1ST LONG RANGE PLAN

1965 - - 1967

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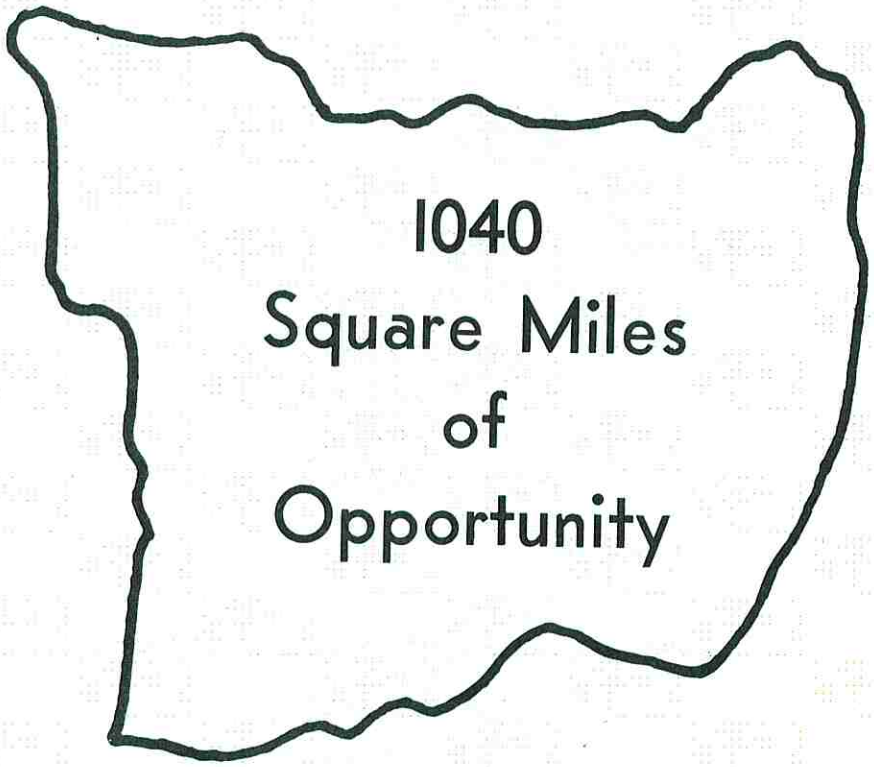
WESTMORELAND COUNTY SOIL AND WATER CONSERVATION DISTRICT PROGRAM



WESTMORELAND COUNTY
PENNSYLVANIA

WESTMORELAND COUNTY

SOIL AND WATER CONSERVATION DISTRICT PROGRAM

WESTMORELAND COUNTY, PENNSYLVANIA

1967

DIRECTORS DURING PROGRAM FORMULATION

MAY 1, 1965

DeWITT RUGH, Chairman
CHARLES KEPPLE, Vice Chairman
JAY W. KROMER, Commissioner
JOHN D. BRAWDY, Treasurer
FORD FRANK, Secretary
GILBERT HUTTER, Member

DIRECTORS DURING PROGRAM PRINTING

JUNE 30, 1967

GILBERT HUTTER, Chairman
FRANK BOGAN, Vice Chairman
JAY W. KROMER, Commissioner
CALVIN GERHARD, Treasurer
FORD FRANK, Secretary
DeWITT RUGH, Member
RANDALL CAMPBELL, Associate Director
FRANK SKACEL, Associate Director

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PREFACE

The purpose of this document is to set forth the broad program of the Westmoreland County Soil and Water Conservation District. Section A, beginning on page 3, accomplishes this purpose through the section entitled District Organization, District Policies, Statements of Adoption and Approval, and the District Accomplishments to Date. The latter contains a summary on a county-wide basis of the major conservation practices needed, accomplished and remaining to be done.

Section B, beginning on page 9, presents the district resources and features including the Geology, Soils, Agricultural, Non-Agricultural, Woodland, Water and Recreation Resources. Future planning proposals and decisions must take into consideration these resources and features and the needs of all segments of the population.

Appendix I includes a resume of the Federal, State and Local resources which are available to assist the District in implementing this Long-Range Program.

The Westmoreland County Soil and Water Conservation District Directors appreciate the assistance in developing this Program provided by the Westmoreland County Commissioners, the Vocational Agricultural Supervisor and representatives of the U. S. Soil Conservation Service, State Soil and Water Conservation Commission, Cooperative Extension Service, Agricultural Stablization and Conservation Service, Farmers Home Administration, Pennsylvania Department of Forests and Waters, Pennsylvania Game Commission, Pennsylvania Fish Commission, Pennsylvania Department of Health and the Westmoreland County Planning Commission.

SETTING

Westmoreland County is located in southwestern Pennsylvania between Pittsburgh and Johnstown. It is bordered on the east by Cambria and Somerset Counties, on the south by Fayette County, on the west by Washington and Allegheny Counties, and on the north by Armstrong and Indiana Counties. It contains about 1,040 square miles or 654,720 acres of land, and a population of 352,629 people. The main sources of employment are agriculture, mining, industrial and commercial manufacturing and wholesale and retail businesses.

Greensburg, the county seat and named after General Nathaniel Greene, is located about 30 miles east of Pittsburgh. Other municipalities include Jeannette, Latrobe, Derry, Ligonier, Monessen, Mt. Pleasant, Scottdale, New Kensington, Vandergrift, and Irwin. There are six third class cities, 35 boroughs and 22 townships. Communities are connected by a well planned system of public roads. The Pennsylvania Turnpike, Route 22, Route 380, Route 30 and Route 31 are the main highways running east and west across the county. The main north and south traffic arteries are Interstate Route 70s, Route 66, Route 119, and Route 711. The Pennsylvania and Baltimore and Ohio Railroads have trunk lines through the county.

The County is drained by tributaries of the Allegheny and Monongahela Rivers. These include the Kiskiminitas, Conemaugh and Youghiogheny Rivers and Loyalhanna, Sewickley and Jacobs Creeks. Flood control dams are located on the Loyalhanna and Conemaugh which create large flood pools in the spring. Beaver Run Dam has created a lake seven miles long and is one of the largest water supply reservoirs in the state.

The eastern one-third of the County contains two ridges of the Allegheny mountains, the Chestnut Ridge and the Laurel Ridge. This area of vast woodlands, gamelands and state forests, along with the scenic non-industrial valleys, has great potential as a recreational area.

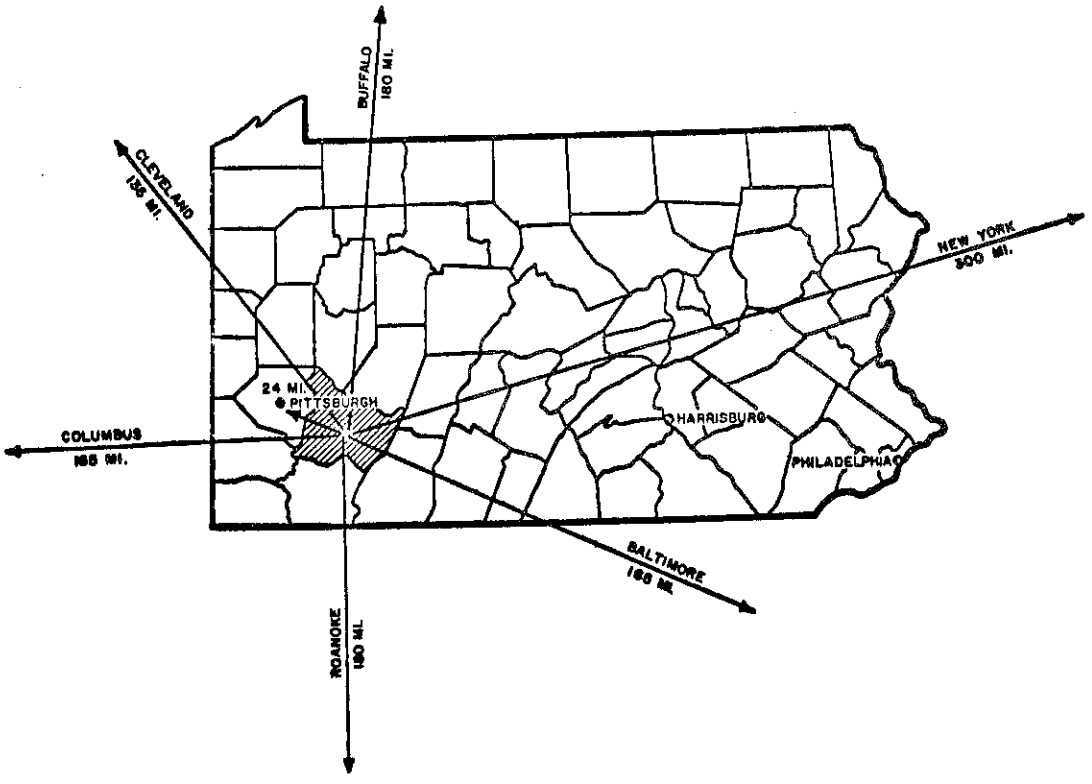
SETTING

The history of Westmoreland County dates back to the French and Indian War, when Bushy Run Battlefield, Fort Ligonier, and Old Forbes Road were vital areas of conflict. Founded in 1773, the County originally included sections of six other counties. It was the last to be established by the British and the first county west of the Allegheny mountains. The first settlers, mostly German and Scotch-Irish, took part in the American Revolution and were later involved in the Whiskey Rebellion.

As a result of constant Indian raids, agriculture developed slowly in the County. Early settlers lived on dairy foods, game, cornmeal, nuts and berries. Pork, beef and venison were preserved. Gardens produced potatoes, pumpkins, turnips, beans, corn and cabbage.

In 1821 the Harrisburg to Pittsburgh Turnpike passed thru the County. This was followed in 1834 by the Pennsylvania Canal which carried cargo along the northern border of the County. The Pennsylvania Railroad laid lines through the County prior to the Civil War.

Much of the County is underlain by coal. In 1854 large scale mining began. This led to an influx of British miners and the production of coke in 1870. Natural gas was discovered and became an important industry in 1886. That same year, however, electricity was introduced for power and light, and this somewhat reduced the importance of the gas. There was a mining boom from 1900 to 1910 so that people from eastern and southern Europe moved into the area in large numbers. By 1914 there were 28,000 miners working in the County. Since then there has been a steady decline in coal and coke production. In later years strip-mining has scarred the land, but most of the coal lies too deep for that type of operation.



SECTION A

THE DISTRICT PROGRAM

ORGANIZATION

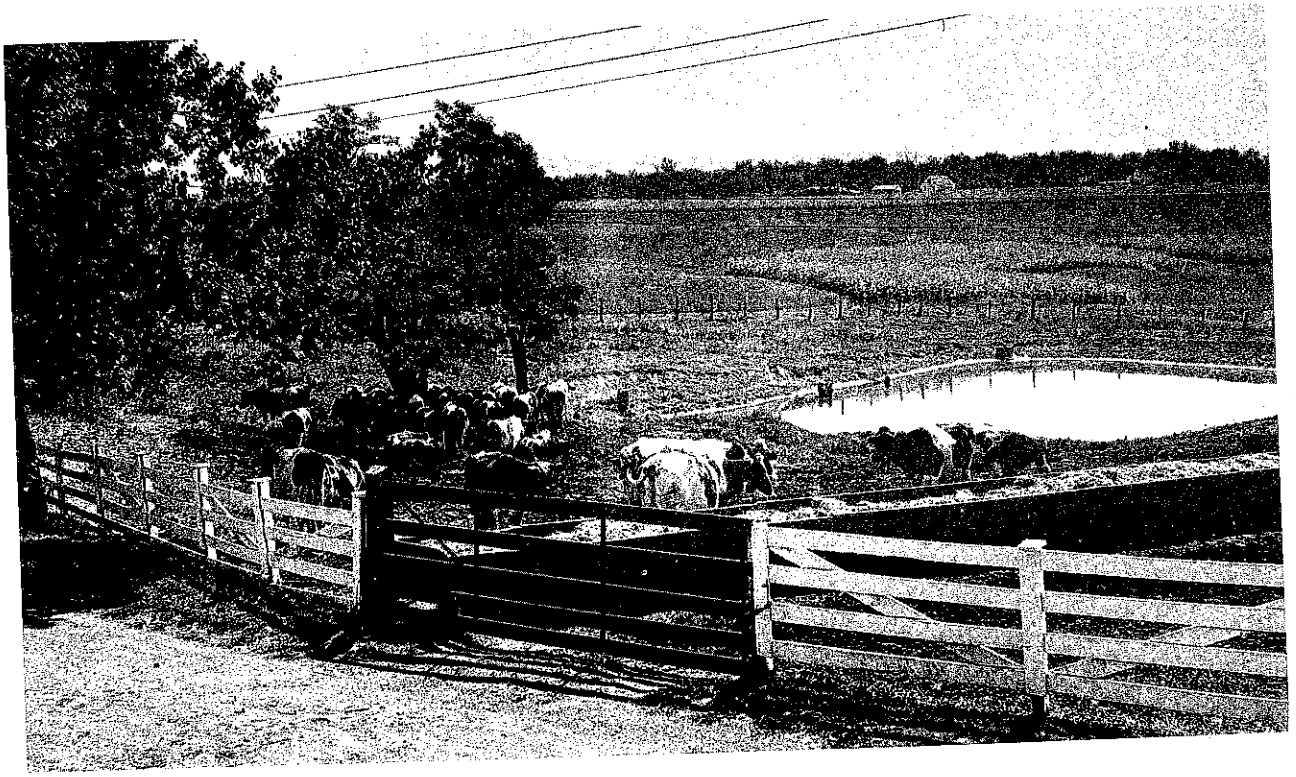
The Westmoreland County Soil and Water Conservation District was organized at the request of county farmers interested in conserving the soil and water resources on their land. The County was declared a District by the Board of County Commissioners of Westmoreland County on October 21, 1949 in accordance with provisions of the "Soil Conservation Law" of 1945, Act 217, of the Pennsylvania General Assembly. The District began operations in March 1950. It functions under the supervision of the State Soil and Water Conservation Commission of the Pennsylvania Department of Agriculture.

As stated in Act 217, the District was organized to provide for the conservation of soil and water resources, assist in watershed protection and flood prevention, prevent damage to dams and reservoirs, to help in maintaining the navigability of rivers, preserve woodland and wildlife, protect public lands, preserve the tax base and to protect and promote the health, safety and general welfare of the people.

The District is a sub-division of state government. It is administered by a board of directors composed of four farmers and one county commissioner. Act 217 was amended during the 1963 session of the Pennsylvania Legislature to permit Soil and Water Conservation District Directors to include one urban director in place of one farmer director. The urban and farmer members are appointed by the County Board of Commissioners from a list of nominees developed by county-wide farm organizations. Each serves for a four year term. The commissioners also designate one of their members to serve as a director for a one year term. The Directors, except the Commissioner member, serve without pay.

The District is responsible for the broad overall soil and water conservation program as set forth in the "Soil Conservation Law", Act 217. The directors work with all individuals, organizations, and agencies interested in soil and water conservation, land use planning, flood prevention and watershed protection in the broadest sense to secure their assistance and support in planning and carrying out the district program.

In accordance with policies of federal, state and local agencies cooperating with the District, the District will provide planning and application assistance for conservation programs and practices on public or private lands, when such assistance is requested by the landowner or operator.



DISTRICT POLICIES

1. The directors recognize and fully accept their responsibility for carrying out the administrative, financial and other affairs of the District. The Directors will hold regular meetings in order to effectively transact the district business. They are aware of the District's responsibilities in the field of soil and water conservation, land use planning and watershed work on both the agricultural and non-agricultural land.

2. The Directors will enter into formal three-way memorandum of understanding with the State Soil and Water Conservation Commission and the following: U. S. Department of Agriculture, Soil Conservation Service, Pennsylvania Department of Forest and Waters, Pennsylvania Fish Commission, Pennsylvania Game Commission and the Pennsylvania Department of Highways. The Directors will exchange letters and informal agreements with individuals, organizations and agencies as necessary or desirable in securing their assistance in carrying out the District program.

