

*Commonwealth*

PROGRAM AND WORK PLAN

DELAWARE COUNTY SOIL CONSERVATION DISTRICT

(REVISED 1963)

MANCHESTER, IOWA

1975.

SCALE IN MILES

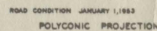
1 0 1 2

1952

SCALE IN MILES

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1952



## Problem Areas

Area I (State Problem Area 7) Approximately 2.2% county area.

This area includes approximately 7,748 acres of level to very gently rolling first and second bottomlands running west, south and north east of the city of Manchester. These soils vary from silts to sands and much of the second bottom is underlaid with gravel causing drouthy conditions.

Area II (S.P.A. 59) Approximately 3.1% county area.

An area approximately 10,833 acres laying almost entirely in South Fork township. This area has a shallow covering over most of the entire soil area. Small areas have tight subsoil layers restricting drainage and causing more rapid loss of soil beacuse of increased runoff. Small sandy spots occur over most of the entire soil area. The soils are dark colored and originally were quite high in organic matter content. Heavy cropping to soil depleting crops has removed much of this organic matter, as well as plant food. The soils in this area are generally strongly acid.

Area III (S.P.A. 62) Approximately 44.3% county area.

This area containing approximately 160,430 acres represents the largest single soil area in the District. It is located generally in the western half of the county, with one area extending through the east central part of the county. In this area the soils were developed from the drift material left by the Iowan glacier. Principal soil types are ~~Garrington~~, Floyd and Clyde loams or silt loam.  
Kenyon, Ostrander,

The topography of the area is undulating, most slopes running between 2 and 5%. The drainageways and lower areas have insufficient internal drainage, and topsoil depth will vary between 10 and 14 inches. The more sloping and better drained land will vary, between 4 and 8 inches of topsoil remaining, a few relatively small areas having the topsoil removed.

Two long ridges of wind-blown silt deposits run in a northwesterly -southeasterly direction in Hazel Green township. These soils are very deep, are intermediate in color and occur on slopes of 7 to 15%. These ridges are called "Paha's". Because of the slope and coarse texture of the soil, much erosion has occured on these ridges.

Area IV (S.P.A. 63) Approximately 2.5% county area.

This area of approximately 10,187 acres is located mostly in Bremen township and is similar to area 62, except it is nearly level to very gently rolling with slopes from 0-2%.

Area V (S.P.A. 66) Approximately 3.2% county area.

An area containing about 11,397 acres of gently rolling 5 to 14% slopes, light colored wind-blown soils including Fayette and some shallower loess-over-bedrock soils such as Dubuque. This area lies largely in Elk township extending somewhat into the northeastern part of Colony township.

Area VI (S.P.A. 67) Approximately 3.2% county area.

This area of approximately 11,387 acres is located in northeastern Colony township and includes also north central part of Elk township. This is an area of complex soils and slopes, (0-24%) which includes the rough areas and those adjacent areas which are too small to delineate. This includes the rough-broken land and Sogn, with smaller areas of Fayette and Dubuque, and adjacent narrow bottom and terrace soils.

Area VII (S.P.A. 68) Approximately 0.3% county area.

This is a small area extending into the northern edge of Richland township, north of Backbone Park. It is complex area, (0-24% slopes) of dark to light colored soils in the border of the Iowan till and loess areas. Soils included in this area of approximately 950 acres are the Rockton, Roseville, Sogn, rough-broken land and small areas of glacial soils. Small areas of similar soil conditions are found in other problem areas of the District.

Area VIII (S.P.A. 69) Approximately 11.2% county area.

This area containing approximately 41,417 acres is located almost entirely in the northeastern quarter of the District. In this area the soils were developed from wind deposited material. These soils are intermediate to dark colored and common types are Tama and Downs Silt loam.

The topography of the area is gently rolling to rolling with slopes varying from 5 to 13%. The topsoil covering will vary from 3 to 9 inches, with the yellow subsoil showing on many slopes. It is estimated that 50% of the topsoil in the area has been removed by erosion, with its accompanying loss of organic matter and plant food.

These soils are acid, but were quite high in organic content originally. In this area, loss of organic matter and plant food through erosion has been much greater than loss through removal by crops.

Area IX (S.P.A. 70) Approximately 17% county area.

This area contains approximately 62,047 acres and is composed of seven separate portions scattered diagonally from the northwest to the south east corners of the county.

