the Summit: A comprehensive strategic plan for the restoration of Valley Creek

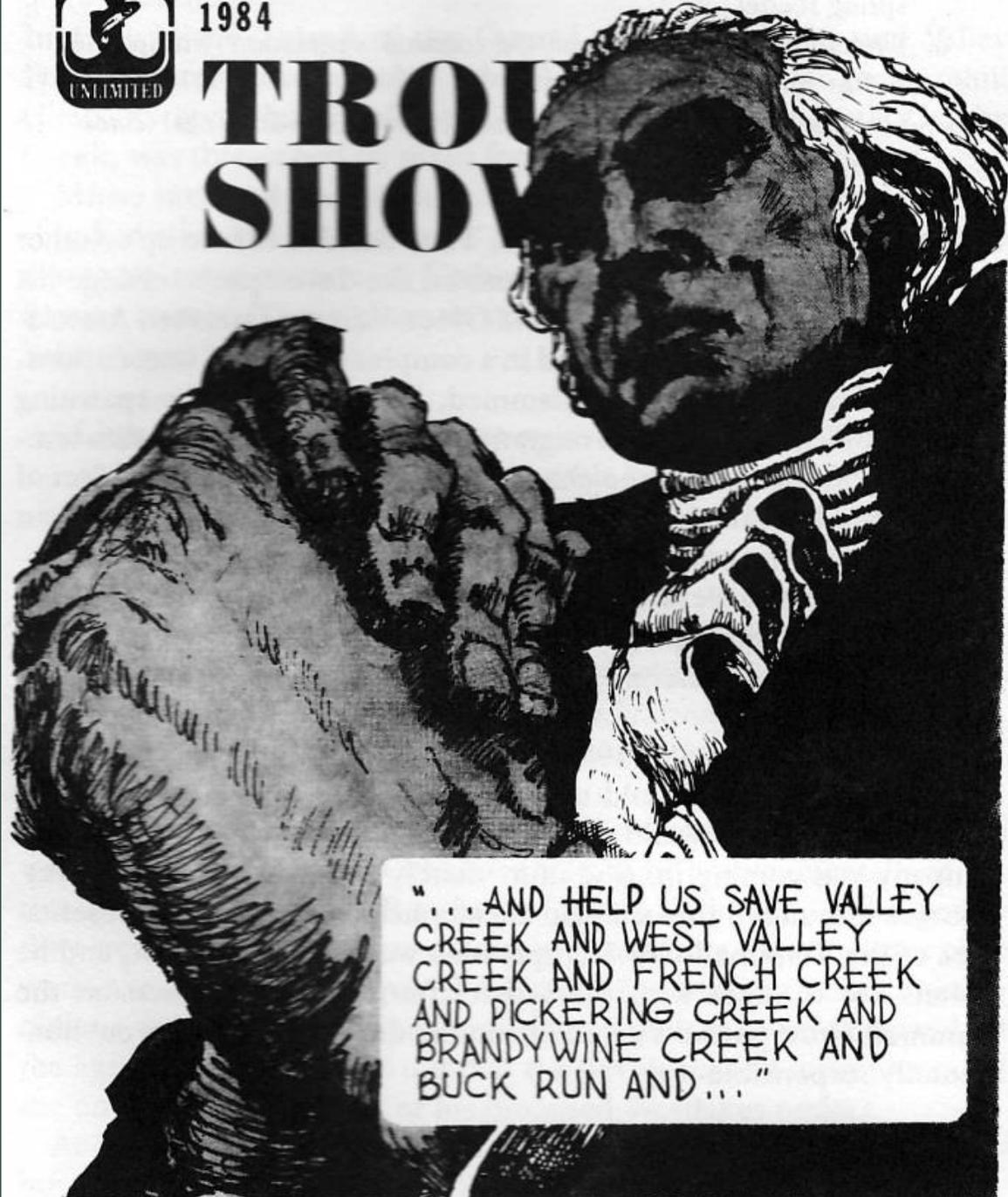
► All that runoff ends up in front of George's Headquarters

There was total consensus by the Partnership on stormwater being the biggest problem in the watershed.



THE VALLEY FORGE CHAPTER
1984

TROUT SHOW



"...AND HELP US SAVE VALLEY CREEK AND WEST VALLEY CREEK AND FRENCH CREEK AND PICKERING CREEK AND BRANDYWINE CREEK AND BUCK RUN AND..."

WE NEEDED TO PICK A TRIBUTARY

- ▶ But Crabby Creek seemed to have so much wrong...
- ▶ Could we ever hope to correct the problems that we observed during the walk?

- ▶ Ultimately we selected Crabby Creek...

Selection of Crabby Creek

- ▶ Reasons for selection of this tributary
 - ▶ There was a massive headcut (waterfall) with downstream destruction
 - ▶ The headcut was delivering a huge amount of sediment downstream
 - ▶ There was a sanitary sewer line and manhole in the eroding streambed and bank
 - ▶ It was historically the best trout nursery stream in watershed
 - ▶ It held a wild brook trout population until mid-1990s
 - ▶ The stream occurs primarily in township parks
 - ▶ It has wooded, steep slope headwaters
 - ▶ Its springs had provided drinking water to Howellville residents until the mid 1970's

Summit II - Crabby Creek Assessment

- ▶ 2006

- ▶ Purpose

- ▶ LandStudies, Inc. presented the findings of the Crabby Creek Assessment to interested stakeholders and the public. (Their work was funded by a planning grant from William Penn Foundation.)
- ▶ Conducted a discussion and question and answer period following the LandStudies presentation.

