TCWA
Turtle Creek Watershed Association

Report

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Executive Director
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TCWA NAMED PENNSYLVANIA'S BEST FOR '73

The Turtle Creek Watershed Association was named the "Watershed of the Year, 1973" for its "outstanding achievement in erosion and flood control, land management, recreation and water supply planning, and for clean-up activities in the area of mine drainage, sewage and solid waste."

The award was presented by the State Association of Conservation District Directors at their 26th Annual Conference held in Chambersburg, October 3, 1973. The conference was a joint effort with the State Conservation Commission with conservation leaders from all areas of the state in attendance.

Accepting on behalf of the TCWA were John L. Schwartz, Jr., Board Chairman, and John M. Mores, Executive Director.

A laudatory (but welcome) statement by the SACDD was included on the Awards Banquet program. It stated, "TCWA accomplishments and activities have saved area residents and industry many millions of dollars and have served to stimulate the economy of the area."

Board chairman, John Schwartz acknowledges, "this may be somewhat of an overstatement at this time, but it certainly is a worthy goal, one which we are on our way to achieving. Our ability to realize it depends on continued local and county government cooperation, and the hard work of our membership and local citizens."

Among other awards presented were "Conservationist of the Year" to Mr. Arthur Watres, Wayne County, "Watershed Man of the Year" to Mr. Robert Weldon McCullough, Lycoming County, and "Conservation Educator of the Year" to Mr. Robert A. Swanson, Warren County.

TCWA Board of Directors (l. to r.) Vice Chairman Earl M. O'Connell; Executive Director John M. Mores; Secretary Paul J. Sorokach; Chairman John L. Schwartz; Solicitor William R. McKee, Mrs. Shirley I. Turnage, Alfred B. Carl; Absent Directors Larry I. Larese, William L. Morosini, Jr., and James Tempero.

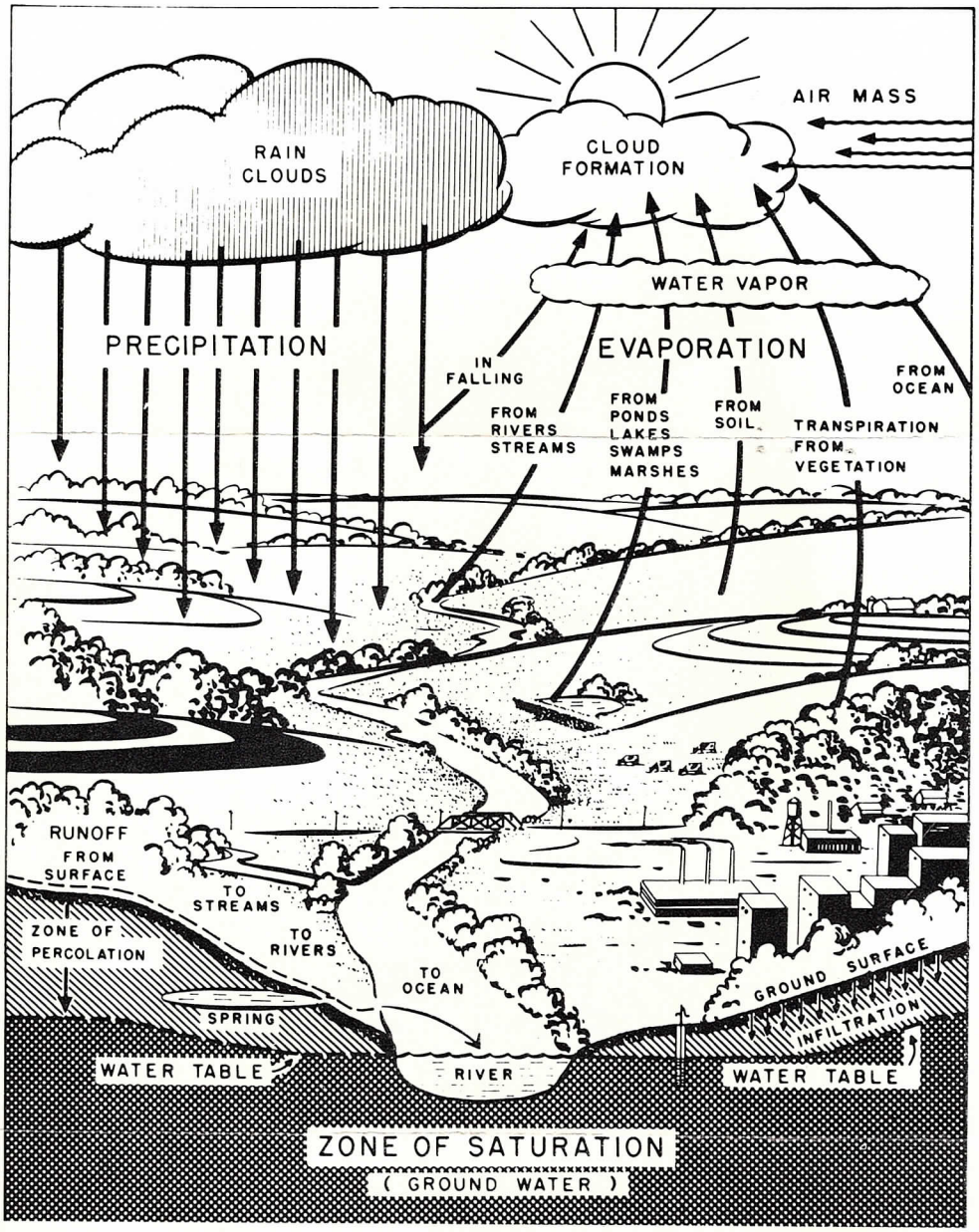
These awards carry a great deal of "weight" to those persons and agencies receiving them. As the "founding fathers" of all state watershed associations and many other formal organizations dedicated to conservation activities, the State Conservation Commission and the County Conservation Districts are the most important advisors, co-operators and evaluators of conservation efforts in the state (outside of the Department of Environmental Resources itself). The TCWA is certainly proud to receive their recognition of our program.

