



Turtle Tracks

The Quarterly Newsletter of the Turtle Creek Watershed Association Spring 2000

Revisiting The Turtle Creek Watershed

The Turtle Creek Watershed encompasses approximately 148 square miles and 28 municipalities (see map below). The headwaters of the stream are in the Delmont and Export areas. Turtle Creek then flows west through Murrysville and Monroeville to Trafford where it meets its major tributary, Brush Creek. From this point, Turtle Creek flows through Pitcairn, Wilmerding, Turtle Creek, and East Pittsburgh to the Monongahela River.

Brush Creek's headwaters are located in Hempfield and Penn Townships and it flows through Jeannette, Manor, Westmoreland City, Irwin, North Irwin and North Huntingdon Township. One of its major tributaries, Bushy Run, has its headwaters near **Bushy Run Battlefield**. Can you envision the early British and French soldiers as well as the Native Americans of this area drinking water from Bushy Run? What a great history we have in the Turtle Creek Watershed!

During the spring, visit **Duff Park** situated along Turtle Creek in Murrysville and discover the variety of wildflowers growing there. Get out and discover the Turtle Creek Watershed again. Talk to people who have lived in the watershed all of their lives. They have great stories to tell, as will you!

Yesterday, Today and Tomorrow

The Turtle Creek Watershed Association is almost 30 years old and is one of the oldest watershed organizations in the state. Its main purpose in the 1970's was to deal with flooding and illegal dumps. Over the years, the TCWA has begun to address abandoned mine drainage problems. Reclaiming bony piles, sealing mine openings and constructing a limestone diversion well are all recent endeavors of the TCWA and its partners aimed at improving water quality.

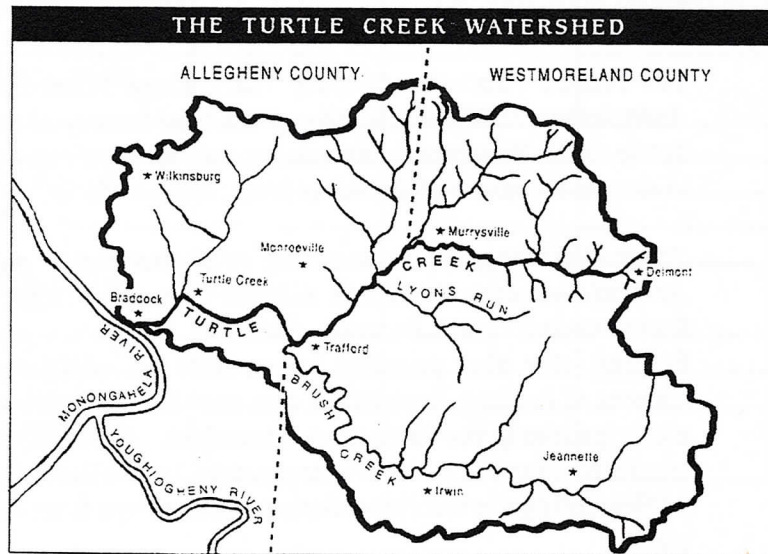
Why is it taking so long to clean up the mine drainage problems? The disheartening answer is that the mine drainage problem is both widespread and complex. Remediation of the mine drainage problem requires assessment, implementation, and monitoring. A good watershed study (an assessment) should include a

complete year's worth of chemical data (pH, alkalinity, acidity, conductivity, and other types of tests). In addition, flow calculations for each discharge must be recorded on a regular basis. The treatment systems are designed according to the amount of flow from a discharge and the amount of metals (iron, aluminum) found in the water.

Why should an assessment take a whole year? It is important that data reflect high and low flow periods of the water. This information will then be compared to other data that is available from previous monitoring. In this way, the "history" or nature of a particular discharge will be known and the proper design for treatment can begin. However, water monitoring cannot stop here. It must be a continuous process. Once a treatment system is constructed, monitoring will tell us if the system is functioning properly.

