

**WORK HERE WILL SAVE
MILLIONS FOR FARMERS**

The new \$16 million federal animal disease laboratory, nearing completion at Ames, will be operating this summer. Heart of the layout is the cluster of large buildings left of the water tower. Buildings in foreground are for animals in isolation. See Page 2 for a picture identifying the main buildings, and a brief article about this big step in the fight on costly animal diseases.

Picture by Staff Photographer Bob Long

**The Watershed Program
Proves Its Worth** PAGE 12

Some Ideas on Corn Growing PAGE 5
How She Dreaded March First! PAGE 31

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Upper photo shows soybeans choked with weeds. Lower photo shows healthy soybeans growing freely after treatment with ALANAP, the pre-emergence weed killer.



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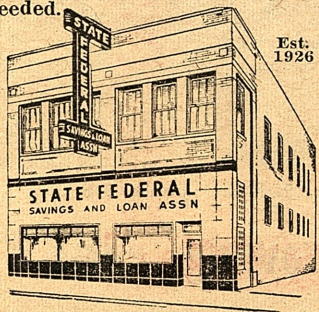
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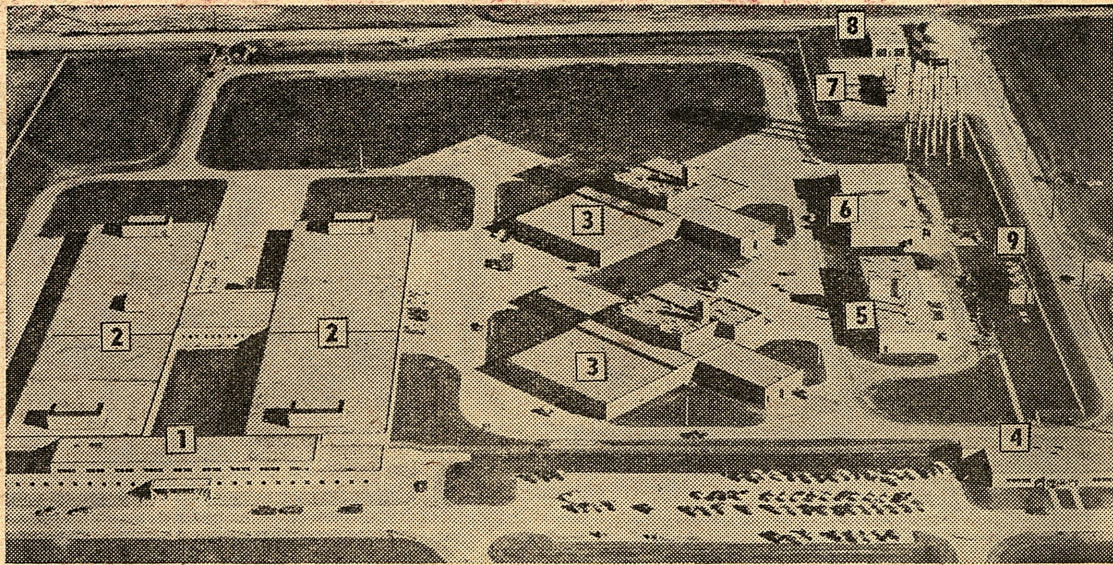
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WHAT'S GOING ON IN AGRICULTURE?

Mar. 12-13—Independent Grain Warehousemen, Des Moines.
Mar. 13-18—Brown Swiss canton meetings.
Mar. 13—Creston Hereford sale, Creston.
Mar. 13—Des Moines River Valley Angus sale, Webster City.
Mar. 13-14—American Sheep Producers Council, Denver, Colo.
Mar. 13-16—National Farmers Union, Washington, D. C.
Mar. 14—Agricultural chemicals short course, I. S. U., Ames.
Mar. 14-15—Tri-State draft horse sale, Cedar Rapids.
Mar. 15—Marion County Angus sale, Knoxville.
Mar. 15-16—Agricultural Credit Clinic, I. S. U., Ames.
Mar. 16—Eastern Iowa Angus sale, Davenport.
Mar. 16—Southwest Iowa Shorthorn show and sale, Red Oak.
Mar. 17—Des Moines Co-operative Dairy Ass'n., Des Moines.
Mar. 17—Io-Ne-Mo Polled Hereford show, sale, Clarinda.
Mar. 18—Iowa State Holstein sale, Waterloo.
Mar. 18—Hawkeye Downs Shorthorn show, sale, Cedar Rapids.
Mar. 18—Ft. Dodge Spring Market Hog Show, Ft. Dodge.
Mar. 20—Northeast Iowa Angus sale, Waukon.
Mar. 20—Iowa State Hampshire sale, Cedar Rapids.
Mar. 20—Interstate Shorthorn show, sale, Sioux City.
Mar. 21—Hawkeye Angus sale, Cedar Rapids.
Mar. 23—Southeast Iowa Hereford show, sale, Mt. Pleasant.
Mar. 23—Quality Blacks Angus sale, Davenport.
Mar. 23-25—Iowa Future Homemakers of America, Des Moines.
Mar. 24-25—Iowa Home Economics Association, Mason City.

