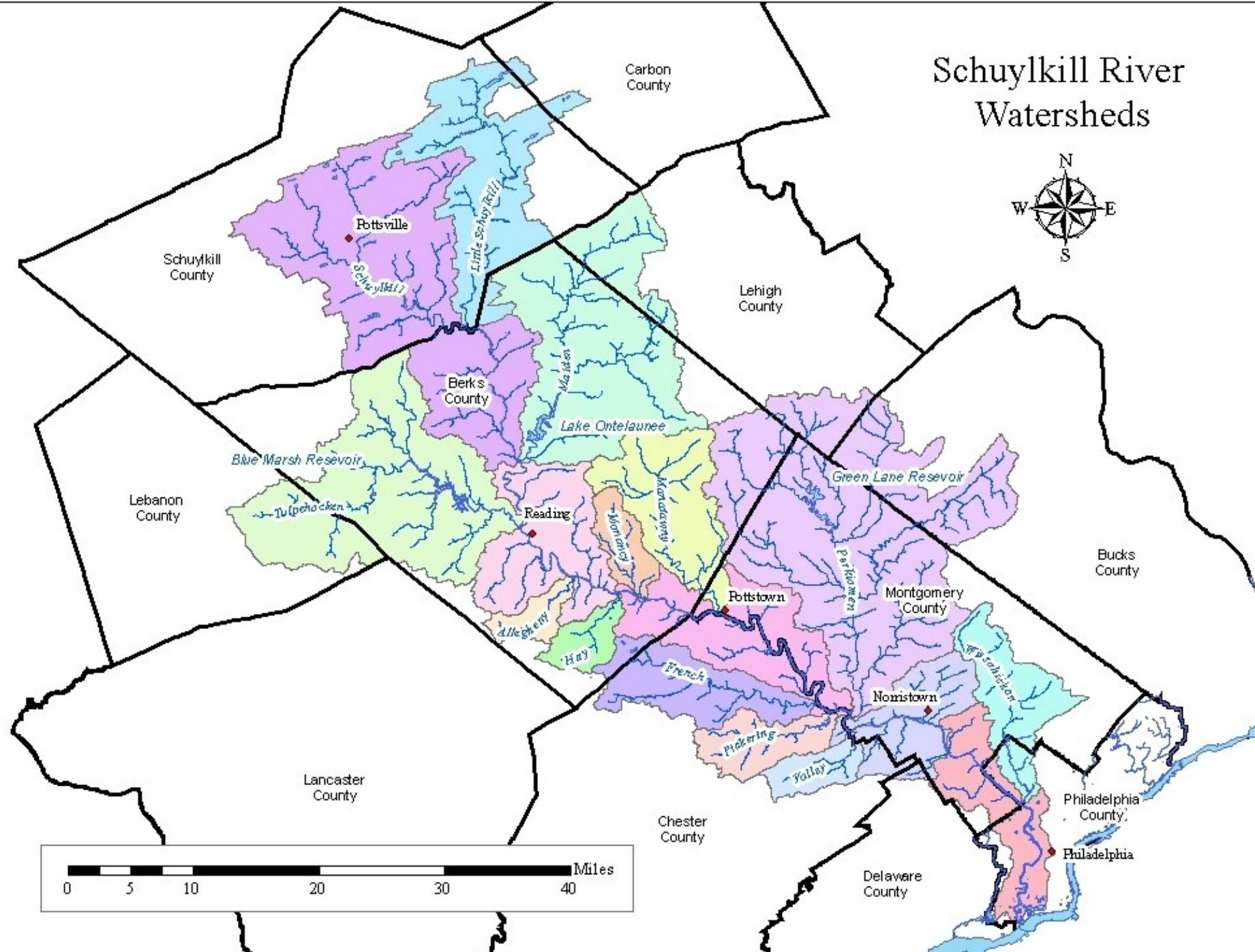
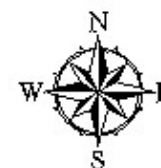


