

**PINE CREEK WATERSHED  
RIVER CONSERVATION PLAN**



**UPDATE 2013  
PINE CREEK WATERSHED COUNCIL**

## Table of Contents

List of Partners and Organization	3
Acronym List	4
Introduction	6
Acknowledgements and Methods	7
Highlights of Plan Implementation	
Early Implementation Projects	8
Formation of Watershed Council	8
Partnerships	8
Ongoing & Future Projects	13
Management Options – update	17
Issues, Constrains & Opportunities	17
Land Resources	22
Biological Resources	28
Water Resources	32
Cultural & Recreation Resources	36
Conclusion	50

## List of Organizations & Council Members

As of January 2013

Tioga County Conservation District	Lori Davias	
Northcentral Pennsylvania Conservancy	Renee Carey	<b>Co-secretary</b>
Pine Creek Headwaters Protection Group	Ron Comstock	
Lycoming County Planning Commission	Toner Hollick	<b>Vice-chair</b>
Pine Creek Council of Governments	Paul Hoffmaster	
Potter County Conservation District	Jason Childs	
Potter County Planning Commission	Charlotte Dietrich	<b>Co-secretary</b>
Lycoming Co. Conservation District	Carey Entz	
Lycoming County Planning Department	Mila Robinson	
Pine Creek Preservation Association	Dr. George Durrwachter	
Member at Large	Jerry Walls	
Tioga County Planning Commission	Jim Weaver	<b>Chair</b>
Lycoming College - Clean Water Institute	Mel Zimmerman	
Member at Large	Dave Johnson	
Slate Run Sportsmen Association	Jack Wolfe	
Member at Large	Steve Priset	

## Acronym List

First our apologies for the use of acronyms but without them the management options would have been even longer! This list of acronyms will help guide through the agencies and organizations we have or will be partnering and working with in the implementation of the River Conservation Plan. It quite possibly is one of the most comprehensive lists of agencies and organizations in the watershed if not the commonwealth!

ACOE	Army Corps of Engineers
ALLARM	Alliance for Acid Rain Monitoring
ARC	Appalachian Regional Commission
CAFO	Concentrated Animal Feeding Operation
CBF	Chesapeake Bay Foundation
CCC	Civilian Conservation Corps
CCPP	(C2P2) Community Conservation Partnerships Program
CD	Conservation District
CFA	Commonwealth Financing Authority
CVI	Canaan Valley Institute
CWI	Clean Water Institute
DAR	Daughters of the American Revolution
DCED	Department of Community and Economic Development
DCNR	Department of Conservation and Natural Resources
DEP	Department of Environmental Protection
EBTJV	Eastern Brook Trout Joint Venture
EMRC&D	Endless Mountains Resource Conservation & Development Council
EPCAMR	Eastern Pennsylvania Abandoned Mine Reclamation
FEMA	Federal Emergency Management Agency
FSA	Farm Service Agency
FSC	Forest Stewardship Council
GIS	Geographic Information System
LDD	Local Development District
LHR	Lumber Heritage Region
LUPTAP	Land Use Planning & Technical Assistance Program
NFIP	National Floodplain Insurance Program
NFWF	National Fish & Wildlife Foundation
NOAA	National Oceanographic & Atmospheric Administration
NPC	Northcentral Pennsylvania Conservancy
NPHMN	Northern Penn Holistic Management Network
NRCS	Natural Resources Conservation Service
NTRPDC	Northern Tier Regional Planning & Development Commission (an LDD)
OSM	Office of Surface Mining
PACD	Pennsylvania Association of Conservation districts
PALTA	Pennsylvania Land Trust Association
PASA	Pennsylvania Association of Sustainable Agriculture
PASDA	Pennsylvania Spatial Data Access
PCHPG	Pine Creek Headwaters Protection Group
PCPA	Pine Creek Preservation Association

PEMA	Pennsylvania Emergency Management Agency
PennDOT	Pennsylvania Department of Transportation
PENNVEST	Pennsylvania Infrastructure and Investment Authority
PFBC	Pennsylvania Fish & Boat Commission
PGC	Pennsylvania Game Commission
PHMC	Pennsylvania Historic & Museum commission
PMPEI	Pennsylvania Municipal Planning Education Institute
PSATS	Pennsylvania State Association of Township Supervisors
PWPT	Pennsylvania WILDS Planning Team
RT.6	Route 6 Heritage Region
SEDA-COG	SEDA Council of Governments (an LDD)
SRBC	Susquehanna River Basin Commission
TNC	The Nature Conservancy
TPA	Tourist Promotion Agency
TU-PA	Pennsylvania Trout Unlimited
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geologic Survey
WPC	Western Pennsylvania Conservancy
WREN	Water Resources Education Network

## Introduction

The Steering Committee organized to write the Pine Creek Rivers Conservation plan. It has continued to meet since the Plan was completed in 2005 but re-organized as the Pine Creek Watershed Council. We are a partnership of the Potter, Tioga, and Lycoming County Conservation Districts and County Planning Departments; various stakeholder organizations; citizens; and advisors from the Susquehannock, Tiadaghton, and Tioga State Forests. We have been successfully implementing the Plan through projects in the watershed.

Although there is no mandate with this Plan nor is there assumed update requirements, the Council felt it was appropriate and expedient to undergo a review and update to various sections of the original document. There was also some importance given to collecting and cataloging the implementation of projects and to continue the spirit of Kaizen that initially established the team of stakeholders and partnerships developed to write the plan. As always, the devil is in the follow through. This update is a result of our work, and an historical account of the progress to date. Our hope is it will also be a roadmap for future implementation of river conservation on Pine Creek and northern Pennsylvania.

Much has transpired in the last eight years. Two of the most notable are: the flourishing PA Wilds initiative, and the development of gas extraction in the Marcellus Shale. While the PA Wilds was been addressed in the original plan much has changed. The emergence of gas development in the Marcellus Shale, however, and energy extraction is a dynamic consequence of the technological changes in energy exploration and production world-wide. The Watershed has moved front and center in the Commonwealth's policy for natural gas production and the potential conflicting strategies of ecosystem conservation, tourism and recreation superimposed on gas extraction has created a certain cognitive dissonance. Working from the perspective of the Marcellus as catalyst has generated the need for this update.

The Pine Creek Watershed has seen three resource extraction phases since the Europeans arrived here. The first one was the timber – all the trees were cut, resulting in massive fires and unchecked erosion. The second was the coal – stripping the land and creating the intergenerational tyranny of acid mine drainage. The third was (or is) the brain-drain and loss of population with its incipient loss of manpower and human resources. Now natural gas extraction in the Marcellus shale is impacting the watershed with increased earth disturbance and habitat fragmentation, water quality and quantity concerns, light and noise pollution and increased crime and housing needs.

Throughout the development and implementation the Pine Creek Watershed Rivers Conservation Plan, the Pine Creek Watershed Council has attempted to understand the carrying capacity of the watershed. Physical, biological and social carrying capacities have been topics we have explored and attempted to quantify. While there is no formal policy or protocol for managing the carrying capacity of the watershed we have been working with the Bureau of Forestry and DCNR through the Conservation Landscape Initiative and PA Wilds Planning Team to understand the relationship between visitor experience, local community involvement and the implications of too many people and too much development. To that end we have held one policy retreat with State Agencies to better understand how decisions at the state

level impact our communities and how we can work with these decision and policy makers to better protect the resource. We are continuing this dialog as the Bureau of Forestry develops a monitoring program on the State Forest to track the impacts of the development of the Marcellus Shale natural gas play in North Central Pennsylvania. It is anticipated that we will hold another policy session in the near future.

There have been several initiatives across the watershed in recent years to continue the work set forth in the Pine Creek Watershed Plan. As a volunteer organization with limited influence and financial support the Council has still managed to put conservation on the ground, create awareness and education of natural systems and services and to connect people across political boundaries that would not have occurred if not for our collaboration. We offer this update in that spirit and hope you find it informative and helpful. As in the original plan we will further the ethic of conservation and collaboration to fulfill the implementation of the management options listed here and would entertain any opportunity to assist others in doing the same. Join us!

## **Acknowledgements & Methods**

While the accomplishments of the Council are nebulous at best, much of the work in the watershed has in one way or another been accomplished by our members in their own way. As a convening organization meant to share ideas, enthusiasm, and resources, the goals and objectives of the plan and the member organizations and partners would not have been as broad or watershed wide if we had not established our working team and support base. While we will not accept credit for this entire list of projects we can acknowledge that we inspired and assisted them!

The Council meets bi-monthly somewhere in the watershed and the committees are expected to meet in the month in-between. This has been the case for the last eight years. As a partnership we have support from the Endless Mountains RC&D as a non-profit, 501(c)3 to act as the fiduciary agent when an implementation project cannot be financially supported by member organization. We also have a website at [www.pinecreekwatershedrcp.org](http://www.pinecreekwatershedrcp.org) to promote activities and provide updates and news.

Our principle partners are the Conservation Districts and the County Planning Departments of Potter Tioga and Lycoming Counties. Several municipal officials are on Council and we also have several members at large from communities in the watershed. In addition, Lycoming College, several non-profit organizations and watershed associations participate and assist in implementation. An updated list of members and stakeholders is located at the beginning of this document.

The standing sections of the plan: Culture & Recreation, Water & Biological Resources and Issues & Constraints, each have a committee that works sporadically and inconsistently on management options and implementation. They partner with resource specialists and organizations with kindred missions and create a dialog and capacity that supports the work of these partners. We also communicate the activities of these groups and disseminate information and resources across the watershed.

Each of the committees has revisited, reviewed and revised the management options based on current conditions, projects that have been completed, are currently underway, stalled for lack of funding or other barriers. Where possible the barriers have been identified, resources and partners explored and contacted, or await further conditions to move forward.

