

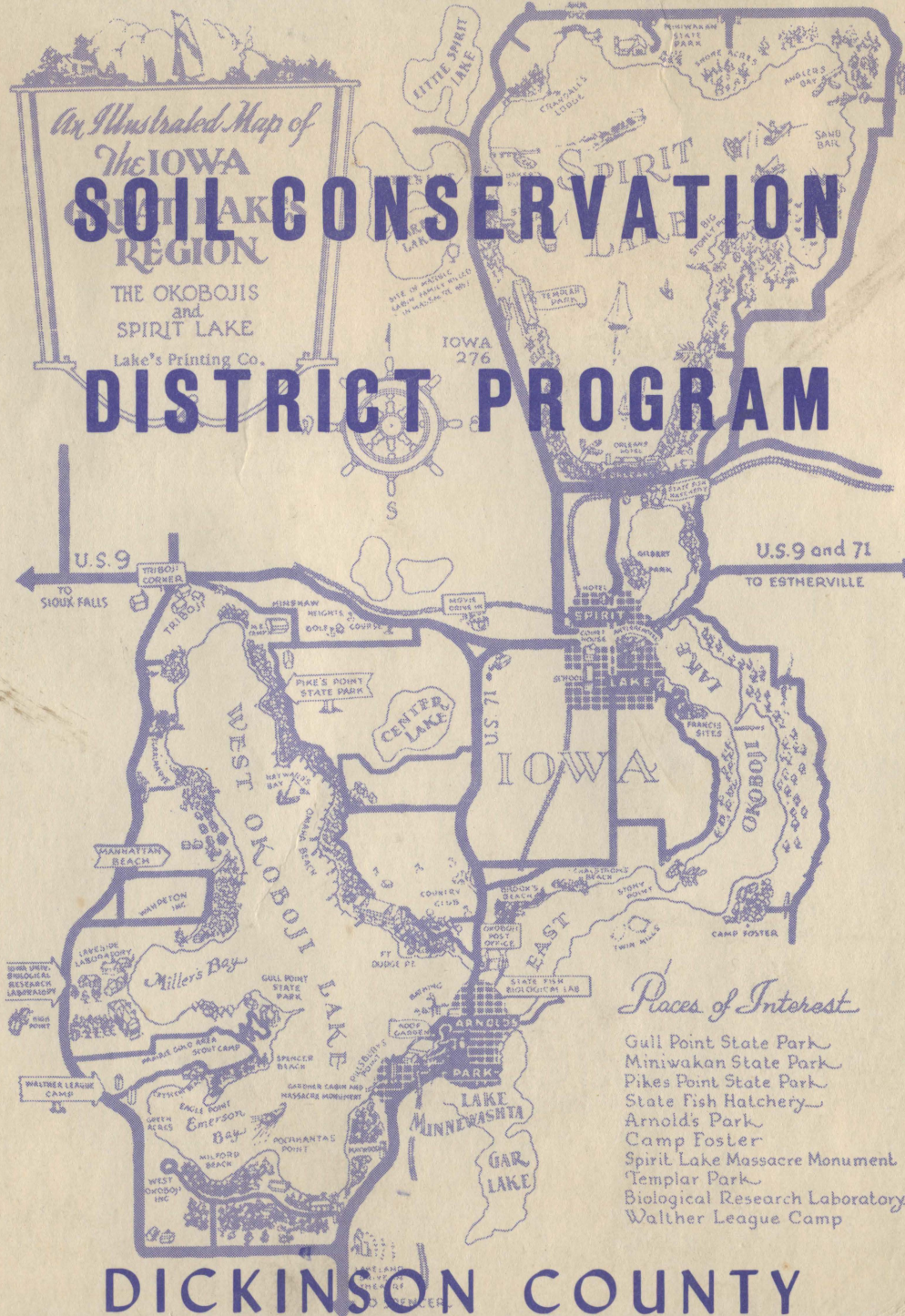


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PREFACE

The long-range program is significant to the district, the SCS and other cooperating agencies.

The purpose of this plan is to identify - not only the present needs for the conservation and development of Dickinson County's natural resources, but for the foreseeable future also. The plan outlines the needs and furnishes a guide for the district, SCS and others to plan ahead for the kind and amount of help that will be needed.

This long-range plan, once formulated and adopted, should be a live, active document. It needs to be referred to periodically and kept current. It should be a guide for subsequent annual work plans.

