

DEVELOPMENT AND MANAGEMENT OF THE NEBRASKA COOPERATIVE SOIL SURVEY PROGRAM

First 50 Years

The early history of the leadership in the Nebraska State Soil Survey Program involved strong personalities, keen competition for resources and staff, and the desire to lead and personally excel. In 1891 Erwin H. Barbour became head professor of geology at the University of Nebraska. In 1893 the legislature decreed that the head professor of geology at the university would be the state geologist. Limited funds were made available. During 1901 and 1902, \$1,200 was made available from the legislature.

George E. Condra joined the university faculty in 1902. He became Nebraska's own Teddy Roosevelt, a highly visible advocate of resource conservation. The Conservation and Soil Survey unit of the University of Nebraska was formed in 1908. The State legislature first appropriated funds to the unit, totaling \$1,000, for soil surveys in 1909. By 1915, the appropriation for soil surveys increased to \$12,000, while appropriations for the geological survey headed by Barbour decreased to \$7,000. The legislative session of 1917 sounded the death knell for Barbour's geological survey. Condra's soil survey unit received \$25,000, double the amount granted during the previous session, while Barbour's geological survey unit received nothing. In 1919, the legislature expanded the duties of the Conservation and Soil Survey unit to include some geological work and thus put the final nails in the original geological survey's coffin. In 1921, the Conservation and Soil Survey was replaced by the more broadly based Conservation and Survey Division (CSD) under the leadership of Condra. He quickly learned how to get more money out of the legislature. Under Condra, the surveying of many natural resources, including the soil survey in Nebraska, became formal and systemic. Condra served as the director of the CSD for 33 years before stepping down in 1954.

In 1903, the soil survey for Stanton Area was the first soil survey published in Nebraska. This area in northeastern Nebraska included parts of four counties. It was prepared by the United States Department of Agriculture (USDA) – Federal Bureau of Soils in cooperation with the University of Nebraska.

An excellent and productive Federal-State soil survey program which existed from the early 1900's through the late 1930's, mapped and published soil surveys for 87 of Nebraska's 93 counties. All of these soil surveys were published using a very similar format. The soil maps were mainly one-inch per mile on colored, non-photographic base line maps, except for the soil survey for Cherry County, which was completed in the late 1930's but not published until after World War II. The Cherry County soil survey was published on a series of maps at a scale of 1:63,360. The soil surveys that were not completed were Grant, Arthur, Hooker, McPherson, Thomas, and Logan counties in the sandhills in central Nebraska. The soil maps in these early-

published soil surveys were accurate, but their scale and detail of information were not adequate for the eventual wide variety of uses needed by customers of soil survey information.

The United States Department of Agriculture, through several different organizational structures, led the field activities and was responsible for the correlation and publication process. The list of the published soil surveys, information about each soil survey, and the major soil scientists contributing to each survey during this era of very active soil survey work are given in the back part of this report.

Eugene C. Reed, the associate director under Condra, became the director of the Conservation and Survey Division in 1954. His tenure began a period of reorganization for the Federal part of the soil survey program.

There were two separate parts of the Federal Soil Survey Program in Nebraska from about the late 1930's to 1952. The Soil Conservation Service had soil scientists who did individual farm-to-farm request soil maps that were not part of the Federal publication series. During this period, the Bureau of Plant Industry, Soils, and Agriculture Engineering worked cooperatively with the Conservation and Survey Division in the soil survey program. World War II severely limited all soil survey activity in the state. The Soil Conservation Service, by request, continued mapping soil surveys on a limited basis, but the activity of the Bureau soils program was severely limited.

Second 50 Years

After 16 years, the U.S. Department of Agriculture combined the two separate Federal soils programs in 1952. The Secretary of Agriculture issued Memorandum No. 1310, which ordered that "all soil survey activities of the Department of Agriculture shall be conducted by the Soil Conservation Service," effective 15 November 1952. This order in effect combined all of the work of the Bureau of Plant Industry, Soils, and Agriculture Engineering and the Soil Conservation Service into one Federal soil survey unit responsible for Federal leadership of the National Cooperative Soil Survey. This included responsibility for correlation and publication of soil surveys. The merger of the two Federal agencies essentially began the second generation of soil surveys in Nebraska, or what was known locally as standard or modern soil surveys.

Management and Technical Leadership

Lloyd Mitchell, State Soil Scientist, SCS, and Eugene Reed, Director, CSD, provided the direction in starting the new modern soil survey program. During this period, SCS soil scientists did essentially all of the fieldwork leading to the publication of soil surveys. Party Leaders were established at strategic locations throughout the state. A few Party Leaders were able to have several soil scientists working on the soil survey party; however, many Party Leaders (later known as Project Leaders) had no additional help from other soil scientists. They were the Party Leader, mapper, and handyman and had to do some of everything required in conducting a soil survey.

Nance County was the first soil survey published in this new modern series of Nebraska soil surveys. It was previously almost all mapped by SCS using the National Code system in doing farm requested mapping for planning. Herb Kollmorgen, Soil Scientist, was assigned the task of reviewing this mapping, describing the representative series, preparing the correlation document, and preparing the manuscript for publication. Fieldwork for Nance County was completed in 1954.

From 1952 to 1971, the SCS state soil survey leadership consisted of Lloyd Mitchell, State Soil Scientist, Herb Kollmorgen, Assistant State Soil Scientist, and Ross Greenawalt, Soil Correlator. As the number of soil surveys being completed increased the production of soil survey manuscripts also increased, and in 1970, Don Yost, Project Leader at Scottsbluff, moved to Lincoln to assist in reviewing and editing soil survey manuscripts. In 1971, the status of soil surveys in the state was as follows: 15 soil surveys were published, 21 surveys were completed but not published, and 18 soil surveys were in progress.

In 1971, both Lloyd Mitchell and Ross Greenawalt retired. Jim Culver, Assistant State Soil Scientist in Iowa, was selected as the new State Soil Scientist. Louie Buller, Project Leader in Dawson County, was selected as the new Soil Correlator.

During this period, John Elder, Principal Soil Scientist at the Conservation and Survey Division provided NCSS leadership for the state. Jim Drew, Professor at the Agronomy Department at UNL, did research on soils, served as an instructor in soil morphology and classification, and provided guidance to several soils graduate students.

In 1973, Herb Kollmorgen, Assistant State Soil Scientist, retired and soon after joined the Nebraska Department of Revenue to assist in the use of soil surveys to assess taxes on agricultural lands. John Brubacher, Project Leader in Steamboat Springs, Colorado, was selected as Assistant State Soil Scientist. John had spent much of his soil survey career in eastern Colorado and was very familiar with the soils and landscapes of western Nebraska. John Brubacher was selected as State Soil Scientist in Wisconsin in 1979.

