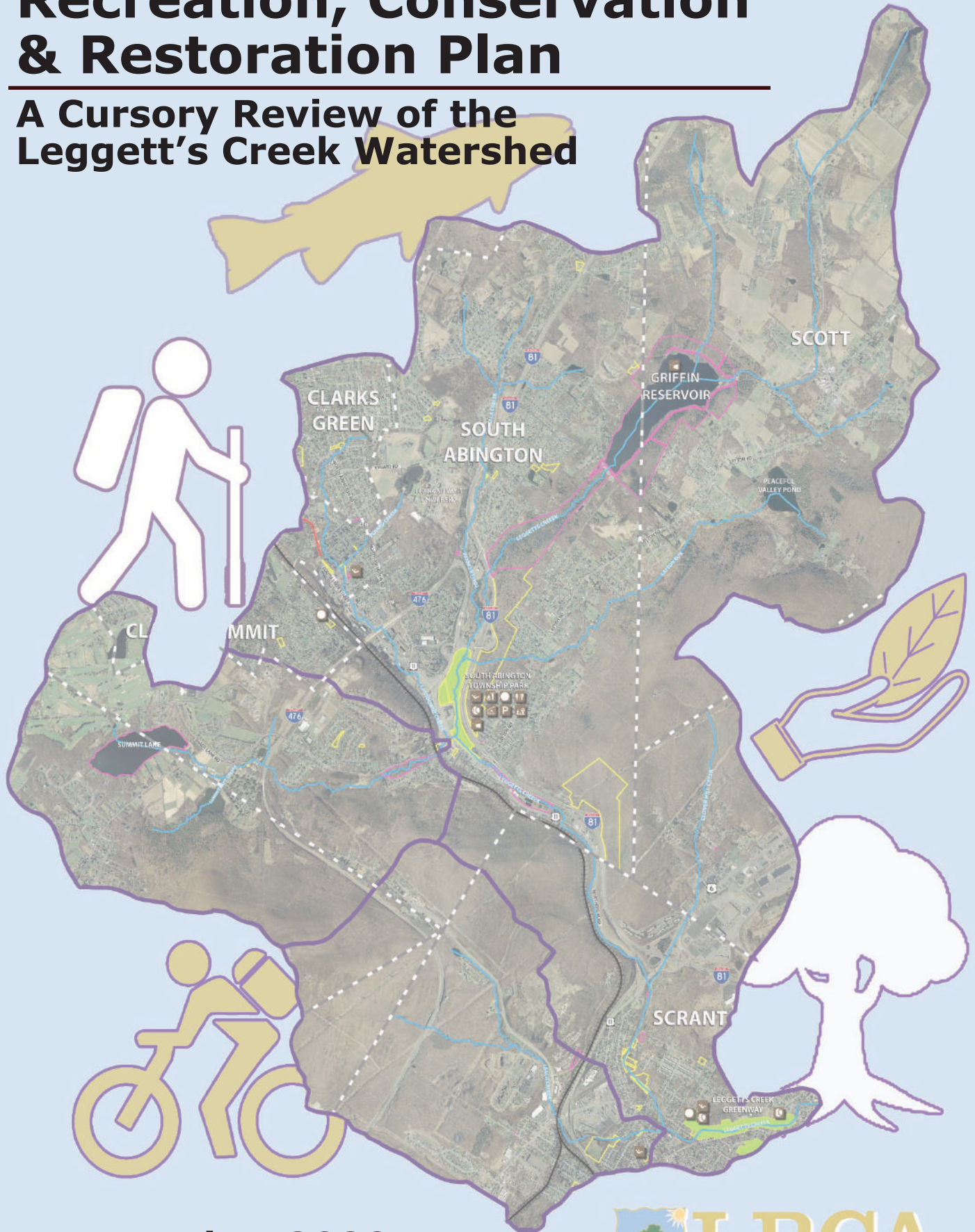


Recreation, Conservation & Restoration Plan

A cursory Review of the Leggett's Creek Watershed



November 2020

Recreation, Conservation & Restoration Plan: A cursory Review of The Leggett's Creek Watershed

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This project was financed in part by a grant through the Pocono Forests and Waters Conservation (PFW CL) Conservation Assistance Grant that is funded by the Pennsylvania Department of Conservation and Natural Resources (DCNR) and administered by the Pennsylvania Environmental Council. Matching funds were provided by the Scranton Area Foundation and the Margaret Briggs Foundation.



**Margaret
Briggs
Foundation**

COVER IMAGES:

Biker silhouette by kissclipart.com; Tree silhouette by FlyClipart.com; Hiker silhouette by pngitem.com; Trout silhouette by creazilla.com; Hand/leaf silhouette by VectorStock.com/royalty free vector by Stockgiu.

Acknowledgement is made to the following individuals and organizations for their management, advice and information provided prior to and during this project.

PENNSYLVANIA ENVIRONMENTAL COUNCIL (PEC)

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Thank you to the GIS department in Lackawanna County Regional Planning Commission (Stephen Stolon, GIS Coordinator) for providing useful data that facilitated the development of this document.

Special Thanks to Brain Fallon, City of Scranton Parks & Recreation Department and the South Abington Township Parks, Recreation and Shade Tree Commission [David Polanin, Anita Lohin, Bruce Ott, Keri Anders, Lorraine Stanton, Michael Fetcho, Elizabeth Finley, Brian Carpenter, Gerald Kelly and Hong Nguyen] for their advice and involvement.

Thanks also to the Clarks Summit Shade Tree Commission [Molly Philbin, Sallie Mahady, Pat Williams, Mark Taffera, Josh Arp, Tim Latz, David Wegner, Tate Alexander]; the Countryside Conservancy [Bill Kern, Executive Director]; Pa American Water [Mark Cross, Regional Manager]; and the PA DCNR Bureau of Forestry [Nick Lylo, Gifford Pinchot State Forest District Manager].

TABLE OF CONTENTS

EXECUTIVE SUMMARY _____	1
PROJECT OVERVIEW & SCOPE _____	3
PUBLIC PARTICIPATION _____	3
INTRODUCTION & INVENTORY _____	3
- LRCA Overview _____	3
- Previous Planning Documents _____	4
- Leggett’s Creek Sub-watershed _____	4
- Municipalities & Communities within Watershed _____	6
- Schools & Educational Facilities _____	6
- Aquatic Resources _____	6
<i>Waterways</i> _____	6
<i>Wetlands</i> _____	6
<i>Water Bodies</i> _____	6
- Recreational Facilities & Amenities _____	8
<i>Parks & Playgrounds</i> _____	8
<i>Water Recreation</i> _____	8
<i>Trail & Corridors</i> _____	8
- Transportation Corridors & Streetscapes _____	9
<i>Roadways</i> _____	9
<i>Rail Lines</i> _____	9
- Public Utilities _____	10
- Conserved & Protected Lands (Fully & Partially) _____	10
- Conservation & Restoration Projects _____	11
- Tourism & Destination Facilities _____	11
- Connections just Beyond Watershed Boundary _____	11
- Major Hazards, Challenges & Detrimental Activities within Watershed _____	11
WATERSHED ANALYSIS & ASSESSMENT _____	13
- Environmental: Definition of Problem and Identification of Opportunities _____	13
- Recreational: Definition of Problem and Identification of Opportunities _____	13
CONSERVATION, RESTORATION & RECREATION INITIATIVES _____	14
- Conservation Area & Initiatives _____	14
<i>Summit Lake Natural Area</i> _____	14
<i>Bell Mountain Highlands Conservation Area</i> _____	14
<i>Morgan Mountain Conservation Area</i> _____	14
<i>Lower Leggett’s Creek Greenway</i> _____	14
<i>Leggett’s Gap Conservation Area</i> _____	14

<i>Upper Leggett's Creek Greenway</i> _____	14
<i>Griffin Natural Area</i> _____	14
- Restoration Projects _____	15
<i>Watershed-wide Strategies</i> _____	15
<i>Lower Leggett's Creek Greenway</i> _____	15
<i>Upper Leggett's Creek Greenway</i> _____	15
<i>Clover Hill Creek</i> _____	16
<i>Leach Creek</i> _____	16
<i>Lansdowne Creek Pollution Prevention</i> _____	16
<i>Storm Water Initiatives (MS4)</i> _____	16
<i>Environmental Education & Outreach</i> _____	17
<i>Watershed Monitoring</i> _____	17
- Recreation Projects & Facilities _____	18
<i>New Multi-use Trail (Option #1)</i> _____	18
<i>New Multi-use Trail (Option #2)</i> _____	22
<i>Abington Tech Trail System</i> _____	24
<i>Dirt & Low-Volume Roads</i> _____	25
<i>Enhancements to South Abington Township Park</i> _____	25
<i>Lower Leggett's Creek Greenway</i> _____	25
IMPLEMENTATION _____	26
- Governmental Initiatives & Partnerships _____	26
- Partnerships _____	27
- Funding Options _____	27
REFERENCES _____	28
 APPENDIX	
Municipal Survey Questionnaire	
Information about PFW CL	
Lower Leggett's Creek Greenway (Eco-restoration/Recreation) - Planning Started	
Landowner Options	

EXECUTIVE SUMMARY

The Leggett's Creek Watershed encompasses portions of North Scranton and much of the Abingtons; specifically, the central portion of South Abington Township, parts of Clarks Summit Borough, Clarks Green Borough, Ransom Township and Scott Township. Leggett's Creek confluences the Lackawanna River north of Parker Street Bridge. Tributary streams include Summit Lake Creek, Edella Creek, Layton Run, Clover Hill Creek, Venard Creek, Lansdowne Creek, and Leach Creek.

Most of the headwaters start in large wetland complexes in Scott Township, the most rural portions of the Watershed, and they convey water to Griffin Reservoir. Moving downstream, the watershed's land use is dominated by higher density residential subdivisions, major transportation corridors and commercial districts like Northern Boulevard and the Scranton Expressway. This land use puts pressure on the Leggett's Creek's water quality due to sediment loading, flash flows, combined sewer overflows and road salts.

In 1987, the residents of the Lackawanna River Watershed created the LRCA, in order to promote the restoration and conservation of the Lackawanna River and its watershed resources, including Leggett's Creek. Thus, the LRCA is an appropriate leader and team member to develop and implement a Recreation, Conservation & Restoration Plan for the Leggett's Creek Watershed.

This Plan is an abbreviated and hybrid version of a Comprehensive Parks, Recreation, Open Space & Greenway plan. The priorities for this plan focused more so on Conservation, Restoration and Recreation, in the form of a multi-use connecting trail. Due to funding constraints this is not a fully in-depth plan; however, it does adequately highlight key assets, constraints and most-importantly opportunities and initiatives that can be further explored in more detail prior to implementation.

This plan provides several initiatives and recommendations, including: Increased land conservation, especially in the ridgetops and the upper and lower Leggett's Creek Greenways; Restoration of riparian areas and in-stream habitats; Creation of an EAC or comparable group to better oversee impacts of land use; Regulations and watershed-level reviews of land development with incentives for redevelopment and green infrastructure rather than impacts to wooded and greenlands; Park improvements and a new technical trail network.

There is a need for a safe recreation connection between Scranton and the Abingtons. Most connection efforts thus far have been focused solely on vehicular connectivity and their design and construction followed suit without regard for complete streets or bike/ped lanes. Thus, this study also discusses two feasible alignment options for a linear multi-use rail trail to connect the Lackawanna River Heritage Trail and the Countryside Conservancy Trolley Trail.

To be clear, the transition from concept to a constructed trail will not be easily and it will take years of coordination meetings with politicians, local leaders, state agencies and private land owners, any of which can delay the project. These options, especially Option #2, will require intensive design and engineering due to needed infrastructure, safe crossings and bridges. It will take fund-raising and grant writing.

However, the most important need is belief in the value of this project and how this needed connection will have positive impacts on economic development, alternative transportation, community wellness, education and recreational opportunities. A functional trail to connect Scranton to the Abington's has been suggested for decades; however, no real progress has been made. Perhaps this is the time for a bold alignment and construction of a transformative recreational amenity - similar projects have been built, so why not in Northeastern Pennsylvania.

PROJECT OVERVIEW & SCOPE

- To inventory the conserved, protected and recreational facilities located within the watershed;
- To complete field walks and background research to better assess the environmental stressors that impact water quality and citizen wellness;
- To highlight existing efforts and identify future opportunities for ecological restoration and habitat conservation;
- To identify opportunities for recreation based improvements, especially a multi-use trail alignment to connect the Lackawanna River Heritage Trail and the Countryside Conservancy Rail Trail.

This project was funded through a Conservation Assistance Grant administered through the Pennsylvania Environmental Council under the Pocono Forests and Waters Conservation Landscape (PFW CL) Program [1] (See appendix for more information): The goals of the PFW-CL are: 1.) Conservation – Identify important natural landscape areas for acquisition, easement, and other land protection measures; 2.) Community – Engage communities to promote, enhance, and conserve local natural, cultural, and outdoor recreational resources; and 3.) Connections – Identify and create greenway and trail connections to public lands and communities throughout the landscape. The Plan meets all three goals. Additional funding from the Scranton Area Community Foundation and Margaret Briggs Foundation also supported the completion of this plan.

PUBLIC PARTICIPATION

- Public outreach was limited during this study for two primary reasons: 1.) Due to COVID-19, it was too cumbersome and against the Governor’s orders to schedule the planned in-person round table meeting. A survey was prepared and sent to municipal leadership within the Watershed. 2.) The project budget nor the schedule/scope permitted extending the public input phase or holding several meetings by the consultant. This outreach will be the responsibility of the LRCA and any members of a newly developed, future study committee for plan implementation.
- As the plan neared completion, discussions were held with members of the Clarks Summit Shade Tree Commission, the South Abington Township Parks, Recreation and Shade Tree Commission and with The City of Scranton’s Parks and Recreation Director. All are supporters of the plan and willing partners moving forward.
- This document is only a cursory effort and trying to further any initiatives outlined below will require ample meeting time with municipal officials, politicians, business owners, land owners, non-profit organizations, community groups, residents, regulatory agencies and others.

INTRODUCTION & INVENTORY

LRCA Overview

The Lackawanna River Conservation Association (LRCA) was formed in 1987 as a not-for-profit charitable and educational organization to promote the restoration, conservation and appropriate management of the Lackawanna River and its watershed resources. For over 30 years, the LRCA has provided vision and leadership to initiate a number of watershed projects including a Conservation Plan, riparian plantings, trail development, rain gardens, river access sites and most recently passive recreation areas. LRCA projects and success stories are accessible in more detail at www.lrca.org [2].



The LRCA has worked pro-actively with other community groups and public agencies to plan and promote projects that address the issues of water pollution, recreation, community development, land and water conservation, public involvement with their river and watershed, and the public policy decision making that affects the river and watershed. The mission of the LRCA is to involve citizens of the watershed with conservation and stewardship of the River, its tributaries and water resources.

The LRCA is an appropriate leader and team member to develop and implement a conservation, recreation and greenway plan for the Leggett's Creek Watershed.

The goals that define the LRCA mission include: clean up the river environment; aid in the development of the 40-mile Lackawanna River Heritage Trail; create partnerships among government, businesses and community groups promoting conservation and recreation; develop partnerships with schools, universities, and the general public to promote environmental and conservation education to better understand our relationship with the local environment; and advocate for the conservation of open space and natural habitat throughout the watershed.

Previous Planning Documents

A seminal document, was completed in 1989 by the LRCA. The "Citizens Master Plan for the Lackawanna" advanced five goals for the river and the community: Clean up the environmental problems that had degraded the river; Educate the community on the value of the river as a community asset; Develop a 40 mile trail and greenway along the river; Build partnerships among government, business and community interests to promote public involvement with the clean up and greenway trail development; and Conserve open space and natural areas across the watershed [3].

Subsequent planning has been completed that encompasses all and portions of the Lackawanna River Watershed including the following relevant documents: The Lackawanna River Watershed Conservation Plan (2001); The Open Space, Greenways & Outdoor Recreation Master Plan: Lackawanna and Luzerne Counties, Pennsylvania (2004); The City of Scranton & Scranton Sewer Authority Stormwater Management (MS4 & CSO) System Review: A Phase One Assessment and Recommendation Report for Efficient Management & Sustainable Infrastructure (2013); Lackawanna Valley Corridor Plan (1996) and the Scranton-Abington Planning Association (SAPA) Comprehensive Plan (2009). The SAPA Plan did state the "two particularly important trails planned for SAPA area include the Countryside Conservancy Trolley Trail in the Abingtons, north of "The Notch", and the Lackawanna River Heritage Trail that runs through Scranton. The PROS (Parks, Recreation and Open Space Plan) should examine the feasibility of connecting the two trails," which is addressed in this plan [4].