The demands on our natural resources are ever increasing. Our geometrically increasing population is placing more and more stress on a static supply of natural resources, especially soil and water. It is with this thought in mind that this document is revised and published. We, the Dickinson County Soil Conservation District Commissioners, accept the challenge of helping to provide a quality environment that every American may enjoy.

Commissioners:

Ernest Skow, Chairman

Claire Champine

Robert C. Ingwersen

Andrew Hoffman

Charles Shorey

James Yungclas, Assistant Commissioner

Robert Fitzpatrick, Assistant Commissioner

BACKGROUND

Dickinson County is located in northwest Iowa in the north tier of counties, three counties from the west border. It is bordered on the north by the state of Minnesota, on the west by Osceola County, on the south by Clay County, and on the east by Emmet County. This is also the boundary of the Soil Conservation District.

The county is drained by the Iowa Great Lakes and the Little Sioux River with a small portion of the northeast section of the county draining to the Des Moines River.

The soils of Dickinson County are heavy textured of glacial origin. About 20,000 acres in the southwest corner are wind deposited, loessial soils. The topography is typically glaciated-rolling and irregular with many depressions or "potholes."

Dickinson County is known as the playground of Iowa because of the Great Lakes. These lakes, consisting primarily of East and West Okoboji and Big Spirit Lake, are important to the county. They cover about 11,000 acres of the total land area in the county. All water sports, fishing, swimming and boating, as well as related outdoor sports, are popular in the lakes area. From an economic standpoint, the lakes area is next to agriculture as a source of income to Dickinson County residents.

Corn is the major crop grown in the county. Soybeans are next in importance as a cash crop. Oats and alfalfa-brome are also important as rotation crops. Cattle and hogs comprise most of the livestock enterprises. The following statistics will give some indication of the changes Dickinson County agriculture has made during a recent 10 year period.

STATISTICS CONCERNING DICKINSON COUNTY AGRICULTURE TAKEN FROM ASSESSORS FARM CENSUS

Year	No. of farms	Avg. size of farms (acres)	Percent owned by Operator	Corn yield bu./ac.	Soy-bean yield bu./ac.	All hay (acres)	Total pasture (acres)	Beef cows over 2 yrs.	Dairy cows over 2 yrs.	Sows farrowing	Grain fed cattle marketed
1962	1040	224	35.9	64.7	23.3	19,940	33,122	4,232	4,216	13,146	19,347
1972	754	229	40.9	90.2	29.2	12,094	23,832	6,659	1,734	11,022	31,241

HISTORY AND ORGANIZATION

In 1937, the Soil Conservation Districts' Law was passed. This law is based on the principle that local land owners and operators should take the initiative and responsibility in directing conservation programs aimed at solving soil and water problems.

The Soil Conservation Districts are not agencies of any federal department. They are legally constituted units of state government created to administer soil and water conservation work within their boundaries. Each district is self-governed. It has authority to enter into working agreements with other agencies and private concerns to carry out its purposes.

Each district has a conservation program to fit its local problems. It uses a combination of federal, state and local services to put its own program into effect on individual farms or other landowners.

The authority to organize Soil Conservation Districts was granted by the Iowa State Legislature in 1939. Dickinson County was organized as a district February 4, 1944. It was the 41st district to be so organized in the state. Three commissioners were elected.

At the present time, the Dickinson County Soil Conservation District has five elected commissioners and one appointed assistant commissioner. Commissioners are elected for six year terms on a staggered basis. Every other year, two are elected. Every third year, one is elected. The commissioners serve without pay and are reimbursed only for their actual expenses.

PURPOSE AND OBJECTIVES

The proper management and use of our natural resources is not only important, it is vital to the very life of this nation. Our two most important resources are soil and water. Every effort should be made by federal, state, and local organizations to preserve and use wisely these resources on which our very existence depends.

We, the commissioners of the Dickinson County Soil Conservation District, set forth the following comprehensive long range objectives:

AGRICULTURE

1. Urge landowners and decision makers to use the technical assistance offered by the USDA Soil Conservation Service to solve their soil and water use problems.
2. Enter into enough cooperative agreements each year to meet planning goals. These agreements will result in a conservation plan based on the needs of the landowner, cost-sharing available and capabilities of the land.
3. Meet as necessary with the Soil Conservation Service or other federal, state and local agencies and groups to encourage good land use policies, with top priority going to the Iowa Great Lakes Watershed.
4. Cooperate fully with the Iowa State Soil Conservation Committee in establishing priorities and cost-share policies. The district will also carry out their responsibilities as set forth in the Iowa Conservancy District Law.