During the 1960's and early 1970's, the offices of the Soils staff in the Nebraska state office and the Midwest Regional soil correlation staff were adjacent to each other in the former Sears Building in downtown Lincoln. Because both staffs shared the same coffee area, much discussion on a wide variety of issues resulted. On one occasion in the fall of 1971, before the annual NU-OU football game, Joe Kingsbury, Soil Scientist on the Washington Soil Survey Operations staff, was in Lincoln. Joe was a strong OU fan and was not giving NU much of a chance to win. Jim Culver challenged Joe on the game in the amount of one bottle of Jack Daniel's. NU prevailed in 1971, and Joe was true in his wager as he personally sent an Abe Lincoln bill to Jim. Lou Buller was promoted to the Midwest Soil correlation staff in 1974. Marvin Dixon, Area Soil Scientist in western Texas, was selected as the new Soil Correlator for the state. Following Marvin Dixon's retirement in 1984, Larry Ragon was selected as the Soil Correlator. Larry was Project Leader in Cherry County and had vast experience throughout Nebraska.

Accelerated State Funding Opportunities

Warren Fairchild, Soil Scientist who worked in Southeast Nebraska, had a major impact on the leadership and organization of the Natural Resource organizations in Nebraska. He became head of the State Soil and Water Conservation (now the Natural Resources) Commission. The leadership of Fairchild and others was instrumental in 1972, when state legislation that significantly changed the cooperators in the Nebraska program was passed. At that time more than 165 special purpose districts, ranging from soil and water conservation districts to county flood control authorities, were combined to form 24 Natural Resources Districts (NRD) statewide. This legislation created a united effort at the local government level toward natural resource management that benefited the Nebraska soil survey program. Just as important, the legislation gave the newly created NRDs the power to tax. Since 1972, Nebraska's 24 NRDs have provided the bulk of the local funding for the state soils program. Holt County was the first county in the modern series of soil surveys to receive local county funds to accelerate soil mapping. Commissioners in Holt County had previously spent a rather large sum of money for a private consultant to do a tax assessment of agricultural land in the county. The work of the consultant was poor and not used. Subsequently, a cooperative agreement among SCS, CSD, and the County Commissioner provided additional monies to employ soil scientists to initiate and accelerate soil survey mapping.

The accelerated soil mapping program in the state started in 1973. At that time management personnel from State and Federal agencies met to discuss their needs for soil survey information. In 1973 a few counties and NRDs were providing funding to complete soil surveys in their areas. It was the consensus of this group that a unified effort in the state toward the accelerated completion of the Nebraska soil surveys would be more beneficial than individual efforts of NRDs and county governments. Thus SCS and CSD, as leaders of the State Cooperative Soil Survey Program, were asked to prepare a 12-year plan to accelerate the completion of the soil surveys for the state.

Jim Culver, John Elder, Marvin Carson, Assistant Director of the CSD, and Vince Dresszen, Director of CSD, provided the direction in developing the plan that became the Nebraska Accelerated Soil Survey Program. It began in 1973 when the Division hired soil scientists using funding provided by NRDs and county governments. The Nebraska Association of County Officials, which included the Association of County Tax Assessors, was very strong in working with the local NRDs in supporting State funding. In 1976 the Nebraska Legislature passed LB 180 to create the Nebraska Soil Survey Fund. This fund provided state monies to the Nebraska soils program through the Natural Resources Commission (NRC).

The management of the accelerated soil survey was through the State cooperative program as part of the National Cooperative Soil Survey Program. In this program Federal, State, and local governments or agencies cooperated in the soil surveys, with the Soil Conservation Service as the lead agency. The Nebraska program was managed by SCS, CDS, and the Nebraska Soil Survey Advisory Committee. This Soil Survey Advisory Committee was made up of 11 agencies: Nebraska Department of Agriculture; Nebraska Department of Health; Nebraska Department of Revenue; Nebraska Department of Roads; Nebraska Association of Resources Districts; Nebraska County Officials Association; Nebraska Natural Resources Commission;

University of Nebraska Department of Agronomy; University of Nebraska Cooperative Extension Service; Conservation and Survey Division; and Soil Conservation Service, USDA.

Financing

As multiple sponsorship would suggest, financing of the Nebraska program has come from numerous sources. The federal government, through SCS, has provided millions of dollars for the soil survey in Nebraska. The non-SCS sources of funding are NRDs, county governments (county commissioners and county supervisors), the Nebraska Soil Survey Fund, the Conservation and Survey Division, the Nebraska Department of Revenue, the University of Nebraska-Lincoln, Department of Agronomy, and the Old West Regional Commission, which was a State-Federal partnership dedicated to economic development in Montana, Nebraska, North Dakota, South Dakota, and Wyoming. The Commission provided about 1.5 million dollars annually to the five states between 1976 and 1981, when it was disbanded. From 1973 to 1987 about \$4.5 million of non-SCS dollars had been provided to accelerate the State soils program.

There were many local county meetings between the NRDs and the county commissioners, county supervisors, or both, with Jim Culver, SCS, and John Elder, CSD, promoting and encouraging local funding. The combination of a younger State Soil Scientist and an experienced CSD Principal Soil Scientist worked out exceptionally well. In most sessions Culver made the presentations and discussed the opportunities, while Elder had the experience, background, skills, and respect of local county officials. The results of most all of the meetings were positive and successful in obtaining local funding to hire soil scientists, purchase probe trucks, and purchase the aerial photographs needed to accelerate soil mapping.

In some counties, the soil survey has had as many as one county and four NRDs as sponsors. Trying to negotiate agreements with five local agencies, one Federal agency, and one State agency was challenging. But all of the parties who participated were fortunate to share a great common interest in preserving Nebraska's soil resources, which led to good working relationships. The amount of money that each sponsor contributed was calculated in various ways. If one county and one or more NRDs were involved, the county generally provided 50% and the NRDs provided 50% of the local funding. The NRDs contributions were generally based on the acreage or percentage of the county within the NRD. In some cases, NRDs provided total funding for a county soil survey as a means of channeling tax revenue back to the county. In other cases, the county government provided total funding for the county's soil survey with no financial involvement by the NRD. In many surveys the funding was about 1/3 local, 1/3 state, and 1/3 Federal for each county.

Operations

The soil survey personnel, hired with State and local funds, were employees of the CSD. The Division soil survey personnel included soil scientists, data managers, cartographers, and lab technicians. The Division soil scientists were assigned with SCS project leaders to project soil

surveys and worked in the field with the SCS soil scientist. Generally, the more experienced SCS soil scientist provided training and technical direction to the Division soil scientist. Management supervision was provided to the Division soil scientist by the Division soils leaders. A data manager (Margaret Warner) and cartographer worked in the SCS State Office. A lab technician was hired to work in the National Soil Survey Laboratory in Lincoln.

The correlation and publication of the older farm to farm request soil mapping were often discussed. These older farm request soil surveys were commonly prepared using a non-control legend and there was very limited or no technical documentation of soil mapped. Many areas need to be remapped to meet USDA soil survey publication and correlation standards. One major area of discussion centered on the Sandhills. A large acreage of the Nebraska Sandhills was mapped by range conservationists with major input by soil scientists using the Range Site name to identify each mapping delineation. Soil scientists and range conservationists cooperated to develop and design soil map units in the state. The acreage of surveys made by range conservationists was good mainly for range planning but did not meet the requirement for soil surveys as defined by the National Cooperative Soil Survey. From a management prospective, how much of the older soil surveys prepared under different legends was of an acceptable quality by current standards was often discussed. In 1971 Herb Kollmorgen, Assistant State Soil Scientist, and Jim Culver, State Soil Scientist, recommended that the large acreage of range that was previously mapped as Range Sites in the Sandhills be deleted from the acreage on official soil surveys mapped in the state. Their recommendation was accepted by management. Special irrigation soil mapping projects used a modified National code system that emphasized additional soil data needed to make irrigation suitability determinations.