Many of these above-mentioned studies are important; however, they only broadly discuss the need for preservation, recreation, open space connectivity and trails. They are not specific and thus will not lead to implementation. That is why this current planning effort is a timely and specific plan for Leggett's Creek, which is a major tributary to the Lackawanna River, and has potential to lead to actual implementation.

Leggett's Creek Sub-Watershed

Leggett's Creek (WRDS #28525, HUD 2060107) is a significant tributary to the Lackawanna River and it effectively drains most of the 'Abingtons.' It is a permanent 3rd order watercourse. The river mile of entry for the creek into the Lackawanna is at 14.36 with a latitude and longitude of 41° 26' 41" and 75° 38' 37", respectively. Additional information is contained in Table 1. The main tributary streams are Summit Lake Creek, Lansdowne Creek and Leach Creek.

The headwaters of Leggett's Creek initially drain portions of Scott Township in and around the intersections of Layton Road/Route 347 and Carbondale Road/PA-632 before flowing into the Griffin Pond Reservoir. The main channel commences via a discharge pipe at this dam and flows through South Abington Township, along Route 6/11 (Northern Boulevard), and finally through the Providence section of Scranton before reaching the confluence with the Lackawanna River just north of the Parker Street Bridge. See attached Leggett's Creek watershed mapping on pages 6 and 7.

The predominant land use within the watershed is a mosaic of wooded hillsides, agricultural fields, and stream/wetland complexes intermixed with commercial, residential and traffic corridors. The density of residential parcels increases from the rural headwaters



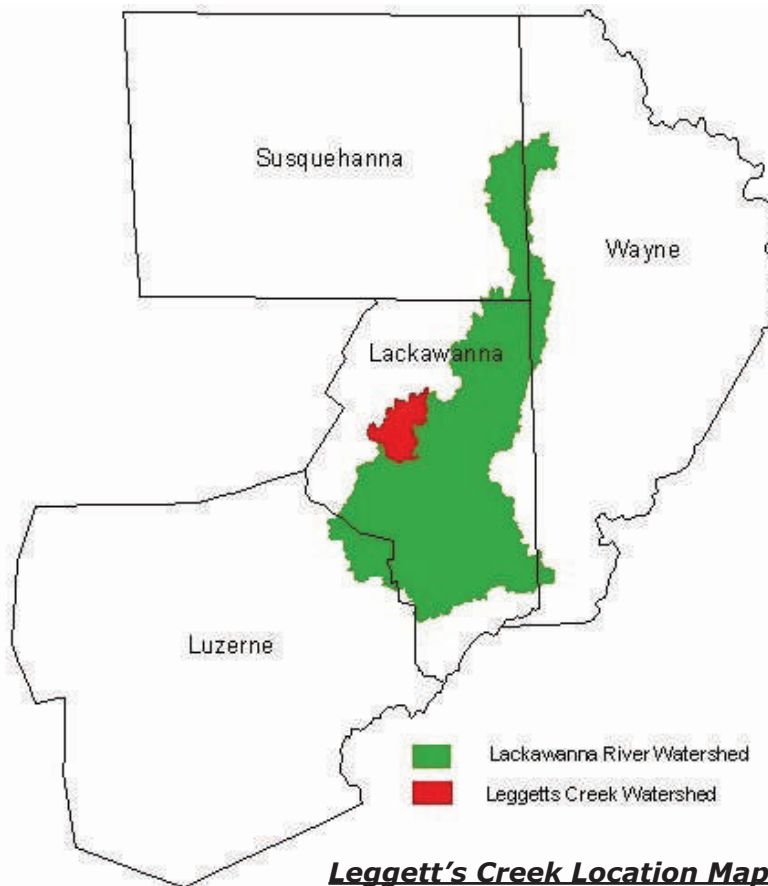
Start of Leggett's Creek at PA-632

in Scott Township toward the urban confluence in North Scranton. The Creek is primarily forested from the dam southwest to Interstate 81. The creek flows south and passes through South Abington Community Park into the heavily commercialized Northern Boulevard (Route 6/11) corridor. It flows adjacent to the PA American Water Filtration Plant and the South Abington Sewer Authority, which releases effluent into the creek. This treated water represents a significant portion of water flow in the late summer and during dry periods. The creek proceeds into the City of Scranton and meanders through residential developments toward the Lackawanna River. Combined Sewer Overflows and overland flow through mine spoils are the major point and non-point pollution impacts to the Creek, respectively.

Table 1: Leggett’s Creek Information [5]

Stream Code	Stream Order at Mouth	Drainage Area (mi ²)	Length (mi)	River Mile Index (RMI) (from Susquehanna River)	Zone and Water Uses Protected [From Chapter 93 (Section 93.9j, Drainage List J)]
28525	3	18.5	8.0	14.36 at North Scranton	Basin, Source to Summit Lake Creek - CWF Basin, Summit Lake Creek to Mouth - TSF

The Pennsylvania Department of Environmental Protection’s Chapter 93, Water Quality Standards [6] designates Leggett’s Creek as a Cold-Water Fishery (CWF) from its source to Summit Lake Creek. Summit Lake Creek and Leggett’s Creek from this point downstream to the Lackawanna River is listed as a Trout-Stocked Fishery (TSF). The PA Fish and Boat Commission [7] classify the section of Leggett’s Creek spanning from the confluence with Summit Lake Creek downstream to the mouth as a ‘stream section that supports wild trout production.’ A 2013 study documented brown trout that averaged 5 inches in length and up to 12 inches in the Lower Greenway, as well as, cutlip minnows, black-nose dace, longnose dace, and bluegill [8]. Field work confirmed the presence of fingerling trout and black-nose dace, as well as, a few 12-14 inch brown trout in deeper pools within and north of South Abington Recreation Park.

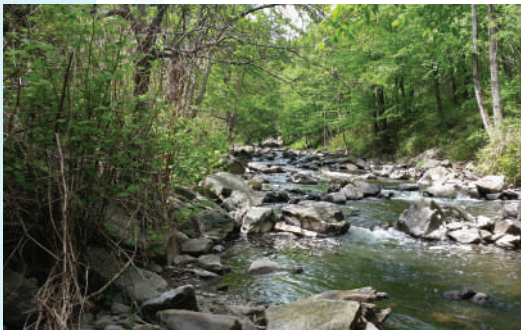




Clarks Summit University



Confluence Leggett's/Landsdowne Creek



Leggett's Creek in the Notch



Headwater wetlands along Quinton Rd.



Clover Hill Creek enters Leggett's Creek

Municipalities & Communities within Watershed

- Clarks Green Borough
- Clarks Summit Borough
- Dickson City Borough
- Newton Township
- Ransom Township
- Scott Township
- Scranton City
- South Abington Township

Schools & Educational Facilities

- Abington Heights School District
- Clarks Summit University
- Western PA State School for the Deaf

Aquatic Resources

Waterways (named perennial and intermittent streams)

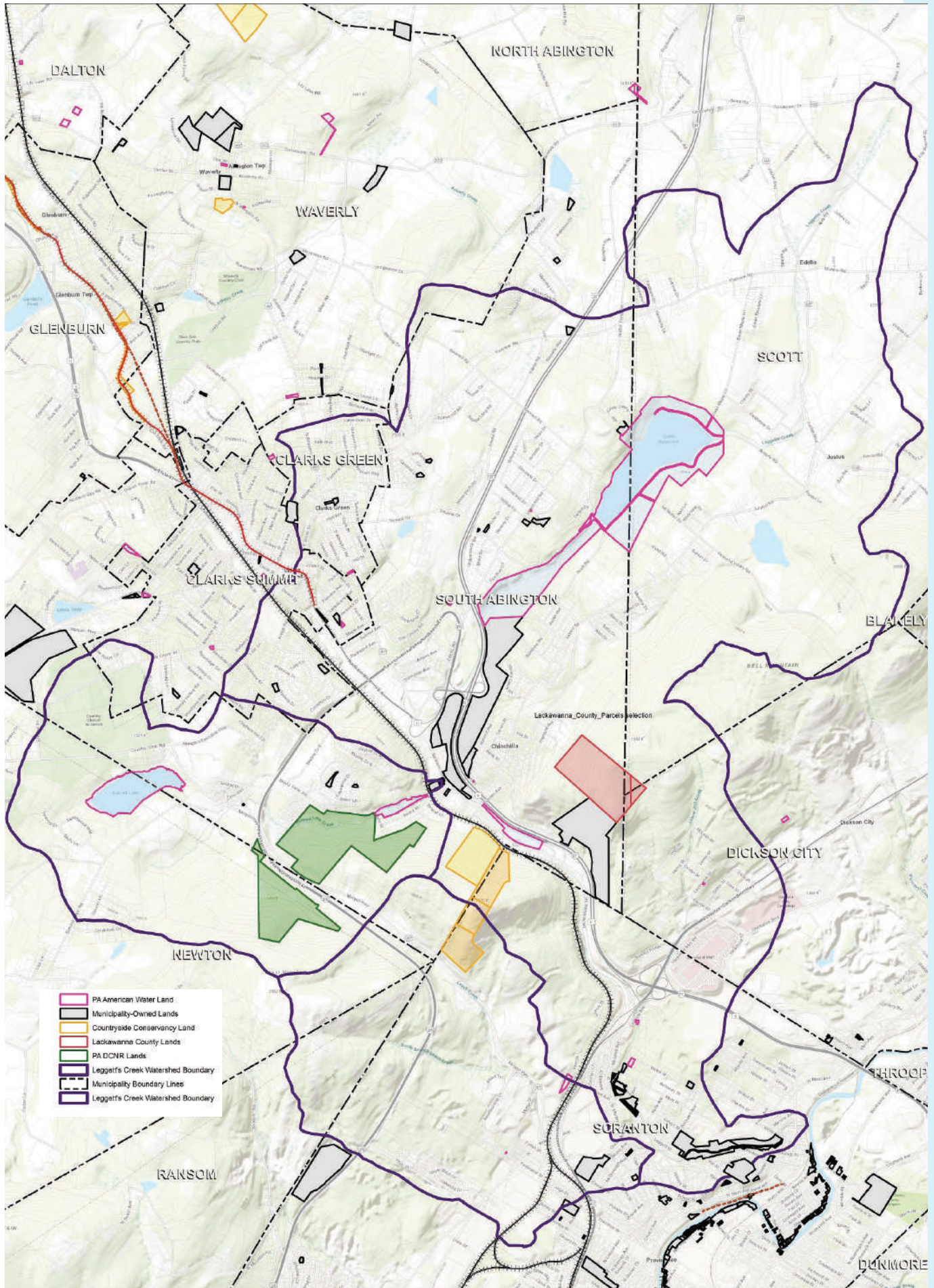
- Clover Hill Creek (Trib. #28528)
- Edella Creek (Trib. #28536)
- Lansdowne Creek (Trib. #28530)
- Layton Run (Trib. #28533)
- Leach Creek (Trib. #28526)
- Summit Lake Creek (Trib. #28529)
- Venard Creek (Trib. #28531)

Wetlands

- Multiple pockets and many acres of stream/wetland complexes dominate the headwaters of Leggett's Creek in Scott Township prior to its entry into the Griffin Pond Reservoir.
- Floodplain wetlands are located within the northern portions of South Abington Township Recreation Park near the confluence of Leggett's Creek and Layton Run.
- Soils within the Abington's have a high composition of Mardin and Morris Soils, which have seasonal high water tables and silty loam soils. These tend to hover around wetland conditions and support hydrophytic plants and hydric soils. This means wetland delineations must be completed prior to any proposed restoration or recreation initiatives. It also means these soils can be very receptive to habitat construction, especially creating new wetlands.

Water Bodies (named Lakes and Ponds)

- Griffin Reservoir, aka. Sunfish Pond
- Peaceful Valley Pond
- Summit Lake
- Venard Creek Pond at Clarks Summit University



Recreational Facilities & Amenities

Parks and Playgrounds



Lewis Lane Park - Neighborhood Park



S. Abington Twp. Rec. Park - Regional



Eilenberger Park - Neighborhood Park



Carnation Drive Rain Garden



Griffin Reservoir along Scott Road

- South Abington Township Park: offers playgrounds, a splash pad, basketball courts, asphalt ADA-accessible walking trail, baseball/softball, passive open space, pavilions, fishing, and creek access [Regional Park, South Abington Township]
- Mayor Donald L. Eilenberger Memorial Park: Gazebo, basketball, playground, [Neighborhood Park, South Abington Township]
- Lewis Lane Park, Lewis Lane & Gladiola Drive [Neighborhood Park, Clarks Summit Borough]
- Carnation Drive Play Area: offers mulch loop trail, basketball court, large rain garden [Neighborhood Park, Clarks Summit Borough]
- Rockwell Avenue/McLain Park: offers basketball and newly renovated play ground, walkways, baseball field, connection to Leggett's Creek [Neighborhood Park, City of Scranton]
- Bill Gerrity Park: offers playground [Neighborhood Park, City of Scranton]
- Cayuga Field: home of North Scranton Vikings junior football [City of Scranton]
- Marvin Dutch Gap Field: Little League facility [City of Scranton]
- Justus Volunteer Fire Company Memorial Field: baseball, softball field [Scott Township]

Water Recreation – fishing, boating, etc.

- Griffin Pond Reservoir: offers ADA Fishing Dock, dirt/gravel road used for cars, bikes, runners and walkers; often riddled with potholes, but is maintained by PA American Water [Regional Facility].
- Leggett's Creek: important natural feature for kids in South Abington Township Park and lower Greenway in North Scranton; some fishing pockets, swimming, exploration; not navigable by boat.

Trails & Corridors - hiking, biking, walking

- Lower Leggett's Creek Greenway: has unimproved footpaths between McLain Park and Little League Field overlooking Leggett's Creek.
- South Abington Township Park: offers ADA-accessible asphalt trail and non-accessible woodland trails.

Transportation Corridors and Streetscapes

Roadways

- Northern Boulevard (Rt. 6/11): high density traffic; not inviting for recreation; PennDOT implemented with minimal to no safe biking or pedestrian lanes.
- The Notch: wide to narrow shoulder room on I-81 side; falling rock potential; no room on Leggett's Creek side; some commuters walk/bike through Notch.
- South Abington Road (SR-407): too narrow and steep; a lot of driveways and cross streets; there is room for a bike lane and sidewalks north of Grove Street; south of Grove Street is too narrow.
- Layton Road (SR-1027): too narrow and steep.
- Fairview Road (SR-4028): too narrow and steep.
- Edella Road near Simrell Road: has potential for bike/ped lanes; relatively flat with wide shoulder area; overlooks a wetland complex.
- Shady Lane Road: narrow and steep; does parallel Summit Lake Creek.
- Justus Boulevard (SR-347): busy road, narrow shoulders.
- Morgan Highway (SR-307): very steep; does have wide shoulders; provides access into headwaters of Leach Creek and Summit Lake Creek.
- Pike Street off of Morgan Highway: isolated road, decent grade, low-volume; leads to the rail road grade
- Scott Road: this road has potential for 'share-the-road' signage; it is used heavily by walkers and bikes especially between Layton Road, Griffin Pond and Edella Road.
- Johnson Road off Fairview Road: this short stretch is viable for a bike/ped lane; bike rider observed on this route during field investigation.
- Carbondale Road (SR-632): some sections are feasible for a safe bike/ped lane like near the Scott Township Municipal Fields, however, most sections are too steep and narrow.

Rail Lines

- A Norfolk Southern Rail Line (former Delaware, Lackawanna & Western) parallels much of Leggett's Creek and cuts through the Abington's. It runs to the Taylor Rail Yards; however, it also runs near Lackawanna Avenue and Steamtown National Historic Site
- Northern Electric Trolley Line (*aka* Scranton Montrose & Binghamton Rail Road) is a historic electric interurban railway that ran from 1904 to 1931 between downtown Scranton and its suburbs to the northwest. It is mostly removed within the Leggett's Creek Watershed. Countryside Conservancy has successfully converted the old rail grade into the Trolley Trail from Clarks Summit, through Dalton and toward Keystone College.



Northern Boulevard - SR 6/11



Northern Boulevard - SR 6/11



Norfolk Southern Rail Road



Johnson Road, biker in distance



Kita Road and Justus Boulevard



PPL line along Quinton Road, Scott Twp.