STUDY BEING MADE OF SLIDE PRONE AREAS

A cooperative study on slide prone areas in Allegheny County is being undertaken by the County's Planning and Development agency and the United States Geological Services' Carnegie Office. Results will pinpoint slide areas so municipalities can act to protect them from development. Appalachian Region Commission monies will fund the $82,700 three month study.

PLEASE RECYCLE this issue. After reading, pass it on to a friend!

Urban Development and The Hydrological Cycle



Four primary things happen to the average annual 41 inches of precipitation that falls on Pennsylvania:

EVAPORATION takes place from all wetted surfaces, and from ponds, streams, and upper soil layers. Normally, the more heat from the sun, the more evaporation.

TRANSPIRATION is that water returned to the atmosphere by all forms of vegetation. The water in the shallow soil layers is taken up by the root systems of grasses, crops, plants, and trees and is transpired by the leaf systems.

Evaporation and transpiration are difficult to measure but together they account for about 20 inches, or almost half of the average annual precipitation.

INFILTRATION describes the process that the residual water follows after it enters the soil and travels downward to become part of the ground-water reservoir. This water moves slowly through rock openings until it discharges as a spring or seep, or is pumped to the surface for water supply. As a state-wide average, 9 to 15 inches of annual precipitation moves through the ground-water system and provides the base-flow component of continuous streamflow.

RUNOFF that immediately enters the drainage system when precipitation occurs, is called direct runoff or storm runoff. About 6 to 12 inches of the annual average Pennsylvania precipitation is direct runoff.

WHAT HAPPENS WHEN MAN DISTURBS EARTH

What happens to the water resources, in particular the flow of streams and rivers of an area, as man builds and develops, cuts and fills. Anything?

And if something does happen, is it detrimental or beneficial to nature and man.

What happens, why it happens, and how we can direct efforts to minimize detriments and maximize benefits are the subject of this article.

Since what happens in large streams, in the final analysis, is the result of actions and processes in individual watersheds, the Turtle Creek watershed will be discussed to describe what happens as development progresses. Hopefully, a better understanding of water and its problems will result.

How does the local hydrologic system work and what are the complexities caused by urbanization? The water cycle and some state-wide averages for Pennsylvania are a good beginning. *(Chart)*

WATER IS CONSTANTLY BEING RECYCLED

The water cycle can be thought of as beginning in the form of evaporation from oceans since this is the largest source of supply for this never-ending process. As this moisture passes over land it often falls as rain or snow far from our watershed. But the supply is constantly on the move; from clouds to ground back to vapor to clouds, with a relatively small amount escaping by river flow back to the ocean.

The water that falls on our watershed normally has passed through a number of sky-ground-sky cycles before it falls on our area. In the process it may have been used by man, plants, or simply evaporated by the sun's energy.

How much of each rainfall returns to again form clouds? This depends on the nature of the area on which it falls: the vegetation, soils, topography, and the nature of land use, as well as the season.

Total stream flow at any particular time is the result of direct runoff plus ground water dis-

charge. Man usually changes this only slightly through water uses such as lawn watering (resulting in increased evaporation losses). Most water that man takes, he returns to the water system, although he may take it from one place, use it (or abuse it), and return it to another place in the system.

But man, through urbanization, can and does change the nature of the drainage systems and hence the rates of transpiration and infiltration, resulting in significant changes in the timing and distribution of runoff.

Flood peaks often increase significantly when land is converted from forest or farms to highly developed metropolitan areas, a situation very relevant to our rapidly growing watershed.

One other important factor must be considered and that is topography. All other factors being equal, there is more direct runoff, less recharge of ground water and less evapotranspiration in a hilly area than in a flat area.

WATERSHED LAND USE

The Turtle Creek Watershed exhibits a full spectrum of land uses. These range from open spaces, and farms in the east, to moderate suburban development in the mid sections, to highly urbanized areas in the western portions.

Perhaps 30 percent of the entire area is in some form of urban development. Most of this is in Allegheny County sections of the watershed and along the southern boundary (Route 30) in Westmoreland County.

A notable fact about topography is the hilly nature of the western areas. The entire Thompson Run sub-watershed and the main watercourse from the Monongahela River to beyond Trafford affords very steep and sharply sloped lands. This area is also some of the most heavily developed.

HEALTHY DEVELOPMENT

Basically, the ability of the watershed to grow in a healthy environmental fashion rests with each watershed municipality. The governing bodies directly control uses of their land or strongly influence county or state programs that may affect portions of their community.

Therefore, a good community development plan must be established and followed, recognizing the natural advantages and disadvantages of each municipality. This will guide the types of urbanization into the proper form and location.