The Old West Regional Commission, local funds, and local NRD funds were used to purchase what was known as high flight photography. These photos were used for field mapping and publication. They were rectified and worked well for the publication process used. However the photo image was often not of the desired quality for field mapping, and supplement ASCS and other photos were used as references in plotting on the soil boundaries.

The total number of field soil scientists in Nebraska peaked between 1977 and 1979. At that time about 25 SCS soil scientists and 20 Division soil scientists were in the field. Because of the input of funding from the various sources to the Nebraska program, total field soil scientist staffing was increased. Primarily, the peak was partly because of the input of the funding from the Old West Regional Commission. Staffing of SCS soil scientists remained steady from 1973 to 1980. In 1980 the number of SCS and Division field soil scientists began to decrease. Figure 1 shows the goal and number of acres of soil surveys mapped from 1971 through 1986 by SCS and CSD employed soil scientists.

John Elder, Principal Soil Scientist of the CSD, retired in 1988, and Mark Kuzila was selected as the new Principal Soil Scientist for the CSD. Mark began his field experience in soil survey in Madison County and later was assigned as an assistant to Elder in management of the accelerated State survey program. In 1998 Mark was selected as the Director for the Conservation and Survey Division. This was quite a change for many of the CSD scientists, as a person with a geology background had been head of the CSD since its beginning. This was a positive step forward in the maintenance of high visibility of the State soil survey program and its partners.

Figure 1. Goal and acres of soil surveys mapped by SCS & CSD from 1971 – 1986.

<u>Year</u>		<u>Goal</u>	<u>Acres Mapped</u>	<u>SCS</u>	<u>State</u>
1987	(SCS)	794,500			
	(CSD)	595,000			
1986	(SCS)	1,009,320	1,484,039	927,524	561,515
	(CSD)	669,623			
1985	(SCS)	909,500	3,072,108	2,521,888	550,220
	(CSD)	887,500			
1984	(SCS)	938,000	1,824,438	1,180,402	644,036
	(CSD)	600,000			
1983	(SCS)	1,171,700	1,851,807	1,072,802	779,005
	(CSD)	708,000			
1982	(SCS)	1,279,000	1,937,748	1,190,575	746,991
	(CSD)	748,600			
1981	(SCS)	1,295,700	2,060,553	1,296,590	763,936
	(CSD)	864,500			
1980	(SCS)	1,361,500	1,774,554	1,034,783	739,771
1979	(SCS)	1,203,820	1,630,837	1,100,664	538,173
	(CSD)	827,405			
1978	(SCS & CSD)	1,942,308	1,835,491	1,235,446	600,045
1977	(SCS & CSD)	2,011,000	1,882,900	1,228,854	6549046
1976	(SCS & CSD)	1,695,000	1,737,253	1,158,215	579,038
1975	(SCS & CSD)	1,286,980	1,492,878	1,120,901	371,977
1974	(SCS & CSD)	1,305,210	1,253,333	1,085,973	167,360
1973	(SCS & CSD)	1,267,100	1,369,661	1,327,488	42,173
1972	(SCS & CSD)	1,270,000	1,393,152	-	-
1971	(SCS)	-	923,687		

Nebraska National Cooperative Soil Survey – State Leadership

A memorandum of understanding signed in 1952 established the Conservation and Survey Division as the official State partner with the SCS as the two principal leaders of the soils program. In most states the official NCSS representative is from the Agricultural Experiment Station and is generally the professor who teaches the major soils courses and leads the soils graduate program. George E. Condra had a major impact in keeping the profile of CSD highly visible, and this NCSS leadership role was largely due to his long-term impact on Division leadership.

Jim Drew was the Head Soils Professor in soil survey in the Agronomy Department at the University from 1966 to 1972. He produced excellent graduate students and provided high profile for the soils part of the Agronomy Department. Jim was a pilot in the Nebraska Air National Guard. He was most effective in taking and getting excellent infrared and other kind of aerial photography to do research work and to assist in production soil survey.

In 1972, Jim Drew was selected as Associate Dean of Graduate School, UNL, and in 1976 went to Alaska as the Director of the Agricultural Experiment Station at the University of Alaska at Fairbanks. Dave Lewis was selected to fill in behind Jim Drew. Dave had worked as an SCS Soil Scientist in Maine and completed his Ph.D. work in Nebraska under Jim Drew. Dave was also an advisor to several SCS state and regional soil scientists working on the advance graduate soils program during his 27-year tenure in providing soils leadership from the Agronomy Department to the state cooperative soil survey program.

Jim Culver became Head of the new Midwest Soil Interpretation Staff in 1988. This was part of the Soil Survey Division reorganization in which the four regional soil correlation staffs were consolidated to form the National Soil Survey Center in Lincoln, NE. There was a Soil Interpretation Staff for each of the four National Technical Service Centers. Norm Helzer, Assistant State Soil Scientist, was selected as the new State Soil Scientist. Norm provided leadership in the establishment and transition to the new MLRA concept of doing soil surveys. The Midwest National Technical Center was eliminated as part of the most recent NRCS reorganization plan in 1995. In 1996 Norm retired, and Nathan McCaleb, who had been on the Midwest Soil Interpretation staff, was assigned as State Soil Scientist for Nebraska.

During the late 1990's high priority was given to a cooperative agreement between the Nebraska Natural Resource Commission, the Conservation and Survey Division-UNL, and the Natural Resources Conservation Service to procure ortho photography and digitize the published soil survey. Excellent progress was made on the SSURGO project. As field mapping was being completed for this series of survey, emphasis was placed on soil scientists doing Technical Soil Services. The Technical Soil Services program is the process where soil scientists provide assistance and interpretations to users of the soil survey. A high percent of the Technical Soil Services time is used in assisting with NRCS agriculture programs such as wetlands, highly erodible land, waste site evaluations, and prime farmland assessment. During 1999, field soil scientists were assigned to both update maintenance soil surveys and technical soil services operating from one duty station.

The soil survey centennial was widely publicized at national and state levels throughout the year. The Governor of Nebraska, Mike Johanns, on the Sixth day of October 1999, signed a proclamation marking the 100th anniversary of soil surveys and the partnership of the National Cooperative Soil Survey Program. This Nebraska Soil Survey Proclamation and a national soils centennial soil interpretative display were placed in the first floor lobby area of the Federal Building in Lincoln for the month of December 1999. This proclamation and soils display provided an excellent closing for 100 years of productive soil survey in Nebraska. The framework is well placed for continuation of a cooperative and productive state soil survey program well into the next millennium.