PPL line slicing up Bell Mountain



Sanitary line under Leggett's Creek culvert



S. Abington Twp. owned drainageway



PA DCNR, Summit Lake Creek

Public Utilities

Utilities transect the Leggett's Creek Watershed and often follow Leggett's Creek. Several of the utilities are listed below and they will need to be involved partners for several of the initiatives proposed in this plan.

- PA American Water: has extensive infrastructure in Scranton because they own both the sanitary and the water system; they just completed a new sanitary line along Leggett's Creek in North Scranton within the Lower Leggett's Creek Greenway that removed a lot of riparian vegetation.
- PPL Corporation: installed the major Susquehanna-Roseland Line distribution line that cut a large linear swath (300' wide) through West Mountain and atop Bell Mountain; Another powerline project currently under construction is along Quinton Road in Scott Township.
- UGI Utilities: a major gas utility with important land/pipelines along Leggett's Creek in Scranton
- Aqua Pennsylvania: owns public water infrastructure near Layton Road
- South Abington Sewer Authority: The treated effluent from the treatment system enters Leggett's Creek near the Notch. During dry season months, this effluent represents a substantial portion of the waterways base flow.

Conserved & Protected Lands (Fully & Partially)

- PA American Water: This utility owns Griffin Pond Reservoir and the lower reaches of Summit Lake Creek.
- PA Department of Conservation & Natural Resources: owns portions of the Summit Lake Creek corridor along Shady Lane Road (aka. Summit Lake Natural Area).
- Lackawanna County Lands: The County owns a tract of land on Bell Mountain on the steep slopes overlooking the I-81 corridor.
- South Abington Township: Township owns property along Leggett's Creek, including the highly-used South Abington Township Recreation Park. They own land abutting the Lackawanna County parcel on the Bell Mountain Highlands and extending to Scott Road. The Township also owns several small parcels that appear to be storm water basins. They may not have much recreation or connection potential, however, they should be assessed to assure they are functional and determine if they can be enhanced to better improve water quality.
- Clarks Green Borough: Borough owns land near the intersection of Grove Street and North Abington Road.
- Countryside Conservancy: Owns land, called the Shepard Preserve. This 42-acre parcel within Leggett's Gap including the steep slopes overlooking Leggett's Creek and the Notch off the Morgan Highway. This wooded property protects part of the steep, dramatic views seen every day by thousands of commuters on Interstate 81 and US Route 11. This property is not open to the public due to access and safety issues.

Conservation & Restoration Projects

- South Abington Recreation Park: Riparian planting lead by LRCA are ongoing to replace dying Ash trees upstream of Layton Road; The Twp. installed rain gardens in parking lot; Fish habitat & streambank stabilization by the Lackawanna Conservation District.
- Lower Leggett's Creek Greenway: Watershed 2000 funding helped to regrade the steep culm banks; however, major earth moving for a sanitary line has greatly impacted riparian zone through loss of vegetation.
- Clarks Summit Borough built a large MS4 rain garden along Carnation Drive.

Tourism & Destination Facilities

- Pallman Farms (strawberry picking, farm foods)
- Miller's Orchard (pies, farm foods, apple picking)
- Abington Community Library
- Abington Farmers Market (Rainbow Market Site)
- Abington Shopping Center
- Clarks Summit Borough Main Street
- Providence Corners in Scranton (shops/restaurants)
- Lahey Family Fun Park (mini-golf, go-carts, batting cages, arcade, bumper boats)
- Scranton Country Club (private golf)
- Scranton Tennis Club (private tennis)

Connections just Beyond Watershed Boundary

- Hillside Park, Community Garden & Senior Center
- Clarks Summit Downtown
- Scott Township Municipal Park
- Lackawanna River Heritage Trail
- Countryside Conservancy Trolley Trail
- Fords Pond
- Lackawanna State Park

Major Hazards, Challenges, & Detrimental Activities within Watershed

- Culm & Coal banks still are friable and add sediment into the lower portions of Leggett's Creek.
- Storm Water/Combined Sewer Overflows (CSO's) still empty into Leggett's Creek and impacts water quality. Conductivity levels are high due to road salts used in the Abington's.
- Development & Population Growth puts pressure on headwater wetlands and the riparian areas.
- Lack of Coordination between Scranton & the Abingtons; SAPA plan needs to encourage action.
- Overall development mentality needs to shift; There is a need for more creative thinking and government leadership to encourage redevelopment, green infrastructure and hybrid restoration/development projects in brownfields.



Plantings along Leggett's Creek



Log vanes in S. Abington Park



Lahey Family Fun Park



Hillside Park



Sediment-laden Road Runoff

Pollution Sources in the Lackawanna River Watershed

Susquehanna County

Wayne County

1 Combined Sewer Overflow (CSO)

There are over 150 combined sewer overflow points on the Lackawanna River between Forest City and Pittston. Combined sewer overflows or CSO's are features common to many urban sewer systems in the United States.

As cities developed sanitary sewers in the 19th century, pipes were laid under streets to convey sewage from homes and businesses to nearby waterways. Storm water from roofs and gutters enters catch basins along our streets and flows into the same pipe that carries the sewage. When sewer treatment plants were constructed in the mid 20th century, interceptor pipelines were built along our rivers and streams to carry the sewage to the plants for treatment. During rainstorms and snowmelts, storm water flows often exceed the capacity of the interceptor pipe. When this occurs the systems were designed with overflow chambers, which allow excess flow to be diverted into the river. This prevents backflow into streets and basements, rupture of the interceptor pipe or flooding of the sewer plant.

Several citizen lawsuits have forced the US EPA and PA DEP to begin to require local sewer authorities to develop alternatives to CSO's. Extensive engineering assessments are being developed to bring Lackawanna River sewer plants into compliance with the Clean Water Act.

2 Acid Mine Drainage (AMD) and Abandoned Mine Land (AML)

Acid mine drainage or AMD, refers to water which flows through coal mines and enters our waterways. The anthracite coal mines of the Lackawanna Valley became flooded after underground mining operations closed in 1960. In the flooded tunnels, groundwater mixes with surface water from tributary streams which loose their flow through infiltration into subsurface mine voids. As water flows through the old mine workings, it leaches sulfides and metals from the coal and rock formations. These minerals are carried in solution in the mine water. The mine water makes its way to the surface along the river where it discharges through old mine drainage pipes or tunnel openings.

After 1960, when the last underground operations turned off their pumps, the amount of mine water exceeded the capacity of the remaining outlet pipes. This caused flooding in some low-lying locations. In order to stabilize the underground mine pool, a new and larger outlet was needed. Geologists and engineers working for the Commonwealth of Pennsylvania and the Federal Bureau of Mines determined that a location in the Connellys Patch section of Old Forge would be appropriate to install a mine drainage borehole.

The Old Forge Borehole was sunk 400-feet into the Red Ash coal vein to drain the flooded mine voids between Old Forge, Scranton and Blakely in the summer of 1961. Every day since then, in excess of 100-million gallons per day of acidic mine water has flowed into the Lackawanna River. Over a ton and a half of iron oxide is dissolved in the daily flow. When this mine water enters the river, the iron oxide precipitates from the mine water and paints the river bottom a bright orange through Duryea and into the Susquehanna River. There are over a dozen smaller AMD sources in the mid and upper Lackawanna Valley, although none are as bad as the Old Forge Borehole.

AMD is also generated when rainwater and snowmelt flow through culm dumps and coal waste at abandoned mine land (AML) sites. This surface mine drainage causes erosion and sedimentation which carries solid particles as well as dissolved metals pollution into the Lackawanna River.

3 Storm water

Storm water runoff from impervious areas like roads, parking lots and roofs carries a rich soup of pollution into our streams and rivers. Heavy metals like iron, lead, aluminum; nutrients like nitrogen oxides, salts from winter de-icing and bacteria from pet waste are a few of the "choice" ingredients in storm water soup! Every road way and parking lot is a potential source of storm water soup. Newer designs for parking lots, roads and storm water management basins can help clean up storm water on its way to the River.

4 Erosion and Sedimentation (E&S)

Bare soil at construction sites and abandoned mine sites is subject to erosion from storms.

Particles of soil and coal waste are carried by storm water flows as suspended sediments. As the storm flow loses its velocity and the flow level of our rivers and streams slows, these sediments drop out of the water column and accumulate on the bottom of the river or streambed. This, in effect, cements up the nooks between the river gravels and cobbles. This eliminates these spaces needed as habitat by aquatic insects, like the mayfly and caddisfly, which are the base of the aquatic food chain. Eroded sediments also act as vehicles to carry other pollutants such as heavy metals, nutrients and bacteria.

Good construction practices control erosion on site with silt fences, swales and sediment traps. Mine reclamation projects help to address revegetating and regrowing coal waste areas.

5 Agricultural Runoff

Agricultural runoff from farms can contain animal wastes, bacteria, fertilizer, pesticides and eroded soils. The Lackawanna County Conservation District works with our local farmers to help manage and prevent agricultural runoff pollution. Farmers who use agricultural Best Management Practices (BMP's) are often more effective and successful farmers than ones who don't.

6 Forestry Management

Forestry management has a major influence on the health of our watershed. While over 86% of our watershed is presently in forest cover, not all of our forests are healthy. Over harvesting and poor harvest practices can cause irreparable harm to our forests and the watershed resources like headwater streams and wetlands that are protected by extensive forest cover.

Conversion of forestland to residential and commercial development brings all of the urban storm water pollutants into our drinking water supply resource areas and fragments these forested watershed habitat areas into smaller patches. This results in a loss of ecological habitat for wild life, a loss of outdoor recreation resources, and lower water quality in streams that supply our water service reservoirs.

7 Litter and Junk

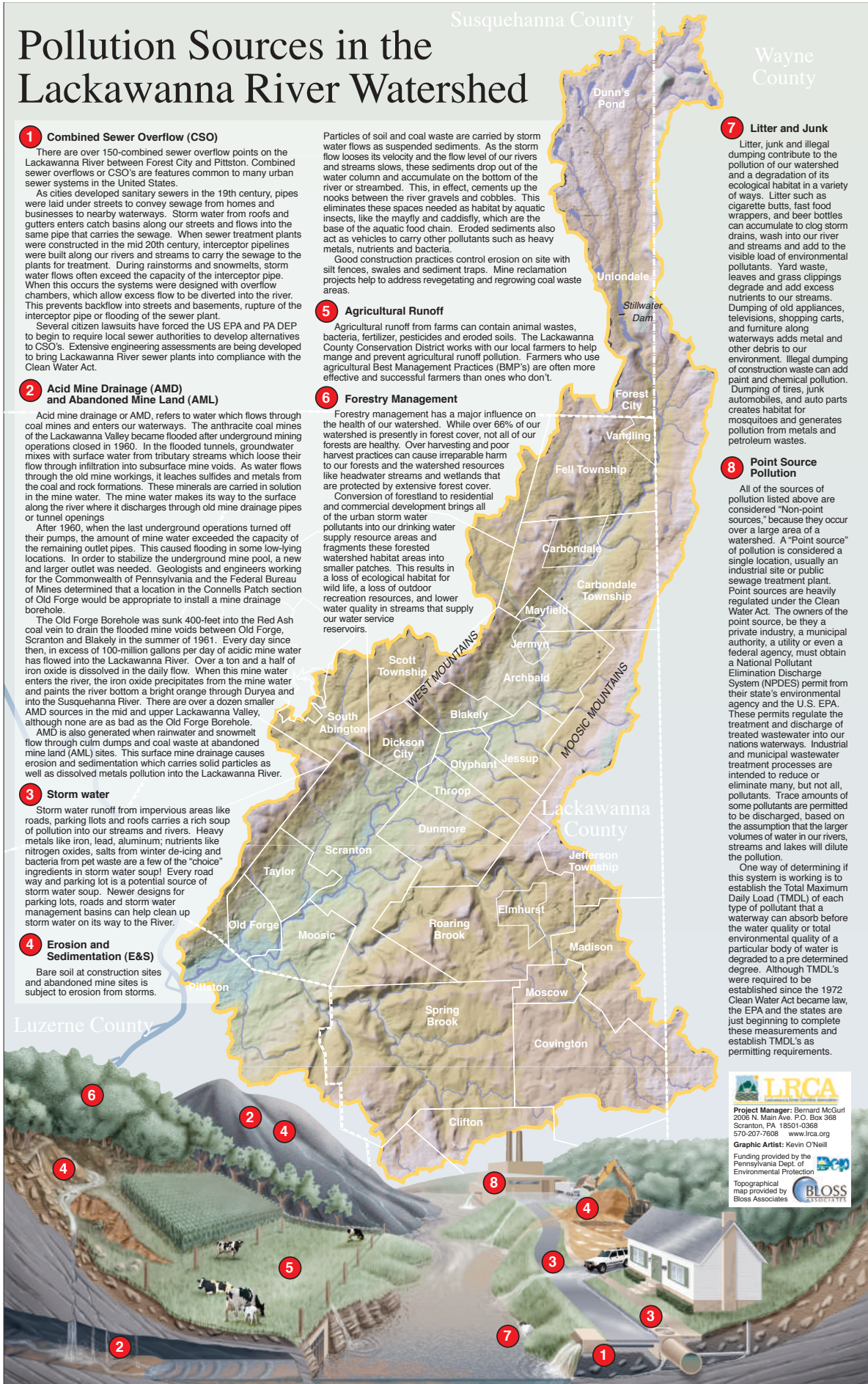
Litter, junk and illegal dumping contribute to the pollution of our watershed and a degradation of its ecological habitat in a variety of ways. Litter such as cigarette butts, fast food wrappers, and beer bottles can accumulate to clog storm drains, wash into our river and streams and add to the visible load of environmental pollutants. Yard waste, leaves and grass clippings degrade and add excess nutrients to our streams.

Dumping of old appliances, televisions, shopping carts, and furniture along waterways adds metal and other debris to our environment. Illegal dumping of construction waste can add paint and chemical pollution. Dumping of tires, junk automobiles, and auto parts creates habitat for mosquitoes and generates pollution from metals and petroleum wastes.

8 Point Source Pollution

All of the sources of pollution listed above are considered "Non-point sources," because they occur over a large area of a watershed. A "Point source" of pollution is considered a single location, usually an industrial site or public sewage treatment plant. Point sources are heavily regulated under the Clean Water Act. The owners of the point source, be they a private industry, a municipal authority, a utility or even a federal agency, must obtain a National Pollutant Elimination Discharge System (NPDES) permit from their state's environmental agency and the U.S. EPA. These permits regulate the treatment and discharge of treated wastewater into our nations waterways. Industrial and municipal wastewater treatment processes are intended to reduce or eliminate many, but not all, pollutants. Trace amounts of some pollutants are permitted to be discharged, based on the assumption that the larger volumes of water in our rivers, streams and lakes will dilute the pollution.

One way of determining if this system is working is to establish the Total Maximum Daily Load (TMDL) of each type of pollutant that a waterway can absorb before the water quality or total environmental quality of a particular body of water is degraded to a pre determined degree. Although TMDL's were required to be established since the 1972 Clean Water Act became law, the EPA and the states are just beginning to complete these measurements and establish TMDL's as permitting requirements.



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WATERSHED ANALYSIS & ASSESSMENT

Ideally creek walks within Leggett's Creek and all tributary streams should be completed. However, there was a limited budget that did not permit this commitment of time and resources. Several key sections of the Leggett's Creek and the rail line were examined by foot, although most field work was completed via vehicle and analysis of aerial photography.

Environmental - Definition of Problem and Identification of Opportunities

Leggett's Creek

This watershed suffers from human encroachment in the form of residential and commercial development. Additionally, remnants of past coal mining activities are within and abutting the Lower Greenway, which increases sediment loading and stream bed embeddedness. Leggett's Creek was found to be a major contributor to the degraded portion of the Lackawanna River as evidenced by the TDS/EC and salinity data. Additionally as expected, urbanization contributes to the degradation of the river and Leggett's Creek [8].

The creek had decent to good canopy cover (although much was invasive) in the Lower Greenway and its water chemistry met state standards; however, recent sanitary utility corridor work has decimated the canopy along the northern banks putting the Creek at increased risk. Conversely the Upper Greenway, at and below Griffin Pond, is well vegetated with mature native vegetation, including Hemlocks, Maple, Oak, Black Cherry, and Tulip Tree. In between, the riparian zone fluctuates in width and the impacts of development. There has been recent clear-cutting of the buffer near the I-81/I-476 interchange, Ash trees are dying in Chinchilla, the buffer is thin through the Notch and Knotweed dominates in North Scranton.