## Highlights of Plan Implementation

All the work over the past ten years on the watershed has created an impressive list of projects. Cataloged here are the Early Implementation steps that essentially built the capacity of the Pine Creek Watershed Council and partners to succeed in moving from the critical phase of plan completion to continued actions. These projects ranged from early work with the Babb Creek Watershed on agricultural issues on Wilson Creek to the formation of the PA Wilds Planning Team. But the formation of the Pine Creek Watershed Council was critical to any and all of this work. The steering committee for the plan early on saw that to continue the implementation would require a long term commitment and an even longer vision and time frame if the plan was to succeed. The morphing of the steering committee to council was instrumental in this capacity building. The following list of projects is offered as examples of on-going work of the Pine Creek Watershed Council and partners.

**Wilson Creek** – Early in our work as the steering committee an opportunity emerged with the Babb Creek Watershed Association to work in the Wilson Creek Watershed. This resulted in a coordinated approach to address the Ag Impaired condition of the stream. sediment and nutrients have impacted the headwaters of Wilson Creek. With seed money from DCNR we developed a project in Coolidge Hollow with two farmers to demonstrate the practice of planned grazing. This led to expanding the use of conservation best management practices in the watershed. In addition the Tioga Co. Conservation District, implemented a Dirt & Gravel Roads project with Delmar Township to reduce runoff from the dirt roads in the watershed. This is an on-going project and monitoring of the sediment discharge is showing improvement to the watershed.





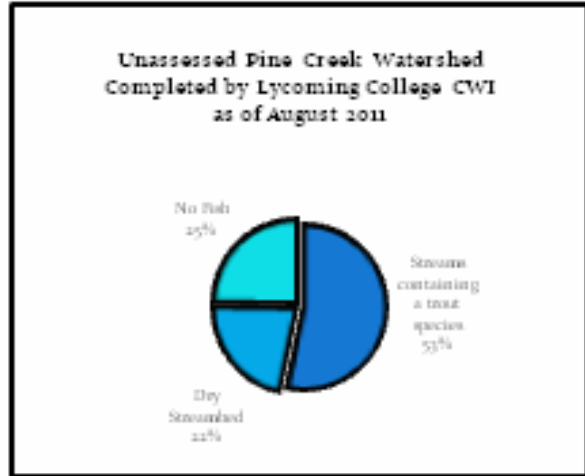
**PA Wilds Planning Team** – While the formation of the PA Wilds Planning Team was the result of a number of people and events. There is some speculation that if the Pine Creek Watershed River Conservation Plan had not been a work in progress at the time and if a number of committee members had not expressed concern of the impacts of a top down initiative to make us all rich and famous with ecotourism, that several members took it to the highest levels of state government and, with typical Pine Creek style, made it an opportunity to plan further. Four members of the Pine Creek Watershed Council are represented on the Planning Team and continue to provide a “watershed” perspective on all things PA Wild.



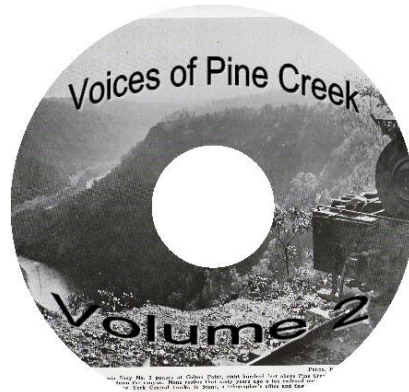
**Eels & Mussels** – The USGS Northern Appalachian Research Laboratory in Asaph has been researching the mussels in Pine Creek for a number of years. Recently they made a startling discovery that there is an important relationship between the Elliptio Mussel and the American Eel. The American Eel is the secondary host to the larval Elliptio and critical to the healthy populations of mussels in the watershed. These mussels form a vital link in the water quality of the system. With the dams on the Lower Susquehanna the Eels lifecycle has been disrupted. This in turn reduces the success of the reproduction of the mussel. The Council has worked with the USGS and Audubon to increase awareness of the plight of the Eels and Mussels.



**Unassessed Waters** – There has been a lack of man-power and funding through the PA Fish & Boat Commission to assess the waters of the tributaries in Pine Creek. With the assistance of the two watershed associations; Pine Creek Headwaters Group and the Pine Creek Preservation Association we have successfully raised in excess of \$10,000 to enable interns from Lycoming College to assess the tributaries of Pine Creek.



**Oral Histories** – The Watershed Council has collected more than 50 hrs of Oral Histories from throughout the watershed and across the boundaries of municipalities and counties. These stories range from homesteading and logging to government and policy. From some the stories of how we established, managed and developed the public lands to the history of the railroad in the valley. Two DVD were created to capture the highlights of the interviews and history of the project. Proceeds of the DVD’s are used to further projects of the Council. Volume 2 was supported by a grant from the Dominion Foundation.



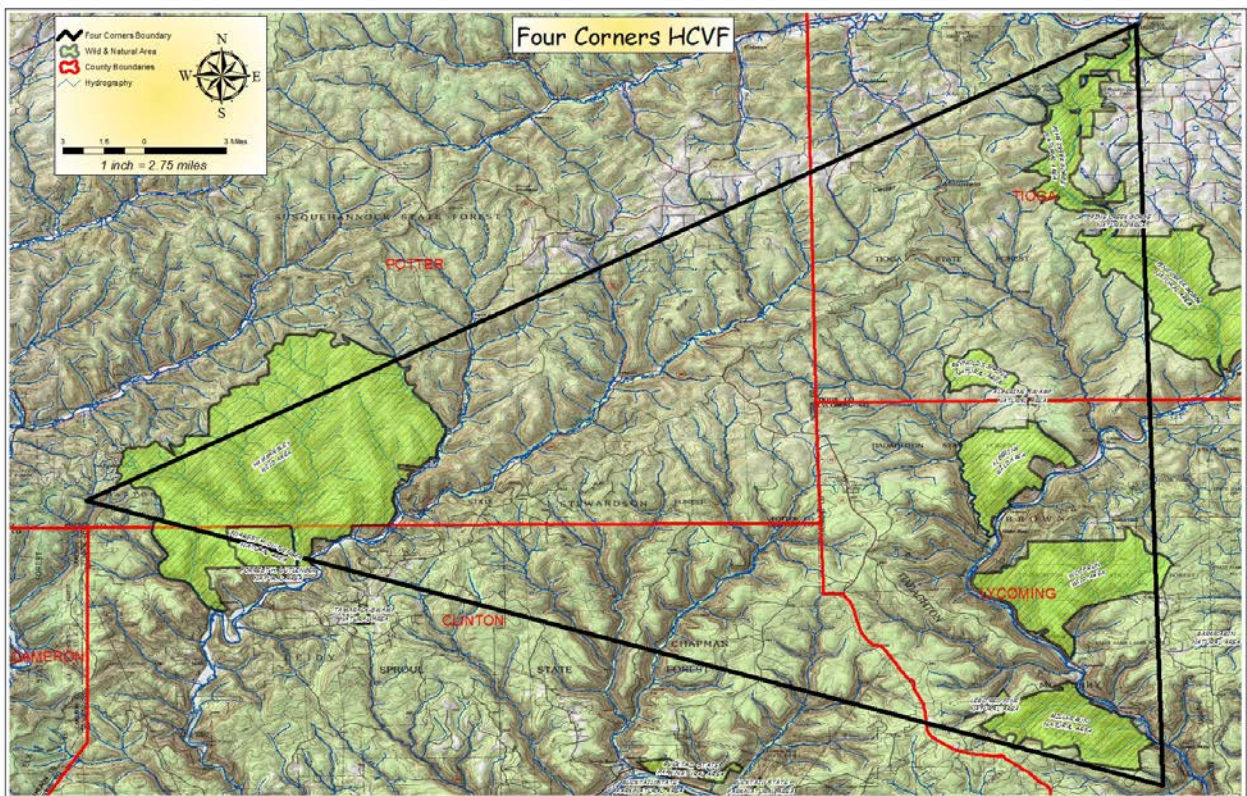
**Pine Creek Waterdogs** – In partnership with the Pine Creek Headwaters Protection Group a project to monitor water quality throughout the watershed and beyond was initiated. This has led to an interesting environmental education opportunity to train citizens to monitor water quality in their backyards. Using simple protocols and equipment over 700 volunteers have been trained across North Central Pennsylvania. Currently we are working with the school districts to involve the youth in a program called the Mudpuppies. DCNR’s Land Choices curriculum will be used to teach high school students the basic concepts of Land Use and will incorporate water monitoring as a hands-on activity outside the classroom.



**Website** – As part of our early implementations we developed and maintain a website: [www.pinecreekwatershedrcp.org](http://www.pinecreekwatershedrcp.org) Here we have information on the watershed, project clips from the Oral History and announcements of events. We have been supported in our website by the Dominion Foundation and Western Pennsylvania Conservancy.



**Four Corners HCVF** – One of the basic tenets of ecological health is to connect communities and organisms together. As we have worked to implement the plan we recognized the importance of connectivity across watershed boundaries. While the plan is about Pine Creek, the overall cross watershed perspective is also important. A majority of the watershed is in public lands and with ecosystem based management in place through the State Forest Management Plan two cycles of updates and participation of three District Forests: Susquehannock, Tioga and Tiadaghton Districts. The opportunity to identify and designate a large landscape scale High Conservation Value Forest as part of the Bureau of Forestry, Forest Stewardship Certification has been pursued. A number of partners and stakeholders have been assembled and advocacy for this designation is on-going.



**Pine Creek Room and Exhibits @ TRMC** – AS the PA Wilds Initiative has grown and DCNR, through key investments in the region, has added infrastructure to the public trust. One of these investments is the Tiadaghton Resource Management Center in Waterville along Pine Creek. This green certified building has a number of interpretive exhibits and features that augment the history and culture of the Watershed. In addition the Watershed Council has a dedicated space for display and interpretation of the Councils activities and storage for archived materials. The Pine Creek Room is a work in progress with funding provided by Dominion foundation and Western Pennsylvania Conservancy.