**State of Nebraska
Proclamation**

WHEREAS, Soils are crucial to the economic life and well-being of Nebraska and have vital functions - including food and fiber production and carbon sequestration - as well as being the base for our homes, shopping centers, schools and industries; and

WHEREAS, The understanding of soil is essential to good management and to building resources for the future. It is a wise investment to maintain and improve our knowledge of soils; and

WHEREAS, The National Cooperative Soil Survey Program is a partnership led by the Natural Resources Conservation Service of federal land management agencies, state agricultural experiment stations and local units of government that provide soil, and

WHEREAS, Each state in the United States has selected a state soil. Nebraska established Holdrege silt loam as its official state soil, and

WHEREAS, 1999 marks the 100th anniversary of soil surveys.

NOW, THEREFORE, I, Mike Johanns, Governor of the State of Nebraska, **DO HEREBY PROCLAIM** the year 1999, as

YEAR OF THE SOIL SURVEY CENTENNIAL

In Nebraska, and I do hereby urge all municipalities, counties, health departments, planners and developers to use soil surveys in land use planning decisions.

I also hereby urge the Natural Resources Conservation Service to complete the modernization of Nebraska soil surveys according to federal appropriations and mandates and provide the Geographic Information System databases to the Nebraska Natural Resources Commission.

IN WITNESS WHEREOF, I have hereunto set my hand, and cause the Great Seal of the State of Nebraska to be affixed this Sixth day of October, in the year of our Lord One Thousand Nine Hundred and Ninety-Nine.

Attest:
Signed by Secretary of State Scott Moore and Governor Mike Johanns



Right - Lloyd Mitchell, State Soil Scientist,
Soil Conservation Service, 1944-71.
Left: Don Yost.



Jim Culver, State Soil Scientist, Soil
Conservation Service, 1971-88.



Norm Helzer, State Soil Scientist, Natural
Resources Conservation Service, 1988-95.



Nathan McCaleb, State Soil Scientist,
Natural Resources Conservation Service,
1995-present.

LEADERSHIP OF THE NEBRASKA SOIL SURVEY DURING THE PAST 50 YEARS

There have been a large number of very capable staff and leadership of the lead agencies contributing to the State Cooperative Soil Survey Program during the past fifty years. This section provides a chronological listing of a few selected individuals from the Natural Resources Conservation Service, Conservation and Survey Division, University of Nebraska, and the Natural Resources Commission, State of Nebraska.

The technical and management leadership responsible for conducting the State Soil Survey program has been relatively stable and proactive in taking opportunities to improve soil survey products.

NRCS State Staffs

State Soil Scientists

H.C. Mortlock 1946
Lloyd Mitchell, 1946–1971
Jim Culver, 1971-1988
Norm Helzer, 1988-1996
Nathan McCaleb, 1996-present

Soil Correlation, Manuscripts, and Publication Production

Ross Greenawalt, Soil Correlator 1958-1971
Louie Buller, Soil Correlator 1971-1974
Marvin Dixon, Soil Correlator 1974-1984
Don Yost, Manuscripts, Soil Correlator 1970-1980
Herb Kollmorgen, Assist. State Soil Scientist 196?-1973
John Brubacker, Assist. State Soil Scientist 1973-1984
Norm Helzer, Assist. State Soil Scientist 1984-1988
Larry Ragon, Assist. State Soil Scientist 1985-1995
J. Cameron Loerch, Assist. State Soil Scientist, 1989-1991
Clayton Lee, Assist. State Soil Scientist (Manuscripts), 1992-1994
Renee Gross, Soil Data Specialist 1991-1999
Steve Schaefer, Cartographic Lead 1972--present
Steve Brooks, Cartography 1988-present
Steve Scheinost, Soil Data Specialist 1999-present

State Conservationists

Clifford Girardot, 1938-1942
E.G. Jones, 1942-1954
Harvey J. Bobst, 1954-1959
C. Dale Jaedicke, 1959-1967
Keith Myers, 1967-1973
Bill Parker, 1973-1976
Benny Martin, 1976-1980
Gene Sullivan, 1980-1983
Sherman L. Lewis, 1983-1986
Ron E. Hendricks, 1987-1991
Ronald Moreland, 1991-1995
Steve Chick, 1995-present

Conservation and Survey Division- University of Nebraska

Conservation and Survey Division Directors

George Condra, 1921-1954

Eugene Reed, 1954-1967

Vince Dresszen, 1967-1987

Perry Wigley, 1987-1998

Mark Kuzila, 1998-present

Conservation and Survey Division-UNL Principal Soil Scientists

John Elder, 1950-1986

Mark Kuzila, 1986-1998

Currently being advertised

Natural Resources Commission - State of Nebraska

Warren Fairchild 1954-1970

Dale Williamson 1970-present (As Director; started to work with NRC in 1958)



Jim Culver, State Soil Scientist, opening North Central Regional National Cooperative Conference at North Platte, 1988.



L-R: Larry Ragon and Norm Helzer provided leadership in coordination of the 1988 North Central Regional National Cooperative Conference.



Lou Buller, Steve Holzhey, and Tommy Calhoun, NHQ, at center table and Keith Huffman, State Soil Scientist, Ohio, on front right and others at the North Central Cooperative Soil Survey Conference, North Platte in 1988.



Mark Kuzila - Principal Soil Scientist (1977-98) and Director of Conservation and Survey Division, University of Nebraska-Lincoln (1998 to present).



L-R: Bob Pollock, Area Soil Scientist, Senator Burbach, Knox County, and Jim Culver, State Soil Scientist, Lincoln, 1975, presenting Senator Burbach a “Certificate of Appreciation” for his leadership in sponsoring Legislative Bill 180 - Nebraska Soil Survey Fund.



Field Trip to Nebraska Sandhills during the 1988 North Central Regional National Cooperative Soil Survey Conference.

LEGISLATIVE BILL 180 — NEBRASKA SOIL SURVEY FUND

During the early 1970's several groups requested the need for a soil survey or a current inventory of soil resources for each county in Nebraska. This initiative was led by such groups as the Nebraska State Department of Revenue, Nebraska Association of County Officials, Nebraska Association of County Assessors, Nebraska Association of Natural Resource Districts, County Commissioners, County Supervisors, Nebraska Department of Natural Resources, and the University of Nebraska-Conservation and Survey Division.

The leadership of the Nebraska Cooperative Soil Survey Work Planning Conference was proactive during this period. They laid the framework and political groundwork to secure state funding to accelerate the completion of a soil survey for each county in the state. The Soil Conservation Service-USDA and the Conservation and Survey Division-University of Nebraska took the lead in preparing a "Proposed 12-Year Plan of Accelerating the Soil Surveys of Nebraska" (figure 2). Also a popular information brochure on "A Current Inventory of Soil Resources for Each Nebraska County," a current inventory of Soil Resources for each Nebraska County (figure 3) was prepared to assist in selling this accelerated state soil survey program.

This accelerated soil mapping plan identified the acres of soil surveys to be mapped each year during the period 1973 through 1985, based on an average of 55,000 acres mapped per year by each soil scientist (figure 4). A maximum of 2,530,000 acres of completed soil survey per year was required during the peak years of the accelerated mapping program. Additional state funds needed to complete the modern soil survey in 12 years at a 5 percent inflation cost was prepared (fig. 5). The additional state requested funds ranged from 206,700 dollars initially to 789,700 at the maximum to 273,400 dollars in the closing year.