Localized bank instability, uncontrolled storm water runoff, combined sewer discharge, narrow invasive-species dominated buffers are the main problems at many sections of Leggett's Creek. Visible symptoms of recent and healed erosion scars are evident and invasive species clearly dominate the understory. These problems are the outward signs of an altered ecosystem. Prior to the implementation of any corrective measures, it is crucial to identify and fix the underlying causes that are contributing to the problem. Effort should be made to manage causes as opposed to treating symptoms.

In the Leggett's Creek Watershed the root causes of bank instability and lack of riparian zone vegetative cover appear to be from remnants of past surface mining, from utility work and from a highly developed watershed (increased impervious surfaces) that increases storm water runoff into the creek (an altered 'urbanized' hydrograph). Also, the riparian zone lacks topsoil and is nutrient poor.

Recreational - Definition of Problem and Identification of Opportunities

The primary heartbeats for recreation and natural resources in the Leggett's Creek Watershed are South Abington Recreation Park and Griffin Pond, respectively.

South Abington Park has well-maintained facilities that meets the needs of most residents. Their splash pad, trail, playground, basketball courts and fields are just a few of the features that attracts park users.

The renovation of McLain (Rockwell Avenue) Park has provided a big aesthetic and recreation boost to North Scranton. This facility is also in a prime location within the Lower Leggett's Creek Greenway and can facilitate the creation of a large active and passive recreational greenway/complex.

There are ample transportation corridors between and through Scranton and the Abington's; however, it appears all of the focus by PennDOT was myopic and geared toward vehicular traffic. Ironically, all of this vehicular connectivity has severed and greatly limited recreational connectivity for bikes and pedestrians. Most streets are too steep and too narrow for sidewalks or bike lanes.

Leggett's Gap (The 'Notch') is a real chokepoint and still continues to be a restriction to alternative transportation and recreational connectivity between the Abington's and Scranton.

The lack of trails is noticeable in the Watershed. The trail at the South Abington Recreation Park is heavily used, however, bikes are only allowed between noon and 3PM due to concerns over potential bike/ped conflicts. Due to lack of shoulders and steep grade changes, only confident road bikers are able to utilize

many of the roads in the Abingtons and none of the roads are truly outfitted for safe biking. A few share-the-road signs were noticed on the Morgan Highway. There is also a lack of both single-track hiking/biking trails and long multi-use trails that are adequate for simultaneous use by both walkers and bikes. Currently, most if not all residents of the Abingtons and North Scranton must get into a vehicle and drive to a trail. Easy access to trails for transportation and recreation is a critical need in the watershed.

CONSERVATION, RESTORATION & RECREATION INITIATIVES

Please refer to the attached Leggett's Creek Watershed Proposed Initiatives Map in the Appendix when reviewing this section of narrative.

Conservation Areas & Initiatives

The Summit Lake Natural Area

- Work with PA American to inventory and assess the condition of Summit Lake Creek related to species biodiversity, native versus invasive species, wildlife data and any storm water/erosion problems. Work to acquire abutting parcels to expand the conservation of riparian buffers lands and the footprint of the PA DCNR-owned lands.

The Bell Mountain Highlands Conservation Area

- Strive to purchase lands abutting the parcels already in municipal and county hands. Identify opportunities to purchase lands abutting parcels already under ownership by Lackawanna County and South Abington Township. Prioritize the acquisition of Ridgetop and Steep Slope Lands.

The Lower Leggett's Creek Greenway

- Through beneficial negotiations and a land swap between Linde Corporation and the City of Scranton, the Lower Greenway is already in public hands. Thus, the focus is restoration of the Greenway (see below) and expansion of its footprint upstream as much as possible, toward the Hollows.

The Leggett's Gap Conservation Area

- This area includes the steep slopes rising from Leggett's Creek western bank toward the Morgan Highway. There should be a focus on having discussions with Shea Industries to purchase additional lands overlooking Leggett's Creek to the west. These lands are important ridge-top habitat and have potential for being a backdrop for recreational trails that can connect to the Summit Lake Natural Area via the Countryside Conservancy's Shepard Preserve.

The Upper Leggett's Creek Greenway

- Expand the protected land from South Abington Community Park northward toward Griffin Pond Natural Area (called the Abington Natural Area in the SAPA Plan). The key piece is the recently clear-cut parcel off of Edella Road that may be utilized for the future redesign and construction of a new interchange ramp between I-81 and I-476. Use of land acquisition and/or easements with PennDOT is of utmost importance and discussions should be initiated immediately to get riparian buffers and recreation underpasses into the project scope early on. One would hope, the developer would see the benefits of partnership and be amenable to dedicating a riparian buffer and trail corridor along Edella and Leggett's Creek, which confluence in this area. These environmental-recreation projects should help with attainment of required permitting, as well.

The Griffin Natural Area

- The natural area encompasses Griffin Pond Reservoir and the natural, forested ravine that Leggett's Creek flows through once the waterway exits the reservoir discharge pipe. Assuring the discharge remains a cold-water bottom release is important to the Leggett's Creek fish population. The focus

in this area should be protection of the unnamed tributaries and wetlands that convey water into the Reservoir through educational signage and even acquisition of these corridors within Scott Township.

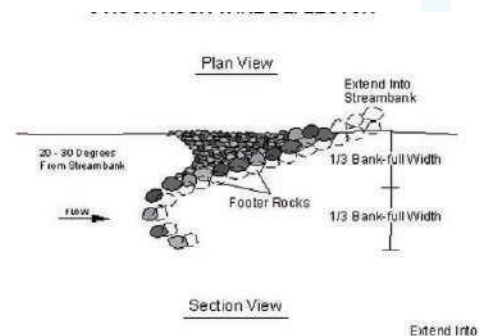
Restoration Projects

Watershed-Wide Strategies

- Identify new proposed development planning from the outset and use them as an opportunity for smart development. For example, new development at the old Rainbow Market site can mitigate and enhance a section of Lansdowne Creek, which can benefit the new development and the environment.
- Track and remove invasive Phragmites from roadside swales and wetland areas before it has a chance to spread and overtake natural systems. Similarly, remove pockets of Knotweed, Tartarian Honeysuckle, Barberry and others and replace with native species. Once these pockets become too large, their control is more costly and tougher to accomplish.
- The LRCA and the City of Scranton can collaborate to mobilize neighborhood and community volunteer projects to conduct a major trash and litter removal campaign along Leach Creek and along Leggett's Creek from Hollow Avenue all the way to Rockwell Avenue. The Lower Greenway was recently cleaned during an event sponsored by the Electric City Aquarium.

Lower Leggett's Creek Greenway

- Overall, create a new city-owned, passive recreation area that is intricately connected with, inspired from and built around environmental education, eco-restoration techniques and watershed protection. Features will include environmental signage, a trail system, floodplain wetlands, stream bank stabilization, fish habitat enhancements, rain gardens and invasive species. The outcome will be a new venue for community programming, partnerships, nature-inspired recreation and activities that highlight and embrace a commitment and appreciation for restoration within the Leggett's Creek and Lackawanna River Watersheds.
- This project directly involves well-rounded community stakeholders with an ongoing multi-year process of planning and then enacting eco-restoration techniques aimed at improving the habitat and health of Leggett's Creek. It will result in a passive recreation area built upon a sustainable foundation that will be embraced by the community and will serve as a demonstration model of MS4 BMP's and public involvement.
- Specific improvements may include:
 - 1.) Install a new rain garden at the bottom of Leggett Street to capture sediment and filter storm water prior to its entry into the Creek;
 - 2.) Create a new step-pool bioretention system in a failed ditch along West Parker Street;
 - 3.) a series of log vanes or J-hooks to increase fish habitat and direct water away from eroding banks;
 - 4.) Massive riparian buffer planting to create a new native canopy.
- The LRCA just received a \$50,000 grant through the National Fish & Wildlife Foundation (NFWF) in Fall 2020 to work on final design and preparation of environmental and E&S permitting for many of the above mentioned goals.



Upper Leggett's Creek Greenway

- Continue the streambank stabilization and riparian planting projects within the South Abington Community Park. New saplings will help take the place of all the dying Green Ash trees along the Creek between Shady Lane Road and Layton Road.



Increase pollinator gardens



Create stable boulder access points



New meadow area



Potential new wetland



Replace dead Ash Trees & Knotweed

- Additional fish habitat enhancements and live staking would be beneficial.
- Township should install boulder steps leading down to the Creek in areas that are clearly the main points of ingress/egress. The boulders can stabilize the bank, create a safer access with less slipping and lessen the amount of sediment loading into the Creek. Currently erosion of natural soils and the modified stone shoulders are getting eaten away.

Clover Hill Creek

- As stated in previous plans [9], The PA Department of Transportation should examine the inlets and swales that direct storm water from the roadways into Clover Hill Creek and install bio filtration and similar installations where possible. Scouring in the deeply incised channel upstream of Hollow Avenue and the erosion of shale from the slopes of the fill along the Scranton-Carbondale Highway roadway berm should be investigated and appropriate bank stabilization should be designed and installed.

Leach Creek

- The aquatic habitat values and functions of Leach Creek can only be restored through a comprehensive stream restoration project. This creek has flow loss that eliminates aquatic habitat survival. This plan recommends that the PA DEP Bureau of Abandoned Mine Reclamation (PA DEP BAMR) be requested to initiate such a program for Leach Creek. A new Leach Creek can spur new environmental benefits and recreation opportunities along its banks.
- The storm water / flood control basin at Bloom Avenue and the city owned property surrounding it, including the Cayuga Culvert have potential to host a regional green infrastructure MS4 facility, like a functional constructed wetland habitat, to treat and buffer storm water behind Gerrity's and Cayuga Field; Perhaps even create an educational passive recreation area.

Lansdowne Creek Pollution Prevention

- Work with businesses and landowners along the creek to install buffers and biofilters to reduce sediment and salt loading into the waterway.
- Proposed BMP's should also consider and investigate opportunities for pedestrian/bicycle trails along strategic reaches of the Creek in South Abington Township.

Storm Water Initiatives (MS4):

- The Lackawanna Co. Conservation District recommends incorporation of current storm water best management practices (BMPs) such as rain barrels, rain gardens, infiltration trenches, grasses swales, vegetated roofs, curb and gutter elimination in residential areas and bioretention cells in parking lots and along roadways.

- Regenerative Storm Water Management: Work with Municipal DPW's, PennDOT and business owners to install bioswales, step pools, forebays within existing storm water channels as a means to slow and treat runoff.
- Along Leggett's Creek near Wales Street, there is an opportunity for a constructed wetland to handle MS4.
- Implement the CSO Catchment Area 40 demonstration project as identified in previous green infrastructure planning [9]. This area has been improved over the last decade, however more work is still needed. Providence Square is a visible section of the City that receives a high traffic volume, and is primed for a renaissance that can be facilitated by new infrastructure -both gray and green. This CSO area has a few city-owned parcel, multiple vacant lots, churches, parking lots and both business and residential areas. The variety of land uses gives opportunity to implement a range of green infrastructure techniques while utilizing available space and making partnerships with parcel owners. Additionally, the majority of public space is considered the public right of way along the street. This gives opportunity to demonstrate projects that can be implemented when space is restricted.



Leggett Street, new rain garden?



Streambank stabilization, buffers needed

Environmental Education and Outreach

- Programing by the LRCA or in partnership with municipalities, schools, civic groups is important for successful implementation of conservation, restoration and recreation goals. Options for engagement may include: holding riparian planting events and cleanups; in-school events, wildlife habitat projects (bat and bird house building); and invasive plant removal.
- Many homes in the Abingtons are on large enough parcels to implement green infrastructure and slow down the damaging flash flow events that characterize Leggett's Creek. More green-infrastructure events needed to educate and encourage these installations.



Create step-pool system in failed ditch

Watershed Monitoring

- Monitoring is a key component prior to and post restoration. The Lackawanna County Conservation District has already started intensive monitoring of Leggett's Creek to determine if and how the upgrades are improving the health of the stream [8].
- Members of the Penn State Extension Master Watershed Steward Program will start testing the Leggett's Creek Watershed in Fall 2020 using standard water quality monitoring protocols through the Alliance for Aquatic Resource Monitoring (ALLARM) Stream Team.



Bioswale location along top-of-bank



Recent Clear-cut / Reestablish Buffer

Recreation Projects & Facilities

New Multi-use, Connecting Trail

There is a need for a safe recreation connection between Scranton and the Abingtons. Most connection efforts thus far have been focused solely on vehicular connectivity and their design and construction followed suit without regard for complete streets or bike/ped lanes. Two main vehicular connections are existing - the Scranton Expressway through the Notch and the Morgan Highway. Both physical and man-made constraints, specifically speed of travel, narrowness/lack of consistent shoulder width and steepness, make these roads unsuitable for safe travel. It should be noted that experienced road cyclists do utilize the Morgan Highway, however, it is not ideal for groups, families or other recreational activities.

Trail Option #1:

Below is a narrative description of a proposed multi-use trail starting at the Lower Leggett's Creek Greenway in Scranton. It proposes a shared-use of the existing rail road corridor (Shown as solid yellow line on Plan).

- In terms of regional trail connectivity, the eastern destination of the trail will ultimately be the Lackawanna River Heritage Trail and the western destination will be the Trolley Trail.
- An old trestle is still standing behind Toyota of Scranton on North Main Avenue that can carry a trail over the Lackawanna River to the Heritage Trail. From that trestle, a new trail can snake behind or through the Toyota dealership and Johnny's Car Wash to North Main Avenue. After installation of a new crossing, the trail can Share-the-road with Marvine Avenue to Wells Street and the start of the Leggett's Creek Southern Greenway.
- A utility access road has potential for use as a trail. The trail can slope up to Rockwell Avenue Park or stay lower in the riparian area and connect to the end of Leggett Street. Most-likely, this Greenway, which is poised for future renovations (passive recreation and ecological restoration), will have multiple trail options.
- The trail will have to utilize the sidewalks along Leggett Street, Kelly Avenue, Cannon Street and Mary Street before meeting up with a utility access road that parallels the Creek in the Hollow. Ideally, the trail would stay along Leggett's Creek and use a private driveway, cut a new path through the woods, tie into Loop Avenue and Mary Street before meeting the utility road. However, this would entail the acquisition, easement or outright purchase of parcels. Discussions with private land owners were not part of this scope.
- This utility road eventually becomes Hollow Avenue and leads to the confluence of Leggett's Creek and Clover Hill Run. The trail would cross the existing bridge and a new ramp system will be installed on a steep slope behind several large billboards that will take the trail up to the



Lower Leggett's Creek Greenway



Trail along City infrastructure



Utility access road along Leggett's Creek




Location of proposed ramp system



Existing walkway near Oak Street ramp

dead-end of West Market Street. In lieu of the ramp, the steep road can be used to access W. Market Street.

- The trail would follow W. Market Street infrastructure to Saltry Place and then Cross Oak Street at the off ramp. A sidewalk on the southwest side of the road extends under the Scranton Expressway overpass and continues upgrade along the off-ramp.
- An existing path/sidewalk can be used to extend the trail from Oak Street upslope to the rail road corridor and Clover Street. Historically a rail grade crossing existed at this location and field evidence supports this. A new crossing per Rail Road guidelines will need to be constructed. It is interesting to note that Clover Street intersects Steele Street, which extends to the Morgan Highway.
- The proposed trail will then utilize the rail road grade and proceed in a northwest direction toward the Abingtons. This would be the location of '**Oak Street Trail Station**,' which includes a small kiosk/map with signage and defines the enter/exit of the trail. 
- Obviously, community support, political support, preliminary design and safety options should be in place prior to meeting with Norfolk-Southern. The willingness of the Rail Road to partner or grant an easement fully determines whether this proposed trail has any potential for development. Discussion with the rail road was not part of this scope.
- The rail grade once had three track so there should be enough width to construct a multi-use trail along the west side of the tracks. At minimum the trail should be 20 feet from the active tracks and a 10' high chain link fence should be installed. The next stop will be the '**The Chinchilla Trail Station**,' where a ramp will take a spur along the Shady Lane Cemetery and under the on-lane tunnel on Shady Lane Road to the Municipal Building. With smart development of the proposed municipal parking lot and the old Rainbow Market Site, a new streetscape can connect trail users to commercial businesses and the South Abington Township Park. Another route is to stay on Shady Lane Road near the tank and cross at Layton Road. This will connect the trail to Chinchilla businesses.
- The next stop is the '**Shopping District Trail Station**' along Northern Boulevard. An abandoned spur trail is still visible and a tunnel can take the proposed trail under the active line and into the parking lot near Advanced Auto and Wendy's. Brown's Gym, Caravia Fresh Foods, Starbuck's, and others can benefit and cater to trail users.
- Also, a new ramp system is proposed to connect the trail to the residential Flower District. Connecting this neighborhood to the trail through the existing park on Carnation Drive can allow safe travel to the Abington Shopping District via walking/biking rather than cars, which can be a major benefit.