The plan must acknowledge topographic limitations and geological constraints, and incorporate a healthy balance of commercial, industrial and urban development and an acute awareness that over-development will quickly lead to decay.

It is important that the municipality not fall victim to a desire to increase the tax base by disregarding good planning principles on open space preservation.

Overcrowding, besides upsetting the hydrology of the area often causes tension and anxiety leading to deterioration of "community spirit" among densely crowded urban dwellers.

Well designed open spaces serve as an antidote, as well as serving as a pollution control device and allowing for an almost normal hydrological cycle. Therefore, parks, "greenbelts" and required percentages of subdivided land for recreation uses should be in the plan. This is not difficult in the watershed where, because of topographic and geological limitations, roughly half of our area should be left in natural vegetation.

Since infiltration and transpiration are the elements of the hydrological cycle most affected by man's development, every effort should be made to maintain their normal function, despite urban growth.

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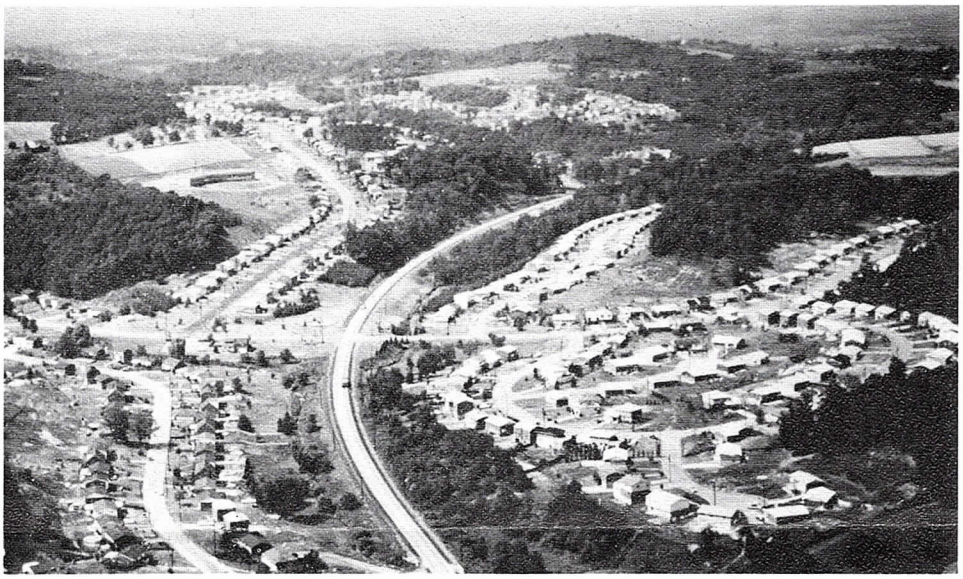
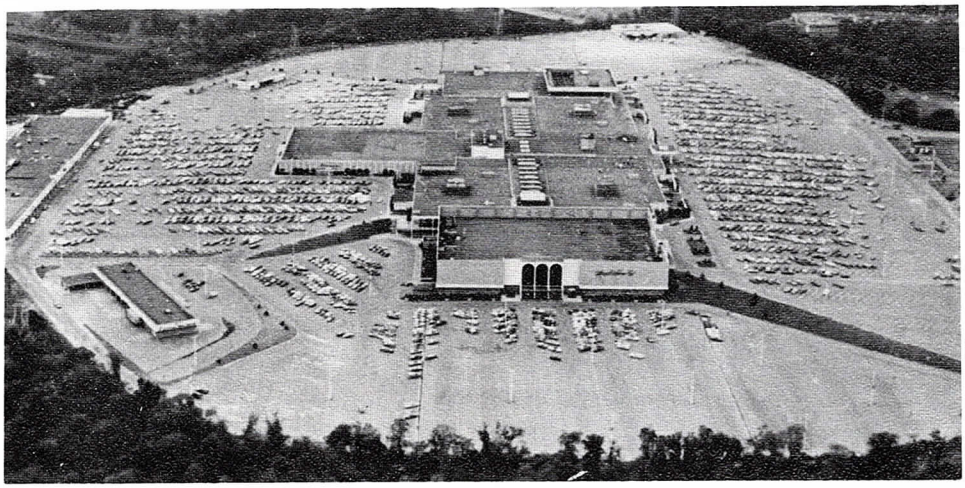


From open spaces to suburban. This area in Plum Borough along Route 286 is typical of many growth areas of the watershed. Using information from a USGS stream gauging station located just downstream, TCWA is studying this 4.39 sq. mile sub watershed to determine changing runoff characteristics as development occurs.



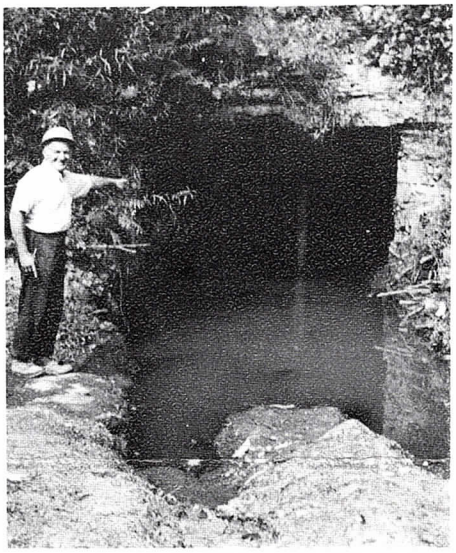
Dense Urban Development. The Monroeville Mall is shown with Penn Center in the background. Large amounts of roof and bituminous surfaces lead to drastic changes in local hydrology.