Soils of this area were developed from wind-blown or wind re-worked glacial deposits. Many of these soils are shallow over limestone rock. Principal soil types are Thurman and Chelsea sands with various light and dark colored sandy loam soils occurring also.

The topography of the area is undulating to rolling with slopes running anywhere from 2 to 12%. Wet boggy areas occur throughout, apparently caused by rapid movement of rainfall downward through the sand and horizontally along heavier layers below until it seeps into the depressions and valleys of the area.

Topsoil depth varies from 8 to 12 inches on the darker soils and from 0 to 4 inches on the light colored soils that are under cultivation.

The soils of this area are drouthy, low in organic matter and plant food, and are extremely subject to erosion from water on slopes of 7% and greater. The more level areas are not as subject to erosion by water due to the rapid rate that water may enter the soil. All of these sandy soils are subject to wind erosion. These soils usually are very acid, and plant food subject to leaching will move downward into these soils quite rapidly.

Area X (S.P.A. 71) Approximately 3.2% county area.

This area of approximately 11,505 acres is located mostly in Richland township east of Backbone State Park, but extends somewhat into the western edge of Honey Creek township. It consists of gently rolling (5-9%) ridgetops breaking sharply to hilly areas of 14-24% slopes. The ridge soils are developed from light colored loess and are confined mainly to the Fayette series. Soils on the adjacent slopes are also light colored but since they are developed from Kansan or Iowan glacial till they are members chiefly of the ~~Bradley~~ or Coggon series.

RACINE

Area XI (S.P.A. 73) Approximately 0.4% county area.

This is a very small area of about 1,919 acres beginning in the extreme southeast of South Fork township and extending into Jones county. It is a complex area of 2 to 24% slopes with soils developed from Iowan till which varies from shallow to deep over limestone. The soils included are the Rocktons, Carringtons, small areas of Sogn, and other related soils.

KANYONS,

Area XII (S.P.A. 81) Approximately 10.4% county area.

This area of approximately 36,100 acres extends easterly and southeasterly from Delhi through Delhi, Union, North Fork and South Fork townships. The area consists largely of gently rolling ridges 5-9% and strongly rolling slopes (14-24%). Major soil type is Fayette, developed from wind-blown material under timber vegetation. These soils are inherently low in nitrogen and organic matter and on many areas only 2 to 3% of the topsoil remains on cultivated fields - it is estimated that approximately 75% of the topsoil has been removed throughout the area by erosion with its accompanying loss of plant food.

CONSERVATION NEEDS STUDY  
DELAWARE COUNTY

A large part of this year's annual report is devoted to the presentation of some of the major items of interest revealed by the completion of the Conservation Needs Study in Delaware county.

This conservation needs study is a part of a nationwide analysis of conservation needs and progress. The local committee consisted of representatives from the USDA Soil Conservation Service; Iowa State University, Agricultural Extension Service; Delaware county ASCS Committee; and the Delaware county Soil Conservation District Commissioners.

The study was based upon a basic statistical soil survey and upon the best available technical information. The assumption was made that the future would bring an increasing demand upon all of our natural resources to provide food and fiber for our increasing population.

It is recognized that this inventory of our land should give us a clue as to possible potential crop and livestock production in Delaware county. The best presently available information indicates that there is a definite maximum intensity of cropping that can be followed in combination with the maximum practical application of conservation practices such as terraces, strip cropping, contouring, etc. This is the combination that will reduce soil losses to a reasonable level.

In other words, if we terraced and contoured every acre where practical; strip cropped every acre where best adapted; converted to permanent pasture our steeper land; converted to cropland the land suited for crops; - just how many acres of corn or beans? How many acres of small grain? How many acres of hay and rotation pasture could we expect to raise in Delaware County?

These are the findings of the Conservation Needs Committee:

|                                                                            |                           |
|----------------------------------------------------------------------------|---------------------------|
| A. Land Use Intensity with Maximum Practical Use of Conservation Practices |                           |
| Intertilled Crops (Corn, Soybeans, etc) -                                  | 136,000 acres<br>or 44.3% |
| Small Grain (Oats, wheat, etc)                                             | 79,000 acres<br>or 25.7%  |
| Meadow (Hay and rotation pasture)                                          | 92,000 acres<br>or 30.0%  |

How does this potential compare with what we are doing now?

|                                        |                           |
|----------------------------------------|---------------------------|
| B. Land Use Intensity 1960 Farm Census |                           |
| Intertilled Crops (Corn, beans, etc)   | 128,633 acres<br>or 46.5% |
| Small grain (Oats, wheat, etc)         | 51,194 acres<br>or 18.5%  |
| Meadow (Hay and rotation pasture)      | 96,873 acres<br>or 35%    |

It is apparent then, that on a percentage basis, we have already reached or exceeded the intensity of intertilled crops that would be desirable, even if we were using terraces, contouring, and strip cropping at the maximum practical level.