Existing path from tracks to Oak Street



Room for multi-use trail along tracks



Abandoned spur can be used for trail



Tunnel under active rail road



Advanced Auto lot, future trail access

- The last proposed stop is the '**Summit Trail Station**' where a ramp system will elevate trail users from the rail grade to Winola Road, which is just beyond the Leggett's Creek Watershed and into the Ackerly Creek Watershed. Winola Road can lead trail users onto Depot Street and downtown Clarks Summit or even toward the Trolley Trail to the northwest.

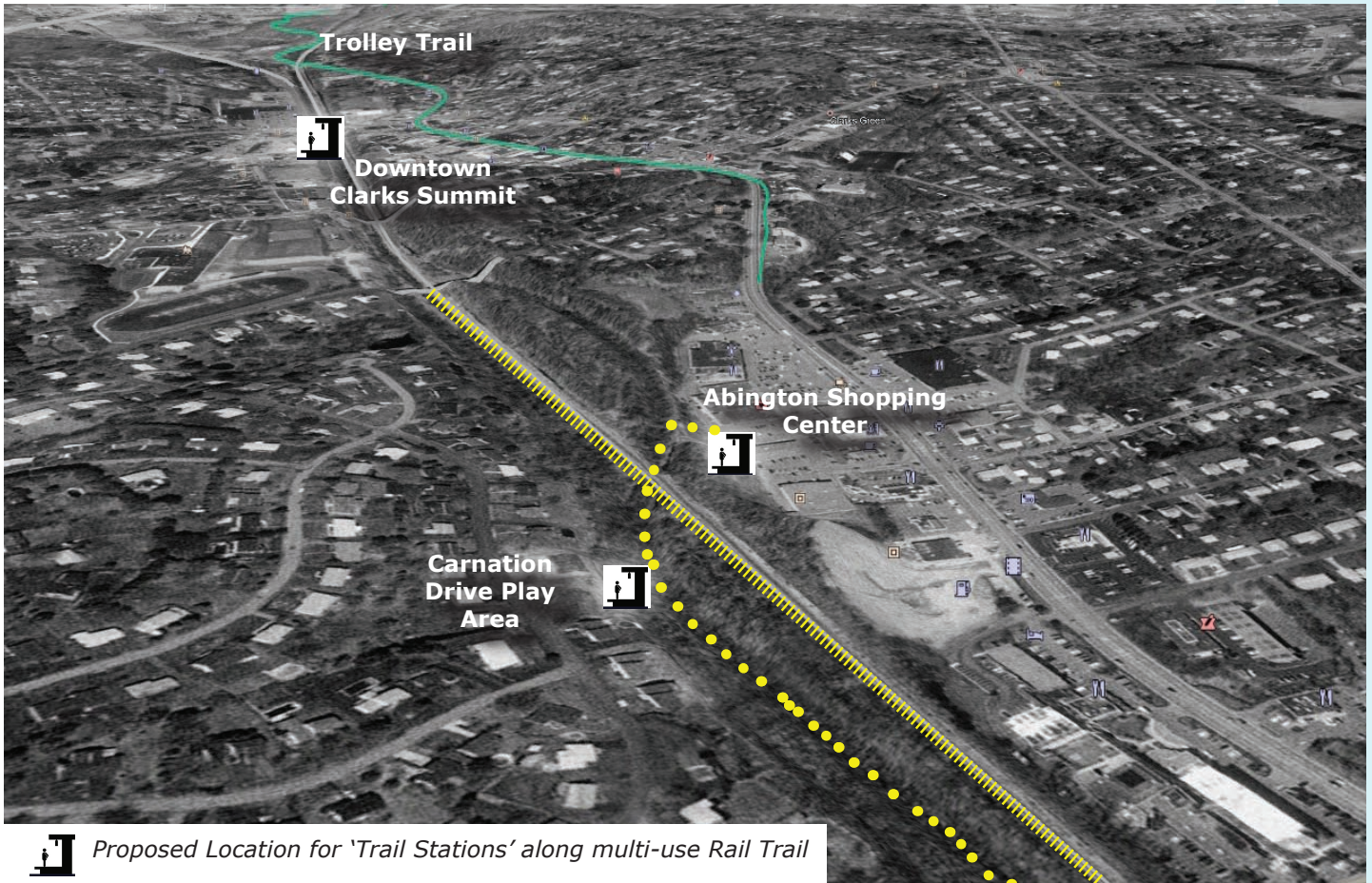


The proposed alignment for the multi-use trail is shown above as a solid yellow line on a Google Earth image. The trail will connect to the Lackawanna River Heritage Trail via an old trestle bridge behind the Toyota Dealership. After crossing Main Avenue, the trail will share the road along Marvine Avenue before tying into the existing Greenway. Eventually via City streets and utility corridors the proposed trail will tie into the active Norfolk Southern Rail Road (former DL&W) near the Oak Street ramp. This rail-trail section can be followed through Leggett's Gap into the Abingtons, where a few trail stations will allow for strategically placed ingress/egress for the trail.



A multi-use trail can fit parallel to the existing active line with a 10 ft. high safety chain link fence.

Although ambitious and a potentially lengthy process, this trail can have a lasting and positive impact for Scranton, the Abingtons and the Region. This trail can accomplish, not a few, but many of the goals that successful trail projects strive for like: improved health & wellness; increased recreational facilities; economic stimulus for businesses and property values; enhanced alternative transportation; and tourism value.



The active rail line and the abandoned spur are visible on the above aerial (image from Google Earth). The main multi-use trail will safely parallel (fencing) the active rail line and several trail 'stations' will connect neighborhoods like Downtown Clarks Summit, the Trolley Trail, the Abington Shopping Center and Shady Lane Road. The trail can be used for commuting and recreating between the Abingtons and Scranton with stations at Oak Street and Lackawanna Avenue, as well.



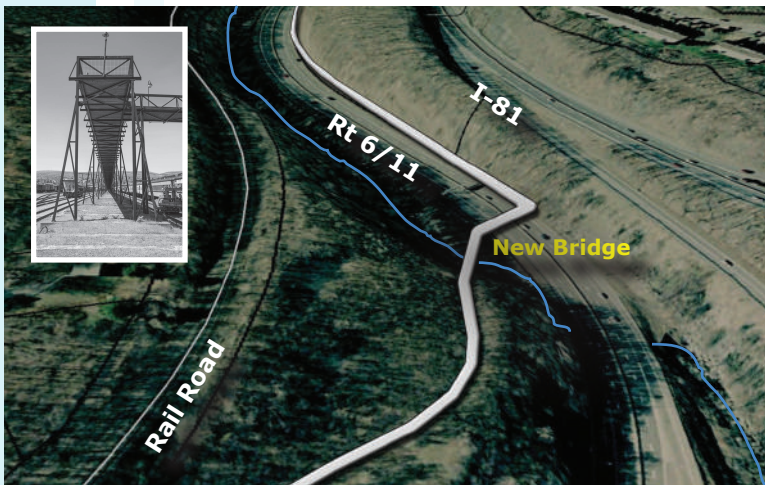
A custom designed ADA-compliant stair/ramp tower will need to be constructed at Hollow Avenue in Scranton and at Carnation Drive and Winola Road in the Abingtons to handle grade changes.



Clarks Summit, Depot Street/Winola Road



Countryside Conservancy Trolley Trail



Trail Option #2:

Below is a narrative description of another alignment option, requested by the LRCA, should the rail road not be cooperative or open to discussions. This option can also be complimentary to Option #1 and provide a unique trail loop option. This option does requires more intensive design and engineering due to needed infrastructure and bridges, as well as, coordination with multiple property owners that can squash the project. However, perhaps this is the time for a bold alignment and a transformative recreational amenity - similar projects have been built, so why not in Northeastern Pennsylvania. (Shown as solid orange line on Plan)

- Rather than using the rail grade crossing near the Oak Street Station (Trail Option #1), this proposed alignment would continue along the wooded rock cut toward the Leggett’s Gap.
- A new bridge/ramp system, similar to Steamtown NHS, will then carry users over Leggett’s Creek and Route 6/11 (complex coordination required).
- The trail will then run parallel to and along the northern side of Route 6/11. The shoulder fluctuates in width and should be feasible with cooperation from PennDOT and installation of safety features (Jersey Barrier; protective screening for areas prone to falling rock).
- Near the Billboards, midway through the Notch, the trail will veer from the shoulder, which becomes too narrow, and upslope using a natural ramp into the woodlands between I-81 and Route 6/11.
- The trail will require detailed design and fencing due to the steep drop-off and rocky terrain. The trail will then exit the woodland behind Hannabery HVAC. An easement would be required or even outright purchase of the property is an option if this business was willing to relocate. The site could become a trail head and even a recreation-based visitor center or environmental education library.
- The trail will hug the I-81 slope and run behind a few houses and businesses before tying into Scott Road. An alternate trail route would be to descend from Hannabery back toward and then along Route 6/11 to Scott Road.

- From this point, the trail would cross Scott Road, behind the Abington Regional Waste Water Plant, and utilize a new bridge crossing over Leggett’s Creek near the State Store to access PA American land.
- The trail would utilize existing berms though the PA American Land. PA American has been amenable to partnerships and open discussions about trails on their properties throughout NEPA. However, safety and liability concerns would be the biggest hurdle in this area because of the narrow swath of land between the open water and the Creek.
- The trail would then utilize a redesigned parking lot through the Veterinary Referral and Emergency Center. The location of the X-Ray/MRI may force the trail toward the front (Image 2).
- To reach Burcher Street, the existing trail in South Abington Community Park, the proposed trail would squeeze behind the existing businesses. This area is currently tight and is the location of dumpsters and storage (Image 1).
- After crossing the Burcher Street Bridge, the trail will follow the north side of the creek (Image 3) and connect with the trail in South Abington Park. A better option would be to purchase the Prestige Motors lot for more green space and a safer crossing at Layton Road. This would also remove potential hazards along the top-of-bank.
- Once through the Park, the Township should and needs to be involved in discussions with PennDOT regarding the new Turnpike Interchange. A trail is essential and should be worked into the design, along with restoration to offset adverse environmental impacts. PennDOT has not adequately addressed bike/ped routes in past transportation planning through the Abingtons. Perhaps the trail can extend from the Park to Clarks Summit University, Edella Road and Venard Road to tie into and utilize the streetscapes in Clarks Green.



Image 1: Behind Sprint Print and the Little Red Doghouse. If property owners are willing to partner, the main concerns most likely voiced will include potential loss of storage, safety/vandalism and dumpsters/waste removal.



Image 2: Through partnership, a redesigned parking lot can support a new trail. The lot appears oversized for the current use. This new green space can benefit the patrons that need fresh air as their pets are being cared for. Perhaps a pet memorial wall can even be installed.



Image 3: The current owner (skin care facility) is finishing renovations and landscaping on this building. Perhaps they would be amenable to a multi-use trail abutting their parking lot. Considerations for this trail will include safety and snow removal.

Scranton/Abington Technical Trail System



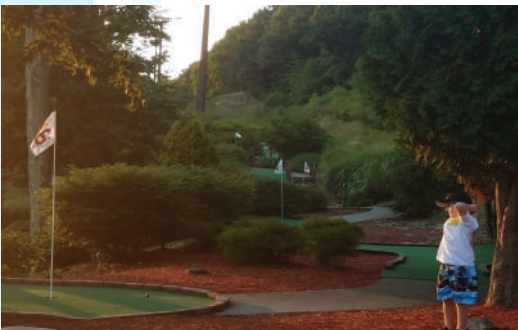
The Notch Connector trail can utilize culvert under expressway



Room to enter Notch along ramp



Nice woodland between I-81 and Rt. 6/11



Powerline ROW abuts Lahey Fun Park



PA DCNR land / Summit Lake Creek

- *The Central Abington Spur:*
Create a new technical trail for hiking and mountain biking that connects the Griffin Pond Reservoir (Griffin Natural Area) to the South Abington Township Park. Partnership is required with only a few land owners, including PA American, South Abington Township, and PennDOT. The trails can utilize the existing dirt road along the Reservoir and then new rolling contour trails can be built through the steeper, forested ravine below the reservoir following sustainable trail building standards through the International Mountain Bicycling Associations (IMBA). There is already a usable tunnel under the ramps at the I-81/I-476 interchange.
- *Bell Mountain Highlands Trails:*
Bell Mountain provides an opportunity to create technical biking and hiking trails with expansive vistas and viewsheds of the Abingtons and Lackawanna Valley. Options for access and trail heads may include both the west side (Scott Road, Peaceful Valley Road) and the east side (Behind Wegmans along Pancoast Creek, behind Viewmont Estates) of the mountain. PPL utility line corridors transect the the ridgetop and may be useful to trail access. There is potential to connect the Bell Mtn. Trails to the Central Abington Spur using Peaceful Valley Road and Mount Bethel Drive.
- *The Morgan Mountain Spur Trail:*
There is access to forested lands from the Morgan Highway along Pike Street/Steele Streets, as well as, from the proposed Oak Street Trail Station. The main land owner of the expansive woodlands abutting Leggett's Gap is the Shea family. Protecting steep slopes and ridgetops is so important for current and future health of Leggett's Creek and the aesthetics of the region. It is worth discussing this land and determining if conservation and trails are possible. These trails can connect to the Shepard Preserve.
- *The Notch Connector:*
An interesting option for a technical trail is through the Notch. After crossing beneath the culvert under Scranton-Carbondale Highway from Hollow Avenue, the trail would follow a bench on the west bank of Leggett's Creek, briefly follow the shoulder or RT 6/11, before meandering through the woodlands between I-81 and Route 6/11, passing through Hannabery HVAC and terminating at Scott Road. From this point Scott Road can be utilized to access residential development or to reach Griffin Reservoir and the Central Abington Spur.
- *The Shady Lane Spur:*
Install a technical trail along Summit Lake Creek on PA American Water and PA DCNR land and connect to a more expansive trail system in the Summit Lake Natural Area. The trail can commence near the Chinchilla Trail Station and connect to the multi-use trail. Through additional easement or purchase the goal should be south-eastward expansion and connection to the Countryside Conservancy

Shepard Preserve. A PPL corridor does run parallel to the Morgan Highway and the Lahey Family Fun Park. It may be worth further exploring the tourism value of a trail in this area - perhaps mountain bike rentals at Lahey.

Dirt and Low-Volume Roads

Most of the high-volume roads like Layton Road, Fairview Road, Morgan Highway, RT. 6/11 and Grove Street do not have adequate shoulder width, longitudinal slopes or streetscape infrastructure to safely handle average walkers or bikers. Experienced road cyclists have been observed on all of the above-listed roads, however, they are not an ideal solution for increasing health and wellness opportunities.

Another option is to utilize dirt roads of lower-volume roads that are more accommodating to share-the road.

- Scott Road, north to Griffin Pond and then Venard Road; It is flatter with less traffic. Scott Road is already used by bikes and pedestrians; Signage is needed
- Quinton Road in Scott Township
- Kita Road in Scott Township; connects Quinton Road to SR-347 (Justus Boulevard)
- Johnson Road between Fairview Road and Carbondale Road
- Simrell Road between Fairview Road and Edella Road

Unfortunately many of these viable roads are still only isolated pieces stuck or adjoining unsuitable roads, which makes the creation of a safe and feasible alignment challenging. This does highlight the importance of the proposed rail trail.

Enhancements to South Abington Township Park

- Install a new Children's discovery spur above and parallel to the existing multi-use trail along Leggett's Creek; create learning stations and educational signage.
- Township should install boulder steps leading down to the Creek in areas that are clearly the main points of ingress/egress. The boulders can stabilize the bank, create a safer access with less slipping and lessen the amount of sediment loading into the Creek. An example from Ebin Fine Park in Boulder Colorado is provided to the right.