A very detailed estimate of cost by salaries, operating expense, operating capital outlay, map reproduction, special reports and editing was prepared (figure 6). This estimate projected the cost by year that the Soil Conservation Service and the Conservation and Survey Division would contribute the accelerated state soil survey program is given in figure 6.

This well planned coordinated proactive plan to secure state funding was a successful soil survey program event. Several soil scientists, including Bob Pollock, Dean DaMoude and Paul Bartlett, were personally acquainted with a number of the Nebraska legislators through their local contact in promoting the use and application of soil survey information. Dean's contact with State senators was more varied, as he was a turkey-hunting guide for several Senators at his favorite place in Sow Belly Canyon in Sioux County. Through the years Dean had been quite successful in helping the Senators get the turkey each year--for the most part. The work of SCS soil scientists, several state associations, the State Cooperative Soil Survey Committee, and coordination with Vince Dresszen, Director of the Conservation and Survey Division and Dayle Williamson, Director of the Natural Resource Commission, Senator Jules Burbach of Crofton and Senator Calvin Carsten of Avoca was successful in introducing a soil survey funding bill. As Senator Burbach was one of the more leading and distinguished Senators, the proposed soil survey funding bill was off to a good start.

Figure 2. A Proposed 12-Year Plan for Accelerating the Soil Surveys of Nebraska

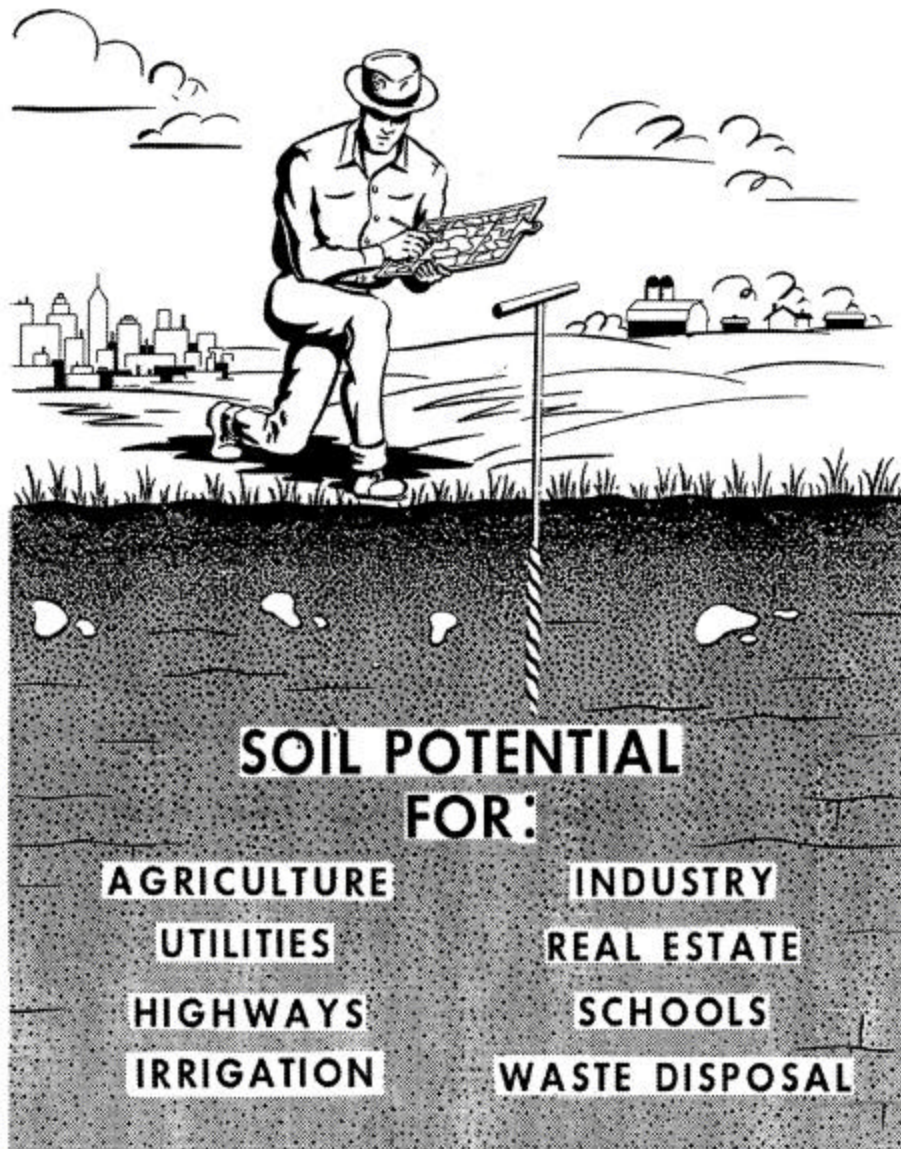


Figure 3. A Current Inventory of Soils Resources for each Nebraska County

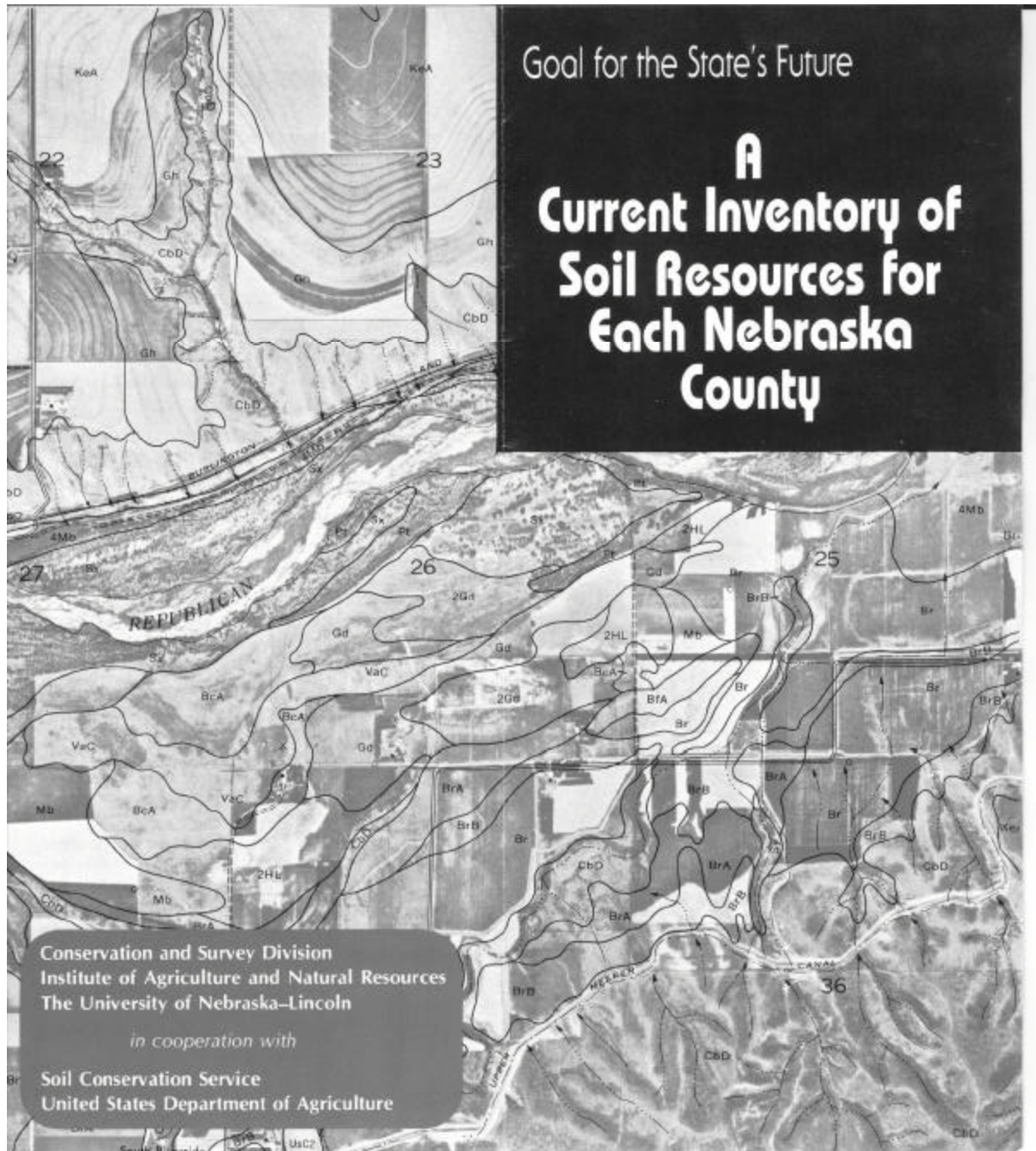
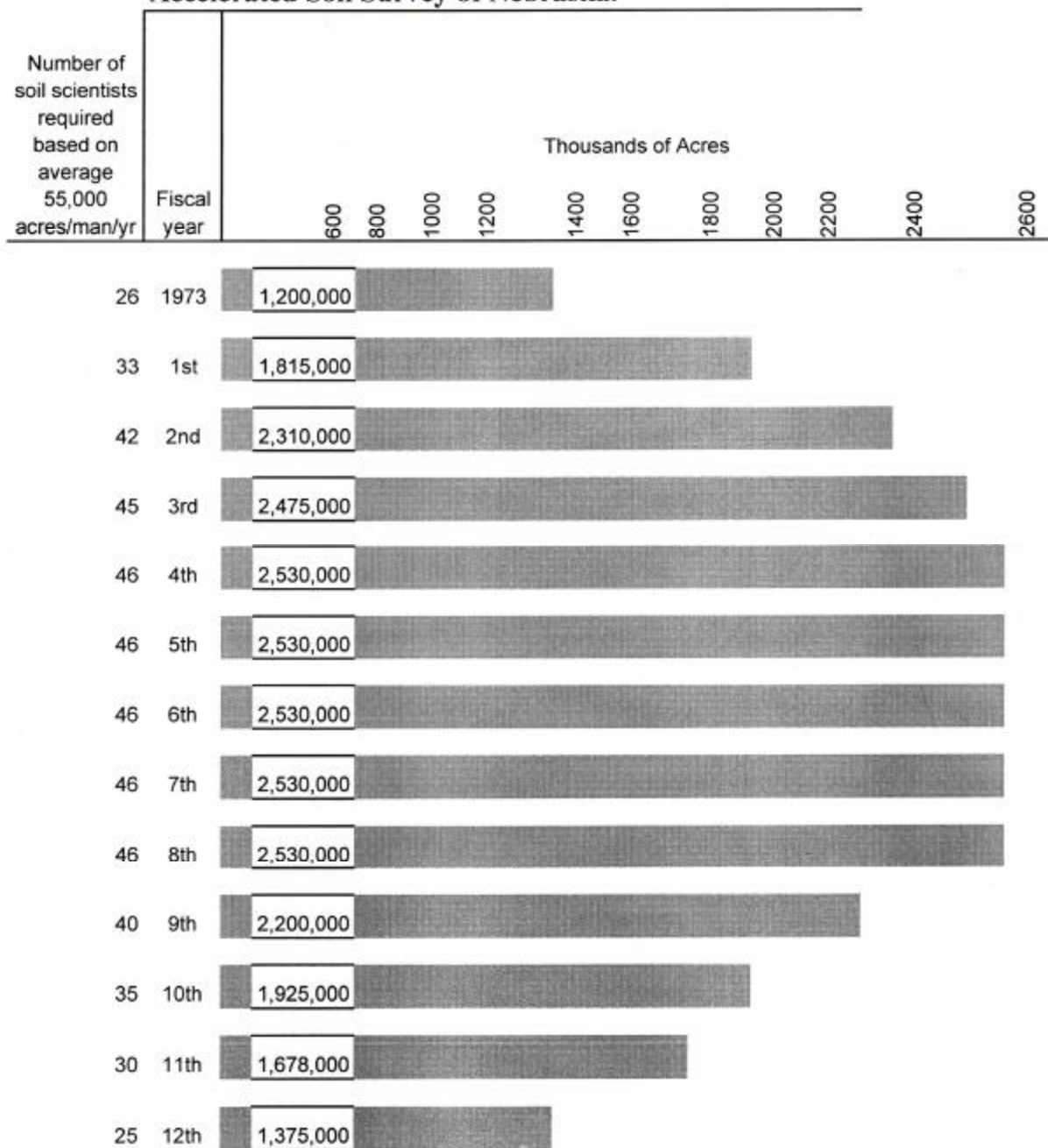


Figure 4. Acreage of Soil Surveys and Field Soil Scientists Required to Complete the 12 Year Accelerated Soil Survey of Nebraska.