WATER

1. Give top priority to soil and water conservation practices or pollution control measures within the Iowa Great Lakes Watershed.
2. Encourage the elimination of all types of water pollution within the district. This would include feedlots, erosion, urban storm sewers and sewage.
3. Promote a program of sound land use and treatment for the protection of existing water areas.

SOILS

1. Encourage the earliest possible date for starting the Dickinson County Standard Soil Survey.
2. Urge all land users and decision makers to use soil surveys for proper land use planning. Farmers, planners, developers, utilities, industries and units of government will be assisted in the soil management problems.

RECREATION AND COMMUNITY DEVELOPMENT

1. Work with planning commission, groups and individuals for the earliest possible implementation of a county-wide land use policy based on a standard soil survey.
2. Make technical assistance available to planners, developers, home owners and local units of government. This assistance includes help with erosion and sediment control ordinances as well as the plans for such erosion control for new construction sites.
3. Encourage and assist with the development of outdoor recreational facilities to meet present and future needs.
4. Work with federal, state and local agencies and organizations in helping to preserve and improve the water quality of Iowa's Great Lakes.



- GRASSLAND

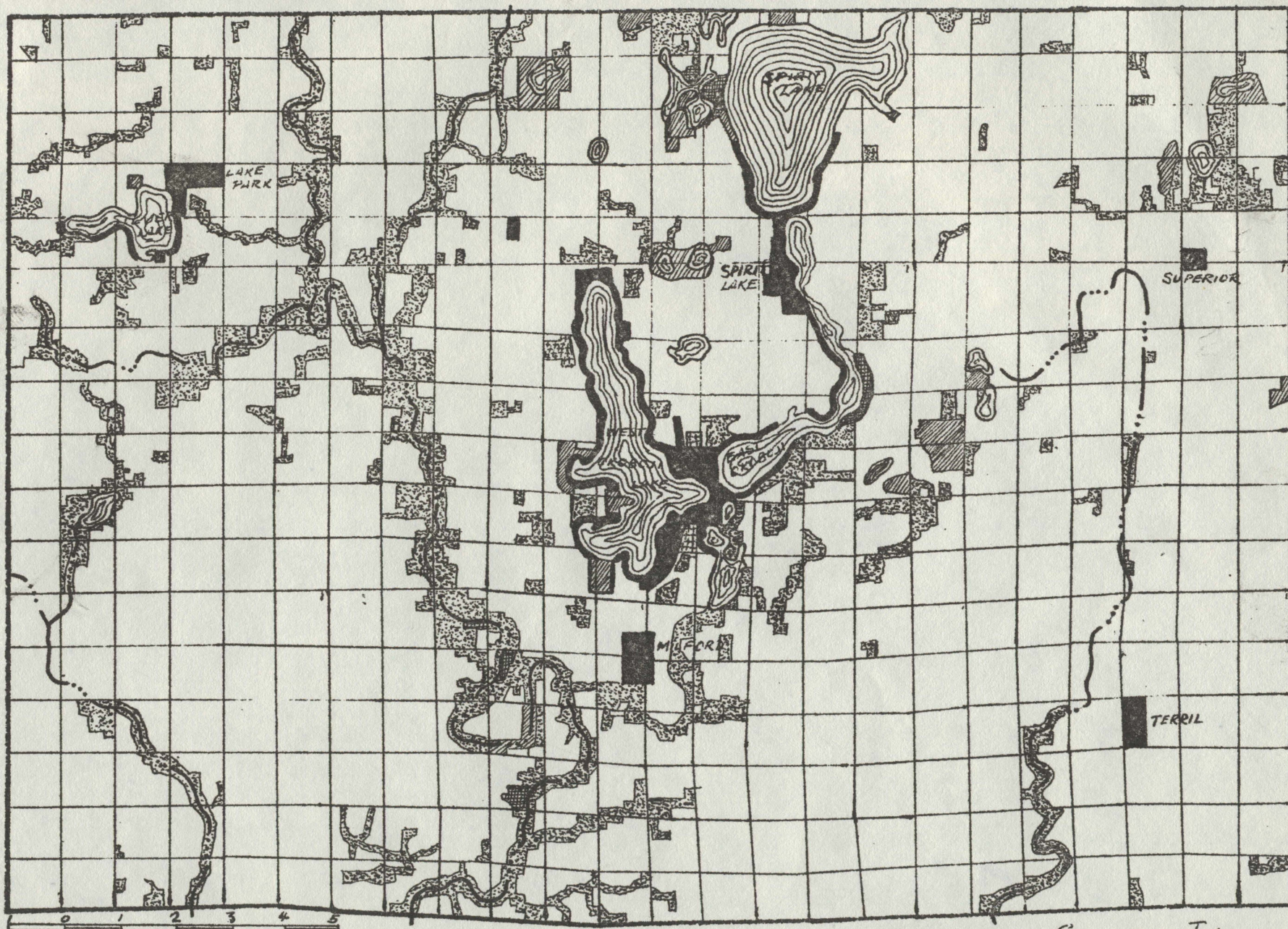


- URBAN

... DRAINAGE



- WILDLIFE AND
PUBLIC RECREATION



SCALE IN MILES

FEDERAL, STATE AND LOCAL ASSISTANCE

The district operates under the supervision of the State Soil Conservation Committee of the state of Iowa. Operational funds are provided from appropriations of the State Legislature through the Department of Soil Conservation. A full time district clerk is provided to the Dickinson County Soil Conservation District. Technical aides can also be made available to the district if warranted by the work load.

By memorandum of understanding between the district, the Soil Conservation Service and the Department of Agriculture, the Soil Conservation Service furnishes technical personnel especially trained in soil and water resource conservation to assist the district. This staff of personnel consists of a District Conservationist and a technician. Other conservationists and aides are to be made available, if needed.

A close working relationship is maintained between the district and the Agricultural Stabilization and Conservation Service, the Extension Service, the Farmers Home Administration, the Dickinson County Board of Supervisors and other organizations and agencies.

Technical assistance in forestry and wildlife habitat development and management is received from the Conservation Officer, Wildlife Biologist and District Forester, provided by the State Conservation Commission.

POLICIES