Lower Leggett's Creek Greenway

- Install safe and stable access points to the Creek
- Install pedestrian bridges to connect the east and west sides and thus the neighborhoods and parks of North Scranton and Providence, including Weston Park.
- Consider using the slopes along the Creek as a recreation advantage and create a pod of hillslides, as a means to integrate creative active play with passive recreation.



Dirt roads can be used as trails



Simrell Road can be enhanced



Example of stable creek access



Griffin Pond Road is already heavily used



Existing bench in slope for discovery trail

IMPLEMENTATION

Governmental Initiatives & Partnerships

- Oversight of Development
Develop a new environmental review board or Environmental Advisory Council (EAC) comprised of representatives from each municipality and several non-profits. Similar to a historical review board, this group will be afforded a chance to review all new proposed development and provide feedback and suggestions strictly on impacts to the environment. They can then provide a letter stating any concerns and any suggestions for consideration by the respective planning commission.
- Update Municipal Ordinances to better protect water quality (look for model ordinances for storm water conveyance, green infrastructure, landscaping, streetscaping, buffers requirements...). Amend SALDO requirements for parking lots to allow less stalls and/or more pervious options for businesses.
- Strive to convert flood-prone areas into recreation or conservation areas.

- Preservation Promissory Pilot Program (3-P Program)
One of the biggest assets for many residents of and the 'Abingtons', in general is the aesthetic views of the rolling mountains. Often these view are taken for granted and are only truly appreciated after they are impacted. One example was the recent construction of the large PPL powerline that cut a swath through woodlands on West Mountain and Bell Mountain. This dramatically altered the view for thousands of people. The 1996 Lackawanna Valley Corridor Plan [10] actually made note of the 'Green Hillside' and stated "the fundamental emphasis of the Land Use Plan is the proposed retention of the wooded hillsides of the valley that define its setting."

These views are important selling points for many people yet these mountains that define our community are not protected and their ultimate fate is not under their control. Further, these mountain tops and ridges are the starting point for important headwater streams that are crucial for water quality in Leggett's Creek and the Lackawanna River. Efforts are needed to protect and conserve these habitats. The most effective method is the acquisition of these lands, most often through outright purchase. Most sources of PA DCNR funding set aside for land purchase requires a local 50% match, which is how the 3-P Program can help. Rather than raising matching funds through large donations across a few, the goal is to raise matching funds in small amounts across many stakeholders. This will allow people that live next to a woodland, as well as, those that experience and enjoy the view of this same woodland from several miles away to join together and protect a resource. People will be asked to 'promise' to donate a small amount (ex. \$100) toward the 50% matching fund and only if the grant is awarded will they be required to pay. The donor would sign a promissory note to assure the donation is secured.

- Local Enforcement
Property owners suspected of illegal dumping "fill" materials that violate the PA Clean Streams Law and federal flood plain and stream encroachment regulations protective of the "waters of the United States", should be advised that the deposition of additional materials is a violation of city ordinances as well as state and federal statutes.



These views & this woodland habitat needs to be protected & conserved to maintain the health of Leggett's Creek and the quality of life for watershed residents



This view from Burcher Avenue has been impacted by a quarry. Without protection development will continue to be a potential threat. It is best to be proactive rather than form a NIMBY group after development has initiated.

Municipal Incentives:

Municipal incentives to encourage green focused development like a Green Opportunity Zone (GOZ) rather than a Keystone Opportunity Zone (KOZ). For example, this concept along the Lower Leggett's Creek Greenway would fall nicely into a GOZ if one existed. It is an adaptive reuse of strip mine land for one-level senior housing with green infrastructure, open space, and connection to the Creek that not only improves the environment but improves the aesthetics and value of the development, as well. Another prime location is Lansdowne Creek flowing through the old Rainbow Market site.



Partnerships

The region has a wealth of potential partners regarding conservation, restoration and recreation.

Conservation Organizations

Countryside Conservancy
Lackawanna Valley Conservancy (LRCA affiliate)
North Branch Land Trust

Restoration Organizations

Eastern PA Coalition for Abandoned Mine Reclamation
Lackawanna Conservation Corps (LRCA affiliate)
Lackawanna Valley Trout Unlimited
Lackawanna Conservation District

Recreation Organizations

Hospitals and Wellness Groups
Lackawanna Heritage Valley Authority
Anthracite Bicycle Coalition (ABC)
Bike Stores and Mountain Bike / Road Bike Clubs

Funding Options

- PA Department of Conservation & Natural Resources: The PA DCNR Community Conservation Partnership Program (C2P2) can provide funding for trail feasibility planning, trail development and park improvements
- PA DCED Local Share Account (LSA) Monroe County: Funds may be used for economic development, community development and public interest projects, include in Lackawanna County.
- NFWF Chesapeake Bay Stewardship Fund
- EPA Five Star Urban Waters Restoration Grant: Focused on Ecological improvements with targeted community outreach, education and stewardship.



The LRCA Conservation Corps is the volunteer-driven, watershed restoration & recreation arm of the Lackawanna River Conservation Association (LRCA). It promotes hands-on learning through completion of beneficial projects, including invasive species removal, riparian tree plantings, rain garden installations, installation of live-stakes for stream bank stabilization, illegal dump cleanups, better fish & boat access and creation of recreation areas along the Heritage Trail and local waterways.



- PEC Pocono Forests & Waters Conservation Landscape Mini-Grants
- Lackawanna Heritage Valley Educational Mini-Grants for programming and educational signage needs
- Lackawanna County
- The Preservation Promissory Pilot Program (3-P Program) described above can help provide match for this grant or other like grants.

REFERENCES

[1] <https://pecpa.org/programs/watersheds/pocono-forests-waters-conservation-landscape/>

[2] Lackawanna River Conservation Association webpage; <http://www.lrca.org>

[3] Lackawanna River Corridor Association. 1989. The "Citizens Master Plan for the Lackawanna

[4] SAPA. 2013. Scranton-Abington Planning Association Comprehensive Plan

[5] PA DEP eMap. <https://www.depgis.state.pa.us/emappa/>

[6] PA DEP Chapter 93 Water Quality Standards. <https://www.pacodeandbulletin.gov/Display/pacode?file=/secure/pacode/data/025/chapter93/chap93toc.html>

[7] PA Fish & Boat Commission. Trout Water Classifications. <https://www.fishandboat.com/Fish/PennsylvaniaFishes/Trout/Pages/TroutWaterClassifications.aspx>

[8] Lackawanna County Conservation District. 2013. Coldwater Heritage Partnership Grant. Lackawanna River Tributaries Study/Plan

[9] University of Maryland Environmental Finance Center, Lackawanna River Corridor Association, McLane Associates et al. 2013. "The City of Scranton & Scranton Sewer Authority Stormwater Management (MS4 & CSO) System Review: A Phase One Assessment and Recommendation Report for Efficient Management & Sustainable Infrastructure." <http://efc.umd.edu/assets/2013_scranton_nfwf_report_final.pdf>

[10] Lackawanna Valley Corridor Plan. Lackawanna County Regional Planning Commission. 1996

Appendix

**Municipal Survey Questionnaire
Information about PFW CL
Lower Leggett's Creek Greenway
Landowner Options/Liability**

THE LEGGETT'S CREEK WATERSHED
CONSERVATION, RECREATION & GREENWAY PLAN
A project initiated by the Lackawanna River Conservation Association (LRCA)

MUNICIPAL SURVEY QUESTIONNAIRE

Name of Municipality: _____

Name & Title of Person(s) Completing Survey: _____

1.) Please list your municipal recreation facilities within or nearby the Leggett's Creek Watershed. Please list any needed or proposed improvements planned for these facilities.

2.) Please identify any municipally-owned parcels that may have potential for pocket parks, conservation areas and/or benefits for water quality.

3.) Are there any conservation, restoration and/or recreation initiatives currently being planned in your municipality?

4.) Are there any existing or proposed bike lanes in your municipality?

Are you aware of any roads that are currently and informally being utilized by bikers and walkers?

5.) Are any dirt/gravel roads viable for Mountain Bikes?

THE LEGGETT'S CREEK WATERSHED
CONSERVATION, RECREATION & GREENWAY PLAN
A project initiated by the Lackawanna River Conservation Association (LRCA)

- 6.) Is their interest in or has there already been discussions regarding a trail network in your municipality?

- 7.) Is there a need for better connectivity to recreation facilities in your municipality?

- 8.) Are you meeting your MS4 (Municipal Separate Storm Sewer System) requirements?

- 9.) Do you have any facilities for ATV/UTV's? Are ATV/UTV's problematic in your municipality?

- 10.) Can you list any community groups or volunteer organizations in your municipality that may be able to assist the LRCA with greenway, trail and/or conservation initiatives?

- 11.) Please rank (1 to 10) each statement/topic based on importance to your municipality with 10 being very important/high concern.

- Need to reduce the risk of flooding along Leggett's Creek or a tributary stream
- There are not enough recreation facilities to meet our residents needs
- Protection of Open Spaces is important
- There is a need to develop complimentary economic development & conservation zones
- Need to increase walkability in our neighborhoods
- Need better branding for tourism
- Partnerships with neighboring municipalities would be beneficial for recreation, conservation, and water quality initiatives

- 12.) Are you willing to meet (in person or via phone), with the LRCA to discuss? Yes No

Contact Information (Name, Phone Number & Email)

- 13.) Please list any other thoughts or important discussion topics that should be considered.

Pocono Forests & Waters Conservation Landscape



The Pocono Forests and Waters Conservation Landscape aims to identify and protect its local and natural outdoor resources while implementing trail connections throughout the region.

The vision of the **Pocono Forests and Waters Conservation Landscape (PFW CL)** is to protect and sustain the natural resources of the region. This region has abundant natural resources, including the greatest concentration of wetlands in the state and large tracts of public and private forested lands, such as state and national forests and parks and private hunting clubs that were established in the past and still exist today.

The public benefits from these natural lands encompass a whole host of rewards, such as a sense of community, clean water, stormwater retention, clean air, and an array of outdoor recreation activities.

The goals of the PFW CL are to identify important natural landscape areas for acquisition, easements, and other land protection measures and to engage communities to promote, enhance, and conserve local natural, cultural, and outdoor recreational resources. Additional goals are to identify and create greenway and trail connections to public lands and communities throughout the landscape.

Through this Landscape work, PEC works with the **Pennsylvania Department of Conservation and Natural Resources (DCNR)** and community partners to connect State Parks and Forests to communities, connect community programs to each other, and connect citizens and visitors to the region's abundant habitat and outdoor recreation areas. We are uniquely situated to coordinate this regional collaboration, and work is well underway.

The extraordinary partners involved in this work include regional land trusts, sportsmen groups, trail groups, municipal leaders, state agencies, and private citizens working to balance conservation and community – preserving the quality of place that those in the region hold so dear.

CONSERVATION ASSISTANCE PROGRAM

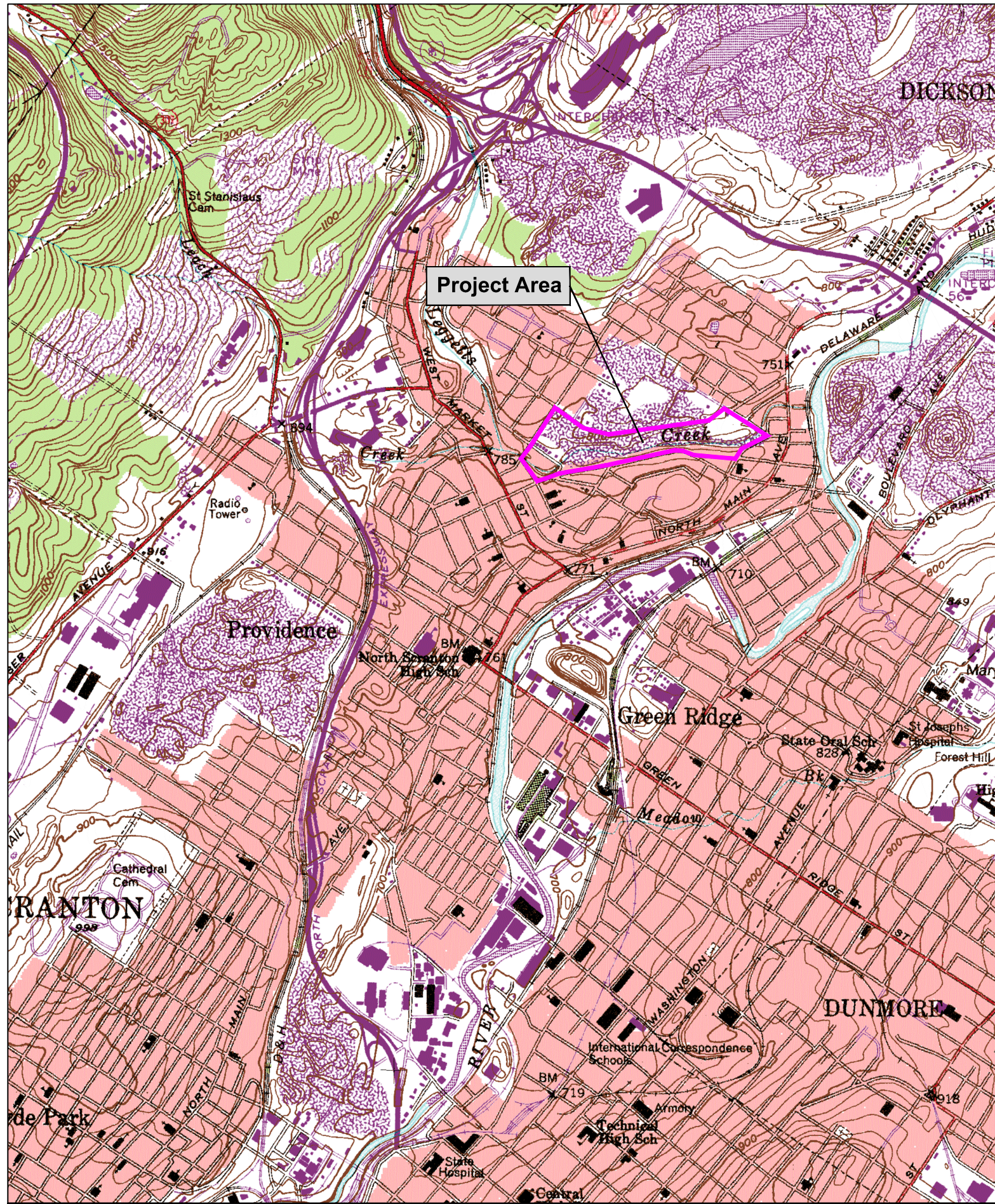
Over the last several years PEC was awarded a grant from the **Pennsylvania Department of Conservation and Natural Resources (DCNR)** to administer the **Pocono Forests and Waters Conservation Landscape (PFW CL)** Conservation Assistance Grant. The program is funded through DCNR's Environmental Stewardship Fund administered by the Bureau of Recreation and Conservation.

This program provides mini-grants of \$2,000-\$10,000 to projects within the Pocono Forests and Waters Conservation Landscape that support and advance the initiative's goals and priority areas.



The goals of the Pocono Forests and Waters Conservation Landscape are:

- ▶ Conservation – Identify important natural landscape areas for acquisition, easement, and other land protection measures.
- ▶ Community – Engage communities to promote, enhance, and conserve local natural, cultural, and outdoor recreational resources.
- ▶ Connections – Identify and create greenway and trail connections to public lands and communities throughout the landscape.