3. The Directors will request the help of, and cooperate with, all individuals, organizations and agencies interested in soil and water conservation, land use planning and watershed work.

4. The District Directors will develop and carry out an effective informational and educational program designed to acquaint all of the people with the District and its program. This effort, aimed toward encouraging interest and participation in the District program, will be carried out through the county newspapers, radio stations, and television.

5. The Directors will enter into agreements with land owners and operators who request help in developing and carrying out conservation plans on their land. The agreements will fix responsibility. The agreement form is to be acceptable to the Soil Conservation Service and the State Soil Conservation Commission, and will reflect services that may be provided by all cooperating agencies. The District Directors will be responsible for signing agreements with land owners and operators. Arranging for distribution and explanation of the agreement forms shall be at the option of the Directors. Anyone authorized to distribute and explain district agreement forms will clearly indicate the relationship between the landowner and the soil conservation district. The Directors will also see that the provisions of agreements with owners and operators are carried out.

6. Where consultive type services are requested, no formal agreement form will be used; however, the type and quantity of such services will be determined by the Directors at the time the annual work plan is prepared.

7. The Directors shall be responsible for determining the kind, amount and priority of work to be performed on farms and non-agricultural land, based on need and resources available. In making these determinations, the District will consult with interested individuals and representatives of the cooperating agencies.

8. The Directors will sponsor applications for assistance under the Watershed Protection and Flood Prevention Law, P. L. 566. These may cover any portion of the District. The Directors will assume responsibility for the success of such projects by (a) giving priority to the land treatment program, (b) working with other local units of government to the end that they assume responsibility for land rights, easements and works of improvement to be installed under this program.

9. The District will provide such funds, services and facilities as it is able to obtain for carrying out its program.

10. The Directors will not charge for any assistance made available by an agency and will assure the public of that fact.

11. The District will inform local contractors, farm supply stores and others of the needs of district cooperators. District cooperators will then be encouraged to hire equipment and purchase necessary planting stock and other materials from local commercial sources. Equipment operators will be trained when necessary and cooperators will be furnished a list of competent contractors.

12. The Directors recognize that all assistance including personnel, equipment and materials supplied to the District by an agency, will be furnished in accordance with the agency's applicable authorities and policies. The Directors further recognize that agency personnel and facilities will be under the administrative jurisdiction of the agency involved.

13. The District Directors will work with the County ACP Development Group to the end that the County Agricultural Conservation Program includes soil and water conservation, woodland, wildlife and recreation practices considered necessary, and that cost-share funds are made available to interested landowners for installation of these practices.

14. The District will attempt to see that each new cooperator receives help within three months from the time his conservation agreement is accepted. If necessary limitations will be placed on the number of cooperators signed up each year to fulfill this policy.

15. The District will review the list of cooperators every year. Cancellation of conservation agreements will be made if there is a change of ownership, lack of interest or other valid reason as determined by the District Directors.

16. The District will annually prepare the following reports and submit them to the State Soil and Water Conservation Commission. All reports are based on a calendar year and should be submitted as soon as possible after the year ends.

a. A report of the previous year's activities and accomplishments.

b. A budget for the coming year.

c. A financial report and audit of the previous year.

d. A work plan for the district program during the coming year. This plan will serve as a guide for the year ahead. It will include the work of the individuals, organizations and agencies that are willing to help during the year, and the priorities for the establishment of that work. Cooperating agencies will be informed of any substantial changes that are made in the annual work plan to avoid misunderstanding in carrying out the work.

e. An affidavit of surety bonds required by law with respect to funds of property entrusted to Directors or employers.

Conservation begins with a landowner becoming a district cooperator. To date 990 landowners have become members of the Westmoreland County Soil and Water Conservation District.

DISTRICT ACCOMPLISHMENTS

The Westmoreland County Soil and Water Conservation District has accomplished significant amounts of conservation practices during the past 14 years. Table I indicates the major conservation practices accomplished and the amounts remaining to be done. This data is based on available accomplishment records by all agencies and the Conservation Needs Inventory.

A detailed soil survey of Westmoreland County is completed. It is anticipated that the Report will be published in 1967. A review of the total conservation needs remaining to be done indicates that increased emphasis should be placed on all phases of conservation application. This will be accomplished through the development of an annual work plan as set forth in the district policies section. This plan will represent an annual portion of the overall district program.

Appendix II contains Progress Summary forms for use in keeping the District accomplishments record current each year.

TABLE I
PROGRESS REPORT

Item	Total Requirement (Estimated)	Accomplished to Date	Remaining to be Done
District Cooperators	2,900	825	2,075
Conservation Plans	2,900	500	2,410
Soil Surveys	654,720 Ac.	654,720	Completed
Contour Strip Cropping	128,750 Ac.	12,869	115,881
Diversion Terraces	1,932 Mi.	37	1,895
Constructed Outlets	200 Mi.	21	179
Tile Drains (Ac. Benefited 49,900)	3,780 Mi.	183	3,597
Farm Ponds	1,025	102	923
Pasture and Hayland Planting	39,500	3,398	36,102
Pasture and Hayland Renovation	21,500	929	20,571
Tree Planting	21,000	1,129	19,871
Woodland Improvement	72,000	525	71,475

STATEMENT OF ADOPTION

We, the Directors of the Westmoreland County Soil and Water Conservation District, adopt this Program on the 24th day of March, 1965.

F. M. Frank
Secretary

R. H. Pugh
Chairman

STATEMENT OF APPROVAL

This long-range Program of the Westmoreland County Soil and Water Conservation District was reviewed and approved by the State Soil and Water Conservation Commission on May 19, 1965.

L. H. Bull
Chairman and Secretary of Agriculture

Charles F. Hess
Executive Secretary

SECTION B

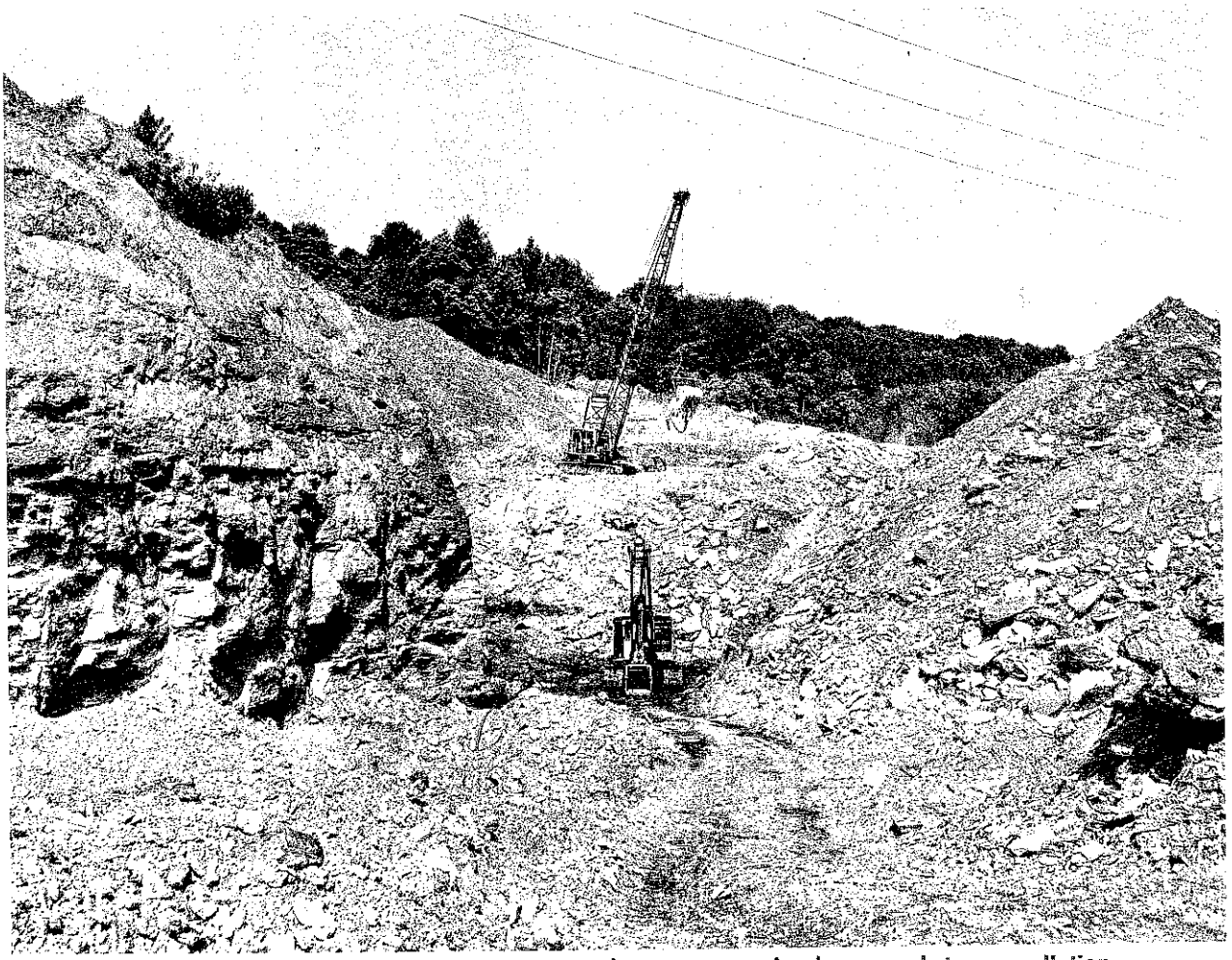
THE DISTRICT RESOURCES AND FEATURES

GEOLOGY

Millions of years ago the bedrock underlying Westmoreland County was laid down as layers of sand, mud, carbonate of lime, gravel and organic material. These layers were subjected to pressure and cementation for great periods of time. This resulted in the formation of sandstone, shale, limestone, conglomgerate and coal. Subsequent folding and geologic erosion have exposed these rock layers on the present day landscape.

The rocks exposed in Westmoreland County were formed during three different periods of geologic time. The older rocks belong to the Mississippian period. The next older belong to the Pennsylvania period, and the younger formations belong to the Permian and Pennsylvania period. In making reference to the accompanging map, it will be noted that the Mississippian rocks are largely sandstone, shale and conglomerate, while the younger rocks are for the most part shale, sandstone and limestone with interspersed beds of coal.

Bituminous coal ranks as the major natural resource in the economy of Westmoreland County. In 1961 3.4 million tons of coal were mined from 16 coal beds in the County. The Pittsburgh coal at the base of the Monongahela formation is the most important of these deposits. Many of the mining towns in the County are located along outcrops of this coal. Railroads and highways have been extensively developed into these fields. Much of the Pittsburgh coal which could be recovered by deep mining had been depleted by the 1920's; however, strip mining has extended the productivity of these deposits. As the Pittsburgh coal is depleted other coals, including the Redstone and Upper and Lower Freeport coals, are being brought into production.



Strip mining contributes to the area economy, but causes erosion losses and stream pollution.

Sandstone for use as building stone is obtainable in the County. The Pittsburgh, Butler and especially the Morgantown and Mahoning sandstones are recognized as having the best potential for good quality stone. All of these sandstones occur in the Conemaugh Formation.

Clay shales are found associated with the coals in many places in the County. These shales are quite variable but many deposits are of quality that can be used for manufacturing brick and tile products. This manufacturing industry which employed nearly 4,400 person in 1962 is dependent on the local availability of good shales, and coal or gas for fuel.

Twenty named veins of limestones are widely distributed throughout the County. Most of these are thin and contain impurities of shale or silica. At one time several hundred small limestone quarries produced burnt limestone for agricultural purposes. Both coal and wood were used as a fuel in this process. This practice has almost disappeared; however, limestones are still quarried for road material and crushed stone for construction.

The limestones are distributed with three thin veins in the Washington group and five veins including the Benwood in the Monongahela group. Benwood is a fairly thick limestone which in some localities is of such high purity that it can be used for commercial lime. Seven veins are found in the Conemaugh group, but none are considered of economic importance. Two veins in the older rocks — the Greenbrier in the bottom of the Mauch Chunk formation, and the Loyalhanna between the Mauch Chunk and Pocono formations — occur in thick beds. This stone is quarried and crushed for road materials.

Sand and gravel for road material and construction is dredged from the Allegheny River and in small amounts from other major streams.

In places where deep bedrock layers are folded into anticlynes (bedrock domes) pockets of natural gas and oil have developed. A limited number of low producing oil wells have resulted. There is little expectation of locating additional commercially important oil fields. Numerous gas wells are scattered over the County. Some of these have been very productive in the past; however, there has been a general decline in production in recent years. As the gas pools are depleted, the remaining underground cavities have potential for use as underground storage for gas which is piped in from other areas. Presently natural gas from the south central states is being pumped down old gas wells during the summer months for storage until winter when it is pumped out again to meet the demand of local and eastern metropolitan areas.

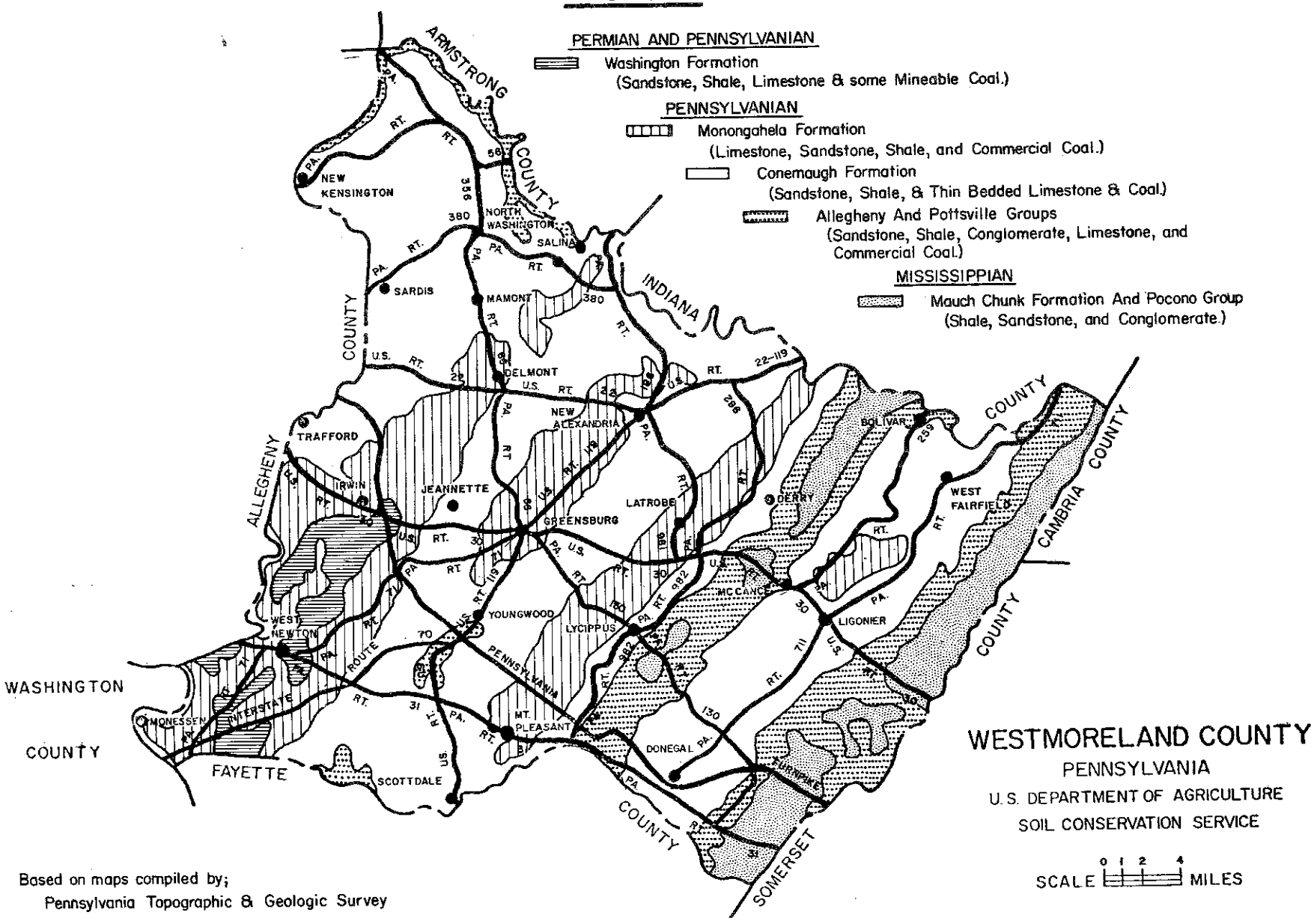
Good quality ground water for domestic use is generally obtainable from wells drilled into the sandstones. Wells drilled at the base of Chestnut and Laurel Ridges are considered free flowing at least part of the year. Ground water supplies have been disrupted in some areas due to the mining of coal. Below the Pittsburgh coal, some wells have ceased to yield water, or the water has become unpotable because of contamination by mine water containing sulphur and iron. There are several high density housing units in the western half of the County which rely on septic tank sewage disposal systems. In such areas there have been and will continue to be hazards of ground water pollution.