It shall be the policy of the district to provide technical and other assistance to all interested individuals and groups as far as the district's facilities will permit. Conservation of our natural resources is no longer considered a farm, ranch or rural matter. The problem is both urban and rural. It is society's concern.

Planning assistance shall be provided for farms, ranches, woodlands, wildlife habitat, recreation, industrial and housing developments, waste disposal and recycling systems, feedlot runoff control systems and other projects involving the use and conservation of natural resources.

It is only natural that work priorities be set to accomplish goals. The district has decided that the following conservation practices will be given priority in the order given:

1. Conservation tillage
2. Pollution control measures
3. Terraces
4. Erosion control structures
5. Grassed waterways
6. Other practices such as ponds, windbreaks, drainage, etc.

The district will enter into agreements with landowners and operators who request assistance in developing and carrying out conservation plans on their lands.

The district will promote multi-purpose and group projects designed to benefit the greatest number of people or the public as a whole. This would include the watershed approach to solving group problems, whether they be presently organized or future watersheds, including P.L. 566.

The district will cooperate with, develop and publicize any program of cost sharing assistance available to cooperators. This will include federal RECP, state cost sharing or any local assistance available.

The district program will be reviewed every two years and revised if necessary. An annual plan of operations will be prepared. The activities specified in the APO will be coordinated with federal, state and local policies to make the most practical use of available personnel and resources.

The regular meeting date of the district commissioners will be the fourth Thursday of the month, with special meetings called as deemed necessary.

The district will prepare an annual report of its accomplishments, activities and expenditures. This report will be submitted to the State Committee.

Current Memorandums of Understanding are with: United States Department of Agriculture; Soil Conservation Service; Extension Service (ISU); State Soil Conservation Committee; and State Conservation Commission of Iowa.

WATER RESOURCES

Dickinson County, more than any other county in the state, is blessed with an ample supply of clean, fresh water for domestic and recreational use. Iowa's Great Lakes are located here. The presence of these lakes draw thousands of tourists to the county each year, contributing greatly to the economy of the area.

Dickinson County contains three large lakes, Big Spirit Lake, West Okoboji and East Okoboji. These are the largest bodies of water, covering about 11,500 acres. The only other lake with economic value is Silver Lake, near Lake Park. All these lakes have considerable value for year around fishing, all water sports, camping, picnicing and snowmobiling.