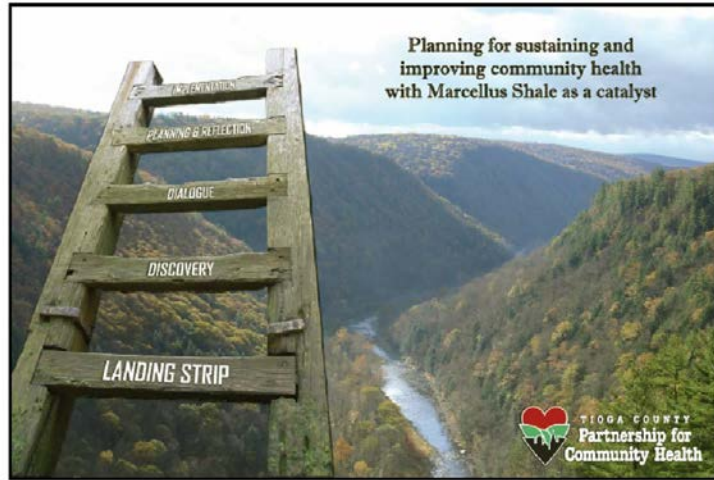
## Ongoing & Future Projects

**Fish Passage** – At system wide & pinch points. All three conservation district watershed specialists have been involved in the Water & Biological Resources Committee. One of the emerging projects is to restore connectivity to the main stem of Pine Creek and its tributaries. There are several pinch points that prevent fish, primarily trout, to access the headwaters for thermal refuge and spawning. One of these is Berger Lake in Galeton. A dam prevents fish from moving upstream during critical high water temperatures in the summer. A partnership is being formed to address this impediment to the movement of fish. Grant money has been applied for and the project is soon to begin. In addition we will be looking at culverts and other blockages in the tributaries that impact migration of fish.

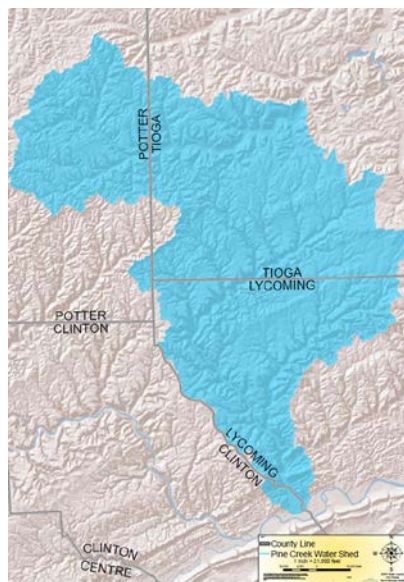


Dam @ Berger Lake in Galeton

**Implementation of the Community Compact with the Natural Gas Industry** -Tioga County Partnership for Community Health & PA Wilds Planning Team. Several interesting opportunities have been identified to work with the Marcellus Natural Gas Industry to sustain and improve community health in the watershed. We are also partnering with the PA Wilds Planning Team to develop a Design Guide Supplement for Oil & Gas to protect and improve community character. These projects are just starting to unfold as we write this update.




**Leonard Harrison State Park Interpretive Display** – We have been invited by the Bureau of State Parks to participate in the upgrading of the interpretive displays at Leonard Harrison State Park on the rim of the Pine Creek Gorge. This project will include an interpretive panel at the Visitor’s Center to focus on the importance of the watershed for the Water, Forests, Quality of Life and Ecosystem Services that it provides.



**Walking Forums** – Tioga County Countryside Council. In June of 2012 the Watershed Council in partnership with the Tioga County Countryside Council, a Work Group of the Tioga County Partnership for Community Health held a Walking Forum to highlight the Four Corners High Conservation Value Forest proposal. This one day event was attended by several Bureau of Forestry staff to help the Council and attendees understand the value and importance of protecting our public lands.



**Pine Creek Water Trail** – publish maps north & south sections. The maps of the Pine Creek Water Trail have been completed. There has been a lack of funding to publish and distribute these maps for the general public. The Council will continue to seek funding to produce these maps.



**Pine Creek  
Water Trail**  
NORTHERN SECTION  
*Ansonia to Slate Run*

**Map & Guide**

“...perhaps our grandsons, having never seen a wild river, will never miss the chance to set a canoe in singing waters.....glad I shall never be young without wild country to be young in.”  
-Aldo Leopold

EMRC&D – **WINGS**. The WINGS (Wildlife Incentives for Non-Game and Game Species) is a project of our supporting organization. We have been assisting in the implementation of this project. With the recent addition of an intern and the support of Shell Appalachia, we have started a pilot project in the Pine Creek Watershed to put wildlife habitat on pipeline right-of-ways. The increased number of pipelines in the watershed have created an opportunity to improve and enhance habitat on these disturbed areas.





# Management Options for Pine Creek Watershed Rivers Conservation Plan

(revised and updated 2012-13)

The management options listed here have been updated from the original River Conservation Plan adopted in 2005. We have made some changes based on the work the Council has done to date and with the unprecedented changes to the watershed since the plan was adopted. These management options are in some cases very specific and in others very broad. We would anticipate and encourage other organizations, municipal governments and stakeholders to partner with us or go it alone in adopting these projects or ideas and bring them to fruition. The fact that they are included in this update will provide for potential funding through DCNR and other grant programs. All we ask is that you notify the Pine Creek Watershed Council that you are interested implementing or partnering on identified or specific options.

## *1. Issues, Concerns, Constraints, Opportunities*

### *PA WILDS – A Conservation Landscape Initiative*

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding</i>
<b>1. Integrate analysis and implementation of management options from other sections of the plan from a regional and state perspective</b>	<p><b>A.</b> Develop consensus and adopt and develop a holistic approach to capacity building and support of gateway communities</p> <p><b>B.</b> Use GIS and Internet to develop interactive maps of the region</p> <p><b>C.</b> Link to infrastructure planning of county and state</p> <p><b>D.</b> Discuss &amp; consider unforeseen consequences of our actions</p> <p><b>E.</b> Carefully study any proposed marketing campaign to: a. target appropriate audiences, b. determine impacts on communities, c. focus on gateway communities</p> <p><b>F.</b> Integrate CLI concepts at all scales. Interdependent &amp; Interrelationship. Example: DCNR &amp; DEP now working</p>	<p>PASDA, USGS, DEP, DCNR, County Planning, Commissions &amp; Municipalities</p>	<p>LUPTAP, USGS, DEP, DCNR, County Planning Commissions &amp; Municipalities</p>

closer with MSG. PA Wilds working closer with PCWC.

**2. Develop and monitor indicators (social, physical, biological) of carrying capacity of the watershed**

- A.** Provide support and funding to planning commissions - regional, county and multi-municipal
- B.** Explore methods for low impact development` and best management practices in the watershed
- C.** Assist communities in developing a vision of their future and that of the watershed to foster development and protection of community character and enhance and create appropriate infrastructure
- D.** Core Issues? Develop methods &/ or undertake ways to address social carrying capacity with socio-economic impacts of larger region wide infrastructure development

Colleges and Universities, DCNR, DEP, PASA, PACD, CCPP, CD, DCED, LUPTAP, SEDA-COG, PENNVEST, Reg. Planning & Development Commissions, Co Planning Commissions

DCNR, DEP, PASA, PACD, CCPP, DCED, LUPTAP, SEDA-COG, PENNVEST, PennDOT

***PINE CREEK TRAIL (Rail-Trail)***

*Management Options*

**1. Frame Pine Creek Trail in the state forest management and greenway plans**

*Specific Implementation Project*

- A.** Continues to work on greenway plans at Regional & State level
- B.** Monitor & implement County & Regional greenway plans

*Partners*

NPC, Local Foundations, Organized Groups, Hiking & Biking, DCNR, PA Greenway Partners, PennDOT, Co Planning Dept, LDDs

*Funding*

DCNR, Local Foundations, PennDOT

**2. Coordinate Pine Creek Trail with PA WILDS initiative**

- A.** Bring ALL agencies: county, municipal, state resource, and PennDOT to consensus on the process, money and effort expended
- B.** Integrate North & South

DCNR, PA Greenway Partners, PA WILDS, New York State

DCNR, Local Foundations, PennDOT

(Wellsboro & Jersey Shore)  
 terminus of trail into gateway  
 communities  
**C.** Address issues and  
 opportunities with community  
 leaders  
**D.** Work with leaders in New  
 York State to connect the Pine  
 Creek Trail with the Triple  
 Divide Trail

***Chesapeake Bay and Watershed Implementation Plans (DEP)***

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding</i>
<b>1. Partner with Conservation Districts on strategy development and implementation</b>	<b>A.</b> Educate the public and clarify goal of the strategy <b>B.</b> Identify and coordinate efforts to avoid duplication and redundancy. Nutrient Trading <b>C.</b> Clarify costs and benefits and share responsibility <b>D.</b> Improve on best management practices concept to set the stage for sediment, nutrient reductions, and credit trading <b>E.</b> Explore links of tributary strategies and community development <b>F.</b> Continue conversations on alternate sewage disposal for nutrient balance and capture	CD, CBF, DCNR, DEP, EMRC&D, PACD, PDA, USDA-NCRS	CBF, DCNR, DEP, PENNVEST, NRCS

***Pine Creek Valley Emergency Services***

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding</i>
<b>1. Determine if the emergency services available in the Pine Creek Valley are adequate.</b>	<b>A.</b> Track the usage of emergency services- one category to track would be by group: residents, non-residents property owners and visitors. <b>B.</b> Research how emergency services respond in similar areas (based on population,	Emergency Mgt Agencies, County Planning Commissions, PEMA, Local Colleges	PEMA, Municipalities, PA WILDS

visitation, and geography) and how are those organizations function- what problems do they have, how they overcoming those problems, how do the programs differ, etc.

**C.** Assess those areas' solutions to their problems- looking at such things as response time, staffing, proximity to medical facilities- and begin working to make changes as appropriate.