COAL RUN DONE

Eight mine entry seals are in place and approximately 3500 feet of stream rechanneling has been accomplished along Coal Run near Irwin, Pa.

Completed by the Department of Environmental Resources (DER), the project is designed to keep surface waters out of the Irwin Syncline mines that cause the "Irwin Outfall" of acid mine drainage.

The project was a good one. It is estimated by TCWA that over a million gallons per day of mine drainage have been abated. Surface water was previously entering the old mine workings, circulating through the old tunnels and mine debris, picking up unstable (and harmful) salts, and exiting about a mile away as acid mine drainage.

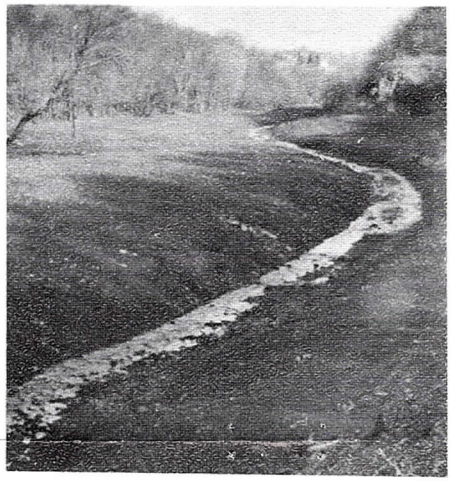


DER mine inspector points to water entering an old mine portal and soon to form acid mine drainage.

It no longer does this. Now the surface water flows over its new stream bed, past the now sealed mine openings into which it once flowed.

There are still two discharge areas located approximately 100 yards above Coal Run's confluence with Turtle Creek, but correction of this problem must await deep mine abatement efforts. It is doubtful that they can be sealed at this time because the "head" of mine water in the deep mines is too great here.

However this is the only mine acid discharge remaining in the entire length of Coal Run.



Coal Run reclamation results in stream rechanneling and a useful valley.

Particularly impressive was the flexibility shown by DER in this project. Although TCWA had surveyed the areas adjacent to the stream in the summer of 1972, several significant mine holes had not been located, and were not included in the original project.

Ralph Hoak, a retired miner from Painterstown notified TCWA executive director, John Mores, and called the additional mine holes to his attention. On notification of these problems, DER expanded their contract to include sealing of three holes and rechanneling of a small tributary that entirely flowed into one of these openings.

DER, and in particular Al Molinsky, District Engineer from the Ebensburg Office responsible for the entire Turtle Creek watershed area, deserve the thanks of local residents. They did a fine job.

And TCWA certainly appreciates the help and interest of watershed citizens such as Mr. Hoak. Citizen participation will go a long way in helping TCWA achieve its goal of a better place to live and work in the watershed for all of us.

Seal in place. Eight open entryways were sealed keeping surface water and children out of the old mines.

ALLEGHENY COUNTY MINE DRAINAGE REPORT COMPLETED

TCWA completed in September, 1973 its report of mine drainage problems in Allegheny County portions of the watershed. Also studied were a number of locations in Westmoreland County not covered in TCWA's Irwin Syncline study of 1972.

This completes the TCWA investigation of mine acid throughout the watershed. It includes stream flow and water quality data on streams receiving mine acid as well as sources, deep mine information and strip mine problems associated with mine drainage.

Objectives of the study were to prescribe corrective action for abating mine drainage outfalls where possible, and to prescribe priority areas for "Quick Start" state reclamation efforts.

Studied were coal mines of the old New York and Cleveland Gas Coal Company, the predecessor of Consolidated Coal Company, who began most early mining operation in the Pittsburgh area. Several smaller mines were also studied.

Emphasis was placed on the workings of the Oak Hill Nos. 2, 3 and 4 mines in Monroeville, Wilkins and Churchill Boroughs; the Oak Hill No. 5 and Sandy Creek Mines in Plum and Penn Hills; the Duquesne and Hampton Mines in Wilkins and Churchill; and the Stuart-Dickson Mine in North Versailles Township.

Unlike the Irwin-Export areas which were studied in 1972, Pittsburgh Coal in the Allegheny County portions of the watershed is found in highly discontinuous sections under the highest hills and ridges where the coal has not been eroded away.

Coal here was "up-dip" mined which allowed water to flow freely out of the old workings. Today, the flow of surface water into and out of these mines continues unabated. The result is the mine acid in evidence in many area streams.

TAL PROBLEMS ENVIRONMENTAL PROBLEM

A major source of water into many of these mines is domestic sewage and downspout flows illegally tapped into the old workings.

Summary of Report's Findings

- A summary of the report's findings and recommendations include:

- Strip mine reclamation and limited mine sealing (with grouting) of the Plum Creek mines at the western edge of Boyce Park.