AMD Workgroup 2014

Schuylkill River Watersheds



Projects

- **Bell Colliery Phase III**
- **Mary D Borehole Treatment**
- **Big Creek Conservation Plan**
- **Preparation of a QHUP**
- **West Branch Phase II Design**
- **Sharp Mountain Reclamation Project**
- **Pine Knot Feasibility Study Project cooperative ACOE/DEP project**
- **Oak Hill Boreholes**

Bell Colliery Phase III



Bell Colliery



Monitor data



- Raw Water:
- Fe – 2.99
- pH -- 4.3
- Treated water:
- Fe – 1.08
- pH – 7.0

Mary D Borehole - Old ball field



Mary D Borehole



Monitor Data



- Raw Water:
- Fe – 7.2
- pH – 5.5
- Treated water:
- Fe – 1.0
- pH – 7.5

Big Creek Watershed Coldwater Conservation Plan



PREPARED FOR:
SCHUYLKILL HEADWATERS
ASSOCIATION, INC.

WITH FUNDING BY:
COLDWATER HERITAGE
PARTNERSHIP

PREPARED BY:
RETTEW ASSOCIATES, INC.
950 EAST MAIN STREET, SUITE 220
SCHUYLKILL HAVEN, PA 17972
(570) 385-2270

RETTEWSM

We answer to you.

Big Creek Watershed

- Drainage area encompasses 3.67 square miles
- Includes approx. 8.46 miles of streams
- Water quality designation of CWF, MF
- Not a naturally reproducing trout stream (PFBC)
- Historic land use includes anthracite coal mining and timber harvesting
- Currently used as a municipal water source and for outdoor recreation

Electrofishing Data

- One small brook trout at Sample Point #1
- Very poor due to low pH and lack of reliable food source
- Few crayfish, frogs, and salamanders observed