PLANNED ACTIONS

The Directors expect to place increased emphasis on geology information as a basis for improving the County economy, land planning, and the stabilization of critical sediment producing areas. Accordingly, THE DIRECTORS WILL:

1. Encourage open pit mining interests to sign cooperative agreements with the District. These agreements will lead to the development of reclamation plans which will meet the requirements of the Department of Mines and Mineral Industries.
2. Take existing or potential coal mining into consideration when planning the ground and surface water segments of conservation plans.
3. Request the U. S. Geological Survey to accelerate the updating and completion of the 7½' topographic survey of the Latrobe, New Florence, Donegal, and Somerset Quadrangles.
4. Encourage the State Geologist to complete the geological survey of Westmoreland County.
5. Meet with representatives of the Water Resources Division of the United States Geological Survey, the County Commissioners and representatives of other federal, state and local agencies to discuss available information on stream sedimentation rates, ground water supplies, and stream flow characteristics within the county.

GEOLOGY


PERMIAN AND PENNSYLVANIAN
Washington Formation
(Sandstone, Shale, Limestone & some Mineable Coal.)
PENNSYLVANIAN
Monongahela Formation
(Limestone, Sandstone, Shale, and Commercial Coal.)
Conemaugh Formation
(Sandstone, Shale, & Thin Bedded Limestone & Coal.)
Allegheny And Pottsville Groups
(Sandstone, Shale, Conglomerate, Limestone, and Commercial Coal.)
MISSISSIPPIAN
Mauch Chunk Formation And Pocono Group
(Shale, Sandstone, and Conglomerate.)
ARMSTRONG COUNTY
INDIANA COUNTY
CAMBRIA COUNTY
SOMERSET COUNTY
FAYETTE COUNTY
WASHINGTON COUNTY
ALLEGHENY COUNTY
NEW KENSINGTON
NORTH WASHINGTON
SALINA
SARDIS
MAMONT
DELMONT
TRAFFORD
IRWIN
JEANNETTE
NEW ALEXANDRIA
LATROBE
GREENSBURG
DERRY
BOLIVAR
WEST FAIRFIELD
LIGONIER
MC CANCE
YOUNGWOOD
LYCIPPUS
WEST NEWTON
MONESSEN
MT. PLEASANT
DONEGAL
SCOTTDALE
PENNSYLVANIA TURNPIKE
INTERSTATE ROUTE 70
Based on maps compiled by;
Pennsylvania Topographic & Geologic Survey
WESTMORELAND COUNTY
PENNSYLVANIA
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SCALE 0 1 2 4 MILES

SOILS

As one uses a road map in reaching a destination in unfamiliar areas, land use planners are increasingly using soil maps to guide them in selecting suitable soils for selected land uses.

The soils map is a detailed map showing the location of different soils in an area. If this is carefully studied, areas with soils best suited to urban or agricultural uses can be quickly located. The map is usually an aerial photograph over which soil boundaries have been plotted. Soil types as small as one acre in size are generally delineated on soil survey maps in Pennsylvania. In urbanizing areas where a more detailed map is required soil areas so small as one-sixth of an acre may be shown.

Field surveying required in developing a soils map is done by professional soil scientists who walk over the land in a systematic manner, acre by acre. At selected locations the scientist probes into the soil with an auger or spade. As the fresh earth is pulled to the surface, he carefully examines its color, depth, and other physical properties used in identifying the soil type. He then determines the steepness of slope, and the extent of past erosion. Symbols for soil type, slope, and erosion are placed on an aerial photograph. Soil boundary lines enclose areas of the same soil type, so that the aerial photograph soon becomes an accurate soils map of the region.

Scientists have completed the soil survey in Westmoreland County.

An everage soil scientist walks about 850 miles each year to soil survey approximately 40,000 acres of land.

As field surveying progresses, laboratory and engineering test data are collected for interpretative tables.

About three years after the field surveying is completed, a Soil Survey Report is published. This includes a copy of the survey field sheets, soil descriptions, and agricultural, urban, engineering, woodland and wildlife interpretations. This report, after publication, will generally be available in the Greensburg offices of the United States Congressman, the United States Soil Conservation Service or the Cooperative Extension Service.

Included in the Soil Survey Report is a Soil Association Map of the County. This Soil Association Map, page 17, and the descriptions which follow have uses in guiding general planning by indicating the kinds of soil that can be expected to occur in various parts of the area. The Map has limitations, however, because it does not guarantee the location of particular members of the association on individual tracts of land. The Map is, in fact, a broad generalization. It is not a substitute for the detailed soil survey which has been completed in Westmoreland County, but is not yet available for public use.

A soil association is a group of soils that normally occur together as parts of the landscape. These soils have characteristic positions in relation to each other and their pattern is often repeated. In the following descriptions of individual soil associations the principal soils are named. After each name an estimate is given in parentheses as a percent of the total area of the association. Along with the named soils there are usually several minor soils within the association. One soil series can occur in more than one soil association. It may be in a different percentage of the total area, or it may be represented by different slope or stoniness phases.

WGC Westmoreland (50%) Guernsey (30%) Clarksburg (15%)

This association occurs in the troughs (synclines) above the Pittsburgh coal. Most of this coal has been mined—disrupting the ground water table

and destroying some springs and wells. These soils have the highest natural fertility of any soils in the County. Long, smooth, convex slopes typify this general soil area. On these long, smooth convex slopes of Westmoreland and associated well drained soils in southwestern Pennsylvania and adjoining areas of Ohio and West Virginia the practice of contour strip cropping has been used on many farms for several generations. Apparently contour strip cropping was first used to make for more efficient use of the draft animals. In addition to conserving draft energy, contour strip cropping has proven an efficient and popular soil and water conservation practice—it stamps the conservation farm. Dairy farming dominates in this area.

Westmoreland soils make up 50 percent of this association. They are deep, well drained soils on gently to strongly sloping sites. The Guernsey soils make up about 30 percent. They are moderately well to poorly drained soils on gently sloping to nearly level sites. They rarely extend more than one-half of the total distance up the hill.

Clarksburg soils make up 15 percent of the area. They are moderately well to poorly drained soils on the gently sloping to nearly level sites along the drainageways.

Brooke soils make up about 5 percent of the area. They are well drained soils on gently sloping ridge tops and drainage divides. Brooke soils occur on limestone and calcareous shale.

GEW Gilpin (40%) Ernest (20%) Wharton (20%)

This association occurs below the Pittsburgh coal. Ground water is more dependable than that of Area 1. These soils are moderate to low in natural fertility. Long, irregular, benched slopes typify this general soil area. Dairy farming dominates in this area.

Gilpin soils make up about 40 percent of this association. They are moderately deep to shallow, well drained soils on gently to strongly sloping sites.

Wharton soils make up about 20 percent of the association. They are moderately well to somewhat poorly drained soils on gently sloping to nearly level sites. They rarely extend more than half of the total distance up the hill.

Ernest soils make up about 20 percent of the area. They are moderately well to somewhat poorly drained soils on the gently sloping to nearly level sites along the drainageways. A few acres of Brinkerton, a very poorly drained soil of the drainageways occur in this general soil area. Cavode and Minor soils make up about 20 percent of the area. They are somewhat poorly drained soils on nearly level to gently sloping sites.

UGC Upshur (45%) Gilpin (35%) Clarksburg (20%)

The landscape and agriculture is like that of association No. 2. The soils differ chiefly in having a higher clay content and having a red color. The natural fertility of these clayey red soils is higher than the gray soils of association No. 2. These are the most erodible soils in Westmoreland County. Red clay soils occupying sloping sites are unstable when saturated with water. Slips are frequently a problem when these soils occupy sloping construction sites.

Upshur soils make up about 10 percent of this association. They are moderately deep to deep, well drained, red clay soils on gently to strongly sloping sites.

Upshur and Gilpin soils occuring as a mixture make up about 70 percent of this association. This complex occurs where the soil boundary pattern is so fine and intricate that down slope movement mixes the two soil materials. They are moderately deep, well drained soils on gently sloping to steep sites. The color ranges from red to light brownish gray. Clarksburg soils make up about 20 percent of this association. They are moderately well to poorly drained soils on the gently sloping to nearly level sites along the drainageways.

DG Dekalb (30%) Gilpin (50%) (very stony loams) Minor (20%) Soils

This general area occurs on Chestnut and Laurel ridges, and on some of the steep valley walls cut by the larger streams. Occasionally these soils cap hilltops and occupy escarpments throughout the acid areas of the County. Most of these soils occur below the Freeport coal. This area has a shorter growing season than lower lying areas of the County. Groundwater supply is usually favorable on Chestnut and Laurel ridges. A large percentage of this area is in gamelands—private and public. These soils are low in natural fertility. Most of this association is in woodland; however, some sites have been cleared and the stones removed for cultivation. Long, irregular, benched slopes typify

the Gilpin soils—smooth, convex slopes the Dekalb soils.

Stony Gilpin soils make up about 50 percent of the association. They are moderately deep to shallow, well drained soils occupying gently to strongly sloping sites.

Stony Dekalb soils make up about 30 percent of these areas. They are moderately deep to shallow, well drained to droughty soils occupying gently sloping to steep sites. Favorable sites, where cleared and fitted, should be well suited to potato and vegetable production.

Stony Cavode soils make up about 15 percent of the association. They are moderately well to poorly drained soils on moderately sloping to nearly level sites.

Stony Ernest soils make up about 5 percent of the association. They are moderately well to somewhat poorly drained soils on the gently sloping to nearly level sites along the drainageways. About 70 acres of poorly drained Muck and Peat occurs in this association.

CE Calvin (95%) Ernest (5%)

This association occurs on Chestnut and Laurel ridges. These soils lie between two massive sandstone formations—Pottsville and Pocono. This area has a shorter growing season than lower lying areas of the County. The ground water supply is favorable. Calvin soils inherit their red color from the red Mauch Chunk shales and sandstones. The blue, calcareous, Loyalhanna and Greenbrier sandstones are the source of "Bluestone" widely used for aggregate in construction work. These soils are moderate to high in natural fertility. Most of the association is in woodland; however, some sites have been cleared and cultivated. Long, smooth slopes typify this area.

Calvin soils make up about 95 percent of the association. They are moderately deep to shallow, well drained soils occupying gently to strongly sloping sites. Sites having a favorable local climate, where cleared and fitted, should be well suited for fruit orchards.

Ernest soils make up about 5 percent. They are moderately well to somewhat poorly drained soils on the gently sloping to nearly level sites along drainageways.

GDM Gilpin (30%) Dekalb (30%) Montevallo (30%)

This association occurs on escarpments cut into the bedrock by stream action. The largest units of this soil occupy the valley walls where streams cut across Chestnut and Laurel ridges. Other units occupy the stream bluffs near the larger rivers that form much of the Westmoreland county line. The bedrock in this association is of the linestone, shales, siltstones and sandstones occuring in the County. Ground water supply is usually not favorable. The natural fertility is variable. Long, smooth, very steep slopes typify this area.

The three-named soil series occur in about equal proportion. Soil depth ranges from very shallow to moderately deep. The soil is well-drained on slopes facing north; droughty on slopes facing south; and variable on the east and west slopes. Most of this association is woodland and will likely continue to be woodland. Harvesting saw-logs is difficult and dangerous on the very steep slopes.

A small amount of channery to stony soils accumulate, by the action of gravity, at the foot of the steep slopes. Where well-drained, these accumulations are included with the very rocky soils; where imperfectly drained, with the very stony Ernest soils.

MPA Monongahela (30%) Philo (50%) Atkins (20%)

This association occurs on the floodplains and terraces of the valley floors. The parent material is sand, silt and clay gathered, carried and dropped by stream action. Floodplain soils lie on the first level above the streams; and are usually flooded annually by stream water. Terrace soils are remnants of former floodplain levels. They now occupy levels above the reach of flood water from the stream. Ground water is usually plentiful. Nearly level benches separated by short steep slopes typify this general soil area. Natural fertility of the floodplain is high due to recent deposit of organic stream sediments; that of the terraces is low to moderate. Soils of this association are suitable for intensive farming. Many terrace sites are being used for housing and industrial developments.

Monongahela soils make up about 30 percent of this association. They are deep, moderately well drained soils on nearly level to moderately sloping terrace sites.

Philo soils make up about 50 percent. They are deep, acid, moderately well to somewhat poorly drained soils on nearly level to level floodplain sites.

Atkins soils make up about 20 percent. They are deep, poorly drained soils on level to nearly level floodplain sites.

A few acres of Tyler, a somewhat poorly drained soil, and Purdy, a poorly drained soil occur on nearly level terrace sites associated with the Monongahela soils.

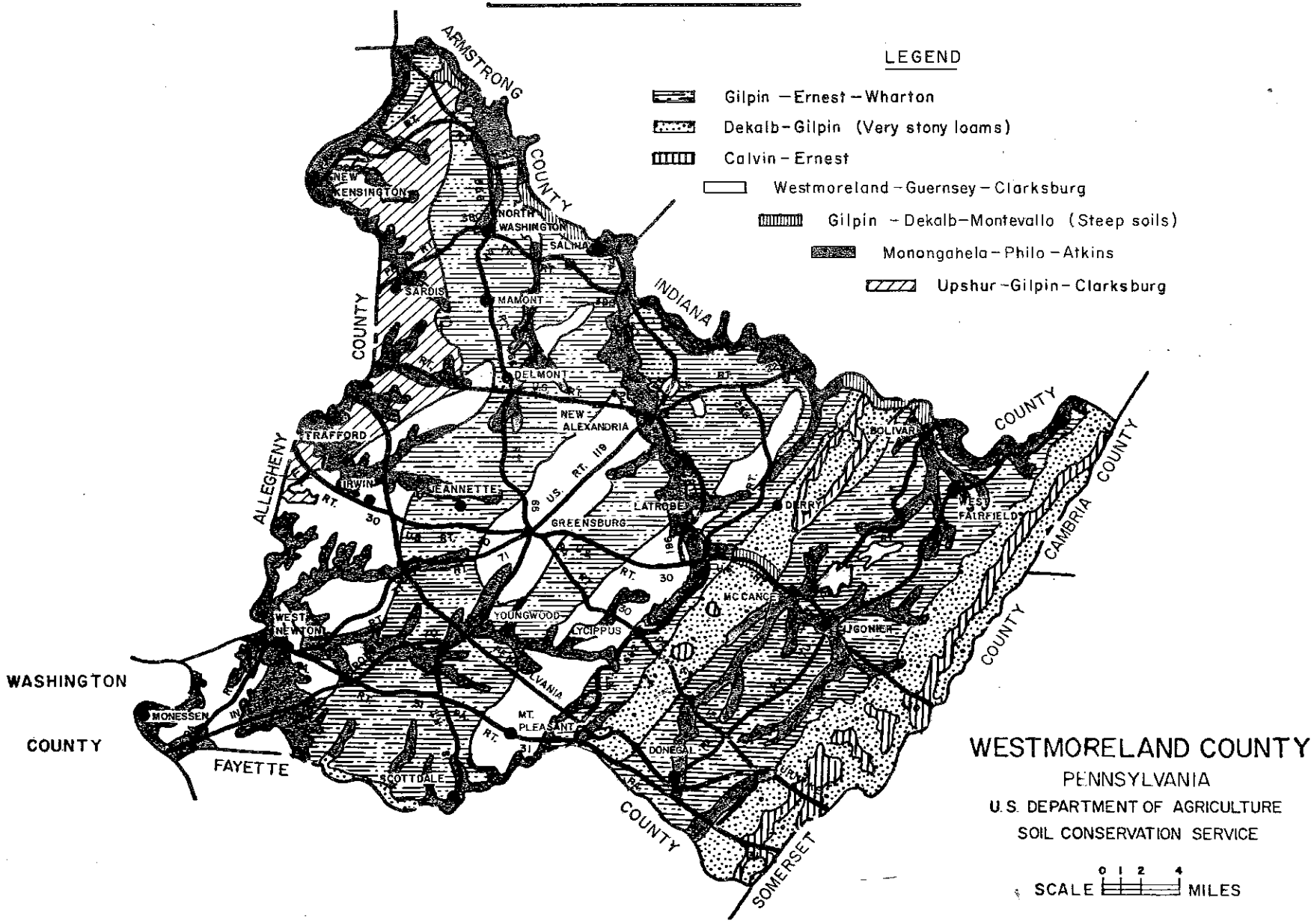
A few acres of Lindside, a deep, neutral, moderately well drained soil on nearly level to level floodplain sites occurs in the limestone areas where lime is present to neutralize the soil.