Mar. 25—Iowa State Guernsey sale, Waterloo.
Mar. 27—Ames Angus Association sale, Nevada.
Mar. 28-29—Dairy Industry Conference, I. S. U., Ames.
Apr. 1—Northeast Iowa Hereford sale, Postville.
Apr. 4—Family Life Conference, Ames.
Apr. 9-15—Iowa Spring Clean-Up Week.
Apr. 10-12—Poultry and Egg National Board, Chicago, Ill.
Apr. 10-13—Iowa Milk and Cream Dealers Ass'n., Des Moines.
Apr. 10-15—D. H. I. A. training course, I. S. U., Ames.
Apr. 11-12—South Central Iowa Angus sale, Oskaloosa.
Apr. 13-15—Iowa F. F. A. convention, Council Bluffs.
Apr. 15—Southeast Iowa Angus show, sale, Mt. Pleasant.
Apr. 17—Iowa Southern Angus sale, Osceola.
Apr. 17-19—National Watershed Congress, Tucson, Ariz.
Apr. 18—Warren County Angus sale, Indianola.
Apr. 18-20—National Farm Safety Institute, Hot Springs, Ark.
Apr. 19—Poweshiek County Angus sale (night), Grinnell.
Apr. 20-21—Iowa-Minnesota-Wisconsin Shorthorn sale, Decorah.
Apr. 20-21—Polled Shorthorn Congress, Sioux Falls, S. D.
Apr. 20-21—Southeast Iowa Polled Hereford show, sale, Oskaloosa.
Apr. 22—Warren County Hereford sale, Indianola.
Apr. 22-28—National 4-H Conference, Washington, D. C.
Apr. 29—Central State Shorthorn sale, Oskaloosa.
Apr. 29—Minnesota-Iowa-Wisconsin Hereford sale, Decorah.



This photo of the federal animal disease laboratory near Ames shows these main buildings: (1) Administration building, (2) small animal laboratories, (3) large animal labs, (4) change house, (5) powerhouse, (6) waste treatment, (7) incinerator, (8) decontamination area, (9) cooling tower.

ALL OF THE government's research work aimed at eradicating the diseases that cause annual losses of \$2 billion in livestock soon will be carried on at the federal animal disease laboratory, now being completed at a cost of about \$16 million, northeast of Ames.

The laboratory, made up of 35 low, rambling buildings, many of which are quite small, is on a 318-acre tract. Research work will be done on diseases of cattle, swine and poultry, some sheep and horses.

Elaborate precautions have been taken in the design of buildings and equipment to prevent escape of any disease from the laboratory.

One building, for instance, has 100 shower baths for workers moving from one area to another. This is the small animal laboratory which has 32 separate laboratories with different ventilation systems and separate sewage systems. All sewage leaving any laboratory will be decontaminated and tested before being released into sewage lines.

fore being released into sewage lines.

The laboratory will have the most modern equipment available and some of it is quite expensive. One item is a \$40,000 electron microscope. Another is a super-centrifuge that spins on an air cushion because no bearings could be designed that would stand up under the terrific friction created.

THE FIRST GROUP of scientists, 50 of them, will arrive in June from Beltsville, Md., and other parts of the country.

Dr. William A. Hagan, former dean of the veterinary college at Cornell University, Ithaca, N. Y., who has been named director of the laboratory, has been busy recruiting more scientists for the staff of 125 researchers. In addition there will be another 350 employees.

Dr. Alfred Edward, animal quarantine officer, already is at work locating sources of supply of animals that will be needed for the laboratory. Any animal entering the laboratory must leave through an incinerator.

THE COVER STORY



EDITORS

Glenn Cunningham

Lawrence O. Hutchison

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Mendell

It's Vital--for Iowa and the Nation

By Frank H. Mendell
State Conservationist
U. S. Soil Conservation Service

IT IS IMPOSSIBLE to over-stress the importance of conserving Iowa's soil and water. These resources are vital not only to Iowa itself but to the nation as a whole. Iowa has one-fifth of the nation's Grade A agricultural land. Iowa sends to market more beef and more pork than any other state as well as a sizable portion of the coun-

try's milk, poultry, and eggs.