Priority Projects

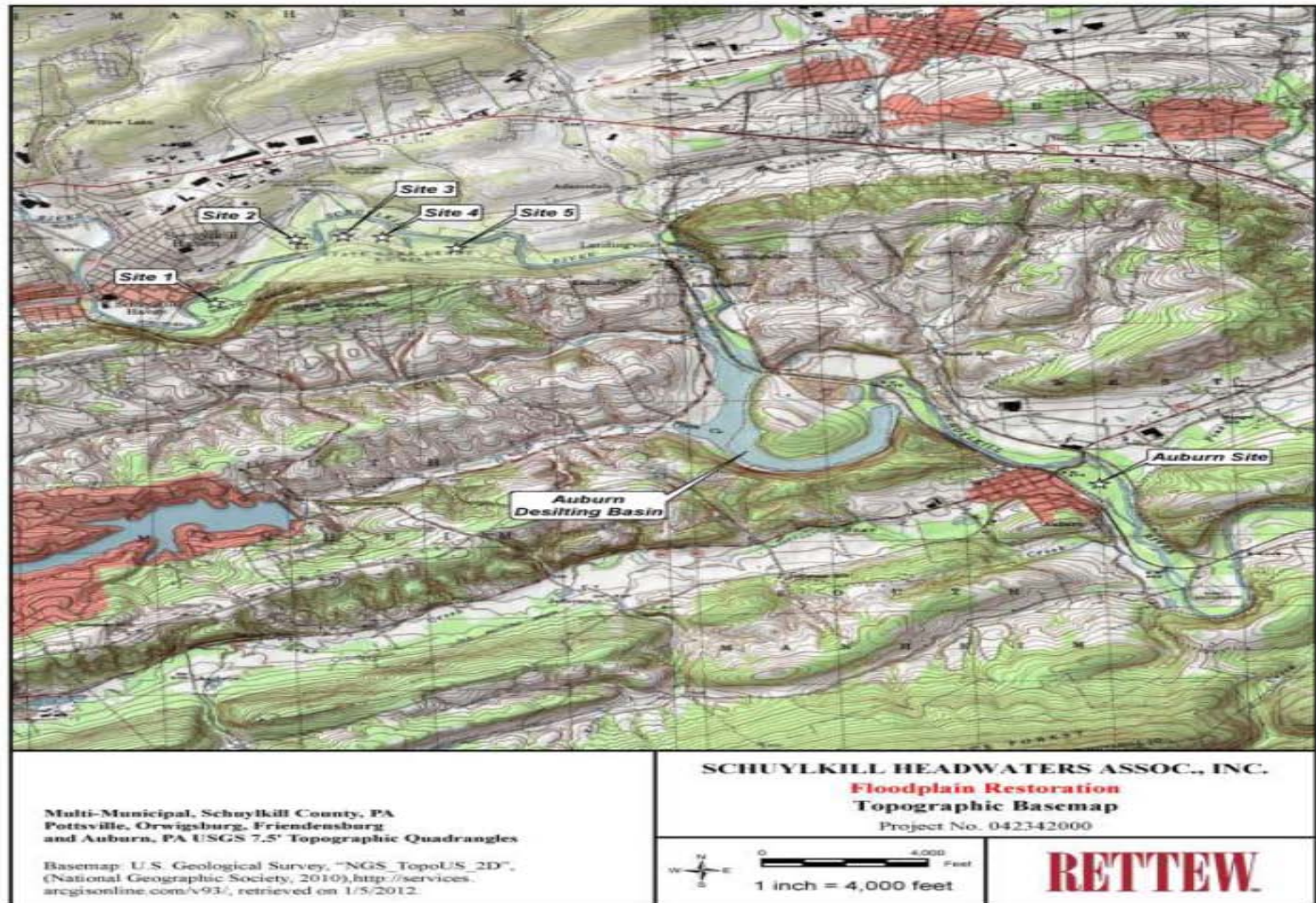
- **Big Creek Headwaters Area**

- Big Creek originates at an abandoned stripping pit
- Prior stream restoration project has been moderately successful



