

STATE WATER CONSERVATION COMMISSION  
MINUTES OF MEETING  
Held in Office of State Water Commission in  
Bismarck, North Dakota  
April 10, 1959

A regular meeting of the North Dakota State Water Conservation Commission was called to order on April 10, 1959, in the office of the Commission, State Capitol Building, to consider routine business matters. The following were present:

MEMBERS OF THE STATE WATER COMMISSION

- Governor John E. Davis, Chairman, Bismarck
- A. M. Christensen, Member from Minot
- W. W. Corwin, Member from Fargo
- Oscar Lunseth, Member from Grand Forks
- Einar Dahl, Member from Watford City
- Math Dahl, Commissioner of Agriculture & Labor, Bismarck
- Fred J. Fredrickson, Planning Coordinator, Washington, D. C.
- Milo W. Hoisveen, Secretary & Chief Engineer, State Engineer, Bismarck

OTHERS PRESENT

- Ernest Sieveka, Washington, D. C.
- Carl Torkelson, Water Treatment Supt., Grafton
- O. Ordahl, Council Member, Grafton
- Mr. Cross, Minneapolis Tribune
- Herman Joos, Board of Administration
- Ferdinand Luger, Selfridge
- Mike Froelich, Selfridge
- Wm. Stewart, Selfridge
- Carl Meisel, Selfridge

The meeting was called to order by Commissioner Christensen at 9:45 a.m. with Commissioners W. W. Corwin, Oscar Lunseth, Einar Dahl, Math Dahl, Secretary Hoisveen and Mr. Fredrickson present.

**APPROVAL OF MINUTES**      It was moved by Commissioner Einar Dahl and seconded by Commissioner W. W. Corwin that the Minutes of the March 16th meeting be approved. All members voted aye and said motion carried.

**BRACKISH WATER PLANT**      Mr. Ernest Sieveka of the Department of Saline Water, Washington, D. C. was present to discuss the brackish water possibilities and studies made by that department. Mr. Carl Torkelson, water superintendent, and Mr. O. Ordahl, city council member, of Grafton were also in attendance to obtain information relative to the possibilities of obtaining a pilot plant. Grafton has displayed an interest in a brackish water plant in view of the possibility of supplementing their present water supply through the use of brackish well water which was previously their only water for domestic use. Mr. Sieveka stated that work on saline water is relatively new and the same began in 1952. It is primarily a research and development program

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Approximately six years of research have been done and it is now their desire to expand the present research program to utilize plants to demonstrate its practical use for industry and municipal purposes. A bill was passed by the Congress providing for five demonstration plants and the department is now endeavoring to determine where these plants would provide the most significant results. There are to be two brackish water plants - one for the northern great plains and one for the arid southwest. North Dakota would come under the great plains area. Mr. Sieveka stated that they have had inquiries from 60 cities, 37 of which have submitted rather complete information relative to their city. The department is now endeavoring to obtain as much information as possible on the cities interested. This is the purpose of his trip to the middle west at this time. The plant will be located where it will be most effective.

Secretary Hoisveen stated that a previous meeting with Devils Lake officials and members of the Budget Board relative to the brackish water studies had been held in his office and it was his thought that Devils Lake will send a complete file relative thereto to the Water Commission and to Secretary Aandahl. Commissioner Lunseth inquired as to the total cost of the plant and the amount of participation required. Mr. Sieveka replied by stating that in a demonstration plant it was rather difficult to determine and as an estimate indicated it would be \$1.00 per gallon per day of capacity. Prior to the meeting a conference was held with Mr. Sieveka, the Grafton representation, representatives of the State Health Department and the Economic Development Commission at which time the proposed plant was discussed in much detail. Mr. Sieveka stated that operation costs were contingent upon the amount of minerals present in the water. This was particularly true in the ionics or electrolysis type of plant. It was agreed that the Commission would assist any community desiring a plant with available services. It was further implied that should a plant be located in North Dakota the Commission would aid the Office of Saline Waters with necessary contacts and surveys. Mr. Sieveka expressed himself as desirous of using the State Water Commission as a contact agency for any of their future work that might occur in North Dakota.