The TCWA will be installing weirs at the discharges in cooperation with partners such as Boy Scout troops, local landowners, sportsmen's clubs, and concerned citizens. Water monitoring will be implemented using the **Pennsylvania Department of Environmental Protection (PADEP) Citizen's Monitoring Program**. This program ensures that the people conducting the sampling and monitoring have been properly trained in using the equipment and recording the data.

The TCWA asks that you contact us if you're interested in helping us overcome this widespread problem.



The TCWA Kicks Off River Conservation Plan with Two Public Meetings

Two meetings were conducted to gain public input into the Turtle Creek Watershed River Conservation Plan. The first was held in Allegheny County on February 8, 2000 at the Woodland Hills School District administration building; the second, in Westmoreland County on February 10, 2000 at the Norwin Middle School West auditorium.

The Turtle Creek Watershed Association awarded a contract to Civil & Environmental Consultants, Inc. (CEC) to prepare a River Conservation Plan. The River Conservation Plan is funded through a grant from the Pennsylvania Department of Conservation and Natural Resources (DCNR). The purpose of the Plan is to formulate solutions to potential problems in the watershed. The issues addressed in the plan will be identified through public participation and data collection. These issues include erosion and sediment pollution control, water quality, land-use, and recreation. A Geographic Information System (GIS) will be created so that data may be inventoried and queried using the latest computer technology.

The goals of the Turtle Creek River Conservation Plan are to identify areas of concern within the watershed, formulate solutions, and develop preliminary implementation strategies. Another goal of the plan is to help to stimulate public interest and support for watershed improvement through public meetings and newsletters.

The following individuals presented background information on the River Conservation Plan. The information was used by those who attended the public meeting to begin to form a vision of the problems and opportunities within the watershed and to develop a plan for Turtle Creek's future.

Deb Simko, Executive Director, Turtle Creek Watershed Association (TCWA) Ms. Simko gave a brief history of the Turtle Creek Watershed Association and its involvement in the development of the River Conservation Plan.

Tracy Robinson, PA Department of Conservation and Natural Resources (DCNR) Ms. Robinson explained DCNR's Rivers Conservation Program including guidelines and funding. She also provided information on additional sources of funding from DCNR that may be available to municipalities in the Turtle Creek Watershed. Ms. Robinson reiterated that the state funding would be available for implementing the recommendations that emerge from the plan.

J. Rodd Seifarth, Project Manager, Civil & Environmental Consultants, Inc. (CEC) Mr. Seifarth provided background information on the plan and its goals. He noted a few of the key elements that would be included in the project such as the GIS and a list of specific activities and actions to implement the Plan's recommendations. Mr. Seifarth explained that the issues identified during the public meetings would be incorporated into the Rivers Conservation Plan.

Susan Zwillinger, GIS Consultant, W.E.C. Engineers, Inc. A demonstration of the Turtle Creek Watershed GIS was given by Ms. Zwillinger. She explained how the system could be used and how having such a tool to manage data would provide ongoing benefits for the association and for the residents of the watershed.

Robin Moorcroft, DeSantis Moorcroft Communications Ms. Moorcroft explained the visioning activity, which was designed to gather public information and comments for inclusion in the plan.



Visioning Process participants identify watershed issues on GIS mapping.

TCWA To Provide Training to High School Students

A group of Woodland Hills High School students from the AP Biology and Ecology classes met with Deb Simko, Executive Director of the TCWA, on March 15 to talk about watersheds and abandoned mine drainage. The students had already learned about this type of water pollution from their teacher, John Orndorff. However, the students received hands-on training as they performed water testing on samples collected from sections of Turtle and Brush Creek. The students will also be visiting the Franklin Township wastewater treatment plant and the Boreland Farm Road mine discharge in April.

Your Input is Needed!

