

P R O G R A M

of the

DAVIS COUNTY SOIL CONSERVATION DISTRICT

BLOOMFIELD, IOWA

January 1945

DAVIS COUNTY
SOIL CONSERVATION DISTRICT
PROGRAM

I. PURPOSE OF THE DISTRICT

The Davis County Soil Conservation District was organized by a vote of the land owners of the county in order to provide for conservation and efficient use of the soil of the district. These landowners believe that through district organization the efforts of interested individuals and groups will be more effective in accomplishing this purpose.

This brief outline of soil erosion problems, causes, and a statement of the long-time objectives of the district, has been prepared by the commissioners in the hope that the program will serve

- A. To better inform the people of the county of land use and erosion control problems.
- B. To secure cooperation and help coordinate the efforts of all individuals and groups interested in these problems.

The commissioners have received assistance in the preparation of this program from representative farmers, AAA, FSA, Extension Service, Soil Conservation Service and other groups and individuals.

II. LOCATION AND EXTENT OF THE DISTRICT

The Davis County Soil Conservation District includes all of the land in Davis County Iowa, not located within the limits of incorporated towns and villages. The approximate area of the district is 301,313 acres. There are twelve complete civil townships and four fractional townships in the county. Davis County is located in the southeast part of Iowa; being in the first tier of counties north of the state of Missouri and the third county west of the Mississippi River.

III. A BRIEF HISTORY OF THE COUNTY

Davis County at one time belonged to the original counties of Des Moines and Van Buren. It was established with its present boundaries in 1844 and was named for Garret Davis, A Kentucky statesman. In the same year a site was selected for the county-seat and named Bloomfield. At the time the county-seat was selected there were large fields of wild flowers in bloom, and the county-seat was therefore named Bloomfield. Another town in the county is Drakesville, named for John Adams Drake, original owner of the

town site and a relative of Sir Francis Drake. This town was located on the old Alexander Trail; the main highway of travel from the Mississippi River to Council Bluffs in the pioneer days.

IV. DEVELOPMENT OF AGRICULTURE IN THE DISTRICT

Agriculture has been the chief industry since the first settlements were made approximately 100 years ago. Early agriculture consisted of raising sufficient livestock, grains, gardens and fruit to supply home needs. Most of the land was occupied by 1870 and commercial agriculture dates from that time. The production of cultivated crops of corn and grain for livestock feeding and market has taken place during the last 75 years. The type of farming followed in the county was general livestock and grain. Cropping practices which have been followed on much of the land has resulted in a serious depletion of the soil both by erosion losses and by the depletion of organic matter and fertility. This problem of soil depletion has been recognized by several organizations and individuals in recent years.

The Farm Security Supervisor recognized the need outlined above, and working with his clients and with the public in general, has done much to demonstrate good soil conservation practices in the county. This group was also quite active in setting up the Soil Conservation District organization.

The conservation practice program of the AAA has been a big factor in securing the general adoption of good soil conservation practices. This program has made considerable progress under the leadership of the county committee and the community committeemen. They were quite active in circulating petitions and working toward district development.

A number of demonstrations were established in the county by T.V.A. These demonstrations included good rotations and use of fertilizers; particularly phosphate. This work did much to create interest in the use of phosphate fertilizers, and probably encouraged the use of alfalfa as a hay crop.

The Farm Bureau is one of the oldest organizations in the county interested in the soil management problem. They initiated the action which lead to the formation of a district in the county.

V. PROBLEM AREAS OF THE DISTRICT

In a territory the size of the Davis County Soil Conservation District, considerable variations in conditions and problems are usually present. In order to be able to more particularly describe the different conditions and problems, we have recognized a number of different conditions. Nine distinct problem

areas have been recognized and will be briefly described. (Refer to attached map.) These areas have been defined on the basis of topography, soil type, erosion and soil management problems. As the Work Plan is developed and recommendations prepared, reference will be made to the attached map. A brief description of each of these problem areas follows:

Problem Area #1

Problem area number one includes the rough and steeply rolling land on either side of Soap and Chequest Creeks. The area extends entirely across the north side of the district. This land is moderately to steeply rolling and consists of long badly broken slopes. The area was entirely timbered at one time. The soils consist of Lindley loam, with a few narrow ridges of Weller and Marion silt loams. The fertility of these soil types is naturally low. It has been further depleted by cropping and erosion. Most of the good timber has been cut off this land and much of the land was cropped for a few years after it was cleared. However, very little of the land is cropped at the present time. Most of the area is now producing low grade pasture or has grown up to brush. Much of this area could be made into productive pasture and meadow if properly treated and managed. Erosion control and soil fertility are both problems to be considered in developing this land for pasture and hay production. It is probable that the rougher and more eroded part of this area should be devoted to the production of woodland products; under either private or public ownership. Land use recommendations and practices which improve the productions of meadow, pasture and woodlands are definitely a major part of the conservation program in this problem area.