**2. Review and improve where necessary, emergency services (fire/medical/rescue) in the watershed  
Main Plan is different.**

**E.** NIMS & State wide mutual aide plan.

See Main Plan

**3. Educate the public about the relative lack of services and delay in response time they may encounter in rural areas**

**A.** Encourage that signage and literature (brochures, websites, etc.) which advertise the area and its attractions include information about the issue.

**B.** Create additional signage and brochures to help educate the public about this potential problem.

DCNR, PA WILDS, PEMA, Municipalities, Fire companies

DCNR, PA WILDS, PEMA, DCED

## ***Implementing the Plan***

### *Management Options*

### *Specific Implementation Project*

### *Partners*

### *Funding*

**1. Establish a Pine Creek organization to coordinate programs in the watershed and continue to work with PCWC**

**A.** Implement the Pine Creek Watershed Rivers Conservation Plan  
**B.** Use the structure of Pine Creek organizations to facilitate, coordinate, communicate and collaborate on current and future opportunities and issues in the watershed

DCNR, DEP, State and local municipalities, CD, PCHPG, PCPA, watershed groups, TNC, NPC, EMRC&D

DCNR, DEP, CD, Community Foundations, DCED, Co. Planning, municipalities, SEDA-COG, NTRPDC,ARC

<p>See Main Plan</p> <p><b>2. Provide local MO &amp; staff with training</b></p>	<p>A. Develop training on Topics &amp; skills needed to implement the plan</p> <p>B. Communicate &amp; share</p>	<p>DCNR, DEP, PSATS, PMPEI</p>	<p>DCNER, DEP, DCED, PA Local Government Training Partnerships</p>
--	--	--------------------------------	--

***Conservation Easements***

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding</i>
<p><b>1. Educate residents, visitors, landowners, non-landowners about conservation easements</b></p>	<p>A. Public education campaign</p> <p>B. Specific education of property owners in key areas</p>	<p>TNC, NPC, CD, Planning Commissions &amp; Municipalities, Community and Economic Development Entities, Chamber of Commerce, EMRC&amp;D, DCNR, DEP, PGC, NRCS, PALTA</p>	<p>LUPTAP (DCED), Land Trust Reimbursment Grant Program</p> <p>(PA Dept. of Agriculture), Wetlands Reserve Program (NRCS, USDA) DCNR, PGC, DEP, NRCS</p>
<p><b>2. Coordinate efforts of the various organizations working to conserve the watershed</b></p>	<p>A. Establish communication network</p> <p>B. Schedule yearly meetings to discuss projects underway</p> <p>C. Create a network of help and funding sources for landowners to contact to assist with conservation projects</p> <p>D. Focus on securing easements in critical areas as identified by studies such as the Natural Areas Inventory</p>	<p>TNC, NPC, CD, Planning Commissions &amp; Municipalities, Community and Economic Development Entities, Chamber of Commerce, EMRC&amp;D, DCNR, DEP, PGC, NRCS, PALTA</p>	<p>LUPTAP (DCED), Land Trust Reimbursment Grant Program</p> <p>(PA Dept. of Agriculture), Wetlands Reserve Program (NRCS, USDA) DCNR, PGC, DEP, NRCS</p>
<p><b>3. Secure conservation easements on important properties</b></p>	<p>A. Identify those important properties that need protection for mitigation banking with DEP and US ACOE</p> <p>B. Secure funding to assist with transaction costs</p> <p>C. Establish endowment to cover the long-term monitoring and legal costs</p> <p>C. Utilize mitigation Banking w/ conservation easements</p>	<p>PALTA, Co. GIS, NPC</p>	<p>LUPTAP (DCED), Land Trust Reimbursment Grant Program</p> <p>(PA Dept. of Agriculture), Wetlands Reserve Program (NRCS, USDA) DCNR, PGC, DEP, NRCS</p>
<p><b>4. Develop strategy to address conservation easements and mineral lease conflicts</b></p>	<p></p>	<p>PALTA, NPC</p>	<p>LUPTAP (DCED), Land Trust Reimbursment Grant Program</p> <p>(PA Dept. of Agriculture), Wetlands Reserve Program (NRCS, USDA) DCNR, PGC, DEP, NRCS</p>

## 2. Land Resources

### *Economic Development*

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding</i>
<p><b>1. Ensure that tourism promotion is consistent with county and municipal comprehensive plans and Rivers Conservation Plans (Nature tourism/sustainable tourism)</b></p>	<p><b>A.</b> Develop a regional marketing plan to assure that tourism occurs at sustainable levels and appropriate locations, and is coordinated with the low volume, high yield tourism approach is preferable, as recommended by the FERMATA study.</p> <p><b>B.</b> Encourage downtown revitalization for communities.</p> <p><b>C.</b> Create, publish and distribute maps of watershed points of interest, such as the water trail, Pine Creek Trail, greenway, trailhead access points, boating access and campgrounds.</p> <p><b>D.</b> Revive special events such as canoe races and tube floats.</p>	<p>Visitors Bureaus &amp; County and Municipal Planning Commissions, EMRC&amp;D, PWPT, LHR, RT. 6</p>	<p>Regional Marketing Initiative Grant (DCED), New Communities Grant Program (DCED) CCPP, (DCNR), Business/Corporate Sponsorships, LHR, PA WILDS Marketing Corp.</p>
<p><b>2. Encourage revitalization that is conducive to maintaining quality communities</b></p>	<p><b>A.</b> Encourage zoning that protects scenic areas.</p> <p><b>B.</b> Encourage protection of scenic vista areas.</p> <p><b>C.</b> Encourage enhancement of the natural character of the watershed.</p> <p><b>D.</b> Encourage appropriate use of floodplain.</p> <p><b>E.</b> Encourage and maintain continued sound agriculture land use.</p> <p><b>F.</b> Encourage ridgetop conservation within the watershed.</p> <p><b>G.</b> Encourage landowners to work with professionals to manage their lands to ensure their sustainability and reduce impacts to the watershed that are inconsistent with the plan.</p> <p><b>H.</b> Encourage and assist conservation districts and cooperative extension in working with Mennonite communities to understand the importance of sustainable farming</p>	<p>County Planning Commission &amp; Municipalities, Community and Economic Development Entities, Chamber of Commerce, EMRC&amp;D, DCNR, DEP, PGC, NRCS, CS, Penn State Extension</p>	<p>LUPTAP (DCED), Land Trust Reimbursement Grant Program(PA Dept. of Agriculture), Wetlands Reserve Program (NRCS, USDA) DCNR, PGC, DEP, NRCS</p>

<b>3. Adapt to new hospitality needs for nature tourism (i.e. business practices and training)</b>	<p>practices.</p> <p><b>A.</b> Encourage the continued communication and cooperation among visitors bureaus.</p> <p><b>B.</b> Develop an incubator program to assist developing businesses to meet nature tourism needs.</p> <p><b>C.</b> Promote continued cooperation between chambers of commerce, existing businesses, and new nature tourism businesses.</p>	Chamber of Commerce, DCED, Visitors Bureaus, EMRC&D, PWPT, LHR, Rt 6	USDA, PA Dept. of Agriculture, DCED, First Industries, PA WILDS Marketing Corp, Co TPA
<b>4. Local and County officials need to work closely with State officials to ensure that Gas-related development is carried out properly and does not cause adverse impacts on local infrastructure and services.</b>	<p><b>A.</b> Coordinate communication between local, county, and state officials on state programs and state initiatives.</p> <p><b>B.</b> Work to ensure all levels of government understand and discuss potential adverse impacts.</p>	PGC, Municipalities and Counties, DCNR, DEP, PennDOT, DCED, State officials	N/D PA WILDS Marketing Corp

***Planning and Zoning***

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding</i>
<b>1. Develop resource protection ordinances and amendments</b>	<p><b>A.</b> Encourage municipalities to consider conservation zoning to promote and conserve open spaces and riparian buffers.</p> <p><b>B.</b> Include Natural resource professionals when considering zoning ordinances so landowners can use their natural resources in ways that are consistent with the plan.</p> <p><b>C.</b> Encourage conservation on environmental sensitive areas: mountainsides, steep slopes, wetlands, floodplains, and riparian buffers.</p>	County Planning Commissions & Municipalities, DCNR, PWPT, DCED	LUPTAP, DCED, DCNR
<b>2. Form County and municipal comprehensive plan</b>	<b>A.</b> Protect and enhanced the natural, cultural, historical, and recreational resources by providing incentives	PFBC, DCNR, County Planning Commissions &	LUPTAP(DCED)

**partnerships**

and utilizing multi-municipal, county and regional planning partnerships. For example, a joint municipal zoning ordinance with professional administration.

Municipalities

**B.** Encourage growth and development in appropriate areas.

**3. Review and upgrade existing zoning ordinances for consistency with this watershed plan and other land use plans.**

**A.** Develop land use controls as needed for a new development.

Commissions & Municipalities

**B.** Provide municipalities with the education, assistance, and resources they need in creating, maintaining, implementing, and enforcing land use regulations and ordinances.

**C.** Consider controls for potentially intensive land uses like CAFOs, resort development, oil/gas wells, wind farms, and cell towers.

**D.** Encourage counties and municipalities to address those creek lots that are in violation of codes or ordinances.

**E.** Limit further development in areas designated as “Exceptional Value Watershed”.

**F.** Educate the public on how to report health and safety violations,

**G.** To promote consistent zoning administration through training of zoning officers, permit officers and municipal officers.

**H.** Develop a model noise ordinance for use by municipalities, as needed.

County Planning Officers, Municipalities

**I.** Visitors should be made aware that they are entering a special place and asked to respect the rights of residents and visitors to enjoy the peace and quiet of the valley. Signage and website posting are examples of ways to convey this message.