**FINANCIAL STATEMENT**            It was moved by Commissioner Math Dahl and seconded by  
**FOR MARCH**                      Commissioner W. W. Corwin that the Financial Statement  
voted aye and said motion carried.            for March, 1959, be approved and filed in the Office of  
the State Water Conservation Commission. All members

**GREEN RIVER DAM**                Secretary Hoisveen stated that a request had been re-  
**SURVEY, BELFIELD**                ceived from the City of Belfield requesting survey  
information on Green River Dam. The proposed dam would  
be located northeast of Belfield. It was moved by  
Commissioner Einar Dahl and seconded by Commissioner Math Dahl that Secretary  
Hoisveen be authorized to conduct a survey on Green River Dam. All members voted  
aye and said motion carried.

**CUT BANK DAM**                    Secretary Hoisveen stated that the City of Mohall is in  
**SURVEY, MOHALL**                    need of an additional source of water for a municipal  
water supply and in discussing the same with Mr. Page of  
Mohall, he inquired as to the possibility of a survey in  
connection with the proposed Cut Bank Dam just east of Mohall. It was the  
thought of city officials that possibly a combination bridge and dam structure

could be undertaken in view of the fact that consideration is being given to rebuild Highway #5 in the vicinity of Mohall. Further contacts will be made with the city. It was moved by Commissioner Math Dahl and seconded by Commissioner Corwin that Secretary Hoisveen be authorized to conduct a survey on Cut Bank Dam. All members voted aye and said motion carried.

**TURNBOW LEASE** At the last meeting of the State Water Conservation Commission, the Board of Administration indicated an interest in leasing land owned by the Commission and presently leased to Messrs. S. E. and Bill Turnbow. In view of the fact that the wording of the lease is such that it is difficult to cancel the same, Secretary Hoisveen contacted Mr. S. E. Turnbow to discuss the matter with him in hopes of arriving at an amicable settlement. The Commissioners agreed that Secretary Hoisveen arrange a conference with Mr. Jim Austin, attorney for Mr. Turnbow, Mr. Herman Joos of the Board of Administration, Commissioner Math Dahl and Secretary Hoisveen. It was expressed that the agency obtaining the lease should return the rental fee which was paid in advance and assume the costs that might be connected in paying for the alfalfa now established on the tract. It is hoped that at said conference a settlement and disposition of the same be arrived at suitable to all. The meeting has been scheduled for 10:00 a.m., Monday, April 13th.

**RESOLUTION RE BANK STABILIZATION** Commissioner Oscar Lunseth moved the adoption of the following resolution, which motion was seconded by Commissioner Math Dahl. All members voted aye and the following resolution was unanimously adopted:

RESOLUTION

WHEREAS, water releases from the Garrison Reservoir cause serious bank erosion, resulting in an annual loss of 500 acres of fertile farming and ranching lands, between the Garrison Dam and the South Dakota State line; and

WHEREAS, such preventable loss of valuable soil is damaging not alone to the landowners but to the State and Nation as well;

NOW, THEREFORE, BE IT RESOLVED by the North Dakota State Water Conservation Commission this 10th day of April, 1959, that the Committee on Public Works of the United States Senate be, and is hereby, respectfully petitioned and requested to authorize and direct the Corps of Engineers, U. S. Army, to make an early survey and investigation of such bank erosion problem in the reach of the Missouri River between Garrison Dam, North Dakota, and the South Dakota State line, with a view of determining and recommending what improvements should be made and other remedial measures taken to stabilize the banks and minimize or eliminate further erosion and soil losses; and

BE IT FURTHER RESOLVED that the Secretary mail an authenticated copy hereof to Senator Milton R. Young for presentation to the said Committee, for the approval of which his support is respectfully solicited.

**ADVERSE PUBLICITY**            A publication containing adverse publicity pertaining to irrigation was made available to the Commissioners.

**RE IRRIGATION**                An article appeared in the NORTH DAKOTA FARM RESEARCH prepared by Dr. L. W. Schaffner and Walter Wilson of the Agricultural College. Similar information was also printed in the Fargo Forum. The article while not generally critical of irrigation did raise many points of doubt which would tend to discourage the acceptance of irrigation. It was moved by Commissioner Lunseth and seconded by Commissioner Corwin that a letter be written to Dr. Hultz protesting information of this nature originating through the Agricultural College. All members voted aye and said motion carried.