Please assist the TCWA in determining what issues are important and should be included in the River Conservation Plan. The following issues were defined by the visioning groups at the public meetings. The number of individuals who support each issue is noted in parentheses, Please forward your ideas to the TCWA at the address on the cover. The first four respondents will be chosen to receive a special TCWA PRIZE!!! Please return the survey by April 21st so we can compile the information and focus our efforts on the important issues.

<i>Stormwater Runoff</i> <i>Group leader: Craig Barras</i>	High Priority	Medium Priority	Low Priority
1. Create erosion and sedimentation pollution control ordinances for municipalities (16)			
2. Develop educational programs for municipal officials and design engineers (10)			
3. Identify public lands which could be used for projects (6)			
4. Investigate stormwater management possibilities for existing PADOT roads and systems (5)			
5. Create an inventory of existing ponds in the watershed (4)			
6. Develop stream-side debris ordinances (4)			
7. Identify areas that were developed prior to ordinances (e.g., large paved areas) (4)			
8. Identify flood control projects needed for the watershed (4)			
9. Identify areas with substantial agricultural runoff (3)			
10. Explore options for retrofitting existing storm sewer systems (0)			
<i>Education and Public Involvement</i> <i>Group leader: Deb Simko</i>			
1. Develop more outreach for sportsman groups, schools, colleges and other organizations (15)			
2. Develop a mission statement and long range plan (what is the objective of TCWA) (14)			
3. Place "Turtles" around watershed boundaries to create a sense of ownership (9)			
4. Utilize scouts and schools to create parental involvement and to utilize computers in schools to help watershed tie into GIS (4)			
5. Develop a program to acquire more public land. Work with Conservancy (4)			
6. Create a canoe event to gain public involvement (3)			
7. Make interactive website for Geographic Information System (2)			
8. Utilize PA "Cleanways" and community service programs (1)			
9. Set up booths in schools on community days (1)			
10. Identify landowners in riparian areas to gain more participation in programs (1)			
11. Create "Fun Days" on Turtle Creek (1)			
12. Solicit business sponsorships to promote events (0)			
13. Determine what the water level impact on the watershed might be as a result of the Lower Mon project (0)			

<i>Recreation</i> <i>Group leader: Bill Clark</i>	High Priority	Medium Priority	Low Priority
1. Explore options for rails to trails projects (12)			
2. Create connectivity of green spaces using flood plains (12)			
3. Identify and investigate converting industrial and waste areas into possible park lands (11)			
4. Identify and create access – including parking – to recreation areas for fishing, hiking etc. (9)			
5. For potential recreation, use GIS to identify green spaces in the watershed, property owners along the creek, and flood plains and right of ways (7)			
6. Identify potential future problems in flood plain areas (5)			
7. Explore ways to enhance fishing opportunities (i.e., Brush Creek) (1)			
8. Identify and link important resources in the watershed (1)			
9. Create an historical inventory of the watershed (1)			
10. Consider developing a nature center (0)			
11. Identify existing recreation assets (0)			
12. Identify any recreation plans (0)			
<i>Water Quality</i> <i>Group leader: Marcia Haberman</i>			
1. Identify areas and sources of abandoned mine drainage (26)			
2. Identify development which may be causing erosion and sedimentation. Create education, planning and best management plans to alleviate problems (15)			
3. Create linkages between siltation problems and land use (7)			
4. Identify combined sewage overflows (6)			
5. Identify areas of flooding (3)			
6. Create more public awareness of the connection between bio-resources and water quality (3)			
7. Identify aquatic habitat compatible with stream channel dredging to increase capacity (3)			
8. Investigate the levels of toxic sediment (i.e., PCBs, metals) in the watershed (1)			
9. Create an Index of Biotic Integrity (IBI) (0)			
<i>Land Use and Development</i> <i>Group leader: Steve Wiedemer</i>			
1. Better enforcement of land use codes and ordinances (10)			
2. Utilize "Special Measures" to alleviate problems in the watershed such as streamside buffers, cluster housing, and environmental controls including restricting grading next to streams and protecting steep slopes (8)			
3. Develop better coordination between municipalities (8)			
4. Create educational opportunities for municipal officers in zoning and land use and the value of the watershed (8)			
5. Create an environmental inventory for all municipalities (7)			
6. Redevelop Brown Field Sites (7)			