Schuylkill Basin Project 2014

A. Project Location Map



Schuykill Basin Project 2014



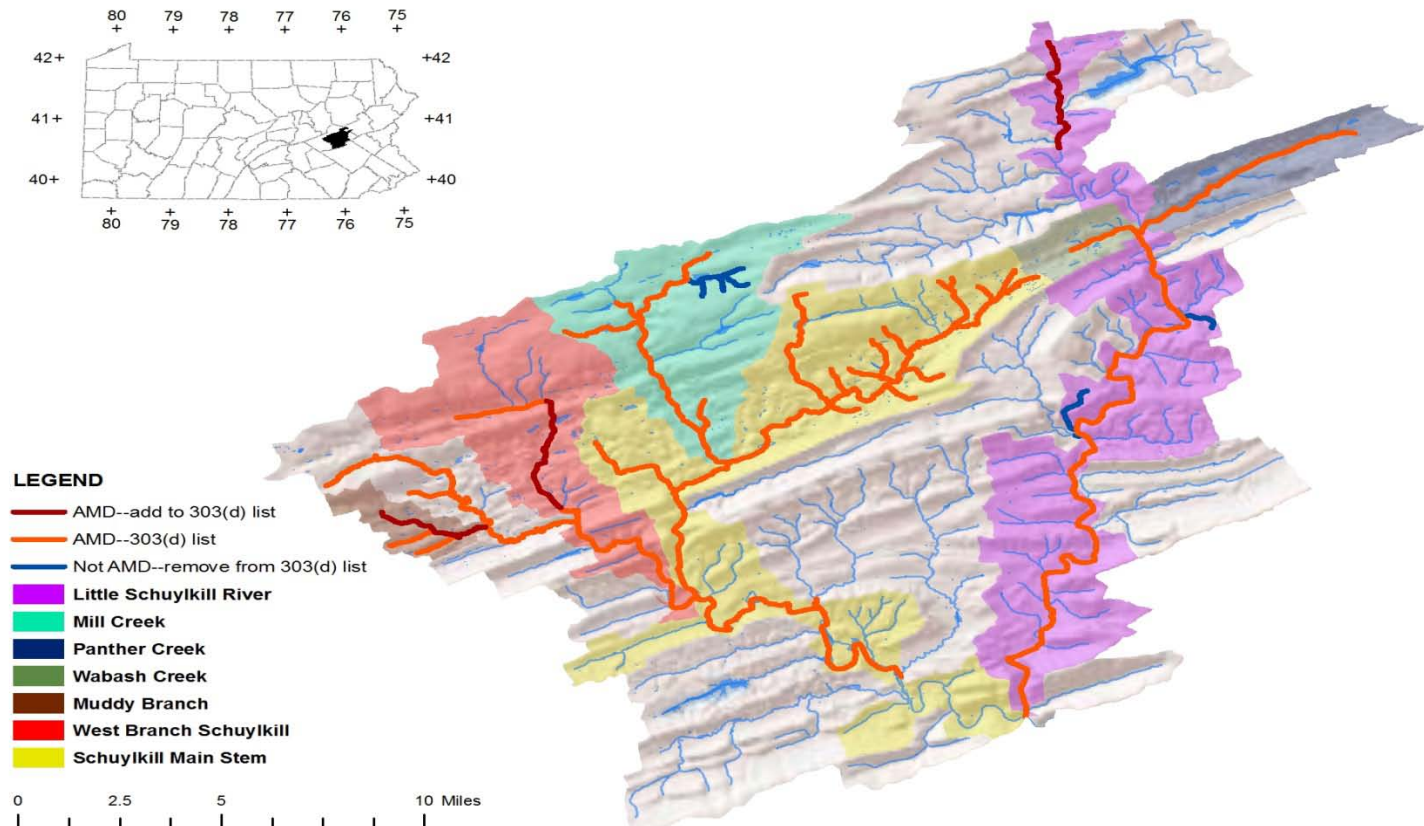
Schuykill Basin Project 2014



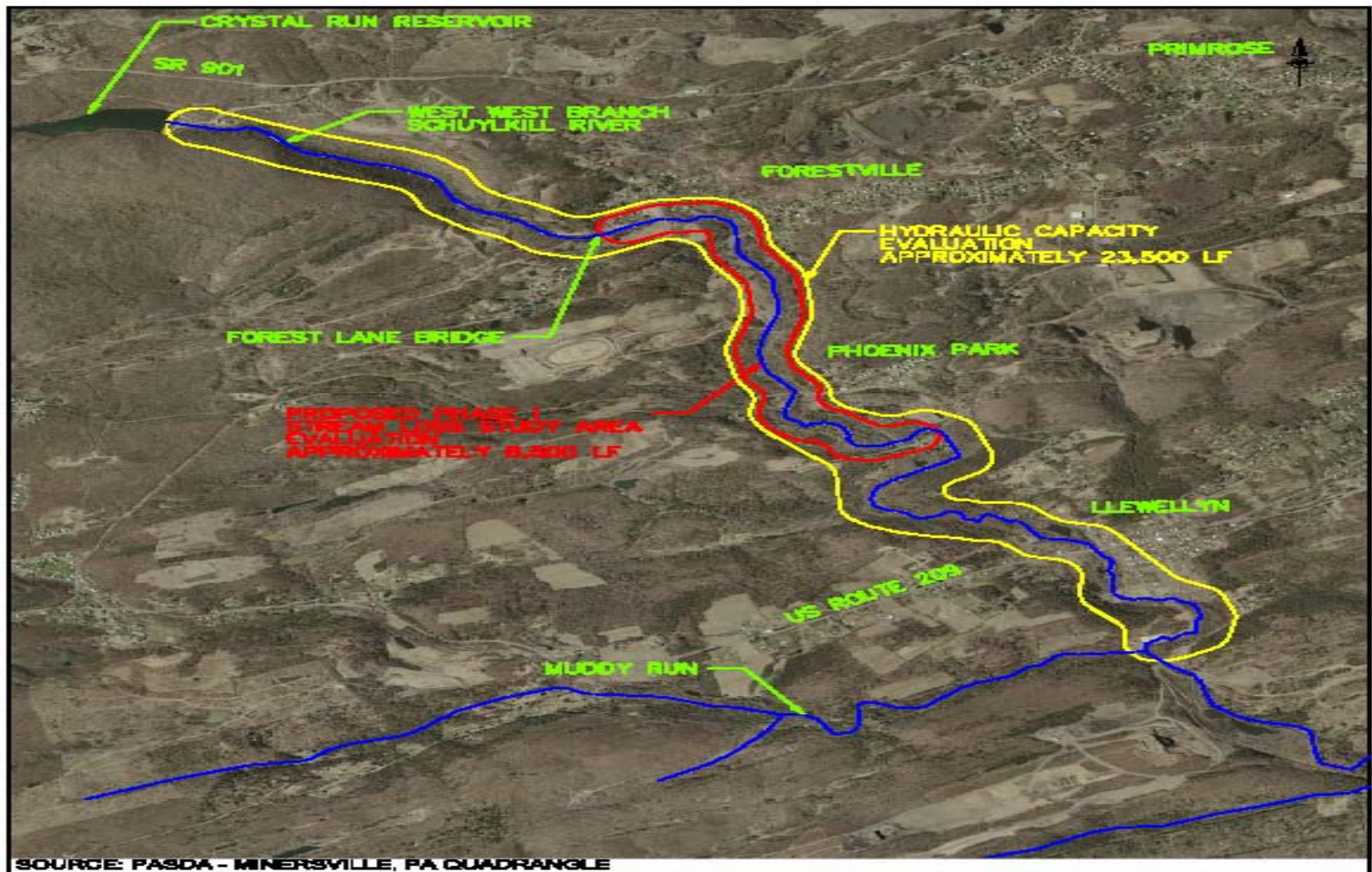
Watershed Restoration Plans (QHUP)