There are about 17 other smaller lakes in the county ranging from 20 to 375 acres in size. All are rather shallow - from three to ten feet deep. They are state owned, for the most part, and are utilized almost exclusively as migratory waterfowl areas. Some fishing is done in these smaller lakes, but since all are subject to winter freezeout, it does limit this sport. These smaller, shallow lakes in Dickinson County cover about 2,600 acres.

The Little Sioux River traverses the county from north to south through Diamond Lake, Lakeville and Okoboji Townships. The west fork of the Little Sioux River enters the county in Silver Lake Township, runs south about six miles before emptying into the Little Sioux River.

Muddy Creek has its beginning in Richland Township to the eastern side of Dickinson County and traverses in a southerly direction, making its exit into Clay County at the southeast corner of Lloyd Township.



LEGEND TO SOIL ASSOCIATION MAP

-  Galva, Primghar, Sac Association - 9,480 acres - Well drained to poorly drained, moderately fine textured, nearly level to moderately sloping soils developed from moderately deep and shallow calcareous loess.
-  Marcus, Afton, Primghar Association - 13,230 acres - Poorly drained and somewhat poorly drained, moderately fine textured, undulating (2-5%) soils developed from moderately deep to shallow calcareous loess.
-  Marcus, Afton, Primghar Association - 11,520 acres - Nearly level (0-2%) soils developed from moderately deep to shallow calcareous loess.
-  Wadena, Cylinder, Biscay Association - 10,490 acres - Well drained to poorly drained, medium and moderately fine textured, undulating (2-5%) terrace and outwash soils, shallow to moderately deep to sand and gravel.
-  Webster, Clarion, Nicollet, Okoboji Association - 21,230 acres - Well drained to poorly drained, medium and moderately fine textured, level to undulating (0-5%) soils developed from glacial drift. Area characterized by ponded spots and high lime areas.
-  Clarion, Nicollet, Webster Association - 100,850 acres - Well drained to poorly drained, medium to moderately fine textured, undulating and gently rolling (2-9%) soils developed from glacial drift.
-  Clarion, Storden, Okoboji Association - 64,140 acres - Well drained, medium textured, gently rolling and rolling (5-14%) soils developed from glacial drift. Includes poorly drained depressions and small bottoms.
-  Webster, Nicollet, Okoboji Association - 12,000 acres - Well drained to poorly drained, medium to moderately fine textured, level to nearly level (0-2%) soils developed from glacial drift.
-  Clarion, Storden Association - 1,500 acres - Well drained, medium textured, rolling and hilly (9-24%) soils developed from glacial drift.

SOIL RESOURCES

A comprehensive soil survey is tentatively scheduled for Dickinson County in 1975. The only soils information available currently is from conservation survey mapping or old soil survey reports. From the information at hand, the soil association map has been compiled.

This soil association map gives information about soils only in a general manner. There may be several different soils in an association that vary greatly in slope, drainage or stoniness. The soil associations show only the main three or four soils in them as they appear in a particular pattern. A soil association map would be useful to anyone desiring large areas suitable for a certain broad land use.

Each soil, as it is named in the various associations, is described briefly below:

Webster - The Webster series consists of dark colored poorly drained soils which occur on nearly level landscapes of North Central Iowa. Webster soils developed from glacial till or sediments under prairie grass vegetation. These soils are naturally poorly drained and require artificial drainage for crop production.

The surface layer is a black, gritty silty clay loam about 20 inches thick. The subsoil is a gray to olive gray, friable to firm loam to clay loam. The substratum is a grayish brown to olive gray friable loam which is generally calcareous at depths ranging from 24 to 40 inches.

Webster soils are well suited to row crops if drained.

Nicollet - The Nicollet series consists of dark colored somewhat poorly drained loamy soils. They developed in glacial till under the influence of prairie grass vegetation. They occur between the well-drained Clarion soils and the poorly drained Webster soils on the upland landscape of North Central Iowa. They typically occur on slopes of 1 to 3 percent.

The surface layer is a very dark brown to black loam or clay loam which is 14 inches thick. The subsoil is a friable loam to clay loam which is dark grayish brown in color. The substratum is a grayish brown and olive brown loam. It is typically calcareous at 2½ to 3 feet. Some sand lenses or pockets are in the substratum.