Considering Iowa's food potential and the nature of the state's terrain, there are, in my opinion, few other states where the nation might stand to profit more by the adoption of complete, state-wide soil and water conservation practices.

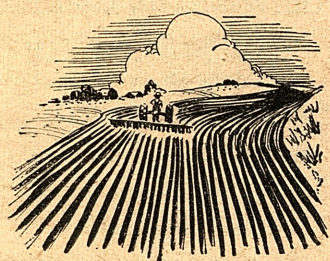
And while a year like 1960 in Iowa proves the value of such programs where there is heavy rainfall—by keeping our soil from washing away and by reducing flood damage—the value in a dry year is demonstrated perhaps just as dramatically by the conservation of water, making good crop yields possible even under near-drought conditions.

der near-drought conditions.

Farmers are the first to benefit from conservation and management of water on the land which results in increased per-acre yields.

From a somewhat broader view—the nation's impending water crisis—the need for water conservation and water management also is vital. Rapid expansion of measures to conserve and manage water is very essential to meet our present and future water needs.

A recent *RESOURCES FOR THE FUTURE* report, financed by the Ford Foundation, estimates that by 1980, the nation will be using twice the amount of water it needed in 1954, and triple the amount by the year 2000.—The Editors.



How Iowa's Multi-Million-Dollar Watershed Program Is Paying Off

THEY BOAST that every drop of water that fell last spring in the Harmony creek watershed in Harrison county "stayed right where it fell."

This boast could be repeated in any watershed project in Iowa, and what makes it remarkable is that 1960 was one of the toughest test years in the history of the state's watershed program.

The year was a severe test both of soil conservation practices themselves—land treatment—and of the water-control structure program. The reason is that there was a tremendous accumulation of snow last winter which was followed by downpours of rain in the spring that challenged every terrace dam and waterway.

So when you compare the Harmony creek boast with what happened to water in rolling areas where no conservation practices were being

followed, the statement has its points.

A WATERSHED is any land area all of which drains into one main stream, and in many an Iowa watershed where runoff water still is uncontrolled, the tremendous volume of rain last spring raged down the slopes and tore away uncounted tons of rich soil.

Although a watershed program is authorized on a flood control basis, flood control actually is a big by-product—a result—of soil and water conservation practices applied on individual farms in the watershed.

"We could not have flood control in these watersheds without land treatment," says Frank Mendell, state conservationist for the U. S. soil conservation service (SCS).

"Soil conservation district commissioners look upon the flood control act as a source of help in planning and carry-

ing out the major objectives of the district—saving the topsoil and conserving water for maximum use.

"When farmers in a watershed area sit down together to review their problems and discuss what should be done to provide an effective program for their watershed, they soon recognize that dams and water-control structures alone will solve only a part of their problem.

"Land treatment measures—including crop rotations, terraces, grassed waterways and so on—not only are needed to tie down the soil and conserve the raindrop where it falls, but also will contribute to flood control. Thus, land treatment and water-control structures where needed are essential to a complete program.

"A watershed program has been compared to blocks in a quilt. The watershed, like the quilt, is completed only when

By B. G. Thrailkill

the blocks are all fitted together to form the whole."

THE SCS recognizes that it takes from 300 to 400 years for nature, working alone, to produce an inch of topsoil, and that over the years we have lost a great deal of it—all of it in some areas.

It is this topsoil, rich in organic matter, that produces our crops, and the SCS knows that anything that can be done to slow down the water and make it soak into the ground will help conserve both the soil and the water.

"Contouring alone," Mendell emphasizes, "increases corn yields 10 per cent, or 6 to 7 bushels per acre, and reduces soil losses 50 per cent. And it doesn't cost anything extra to contour."

There are other measures, too, such as strip cropping and terracing. Strip cropping will reduce soil losses 75 per cent, and terraces on areas needing them, will reduce soil losses 90 per cent.

Strip cropping is no more costly than contouring, but terracing does cost more because heavy machinery has to be used in constructing terraces. This cost, about \$12 to \$14 an acre, can be met in part through a government cost-sharing arrangement.

THE SOIL AND CROP BENEFITS of a watershed program are not as readily measured as, say, the flood control benefits, which are obvious.

However, the degree of flood control achieved is in itself direct evidence of the level of soil benefits. For if there is little or no flooding after heavy rains, it is evident

that the water has been made to "stay where it fell," that it has been kept from eroding the soil seriously and has, in a large measure, soaked into the land to lift the moisture level of both the topsoil and the subsoil.

Soil conservation service personnel agree that 90 per cent of soil erosion damage is caused by only 5 to 10 per cent of the storms in any one year. These storms are of high intensity, such as a four-inch rain in one hour.