	High Priority	Medium Priority	Low Priority
7. Identify areas with an overdevelopment of housing (7)			
8. Develop proactive zoning and land use rather than remediate later (3)			
9. Remediate stormwater within older communities for new development (2)			
10. Update zoning ordinances to protect natural resources (2)			
11. Map all flood plains and small tributaries (2)			
12. Implement stormwater management in new development (1)			
13. Develop plans for communities to try to preserve watersheds to the source (1)			
14. Identify characteristics of communities (0)			
15. Identify hillsides and developments affecting ground water (0)			
16. Utilize sustainable forestry to reduce runoff, flooding and property damage (0)			
17. Investigate Transfer of Development Rights (TDR's) for protecting open space (0)			
Other Issues/Suggestions:			

Join us!

Become a partner in this important local conservation effort by becoming a member of the Turtle Creek Watershed Association. With a broad base of financial and volunteer support from individuals, families, communities, businesses and industries, we can expand our effectiveness and make further progress toward improving the quality of life in our region.

TURTLE CREEK WATERSHED ASSOCIATION MEMBERSHIP FORM

NAME _____

ADDRESS _____

HOME PHONE _____

WORK PHONE _____

FAX _____

CHECK ONE:

- ☐ INDIVIDUAL \$10
☐ FAMILY \$15
☐ ORGANIZATION \$25
☐ SMALL BUSINESS \$50
☐ CORPORATION \$150
☐ LIFE \$100
☐ OTHER \$ _____

Please make checks payable to and mail to:

Turtle Creek Watershed Association
 3001 Meadowbrook Road
 Murrysville, PA 15668
 Phone and Fax 724/387-2000
www.turtlecreekwatershed.org
 Your contribution is tax deductible.
 Thank You!

Thank you for supporting the Turtle
Creek Watershed Association!



Place
Stamp
Here

Turtle Creek Watershed Association
3001 Meadowbrook Road
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TCWA to Receive GIS with River Conservation Plan

A computer-based Geographic Information System (GIS) mapping system will be designed and constructed through the River Conservation Plan. The GIS is being developed as a powerful tool to analyze and query geographic data. The GIS will create a visual representation of the study area and will allow geographic trends to become evident. For example, the GIS can be used to illustrate trends in land development and water quality issues. The trends will then be analyzed to determine the location and source of adverse impacts in the watershed. The GIS will also be designed to compile and analyze future data. The data may include additional water quality, biodiversity, and land use information that is collected after the River Conservation Plan is completed.

The Turtle Creek Watershed GIS will be built using information obtained from existing databases and specific information collected for the watershed.

The minimum scale for mapping will be 1:24,000. The following attributes may be included in the GIS database: topography, streams (including names, stream codes, Chapter 93 protected use classifications, and pool/glide and riffle/run areas), flood plains, wetlands, cultural and industrial features (including parks, industrial heritage, brownfields, archeological, and historic sites), roads, buildings, land use, land cover, and prime agricultural areas. Existing water quality data, which may be augmented with field-verified data, can be included in the database. Land use characteristics such as existing zoning and ordinances, utility service areas including storm and sanitary sewers and water, soil types and slope, projected development, biological resources, and known sources of contamination and pollution may also be mapped. Readily