Some of the Nicollet soils which border the low-lying Webster soils may need tile drainage for the best production of corn, soybeans and alfalfa. Nicollet soils are well suited to row crops.

Clarion - The Clarion series consists of dark colored, well drained loamy soils. They have developed in calcareous glacial till under prairie vegetation. Clarion soils typically occur on convex slopes in gently undulating to rolling uplands.

The surface layer, about 10 to 14 inches thick, is very dark brown loam. On sloping sites erosion has removed some of the surface layer in many places. The subsoil is typically brown to yellowish brown friable loam or light clay loam. The substratum is yellowish brown loam that is usually calcareous at a depth of about 2½ to 3 feet. Small sand or gravel pockets are fairly common in the substratum.

Clarion soils are suited to cultivated crops but require management practices which will control erosion. Short, irregular slopes complicates the layout of certain conservation practices such as terraces in many areas.

Storden - The Storden series consists of well-drained, moderately dark colored loamy soils. They occur in slopes of 9 to 40 percent, often in association with the Clarion soils. Native vegetation was prairie grasses.

The surface layer is a very dark grayish brown, calcareous loam, 7 to 10 inches thick, that frequently is partly or completely removed by erosion. Calcareous, brown to light yellowish brown, loam glacial till underlies the thin surface layer. Occasional stones or boulders and sand or gravel pockets are in the till.

Most of the Storden soils have a severe erosion hazard when cultivated. Short, irregular slopes complicate the task of providing adequate erosion control in many places. Gently sloping to moderately steep, or very steep, Storden soils are suited to cultivation except for some of those that are severely eroded. Steep soils are suited to pasture.

Marcus - The Marcus series consists of dark colored, poorly drained silty soils. They have developed to loess. They occur on 0 to 2 percent slopes in slightly concave positions at the heads of upland draws and on broad upland flats. The native vegetation was prairie grasses and sedges.

Galva - The Galva series consist of dark colored well drained silty soils. They have developed in loess under prairie vegetation. They occur on upland slopes of about 1 to 14 percent.

The surface layer is black or very dark brown, silty clay loam and is about 12 inches thick unless eroded. The subsoil which extends to about 36 to 48 inches is a friable, brown, silty clay loam. The substratum is typically a calcareous, yellowish brown heavy silt loam.

Galva soils are used for cultivated crops with only a small portion used for pasture. Erosion control practices are needed.

Afton - The Afton series consists of dark colored, poorly drained soils. They occur on nearly level upland drainageways which are concave in shape. Slopes seldom exceed 2%. The Afton soils formed in loess and local alluvium. The native vegetation was prairie grasses and sedges.

The Afton soils have a black heavy silty clay loam surface layer about 26 inches thick, and a dark gray to olive gray friable silty clay loam subsoil that extends to a depth of about 4 feet. The substratum is typically mottled, gray or olive gray clay loam.

Where artificial drainage has not been provided many areas of Afton are utilized for pasture and grassed waterways. Where artificial drainage has been provided these soils are used for cultivated crops.

Wadena (Moderately Deep) - The Wadena soils are divided into moderately deep and deep phases. The Wadena, moderately deep soils, are dark colored, somewhat excessively drained, medium textured soils with calcareous sands and gravels at 24 to 30 inches. They are developed in loamy alluvium that is underlain by sand and gravel. The native vegetation was prairie grasses. They occur mainly on stream terraces and outwash plains.

They have a very dark brown surface layer about 12 inches thick and a dark brown or brown friable loam subsoil. There is usually a few inches of sandy loam in the lower part of the subsoil. The brown to yellowish brown or grayish brown loose sand and gravel is below.

These soils are commonly nearly level to gently sloping and are well suited to row crops. Sloping areas are subject to erosion. Slopes are generally short and irregular. These soils are somewhat droughty, and unless rainfall is very timely and above normal, lack of moisture commonly restricts yields.

Biscay (Moderately Deep) - The Biscay soils are divided into moderately deep and deep phases. The Biscay, moderately deep, soils are dark colored, poorly drained, loamy soils with calcareous sand and gravel at a depth of 24 to 32 inches. They developed in loamy alluvium which is underlain by sand and gravel. The native vegetation was prairie grasses, and sedges. They occur on stream terraces and on glacial outwash plains.

The Biscay, moderately deep, soils have a black clay loam surface layer about 18 inches thick, and a dark gray to olive gray clay loam and heavy loam, friable subsoil. The substratum present at 32 to 40 inches is mottled grayish, calcareous sands and gravels.