PLANNED ACTIONS

The Directors feel that the soil survey should be used as basis for all types of land use planning. Therefore, THE DIRECTORS WILL:

1. The Directors, with the assistance of the Cooperative Extension Service, the Soil Conservation Service, the Westmoreland County Planning Commission, and other agencies as applicable, will develop and carry out an educational program to encourage the maximum use of the soil survey as a basis for urban and agricultural land use planning.
2. Request county and regional planners to use the Soil Survey Report as basis for land use planning.
3. Discuss with the County Government the use of the soil survey as a basis for determining tax assessment on land.
4. Provide urban, engineering and related soil interpretations to planning commissions, developers, government agencies, local governments, utility companies, private consulting firms, industry and others.
5. Encourage the preservation of the best soils for agricultural purposes and encourage this land be taxed as agricultural land.

SOIL ASSOCIATIONS



AGRICULTURAL

The 1964 Census of Agriculture reported 2,280 farms in Westmoreland County. The County ranked seventh in the State in the number of farms at that time. This was a sharp reduction, however, in the number of farms since 1954. It occurred as a result of increasing pressures for land from housing, commercial and industrial interests. Likewise, according to the 1964 U. S. Census of Agriculture, the acreage in farms dropped from 259,438 in 1959 to 238,581 acres in 1964. It is anticipated that this trend will continue through 1975.

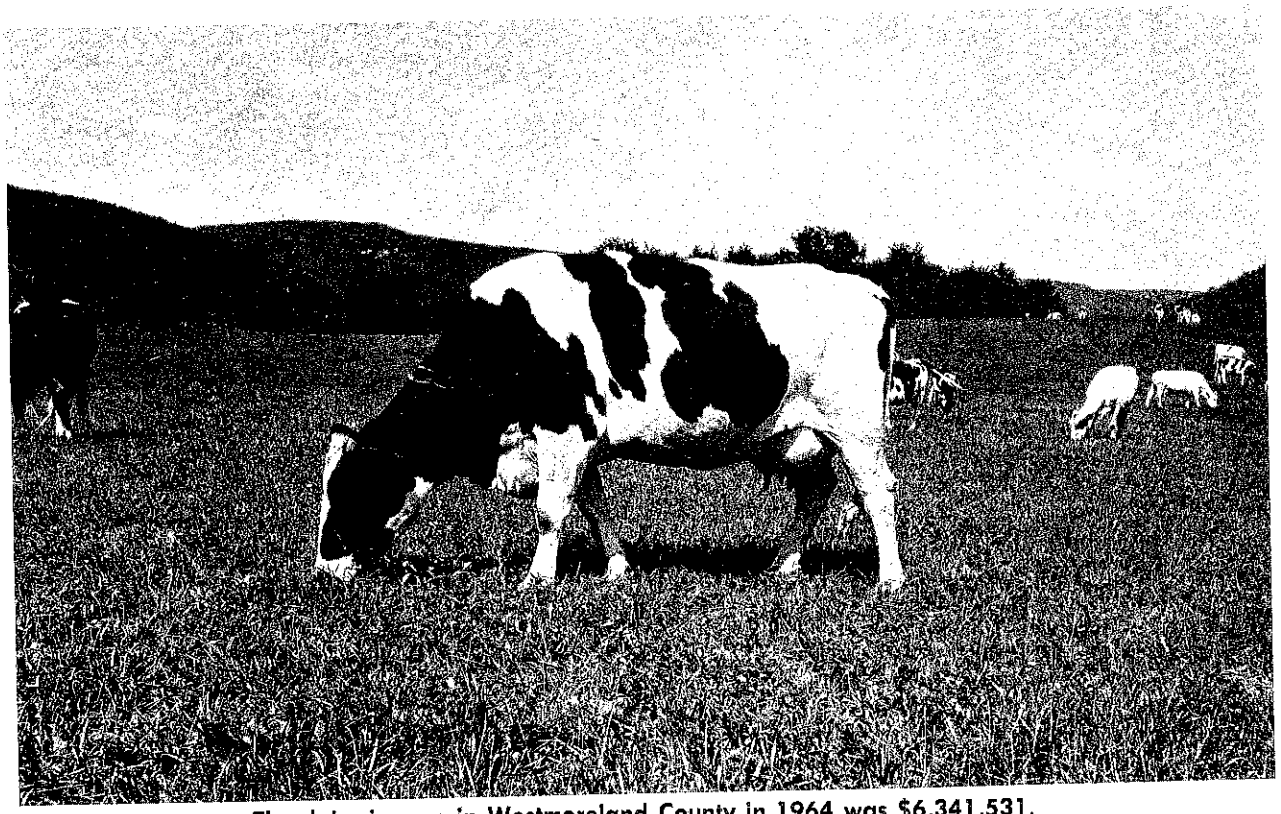
The population on farms in Westmoreland County in 1964 was 8,149 individuals, as compared to 17,000 in 1960. The number of people on farms has not dropped in proportion to the decrease in the number of farms.

Through the years there has been a gradual increase in the size of farm land, until as of 1964, the average size of farms was 104.6 acres. This was an increase of 22 acres since 1954.

Dairying is the largest single source of farm income. Even in 1964, with the price squeeze that is present in the dairy industry, County farmers received more from this enterprise than any other type enterprise. As of 1964, the County income from dairy products was $6,341,531.

The next largest source of farm income, $1,759,563 came from the sale of beef cattle, sheep and swine. Crop sales placed third totaling $1,615,652, while a close fourth were the receipts from the sales of poultry and poultry products, which totaled $1,595,906.

Present trends in agriculture are expected to continue through 1975. It may be assumed that farm size will be larger in 1975 than it was in 1964, and that there will be fewer full time farmers operating more carefully managed farm units. It is likely that dairying will still be the dominant enterprise. Dairy farms will have a larger number of high producing cows than at present. There will be additional land lost to highways, and other urban needs. It is hoped by many that landowners and other responsible citizens will work with local planning commissions in an attempt to reserve the best agriculture land for that purpose. The Agri-



The dairy income in Westmoreland County in 1964 was $6,341,531.

culture, Woodland and Urban Map, page 24 shows the area where agriculture will likely continue in the future.

There appears to be an increase in the number of laying flocks of 5,000 or more birds. With the close proximity of the County to large urban and industrialized sections, it would appear that this type enterprise might be well suited to the County. Carefully management of flocks and wise marketing of eggs and old layers will likely result in a further increase in both the number and the size of producers.

The number of livestock farmers will probably continue to rise as the number of part time farmers increases. This is because the labor requirement of such enterprises fits in well with part time farming operations. It is probable too, that the number of animals on full and part time livestock farms will increase considerably in the next few years. Livestock farming will become more important to the County as the demand for meat products from nearby urban areas increases and the efficiency of production increases.

It is also interesting to note that not only are the farm operations becoming larger, but in some instances there has been a combination of enterprises. This tendency has been noted in several cases where large farms and highly skilled operators are involved.

Dairy and poultry enterprises have been combined in this manner to some extent. The combining of several enterprises provides opportunity for farmers to make better use of their skills, and enlarge their enterprises, without having money invested in only one phase of agriculture.

Farmers will make more use of available technical knowledge and improved methods in the production of crops and livestock during the years ahead. They will adjust to produce those products for which their soils are best suited and for which markets are available.

Farmers are becoming more aware of the need for conserving and improving their land.

Over 13,000 acres of contour strips have been established in the County.

There is an increasing demand for technical assistance in developing and installing farm programs based on soil capability that provide for proper land use and conservation of the soil and water resources on the farm. More use is being made of soil tests. The use of adequate fertility and management practices and improved crop varieties has been steadily increasing. This trend will likely continue through 1975 and into the future.

The Pennsylvania Soil and Water Conservation Needs Inventory indicates that there is need for conservation treatment on a large portion of the cropland and pasture. Table II, page 20 shows the estimated needs for conservation treatment on expected cropland by 1975.

The inventory indicates there will be 152,800 acres in cropland in 1975 as compared to 177,600 acres in 1958. Conservation treatment is not needed, has been applied, or is not feasible on 34,900 acres. Treatment is needed to protect and improve the remaining 117,900 acres.

Soil erosion is a dominant problem on 143,200 acres. This problem has occurred, or will likely occur, under expected uses unless the land is protected. Included in this area is land with a dominant erosion problem and secondary problem of excess water, and land with a dominant erosion and a secondary problem of unfavorable soil conditions.

Conservation treatment has been applied, or is not feasible, on 32,800 acres of this land. Treatment is needed to protect and improve the remaining 110,400 acres.

TABLE II

Estimate of Needs for Conservation Treatment on Expected Cropland Acreage 1975

Type of Problem	Total Acreage	Treated or Treatment Not Feasible	Treatment Needed and Feasible to Treat
Land with no problems that limit use:			
Dominant erosion:	143,200	32,800	110,400
No secondary problems	95,500	21,100	74,400
Secondary problems of excess water	38,600	9,500	29,100
Secondary problems of unfavorable soil conditions	9,100	2,200	6,900
Dominant excess water:	7,700	1,600	6,100
No secondary problems	4,100	900	3,200
Secondary problem of erosion	3,600	700	2,900
Unfavorable soil conditions	0	0	0
Dominant unfavorable soil conditions:	1,900	500	1,400
No secondary problems	0	0	0
Secondary problem of erosion	1,700	500	1,200
Secondary problem of excess water	200	0	200
Total acreage of cropland	152,800	34,900	117,900

Erosion alone is a dominant problem on 95,500 acres of well drained land. Conservation has been applied, or is not feasible, on 21,100 acres. Treatment is needed to protect and improve the remaining 74,400 acres.

There are 38,600 acres of land that have a dominant erosion problem and secondary problem of excess water. Conservation treatment has been applied, or is not feasible on 9,500 acres. Treatment is needed to protect and improve the remaining 29,100 acres.

There are 9,100 acres of land that have a dominant erosion problem and a secondary problem of unfavorable soil conditions. Conservation treatment has been applied, or is not feasible, on 2,200 acres. Treatment is needed to protect and improve the remaining 6,900 acres.

erosion. Conservation treatment has been applied, or is not feasible, on 700 acres. Treatment is needed to protect and improve the remaining 2,900 acres.

Unfavorable soil conditions such as stoniness, shallowness to bedrock, low moisture-holding ca-

Many tons of valuable topsoil are lost through soil erosion. Also lost are quantities of lime, fertilizer and seed.

Excess water caused by a high water table or by temporary flooding is a dominant problem on 7,700 acres. Included in this area is land with only a dominant excess water problem and land with a dominant excess water problem and a secondary problem of soil erosion. Conservation treatment has been applied, or is not feasible, on 1,600 acres. Treatment is needed to improve and protect the remain 6,100 acres.

Excess water alone is a dominant problem on 4,100 acres. Conservation treatment has been applied, or is not feasible, on 900 acres. Treatment is needed to protect and improve the remaining 3,200 acres.

There are 3,600 acres that have a dominant excess water problem and a secondary problem of

pacity, low fertility, or other similar conditions are a dominant problem on 1,900 acres. Conservation treatment has been applied or is not feasible on 500 acres. Treatment is needed to protect and improve the remaining 1,400 acres.

Excess water is a secondary problem on 200 acres. Treatment is needed to protect and improve all of this land.

There are 1,700 acres that have a dominant problem of unfavorable soil conditions and a secondary problem of erosion. Treatment has been applied or is not feasible on 500 acres. Treatment is needed to protect and improve the remaining 1,200 acres.

Roadside erosion and drainage are problems in some places, however, these problems are being corrected wherever it is practical to do so.

Irrigation can be used on land having no problems which limit use, land having only a dominant erosion problem and on land having a dominant erosion problem and a secondary problem of unfavorable soil conditions. Care must be exercised in using irrigation on sloping cropland to prevent runoff and erosion. The installation of an irrigation system is usually costly and may be difficult to justify for many crops.

Wildlife benefits directly or indirectly from conservation practices planned and applied on cropland. Consideration should be given to the planning and installation of additional biology practices on cropland to provide food and cover for wildlife. Practices such as hedgerow planting, field border planting and wildlife food and cover plantings are applicable on all cropland.

Stream bank plantings can be installed along the streams. Farm ponds and pond plantings can be installed on most of the cropland having a dominant or secondary excess water problem.

The Pennsylvania Soil and Water Conservation Needs Inventory indicates there is a need for conservation treatment on about 60 percent of the pastureland. The major problems are establishment or re-establishment of vegetation, improvement of vegetation, the protection of vegetation from excess water, and protection of vegetation from encroachment of plants. The protection of vegetation from erosion and overgrazing are minor problems. Table III, page 22, shows the estimates of needs for conservation treatment on expected acreage of pasture by 1975.

The inventory indicates there will be 82,200 acres in pasture by 1975 as compared to 69,700 acres in 1958. Treatment is not needed or is not feasible on 32,900 acres. Treatment is needed to protect and improve the remaining 49,300 acres.

TABLE III

Estimate of Needs for Conservation Treatment on Expected Acreage of Pasture, 1975

Treatment and problem	Acres
Total area	82,200
No treatment needed	32,900
Treatment needed	49,300
Type of treatment needed:	
Establishment or re-establishment of vegetation	22,700
Improvement of vegetation	23,600
Protection of vegetation from:	
Overgrazing	800
Erosion	400
Encroachment of plants	2,200
Excess water	3,300

PLANNED ACTIONS

The Directors are interested in strengthening and developing the agriculture potential of the County through conservation planning and treatment, based upon the soil survey of all agricultural land in the County. Accordingly, THE DIRECTORS WILL:

1. Enter into cooperative agreements with landowners. These agreements will lead to the development, establishment, and maintenance of conservation plans. In developing conservation plans the following will be considered.
   - A. Desires and needs of the land owner.
   - B. Use of the most efficient and economical enterprises.
   - C. Use of improved crop varieties, fertility practices and management.
   - D. Use of the best adapted land for cropland, grassland, woodland and wildlife production.
   - E. Cost-return information for each planned land use, based upon the soil type.
   - F. Soil and water management practices.
   - G. Preservation, improvement and development of wildlife areas.
   - H. The management of existing woodland, and tree planting on land unsuited for cropland or grassland.
   - I. Development of recreational facilities in conjunction with the farm and woodland enterprises.
2. Provide priority planning assistance to land capable of sustained high economic production.

