

Field Examination Report  
Little Youghiogheny River Watershed  
Garrett County, Maryland

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INTRODUCTION

The Little Youghiogheny River Watershed, comprising 25,590 acres, is located in the southern part of Garrett County, Maryland and forms a part of the watershed of the Youghiogheny River, which in turn is within the watershed of the Monongahela and Ohio Rivers. Principal tributaries of the Little Youghiogheny River are Wilson Run, Broad Ford Run, Trout Run and Black Run.

Urban flood damages from the Little Youghiogheny have been particularly serious at Oakland, Maryland, which has a population of about 1800, while agricultural and other damages have been widespread throughout the watershed. Wilson Run, has also caused extensive damage in Oakland, where it joins the Little Youghiogheny.

The flood damage situation in Oakland provided part of the incentive for a flood control survey of the Youghiogheny River which was completed in 1951. A preliminary report of this survey has been prepared by the U. S. Department of Agriculture under the title "Survey Report Youghiogheny River Watershed, Program for Runoff and Waterflow Retardation and Soil Erosion Prevention." It consists of one volume of text and one of appendices and is dated January 1951. Reference will be made to data obtained from the above report in the succeeding pages.

Particular attention is called to the fact that the above report recognizes the need for independent control of Wilson Run and proposes three water retarding structures on this stream. The benefit-cost ratio for these structures is shown to be 304 to 1.

1. Watershed Characteristics.

The watershed of the Little Youghiogheny is a dissected plateau with the crest of a mountain range forming the eastern boundary. Approximately 70% of the area has a rolling topography and is used chiefly for agriculture. The eastern border, comprising about 25% of the area, is hilly with some stoney areas and is predominately forested. The remainder, about 5%, is made up principally of level to gently sloping land along the streams. Elevation ranges from a low of 2380 feet at Oakland to a high of 3004 feet on the top of Backbone Mountain. This mountain range extends along the entire eastern border of the watershed in a northeast and southwest direction. Streams generally have shallow channels and gentle gradients.

Interbedded shales and sandstones occur throughout the area. There is considerable evidence of folding resulting from the uplifting occurring during the period of mountain formation. The shales and sandstones are generally red and gray in color. These weather and result in the various

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residual soils of shallow and moderate depth. Silt loams predominate in the western three fourths of the watershed area, while the stony loams occur along the eastern border.

The average annual precipitation is 46.7 inches. Snows account for a portion of this precipitation as from five to six feet of snowfall usually occurs each winter. Precipitation is fairly well distributed throughout the year with the heaviest occurring during the growing season. November is the low month with three inches, while a high of over four and a half inches occurs in June and July.

Approximately 33 percent of the watershed is in rotation crops and 19 percent is in pasture. There is about 6 percent in idle farmland and about 2 percent in farmstead and urban use. The remaining 40 percent is in forest. In general the land is used in accordance with its capability but much of it is improperly treated and needs the application of improved land management practices and measures. Forest land has been over cut, grazed by livestock, often severely burned, and otherwise mismanaged. Consequently it falls far below its potential for watershed protection and contributes excessively to flood and sedimentation problems.

Both crops and pasture are grown on the flood plain. The growing of cool season crops such as cauliflower and cabbage is on the increase. Much of the flood plain needs drainage before it can be cropped intensively.

## 2. Land Ownership and Tenure.

All land in the watershed is in farms except residential areas and a few large woodland ownerships comprising about 1000 acres on Backbone Mountain.

Practically all farms are owner-operated, and changes in ownership are relatively infrequent.

Dairying and livestock production are the predominant types of farming, so that the farming industry is stable. There is considerable activity in the harvesting of forest products, chiefly by small local operators. Saw timber, mine props and pulpwood are the principal products.

## 3. Watershed Problems.

A discussion of the soil and water problems are presented in the application for assistance. The field examination party concurs that the major problems in the watershed are flood and sediment damage to the agricultural lands and urban areas (particularly the town of Oakland, Md.). Other problems include damages to water supplies, clogging of road ditches, streambank and roadbank erosion, and infertile overwash on agricultural land. The flood flows and sediment load from the watershed also contribute to downstream damages.

Reference is made to the U. S. Department of Agriculture preliminary survey report and appendices dated January 1951 of the Youghiogheny

River Watershed. The following paragraph is taken from Appendix B - page 2.

"Flood damages in the Youghiogheny River Watershed are of frequent occurrence. On some of the small tributaries losses occur annually. These floods most commonly occur in the summer and the losses sustained are mainly to unimproved highways and to growing crops and pasture. Much greater amounts of damage occur from floods of rare occurrence in any one small drainage area. These floods are caused usually by very intense summer storms and do not necessarily create flood flows on the main river."

The Youghiogheny Report page 7 - 3rd paragraph states: "Serious flood problems exist at several upstream urban communities. An example is the flood problem at Oakland, Maryland, where the average annual damages amount to several thousands of dollars."