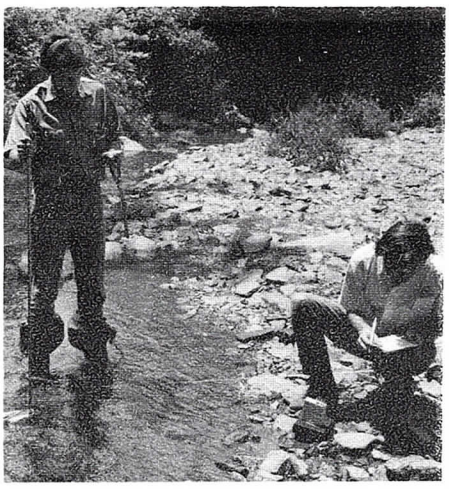
Seal a main pit mouth of the Plum Creek mine on a farm near the overpass of Route 380 and the Pennsylvania Turnpike.

- Seal and grout the main pit mouth of the Hampton mine above Linhart.

- Use lime slurry and fly ash on passageways of the Stuart-Dickson Mine to slow flows in the mine. Seal the Dixon Avenue discharge.

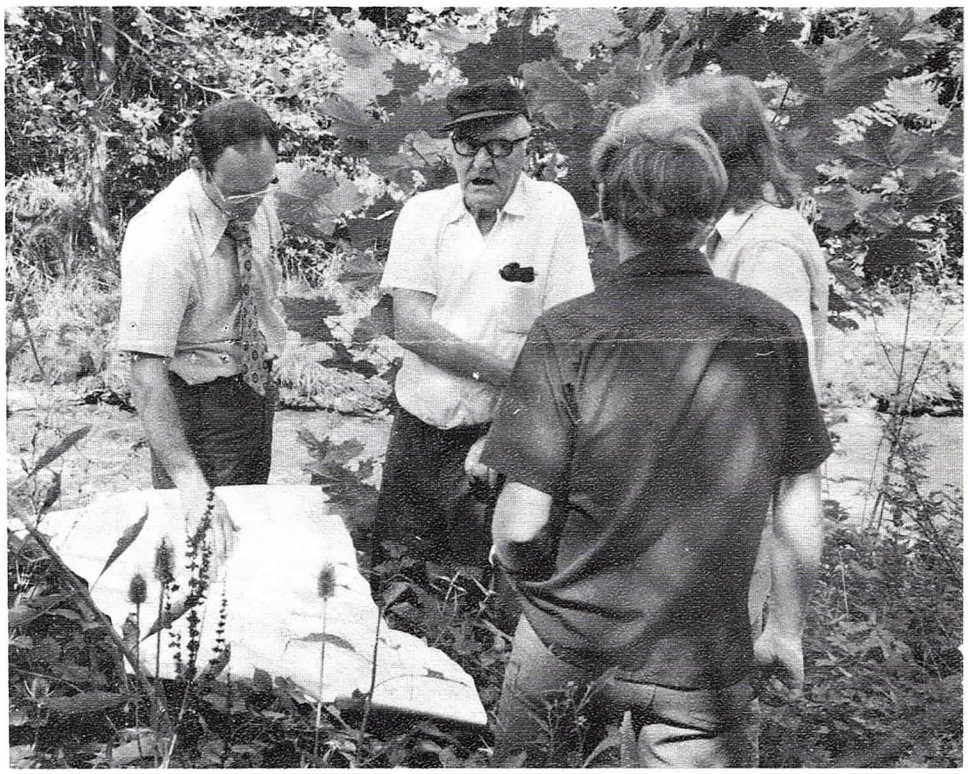
- Use lime slurry and fly ash to slow the "wet weather" flows of the Oak Hill No. 4 Mine. Seal two drain holes along the Monroeville Turtle Creek Road.

- In Westmoreland County: Strip mine two areas above Export that were first deep mined and then partially stripped during the 1940's. Strip mining of two old Shelly Mine properties will remove the coal pillars left in place that are causing acid mine drainage to Steels Run.



Stream flow gauging and testing for mine acid on Leaks Run in Monroeville Borough. All of the streams in the Allegheny County portions of the watershed were tested and gauged by TCWA during the summer of 1973 to determine the need for mine drainage abatement.

BIG MINE PROBLEM FACES MAJOR EXAM



George Latulippe, heading the Swindell Dressler survey team, discusses deep mine information with Oscar Raver, retired Westmoreland Coal Company chief engineer, while two Swindell Dressler men look on.

The Swindell Dressler Engineers' Pittsburgh office has received a $82,500 Department of Environmental Resources contract to determine how best to handle mine drainage from the interlaced mines of the Irwin Syncline area.

Headed by Mr. Don Senovitch, project engineer, the Swindell team began work July 1, 1973 to obtain all available records, mine maps and other data on underground conditions.

This is no small job. The area covered by the study includes 40 square miles of land in the Turtle Creek watershed and about 100 square miles in the Sewickley Creek Watershed. Included are subsurface coal properties once owned by about 14 major mines.

All that now remains underground is a maze of mined out haulageways, manways, rooms and air tunnels that show themselves on old mining maps much like the street plan of a major community. Essentially, the area is one large cavern, much of it filled with underground water and separated in sections by coal barriers (that are required by mining law to be left in place).

These coal barriers often force the mine water to the surface. This is probably true at Irwin, White Valley and Export in the Turtle Creek watershed. These three outfalls drain approximately one-third of the syncline area. Total flows are between 10 and 15 million gallons per day of mine drainage.

Removing the coal barriers could very well allow all of the syncline water to flow underground to one or two discharge points along Sewickley Creek near West Newton.