Problem Area #2

Because of the importance of the area and the seriousness of the problems, the bottom land adjacent to Soap Creek has been included as a separate problem area and been given special considerations in this discussion. Major soil types found in this bottom are Wabash, Calhoun and Sharon silt loams. Except for the Calhoun, these soil types are quite productive; the Wabash silt loam being the more productive. Calhoun silt loam is a very poorly drained second bottom soil and is generally quite low in fertility. It is usually beneficial to increase its organic manure content through the use of barnyard manure and the plowing under of green manure crops. It is probably not subject to overflow, but hill water is usually a problem.

PROBLEM AREA MAP OF DAVIS COUNTY

R15W

R14W

R13W

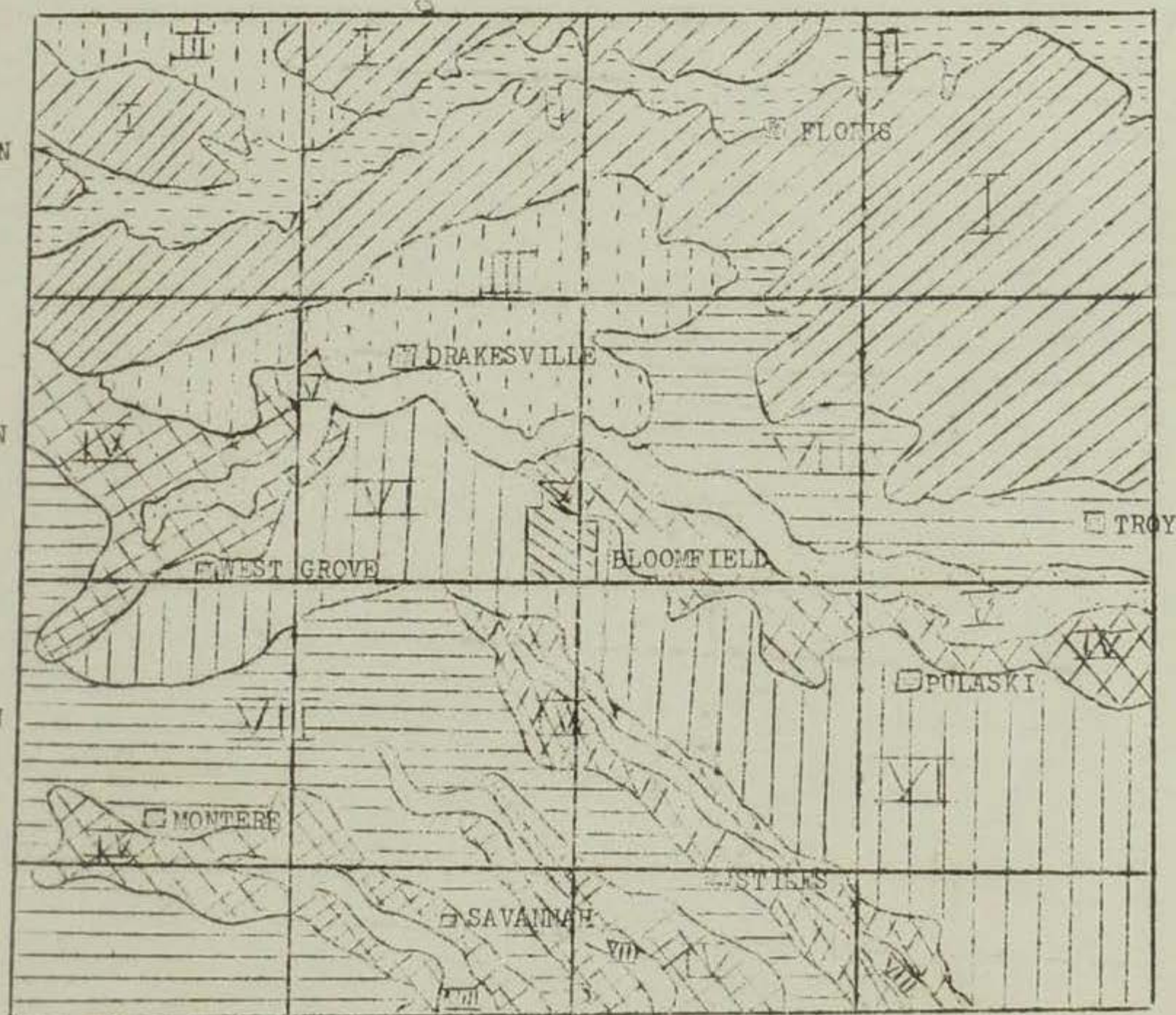
R12W

T70N

T69N

T68N

T67N



LEGEND

PROBLEM AREA NUMBER I



PROBLEM AREA NUMBER V



PROBLEM AREA NUMBER II



PROBLEM AREA NUMBER VI



PROBLEM AREA NUMBER III



PROBLEM AREA NUMBER VII



PROBLEM AREA NUMBER IV



PROBLEM AREA NUMBER VIII



Wabash and Sharon silt loams are very subject to frequent overflow except for a short section in the northeast part of the county which has been straightened. Need for protection from overflow is the problem of first importance in this bottom. There is also need for some small lateral drains and for diversions to protect the bottom from hillwater.

Erosion is not serious except as the subsoil from adjacent eroded land is washed down and deposited on the productive bottom land. From a soil management standpoint, there is need to build up the organic content of these soils; particularly in the case of Sharon silt loam.

Production from overflow, drainage, diversion of hillwater, and the maintenance of organic matter, will be given consideration when recommendations are developed for this land.

Problem Area #3

There is an extensive prairie lying between Soap Creek and Fox River. The topography of this tract consists of broad flat ridges bounded by moderate slopes. The soil types consist of Grundy and Edina silt loam on the ridges and Shelby silt loam on the slopes. This entire area is quite productive and is generally suitable for the production of all kinds of crops. Sheet erosion is a serious problem on the sloping land of this prairie and in some instances gully erosion is causing damage. There are some hillside seeps and waterways which are in need of additional drainage. There is need for soil building and conservation practices here, if the productivity is to remain at a high level.

Problem Area #4