Crabby Creek Relocation and Restoration

- ▶ Funded primarily by a William Penn Foundation Grant
- ▶ The Chester County Conservation District was the Grantee
- ▶ There were three components to the grant:
 - ▶ Relocation and stabilization of 1,200 feet of stream. (also, there was additional funding by a DEP Growing Greener grant.)
 - ▶ Design of four headwater infiltration systems to reduce stormwater runoff
 - ▶ Production of the Methodologies, Assessment, and Planning Report



Crabby Creek Restoration Failure

- ▶ Then it broke; the restoration started coming apart.
- ▶ We listened to what the designer and contractor said but we believed they were wrong.
- ▶ We sought additional information on why the restoration was coming apart from many sources.
- ▶ We ultimately understood the reasons for the failure.

Failed in-stream devices

This was a cross vane



Restoration Emergency Repair



The Valley Forge Sewer Revetment Project

- ▶ This project was born out of the Partnership's activities in and around Tredyffrin Township.
- ▶ In 2007 Tredyffrin asked VF Trout Unlimited and Valley Forge NHP if we could help them come up with a solution for stream bank erosion that might expose the sanitary sewer.
- ▶ We went to the Delaware Riverkeeper Network for assistance with the design.
- ▶ The project - collaboration went ahead as a National Public Lands Day project in 2007.
- ▶ Maintenance in the form of adding additional trees has been performed several times since the initial installation.
- ▶ This project is still performing well today with a build up to the stream bank and an increase in fish habitat.
Win, Win and Win!



Sharing what we have learned

- ▶ Summit I “Valley Creek”
- ▶ Summit II “Crabby Creek - LandStudies Evaluation”
- ▶ Presentations to the Watershed Congress Along the Schuylkill
- ▶ Presentation to Villanova Urban Stormwater Partnership
- ▶ Earth Day Celebrations
 - ▶ Crabby Creek
 - ▶ Wilson Farm Park
- ▶ Keeper of the Stream
- ▶ Participated in the development of the Act 167 Plan for Valley Creek
- ▶ Shared findings with and worked with PA DEP, Stroud Water Research Center, Cabrini College and the Delaware Riverkeeper Network

Best Management Practices Experiences

- ▶ Backyard Ecology: rain barrels and rain gardens
- ▶ Installation of infiltration trenches designed under the William Penn Foundation Grant
- ▶ Support of township stormwater runoff reduction projects such as:
 - ▶ Hillside Elementary School green roof
 - ▶ Maude's Circle under road infiltration bed
 - ▶ Wilson Park rain gardens, tree plantings, and mowing reductions
- ▶ Stormwater basin retrofits and/or naturalization
- ▶ Fishing deck for handicapped
- ▶ Flow measurement equipment to use for runoff measurement
- ▶ Bioswale (naturalized infiltration swale) at Conestoga High School
- ▶ Habitat improvement using both instream and buffer techniques

- ▶ What the Partnership has done is all quite valuable - we collectively have learned so much.

Where do we go from here?

- ▶ NOW - we are focusing on where we make the biggest infiltration impacts in the watershed

IT IS EXISTING BASINS!

There are almost 300 in our little watershed.

- ▶ Our Trajectory is always looking toward more projects in the future.
- ▶ We have several initiatives currently underway...
 - ▶ Basin Retrofits
 - ▶ Grants to complete infiltration trenches in Crabby Creek (3 Grants: Schuylkill River Heritage Foundation - \$25,000; Growing Greener - \$64,000; and the Valley Creek Trustee Council - \$68,000.)
 - ▶ Wilson Run Watershed Initiative.

Considerations on the Partnership that developed making this Presentation

- ▶ The roots of this partnership are not very deep.
 - ▶ Only as deep as the individual partner volunteer makes them.
 - ▶ Only as deep as the advisor organization recognizes value or interest.
- ▶ It is an organizational structure that relies on individuals.

Conflicts

- ▶ There have been surprisingly few conflict among the Partners and Advisors of the Valley Creek Restoration Partnership
 - ▶ Employee actions by a member partner
 - ▶ Political realities causing a position shift by and advisor angering some member partners
 - ▶ Most recently sewer line failures caused a legal action by a member partner against a advisor township

Summary Comments About Worth of Partnership

- ▶ The partnership model works for this watershed given the existing groups and their strengths prior to the formation of the Partnership.
- ▶ We don't spend time at meetings with treasurer's reports and reports by the membership chair and the fundraising chair. We can go right to talking about issues and programs and where the next grant application might be made.
- ▶ The Partnership helps individual core groups as well as agencies represented.
- ▶ The expertise at meetings allows us to cut to the chase.
- ▶ There is great access to other groups and individuals through other partner's networks.
- ▶ Individual initiatives of core group representatives have kept the Partnership engaged.
- ▶ The Partnership now has a lot of expertise in technologies and grant programs.
- ▶ The Partnership helped get Act 167 (Stormwater Management) for Valley Creek.

QUESTIONS ?