PCPA, PCHPG, Municipalities, Visitors Bureaus

**4. Promote open space easements (including working farms, woodlots, and other natural resource industries)**

**A.** Educate landowners within the watershed on the benefits of conservation easements.

County Conservation District & Land Trusts

**B.** Encourage the use of county funding programs for conservation easements.

Environmental Education Grants (US EPA), Community foundations, mitigation



	<b>C. County funding</b>		Investments
<b>5. Explore the use of county bonds and other funding methods for open space, greenway and recreational facilities</b>	<p><b>A.</b> Discuss process and benefits of own space and recreational bonds with county commissioners.</p> <p><b>B.</b> Encourage counties to use open space and recreational bonds.</p>	County Conservation District & County Commissioners	N/D Philanthropy (landowner and leaseholder gifts)
<b>6. Design guide and signs for Pine Creek Valley &amp; PA WILDS</b>	A. Incorporate PA Wilds Design Guide in County Planning and Community Development.	County Planning DCED, PA Wilds Planning Team	Developers, County, PWPT
7. State Water Plan	Work through the Upper Middle Susquehanna Regional Advisory Committee to update the State Water Plan	DEP, SRBC, Counties	Act 220

### ***Viewscapes – Marcellus Borealis***

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding</i>
<b>1. Delineate and secure consensus on important viewscapes</b>	<p><b>A.</b> Map all areas of important scenic viewsheds and vistas.</p> <p><b>B.</b> Ask for public input to verify identification of important scenic viewsheds.</p> <p><b>C.</b> Updating County Natural Area Inventory and County Comprehensive plans.</p>	County Planning Commissions & Municipalities, TNC, WPC, NPC-Farmers	DCED, TNC, WPC, CO G. Fund
<b>2. Recognize viewscapes in official plan and land use control ordinances</b>	<p><b>A.</b> Delineate and secure consensus in important viewscapes</p> <p><b>B.</b> Develop zoning that promotes the protection of areas</p> <p><b>C.</b> Encourage methods such as conservation design and low impact development, site regulations, and landscape requirements with an emphasis on natural vegetation.</p> <p><b>D.</b> Consider scenic byways designation.</p>	County Planning Commissions & Municipalities	
<b>3. Work to remove litter and illegal dumps from the</b>	A. Organize annual clean-up days in each watershed community to promote neighborhood and	PA Cleanways & Municipalities	PA Cleanways, Foundation for PA Watersheds

watershed

community pride.  
**B.** Promote recycling activities.

**4. Secure voluntary easements of important viewscapes**

**A.** Encourage landowners with key open space properties in the watershed to place their land under a conservation easement.

Land Trusts,  
County  
Conservation  
District, Ag  
preservation  
Boards

N/D

### ***Solid Waste Management***

*Management Options*

*Specific Implementation Project*

*Partners*

*Funding*

**1. Evaluate the effectiveness of the “carry-in carry-out” trash policy and impacts of litter and other solid waste disposal.**

**A.** Manage joint use solid waste facilities on cost-share basis with the state

Rail-Trail  
Advisory  
Committee,  
DCNR

DCNR, DCED,  
PennDOT,  
Municipalities.

**2. Develop and update existing solid waste mgt ordinances.**

**A.** Prosecute violations  
**B.** Encourage use of county solid waste ordinances.  
**C.** Encourage recycling (spell out how it has gone away)  
**D.** Provide education about litter and waste regulations.

County Planning  
Commissions &  
Municipalities,  
DCNR, PGC,  
PFBC,  
PennDOT

**3. Wastewater/residual waste. Increase refuse collection**

**A.** Consider joint management of dumpsters.  
**B.** Consider buffers around dumpsters.  
**C.** Collect white goods Periodically

Municipalities,  
County

**4. Evaluate need for additional public sanitary facilities**

**A.** Provide as needed  
**B.** Improve restroom facilities at private businesses.

Municipalities,  
Visitors  
Bureaus, DCNR,  
DCED,  
PennDOT, Pvt  
Businesses

DCNR, DCED,  
Municipalities,  
Private interests

## ***Privately-owned Forest Land***

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding</i>
<b>1. Facilitate consensus on management of natural resources</b>	<b>A.</b> Develop program for use in beginning the dialog <b>B.</b> Service foresters at BOF	DCNR, Conservation Districts, Forest Landowner Assns	U.S. Forest Services, Hardwood Development Council
<b>2. Develop watershed based data on private forests</b>	<b>A.</b> Intensify inventory and analysis of data to a watershed basis	U.S. Forest Services, DCNR, Hardwood Development Council	U.S. Forest Services, Hardwood Development Council
<b>3. Conserve a forest Summit</b>	<b>A.</b> Align partners, identify needs, develop programs and policy	Forest Landowner Association, PA Forestry Assoc	Hardwood Development Council, PA Forestry Assoc
<b>4. WINGS</b>	Develop & Implement the WINGS Wildlife Incentives for Game and Non-Game Species	Endless Mtns. RC&D, Bureau of Forestry Service Foresters, Private Landowners and Natrual Gas Companies	Natural Gas Companies

### 3. *Biological Resources*

#### *Conservation and Natural Resources*

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding Sources</i>
<b>1. Inventory biological diversity and natural features</b>	A. Review the counties' Pennsylvania Natural Diversity Inventories.	PGC, PFBC, DCNR Bureau of Forestry & Local Colleges. The Nature Conservancy and Western PA Conservancy	Community Conservation Partnerships Program (DCNR), Growing Greener Program (DEP)
	B. Develop a complete inventory for the Pine Creek watershed that includes the work in A.		
<b>2. Employ stronger natural resource protection zoning and enforcement</b>	A. Continue to encourage regional planning efforts to update county and municipal comprehensive plans that reflect the objectives of the River Conservation Plan.	Counties & Municipalities	
	B. Discourage development in environmentally sensitive areas such as, steep slopes, wetlands, and floodplains.		
	C. Encourage local environmental organizations, like watershed groups, to pursue upgrades in stream designation, where applicable, to further protect natural resources.		
<b>3. Evaluate the impact of invasive and noxious species</b>	A. Identify methods to control the spread of non-native invasive species.	PFBC, PA Dept. of Agriculture, DCNR Bureau of	Pulling Together Initiative (NFWF),

**to Pine Creek Watershed and recommend methods to control**

B. Encourage property owners to landscape with native species.

Forestry, County Conservation Districts & Local Colleges, EMRC&D

Growing Greener Program (DEP), CCPP (DCNR), EE grants from DEP, WREN, PACD.

C. Review the different methods of invasive species removal and determine the resulting impact on wildlife and the environment. Choose management techniques to be used in each area.

D. Develop a list of appropriate species for landowner use

**4. Evaluate, improve and protect important habitats**

A. Identify and map important habitat areas.

Land Trusts, County Conservation

Wildlife Habitat Incentives

B. Use a standard system to evaluate the quality of the habitat.

Districts, PNDC, Sportsmen's and Watershed

Program (NRCS, USDA) Growing Greener

C. Encourage the use of buffers around important habitats.

organizations, PGC, Audubon of PA, USDA,

Program (DEP), CCPP (DCNR),

D. Educate landowners on funding and partnership opportunities to protect habitats.

NRCS, PFBC, EMRC&D. FSC

Bring Back the Natives (NFWF),

E. Promote native species restoration to river and streams.

Coastal Waters Program (The Nature

F. Encourage conservation of important wildlife habitat areas.

Conservancy in partnership with NOAA)

G. Promote best management practices in wildlife habitat improvement projects.

H. Support the concept of High Value Conservation Forest as defined by the Forest Stewardship Council (FSC).

Assist in the maintenance and

enhancement of critical social and environmental values and other ecosystems as part of responsible land management.

I. Promote initiatives that aim to improve wildlife habitat beneath electric transmission power lines and along gas pipelines, such as Project WINGS (Wildlife Incentives for Non-game and Game Species).

**5. Manage the fishery to maintain the resource**

A. Work with PFBC to review the status of fisheries management plan for Pine Creek and further develop or update as needed

B. Determine the need for fishways on or removal of dams within the watershed and consider the use of multi-use structures (fish ladder, portage channel, kayak course) where appropriate

C. Encourage the use of public participation and involvement on any proposed changes to fishing regulations or fish passage

E. Protect the Trout resource in Pine Creek watershed, especially during drought and warm water conditions at the mouth of tributaries.

F. Continue to explore options to protect the Wild Brook Trout populations in the Pine Creek watershed (such as consideration of seasonal and size limits).

PFBC, Counties and municipalities, Sportsmen's Organizations, DEP, USACE, EBTJV, TU PA Chapter and local chapters, CD, American Rivers

American Rivers; NOAA, Growing Greener Program (DEP), CCPP (DCNR), Trout Unlimited-Orvis partnership, Private corporations

G. Explore options for updating and redesigning culverts for improved fish passage, especially those in priority Wild Trout watersheds.

**6. Employ Low Impact development strategies and other sustainable land use controls:**

- A. Assist counties and municipalities with implementation of sustainable land use development practices through public outreach and education
- B. Assist with the completion of Low Impact Development Guide as an educational public tool.

PA Wilds Planning Team, counties, municipalities, EMRCD

**7. Support and assist farmers in adopting sustainable agricultural practices**

- A. Assist farmers in adopting sustainable agricultural practices and increase educational opportunities for farmers.
- B. Assist farmers in gaining baseline compliance with regulations under the PA Watershed Implementation Plan for the Chesapeake Bay Executive Order
- C. Promote and increase educational opportunities for farmers.