Where these extreme storms occurred last year the land treatment and structure program proved adequate.

"It even provided greater benefits than were anticipated when the program was planned," says Mendell. "It worked better—water was controlled more thoroughly—than we had expected."

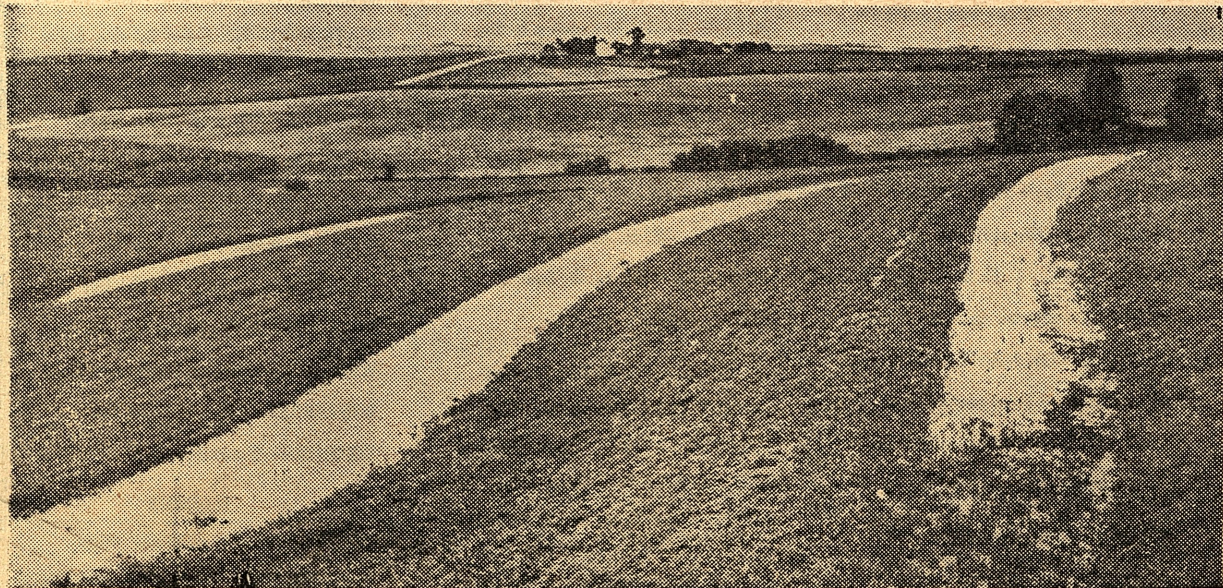
There are other benefits besides the primary ones of saving topsoil, preventing land destruction by gullies, conserving moisture and reducing the flooding of downstream farmland. Among these additional benefits are: Reduced flood damage to towns, with the consequent saving in lives and property; reduced damage to roads, bridges, culverts and railroads; less loss of livestock in floods.