The rough and broken upland immediately adjacent to the Fox and Wyacondah Rivers, and the Fabius and Carter Creeks have been included in this tract. The soil types consist of Lindley and Weller silt loams. This land was originally timbered; however, it has been estimated that less than twenty percent of the area remains in timber. The balance of the land has been cleared and is now largely in pasture; with limited acreage in cropland. A livestock system of farming has been followed. In general this area has been well managed and protected from serious erosion. Much of the pastureland would respond to soil treatments and reseeding. This is very good pasture land and some of the better ridges would produce good grain crops if adequately protected from erosion and if properly managed in a good rotation. The major need here, is for pasture treatment and management

on the grass land; and for legumes, soil treatments and erosion control on a limited amount of cropland.

Problem Area #5

The soils along the Fox River-bottom consist of Wabash silt loam and Wabash clay loam. The clay loam is commonly known as Gumbo, and is very productive. The Fox River has been straightened the greater part of the distance across the county and flooding from the river is no longer an important problem. The dredged channel is being obstructed by willows near the east side of the district, and is filling up with silt. If provision is not made for the removal of the willows and for other maintenance work, it is only a question of time until the effectiveness of this drainage ditch is destroyed.

Crops are damaged frequently by hill-water which runs down and damages crops; leaving a deposit of low quality soil over the good bottom land. There is need for protection from this type of damage. As is frequently the case with bottom land, this soil is being cropped quite heavily and there is need for a cropping system and soil treatments, which will maintain the tilth and fertility of this soil.

Problem Area #6

Included in this tract is a broad area of land extending across the county from the west to the southeast corner. In general, the land is quite level consisting of very broad ridges of Edina bounded by Grundy silt loam, which breaks into gentle slopes of Shelby silt loam. As implied by the soil types, this entire tract was originally covered by prairie. This is the most productive of the upland soils of the district.

Sheet erosion is a very minor problem on the Edina and Grundy types, however, it is important on the Shelby silt loams.

Drainage is quite slow in the Edina and Grundy soils. This is true both of surface drainage and underdrainage.

Very little tile has been used in this county. The general belief being that tile was not very effective in these impervious soil types. This conclusion is probably correct when the tile is spaced at the usual interval which is used in the county. There is need for more information on the use of tile and on tile spacing in these soil types.