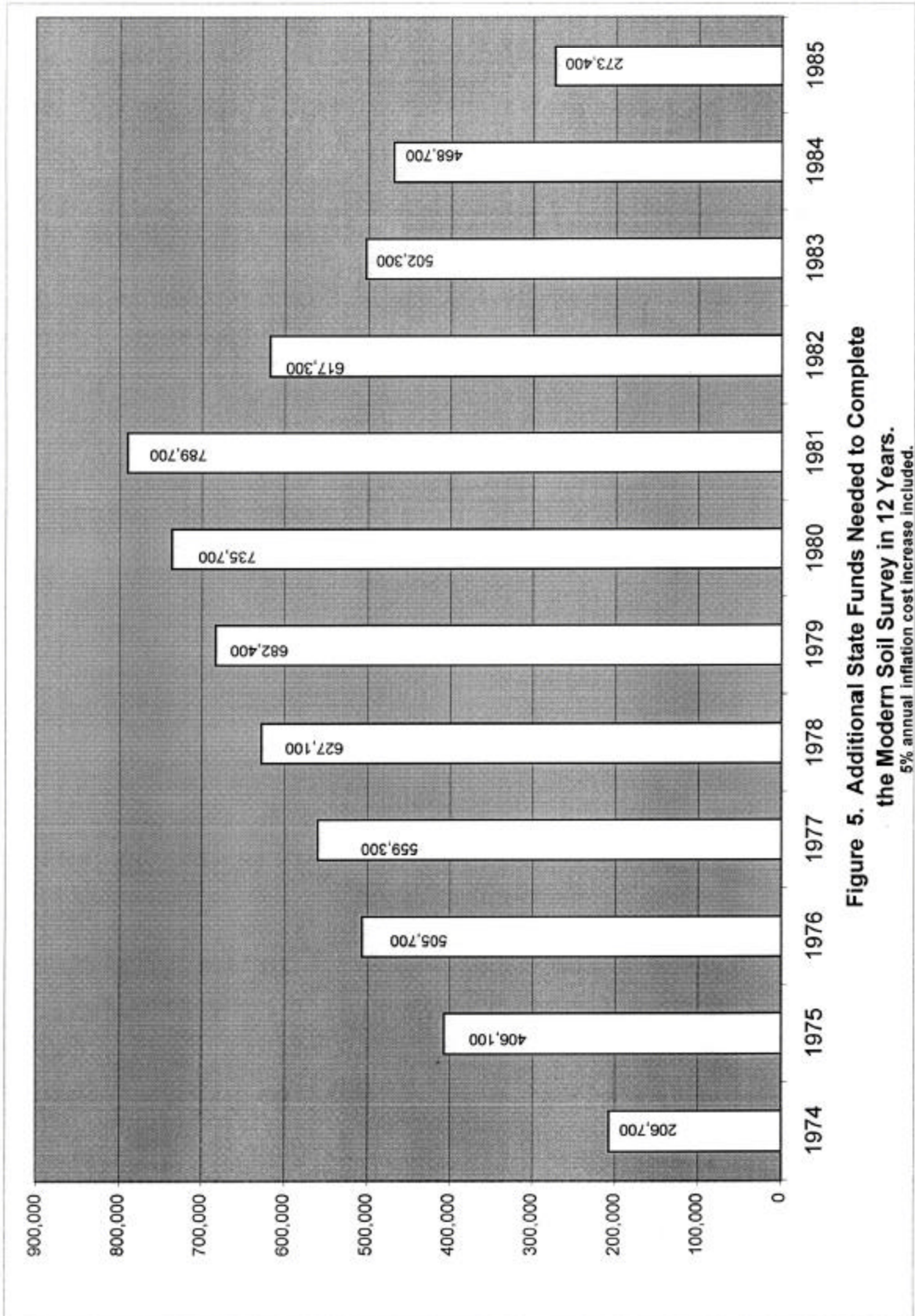


Figure 5. Additional State Funds Needed to Complete the Modern Soil Survey in 12 Years.
5% annual inflation cost increase included.

Figure 6. Estimated Cost Of A 12-Year Accelerated Soil Survey Of Nebraska
(In Thousands of Dollars)

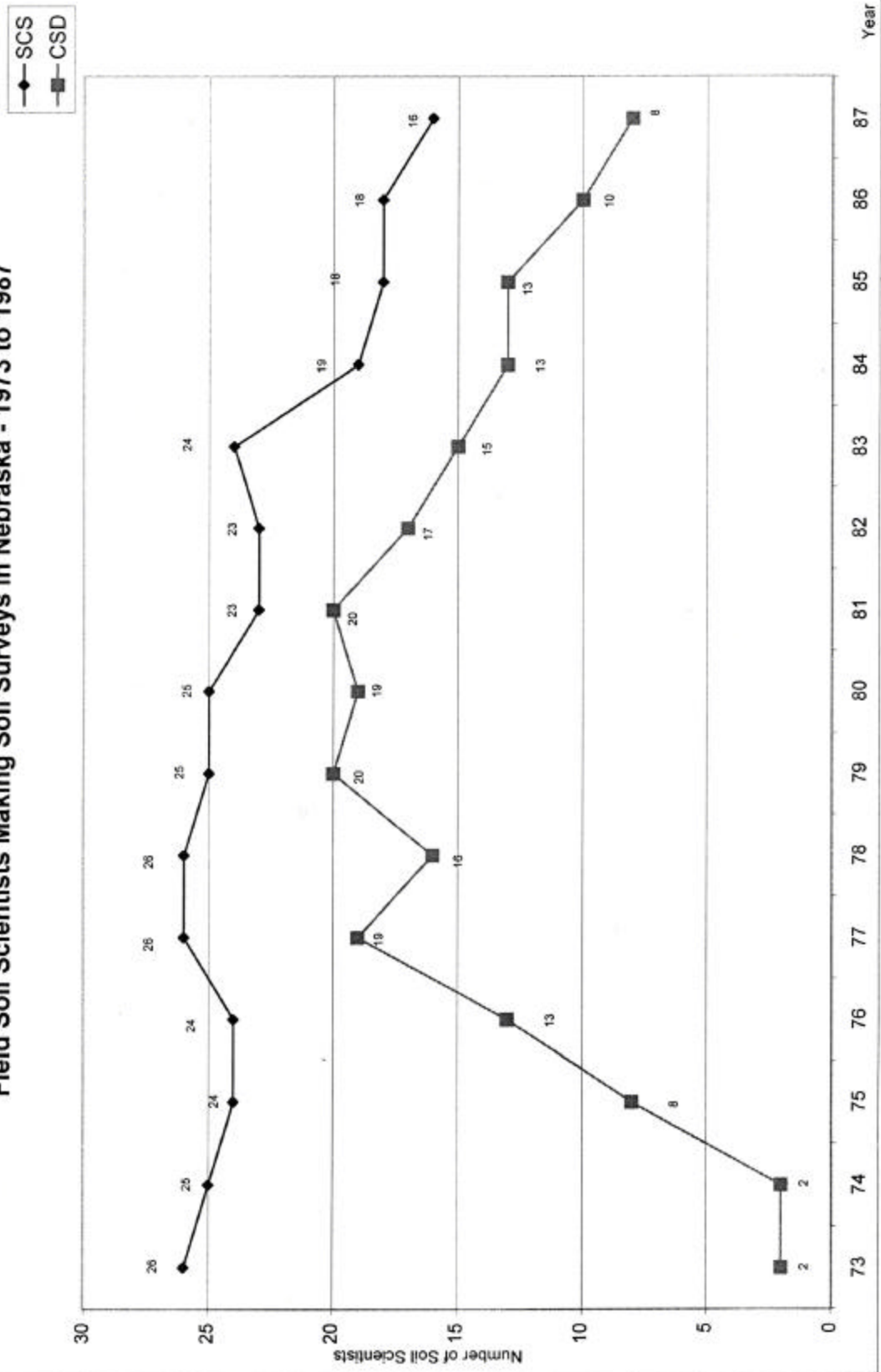
Item	← 12-Year Plan →												
	Fiscal Year 1973	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th	12 th
I. SALARIES													
Field Soil Scientist	(26)	(33)	(42)	(45)	(46)	(46)	(46)	(46)	(46)	(40)	(35)	(30)	(25)
Dollars	372.5	455.5	570.5	640.5	692.1	745.5	805.4	862.0	918.3	855.2	797.6	724.0	646.0
Soil Specialists	(1)	(2)	(2)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(2)	(2)
Dollars	27.6	47.9	50.2	73.8	77.4	82.6	86.6	91.0	97.0	101.7	106.9	79.7	83.8
Soil Management	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Dollars	70.0	73.5	77.2	81.0	85.1	89.3	93.8	98.5	103.4	108.6	114.0	119.7	125.7
Clerical Assistance	(2)	(3)	(5)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(7)	(6)	(3)
Dollars	12.0	17.9	29.7	48.7	51.2	56.2	59.0	62.0	66.5	69.8	64.3	58.1	31.4
Technical (Map Comp)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Dollars	8.1	8.8	9.5	10.0	10.0	10.9	11.4	12.4	13.0	13.9	14.7	16.2	17.1
Personnel Benefits	41.6	55.4	66.4	77.8	83.5	90.0	96.7	103.3	110.0	104.6	99.0	90.0	78.7
Total Salaries	523.7	656.3	802.8	931.3	999.3	1074.5	1152.9	1229.2	1308.2	1253.8	1196.5	1087.7	982.7
II. OPERATING EXPENSES													
Rent and Utilities	31.0	14.8	19.6	22.1	23.8	24.9	26.1	27.4	28.9	26.4	24.9	26.2	23.6
Supplies and Gasoline	9.0	14.1	20.5	23.6	25.5	26.9	28.2	29.6	31.1	27.0	24.5	25.7	21.6
Miscellaneous Services	7.7	10.3	13.8	15.5	16.7	17.5	18.3	19.3	20.3	19.8	17.4	18.3	16.5
Travel	6.0	10.0	15.4	17.9	19.5	20.5	21.4	22.5	23.7	20.1	18.0	18.9	15.3
Soil Analysis	5.0	26.0	54.0	71.9	79.3	83.2	87.1	91.7	96.2	77.6	65.3	66.7	39.6
Total Operating Expense	38.7	75.2	123.3	151.0	164.8	173.0	181.1	190.5	200.2	170.9	150.1	155.8	116.6
III. OPERATING CAPITAL OUTLAY													
Probe Trucks	7.3	40.8	52.6	23.0	24.0	40.0	42.0	44.1	46.3	42.3	28.2	21.1	13.1
Aerial Photos	--	13.4	29.5	31.1	32.7	34.3	35.2	37.8	39.7	--	--	--	--
Total Capital Outlay	7.3	54.2	82.1	54.1	56.9	74.3	77.9	81.9	86.0	42.3	28.2	21.1	13.1
IV. MAP REPRODUCTION													
SPECIAL REPORTS, EDITING	--	19.1	25.4	28.8	30.9	32.4	33.9	35.7	37.2	34.1	31.5	28.2	24.8
TOTAL ANNUAL COST	565.7	804.8	1033.6	1165.2	1251.9	1354.2	1445.8	1537.3	1631.6	1501.1	1406.3	1292.8	1137.2
FUNDING, Cons. & Survey Div. ‡	27.6	40.0	42.0	44.1	46.3	48.6	51.0	53.6	56.3	59.1	62.1	65.2	68.4
FUNDING, Soil Cons. Service ‡	538.1	558.1	585.5	615.4	646.3	678.4	712.4	748.0	785.6	724.7	841.9	758.9	795.4
TOTAL FUNDING ‡	565.7	598.1	627.5	659.5	692.6	727.0	763.4	801.6	841.9	883.8	904.0	824.1	863.8
ADDITIONAL FUNDS NEEDED	-----	206.7	406.1	505.37	599.3	627.1	682.4	735.7	789.7	617.3	502.3	468.7	273.4