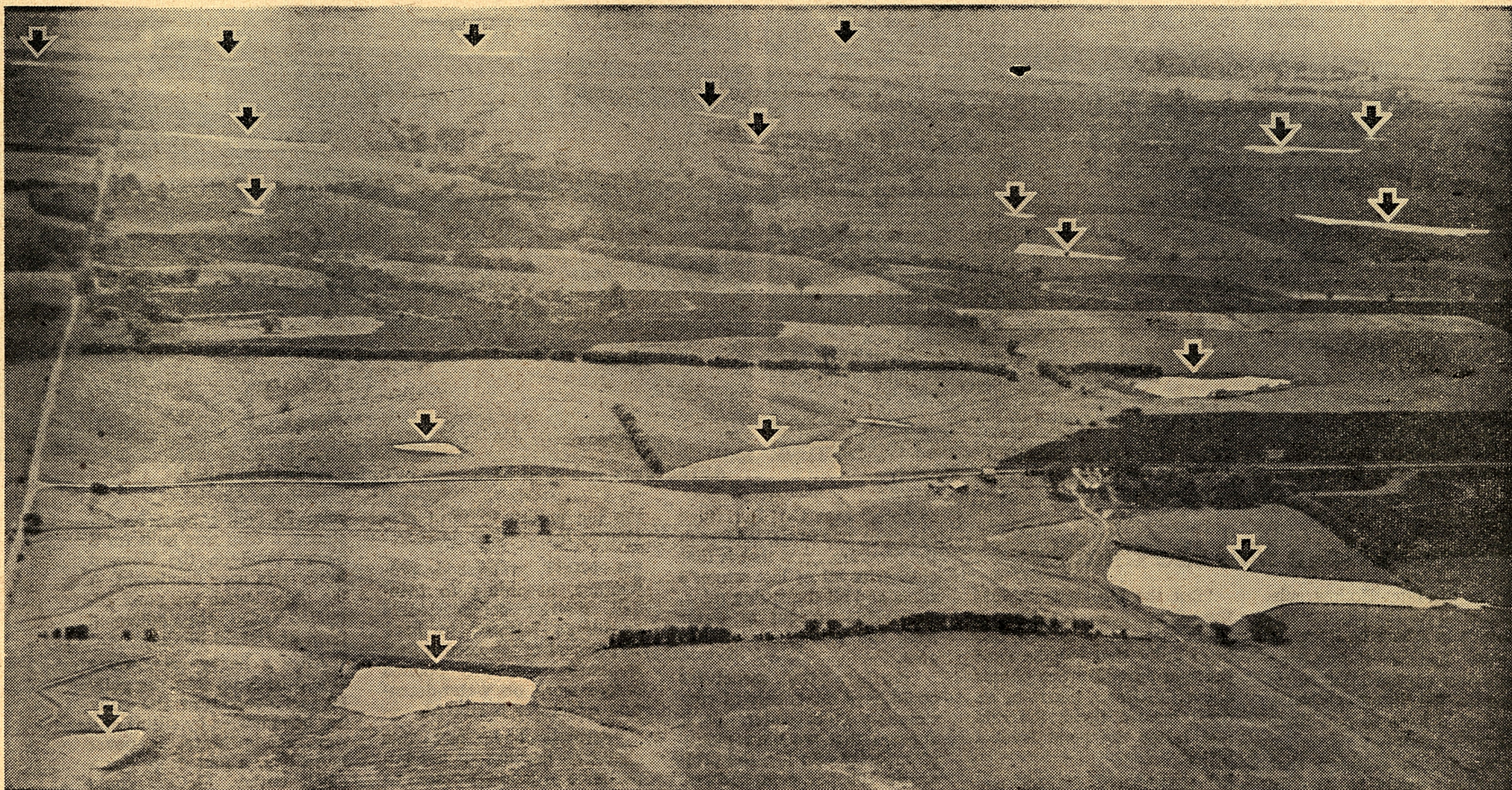
There are side benefits, too. One is increased wildlife preservation. Another is that ponds and lakes created by the program make prime recreation areas.

A LOOK at the over-all watershed program in Iowa and some of its achievements affords some measurement of its value.

Six watershed developments have been completed, seven more are in the construction stage, 10 are in the planning stage and 21 others have

How terraces hold water and prevent erosion. This photo was taken by Bill Robbins, Harlan, after a heavy rainstorm in Audubon county.





This aerial photo, taken by Staff Photographer Del Borer last June, shows at least 19 ponds and lakes (arrows) filled by the heavy spring

rains. These are in the Honey Creek watershed southeast of Russell in Lucas county. This was one of the first watershed projects in Iowa.

been approved by the state soil conservation committee.

The completed and under-construction projects cover 178,886 acres of land, affect 1,245 farms, and the federal construction cost totals \$4,411,617.

The largest watershed development in the state is not included in this list. It is the gigantic Little Sioux flood prevention project, involving 15 counties in northwest Iowa and extending on into Minnesota. The Little Sioux area covers 2,881,280 acres—4,502 square miles. It is a federal pilot program to test the validity of such large scale planning.

Of this area, 1,713,623 acres are eligible for flood prevention assistance. In the eligible area, 156 sub-watersheds have been organized locally and 38 of them have been com-

pleted at a federal cost of \$5,430,746. Land treatment such as terraces, waterways, contouring, etc., is being carried on in the entire area.

Work is planned far ahead, and construction continues each year as weather permits.

A GOOD EXAMPLE of what happens in a watershed in a tough test year is cited by George E. Lamp, Sioux City, project supervisor of the Little Sioux. He refers to the heavy snow accumulation in the first months of 1960 and the high-intensity rainstorms that followed in the spring.

"In the Wolf creek sub-watershed which has a drainage area of 119 square miles, and with 26 per cent of the area under watershed treatment, there was no flood problem from snow runoff," he says.

"But in the West Fork sub-

watershed with a drainage area of 418 square miles and only a small percentage of the area under treatment, the snow runoff caused a flood at Hornick.

"This was followed by a rain flood, and the entire town was covered with at least a foot of water."

Even more dramatic is what happened at the town of Anthon, which had been subject to floods. The entire business district and the soil conservation district co-operating with farmers in the area, went to work on a program of land treatment and flood prevention with the SCS doing the technical work. The project cost \$57,000.