This we are not doing!

For example:

1. 55% of our cropland needs contouring - less than 3% now contoured.
2. 43% of our cropland needs terraces - less than 0.1% now terraced.
3. 6.4% of our cropland needs strip cropping - less than 1% now strip cropped.

If we take a further look at the need for some of the key conservation practices we see the following picture:

| <u>NEEDS</u><br>*Needed per year for<br>next 25 years | <u>VS</u> | <u>PROGRESS</u><br><u>PRESENT RATE OF PROGRESS</u> |
|-------------------------------------------------------|-----------|----------------------------------------------------|
|                                                       |           |                                                    |
| Contouring (acres)                                    | 6,790     | 200                                                |
| Strip cropping (acres)                                | 793       | 250                                                |
| Terraces (miles)                                      | 530       | 1                                                  |
| Waterways (acres)                                     | 278       | 40                                                 |
| Diversions                                            | 14        | 0.1                                                |
| Pasture planting and<br>renovation (acres)            | 800       | 250                                                |
| Tree planting (acres)                                 | 170       | 9                                                  |
| Erosion control structures (No.)                      | 53        | 6                                                  |
| Wildlife area improvement/pre-<br>servation (acres)   | 44        | 5                                                  |
| Farm drainage (acres)                                 | 1,740     | 1,500                                              |

\*Rate of application needed per year if estimated total application job were to be completed in the next 25 years.

It is obvious that we have only just "scratched the surface" in the big job of meeting the conservation needs in our county.

This study of conservation needs, does then, not only point out certain limitations in the future development of our land, it also indicates some of the opportunities that are open to us. It is apparent that we have three choices:

1. Apply contouring, terraces, strip cropping, and other needed conservation practices to the maximum practical level to permit the most profitable combination of crops.
2. Reduce our level of cropping by decreasing our acres of corn and beans, and increasing our meadow acres to reduce erosion losses.
3. Continue our present level of cropping without the needed practices and resign ourselves to the fact that we are slowly but surely destroying the productive potential of our land.

WHICH CHOICE WILL WE MAKE?

**DELAWARE COUNTY  
SOIL CONSERVATION DISTRICT  
MANCHESTER, IOWA  
PHONE BR 3-3822  
TO:**

Our county is blessed with a large proportion of good land. Over 83% is classified as potential cropland. However, only about 4% is class I land that has no special problems, and can be farmed with few restrictions.

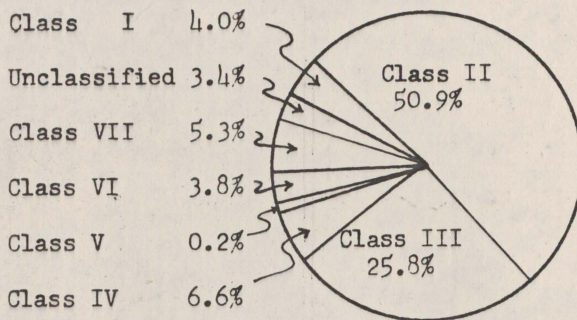
The remainder of our land has problems of various kinds that present hazards that must receive attention if we are to assure its future productivity.

Although our land ranges from nearly level to very steep, the major part of the area has slopes of such nature that erosion must be guarded against if we are to realize the full potential of our soils.

Already - in the relative short time that we have been farming our soils - we find that nearly one acre out of every five has suffered from moderate to severe sheet erosion.