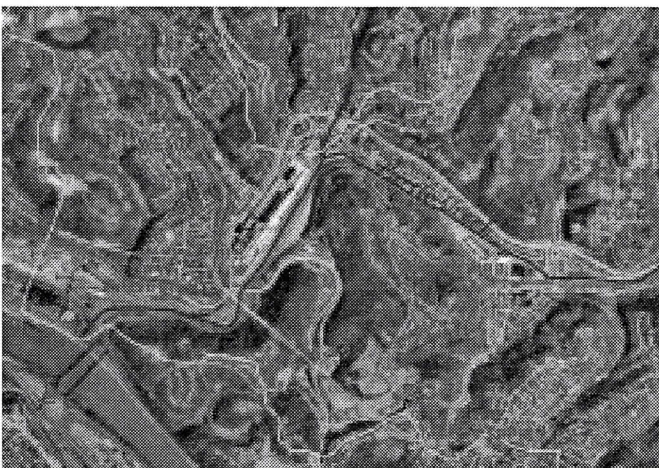
available existing aerial photography, such as that shown below, will be used to augment the base mapping data. Computer files of the GIS will be made available to TCWA upon completion of the River Conservation Plan. Municipalities in the watershed will have the opportunity to access and/or share information with the TCWA.

Visioning Process a Success at Public Meetings

During the public meetings, discussions on issues and problems in the watershed were segmented into five areas: stormwater runoff, education and public involvement, recreation, water quality, and land use and development. Attendees at the meeting were assigned to one of the five groups and asked to identify issues or objectives they would like to see in the plan. The issues identified by each group were recorded and then reported to all attendees by the discussion group leader. All participants attending the meeting had an opportunity to hear, discuss and then rank – by level of importance – each of the identified issues. The list of issues for each category is listed on the attached survey forms. The corresponding number of individuals who supported the issue is noted in parentheses. Please take a few minutes and give us your ideas on the watershed by filling out the survey and returning it to the TCWA office. This River Conservation Plan is your vision for the future.

TCWA's Triumphant Trout Study

Under a \$2,000 grant from the Western Pennsylvania Coalition for Abandoned Mine Reclamation, the Turtle Creek Watershed Association (TCWA) conducted a study to determine if trout could survive in Turtle Creek. On April 11, 1999, one week before opening day of trout season, 729 hatchery-reared rainbow, brook, and brown trout were tagged and released into Turtle Creek upstream of Saunders Station Bridge. The news spread quickly, and at least 50 anglers were fishing at Saunders Station Bridge on opening day. From subsequent electrofishing surveys conducted by Civil & Environmental Consultants, Inc. (CEC), the Westmoreland County Conservation District, and from catch returns from anglers, both the survivorship of the stocked trout and their downstream movements were documented over a three-month period. Anglers reported catching tagged trout as far away as North Braddock, 10 miles downstream of the original stocking point! No trout mortality was observed during the course of the study. This information, coupled with water quality indicators, biological integrity indicators, and recruitment of additional trout that swim from Haymakers Run downstream into Turtle Creek all offer supportive evidence



Portion of GIS illustrating Turtle Creek at Confluence with Monongahela River.

that Turtle Creek within the Saunders Station Bridge area is capable of supporting a put-and-take trout fishery. Based upon the success of this study, TCWA is planning to again stock Turtle Creek with trout this year. If you would like a copy of this report, please contact our office at 724-387-2000 or via e-mail at goodfish@helicon.net.

Least Brook Lampreys Located

On September 19, 1999, volunteer biologists documented a population of least brook lampreys (*Lampetra aepyptera*) inhabiting Haymaker Run in Murrysburg. The lampreys were found while performing an electrofishing survey of this stream (see photograph). The volunteers included Bob Ventorini and Mark Haibach from Civil & Environmental Consultants, Inc. (CEC); Patrick Bonislowsky (a consulting ecologist); Mike Koryak, Craig Cicconi, and Marcia Haberman of the Pittsburgh District of the U.S. Army Corps of Engineers; and Craig Barras of the Westmoreland Conservation District.