This is because the bathtub-shaped syncline area containing the mined Pittsburgh coal seam is pitched north to south, with a drop of about 600 feet from Delmont in the north to Sewickley Creek in the south.

The sides of the syncline are steeply sloped up from its central

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axis. The result is a large underground reservoir composed of a number of cells caused by coal barriers left in place.

If the barriers are removed and free flow provided, the water will likely circulate into the recently closed Hutchinson Mine complex along Sewickley Creek, the lowest point in the syncline.

It would discharge at this location. Since mine drainage treatment plants enjoy an economy of scale, there are many advantages to concentrating the 9 major discharge points in the syncline.

This is one of the alternatives being considered by Swindell-Dressler. If this alternative is feasible, the end of mine drainage problems in the Turtle Creek watershed could be in sight.

Mall Decides To Clean Up

The Monroeville Mall owners recently reacted to a difficult and long standing problem affecting Thompson Run.

Garbage and sediments had been washing from the westward face of the Mall property into Thompson Run and finding its way into Turtle Creek.

After repeated and unsuccessful TCWA attempts to get Oxford Development Corporation, owners of the Mall, to safeguard the area and provide necessary storm water controls, information statements were sent to the Allegheny County Health Department, Division of Water Quality (DER) and the State Strike Force.

Action was prompt. Orders were immediately issued by DER to report within six days a plan for correction of siltation and runoff problems "causing obstructions in the unnamed tributary of Thompson Run" adjacent to the Mall.

The County Health Department ordered the Mall to stop illegal dumping and to remove existing garbage from the site.

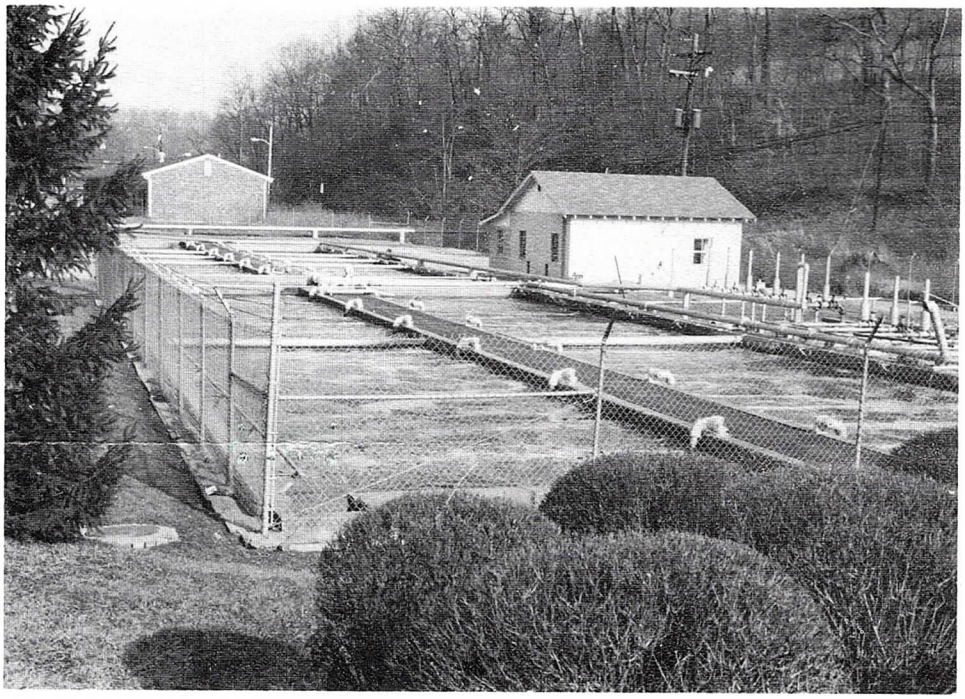
Mall reaction was expeditious. Trucks and highlifts were seen removing debris shortly after the mid-September orders were issued.

David Griffiths, manager for Oxford Development, reports that 19 large truck loads of rubbish, debris and sediments have been removed.

He further states that the berm of the Mall face has been reshaped and large rocks placed so that storm waters do not cascade over the unprotected loose soils, and that all denuded surfaces will be mulched and seeded as soon as possible.

Griffith, his engineer, and John Mores, TCWA executive director, will soon tour the site to see if additional action or controls (such as sedimentation ponds) are needed to preclude future problems.

Holiday Park Sewage Problem



Holiday Park Treatment Plant in Plum Borough. Expansion of facilities and upgrading of treatment are expected during 1974.

Plum Borough has completed plans for upgrading and expanding their Holiday Park sewerage treatment plant.

Long a source of sewage pollution into Abers Creek, the plant is at present grossly overloaded and has been under Court order for over a year.

The plant must meet the following deadlines according to a decree between DER and Plum Borough brought before Common Pleas Judge Richard Wentley: (1) institute a program leading to required level of treatment and capacity by January 1, 1974; (2) remove all unpermitted bypasses and diversions by January 31, 1974; (3) submit a study of infiltration by April 1, 1974 and; (4) complete expansion construction by October 1, 1974.

At present the plant is designed to handle 10,000 people and has a particularly bad infiltration problem. Wet weather flows far exceed the plant's capability and much raw sewage is passed completely untreated into Abers Creek. Under any climatic conditions, the level of treatment is inadequate for effluent discharge into Abers Creek.