West Creek -- West Branch -- Mill Creek

M1. Streams Degraded by AMD and Other Sources, Upper Schuylkill River, 2010



West Creek



<p>LOCATION MAP GROWING GREENER PLUS GRANT SCHUYLKILL COUNTY CONSERVATION DISTRICT CASE TOWNSHIP SCHUYLKILL COUNTY, PENNSYLVANIA</p>	<div data-bbox="836 1250 1261 1308">  benesch <small>engineers • scientists • planners</small> </div> <div data-bbox="1280 1250 1532 1308"> <small>Allied Benesch & Company 480 One Monaghan Place Pottsville, Pennsylvania 17851 610-682-4000</small> </div> <div data-bbox="836 1329 1503 1379"> <small>Copyright 2013, of Allied Benesch & Company. All rights reserved. This plan and design created in the property of Allied Benesch & Company. Use, reuse, reproduction or modification of this plan or design information, or any part thereof, is strictly prohibited, except by written permission of this firm.</small> </div>	<table border="1"> <tr> <td><small>Date</small> 09/25/13</td> <td><small>Draw</small> DPC</td> </tr> <tr> <td><small>Scale</small> 1"=500'</td> <td><small>CN</small> DGM</td> </tr> <tr> <td colspan="2"><small>Client</small> LOCATION MAP</td> </tr> </table>	<small>Date</small> 09/25/13	<small>Draw</small> DPC	<small>Scale</small> 1"=500'	<small>CN</small> DGM	<small>Client</small> LOCATION MAP	
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<small>Client</small> LOCATION MAP								

benesch desk: 08/16/2013 09:24:48 P:\13035000\13035000 West Creek DRAFT\WBCL Area L Map.dgn 10/04/13