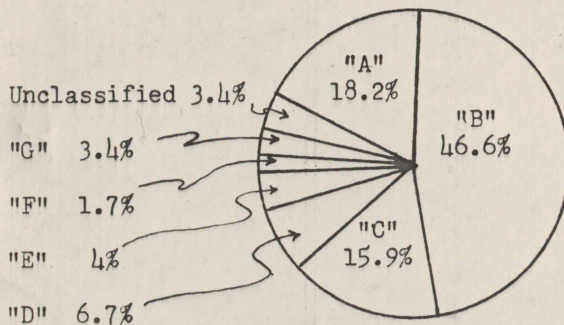
#### THE MEASURE OF OUR LAND

##### BY CAPABILITY CLASSES



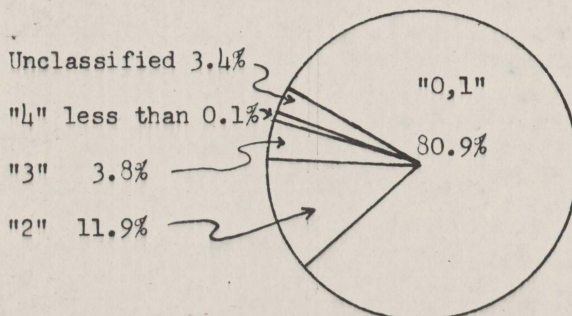
- I - Very good land; level, well drained.  
No special problems.
- II - Good land; some erosion or other hazards.  
Cultivated safely with simple precautions.
- III - Moderately good land; requires special precautions for continued cultivation.
- IV - Fairly good land; use occasionally for cultivated crops if handled with extreme care.
- V - Best suited for permanent pasture.
- VI - Land suited for permanent vegetation.  
Requires moderate precautions.
- VII - Land suited for permanent vegetation.  
Requires extreme precautions.

##### BY STEEPNESS OF SLOPE



| GROUP | SLOPE  | DESCRIPTION         |
|-------|--------|---------------------|
| A     | 0-1%   | Level               |
| B     | 2-4%   | Very gently sloping |
| C     | 5-8%   | Gently sloping      |
| D     | 9-13%  | Sloping             |
| E     | 14-17% | Strongly sloping    |
| F     | 18-24% | Steep               |
| G     | 25+%   | Very steep          |

##### BY DEGREE OF PAST EROSION



| GROUP | DESCRIPTION                                                                   |
|-------|-------------------------------------------------------------------------------|
| "0,1" | SLIGHT EROSION - more than 75% of original topsoil remaining.                 |
| "2"   | MODERATELY ERODED - from 25% to 75% of original topsoil remains               |
| "3"   | SEVERELY ERODED - less than 25% of original topsoil remains.<br>Some gullies. |
| "4"   | VERY SEVERELY ERODED - all of original topsoil removed over most of           |

Program and Work Plan  
of the

Delaware County Soil Conservation District  
(Revised 1963)

History of Organization

The Delaware county Soil Conservation District, located in the northeast part of the state of Iowa, was organized by the landowners of the county to enable farmers to make a coordinated effort toward the attainment of sound land use throughout the county and to accomplish the widespread use of farming practices which conserve the soil.

The Delaware county Soil Conservation District includes all of the area within the boundaries of Delaware county Iowa, exclusive of incorporated cities and towns. Delaware county is located in the third tier of counties south of the Minnesota state line, and is in the second tier of counties west of the Mississippi river. The area of the District is about 351,162 acres and contains around 2,036 farms.

The organization of the Soil Conservation District was recommended and carried out by the Delaware county Farm Bureau, Delaware county AAA, and other local organizations, and farmer leaders in the county.

A series of interest meetings were held in the county to which all farmers were invited to attend and discuss the erosion problems in Delaware county. The interest was high enough at these meetings to warrant putting out petitions, and three or more leaders in each township circulated these petitions, gathering a total of 583 names or 28% of the landowners signatures.

A hearing was held in Delaware county on August 3, 1944, and as a result of this hearing the State Soil Conservation Committee granted a referendum to be held September 2, 1944.

A total of 310 votes were cast, 287 being in favor of the organization of the District.

On September 29, 1944 the office of the Secretary of State certified that the Delaware county Soil Conservation District was duly organized as a governmental subdivision of the State of Iowa as a public body corporate and politic.

On September 21, 1944 a Memorandum of Understanding was completed with the Iowa Agricultural Extension Service whereby arrangements were made for the Extension Service to accept the responsibility for the information and education phases of the District program.

On February 19, 1945 a Memorandum of Understanding with the United States Department of Agriculture was approved, followed by a Supplemental Memorandum of Understanding with the Soil Conservation Service on September 24, 1945, establishing the policies and procedures whereby technical assistance would be made available to the District and through the District to cooperating farmers.

In 1947 a Memorandum of Understanding was completed with the State Conservation Commission providing for cooperation on problems with wildlife and/or recreational aspects.