Conservation District, NRCS, FSA, DEP, Penn State Extension, NPHMN, [add EMRC&D}

DEP, PACD, NRCS, NFWF, EMRCD, Conservation Districts

## 4. Water Resources

### Water Resources

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding Sources</i>
<b>1. Implement better storm water management practices</b>	A. Encourage development of a multi-county Act 167 approved storm water management plan for the Pine Creek watershed.	PA DEP & Municipalities, Counties	LUPTAP (DCED) NFWF, DEP; CFA
	B. Revise current storm water management ordinances to reflect PA DEP's current policy for ground water recharge and post-construction stormwater management.		
	C. Require new development to implement best management practices for ground water recharge where appropriate, including use of pervious surfaces and ground water infiltration techniques, and promote and educate about Low Impact Development		
<b>2. Identify/reduce the effects of abandoned mine drainage within the watershed</b>	A. Continue restoration efforts within the Babb Creek subbasin and expand to other impacted sites in the Pine Creek watershed, for example Otter Run	Babb Creek Watershed Association, PA DEP, PCHPG, PFBC, Mining Companies, EPCAMR	Growing Greener (DEP), EPA-319, OSM, EPCAMR, TU Coldwater Heritage Program, CFA
	B. Seek funding sources for continued operation, maintenance, and replacement of AMD treatment systems as their lifespans' are exceeded.		
	C. Continue monitoring within the Babb Creek subbasin to document effectiveness of treatment facilities.		
	D. Promote remining to improve the quality of AMD discharges where appropriate.		
	E. Encourage participation in innovative projects that involve usage of AMD water, such as unconventional oil and gas extraction.		
<b>3. Reduce impacts from other non-point sources of pollution in the watershed, including sediment, nutrients, acid deposition, others</b>	A. Pursue funding to identify most profound non-point pollution sources in the watershed, specifically outfall points of NP source pollution. Prioritize and target identified sources of non-point source pollution for restoration projects.	DEP, DCNR, Local Colleges, Watershed Associations, CD, Municipal Governments, CBF, EMRC&D,	Growing Greener (DEP), CBF, TU Coldwater Heritage Program, USDA, NRCS, DCNR, Pennsylvania Dept of Agriculture
	B. Assist watershed groups in implementing restoration projects.		



	<p>C. Promote the installation of practices or projects to reduce negative impacts from non-point pollution sources through participation in grant and conservation programs, and regulations. Examples include but aren't limited to: practices to reduce sediment and nutrient runoff from agricultural operations, improvements to dirt and gravel roads, stream bank stabilization projects, participation in sustainable forestry initiatives, etc.</p> <p>D. Pursue funding to address pollution impacts from abandoned oil and gas wells.</p> <p>E. Inventory known locations of abandoned oil and gas wells within the Pine Creek watershed.</p>		(DECD),NFWF, NPC, WPC, local private sector donations; CFA
<b>4. Evaluate, protect, and restore riparian buffers and wetlands throughout the watershed</b>	<p>A. Establish riparian conservation zones throughout the watershed such as by overlay mapping</p> <p>B. Identify areas that need riparian buffer improvement throughout the watershed and encourage landowners to install buffers.</p> <p>C. Identify and map current wetlands within the watershed using a standard classification system.</p> <p>D. Identify wetlands that could use enhancement or restoration.</p> <p>E. Special consideration should be given to restoration and protection efforts of the "Muck" (Marsh Creek), while still allowing/encouraging agricultural use of the areas</p> <p>F. Encourage the development of permanent easements or participation in programs such as CREP to protect riparian areas and wetlands.</p> <p>G. Encourage landowners to participate in streambank fencing programs where livestock is present near the stream.</p>	<p>County Planning Commissions, CD, Watershed Associations, NRCS, Land Trusts, Private Landowners, EMRC&amp;D, CBF, USDA</p>	<p>Tree-vitalize, NFWF, DEP, Land Trusts, USDA,</p>
<b>5. Promote improved management of point source pollutants through regulatory and permit requirements</b>	<p>A. Encourage improvements and upgrades to municipal and industrial waste water treatment facilities where needed or as innovative technologies become available for better treatment.</p> <p>B. Evaluate the problem of combined sewer systems and determine the most appropriate solution, one alternative being separate storm water and sanitary sewers.</p>	<p>Municipal Governments, Waste Water Authorities, Industries, PA DEP</p>	
<b>6. Protect, monitor, and maintain</b>	<p>A. Develop a monitoring program for private well owners to test at least once annually for bacteria.</p>	<p>Public Water Suppliers, Source Water Protection</p>	<p>WREN; private sector contributions</p>

**drinking water supplies**

- B. Educate the public on the causes of potable water supply contamination and symptoms of infection with waterborne pathogens.
- C. Encourage wellhead and source water protection measures to protect the quality and quantity of public water supplies.
- D. Encourage water treatment system upgrades where needed and as new technologies become available.
- E. Encourage efforts to address the problem of the improper location and construction of private wells, which can lead to contamination of water supplies
- F. Promote public private partnership for water quality data disclosure and analysis
- G. Promote opportunities for water quality monitoring and assessment
- H. Inventory the water quality of Pine Creek Watershed (ambient water data, additives data disclosed by gas industry, private water wells data (with precise location kept confidential))

Groups; Municipal Governments, PA Rural Water Association. CD, Well Drillers, PA DEP, DCNR; CWI; PSU ShaleNetwork; ALLARM; 911 responders; USGS-SRBC database

**7. Determine if current on-lot sewage systems are effective and consider new or alternative treatments**

- A. Investigate failure of on-lot septic systems.
- B. Promote innovative and affordable sewage treatment options
- C. Encourage through education and agency cooperation, maintenance and upgrade of failing septic systems.

PA DEP, Sewage Enforcement Officers

National Small Flow Clearing House

**8. Balance human uses of water within the watershed with ecological needs, especially during low flows periods.**

- A. Work with the Upper/Middle Susquehanna Water Resources Regional Committee in development of the regional component of the ACT 220 State Water Plan, specifically to include areas of special protection within the watershed and in determination of a water budget.
- B. Create a drought water use plan and encourage enforcement of drought regulations
- C. Establish a drought and/or flood trigger system in which appropriate emergency measures will be activated.
- D. Develop minimum and optimum flow criteria, upgrade and improve stream flow monitoring
- E. Determine if enough water level gauges are within the watershed and if not, work to add additional gauges

Upper Middle Susquehanna Water Resource Regional Committee, Emergency Management Agencies, Public Water Suppliers, USGS, Private Businesses, Counties; SRBC

SRBC, USGS

## ***Flooding & Floodplain Management***

<i>Management Options</i>	<i>Specific Implementation Project</i>	<i>Partners</i>	<i>Funding Sources</i>
<b>1. Identify flood prone areas</b>	<p>A. Complete detailed floodplain studies along tributaries in the Pine Creek corridor that have had no previous flood studies completed.</p> <p>B. Create floodway and floodplain maps that show parcel and building locations.</p> <p>C. Assist counties and municipalities in understanding new FEMA maps.</p>	FEMA, PEMA, Municipalities	Ongoing studies such as USACE engineering studies or local mapping initiatives may be used to cost-share a FEMA flood study, which is prioritized on the basis of need NFIP, PEMA, Cooperative Technical Partners Program (FEMA), CFA
<b>2. Update and enforce zoning and subdivision, regulations and floodplain ordinances</b>	<p>A. Discourage new development for permanent or temporary residences or other structures in the corridor within the 100-year floodplain</p> <p>B. Prohibit further development in areas designated as "Flood Way"</p> <p>C. Encourage counties and municipalities to create, implement and enforce floodplain management ordinances if they have not already done so.</p>	Counties & Municipalities	N/D
<b>3. Allow flood prone areas to revert to open space</b>	<p>A. Encourage municipalities to rezone flood prone areas as open space/conservation.</p> <p>B. Purchase flood prone properties from willing landowners.</p>	FEMA, Counties & Municipalities	Hazard Mitigation Grant Program (PEMA), Flood Mitigation Assistance Program (PEMA)
<b>4. Study how upstream development impacts downstream areas (stormwater management plan)</b>	<p>A. Encourage conservation of streamside riparian buffers and forested steep slopes.</p> <p>C. Promote and encourage the use of stormwater management, floodplain management, and stream restoration practices on all tributaries.</p>	Counties & Municipalities, Watershed Associations, EMRC&D; Land Trusts; CD	Growing Greener (DEP); Land Trusts; PACD; CFA
<b>5. Encourage voluntary conservation</b>	<p>A. Develop and promote program for landowners to place floodplains and riparian areas into permanent conservation easements.</p>	Counties & Land Trusts, USDA, Farmland Preservation	DCNR

<b>easements to protect floodplains</b>	B. Encourage landowners to consider other conservation easement programs	Program; CD	
<b>6. Promote transfer of development rights in floodplain areas</b>	A. Amend municipal zoning and subdivision ordinances to include transfer of development rights in floodplains.	FEMA, PEMA, Legislature, Municipalities, Planning Commissions	
<b>7. Remove flood debris at the mouth of tributaries and along riverbanks</b>		CD; Counties & Municipalities	N/D
<b>8. Educate public on flood-related issues</b>	A. Educate public on: Floodplain Management items 4, 6, and 7 above, roles of FEMA/PEMA, and on rights and responsibilities when working in floodplains/stream corridors.	Counties & Municipalities, Watershed Associations, EMRC&D; Land Trusts; CD; WREN; NWS, NFWS, FEMA, OPP	Land Trusts; WREN; FEMA; OPP

## 5. Cultural & Recreational Resources

### ARCAEOLOGICAL/HISTORICAL

<i>Management Options</i>	<i>Specific Implementation Projects</i>	<i>Partners</i>	<i>Funding</i>
<b>1. Inventory the watershed's historic structures and features.</b>	<p>B. Prioritize efforts to preserve and restore the symbols of the lumber, mining and agricultural heritages of the watershed.</p> <p>Document the watershed's historic structures and features</p> <p>Nominate specific sites and historical districts to the National Register of Historic Places and to the state program</p> <p>Continue to update the list of historic structures, to track structures that are being torn down, and to add structures as time passes and "new" historic structures are created</p>		
<b>2. Determine which historic markers from PHMC's program still</b>	A. Maintain and update record of historic markers from 1994 for the watershed	Historical Societies, PHMC, County Planning,	

**are in place, missing, in poor repair, or not visible to the public.**

B. Create a plan to replace, repair, or improve visibility as appropriate.

Local Businesses

C. Determine if there are events, figures, structures, or features not appropriately recognized, and seek recognition of them.