This unique, eel-like fish species is listed as pollution intolerant (or sensitive) by the USEPA and is also listed as a Candidate species by the Pennsylvania Fish and Boat Commission. Candidate is a term used in Pennsylvania to classify a species of special concern that has the possibility of becoming threatened or endangered. Listing a species as Candidate offers it some protection in the hopes that its population will stabilize and/or increase. Least brook lamprey adults require small, high-gradient headwater streams having riffles with sand and gravel substrates. The ammocoetes (or larvae) of this species require low-gradient streams with sand and organic debris substrates. The least brook lamprey is particularly vulnerable to siltation, which can destroy its habitat. Therefore, it is imperative that all construction activities within the Haymaker Run subwatershed have the proper E&S (erosion and sedimentation) controls installed. For more information about the least brook lamprey or other fish species collected during electrofishing surveys performed on Turtle Creek, Haymaker Run, or Brush Creek, please call Bob Ventorini of CEC at (412) 429-2324.



*Least Brook
Lamprey.*

TCWA Hosts Pitt Geology Club

On Sunday, February 6, the upper portion of the Turtle Creek watershed played host to eight students from the University of Pittsburgh Geology Club. Rich Ruffolo from the Brush Creek section of the watershed was the inspiration behind this team. Since he has seen the orange water of Brush Creek all his life, he wanted to show his fellow students the effects past coal mining activities have on groundwater. The students met Deb Simko, Executive Director of the TCWA, in the center of Export. It was in this small town setting that she explained the early history of coal mining, particularly the room-and-pillar style of mining that has now filled with groundwater. After looking at maps of the mines and the watershed, the students eagerly crawled in and out of the streams in Export and White Valley taking pH readings and sampling rocks. It was a beautiful sunny day with six inches of snow on the ground. However, the snow made it all the more fun. The students who took part in the excursion were Stephen Pesch, Andi Borradaili, Rich Ruffolo, Erica Love, Gigi Triantafillou, Jennifer Bible, Stephanie Strazisar, and Jackie Reichl.

Money, Money, Money

You may not realize it, but funds are necessary to accomplish the many things the TCWA wishes to do. Not only do we need to pay for operating expenses like telephone and postage, but we also need funds to stock fish, sponsor Fun Day, and continually monitor the water. The TCWA relies heavily on its dues-paying membership, but this is not enough. Therefore, like all non-profit organizations, we seek funds through many avenues such as government funding and grants. TCWA received much needed funds from Westmoreland County this year and is hopeful of obtaining another source of funding through the Growing Greener Grant Program.

What is Growing Greener? It is legislation that was passed by Governor Tom Ridge in December 1999 that releases \$650 million over a five-year period to watershed groups, non-profits, and municipalities. A large portion of the money is to be used for watershed restoration and protection. However, money is also allocated to PENNVEST for sewage and stormwater management, and the Department of Conservation and Natural Resources for trails, parks, and recreation.

The first wave of grant applications was due on February 11, 2000. This money (\$31 million) was available through the Pennsylvania Department of Environmental Protection (PADEP). However, Pennsylvania's non-profit

organizations and municipalities applied for \$330 million. The TCWA has submitted three Growing Greener applications for: (1) streambank stabilization projects at some of the municipal parks; (2) water monitoring; and (3) an assessment that will lead to possible design of a treatment system at the Export (Dura-Bond) discharge. Competition is fierce, and we will let you know which of our projects will be funded.

Other types of grants that we have applied for include *The Regional Watershed Support Initiative Grant*. This grant is made available through the Western Pennsylvania Coalition for Abandoned Mine Reclamation. It is a small grant (\$5,000) to fund the start-up of a watershed organization, to buy a computer or supplies for the group, to design and print educational brochures, or to purchase water-testing equipment. Unfortunately, the total amount of this program was \$50,000 and approximately \$97,000 in requests came in. This year, the TCWA was not fortunate enough to receive the money but we will try again next year.