## Conditions Within the District

### A. District Problem Areas

A revised problem area map of the District, along with a general description of the problems and soil conditions is included as a part of this District Program and Work Plan.

### B. Conservation Needs Information

An abstract of the report developed by the Delaware County Conservation Needs Committee is attached as a supplemental to and considered a part of this District Program.

### C. Community Problems

Soil conservation is a community problem. When land depreciates in value it becomes more difficult for it to contribute its share in the support of schools, roads, and local government. A well cared for farm becomes less valuable if the land around it declines. Uncontrolled runoff and silt from one farm may cause serious damage to other land located further down the drainage system. Erosion as well as low wet areas do not follow property lines. In many cases the drainage of wet land requires the cooperation of several farmers. The Delaware County Soil Conservation District offers an opportunity for all land owners and operators to work together rather than individually to protect their land and safeguard their future welfare.

## District Objectives

It will continue to be the objective of the District to encourage the use of each acre of land within its capabilities and the treatment of each acre according to its needs to assure its proper development and future productivity for the benefit of our own and succeeding generations.

The District will strive to make available to every farmer the facts and information which will enable him to plan the best possible use and management of his land, and to provide the necessary technical assistance for putting these plans into effect. The District will continue to encourage every farmer to recognize the true effects of soil losses, to study the practical methods which might be used to combat this menace, and to take action by adopting a good land use program along with suitable erosion control practices.

## Work Plan

In consideration of the problems and conditions existing within the District; in compliance with the agreements whereby assistance is made available to the District; and in the interest of discharging our responsibilities to further the District objectives in the most efficient manner with the resources available; we hereby establish or re-affirm the following policies and procedures:

### A. Administration

It will be the policy of the Commissioners to meet regularly each month to transact any business which may be necessary in carrying out the District Program and Work Plan. Special meetings may be called from time to time as the need arises. In-so-far as possible regular meetings will be held on the second

Thursday of each month - in the afternoon during the winter months and at night during the summer months. Farmers and others interested are invited and are welcome to attend any Commissioner's meeting.

Accurate records of all meetings, transactions and work accomplished will be maintained and a report made to the cooperating agencies and farmers of the District once a year. A report on the expenditures of State funds made available to the District will be submitted to the State Soil Conservation Committee as of June 30th and December 31st each year.

#### B. Education

The District Commissioners, working with cooperating groups will conduct a continuing educational program to acquaint farmers and others with present soil conditions, the extent and cause of erosion damage, proper land use, and the application of conservation practices.

Following organization the District signed a Memorandum of Understanding with Iowa State University, whereby the Extension Service would provide assistance with the educational phases of the District Program.

This educational need remains as a two-fold proposition, namely:

- (1) A continuing program of a general nature to acquaint the farmers of the District with the seriousness of the problems, the necessity of doing something about it, and the services available through their Soil Conservation District.
- (2) A more specific program to encourage the adoption of needed conservation practices such as contouring, strip cropping and terracing, that the farmers of the District are somewhat reluctant to use.

#### C. Recreation

The District recognizes recreation as an acceptable and suitable use for land in all capability classes. It is also recognized that development of income producing recreation enterprises on farms in the District represents a potential alternate use of land resources.

It is the policy of the District to obtain and provide to cooperators who are interested in possible recreational developments, such information and assistance as may be available through the Soil Conservation Service and other cooperating agencies and groups.

#### D. Rural Area Development

The District re-affirms its conviction that the economic well being of our community, now and in the future, is based upon the foundation of our soil, water and forest resources. The development and conservation of these resources is the justification for the existence and operation of our District. Therefore, it is the policy of the District to cooperate with any Rural Area Development Group that is organized within our community.

## E. Watersheds - Group Projects

In view of the situation that exists as previously outlined under "Community Problems" we re-emphasize the value of cooperation between landowners in solving a mutual conservation problem. Although at this time the existence of "watersheds" eligible for Federal assistance under current watershed legislation is not apparent, the situation will be periodically reviewed and watershed development encouraged where and when it appears the best solution to a community problem.

We feel that the watershed approach is often the logical and most economical procedure in solving mutual problems. We encourage this type of cooperation, utilizing existing programs such as ACP Pooling agreements, mutual drainage projects etc.

## F. Technical Assistance

Technical assistance is made available to the District by the USDA Soil Conservation Service and by limited funds allocated to the District by the Iowa State Soil Conservation Committee.