D. Develop tools to provide residents and visitors with more information about the historic markers in the watershed - such as brochures, maps, books, websites, or exhibits

**3. Document the watershed's historic structures and features**

A. Nominate specific sites and historical districts to the National Register of Historic Places.

Local Colleges, PHMC, Historical Societies

PHMC

B. Continue to update the list of historic structures to track structures that are being torn down, and to add structures as time passes and "new" historic structures are created.

**4. Document the watershed's history (in its entirety and in interest areas)**

A. Develop an oral history program to capture the region's history, folk lore, folk music, and culture

Local Colleges, CVI, Grange, Tioga County Agricultural Heritage Association

CVI

B. Work with local schools districts, colleges, and universities to document and collect the history

C. Include historic interpretation as appropriate in public parks and public recreation areas.

**5. Ensure information relating to the watershed's history is stored in such a way that the public can access and benefit from the information.**

Create a system for information sharing between historical societies, museums, and libraries that serve the watershed and the counties that make up the watershed

Local Colleges, CVI, DAR, Genealogy Society, Bucktails' civil war re-enactment

CVI

Work with local geneology and historical societies to hold programs for the general public on what information is available and how to access that information.

Encourage internships (high school, college, and graduate students) to catalogue and develop user friendly forms of access to information that also retains the integrity of the documents

**6. Enhance museums' interpretation of Pine Creek's role in the region's development**

A. Support existing museums.  
Support the Lumber Heritage Region in their efforts to document and interpret the region's lumbering past

Historical Societies, Visitors Bureau, PHMC, PA Lumber Museum

PHMC, DCNR

**7. Restore and maintain historic features of the lumbering and industrial era**

A. Document the communities that are shrinking or gone which were based on an industrial enterprise (examples may include Antrim)

Historical Societies, Chamber of Commerce, County Planning Commissions, PHMC

Historical Marker Grants (PHMC), DCNR, Capital Redevelopment Assistance, Capital Budget (PA General Assembly), private foundations

B. Restore where appropriate into a nature/history trail

C. Restore, repair and maintain features and facilities, such as logging railroad beds, small rock quarry areas, coal mining facilities, features related to tanneries, etc..

D. Develop a wide variety of facilities to portray the heritage of the watershed

E. Develop a local historical marker system

F. Document the location and condition of remaining historical features relating to industry

G. Create museum exhibits that document the industrial influences the Creek had on its communities

**8. Conduct an archaeological survey of the watershed**

A. Work with PHMC and local colleges to determine the probable locations of Native American Sites

PHMC, Local colleges, trail groups, historical societies

B. Categorize the sites as to threat to site's integrity, likelihood of exploration would result in improved understanding, and other criteria

- C. Establish an appropriate program of exploration and reporting
- D. Educate the public on archaeological practices and the importance of these studies.
- E. Work with existing local historic societies to expand, update, and improve existing displays on Native American Heritage.

**9. Provide historic interpretation of the watershed in an appropriate manner.**

A. Historic themes should be developed. Such themes may include early settlement, logging, tanneries, rail, CCC, and flood events.

Historical Societies, Chamber of Commerce, Visitors Bureau

Private foundations, PHMC, DCED

B. Historic interpretation of each community's history would be of importance as well

C. Interpretation may include, walking tours; brochures; websites; local newspapers running a series of historic pieces; creating and maintaining, and updating displays at existing historic societies and museums within the watersheds; local historic marker programs; developing and executing a program for school children; developing and orchestrating programs for the general public; and panels for local businesses that provide an overview of the community's history, or a segment/person/event in the communities history

***RECREATION***

**1. Upgrade, improve and maintain existing municipal recreational facilities**

A. Develop maintenance plans for recreational facilities in the watershed.

B. Utilize interpretive trails/heritage trails in parks and recreational facilities.

C. Develop safety signage standards for walkways/trails/bikeways throughout the corridor.

D. Design and develop a more formalized trail in Galeton Borough at Berger Lake Park

County & Municipal Recreation Authorities & DCNR Bureau of State Parks; Galeton Borough, Potter County Planning, CCPP

Community Conservation Partnership Program (DCNR)

F. Municipalities should expand or create new park and recreation resources as population increases and/or user demographics change.

**2. Improve and maintain the Pine Creek Trail and other trails on state land.**

A. Increase funding from the Commonwealth to State Forest Districts and State Parks so that staffing levels are sufficient and maintenance can be properly conducted. The maintenance backlog is a serious problem due to a lack of resources. Tiadaghton and Tioga State Forest Districts were not provided increased manpower or funding for the Pine Creek Trail

PA General Assembly, Governor, DCNR Administration, PGC, CD

B. Prior to building any new facilities the Commonwealth should explore the feasibility of rehabilitating existing amenities at State Parks and on State Forests

C. Complete the Pine Creek Trail from the US Route 220 Bridge into Jersey Shore Borough and construct a trail head at Jersey Shore

E. Direct mountain bikers off the Pine Creek Trail into the highlands where suitable trails and roads are more abundant

F. Address erosion problems where Pine Creek threatens infrastructure. For example erosion at Blackwell access left unchecked will jeopardize the integrity and stability of the parking area

G. Include Conservation District support for resource management due to the potential for increased use of our local resource



**3. Improve signage related to Pine Creek Trail**

A. Replace kiosks at trailheads/parking areas on the Pine Creek Trail. Current kiosks are in poor condition. New kiosks should be designed, developed and installed to last longer, be more informative and attractive.

DCNR Bureau of Forestry, NPS, USFS

B. Develop a consistent signage system used along the entire Pine Creek Trail

C. Utilize pictures and graphics to convey rules and other messages

D. Design signage to be appropriate for the setting. It should blend in with the natural setting and be consistent in content and placement. For example the sky blue mileage signs at parking areas are not complimentary to the context

F. Ensure signage is kept to a minimum

**4. Create linkages between recreational facilities and natural and cultural resources**

A. Design a greenway that links recreational uses to the many natural, historical and cultural areas.

NPC, Land Trusts & County Planning Commissions, DCNR, PennDOT, Tioga County Planning, GROW, Wellsboro Borough, Clinton County Planning, Lycoming County Planning, Avis Borough, SEDA-COG Joint Rail Authority

CCPP (DCNR), Rivers, Trails and Conservation Assistance (National Park Service, U.S. Dept. of the Interior), Wildlife Conservation & Restoration Program (USFWS), Pathways to Nature Conservation Fund (NFWF), Growing Greener, Private Foundations

B. Develop pedestrian access that connects communities to parks and recreation facilities.

C. Identify and locate the important wildlife observation areas, unique wetlands, and scenic mountain views.

D. Develop public access points from each community to the Pine Creek Trail and the creek.

E. Create kiosks at each access area that depict other access areas, stores, restaurants, and other recreational facilities

F. Link Pine Creek Trail to the south with the proposed Susquehanna River Trail and the Triple Divide Trail to the North

G. Connect Pine Creek Trail from Wellsboro Junction to Wellsboro Borough. Possible alignments include along the GROW railroad right-of-way and US Route 6.

H. Evaluate the feasibility of developing a connector from Avis to the Pine Creek Trail.

I. Evaluate the feasibility of developing a connector from the proposed Pine Creek Trail parking area in Jersey Shore to other points in the community. One possibility may be a trail along River Road.

**5. Review the role of recreation professionals in the watershed**

A. Develop and implement comprehensive recreation management plans.

B. Review and update the roles of existing Recreation Authorities or Recreation Board

C. Communities and municipalities that do not have a Recreation Authority or Recreation Board should consider working together and working with recreation professionals in developing, maintaining, and programming their facilities

D. Examine the need for State Forest personnel at the local District Forest level who have recreation management educational background. If needed, new positions could be created, or a relationship with Bureau of State Parks could be established.

County and Municipal Recreation Authorities, DCNR, State Civil Service Commission

Community Conservation Partnerships Program (DCNR)

**6. Prepare, adopt and implement a Greenway Plan for the watershed**

A. Encourage each county to work with the other counties in the watershed when preparing county open space and greenway plans.

B. Work with municipalities and private property owners in greenway implementation.

C. Utilize existing public lands as appropriate in the greenway plan.

D. Raise the public's awareness of the corridor's many natural, cultural, historical and recreational resources and encourage people to use and enjoy those resources.

Land Trusts, County Planning Commissions & County and Municipal Recreation Authorities

Growing Greener Program (DEP); Community Conservation Partnerships Program (DCNR)

E. Prepare a greenway maintenance plan with roles and responsibilities

F. Acquire grants and funding to implement the proposed greenway plan and associated projects.

**7. Assess use of whitewater courses and multi-use structures**

A. Determine the feasibility of adding a multi-use recreational structure, fish ladder and kayak course.

County Planning Commissions

Continuing Authorities Program (USACE)

**8. Identify signage needs for access, portage and water hazards**

B. Create a map showing access areas, navigation routes, portage trails, obstructions and danger areas

Lumber Heritage Region

C. Install signage and buoys for areas where boaters and canoeists need to pay special attention

**8. Develop watershed recreation maps**

A. Create, publish and distribute maps of watershed recreation features and a new trail brochure and /or trail guide with a map identifying trailheads, canoe access points, camping areas, restroom locations, and other pertinent user information

County Planning Commissions, Visitors Bureaus, DCED, Local Businesses, NPC, DCNR, PFBC, Penn College Technology's Graphic Arts Dept.