**WASHINGTON REPORT**        Mr. Fred Fredrickson, Planning Coordinator for the Commission, reported on activities in Washington, D. C.

BY

**FRED FREDRICKSON**            He indicated that North Dakota is scheduled to obtain several needed water projects during the 1960 fiscal year. A detailed copy of his report is attached hereto as Annex I.

**RANSOM COUNTY DRAIN-AGE PROBLEM**        A group of property owners in Ransom County contacted the Attorney General's office and the State Water Conservation Commission relative to a drainage problem that exists in Ransom County. The problem allegedly results from indiscriminate drainage on the part of landowners at higher elevations than those adversely affected. Mr. Victor Ziegler, Investigation Engineer, made a field check of the situation and his report is attached hereto as Annex II. Commissioner Corwin recommended that the Game and Fish Department be requested to investigate the possibility of purchasing some of the pothole areas rather than encouraging the drainage of the potholes through the creation of a legal drain. Commissioner Corwin averred that many of these potholes are natural basins for immediate watersheds without outlets and frequently had little in the way of agricultural value. He further stated that the pothole areas were of much value in enhancing waterfowl and contributed to the State's recreational potential. It was generally agreed that Commissioner Corwin's suggestion be followed before resorting to the establishment of a drainage board for this explicit purpose. Secretary Hoisveen will discuss this matter with Dr. I. G. Bue, Game and Fish Commissioner.

**MINOT GROUND WATER SURVEY**            In discussing the Minot water supply, Commissioner Christensen stated that the Air Corps is requesting more water for use in conjunction with the air base. The State Water Commission in cooperation with the U.S.G.S. has conducted some surveys in the area. Indications are that there are good aquifers in the Minot to Foxholm area in the Des Lacs Valley. In the event this does not prove adequate, the Air Corps and the City of Minot will be forced to obtain water from Garrison Dam. To further explore ground water possibilities, Commissioner Christensen suggested that a survey be conducted in the Des Lacs Valley. It was moved by Commissioner Lunseth and seconded by Commissioner Math Dahl that the State Water Commission cooperate in the cost of a survey northwest of Minot with the costs to be borne as follows: The U.S.G.S. contribute one-half of the cost, the City of Minot one-fourth and the Commission one-fourth or \$2,000, whichever is the lesser amount. Upon roll call all members voted aye and said motion carried.

**MEDINA GROUND WATER SURVEY** Secretary Hoisveen stated that a delegation representing the City Council of Medina appeared in the office of the Water Commission relative to a ground water survey in the Medina area. It is anticipated that this could be performed in conjunction with the Stutsman County-wide survey. However, in view of the fact that they desire a more concentrated type of survey, it was moved by Commissioner Corwin and seconded by Commissioner Einar Dahl that said survey be performed and that they be required to contribute \$1,000 towards the cost thereof. All members voted aye and said motion carried. It was proposed that this survey be made at an early date in view of the existing emergency.

**ASHLEY GROUND WATER SURVEY** A letter from Mr. J. O. Dockter, City Auditor of Ashley, requesting a survey in said area was also made available to the Commissioners. It was moved by Commissioner Math Dahl and seconded by Commissioner Corwin that the State Water Commissioner cooperate with said community in endeavoring to locate an adequate ground water supply as soon as the community has forwarded their share of the cost to the Commission. Minot maintains the #1 priority, Medina the second and Ashley the third. All members voted aye and said motion carried.

**FROELICH DAM SELFRIDGE** Messrs. Mike Froelich, Ferdinand Luger, William Stewart and Carl Meisel, proponents of the Froelich Dam, entered the meeting at 11:15 a.m. The Commission members at their March 16th meeting requested the Froelich Dam proponents to present certain assurances at the April 10th meeting. Certified copies of equipment participation and cost participation in the amount of \$1500 are on file in the office of the Commission. The Game and Fish Department has agreed to contribute \$11,000 construction costs and \$5,000 for the land purchase. It was moved by Commissioner Math Dahl and seconded by Commissioner Oscar Lunseth that the Commission participate in the construction of Froelich Dam by contributing \$15,000 or one-third of the cost thereof, whichever is the lesser amount. All members voted aye and said motion carried.