Then in 1957, Anthon had a 7-inch rain, with 4 inches of it falling in the first 30 minutes—but there was no flood. Previously, a rain of these proportions would have

caused an estimated \$100,000 of damage to the town. And even in a big test year like 1960, Anthon had no flood.

FARM LAND VALUES increase when the threat of flooding is eased, and this fact is illustrated clearly by what happened in the Gallup sub-watershed on bottom land on the Little Sioux southeast of Smithland.

Before the watershed development, the owner of an 1,100-acre farm tried to sell it for \$85,000 but had no takers, because the land flooded. After the SCS put in water detention structures, there were no flood problems. The farm sold for \$120,000.

"We have had good working relationships with county boards of supervisors in bridge work and relocated roads," Lamp says, "as well as with the state highway

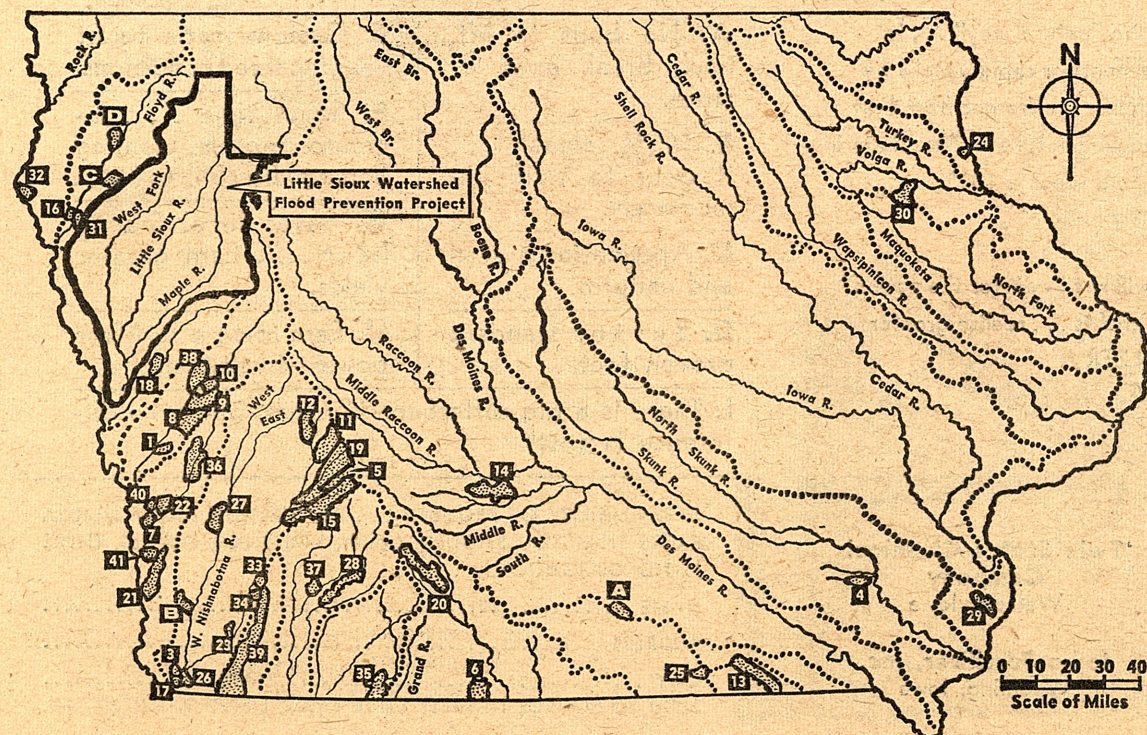
department and our farm co-operators.

"In many instances water detention structures with drop inlets have replaced bridges and provided dependable roadways. The Woodbury county board of supervisors used to buy four and five carloads of bridge lumber a year, but now they need only one carload a year."

Lamp estimates that in addition to improving soil fertility and increasing crop yields, the program has (1) reduced soil losses 75 to 90 per cent, (2) reduced land destruction by gully development 80 to 90 per cent, and (3) reduced flooding in small tributaries by 90 per cent.