Project Area

Providence

Green Ridge

CRANSTON

DUNMORE

**LEGGETTS CREEK GREENWAY
ECO-RESTORATION / RECREATION PROJECT**

**Location
Map**





**Project Area
(See Aerial Map 2)**

**Project Area
(See Aerial Map 3)**

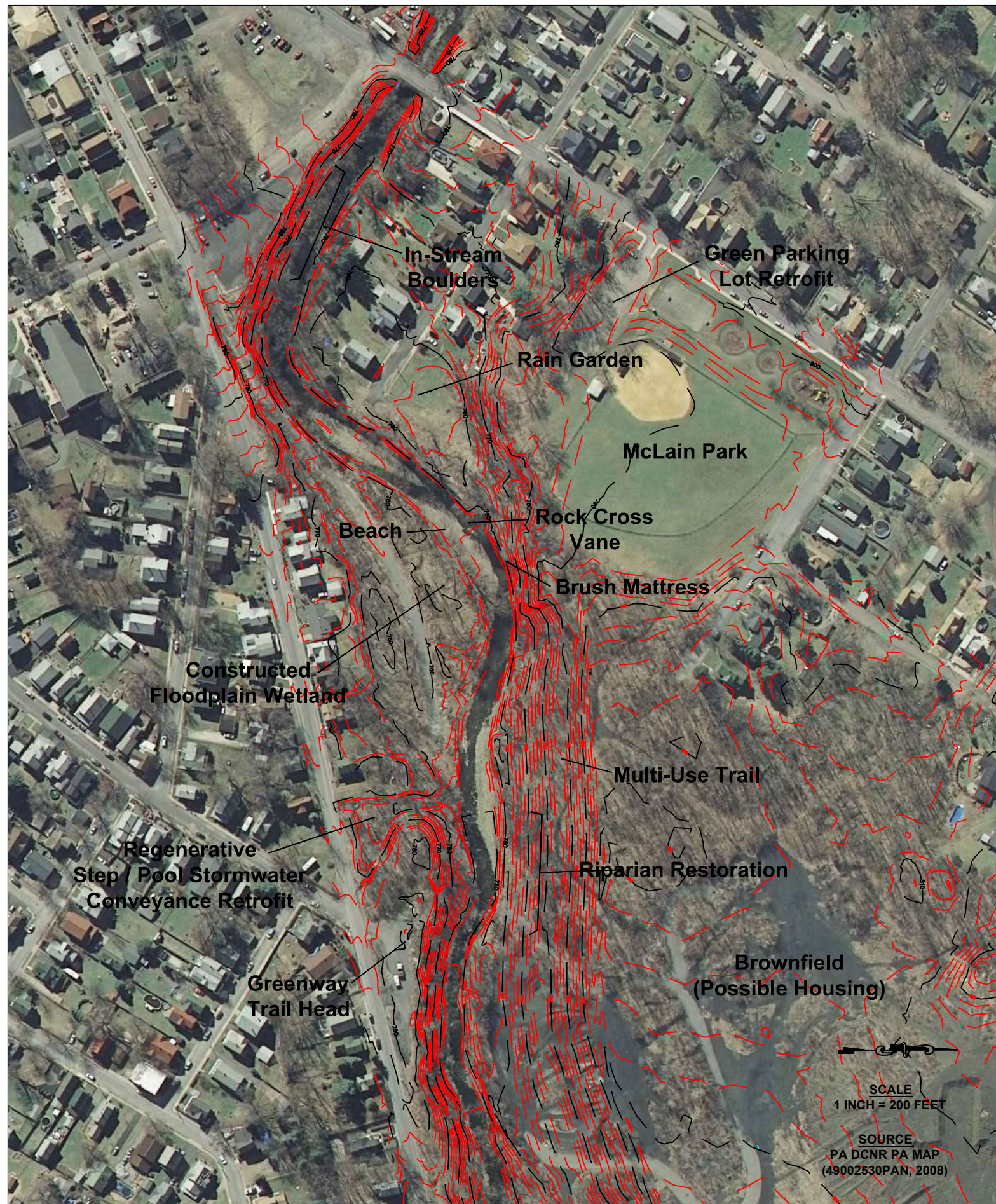
SCALE
1 INCH = 800 FEET

SOURCE
PA DCNR PA MAP
(48002540PAN, 2008)



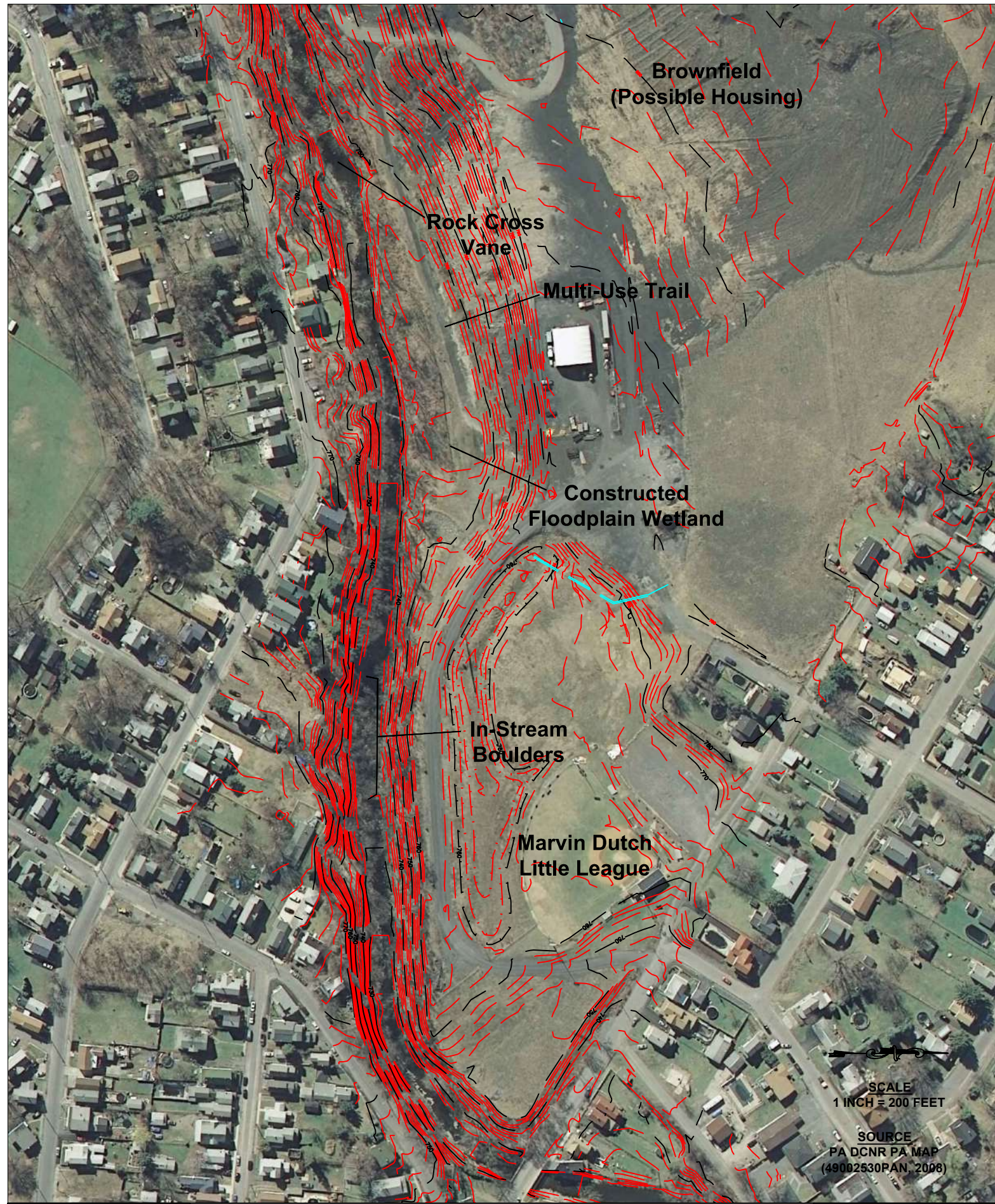
LEGGETTS CREEK GREENWAY ECO-RESTORATION / RECREATION PROJECT

Aerial Map 1



**LEGGETTS CREEK GREENWAY
ECO-RESTORATION / RECREATION PROJECT**

**Aerial
Map 2**



**Brownfield
(Possible Housing)**

**Rock Cross
Vane**

Multi-Use Trail

**Constructed
Floodplain Wetland**

**In-Stream
Boulders**

**Marvin Dutch
Little League**

SCALE
1 INCH = 200 FEET

SOURCE
PA DCNR PA MAP
(49002530PAN, 2008)



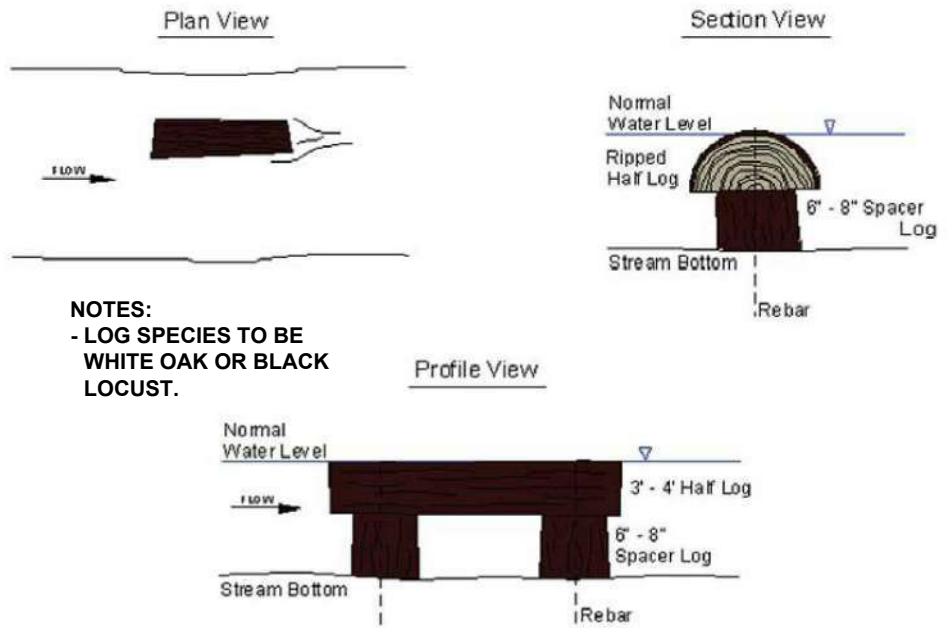
**LEGGETTS CREEK GREENWAY
ECO-RESTORATION / RECREATION PROJECT**

**Aerial
Map 3**

NOTES:

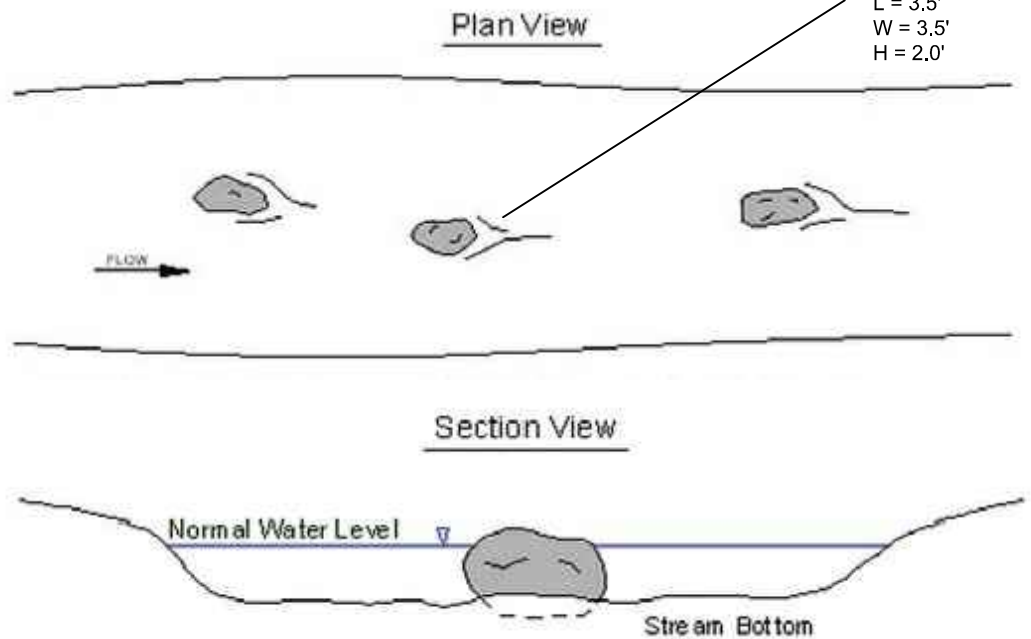
- BOULDERS SHOULD BE LARGE ENOUGH NOT TO BE DISPLACED DURING HIGH FLOWS
- USE DERRICK STONE OR BRIDGE ABUTMENT STONE.
- BOULDERS WILL BE PLACED IN THE MIDDLE THIRD OF THE WETTED WIDTH OF THE STREAM TO PREVENT DEFLECTION INTO STREAM BANKS
- BURY $\frac{1}{3}$ OF BOULDER INTO STREAM BED
- LOGS PLACED ALONG STREAM EDGE
- DETAILS ADAPTED FROM PA FISH & BOAT COMMISSION (HABITAT IMPROVEMENT FOR TROUT STREAMS)

HALF LOG STRUCTURE



NOTES:
- LOG SPECIES TO BE WHITE OAK OR BLACK LOCUST.

RANDOM BOULDER PLACEMENT



1
D1

IN-STREAM HABITAT DETAILS

SCALE: NTS

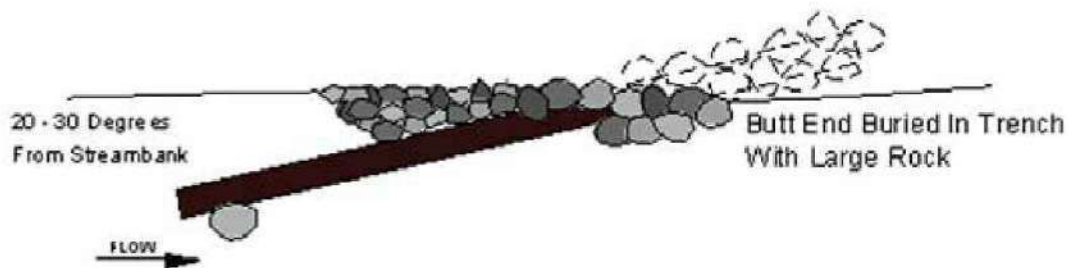


NOTES:

- BOULDERS USED TO ANCHOR LOG SHOULD BE LARGE ENOUGH NOT TO BE DISPLACED DURING HIGH FLOWS
- USE DERRICK STONE OR BRIDGE ABUTMENT STONE.
- BURY $\frac{1}{3}$ OF BOULDER INTO STREAM BED
- DETAILS ADAPTED FROM PA FISH & BOAT COMMISSION (HABITAT IMPROVEMENT FOR TROUT STREAMS)

SINGLE LOG VANE DEFLECTOR

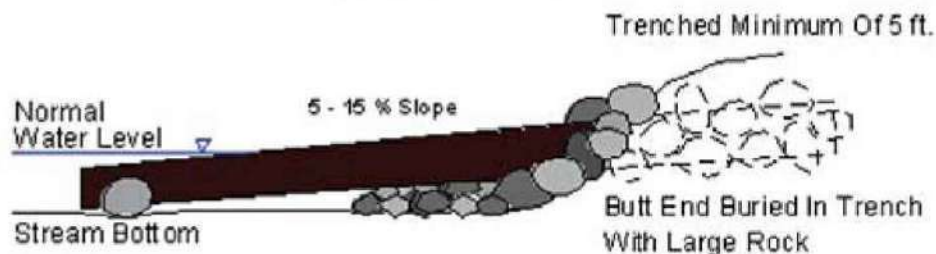
Plan View



NOTE: Can place a large rock at tip as a brace.

- NOTES:
- LOG SPECIES TO BE WHITE OAK OR BLACK LOCUST.