Repeated tests by TCWA, Mike Watts of the Allegheny County Bureau of Tests, and the Allegheny County Conservation District have recorded an almost continuous health problem potential during most of 1973.

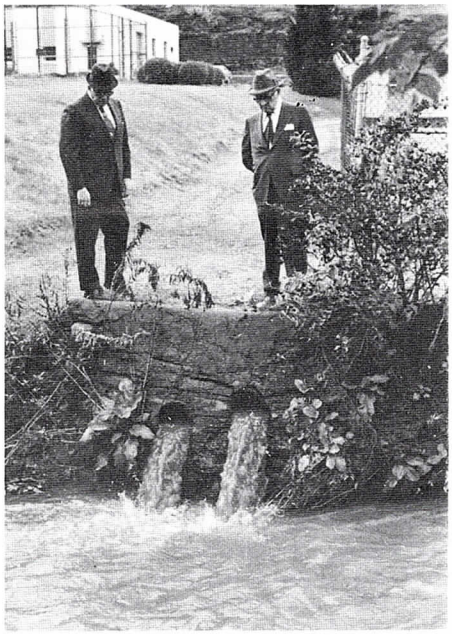
However, progress is being made. The Southwestern Pennsylvania Regional Planning Commission approved Plum Borough's plans in early December, 1973, which qualifies them for federal funding.

These plans call for upgrading plant treatment level to about 85 percent BOD removal and capacity for 18,000 people, the anticipated 1995 population to be served.

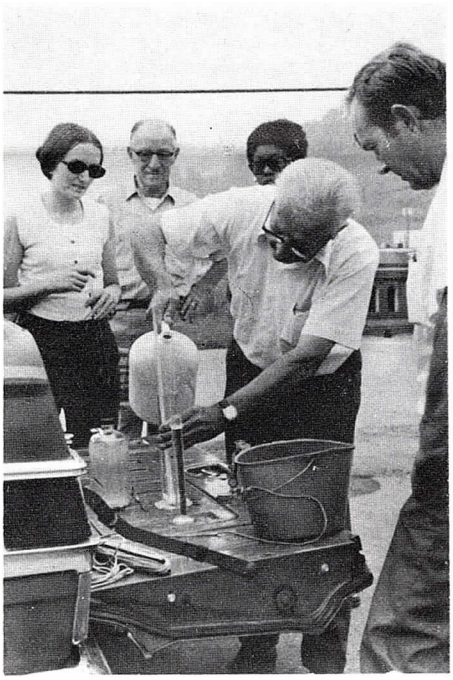
Total cost of the construction is in the neighborhood of $1,925,000 with the federal grant (75% of total) amounting to $1,441,000.

Quick funding depends on federal appropriations for sewage plant construction.

Until the plant meets the requirement of Judge Wentley's decree, no new sewer connections can be made or any other actions taken that could cause additional sewage flows to the plant.



John Schwartz, TCWA Board Chairman and Mike Watts, Bureau of Tests, view outfall from Holiday Park sewage plant into Abers Creek.



Mike Watts makes field test for oxygen content of samples using his portable testing equipment.

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To be effective, the legal tools of zoning and subdivision controls should reflect the community development plan and have incorporated within them the requirements that provide for open spaces and beautification.

Following are suggestions for growth while maintaining a proper hydrological cycle:

MAINTAINING PROPER HYDROLOGICAL CYCLE

- Most recent community development plans follow good planning principles and provide for a balanced use of land. Do not mitigate the plan by making "special exceptions" leading to a general decay of zoning enforcement capability. If the plan must be changed, do it within a proper framework of rational policy changes and a general overhaul of the plan.
- Maintain ravines and deep stream cuts in their natural state; do not allow them to be filled. Encroachment increases flood peaks sharply and often leads to excessive erosion.
- Flood plain lands and slide prone hillsides should be identified and protected from development. Information on their location can be obtained from the local Conservation District office or the Soil Conservation Service.
- Encourage (or require) developers to maintain a maximum of trees on their development sites. Encourage homeowners to plant shrubs and trees.
- Planned Residential Development (PRD) concepts should be incorporated in municipal zoning ordinances. They provide for varied types of housing, with recreation areas and open spaces. Approximately one-third of the total subdivision should be in recreation or "natural" uses.
- Slopes between 15 and 25 percent should have site coverage at a maximum of 15 percent including roof, road and parking areas.
- Areas still in agriculture should be provided tax incentives to perpetuate their existence.
- Beautify where possible. Require trees and shrubs around new commercial and industrial buildings.
- When it becomes available, consider the use of POROUS ASPHALT for large parking areas where subgrade conditions permit. Being tested at the University of Maryland, designers say it permits rainwater to seep through and return to the water table and functions otherwise as regular asphalt.
- Considering the entire watershed, 60 acres of public recreation open space per 1000 people should be achieved.

Churchill Area Recycling Paper

The Churchill area Council of Governments (COG) has initiated a pilot project on paper recycling.

Paper, comprising about 58 percent of all household garbage, is packaged, collected separately and then transported to the Atlas Corporation on the South Side for recycling. And it is almost turning a profit - - about $17 per ton of paper.

COG has donated $500, with $500 matching funds received from the State to see if the project can make a financial "go" of it. This money underwrites the "losses" sustained by Sovereign Sanitation Inc. who does the collection and transportation.