‡ Projected funding based on continuation at present level.

On January 14, 1975 the Agriculture and Environment Committee of the Eighty-fourth Legislature of Nebraska passed Legislative Bill 180, which created the Nebraska Soil Survey Fund. Legislative Bill 180A provided funds in the amount of \$350,000 annually from the General Fund. These funds were to the Natural Resource Commission which transferred the money to the Conservation and Survey Division-UNL for hiring soil scientists, etc.

The accelerated soil mapping program was productive. Additional soil scientists were hired. Fig. 7 shows the number of SCS Field Soil Scientists and CSD Field Soil Scientists making soil surveys in Nebraska during the 1973-1987 period. The peak number of SCS and CSD field soil scientists was in 1979 when the collective number was 45.

Figure 7. Number of SCS Field Soil Scientists and CSD Field Soil Scientists Making Soil Surveys in Nebraska - 1973 to 1987



LEGISLATURE OF NEBRASKA
EIGHTY-FOURTH LEGISLATURE
FIRST SESSION
Legislative Bill 180

FINAL READING

Introduced by Burbach, 19; Carsten, 2

Read first time January 14, 1975
Committee: Agriculture and Environment

A BILL

FOR AN ACT relating to agriculture; to create the
Nebraska Soil Survey Fund; to specify sources
of money for the fund; to declare intent; and
to provide for expenditures from the fund.

Be it enacted by the people of the State of Nebraska,

Section 1. The Legislature finds that an accelerated completion of modern soil surveys will be an asset to the State of Nebraska and good for the general welfare of the citizens of the state. The Legislature further finds that the completion of modern soil surveys can be most appropriately accomplished by accelerating, in a manner deemed appropriate by the Nebraska Natural Resources Commission, state financial input into the combined state and federal effort currently being conducted cooperatively by the United States Department of Agriculture, Soil Conservation Service and the Conservation and survey division, University of Nebraska. It is therefore the intent of this Legislature to embark upon an accelerated program for the completion of Nebraska's modern soil surveys and to recommend that the State of Nebraska and the Legislature appropriate the funds necessary to carry out this accelerated program during the years required for its completion.

Sec. 2. The State Treasurer is hereby directed to create and establish the Nebraska Soil Survey Fund and to credit to such fund for the uses and purposes of this act such money as shall be specifically appropriated, and such funds, fees, donations, gifts, services, devises, or bequests of real or personal property received by the Nebraska Natural Resources Commission from any source, federal, state, public or private, to be used by the commission for the purposes of accelerating the completion of modern soil surveys. The Nebraska Natural Resources Commission shall allocate money from the Nebraska Soil Survey Fund for the purposes of this act. The Director of Administrative Services, upon receipt of proper vouchers approved by the Nebraska Natural Resources Commission, shall issue his warrants on such fund, and the State Treasurer shall countersign and pay from, but not in excess of the amounts to the credit of such fund.

Sec. 3. The Nebraska Soil Survey Fund shall be expended by contractual agreement with the Conservation and Survey Division, University of Nebraska, for the purposes of accelerating the program of modern soil survey throughout the state in such manner as the Nebraska Natural Resources Commission shall deem proper and necessary.



Don Yost showing Hall County Soil Survey and exhibit during soil education meeting. Hall County, Nebraska - 1962.



Bob Eikleberry assisting with Hall County soil educational displays.



Andy Aandahl (right) reviewing new map on soils of the Great Plains to John Muehlbeier of Great Plains Agriculture Council. Lancaster County - 1973.