It is our responsibility to utilize this assistance in the most efficient manner so as to further progress toward our District objectives - striving to obtain a balanced program as indicated by the Conservation Needs study, and the ever changing conditions within the District. Therefore we have established the following procedures and priorities:

1. Any landowner or operator may request assistance by a signed application to the District and an indication of a desire to work toward the establishment of a complete conservation plan on his farm. There is no cost or obligation involved - except the moral obligation to do the best possible job of conservation farming.
2. Upon receipt of such requests, they will be reviewed in consultation with the SCS technicians and assigned priority as follows: considering the workload at the time of approval:
  - a. First priority - assistance to groups of two or more landowners with a mutual problem where the project is a part of complete plans developed on the individual farm.
  - b. Assistance in development of complete conservation plans and establishment of conservation practices where the main purpose of the plan and/or practices is for erosion control purposes.
  - c. Assistance with establishment of erosion control practices leading toward the development of a complete plan.
  - d. Assistance with plan development and application of practices where land improvement (such as drainage) is major assistance desired.
  - e. Consultation with landowners on planning and application of conservation practices.

3. Upon approval of a request and establishment of priority, the SCS is authorized to proceed to:
  - a. Schedule farm for Soil Conservation Survey and development of land capability maps.
  - b. Work with landowners - analyzing needs, determining alternatives, developing solutions to specific problems, and recording decisions as a conservation plan.
  - c. Assist with the design and lay out of conservation practices and application of the plan.
  - d. Assist with additions and changes in the plan as necessary in light of changing conditions, new developments, etc.
4. Commissioners will, periodically, review completed conservation plans (or upon request of technicians) to re-establish or re-adjust priorities for assistance in application of planned practices.

#### G. Research and Observation Studies

Problems arising which require extensive study and research will be presented to the SCS Research Needs Committee and to the Iowa State College Experiment Station for consideration.

Observations will be made on a continuing basis to determine the effectiveness of different conservation measures in use on farms and recommend changes or improvements when necessary.

Field trials and demonstration areas will be established to determine the applicability of new planting materials and new techniques as the opportunity arises.

#### H. Cooperation

The District will continue to solicit the cooperation of all agencies, groups and individuals who are in a position to lend support to the cause of soil and water conservation. Specifically, we will strive to work with the following as outlined below:

##### 1. ASCS Committee

Assist in formulating the local ACP program to obtain the most efficient use of available funds and technical help and to encourage the emphasis of practices in relation to Conservation Needs.

Encourage District cooperators to utilize assistance available through the ACP program to accelerate establishment of their conservation plans.

Encourage ACP participants to utilize the services available through their Soil Conservation District.

2. Delaware County Extension Council

Encourage the council to recognize the importance of a strong continuing information and education program as related to Soil and Water conservation.

3. Board of Supervisors, County Engineer, and Iowa State Highway Commissioners

Encourage cooperation of these groups and individual landowners in installation of drop inlets, grade stabilization structures, road grade drainage crossings, etc.

We will also remind our farmers that the soil eroded from their fields creates a costly maintenance problem on the roads and highways in the District.

4. F. H. A.

Encourage District Cooperators to investigate the possibilities of FHA Soil and Water loans to accelerate the application of their conservation plans.

Encourage FHA to acquaint all clients with service available through the District and emphasize the importance of soil conservation practices.

5. Contractors

The availability of well trained, conscientious earth moving and drainage contractors is becoming increasingly important each year. We will encourage all contractors to equip themselves to perform high quality work and to assume greater responsibilities for design and layout of conservation practices.

6. County Conservation Board - State Conservation Commission

We will continue to cooperate with these groups whenever the opportunity arises. We recognize the inter-relationship between soil and water conservation and recreational/wildlife developments.

We will rely on the services of the State Forester for assistance with our Forestry problems

7. School Officials and Teachers, 4-H Club Leaders, Boy Scout Leaders

We recognize the necessity of establishing an understanding on the part of our young people of the importance of natural resource conservation. We will cooperate with these groups in encouraging the study of conservation in our schools and in 4-H, FFA and Scout projects.

8. Other Groups and Individuals

We will welcome and solicit the support - moral and financial - of all civic groups, business establishments and individuals who feel they have a stake in the future of our community - and in the development and conservation of the resources upon which it is based.

Delaware County Soil Conservation District

By Ronald Eiley  
Chairman, District Governing Body

Date April 11 1963

The signing of this revised District Program and Work Plan was authorized by a resolution of the District Governing Body adopted at a meeting held on April 11 1963