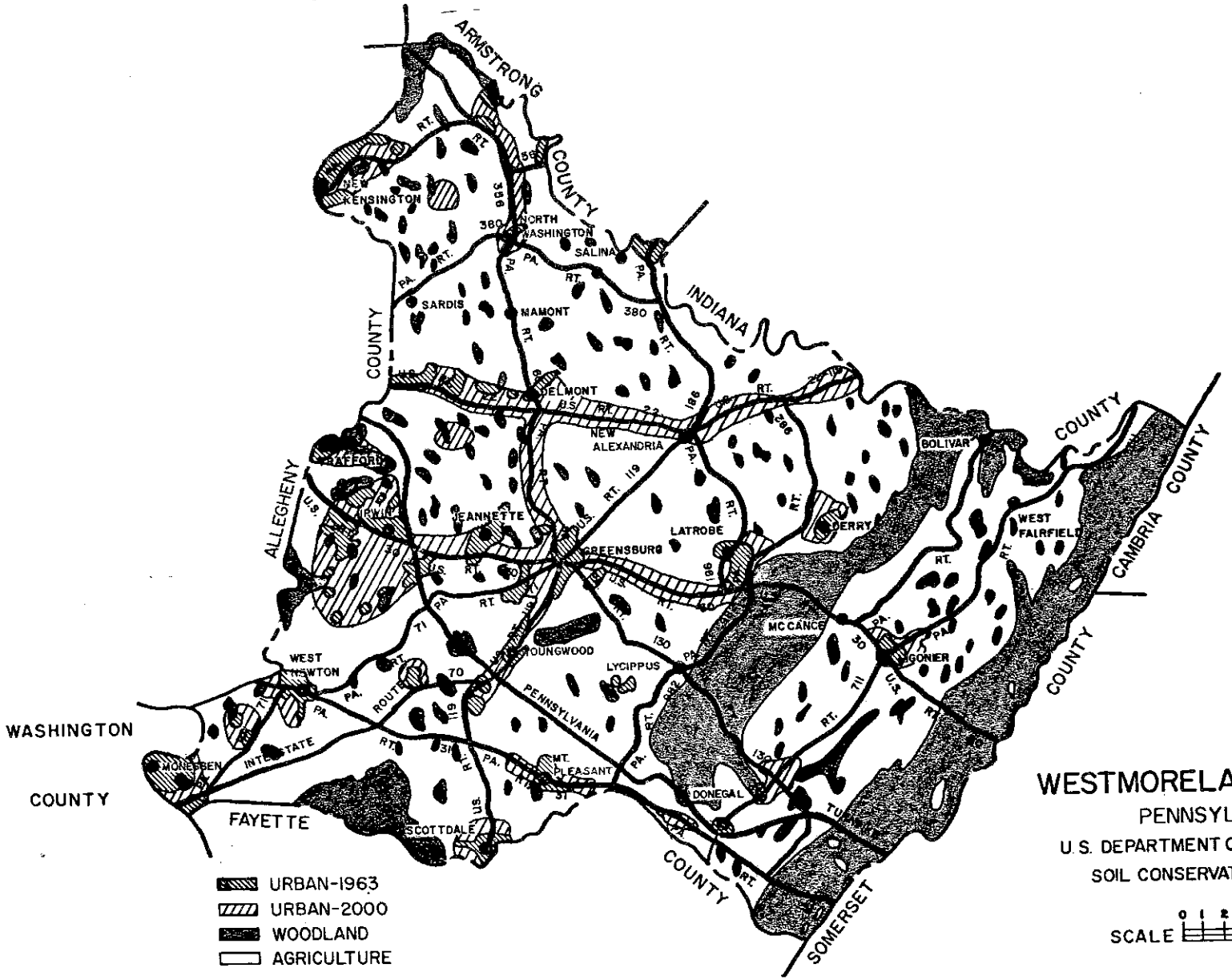
3. Encourage nonagricultural land uses on farms with poor soil or where urbanization is occurring.

4. Discourage permanent type conservation practices on land expected to go out of agriculture production.

5. Meet annually with the County Committee of the Agricultural Stabilization and Conservation Service and encourage them to set aside adequate funds for the installation of eligible conservation practices included in the annual work plan.

6. Provide interested land owners and operators with a list of competent, trained contractors whom they may employ to install conservation practices requiring heavy or specialized equipment. The Directors will take the leadership in holding periodic training meetings, as needed, to acquaint equipment operators with the best methods of installing conservation practices and with practice standards and specifications.

AGRICULTURE, WOODLAND AND URBAN



WESTMORELAND COUNTY

PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

SCALE 0 1 2 4 MILES

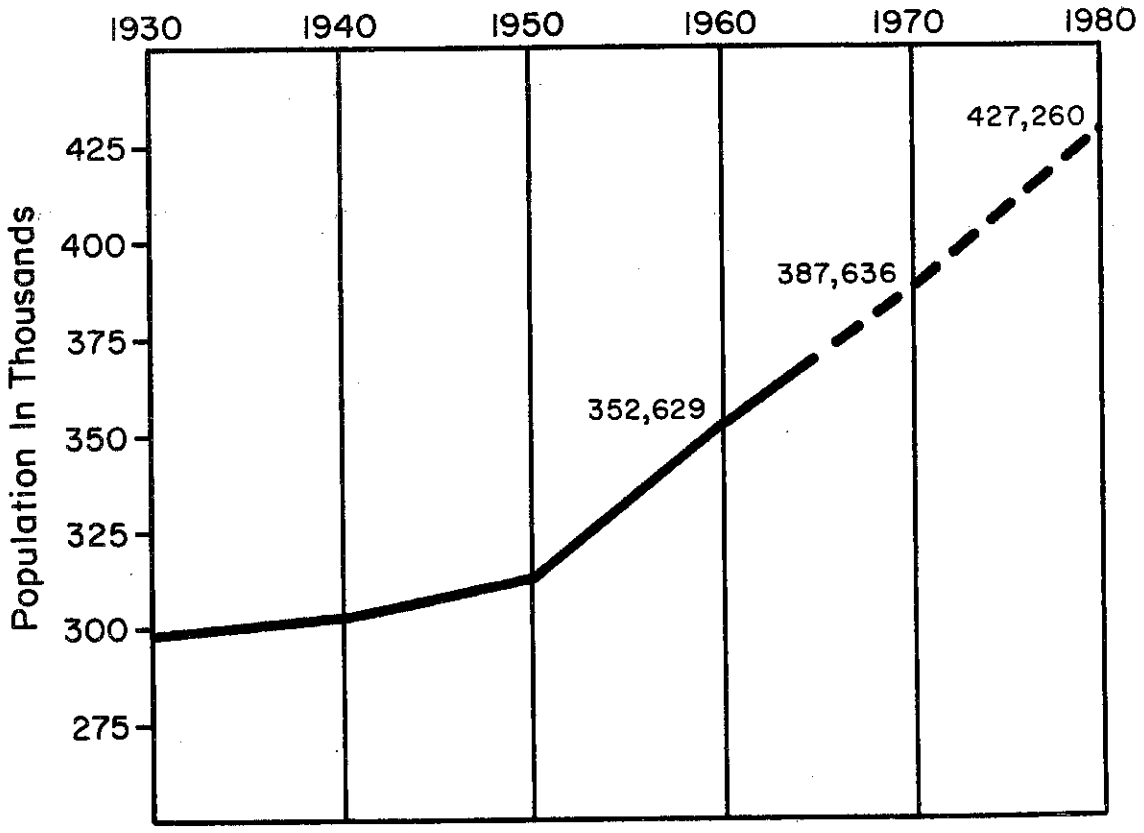
NON-AGRICULTURAL

The non-agricultural land of Westmoreland County, totaling approximately 58,000 [1] acres, includes all the boroughs, and rural land devoted to the following uses: non farm residences, idle non farm land, roads, commercial and industrial establishments, and areas used for community serving purposes as schools, playgrounds, recreation areas, airports, hospitals, social halls, churches and cemeteries. Of the above, about 33,000 acres are used for residential purposes, 17,400 acres for highways and railroads, 2,030 acres for outdoor recreation, 1,566 acres for mining, 1,330 acres for public services, and 980 acres for commercial development and 810 acres for industrial and manufacturing needs. Non agricultural land uses are increasing at the rate of about 1,800 acres each year. Areas of present urban development and urban development as it will likely occur by 2,000 are shown on the Agriculture, Woodland and Urban Map, page 24.

The educational facilities, most of which are located within the boroughs, include 239 public and private schools, St. Vincent College at Latrobe, and Seton Hall in Greensburg. 431 churches and 8 hospitals serve the religious and medical needs of the County.

FIGURE 1

POPULATION OF WESTMORELAND COUNTY
1930 - 1980



SOURCE: THE POPULATION OF PENNSYLVANIA
PENNSYLVANIA STATE PLANNING BOARD

1. Pennsylvania Soil and Water Conservation Needs Inventory

The population of the County has increased steadily as shown in Figure I. Projected population growth through 1980 is also shown. These projections are based upon past growth and expected industrial and manufacturing activity in the County. The density of population in 1960 was 344 persons per square mile. [2]

During the decade 1950 to 1960 there was a net **out** migration of people from Pennsylvania totaling 453,145. During this same period, however, there was a net **in** migration in Westmoreland County, totaling 1,859 persons. [2] This figure represents the total change in population minus the natural increase. It is indicative of a strong county economy, which actually totaled $745,543,000 in 1960. [2]

Although there was a movement of people into the County during the 1950-1960 decade, there was also a movement of people out of the older established communities and into the more rural sections of the County.

Interstate Route 70 are the principal north-south routes. The Pennsylvania and Baltimore and Ohio Railroads serve the County. Most of the coal and a high percentage of the manufactured goods are moved by rail.

There are approximately 33,000 suburban and rural residences occupying about 24,750 acres of land. Most of this development is in Franklin, Hempfield, North Huntingdon, Penn and Rostraver Townships. Such development will continue in these townships, because of their proximity to Pittsburgh and Allegheny County, as well as the industrialized sections of Westmoreland County.

Through much of the above townships, and other sections of the County as well, a seasonal high water table, or shallow soils limit the effective functioning of septic tanks. This is considered a major problem throughout most of the suburban areas of the County. It is probable that as suburban development continues to spread out into rural areas, that more municipal sewage and water

Non-agricultural uses of the land are expanding each year into rural areas of the County.

This tendency has been more pronounced since 1960.

Boroughs and municipalities are connected by a good system of state and township highways, totaling 3,236 miles. United States Routes 22 and 30, and the Pennsylvania Turnpike are major east-west arteries while United States Route 119 and

facilities will be needed. The danger of ground water pollution, and the lack of ground water due to deep mining are factors which adversely affect individual water supplies in suburban communities.

Major manufacturing interests are located in or near Greensburg, Latrobe, New Kensington, Monessen, and Jeannette. These interests employ-

2. An Economic Atlas of Pennsylvania. Pennsylvania State Planning Board.

ed 39,338 people in 1962. [3] Most of the heavy industry is located on, or very near, the flood plains. This land is attractive to industrial interests because it is nearly level, has water nearby, and usually is served by existing railroads. Often these same areas, however, are subject to flooding. There are sites for industrial development with all utilities provided in each of the above communities. The flood frequency of sites located along streams should be carefully investigated before developments plans and designs are completed.

Due to the existence of the major cross country highways, previously discussed, there are many sites available for light manufacturing, assemby plants and trucking firms. Most of these are west of Chestnut Ridge. The availability of sewage and water supplies and other needed utilities must be considered on an individual basis.

Although coal mining was once a major industry, it is now considered a smaller industry. In 1960, 1,775 miners produced 3.47 million tons of deep mine bituminous coal and 252,308 tons of strip mined coal. [2] This was an 87.6% decrease in coal production, as compared to production in 1918, which is generally considered to be the high point in coal production in the United States. Coal reserves remaining in the County amounted to nearly 2.6 billion tons in 1960. [2] About 100 acres are strip mined each year.

As the importance of the coal industry has declined so have the land use problems associated with this industry. There are nevertheless extensive acreages of land with little or no vegetation which produce excessive amounts of silt and run off water. As pointed out earlier, there are also sections of the county with polluted or reduced ground water supplies, as a result of deep mining operations. Most of the strip mined land can be found in relatively narrow bands around the edges of the Monongahela geological formation. See the Geology Map, page 12.

The economic trend in Westmoreland County continues to be upward, but not as fast as the national average. The favorable location of the County relative to Pittsburgh has a great influence on the economy. Like many other counties in Pennsylvania, Westmoreland County is going through a transition period from dependence on the coal, steel, glass and aluminum industries to a more diversified production, including food and kindred products, apparel, fabricated metals, machinery, electrical machinery, and various types of instruments. Each of these product fields employed in excess of 1,200 people in 1962. [3]

Employment in services and research has greatly expanded in recent years. This has been fortunate. If diversified industrial and manufacturing interests are to grow, a balance must be maintained between those employed in the production of goods and those employed in services and trades. Research will open the doors to greater diversification of production and service needs in the future economy.

Land use planning, as a basis for orderly growth and development, is rapidly becoming widely accepted in the County. The Westmoreland County Planning Commission, 34 community planning commissions, and 4 regional planning commissions have assumed the leadership in this effort. Master plans have been completed by 12 community planning commissions. 8 other communities have started similar plans. These will become part of the county wide comprehensive land use plan. 18 communities have adopted subdivision regulations. 12 of these communities have also passed zoning ordinances.

Soil survey field sheets and soil interpretations have been used in making many of the land use decisions involved in the above plans. It is anticipated that when the Westmoreland County Soil Survey Report is published it will be more widely used as a basis for land planning. Erosion control practices once thought to be needed only on agricultural land are now recognized as needed in most new residential and industrial developments. The need for municipal water and sewage facilities is likewise widely recognized, as the only way to provide safe and adequate water supplies and satisfactory waste disposal.

2 An Economic Atlas of Pennsylvania. Pennsylvania State Planning Board.
3 Pennsylvania Statistical Abstract, 1963

PLANNED ACTIONS

The Directors are interested in the planned and orderly development of non-agricultural areas of the County, based upon soil survey information and consistent with the best interests of the maxi-

mum number of citizens. Therefore, THE DIRECTORS WILL:

1. Accept cooperative agreements from and provide conservation planning assistance to developers; commercial and industrial firms; summer camps and related recreation enterprises; groups of home-owners; and borough, township and county governments and planning commissions.

2. Encourage the early completion by the Westmoreland County Planning Commission of the county-wide comprehensive land use plan.

3. Work with borough, township, county and regional planning groups to the end that they use the district program as a basis for land and water resource planning.

4. Establish liaison with other districts in southwestern Pennsylvania to coordinate non-agricultural assistance on a regional basis.

5. Provide consultive assistance to public and private non-agricultural interests not assisted by cooperative agreement.

WOODLAND

The Pennsylvania Soil and Water Conservation Needs Inventory Indicates there were 284,300 acres in woodland in the County in 1958. The 1959 U. S. Census of Agriculture indicates the woodland and horticulture (Nursery) crops provided an income of $992,589 to their owners in 1959. Farmers own 26 percent of the woodland, industry and other private sources 67 percent, the Pennsylvania Game Commission and Pennsylvania Department of Forests and Waters 6 percent and the Federal Government 1 percent.

The present woodland consists of second and third growth stands. 43 percent of the County is in woodland, distributed as shown on the Agricultural, Woodland and Urban Map, page 24. Approximately 86 percent of the woodland is in tracts of 50 acres or more. The species are red oak, black oak, tulip poplar, sugar maple, beech, yellow birch, hemlock, white pine, ash, black cherry and red maple.

The present trend in woodland acreage is downwards. The Pennsylvania Soil and Water Conservation Needs Inventory indicates 277,300 acres will be in woodland by 1975. Table IV, page 29 shows the treatment and management needs for this acreage.