The flood problem is aggravated in the town of Oakland by reason of inadequate channels and culvert capacity. The properties of public utilities and merchants are damaged by floods, causing disruption of services and losses in general. In addition to the damages mentioned in Oakland, damages occur to properties in the smaller communities such as Mt. Lake Park.

A tabulation of the damages from the 1924, 1928, and 1938 floods was included in the application. A preliminary estimate of the October 1954 damage in the town of Oakland was also shown as \$20,285. The field examination party emphasizes that this amount does not include the complete damage in Oakland. Nor does it include damages for areas outside the town. Although the extent and severity of these additional damages are not known, it appears that the October 1954 flood included other urban damages, flood and sediment damages to agricultural lands, farm buildings, flood and sediment damage to roads, railroads, bridges and ditches in the amount equal to or greater than the \$20,000 reported. The total estimated damage from the October 1954 flood may well exceed \$50,000.

Deterioration of the soil resources through sheet erosion is prevalent throughout the watershed. There is evidence of streambank erosion, however, not widespread. Abandoned logging roads are primary sources of erosion in forest areas since they concentrate surface runoff and channel it, often at high velocity, down steep slopes.

A small percent of the total watershed is considered as bottomland. Wetness is prevalent in the bottomlands, partly as a result of inadequate drainage. This condition is aggravated by flood water. This land would realize some land enhancement benefits under a watershed protection and flood prevention project. A survey may show a moderate amount of damage to crop and pasture lands in the flood plain area. There is some damage to the flood plain as a result of infertile overwash, flood plain scouring, and swamping.

#### 4. Project Objectives.

The principal objective of proposed work on the Little Youghiogeny Watershed is to reduce flood and sediment damage to the towns of Oakland and Mountain Lake Park and to agricultural and forest lands, highways, bridges and culverts throughout the watershed. The principal flood damages in Oakland and Mountain Lake Park are the result of high water and sediment deposition. Erosion, sediment deposition, infertile overwash, impairment of constructed drainage facilities and washing out of structures are the principal hazards in the balance of the watershed.

It has been recognized in the "Survey Report, Youghiogeny River Watershed", that land treatment measures are essential to a complete watershed plan. The principal land treatment measures required are contour strip cropping, contour furrows, cover cropping, diversions and terraces, establishing outlets and waterways, establishing perennial hay, improving pasture management, improving forest management, controlling streambank erosion, installing erosion control structures, planting trees and shrubs and improving stream channels. Individual farmers have recognized that these land treatment measures are not only effective in reducing flood damages, but are also sound farming practice and have, under the regular SCS program, established these practices on their own lands. It is estimated that 15% of the land treatment measures required have already been installed and that 5% is being installed annually under the existing program. Practices requiring large structures or extensive group activity have not yet been installed and there appears to be little change for such installation until a comprehensive work plan is completed, since damage points are generally fairly remote from sites where effective control could be established. However, emphasis will continue to be placed on installation of land treatment measures to reduce runoff and erosion by local agencies.

There is extensive local interest in measures to reduce the damages caused by flooding of the Little Youghiogeny and its tributaries. As soon as a sound program for control is presented it is expected that it will form a focal point for the support of all groups. At present there is widespread interest and concern but the varied interests are inclined to view possible solutions in the light of their own particular damage pattern. A complete program should combine all these interests behind the required control measures.

Sites for water retardation structures were examined and it appears that the present dam on Broad Ford Run at Mountain Lake could be raised by 20 feet or more to provide a large flood storage pool on this stream. The maximum elevation of the flood pool may be governed by four gas wells near the upper end of the flood pool but it appears that approximately twenty feet of depth can be obtained. This should provide flood storage of approximately 1200 acre-feet in this watershed of about 4500 acres. This site is about  $2\frac{1}{2}$  miles by stream from Oakland and should provide an appreciable reduction in flood flow in the Little Youghiogeny at Oakland. The present structure provides no flood control storage.

The survey report on the Youghiogheny River Watershed lists three sites on Wilson Run which were considered for water retardation structures. Unpublished data from the files of the Watershed Planning Unit in Upper Darby, Pennsylvania indicate that runoff from a 20 year storm can be reduced by more than 50% by installation of these structures and appropriate land treatment measures. None of these structures have been built.

A number of sites in the upper part of the watershed appear to be satisfactory for water retardation structures but their distance from major damage points limits their effectiveness. However, in the preparation of the work plan consideration should be given to utilizing these sites if adequate reduction of flood flows at major damage points requires their use.

An alternative proposal, applicable primarily to the Little Youghiogheny channel, is to clear and possibly widen this channel through Oakland and sufficiently far downstream to permit flood flows to be discharged without causing damage in Oakland. Improvement of the channel of Wilson Run, particularly by increasing the capacity of present controlling structures can be expected to decrease flood flows somewhat, but it appears doubtful that channel improvement alone will solve the problems of Wilson Run.