West Creek



West Creek



West Creek



West Creek



Pine Knot Tunnel

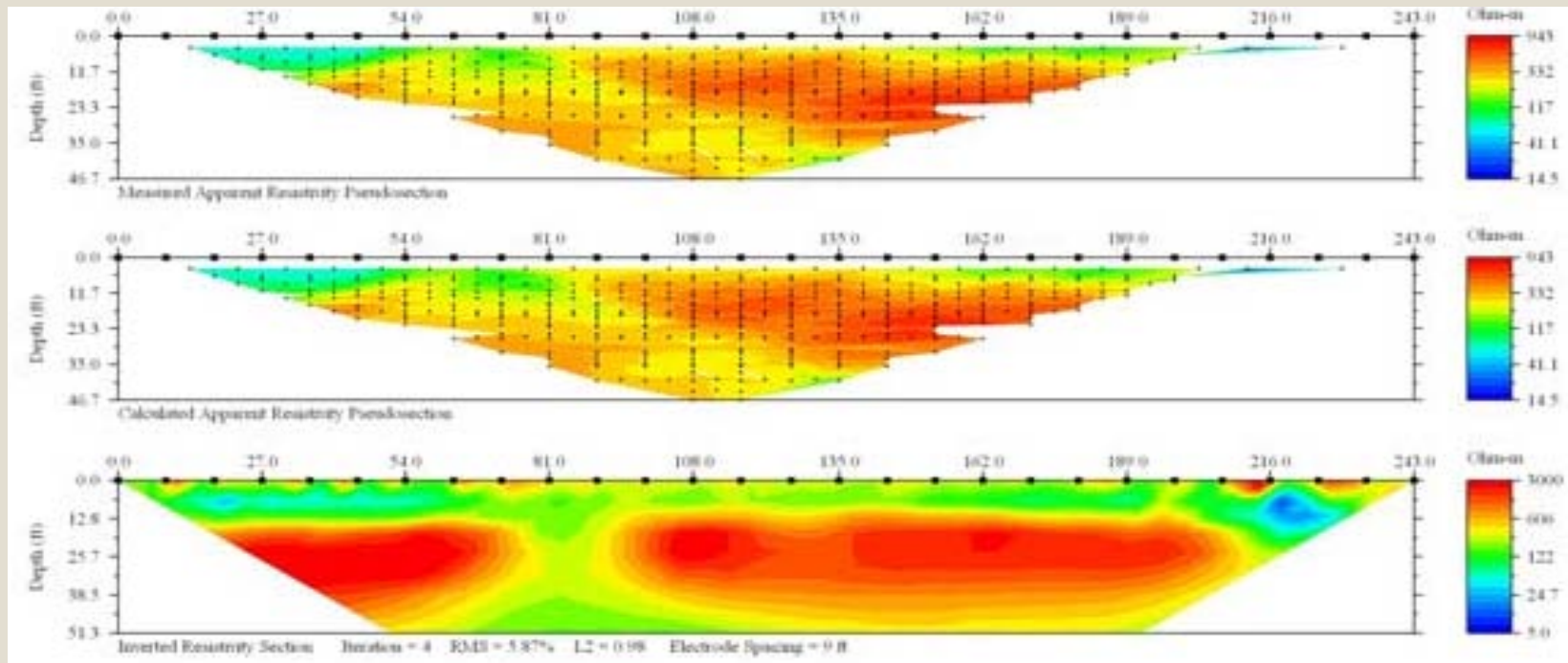


Pine Knot Tunnel Discharge



West Branch – Kutztown U

Subsurface Geophysics Stream Investigation in the Upper West Branch Schuylkill River



Subsurface Resistance Model Results Near Downstream Culvert

West Branch - PSU



Mill Creek

- Morea Discharge
- Repplier Discharge
- Pine Forest By-pass Discharge
- Pine Forest Upper Discharge
- Eagle Hill Discharge

Mill Creek – Pine Forest By-pass



Mill Creek – Pine Forest Upper



Mill Creek - Morea



Mill Creek - Repplier



Mill Creek – Eagle Hill



Potential AML Reclamation/Flood Storage Area – Pine Knot



Pine Hill, Potato Patch, Rohrersville
Basin

Sharp Mtn Cropfall Reclamation with Coal Ash



Cropfall subsidence



Reclaimed Subsidence



11/12/2014

Schuylkill Acts and Impacts



Workgroup Members

- Our Members currently include:
 - Environmental Protection Agency
 - PA Department of Environmental Protection
 - USGS
 - Schuylkill Headwaters Association
 - Schuylkill County Conservation District
 - Reading Anthracite Company
 - Philadelphia Water Department
 - Army Corps of Engineers
 - AQUA, PA
 - William Penn Foundation

Funding Partners

- **DEP - Growing Greener**
- **EPA 319**
- **EPA Regional Geographic Initiative**
- **Targeted Watershed Initiative Grant**
- **Office of Surface Mining (OSM)**
- **USGS**
- **Exelon**
- **DEP BAMR**
- **William Penn**
- **ACOE**
- **BET Associates IV, LLC.**

Questions?

Dan Koury, DEP

- If you would like to know more, please contact:

dkoury@pa.gov

Or

Bill Reichert, Schuylkill Headwaters Assn.

wreichert@co.schuylkill.pa.us