TABLE IV

ESTIMATE OF NEEDS FOR CONSERVATION TREATMENT ON EXPECTED ACREAGE OF WOODLAND BY 1975

Item	Acres
Total Acreage	277,300
Area needing treatment by:	
Establishment of Timber Stand	11,500
Improvement of Timber Stand	72,000
Protection from Livestock	4,000
Erosion Control	1,300

The Pennsylvania Department of Forests and Waters indicates the annual growth of saw timber is about 18½ million board feet, and the annual harvest is approximately 5¼ million board feet. This gives an excess annual growth over harvest of

Woodland can be used for timber, recreation, and watershed protection.

13¼ million board feet. The Department recommends that the allowable annual harvest be held to 70 percent of the annual growth. This permits an upgrading of the woodlands by increasing the percentage of desirable species, improving the quality of the trees, and permitting the growing stock to develop into sizes that give maximum production.

From the above the annual harvest should be about 13 million board feet as compared to the estimated annual harvest of 5¼ million board feet.

Therefore, the present consumption rate is undercutting the recommended allowable annual harvest by 7¾ million board feet each year. This provides an excellent opportunity, as noted above, to upgrade the woodland.

Gross annual growth of pole timber is approximately 51,138 cords. Included are 50,370 cords of hardwoods and 786 cords of softwoods. The estimated annual pole timber cut totals 6,688 cords, practically all of which is hardwood. There is an excess of 44,450 cords of pole timber annually.

The saw timber market is moderate with local mills buying up most of the logs. There is a moderate stave market which handles white oak specialities. Some blocking goes into the steel mills and the mines. The cordwood market is very weak. This accounts in large part for the excessive undercutting of pole timber.

The marketing of high grade material does not present a problem; however, the movement of sub-grade material is difficult. As of 1960, there were 43 sawmills operating in the County. Within this group 5 were classified as permanent mills, with 2 sawing more than 1 million board feet annually.

The quality of the existing woodland, and the quantity of the timber produced can be materially improved through the use of proper woodland management. A knowledge of the soils will provide a basis for determining those areas which can be successfully treated economically. One percent of the existing woodland in the county is growing on soils which are excellent sites. Other woodland acreage is classified as follows: 64 percent good sites, 28 percent fair sites, 6 percent poor sites and 1 percent on strip mine spoil and other non-commercial areas.

The returns from soils which provide excellent and good growing sites will generally justify the expenditure of money for management purposes. However, consideration should be given to the potential yield, quality of the particular species growing on the site and the market potential. The species and number of poor quality stems growing on such sites may prohibit the investment of money for management purposes. Also, the conversion of such areas from their present state to their potential capacity may not be economically justifiable.

Soils which provide fair growing sites are the most difficult to appraise for management. A thorough appraisal of the woodland as to species and quality on the site is essential. Also, the market possibilities should be investigated. A proper analysis of all of these interrelated factors is essential to determine the intensity of management.

The returns from the soils which provide poor growing sites generally will not economically justify management for the production of wood products. However, woodland is in most cases the most practical land use for these soils. Because of unfavorable soil characteristics, these soils will generally not show a profitable return in cropland or grassland. Although returns may be slight to none for woodland, this land use is the most economical.

Woodland Soil-Site Interpretations for the various soil associations shown on the Soils Map, page 17 are as follows:

GUERNSEY, CLARKSBURG, ERNEST, WHARTON, MONONGAHELA, UPSHUR, PHILO

These soils provide good growing sites for trees on all slopes. Natural growing species to encourage are red oak, sugar maple, tulip poplar, black oak, ash and white pine. Planted species can be selected from larch, white pine, Austrian pine, Norway and white spruce. The effect of these soils on seedling mortality is slight, while equipment limitations, wind throw and erosion are slight to moderate and plant competition is severe. On slopes steeper than 25 percent, equipment limitations and erosion become severe.

WESTMORELAND, GILPIN, CAVODE

These soils provide good growing sites on slopes up to 25 percent and fair on the steeper slopes. Natural species to encourage are tulip poplar, red oak, sugar maple, black oak and white pine. Planted species can be selected from larch,

white spruce, Norway spruce, white pine and Austrian pine. The hazardous effect of these soils on seedling mortality is slight, equipment limitations, erosion and wind throw are slight to moderate, while plant competition is severe. On slopes steeper than 25 percent, equipment limitations and erosion are severe.

MONTEVALLO, DEKALB

These soils provide fair growing sites on slopes up to 25 percent and poor sites on the steeper slopes. However, the Dekalb soil ranges from fair to poor. On the side slopes, the sites are fair; on the high plateaus, ridges and ridge slopes, the sites are poor. It is questionable if a desirable economic return can be obtained from the raising of wood products on the fair and poor sites. Natural growing species to encourage are white pine, pitch pine, red oak, and black oak. Planted species are white pine, Virginia pine and pitch pine. The effect of these soils is slight for wind throw, slight to moderate for seedling mortality, equipment limitations and erosion and moderate for plant competition. On slopes steeper than 25 percent, seedling mortality, equipment limitations and erosion are severe, while wind throw is moderate.

ATKINS

This soil provides fair growing sites. Natural species to encourage are red oak, red maple, sugar maple, tulip poplar and white pine. Planted species can be selected from white pine, white spruce and larch. The hazardous effect of this soil on seedling mortality is moderate, erosion hazard and wind throw is slight to moderate while plant competition and equipment limitations is severe. On slopes steeper than 25 percent erosion becomes severe.

STRIP MINE SPOIL — MINE DUMP, CULM PILES, ETC.

These materials are variable in their potential productivity. The primary objective will be to cover these areas with some form of herbaceous and woody vegetation in an attempt to cover up these scars. Many of these areas will support such vegetation at the present time, however, spoil of high acid content will not be plantable. Therefore, it is essential that spoil material be properly classified to determine the possibility of revegetating and, where applicable, decide on the type of vegetation to use.

PLANNED ACTIONS

The Directors recognize the value of the woodland resource for the production of timber, recreation, watershed protection, and aesthetic values. In accordance with the soil site index, the County woodlands should be managed to develop the maximum potential for each of these purposes. Accordingly, THE DIRECTORS WILL:

1. Work with woodland owners and operators, representatives of forestry agencies, private foresters and the forest industry to develop a market for pole size timber.
2. Provide woodland suitability interpretations to woodland owners, forestry agency representatives, consulting foresters and others.
3. Accept as district cooperators and provide planning assistance to landowners and operators whose sole crop is trees.
4. Insure that the Service Forester of the Pennsylvania Department of Forests and Waters will be notified when a woodland management plan is requested by a District cooperator.
5. Encourage woodland owners to use timber stand improvements practices on excellent and good sites.
6. Consider the multiple use of woodland for income producing recreation enterprises as camp sites, picnic areas, nature trails and ski slopes.
7. Through news media and other appropriate means, encourage tree planting on those areas best suited to trees.
8. Encourage the selective cutting of trees for woodland products.

WATER

Westmoreland County, located in the Ohio River Basin, is drained by the Conemaugh, Kiskiminetas, Youghioghenny, Allegheny and Monongahela Rivers and by Loyalhanna Creek. See Water Map, page 37, and Table V, page 33. Further development of these rivers and creeks and their tributaries for navigation, flood control, water supply and recreation is of primary importance to the economic growth of the County.

The average annual precipitation in Westmoreland County is 42 inches. Approximately 50% of this rainfall or 21 inches, is lost through evaporation and transpiration. This leaves approximately 21 inches for agriculture and non-agriculture uses. Less than three inches of this water is used with the remainder moving into the streams.

The demand for good water is increasing steadily. The production of a ton of steel requires about 100,000 gallons, while a single yard of woolen cloth requires 500 gallons of water. Per capita consumption of water, nearly 1,800 gallons a day in 1965, is expected to rise to nearly 2,300 gallons a day by 1975 and 2,700 gallons a day by 2,000. Based upon a projected county population of 427,000 persons in 1980, see page 25, daily per capita water consumption will total nearly 1.2 billion gallons. The supply of this volume of water is possible only through a careful program of water conservation and management, which must be planned well in advance of the need. If plans for adequate water supply are not developed and effected according to a timely schedule, the economic development of the County will be throttled. It is likely that this supply will need to be furnished in large part by the Westmoreland Municipal Water Authority or municipal water companies.

Listed in Table VI, page 34-35, are 72 sites where it would be possible to construct a lake of 20 acres in size or larger. The storage capacity and other details relating to each of these sites is also listed in Table VI. These sites are also shown as numbered black dots and triangles on the Water Resource Map, page 37. The utilization of selected sites from Table VI could provide much or all of the projected water needs visualized above, or supply water for recreation, including fishing, swimming, and boating. Several of the larger sites might provide water for both recreation, and water supply.

It should be noted that some of the listed sites, as indicated, are polluted with mine acid, industrial, or domestic wastes. If such sites are to be developed the nature of the contaminant will have to be carefully analyzed and treatment methods considered. Before developing designs or other plans for any of the listed sites, Table VI, geologic investigations and water quality tests should be completed.

Part or all of eleven streams in the County, with a combined length of 57 miles support various species of trout. This indicates excellent quantity and quality of water. These streams are Four Mile, Hendricks, Linn, Roaring, Tub Mill, Snyder, and Shannon Runs and Indian, Loyalhanna (Upper Reaches), Mill and Jacob's Creeks. Polluted streams include parts or all of the Monongahela, Youghioghenny, Allegheny, Kiskiminetas, Conemaugh Rivers and Loyalhanna, Turtle, Brush, Sewickley and Jacob's Creeks. These and their polluted tributaries are shown on the Water Resources Map, page 37. Most of this pollution is acid mine waste.

The location of municipalities and industries along the flood plains has resulted in communities being exposed to floods and subsequent damages. To minimize this, the Army Corps of Engineers have flood detention dams in operation on the Loyalhanna Creek and the Conemaugh River. These jointly control 1,642 square miles of watershed in Westmoreland and nearby counties. Stream channel stabilization has been done by the Pennsylvania Department of Forests and Waters to eliminate the flooding of Jack's Run in Greensburg. Similar channel stabilization on Loyalhanna Creek in Latrobe has been proposed by the Corps.

The flooding of Jacob's Creek above Scottdale may soon be controlled under authorities granted by the Watershed Protection and Flood Prevention Act, Public Law 566. The flood control plan for this stream includes stream channel stabilization above Scottdale and four dams, one of which may also include water for recreation purposes. The possible location of these dams is shown by black triangles on the Water Resource Map, page 37. The United States Soil Conservation Service has primary responsibilities for assistance in the Jacob's Creek Flood Control Plan. Similar plans may be developed in the Four Mile Run and Long Run Watersheds. Public Law 566 flood control plans combine the establishment of conserva-

tion practices in the watershed with upstream flood detention structures.

"MAN IS LEARNING!"

AW-167

There are 72 potential sites, 20 acres or larger, where residential or recreational developments might occur.

The Pennsylvania Fish Commission is currently completing construction of a fishing lake on Four Mile Run in Donegal Township.

TABLE V

WATER RESOURCE AREAS

WATERSHED	AREA (Sq. Mi.)	(Acres)
I — Allegheny River Tributaries	51.5	33,000
II — Kiskiminetas River Tributaries	107.8	69,000
III — Conemaugh River Tributaries	142.0	91,000
IV — Loyalhanna Creek Tributaries	300.3	192,100
V — Youghioghenny River Tributaries	318.9	204,100
VI — Monongahela River Tributaries	119.5	76,400
TOTAL	1,040.0	665,000

TABLE VI

POTENTIAL WATER STORAGE SITES

SITE LOCATION	WATERSHED AREA (Sq. Mi.)	(Acre)	STORAGE Surface Acres	Acre Feet
1. Brush Creek	3.98	2,545	31	248
2. Jacobs Creek	31.00	19,850	109	870
3. Jacobs Creek	2.05	1,310	13	104
4. Four Mile Run	6.03	3,860	112	895
5. Four Mile Run	19.85	12,700	218	3,490
6. Trib. to Long Run	0.78	496	10	100
7. Long Run *	2.62	1,680	32	320
8. Trib. to Long Run	0.33	212	7	56
9. Trib. to Long Run	0.29	184	5	50
10. Hannas Run *	2.65	1,696	35	350
11. Hannas Run *	2.40	1,536	31	374
12. Mill Creek	2.64	1,690	31	374
13. Mill Creek	12.08	7,740	80	1,920
14. Trib. to Little Pucketa	0.49	313	10	100
15. Little Pucketa	0.98	628	13	156
16. Trib. to Chartiers Run	2.00	1,280	85	2,210
17. Trib. to Chartiers Run	.78	498	25	400
18. Trib. to Pine Run	1.07	686	22	264
19. Trib. to Kiski River	0.60	382	25	1,175
20. Trib. to Kiski River	1.36	873	30	240
21. Trib. to Pine Run	1.56	996	28	336
22. Trib. to Haymaker Run	0.86	552	33	660
23. Trib. to Pucketa Creek	0.55	350	20	962
24. Trib. to Pucketa Creek	0.85	542	45	992
25. Trib. to Haymaker Run	0.29	187	20	320
26. Trib. to Haymaker Run	2.44	1,560	62	990
27. Trib. to Turtle Creek	0.68	436	22	352
28. Lyons Run *	3.24	2,064	75	2,100
29. Poke Run	0.54	342	37	445
30. Porters Run *	3.43	2,200	30	240
31. Trib. to Beaver Run	0.48	311	25	200
32. Trib. to Bushy Run	1.22	780	43	688
33. Trib. to Lt. Sewickley Creek	0.39	250	22	352
34. Trib. to Lt. Sewickley Creek	0.59	374	28	334
35. Trib. to Crabtree Creek	0.38	243	20	320
36. Trib. to Brush Creek	1.02	651	39	703
37. Trib. to Jacks Run	0.39	249	31	496
38. Slate Creek	6.70	4,280	44	440
39. Township Line Run	1.09	696	28	460
40. Trib. to Jack Run	2.43	1,558	68	1,090

TABLE VI

POTENTIAL WATER STORAGE SITES

SITE LOCATION	WATERSHED AREA (Sq. Mi.)	(Acre)	Surface Acres STORAGE	Acre Feet STORAGE
41. Trib. to Loyalhanna Creek	0.69	442	64	1,790
42. Boatyard Run	1.26	810	30	480
43. Spruce Run	0.68	436	37	592
44. Trib. to Loyalhanna Creek	1.46	935	40	640
45. Spruce Run	1.07	686	112	1,790
46. Trib. to Stony Run	0.46	294	58	1,390
47. Stony Run	6.04	3,860	187	3,000
48. Stony Run *	1.36	872	37	592
49. Trib. to Loyalhanna Creek	1.36	872	62	745
50. Trib. to Crabtree Creek	2.14	1,370	141	3,380
51. Trib. to Four Mile Run	0.73	467	58	813
52. Trib. to McGee Run	0.41	262	51	918
53. Snyder's Run	1.67	1,069	45	1,080
54. Trib. to Snyder's Run	2.06	1,318	77	2,160
55. Snyder's Run	7.30	4,670	112	2,690
56. Hypocrite Creek	6.78	4,339	256	7,180
57. Tub Mill Creek	13.50	8,512	128	2,300
58. Hendricks Creek	10.32	6,618	173	4,150
59. Hendricks Creek	5.55	3,550	170	4,080
60. Pollock Run	3.21	2,055	45	630
61. Trib. to Monongahela River	1.12	717	77	2,160
62. Cedar Creek	1.75	1,120	102	1,840
63. Belson Run	1.56	998	62	372
64. Belson Run	0.78	499	96	960
65. Wilson Run	1.65	1,056	205	5,740
66. Boyer Run	1.90	1,215	62	620
67. Barren Run	1.46	935	30	240
68. Trib. to Sewickley Creek	0.97	623	37	444
69. Meadows Run	2.04	1,310	210	2,520
70. Jacob's Creek	1.02	655	30	360
71. Trib. to Jacobs Creek	2.05	1,310	37	592
72. Welty Run	9.35	5,970	75	750
73. Two Mile Run	7.02	4,480	75	1,200
74. Jacobs Creek	1.75	1,120	56	672
75. Loyalhanna Creek	1.05	670	130	1,300
76. Trib. to Indian Creek	3.71	2,364	122	1,710
77. Indian Creek	16.70	10,688	128	1,280
78. Furnace Run	10.29	6,592	77	2,310