Improvement to farm drainage outlets will be realized from measures which reduce the flood stage. Outlets which are presently submerged by flood waters will remain open resulting in improved farm drainage.

5. Effect of Project Outside Watershed.

It is a foregone conclusion that the great majority of the benefits and effects of a flood control program on the Little Youghiogheny will be felt within the watershed. However, there are economic effects such as broadened tax base, both local and national; improved economic conditions resulting in more extensive purchasing both outside and within the watershed boundaries; and a generally higher level of productivity and living which would have effects outside the watershed.

There are also benefits to be obtained downstream from reduction in sedimentation and reduction in flood peaks.

6. Other Programs.

The Forest Service and the Maryland Department of Forests and Parks have cooperatively provided a county forester in Garrett County for several years. He has been available to assist landowners in the watershed with their forest management problems, including harvesting of timber, planting trees, controlling livestock grazing, and otherwise improving forest land management. The Garrett Soil Conservation District, the Farm Bureau, and other agricultural interests, as well as civic and service agencies and other organizations in urban communities, have participated in developing programs for the installation of improved land

treatment measures and practices to control runoff and erosion. The Extension Service and the Soil Conservation Service are providing educational and technical reviews in connection with the land treatment program.

The Agriculture Conservation Program has assisted the farmers on a cost sharing basis with the installation of land treatment measures.

Up to this time no programs involving construction of channels or flood-water retarding dams have been developed.

7. Group Action.

Oakland is a service town and is heavily dependent upon agriculture for the prosperity of its businesses. One instance of group action is a very successful "Farming for Better Living" program. This program is sponsored by the business interests in the community and promotes better farming methods and farm improvements.

Farm groups have shown that they can work together when necessary. There has been no need for group drainage or irrigation facilities. The growing of cool-weather vegetables has developed within the area during the past few years. Since there are quite a few small growers there was need for group action to take care of procurement of plants, planting, spraying and marketing. This need was met by the formation of a vegetable growers association that has operated successfully for the past four years.

8. Excluded Areas.

All of the watershed of the Little Youghiogeny River lies within the boundaries of the Garrett Soil Conservation District, which, as sponsoring organization, has authority to construct, operate and maintain works of improvement.

9. Interest of the Local People.

The greatest interest in a watershed program is among the Oakland business people who have suffered damage in previous floods. These people very naturally are anxious to have the protection that would be afforded by a flood prevention project, as are the owners of other types of property in the area affected by flood waters.

The Garrett Soil Conservation District carries out an active program of soil and water conservation in the watershed as well as in other parts of the county. The District Supervisors have shown a great deal of interest in this program. They called the first meeting at which the P. L. 566 program was explained to representatives of the county government and of the communities having flood water problems.

The Mayor and Council of Oakland are much interested. They were the initial signers of the application for planning assistance, and requested the County Commissioners and the Soil Conservation District

also sponsor the project.

The County government is interested because the property affected is important to the taxable basis and to the general welfare of the county. Oakland is the county seat.

Farmers generally recognize the damages of erosion and the advantages of soil and water conservation. There are approximately 191 farms in the watershed. One hundred and three (103) of these are cooperating with the Soil Conservation District.

10. Local Participation.

It is believed that the local organizations will be willing and able to pay their proper share of the costs of a project that will give them adequate protection against flood damage. They have also indicated their willingness to provide necessary land, easements and rights-of-way and to maintain structures and improvements. Other types of local programs, such as schools, roads, streets, hospital, library, etc., indicate that the people are willing to spend local public funds for needed improvements. The Town and County governments are aware of the fact that local financial participation is a necessary and proper part of a project under P. L. 566.

As stated above, Oakland is a service town. The businesses that have been damaged by floodwaters represent a fairly high percentage of all the local business interests, and many of these people have shown interest in the program and have expressed the desire that a flood protection project be planned and carried out.

11. Estimated Time to Complete Project.

- a. Land Treatment - 10 years.
- b. Structural Measures - 5 years.

SUMMARY

The Watershed meets the requirements of Public Law 566 with respect to size. The Garrett Soil Conservation District qualifies as a "local organization" under the terms of the Act. The purposes set forth in the application are clearly within the scope of the works of improvement authorized in the Act.

The possibilities of the Watershed as a potential project are enhanced by the active interest of several organized groups, the interest of local government, including the town of Oakland and the widespread interest among the urban residents and business leaders. Local interests have expressed willingness to accept the responsibility for providing land, easements and rights-of-way, and for the operation and

maintenance of works of improvement. Further direct financial participation most likely will be dependent largely upon the resources available to local beneficiaries at Oakland and their willingness to accept the necessary financial responsibility.

The field examination was made March 14-15 and report prepared March 16. The following were members of the field examination party:

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W. W. Nace	- Work Unit Conservationist
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