TCWA is working with Sovereign in an attempt to expand services to all nearby municipalities. Bill Biedenbach, owner of Sovereign says he feels he can make a reasonable profit if we get 75 to 80 percent household cooperation and several more municipalities in the system.

This article by necessity has only highlighted the essentials which we have chosen to study. For more in-depth investigation, the following are some handy references that can be obtained from your local United States Geological Survey office or by contacting TCWA: "Hydrology for Urban Land Planning", USGS Circular 554; "Water Facts and Figures for Planners and Managers", USGS Circular 601-1.

(A special note of appreciation to Mr. Robert M. Beall, Hydrologist for the United States Geological Survey for his aid in helping prepare this article.)

TCWA LOOKS TO EDUCATION

A primary function of any watershed association is public education. TCWA is expanding its program in this area. It is felt there is a definite need for audio-visual aids to help local government officials and school teachers understand the generation, alternative solutions, and economics of environmental problems. All of the elements of the education program will be approached on a systems basis, where each is defined in the context of proper land use and the economic and environmental benefits to be derived by the municipality. Accordingly, TCWA is presently obtaining existing slide programs and movies dealing with common environmental problems. Any areas where audio-visual information is lacking will be aided by TCWA. The University of Pittsburgh presently operates a program for municipal officials in a similar context. TCWA executive director, John Mores, is both a graduate and instructor (in Washington County) of this program and will use many of its principles and policies in the TCWA efforts. Pitt and Carnegie Mellon Universities are being asked for input to achieve an up-to-date and inclusive syllabus of information. NOVA (film) Productions, a leader in local law enforcement education films, has also shown interest in helping. Upon completion the program will be presented by TCWA representatives to any interested municipal group, teachers' organizations, civic organizations, and senior high school students.

"TURTLE TALES" — WHAT'S HAPPENING OUT THERE IN THE TURTLE CREEK WATERSHED?

'Keep America Beautiful' Honors Turtle Creek Watershed Assoc.

For our stream clean-up program which took place on Keep America Beautiful Day 1973, TCWA has been selected to receive a Distinguished Service Citation. The citation, presented by KAB's Regional Director, Bruce E. Tibbo, Jr., is for "special recognition of a fine civic effort to clean-up the environment". Entirely volunteer and coordinated by TCWA board member, Mr. Shirley Turnage, the stream clean-up was a true citizens' action. Virtually no TCWA staff time was involved--only limited public relations, and map reproductions. (TCWA also picked up the bill for refuse disposal.) The program included removing trash, debris, old shopping carts, garbage cans and worn out tires from a 48 mile stretch of Turtle Creek and Haymaker Run. A total of 183 people participated with about 22 groups represented. Boy scouts, girl scouts, jaycees, school groups and church societies all were involved. Trucks were supplied by Franklin Township and Export Borough. It was a fine effort for which TCWA was honored but for which our volunteers deserve the credit. This type of action is an excellent opportunity for watershed citizens to get both outdoors and involved. TCWA is presently preparing tree planting and stream clean-up campaigns for 1974. Any interested individual or groups should contact the TCWA office at 256-2433.

Irwin D.E.R. Dredging Asked

At the request of municipal officials from North Huntingdon and Irwin along with Legislator John F. Laudadio, Jeannette, DER agents took a February tour of local 'flood spots' near Irwin. Along Route 993 near the confluence of Tinkers Run and Brush Creek a number of homes and businesses are often subject to local flooding. DER will test bore sediments in the area and determine necessary corrective action. Some local dredging is likely. DER also viewed a playground near the Irwin Junior High School that has had flood problems.

BUILDERS TOLD OF NEW STATE EROSION CONTROLS

Earthmovers operating in the Turtle Creek watershed and throughout Southwestern Pennsylvania have been notified by TCWA of their obligations under the new erosion control laws of the state.

In October, TCWA sent information packets to 85 site developers and builders operating in the region. This came about as a result of repeated questions to TCWA of builder responsibilities and obligations under the new regulations.

Included in the packet was PennDER's "Soil Erosion and Sediment Control Manual" which includes (1) the applicable law and regulations; (2) procedures for obtaining an erosion control permit; (3) requirements of the erosion and sediment control plan; and (4) standards for erosion control facilities. (Anyone interested in obtaining this manual should call their county conservation district.)

The packet also included specific information on the Turtle Creek watershed which has a 12 acre permit requirement. This information included the following: (1) maps of the watershed where the 12 acre requirement is law; (2) active date of the permit requirement (July 1, 1973); (3) particular sections of the law that should be emphasized; (4) where earthmovers can call to obtain information and help in constructing their erosion control plans; and (5) the TCWA "Erosion Control" newsletter.

Anyone requiring information on the new state regulations or their responsibilities in the Turtle Creek watershed area is advised to call 256-2433.

TCWA Report

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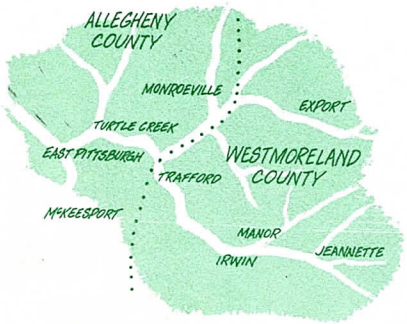

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