ALFRED WEBER, who farms 240 acres near Hornick, is well pleased with the results of work on his farm

Continued



IOWA WATERSHED PROJECTS

COMPLETED PROJECTS

- A—Honey Creek (Lucas)
- B—Mule Creek (Mills)
- C—Upper Plymouth Creek (Plymouth)
- D—Nassau (Sioux)
- 1—Harmony Creek (Harrison)
- 3—Simpson Creek (Fremont)

CONSTRUCTION STAGE

- 4—Rocky Branch Creek (Jefferson)
- 5—Crooked Creek (Cass, Audubon, Guthrie)
- 8—Picayune Creek (Harrison, Shelby)
- 9—Mill Creek (Crawford, Shelby, Harrison)
- 10—Big Park (Crawford)
- 14—Badger Creek (Madison, Dallas, Warren)
- 17—Hamburg (Fremont)

PLANNING STAGE

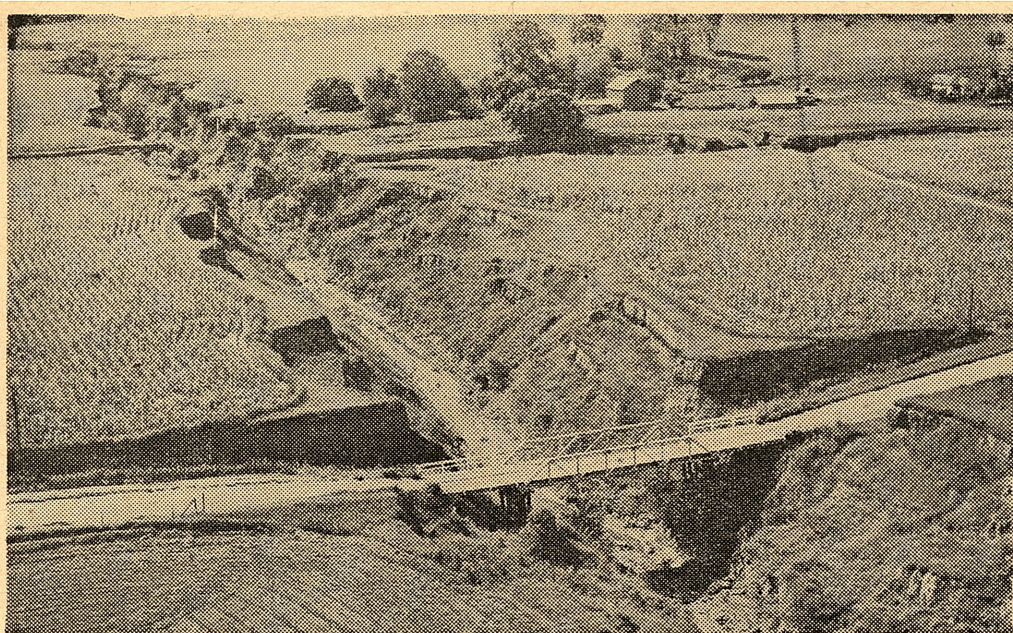
- 6—Big Creek (Decatur)
- 7—Indian Creek (West Pottawattamie)
- 11—Davids Creek (Audubon, Guthrie)
- 18—Davis-Battle Creek (Monona)
- 20—Three Mile Creek (Union, Adair)
- 21—Pony Creek (Mills, West Pottawattamie)
- 22—Ryan-Henschel (West Pottawattamie)
- 25—Moulton (Appanoose)

- 26—Hound Dog Creek (Fremont)

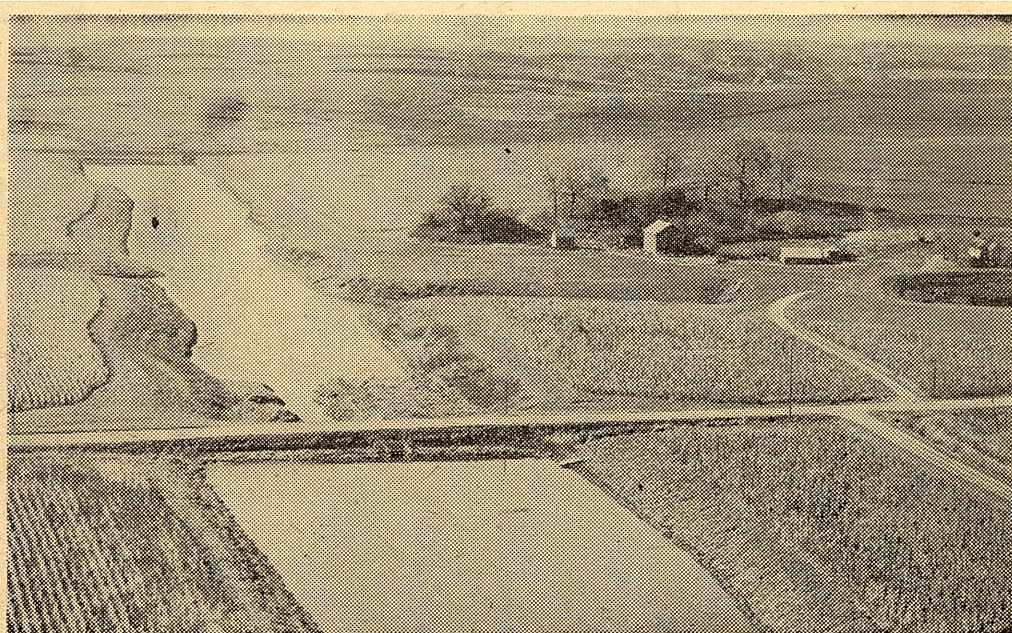
- 27—Bee Jay (East Pottawattamie)