Section View



1
D2

SINGLE LOG DEFLECTOR DETAIL

SCALE: NTS

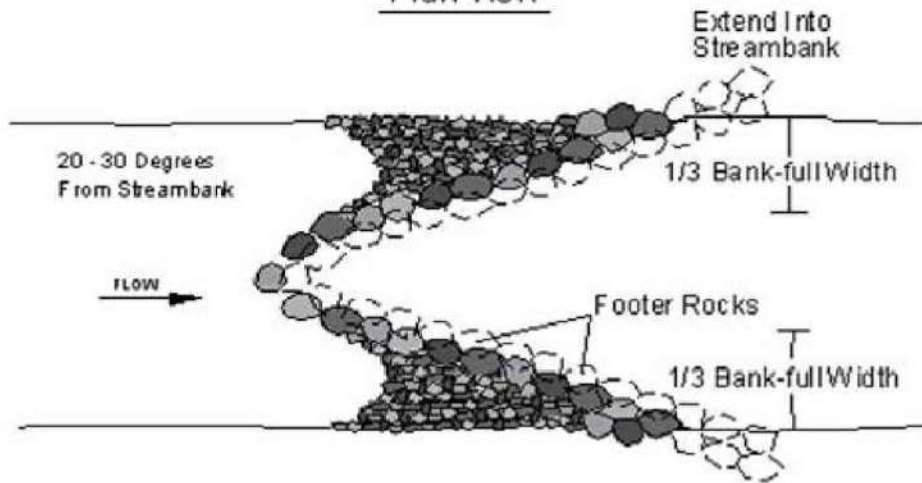
NOTES:

- BOULDERS SHOULD BE LARGE ENOUGH NOT TO BE DISPLACED DURING HIGH FLOWS
- USE DERRICK STONE OR BRIDGE ABUTMENT STONE.
- BURY $\frac{1}{3}$ OF FOOTER BOULDERS INTO STREAM BED;
ASSURE TOP STONES ARE BATTERED BACK MIN 6"

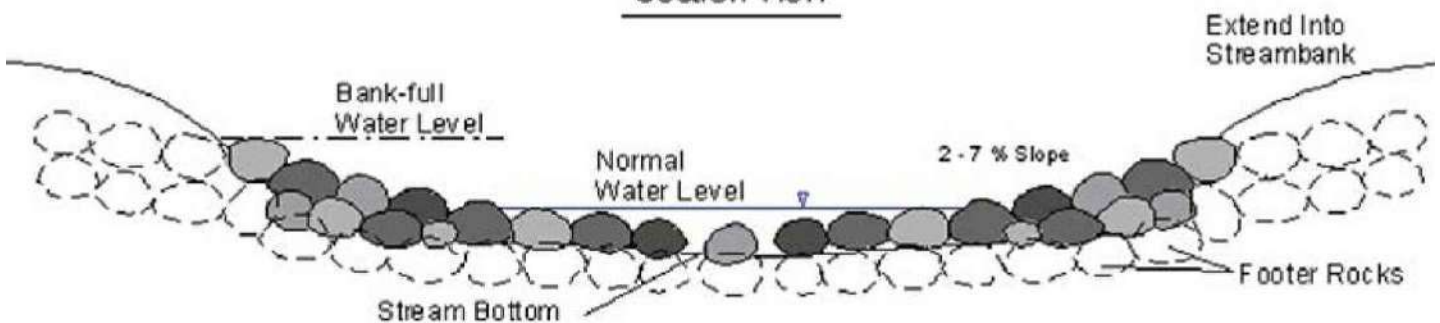
DETAIL ADAPTED FROM PA FISH & BOAT COMMISSION
(HABITAT IMPROVEMENT FOR TROUT STREAMS)

ROCK CROSS VANE
(LOW FLOW CHANNEL STRUCTURE)

Plan View



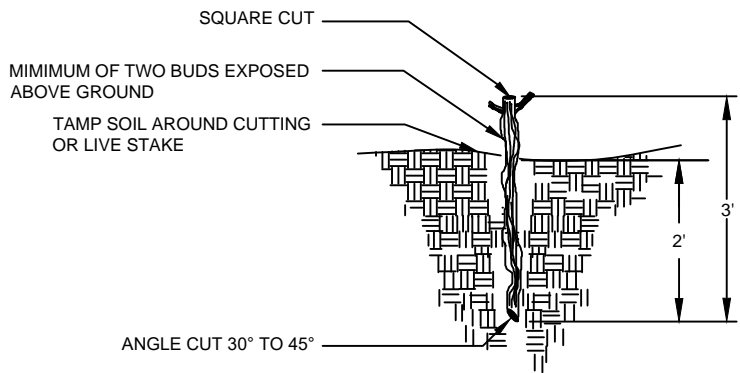
Section View



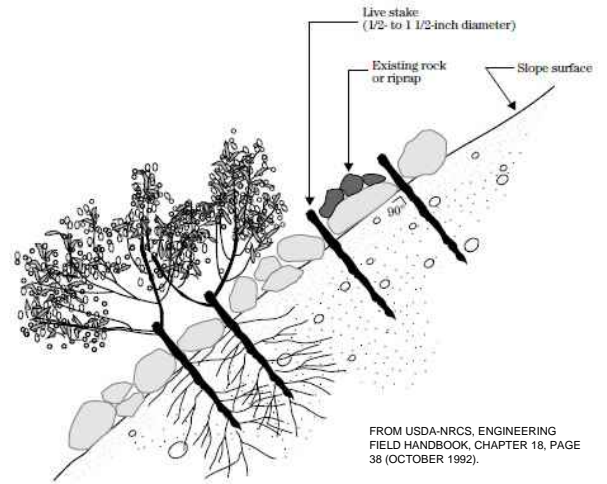
1
D3

ROCK CROSS VANE DETAIL

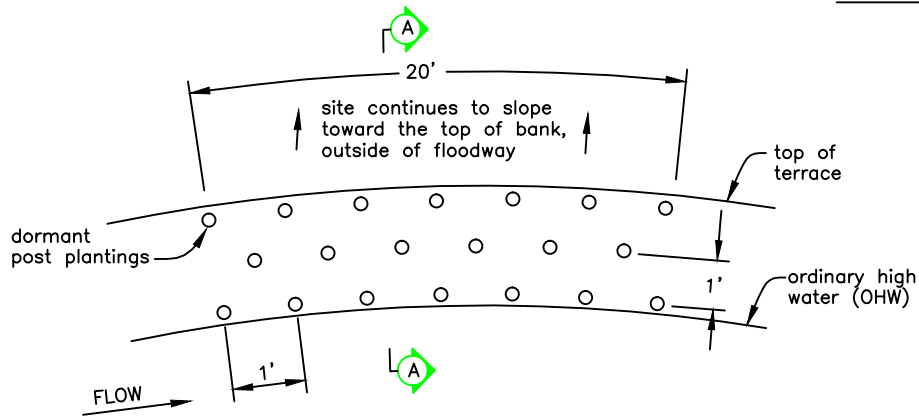
SCALE: NTS



LIVE STAKE PLANTING

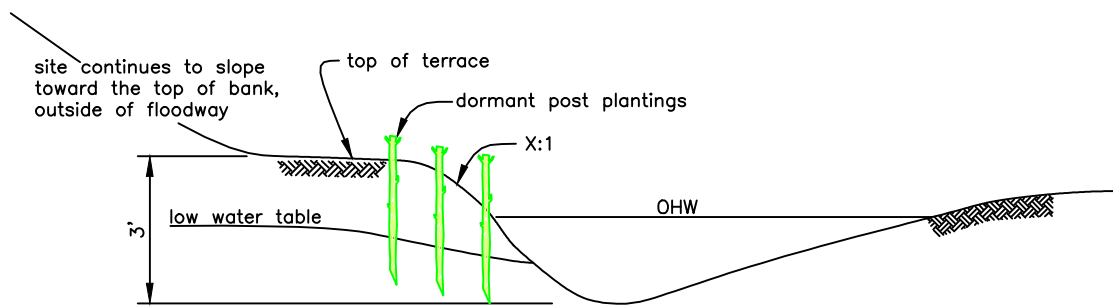


JOINT PLANTING



PLAN VIEW

ADAPTED FROM U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE



SECTION A

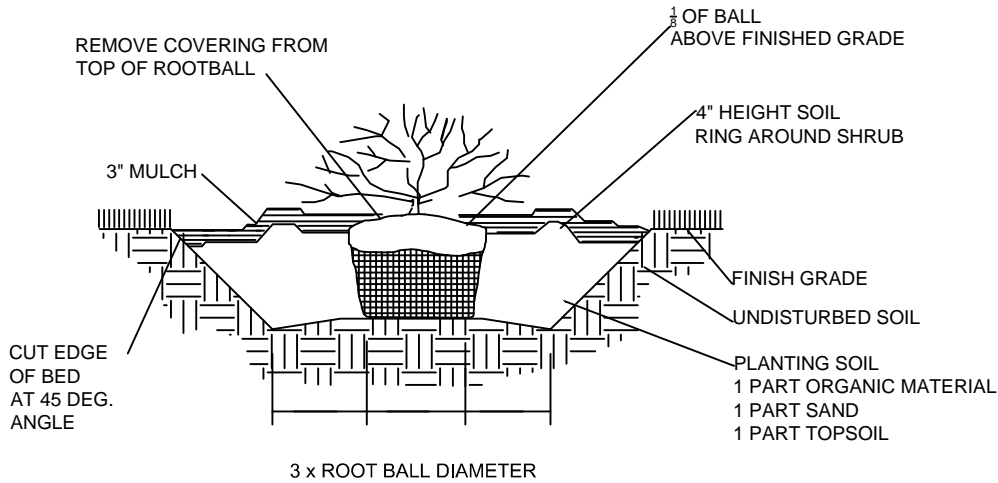
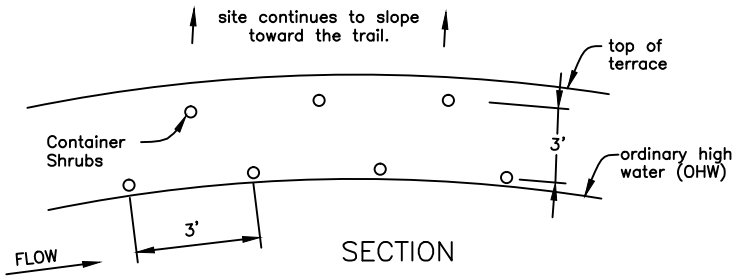
LIVE STAKE PLANTING

1
D4

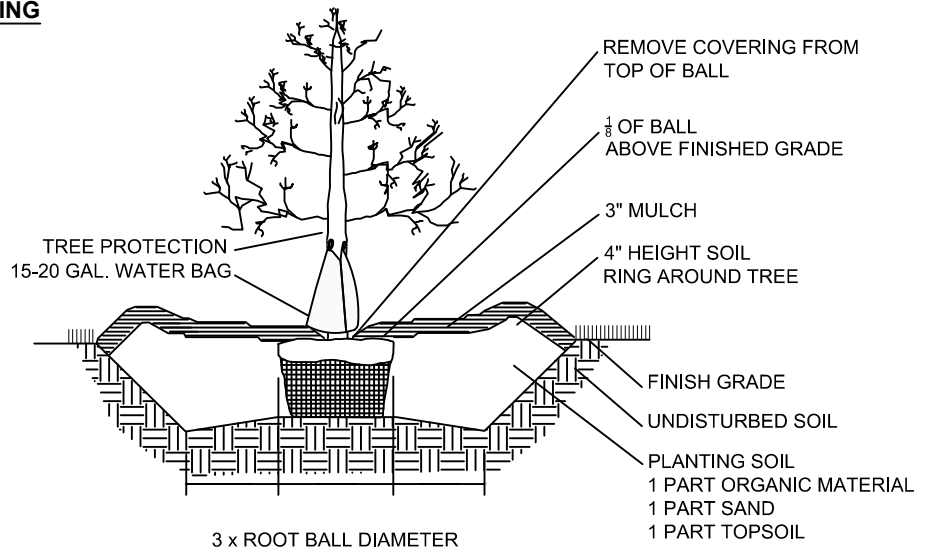
STREAM BANK STABILIZATION DETAILS

SCALE: NTS





SHRUB PLANTING



TREE PLANTING

1
D5

RIPARIAN PLANTING AREA - NATIVE TREE & SHRUB DETAILS

SCALE: NTS



Overview of Pennsylvania's Recreational Use of Land and Water Act



The Act limits the liability of property owners who open their land for public recreation, providing them protections against claims of personal injury and property loss.

Introduction

The purpose of the Recreational Use of Land and Water Act (RULWA) is to encourage landowners to make their property available for public recreation.

RULWA limits owners' liability for personal injury and loss of property, whether the problem is blamed on the owners or on recreational users of the land.

RULWA limits the traditional duty of care that owners owe to people entering their land. It provides that **landowners have no duty to keep their land safe for recreational users and have no duty to warn of dangerous conditions**. (This immunity from liability does not protect landowners who *willfully or maliciously* fail to warn of dangerous conditions or who charge for admission.)

This 1966 law, found in Purdon's Pennsylvania Statutes, title 68, sections 477-1 et seq., was amended by the General Assembly in 2007, 2011, and 2018 to enhance protections for owners. The law can be viewed at ConservationTools.org as can the more expansive [Guide to Pennsylvania's Recreational Use of Land and Water Act](#).

Who Is Protected?

RULWA protects public and private landowners as well as tenants, lease holders (such as hunt clubs), and other persons or organizations "in control of the premises." Trail and conservation easement holders are protected if they exercise sufficient control to be viewed as possessors of the land (and, if they don't have that control, then they're not subject to liability at all).

Which Kinds of Recreation Are Covered?

The range of recreational activities covered by RULWA was widened in the 2018 amendment. RULWA now defines "recreational purpose" as "any

activity undertaken or viewed for exercise, sport, education, recreation, relaxation or pleasure."

The Act goes on to state that this:

includes, but is not limited to, any of the following, or any combination thereof: hunting, fishing, swimming, boating, recreational noncommercial aircraft operations or recreational noncommercial ultralight operations on private airstrips, camping, picnicking, hiking, pleasure driving, snowmobiling, all-terrain vehicle and motorcycle riding, nature study, water skiing, water sports, cave exploration and viewing or enjoying historical, archaeological, scenic, or scientific sites.

What Types of Land Are Covered?

Although the plain language of RULWA seemed to apply to all recreational land—improved and unimproved—Pennsylvania courts have ruled that the General Assembly intended for some developed recreational lands to be outside the law's protection. The General Assembly responded by clarifying and elaborating on its intent in its 2018 amendment to the statute. The amendment greatly expanded RULWA's original definition of "land":

"Land" means land, roads, water, watercourses, private ways and buildings, amenities, structures, boating access and launch ramps, bridges, fishing piers, boat docks, ramps, paths, paved or unpaved trails, hunting blinds and machinery or equipment when attached to the realty. The term shall also include areas providing access to, or parking for, lands and waters, including, but not limited to, access ramps, trails or piers for use by recreational users with disabilities. [bold emphasis indicates text added in 2018]

This expanded definition explicitly provides protection for a variety of man-made features, but

uncertainty exists regarding other site improvements that aren't listed. Courts previously have:

- Ruled against RULWA coverage for swimming pools, basketball courts, and playgrounds
- Given mixed signals regarding ballfields—covering a softball field but not baseball, lacrosse, and football fields
- Given an artificial lake RULWA protection but not the lake's dam structure

See the [Guide to Pennsylvania's Recreational Use of Land and Water Act](#) for descriptions of RULWA court cases.

Can Owners Charge Fees?

RULWA protection generally isn't available if owners charge for admission. However, pursuant to the 2018 amendment, the following are allowed without negating RULWA protection:

- Voluntary contributions by recreational users
- In-kind contributions (e.g., receiving the meat of deer hunted on the property)
- Contributions made to an owner that are not retained by the owner and are used by the owner exclusively for: conserving or maintaining the land, paying taxes on the land, or paying for liability insurance on the land

How Public Does the Access Need to Be?

If someone is hurt or their personal property is damaged in association with using a property owner's land, the owner will receive RULWA immunity *even if the owner has not expressly invited or permitted the public to enter the property*. However, where the land is open only to selected people rather than to the public in general, this will weigh against RULWA immunity.

Governmental Immunity

Pennsylvania's governmental immunity statutes, the Tort Claims and Sovereign Immunity Acts, shield municipalities and commonwealth agencies from claims of willful misconduct. Liability only may be imposed upon these entities for their negligent acts. But, if an injury occurs on "land" within the meaning of RULWA, that law shields owners from negligence

suits. In essence, governments are granted complete immunity for certain recreational injuries.

Failure to Warn

Although RULWA immunizes landowners from negligence claims, landowners remain liable for willful or malicious failure to guard or warn recreational users of a dangerous condition. To determine whether a landowner's behavior was willful, courts will look at whether the owner had actual knowledge of the threat and whether the danger would be obvious to entrants. Actual knowledge might be presumed if the owner were aware of prior accidents at the same spot. But if the land contained a dangerous feature that should have been obvious to recreational users, they may be considered to be put on notice, which generally would preclude landowner liability.

Can I Still Be Sued?

The reality is that pretty much anyone can be sued for pretty much anything. RULWA does not prevent landowners from being sued; it provides them with an immunity defense to claims that their negligence caused the plaintiff's injury. However, the General Assembly's 2018 amendment expanded the Act's protections for landowners and should be helpful in reducing frivolous litigation.

Find the most recent version of this guide and related resources at <https://conservationtools.org/guides/175>

The [Pennsylvania Land Trust Association](#) produced this guide with support from the Community Conservation Partnerships Program, Environmental Stewardship Fund, under the administration of the PA Department of Conservation and Natural Resources, Bureau of Recreation and Conservation. [Andrew M. Loza](#) and [Debra Wolf Goldstein, Esq.](#), are the authors.

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