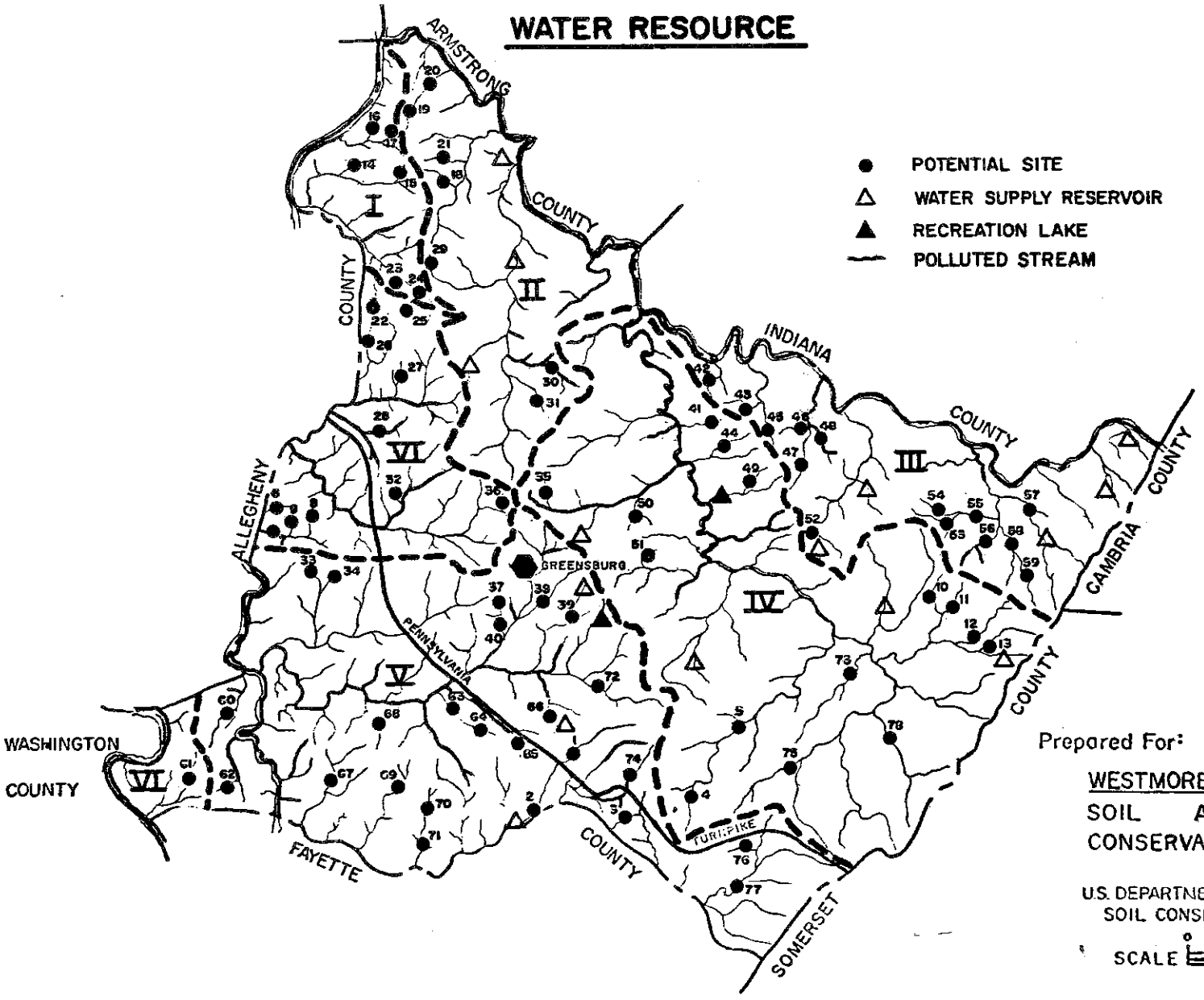
* Indicates probable pollution by acid mine drainage.

PLANNED ACTIONS

The Directors will attempt to encourage the orderly development and use of the excellent water potential of the County. Accordingly, THE DIRECTORS WILL:

1. Continue to sponsor feasible projects under the Watershed Protection and Flood Prevention Act (Public Law 566). As a part of this effort the District will:
   a. Encourage the planning and installation of structures which provide for the multiple use of water.
   b. Take the leadership in seeing that at least 50 percent of the land above each structure is under cooperative agreement with the district prior to completion of the project agreement.
   c. Give priority to conservation planning and the land treatment program in these watersheds.
2. Encourage planners and local government officials to protect the best potential impoundment sites from encroachment.
3. Encourage the development of outstanding impoundment sites for water supply, recreation, low flow augmentation, or flood control purposes for present and future needs.
4. Carry out a program of sound land treatment on the watersheds of existing and potential large water impoundment sites.
5. The possibility for development of the sites listed in Table VI will be called to the attention of the landowners and others at an early date.
6. Meet with representatives of the Pennsylvania Department of Health and the Pennsylvania Department of Mines and Mineral Industries to develop a clean streams program for the county.
7. Attempt to develop, with the assistance of the Soil Conservation Service and other interested agencies and organizations, a sediment control program to minimize the movement of sediment from culm piles and mine wash areas.

WATER RESOURCE



Prepared For:

WESTMORELAND COUNTY
SOIL AND WATER
CONSERVATION DISTRICT
By
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SCALE 0 1 2 4 MILES

RECREATION

The importance of outdoor recreation as an economic factor as well as a social factor in Westmoreland County has become increasingly apparent since 1950. Private and public recreation facilities within the County are numerous but for the most part they are overcrowded. Due to its location, the county could use many more recreation facilities. Nearly 3,000,000 people live within two hours driving distance of central Westmoreland County.

One of the more popular forms of outdoor recreation in the County is hunting. During 1962, 39,759 resident and non-resident hunting licenses were sold in Westmoreland County. According to national figures developed in 1960, the average hunter spends about $60 each year on equipment, clothing, transportation, lodging, and food. On this basis, in 1962, hunters added nearly $2.4 millions to the County economy. Nimrods from Allegheny and other nearby Counties also hunted in the County. It is, therefore, conservatively estimated that more than 50,000 people hunt in Westmoreland County each year.

Although there are nearly 14,000 acres of public lands open to hunting in the County, most of the hunting takes place on privately owned land. Public lands open to hunting include 8,685 acres in Game Lands No. 42 near New Florence and Waterford and approximately 5,000 acres in the Loyalhanna and Conemaugh Flood Control areas. Included in the thousands of acres of privately owned lands used for hunting are approximately 23,000 acres of land in six Farm-Game Projects.

Both large and small game hunting in the county is considered good. The area west of Chestnut Ridge is good pheasant, rabbit and squirrel country. Natural reproduction of these game species in this area is good. The eastern one-third of the county from Chestnut Ridge east is noted for grouse, squirrel and deer. A few wild turkey are shot each year in this area. The annual deer kill in Westmoreland County averages 1,400 making it one of the top 25 counties in the state. Migratory water fowl (ducks) hunting within the county is rather limited due to the shortage of large bodies of water or extensive marsh areas. The Loyalhanna and Conemaugh Reservoirs and some sections of the Loyalhanna Creek provide some duck hunting for the public. Private water fowl hunting is carried on to a very limited degree on the smaller private reservoirs and ponds.

The pressure of hunting is being felt more and more each year. The condition exists not because there are more hunters but because there is less private land available each year due to the rapid urbanization of the western two-thirds of the county. The establishment of regulated shooting grounds may tend to somewhat relieve the pressure of hunting on private lands. A trend has already started in this direction. In 1963 there were 14 regulated shooting grounds. One was commercial, the other 13 were private. As the available free hunting land becomes inadequate, the opportunities to develop successful commercial regulated shooting ground will increase. There are two general areas in the county that are nearly ideal for the location of commercial regulated shooting grounds. The areas are the Ligonier Valley between Chestnut and Laurel Ridges and the foot hills area west of Chestnut Ridge. Both of these areas are still predominately rural but within short driving distances of urban centers and the soils are favorable for wildlife food, and cover development. These areas are shown on the Recreation Map, page 42.

Opportunities for water oriented recreation are limited; however, topography and soils are such that additional facilities can be developed for all types of water recreation.

Nearly all of the trout streams are in the eastern one-third of the County. Trout streams are fairly abundant east of the Chestnut Ridge but they are heavily fished; west of the Ridge there is a limited number of streams that would support trout if pollutants were removed. The Pennsylvania Fish Commission indicates that there are presently 57 miles of trout waters on 11 County streams. These are listed on page 32.

Bass are found throughout the County in man-made lakes and ponds, but not streams. There are, however, 172 miles of streams that support other warm water species. Two of the largest dams in the county, the Loyalhanna and Conemaugh Flood Control Reservoirs, do not support fish at the present time due to various forms of contamination. The County's largest body of clean water - the Beaver Run Reservoir - does support

fish, but is not open for fishing or other water sports. Although there are less than ten commercial fishing ponds in the county, there are about 1,000 potential sites ranging in size from 1 to 20 acres where such enterprises could be developed. In addition, nearly all of the potential water sites shown on the Water Resource Map, page 37, except those which have polluted waters, would likely be suitable for warm water species of fish.

In 1962 there were 16,583 fishing licenses sold in the County. National figures released in 1960 indicate that the average angler spends about $95 a year on his hobby. On this basis, fishermen added about 1.57 millions to the County economy in 1962.

Facilities for water oriented sports other than fishing are very limited. Except for Keystone Lake in Keystone State Park, swimming is restricted to pools and relatively small ponds. Only two bodies of water — the Loyalhanna and Conemaugh Reservoir — are open for public boating, but they are both too polluted to permit either swimming or water skiing. There are only a limited number of sites in the County where it would be possible to develop a lake of a 100 or more acres. These sites are shown on the Recreation Map, page 42. Fishing, swimming, and boating might be enjoyed at any of these sites.

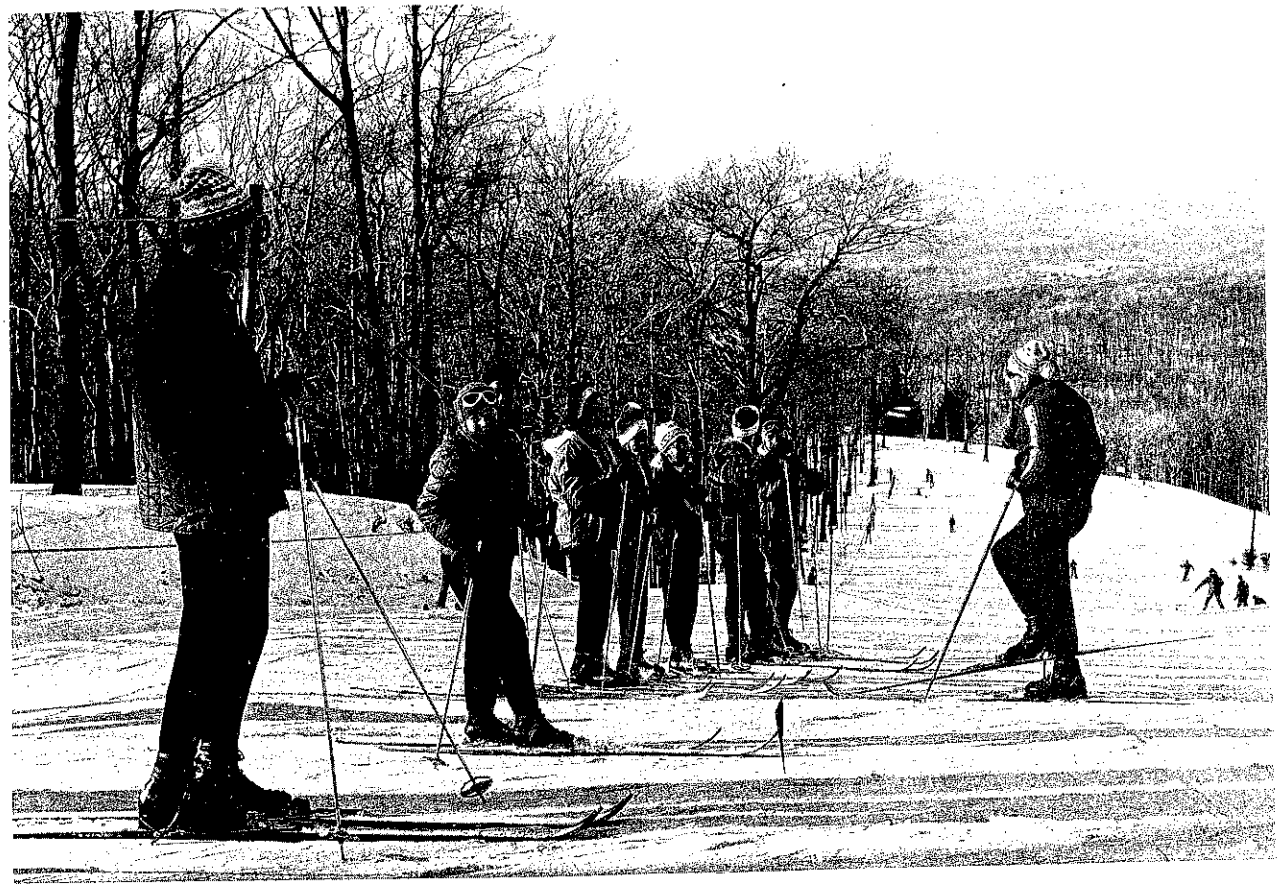
There are two state parks within the county — Linn Run and Keystone. An indication of the increased popularity and importance of park type recreation is given by attendance records of these two parks. During 1953 the attendance at Keystone was 82,160; in 1962 it was 579,092. The attendance at Linn Run during 1953 was 52,720 and in 1962 it was 104,922. In addition to the two state parks, there are only three other parks or park areas that are publicly owned in Westmoreland. Each of these areas provides facilities for picnicking, camping, and hiking. The three areas are the Loyalhanna and Conemaugh Flood Control areas and the County Park at Mammoth. All of these parks are shown on the Recreation Map, page 42. There are also privately owned park areas in the County where similar outdoor recreation facilities are available for a fee.

Parks offering picnicing, camping, hiking, riding and related activity might be developed adjoining some of the potential lakes discussed above. Such possibilities would require further detailed study. The need for additional recreation facilities of this type in the Greater Pittsburgh area is apparent.

Parks in Westmoreland County attract visitors from a wide area.

At the present there are several scout, church and private camps located for the most part in the more heavily wooded eastern third of the County. Nearly all of these camps are several hundred acres in size and include such permanent facilities as buildings, swimming pools, and roads. Nature trails and study areas are an important part of these camps.

The development of additional camps along the foothills and extending up the sides of both Chestnut and Laurel Ridges might be desirable and economical land use. The area is heavily wooded and the soil is generally well drained. The woods could be used for hiking, riding and nature study and not interfere with woodland management programs. This multiple use of the woodland is entirely reasonable although it has not been practiced to date in existing camps.



Natural resources in the eastern section of the County lend themselves well to winter recreation activities.

The 1,400 acre Powermill Nature Reserve of the Carnegie Museum is located at Rector. Although this is primarily a study area for the museum, selected portions, including a small collection of local plant and animal life, are open to the public. The County and several municipalities are presently developing additional nature study areas for public use.

The enjoyment and study of nature is considered an important part of the recreational activities of many individuals. Excellent opportunities prevail throughout the county to develop hiking trails, observation posts, and nature trails in conjunction with parks, fishing and boating areas and related recreational facilities.

Westmoreland County has hundreds of forms of plant and animal life for those interested in enjoying and studying this aspect of nature. 138 different species of birds, 778 different plants and 55 butterflies have been identified at the Powdermill Nature Reserve.