APPLICATION APPROVED BY STATE COMMITTEE

- 12—Blue Grass Creek (Audubon)
- 13—Big Wyocondah (Davis)
- 15—Turkey Creek (Plymouth)
- 16—Held (Plymouth)
- 19—Troublesome Creek (Audubon, Cass, Guthrie)
- 23—Pierce Creek No. 1 (Page)
- 24—Clayton (Clayton)
- 28—Walters Creek (Adams)
- 29—Yellow Spring Creek (Des Moines)
- 30—Cox Creek (Clayton)
- 31—South Hungerford No. 2 (Plymouth)
- 32—Gant Creek (Plymouth)
- 33—Stennett Creek (Montgomery)
- 34—Red Oak Creek (Montgomery)
- 35—Blockton (Taylor)
- 36—Mosquito of Harrison (Harrison, Shelby)
- 37—West Douglas Creek (Adams)
- 38—Dane Ridge (Crawford)
- 39—West Tarkio (Page and Montgomery)
- 40—Simon Run (West Pottawattamie)
- 41—Twin Ponies (West Pottawattamie, Mills)



BEFORE work was done in the Lum Hollow subwatershed near Hornick.



AFTER dams with drop inlets were built, the erosion was halted.

Continued

'Farmers Have Met the Challenge'

and in the Lum Hollow subwatershed (of the Little Sioux project) in which he lives.

"We had a 45-foot-deep gully near our barn that cattle used to get into," he says, "and we'd have to pull them out with a tractor.

"We had a corncrib that was about ready to cave in at the edge of the gully and we had to move it.

"Now, we've got a 5-acre pond three-fourths of a mile long right in front of our farmstead. It's stocked with fish and I'm hoping that wild ducks will come in, too.

"But the big thing is that the dam now provides a county roadway across this huge gully that can be used the year around. (See photos above.) After a big rain, we don't have a flood; the rain just raises the pond level a little."

IN HARMONY CREEK watershed in Harrison county—which contains 3,100 acres and affects 24 farms—work has been completed at a federal cost of \$110,506. Landowners and tenants are well pleased with the results.

"There is one thing worthy

of note," says Carl Burbridge of Logan, one of the leaders in the program, "and that is that even with all of last winter's snow and all the spring rains, no sizable amount of water from the watershed left the area.

"Further, the structures could have taken care of considerably more water. So it appears that we have plenty of capacity. So far, the project is 100 per cent successful."

One of the big benefits in the Harmony watershed is the amount of land that has been made accessible for farming. The water-control dams provide roadways for farm machinery to be taken across

the big gullies to farm previously inaccessible acres.

IN MOST watershed programs, according to Mendell, district commissioners encourage farmers to have 70 per cent of the needed land treatment measures applied before work on water-detention structures is started.

"Farmers have met this challenge because of the importance of land treatment to the watershed program and because of the advantages that accrue to them as individuals," he says.

Even where there is no general watershed program, individual land treatment has brought some spectacular re-

sults. In Polk county, for instance, a dam was built for a 5-acre pond on the Howard Reno farm near Bondurant. A big gully above the pond extended onto the adjoining farm of Harold McClay.

After a heavy rain, water would back up into the gully 10 feet deep. Now the gully has been healed by silting and the back-up water is never more than a foot deep. For a small outlay, McClay could shape and smooth this gully area and seed it down, converting it to a grassed waterway which he could cross with farm machinery.

"You could have lost a semi-trailer in that gully a few years ago," says Reno.

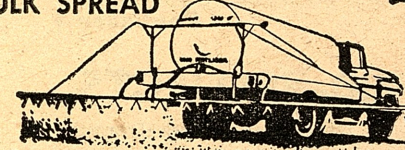


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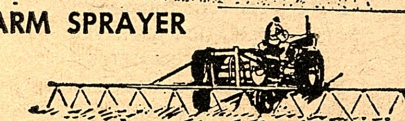
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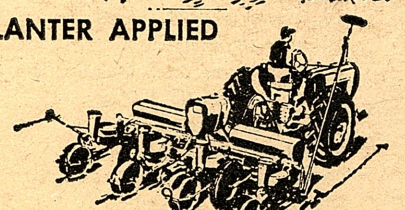
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