Although these soils are poorly drained, they are slightly droughty in dry seasons. If adequately drained they are suited to row crops.

Cylinder (Moderately Deep) - The Cylinder series is divided into moderately deep and deep phases. The Cylinder, moderately deep soils are dark colored, somewhat poorly drained, loamy soils overlying calcareous sands and gravels at 24 to 32 inches in depth. They have developed in loam alluvium and glacial sediments that are underlain by the sand and gravel. The native vegetation was prairie grasses. These soils generally occur on stream terraces and glacial outwash plains.

These soils have a black to very dark gray loam surface layer about 14 inches thick; a dark grayish brown, friable loam subsoil; and grayish brown calcareous sands and gravels at a depth of 24 to 32 inches. In the early spring the water table may be within 2 to 4 feet of the surface, causing slight wetness, but by mid-summer these soils are somewhat droughty if rainfall is not adequate.

These soils are seldom artificially drained. They are well suited to row crops.

Okoboji - The dark colored Okoboji soils occur in suacer-like depressions or sloughs in the uplands. They are usually surrounded by Harps, Canisteo and Webster soils. Okoboji soils formed in local alluvium or waterworked glacial sediments under conditions of very poor drainage. The native vegetation consisted of marsh grasses and sedges.

The Okoboji soils have black surface layers about 32 inches thick. They are silt loam or silty clay loam in the upper part and silty clay loam in the lower part. The subsoil, which extends to about 40 to 60 inches, is very dary gray to olive gray silty clay loam to silty clay. The substratum is typically dark gray to light gray silty clay loam, but strata of loam, silt loam, or other textures occur.

Artificial drainage is needed if these soils are to be cropped. Row crops are sometimes drowned out in years of high rainfall.

THE WORLD OF CHANGE

As concepts, methods and technology change, we must change also or be left behind. The basic idea of conservation of our natural resources has not changed, however. Only the methods of achieving goals differ.

Three decades ago, when many Soil Conservation Districts were being organized in Iowa, farming methods were much different than now. Four, six and even eight row equipment has replaced the old two row methods. Soybeans have entered the cash grain program to supplement corn. Agriculture has suddenly evolved from a commodity surplus to an era of shortages. This, of course, directly affects conservation. Soil conserving hay and small grain crops are no longer as desirable as the higher priced row crops of corn and soybeans in a rotation.

The motto, PRODUCE MORE - PROTECT MORE! is now prevalent. Farmers are now being asked to bring several million additional acres of "set aside" acres into full crop production to meet the increased demands for agricultural commodities. Some of these additional acres are going to be, of course, marginal lands so care will have to be taken to protect these acres from the ravages of soil erosion.

But, there are those, including the SCD commissioners, who believe that soils and other agricultural resources need not be sacrificed for expanded food production. As land is being more extensively farmed, it must also be more extensively protected. Yields are better and farming expenses are less with conservation practices. Conservation tillage (minimum tillage) is a good example. Fuel costs can be drastically cut and soil losses held well within limits by less tillage operations and leaving crop residues on the soil surface.

One factor affecting conservation and conservation practices is funding. Erosion and pollution control measures are much more attractive to land owners and other decision makers when adequate cost sharing is available. Iowa is fortunate to have both federal and state funds available for erosion control practices. There is even a long term agreement available to enable a farmer to make wise land use decisions over a number of years. He is assured that cost-share funds will be available to him during the term of the contract. Funding of this type is conducive to getting conservation on the land through long range planning.

The recreation picture in Dickinson County will also change in the future. The population is growing much faster than the supply of water for recreation. The quality of water will decline as more and more people use it. Along with the influx of people comes greater pollution potential. There is an increase in sewage and solid wastes, more land is taken for paving and parking lots and more construction in the lakes area means more erosion and siltation in the lakes proper.

These and many more problems will need to be solved in the future. Many decisions will have to be made concerning water and land use policies.

STATEMENT OF ADOPTION

We, the Commissioners of the Dickinson County
Soil Conservation District, adopt this program
on the 22nd day of Aug. 1974.

Ernest H. Skow
Chairman

STATEMENT OF APPROVAL

This long-range program of the Dickinson County Soil
Conservation District was reviewed and approved by
the Iowa Department of Soil Conservation on the
16th day of Sept. 1974.

William H. Greiner
Director