Regional Marketing Initiative Grant Program (DCED), Business/Corporate Sponsorships, County Tourism funds, NPS Chesapeake Gateways program, CCPP and private sector

B. Prepare maps so they can be easily posted to websites and downloaded

C. Develop a Pine Creek Water Trail brochure and pocket guide, detailing canoe access and take out locations, camping areas, and other amenities

D. Examine the impact of implementing fees for State Forest District Use maps and other printed materials with the revenue staying within district in which it is generated

**9. Market the Pine Creek valley and Pine Creek Trail consistently and appropriately**

- A. Develop a logo to identify the Pine Creek Valley and the Pine Creek Trail that would consistently appear on all brochures, kiosks, and signs
- B. Conduct user surveys on Pine Creek Trail to research and gather valuable data on use, attitudes, spending and economic impact. Carl Knoch has done some studies through Pennsylvania State University
- C. Include information about no trace camping, carry-in-carry-out recreation, respect for private property, and other issues on marketing materials
- D. Partner with Pennsylvania Advocates for Nutrition and Activity to help educate and motivate local residents to utilize the recreation facilities in their community to improve and maintain their health

DCNR, Counties, PANA  
Visitors Bureaus,  
Penn College of  
Technology'  
Graphic Arts Dept.;  
Outfitters; health  
care agencies, local  
hospitals, PANA

**10. Improve and Maintain access to Pine Creek**

- A. Obtain Pine Creek Water Trail Designation
- B. Stabilize canoe access areas to prevent erosion and support increased use (examples at Hamilton Bottom and Blackwell). Guidelines for canoe launches can be found in *Logical Lasting Launches: Design Guidelines for Canoe and Kayak Launches* (Spring 2004) by the National Park Service and applicable National Forest Service guidelines.
- C. Establish a canoe access/take out and parking area at the southern end of Pine Creek. One possibility may be the Tiadaghton Elm.

Clinton County,  
Pine Creek Twp,  
DCNR, NPS  
Chesapeake Bay  
Gateways Program

D. Identify areas for public canoe access points between Ansonia and Galeton, as well as other locations deemed necessary based on user demands. Between Galeton and Ansonia the PennDOT rest area near Gaines is one possible location.

E. Canoe access points would be established only where the landowner welcomes the facility

**11. Ensure camping facilities on state land in the watershed are appropriate to the area**

A. Develop a consistent camping policy in the Pine Creek Valley between the Tiadaghton and Tioga State Forest Districts. DCNR

B. Camping should be limited to designated sites only in order to limit impacts of camping on the natural resources, reduce trespassing on private property, and for safety purposes

C. Consider implementing fees for campers in the State Forest Districts, particularly those camping in the Pine Creek Valley

D. If fees are implemented, revenue should remain in the Forest District in which it was collected to assist in maintaining the District's facilities

E. Consider developing the former Eliot Wagner Property (now part of the Tiadaghton State Forest) north of Cammal for canoe camping and as an equestrian termination for riders using Holt Trail and Big Trail Road. This would take some pressure off Black Walnut Bottom.

F. Acquire properties from willing sellers to provide additional camping areas if such areas are needed

G. Prohibit the location of camping trailers/recreational vehicles and associated paraphernalia in areas designated as floodway.

H. Develop and enforces ordinance provisions for campgrounds, including evacuation plans, appearance standards, and public health and safety measures

**12. Ensure that the recreational pursuits in the watershed are not having a negative impact on the natural resources**

A. Provide information to recreationists on appropriate use of the recreation resources

DCNR, counties

B. Monitor the impacts of recreation on the resources (land and water) over time. Utilizing local college and universities to assist with this would one way to conduct the research in a cost-effective way while also involving the community

C. Evaluate the impact/potential impact of proposed new ATV trails.

D. If necessary limit development of new ATV trails and riding areas in the Pine Creek watershed.

**13. Maintain the hunting and fishing heritage of the Pine Creek Watershed**

A. Work with PGC and PFBC to manage fish and game populations in a way that maintains the resource base and attempts to meet the recreational needs

PGC, PFBC, Sportsmen's Organizations, Guides

B. Inform private hunting clubs and sportsmen's groups of progress with the plan and solicit their help in implementing it.

***EDUCATION***

**1. Get more citizens involved**

A. Inform key property owners, municipal officials, businesses, residents, schools, and scouting groups about public demonstration workshops and presentations on natural resource conservation and restoration project initiatives.

Watershed and Sportsmen's Organizations, Woodland Owners Associations, CD, DEP, DCNR, NRCS, Pennsylvania Conservation Corps, EMRC&D

B. Keep individuals and groups informed of conservation, restoration, and enhancement projects, including the volunteer opportunities available.

	C. Hold outdoor environmental education events such as fishing derbies, guided hikes and watershed cleanups		
<b>2. Pursue environmental education funding with students and adults as target audiences</b>	A. Create Environmental Education Coordinator positions for the watershed	PACD, County Conservation Districts, Colleges and School Districts	Circuit Rider Program (DCNR)
	B. Explore how to share information between environmental education providers, and develop materials for use in schools and presentations to civic and environmental organizations such as the Lions Club, rotary and watershed groups		
	C. Develop materials for use in schools		
	D. Develop programs for adults on the watershed's natural history		
<b>3. Strengthen individuals' natural resource ethic and officially adopt policy statement</b>	A. Promote a natural resource ethic for the watershed	PACD, Land Trusts, County Conservation District & County Planning Commissions	Regional Marketing Initiative Grant Program, Heritage Parks Program (DCED)
	B. Identify and utilize talents of local environmental educators and outdoor enthusiasts as spokespersons and future program entertainers		
	C. Encourage municipalities, counties, and other interest groups to promote natural resource ethics		
<b>4. Expand water safety education programs with PFBC</b>	A. Provide regulations, warning signs, and educational materials at access areas	PFBC & Local Boating Groups	
	B. Provide water safety workshops at public facilities throughout the watershed		
<b>5. Support development of recreational opportunities along the water that include hands-on experience to allow an</b>	A. Organize and sponsor annual outdoor events with in the watershed that the creek to tits present and future potentials including canoe and kayak trips, guided hikes, birding, tubing and swimming outings.	CD, Visitors Bureau, Watershed, Guide service, Colleges and School Districts, Land Trusts, PCPA, PCHPG,	Corporate sponsorship, Economic Development Initiative (VA/HUD), Circuit Rider Program

**understanding of the environmental function, importance and historical significance of the watershed**

B. Provide workshops on such things as watershed history, watershed impacts, recycling, riparian land management, and environmental ethics

Babb Creek

(DCNR), Challenge Grants (NFWF), SMART (ALARM), PHMC

C. Develop a centrally located or traveling environmental education exhibit

D. Develop educational curriculum and projects to learn about aquatic biology, riparian restoration and the Native American, and lumber history of Pine Creek

E. Continue and expand the Pine Creek watershed awareness program

**6. Provide education to encourage public awareness about available programs that provide technical assistance or funding for conservation practices**

A. Provide opportunities for technical assistance providers to interact with property owners and the general public

CD, DEP, DCNR, PFBC, EMRC&D

**7. Support and build capacity of watershed and other conservation organizations within the watershed**

CD, DEP, EMRC&D

GROW, Chesapeake Bay Coldwater Heritage (NFWF)

**8. Promote the skills and talents of local and regional artists**

A. Develop tools to direct residents and visitors to local/regional artists and craftsmen

Arts Councils, PA Guild of Craftsmen, Visitors Bureaus, Local Municipalities

PA Council on the Arts, PA Wilds, Lumber Heritage Region, Private Foundations

B. Study the feasibility and need for a permanent outlet for local artists and craftsmen to display and sell their work

C. Support the work of the Gmeiner Center to provide exhibit space for local artists, as well as exhibits of regional, national, and international artist's work

D. Encourage communities with public areas to use local artists and local themes if acquiring public art



**9. Support the work of cultural organizations and events in the watershed**

A. Encourage the Green Free Library, Galeton Free Library, and the North Central Library Division to continue their efforts to provide residents with quality service

Visitors Bureau,  
local municipalities

PA Wilds, Lumber  
Heritage Region,  
DCED, private  
foundations

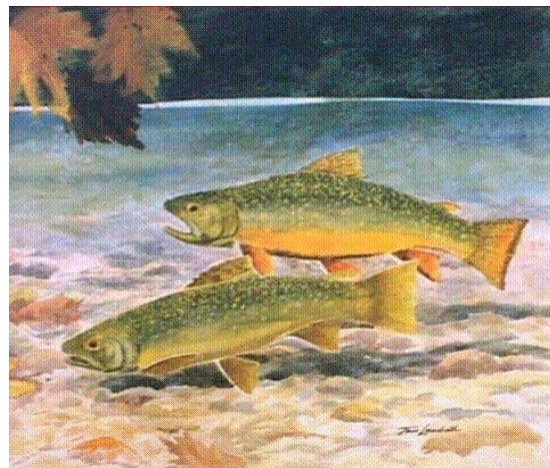
B. Support the Hamilton Gibson Productions efforts to sustain a theatre

C. Support community events that celebrate the region's heritage, history, and resources - such as Red Suspenders and Laurel Fest

## Conclusion

While we have attempted to provide as comprehensive an update as possible it must be understood that these plan updates are a moving target. We continue to work on many of the management options, implement other projects in the watershed and work with our partners across three county boundaries. The concept of a River Conservation Plan is nebulous at best and capacity and funding continue to be issues we struggle with. In addition, there are many players, inhabitants and outside influence we have no control over nor do they have the same interests at heart. That said, the opportunities to work across political boundaries with a multitude of stakeholders to understand our relationship to the natural world and the watershed of Pine Creek has been an interesting and worthwhile experience.

Our Council has reached out to many agencies, residents, and watershed organizations, not only in the watershed, but to the state and multi-state levels. We have assisted and recommended many of our management options to decision makers across these regional and state entities. In some cases we have even been successful in expanding our sphere of influence and had some real results. A good example of this is our work with SRBC (Susquehanna River Basin Commission) in the deployment of the Real Time Remote Water Monitoring system that was installed a couple years ago throughout the Susquehanna River Basin and a number of stations with monitoring sondes are located in the Pine Creek Watershed. This capability to monitor our home waters in real time has increased our capacity and ability to protect the watershed.



And while they couldn't be at the table, with more important things to do, we have dedicated this update to Raven and Brook Trout. It is our hope that continued work in the realm of watershed protection and ecosystem enhancement will spawn other opportunities as we endeavor to implement the management options included here. As we move forward our guiding philosophy will always be: The Resource Comes First!