Exposed rocks from eight geologic formations exist at different locations in the County. Within these formations there are approximately 65 sandstone, siltstone, shale and coal members, many of which are exposed for the rock collector and the interested nature observer to study.

Most of the townships, boroughs and cities have developed recreation plans or facilities. These

are mainly for day use although overnight facilities are available at some locations. The size of these parks, and planned developments varies from two to several hundred acres.

Three points of historical interest dating back to the French and Indian War are located in the county. Fort Ligonier, which has been reconstructed, is located in the borough of Ligonier; the Bushy Run Battle Field, site of a major Indian battle, is located close to Jeannette; and the path of the Old Forbes Road that extended from Fort Ligonier to Fort Pitt can still be traced from Ligonier west through Bushy Run to the Allegheny County line. Bushy Run is the site of a State Park commemorating this battlefield and offering excellent day use facilities. Section of the Old Forbes Road are being marked for hiking enthusiasts.

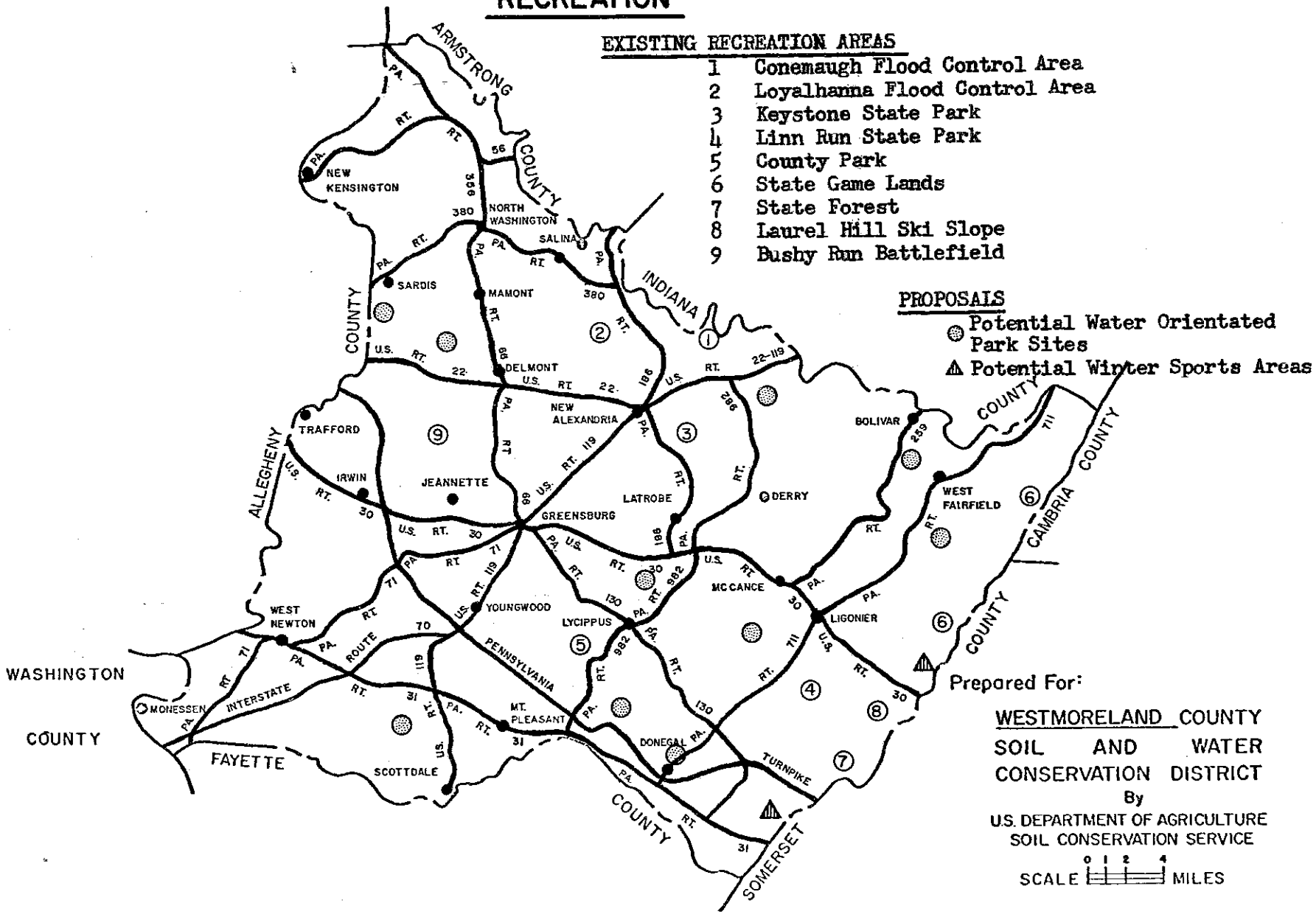
To date only two commercial skiing areas have been developed in the County. The largest is located on Laurel Mountain along the extreme eastern edge of the County. It has one T bar lift, two Poma lifts and seven rope tows with a total capacity of 7,000 persons an hour. Woodknoll Guest Ranch located just east of Route 66 between Greensburg and Route 22 is the other commercial skiing area. The potential for two major additional winter sports areas on the western side of Laurel Ridge is good. One area is between Route 31 and the Pennsylvania Turnpike. The other is north of Route 30. These areas are shown on the Recreation Map, page 42. Because of the improved highways that cross Laurel Hill other areas are accessible and could be developed as the demand for winter sports facilities increases.

PLANNED ACTIONS

The Directors feel that adequate recreation facilities are needed to provide satisfying and wholesome outdoor experience for all age groups. Such recreational developments can also be an important part of the area economy. Accordingly, THE DIRECTORS WILL:

1. Encourage the development of adequate outdoor recreational facilities to meet present and future needs by bringing to the attention of the landowners involved, and other interested groups and individuals, the full potential of the sites shown on the Recreation Map, page 42.
2. Develop conservation plans for recreation areas owned by individuals, groups, organizations or government agencies.
3. Consider recreation as an alternative land use in the development of conservation plans for farms.

RECREATION


EXISTING RECREATION AREAS
1 Conemaugh Flood Control Area
2 Loyalhanna Flood Control Area
3 Keystone State Park
4 Linn Run State Park
5 County Park
6 State Game Lands
7 State Forest
8 Laurel Hill Ski Slope
9 Bushy Run Battlefield
PROPOSALS
Potential Water Orientated Park Sites
Potential Winter Sports Areas
ARMSTRONG COUNTY
INDIANA COUNTY
CAMBRIA COUNTY
SOMERSET COUNTY
FAYETTE COUNTY
WASHINGTON COUNTY
ALLEGHENY COUNTY
NEW KENSINGTON
NORTH WASHINGTON
SALINA
SARDIS
MAMONT
DELMONT
NEW ALEXANDRIA
TRAFFORD
IRWIN
JEANNETTE
GREENSBURG
LATROBE
DERRY
BOLIVAR
WEST FAIRFIELD
LIGONIER
MC CANCE
YOUNGWOOD
LYCIPPUS
WEST NEWTON
MONESSEN
MT. PLEASANT
SCOTTDALE
DONEGAL
PENNSYLVANIA TURNPIKE
INTERSTATE ROUTE 70
Prepared For:
WESTMORELAND COUNTY SOIL AND WATER CONSERVATION DISTRICT
By
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SCALE 0 1 2 4 MILES

Appendix I

FEDERAL, STATE AND LOCAL

FEDERAL, STATE AND LOCAL

A wide variety of assistance is available through the district. Technical help in the fields of soil surveys, soil and water conservation, land use planning, woodland conservation, wildlife conservation, recreation, and watershed protection and flood prevention are available to owners and operators of the agricultural land and to owners and operators of non-agricultural land, such as camps, hunting preserves, industrial sites, residential estates, hospitals, schools, parks and recreational sites or other similar purposes.

Consultive help on a wide range of subjects is also available through the district. This may include information on soils, soil surveys and their interpretations, control of runoff, water, erosion and siltation; water management, including problems of flooding, drainage and surface water disposal; watershed hydrology; watershed protection and flood prevention; water resources; recreation, forestry; fish and wildlife, and the various phases of plant technology. Examples of those who may receive consultive type held are:

1. Rural Areas Development Committees
2. County and other local government units, such as planning, zoning, school and institution boards, highway departments, health departments and tax assessors.
3. State agencies dealing with such items as conservation, highways, health, recreation, water resources and land use planning.
4. Federal agencies, such as Defense, Housing, Public Roads and Health.
5. Professional consultants who provide services, such as engineering, planning, taxation and forestry.
6. Camps, hunting preserves, industrial sites, residential estates, hospitals, schools, parks and recreation sites or other similar purposes.

The many organizations and agencies interested in or having a responsibility for soil and water conservation, land use planning and watershed protection and flood prevention work in the county have been most cooperative and helpful in assisting the district in carrying on its program. The working relationships between the district and these organizations and agencies are outstanding. The working relationships between the organizations and agencies themselves have also been excellent. Organizations and agencies, and the type of help they may make available are:

1. Agricultural Experiment Station
   a. Assistance in soil and water conservation research.
   b. Assistance in the cooperative soil survey.
   c. Assistance in making special studies.
2. Agricultural Extension Service
   a. Educational assistance to interested individuals or groups through individual help, demonstrations, meeting, publications and mass media on subjects relating to:
      (1) Efficiency of agricultural production, management, resources conservation and use.
      (2) Agricultural marketing and utilization.
      (3) Youth development.
      (4) Public affairs, community improvement, and rural areas development.
   b. Assistance in preparing annual work plan and report.
   c. Guidance in program activities.
3. Boy Scouts
   a. Assistance in information and education work.
   b. Assistance in tree and shrub planting.
4. Churches
   a. Participation in Soil Stewardship Week.
   b. Participation in Rural Life Sunday.
5. County ASC Committee
   a. Assistance in making cost-sharing available to farmers in the installation of soil and water conservation, woodland, wildlife and recreation practices.
   b. Assistance in diverting cropland to conservation uses through land use adjustment programs.
   c. Assistance in watershed protection and flood prevention work.
   d. Assistance in preparing annual work plan and report.
   e. Guidance in program activities.
6. County Commissioners
   a. Assistance in district organization, provide limited funds for district operation.
   b. Assistance in watershed protection and flood prevention work.

c. Assistance in preparing annual work plan and report.
d. Guidance in program activities.

7. County, City and Borough Government
   a. Assistance in watershed protection and flood prevention work.
   b. Assistance in information and publicity work.

8. Farmers Home Administration
   a. Make the following types of loans to eligible borrowers
      (1) Watershed development and soil conservation loans.
      (2) Watershed loans.
      (3) Forestry loans.
      (4) Recreational development loans.
      (5) Loans to associations for shifts in land use.
      (6) Loans to family farmers for recreational enterprises.
      (7) Operating loans.
      (8) Farm ownership loans
      (9) Rural housing loans.
      (10) Housing for elderly citizens loans.
      (11) Emergency loans.
   b. Assistance in program planning.
   c. Assistance in preparing annual work plan and report.

9. Industries
   a. Become affiliate soil and water conservation district members.

10. Lending Institutions
    a. Make loans for conservation work.

11. Pennsylvania Department of Forests and Waters
    a. Technical Forestry Assistance for:
       (1) Examining sites for tree planting and recommending species to be planted.
       (2) The care and management of plantations.
       (3) Timber stand improvement.
       (4) Harvesting and marketing forest products.
       (5) Planning the layout and protection of logging roads and skid trails.
       (6) The protection of forest lands from grazing, fire, insects, and disease.
       (7) Developing woodland management programs.
       (8) The woodland phase of watershed protection and flood prevention, whether P. L. 566 or not.
       (9) Guidance and counsel to wood-using industries.
       (10) Park and recreational development.
    b. Low-cost tree planting stock from State Forest Nurseries.
    c. Assistance in the development of wood-using industries.
    d. Information — news items, displays, exhibits, tours, and demonstrations.
    e. Assistance in preparing annual work plan and report.
    f. Guidance in program activities.

12. Pennsylvania Fish Commission
    a. Assistance in technical fishery work.
    b. Assistance in pond and stream management.
    c. Assistance in watershed protection and flood prevention work.
    d. Assistance in developing boating operations.
    e. Assistance in information and publicity work.
    f. Assistance in preparing annual work plan and report.
    g. Assistance in program planning.

13. Pennsylvania Game Commission
    a. Assistance in technical wildlife work.
    b. Provide planting Stock.
    c. Provide tree planters for planting wildlife shrubs on cooperative game projects.
    d. Provide labor on cooperating farm game projects for woodland border and hedgerow cutting.
    e. Assistance in stocking wildlife.
    f. Assistance in wildlife protection.
    g. Assistance in predator control.
    h. Assistance in watershed protection and flood prevention work.
    i. Assistance in information work including news items, displays, exhibits, tours and demonstrations.
    j. Assistance in preparing annual work plan and report.
    k. Guidance in program activities.

14. Pennsylvania Department of Highways
    a. Assistance in the control of roadside erosion and drainage.
    b. Assistance in watershed protection and flood prevention work.
    c. Assistance in analyzing and testing of soils to determine engineering properties for highways construction.
    d. Assistance for determining location of district signs.

e. Assistance in information work including news items, displays, exhibits, tours, demonstrations and publications.
f. Assistance in preparing annual work plan and report.
g. Assistance in program planning.

15. Pennsylvania Department of Health
    a. Assist with pollution abatement programs.

16. Pennsylvania Department of Mines and Mineral Industries
    a. Assist with pollution abatement programs.

17. Planning Commissions
    a. Provide land use planning information.
    b. Assistance in coordinating planning commission objectives with those of the district.
    c. Assistance in the development and reproduction of materials.
    d. Assistance in publicity work.

18. Press, Radio and Television
    a. Assistance in the information and publicity program.

19. Schools
    a. Assistance in teaching conservation education.

20. Service, Sportsmen and Similar Clubs
    a. Assistance in the information and publicity program.

21. Soil Conservation Service
    a. Assistance in program planning.
    b. Guidance in carrying out district programs.
    c. Assistance in soil surveys and interpretations.
    d. Assistance to landowners in developing conservation plans for their land.
    e. Assistance to landowners in the application of conservation practices on their land.
    f. Provide consultive assistance in the fields of soil and water conservation, land use planning, and watershed protection and flood prevention.
    g. Assistance in developing and carrying out watershed protection and flood prevention work under P. L. 566.
    h. Assistance in developing and carrying out watershed work other than under P. L. 566.
    i. Provide new plant materials and conduct field trials.
    j. Assistance in developing annual work plan and report.
    k. Assistance in information and publicity work.

22. State Soil and Water Conservation Commission
    a. Assistance in district organization.
    b. Assistance in program planning.
    c. Guidance in carrying on affairs of the district.
    d. Assistance in developing annual work plan and report.
    e. Provide office supplies and materials.
    f. Assistance in preparing and reproducing materials.
    g. Provide legal advice and counsel.
    h. Provide limited funds for appointed farmer director's travel expenses.
    i. Assistance in information and publicity work.
    j. Assistance in the cooperative soil survey.
    k. Assistance with the P. L. 566 Watershed Program.

23. Township Supervisors
    a. Assistance in control of roadside erosion and drainage.
    b. Assistance in watershed protection and flood prevention work.
    c. Assistance in facilitating installation of water disposal practices on farms.

24. U. S. Geological Survey
    a. Assistance in making and providing geological survey maps for the district.
    b. Furnish ground water study information.

25. U. S. Fish and Wildlife Service
    a. Provide fish for pond stocking.
    b. Make studies in connection with watershed protection and flood prevention work.

26. Utility Companies
    a. Consultive assistance on resource development to communities and local organizations.
    b. Provide conservation films and talks.

27. Vocational Agriculture Departments
    a. Assistance in teaching students and informing others in the field of resource conservation.
    b. Youth development.
    c. Assistance in tree and shrub plantings and other conservation projects.