The TCWA also applies for free assistance. For example, the Hach Company donates free water testing equipment to watershed organizations. We have submitted an application for testing equipment to implement a water quality monitoring plan.

Additional cycles of Growing Greener money will be available later this year. We hope to apply for several other projects. Please let Deb Simko know of any suggestions you have for possible funding.

Turtle Treks **By Craig Barras**

Volume 1 (January 22, 2000) It was a cold January morning. I met Chris Espenshade, Steve Widemer and Deb Simko at Chris's house in Trafford, a small community that has an old hometown feel to it. We ventured out from there in Steve's Suburban on the first of many TCWA Saturday morning excursions. Our big plan for that morning was to scan a large part of the watershed looking for potential projects that could benefit from Growing Greener funds. We started not far from Trafford and found a Jeep trail that paralleled Brush Creek. On the way back, we observed some of the natural beauty the watershed has to offer. Two deer scampered away from the road toward the base of the hill. They were easy to see against the blanket of white snow. We continued on down the road to the railroad tracks where we got out and walked through a pretty patch of woods above Brush Creek. We walked

about a quarter mile until we found the confluence of Brush and Turtle Creek - a perfect spot for a picnic or canoe trip. The remains of an old flood control wall stands just before the confluence on Turtle Creek. We followed the tracks of the deer we saw earlier from the stream's edge back to the railroad tracks and our ride. We didn't find any potential projects, but did find some nice spots that residents of the watershed can enjoy with relative ease, especially if you live in Trafford.

Volume 2 (February 4, 2000) Jim Pillsbury, Chris Droste and myself were on a mission in the fresh snow. We had to find places in the watershed that needed fixin'. Our first stop was the limestone diversion well in Export and the tributary that feeds it. We found a few places where the stream banks could be better stabilized with vegetation or some rock rip-rap. Next, we jetted over to the other side of Murrysburg to Bear Hollow Park in the 'Heather Highlands' housing plan. We met Sean Horgan from the Murrysburg Parks and Recreation Association and David Hails from Ecological Restoration. We observed three different areas in the park where stream banks on the main, western tributary of Haymaker Run are badly eroded. We discussed several different vegetative and mechanical stabilization techniques for these sites. This will be a worthwhile project because it benefits the stream and the people that use the park and its trails. Next, we visited Valley Park in Monroeville. Our group then drove under the turnpike and onto Saunders Station Road. Just after crossing the Turtle Creek Railroad tracks we pulled off on the side of the road and walked down to the creek at the bridge. A few places were eroded, but not enough to warrant tearing up ground to mobilize equipment to these natural areas. On our way back to the office we stopped in Manor to take a look at a few spots where Brush Creek flows past a community park. We accessed the park by traversing the old footbridge. The streams of the watershed are definitely treasures to be protected.



Duff Park.

Upcoming Events

- **Saturday, April 8** - Annual Spring Clean up along Turtle Creek. Meet at Saunders Station Bridge at 9:00 am.
- TCWA trout stocking for opening day April 15

In addition to addressing pollutants to the watershed, the TCWA holds a **Fun Day** (Saturday, July 8th) for children, usually in the early summer, at a pond or stream that is stocked with warm water fish. The children receive prizes for their catches. In addition, educational exhibits and speakers are available for the public to enjoy.

The Turtle Creek Watershed Association

Robert A. Mazik, Sr. - President

Open - Vice President

Alfred B. Carl - Secretary

Edward J. Fischer - Treasurer

Deb Simko, Executive Director

Board of Directors - Paul T. Teacher, Steve Wiedemer, John M. Mores, Craig Barras, Chris Espenshade, James C. Brucker

The TCWA holds Board Meetings on the second Wednesday of every month at the Turtle Creek Borough Building. They are open to the public.

Turtle Creek Watershed Association
3001 Meadowbrook Road
Murrysville, PA 15668