An increased use of sweet clover to penetrate the heavy subsoil and also to increase the organic matter of this soil, will do much to improve the drainage of this area.

Problem Area #7

We have three tracts of land in this area which might be described as being the rolling to rough prairie land. The soil types consist of a small amount of Edina silt loam and a larger portion of Grundy and Shelby silt loams. This differs from #6 in that the ridges are narrow and the topography is more rolling. Drainage is much better, particularly surface drainage. The land is moderately to highly productive and erosion is frequently a serious problem. There is need for improved cropping practices including better rotations, soil treatments and erosion control practices.

Problem Area #8

Included in this problem area are the bottom lands of Fabius and Carter Creeks and of the Wyacondah River. The channels of the Fabius and of Wyacondah has been straightened and flooding is not an important problem along these two streams. The channel of Carter Creek has not been straightened and is inadequate. Overflow is very frequent along this creek. Control of hill water would benefit the land along all of these streams. The soil type along each of these streams consists largely of Wabash silt loam and if protected from flooding and properly drained, it is quite productive. The increased use of soil treatments and better management practices are needed.

VI OTHER PROBLEMS RELATED TO SOIL CONSERVATION

Facilities for the Production and Distribution of Agricultural Limestone

The people of Davis County have used a considerable amount of limestone during recent years. However, much of this limestone has been secured from producers outside of the county. In recent months the supply has been entirely inadequate and at no time has the supply been more than a fraction of what will be required to provide for the initial application on crop and pasture land if this land is to be treated within a reasonable period of time and if, thereafter, maintenance requirements are to be met. If the needed production is to be attained, many additional facilities for crushing of limestone should be developed

within the district and additional facilities for transportation and spreading should be provided.

Land Tenure

It is recognized that there are many tenants who are interested in conservation of the soil; likewise, there are some farm owners who are wasteful in the management of their soil. It is not right to condemn either the land owners or the tenants as a group, for poor soil management. However, we believe that any rental system which is based upon one year leases provides very little incentive for the adoption of soil building or soil conservation practices on either the part of the owner or tenant.

An important problem directly concerning soil conservation is that of land tenure. The agricultural census for 1935 showed that 43% of the tenants in Davis County had only been on the farm one year, or less than one year. This condition is not conducive to long-time planning, good soil management, or even the basic practices of good farming. We believe, from the standpoint of soil and water management, an improved lease arrangement should be encouraged, which would tend to extend the period of tenure and give the tenant credit for unused soil building practices if it became necessary for him to move. This would also give the land owners assurance of a definite follow-through on soil conservation practices.

Need for Education in Soil Conservation

A large portion of the people living in the district, are not aware of the seriousness of erosion problems. Before substantial progress can be made in securing conservation in this district, it will be necessary to inform all people, both urban and rural, regarding the extent and significance of conservation problems, and of effective and feasible solutions to these problems.

An effective educational program will lead to a desire sufficient to start action on the part of farm owners and operators in the establishment of measures which will conserve their soil.

Long-Time Objectives

The commissioners of the Davis County Soil Conservation District expect, over a term of years, to strive for the development of a balanced agriculture in which each acre of land is making the maximum contribution to the support of

rural and urban population of the district; consistent with the maintenance and improvement of the agricultural resources of the area. In carrying out this objective the following general practices and policies will be followed:

1. Land use adjustments will be recommended which provide for the use of the soil within the limits of its various capabilities.
2. It is recommended that wet land be drained where such drainage is economically sound and feasible.
3. A soil building program will be advocated which provides for the replacement of organic matter and plant food elements lost by erosion, or depleted by cropping.
4. Every effort will be made to reduce soil loss by erosion, through extensive use of effective conservation measures.
5. The District will support and lend assistance to flood control measures where a study of the situation shows that such measures are economically sound and the undertaking is feasible.

The Commissioners of the Davis County Soil Conservation District believe that the attainment of the above objectives will result in the elimination of serious soil losses, the building up of soil fertility, an increase in the average farm income and a more permanent agriculture for the district.

This program will be revised as experience indicates such revision is required.

DAVIS COUNTY SOIL CONSERVATION DISTRICT

BY

P. W. Spilman
Chairman, District Governing Body

January 13, 1945
(Date)

The signing of this program was authorized by a resolution of the Davis County Soil Conservation Commissioners, adopted at a meeting held on January 13, 1945.
(Date)

Dale Blackwell
Secretary, District Governing Body