**TOBACCO GARDEN GROUND WATER SURVEY** Commissioner Einar Dahl stated that work is in progress on the Tobacco Garden ground water survey and the crews have gone through 130 feet of gravel. This survey substantiates the theory of the ancient channel of the Little Missouri having been located there previously to the last glacier.

**MISSOURI RIVER STATES COMMITTEE MEETING** Governor Davis stated that the Missouri River States Committee will meet in Council Bluffs on April 15th and 16th. Delegates from the State of North Dakota will include the Governor, Commissioner William Corwin, Messrs. Fred Fredrickson, L. C. Mueller, Herb Lyons, Al Weinhandl, Jack Bone, Oscar Berg and Secretary Hoisveen. The Governor stated that at said meeting various projects in the basin would be reviewed and efforts would be made to determine how much cooperation one could expect from the other.

**KELLEY SLOUGH GRAND FORKS** Commissioner Lunseth stated that Kelley Slough has considerable merit as a duck raising area northwest of Grand Forks and that part of it is under the Federal Wildlife Refuge area. He stated additional survey work would be needed to determine if water could be diverted from Turtle Lake into the proposed recreational area. The recreational area would probably be located

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below the Wildlife Refuge if a satisfactory depth could be obtained. Commissioner Lunseth stated that local wildlife groups had attempted to improve this project for years. The Commission has already made a survey on one proposal. It was moved by Commissioner Corwin and seconded by Commissioner Christensen that a survey be conducted on Kelley Slough. All members voted aye and said motion carried.

SENATE RESOLUTION

NO. 48

Mr. Fred Fredrickson reviewed Senate Resolution #48 introduced by Senator Mansfield of Montana. The resolution advocates the cataloging of all waters in the State through an agency such as the State Water Conservation Commission. Mr. Fredrickson proposed that a series of county meetings be held throughout the State in an endeavor to inventory their water assets and needs. These meetings would be educational and informational and would be a means whereby a water resources inventory could be prepared for use in Washington, D. C. It was further proposed that at the original kick-off meeting, Senator Mansfield be the principal speaker. This water study is nation-wide and would better enhance North Dakota's opportunities of obtaining additional federal water resource projects. Commissioner Christensen moved that Mr. Fredrickson and Secretary Hoisveen make plans for public meetings and work out a program to carry out the purposes of the resolution. Commissioner Lunseth seconded said motion. All members voted aye and said motion carried.

WATER RIGHTS

The following water rights were considered:


#786. The Northern Improvement Company of Bismarck requests the right to divert 714 acre feet of water from ground water sources for a sand and gravel washing plant. It was moved by Commissioner Christensen and seconded by Commissioner Einar Dahl that said request be granted. Motion carried.

#784. Warren, Howard and G. B. Long of Kramer request the right to divert 384 acre feet of water from Stone Creek to irrigate 192.5 acres of land. It was moved by Commissioner Christensen and seconded by Commissioner Einar Dahl that these gentlemen be granted the right to divert 192.5 acre feet of water to irrigate 192.5 acres of land. Motion carried.


#785. Warren, Howard and G. B. Long, Kramer, request the right to divert 508 acre feet of water from Stone Creek to irrigate 254 acres of land. It was moved by Commissioner Christensen and seconded by Commissioner Einar Dahl that they be granted the right to divert 254 acre feet of water to irrigate 254 acres of land.

The meeting adjourned at 12:20 P.M.

Respectfully submitted,

  
Secretary

Attest:

  
Governor

ANNEX I

Suite No. 314  
The Jefferson Hotel  
1200 16th St. N.W.  
Washington 6, D.C.

April 9, 1959

Mr. Milo W. Hoisveen  
Engineer-Secretary  
State Water Conservation Commission  
Bismarck, North Dakota

Dear Milo:

This is in the nature of a Report on my work and related activities. I have included some information on more or less routine activities of some of the Federal agencies in which both of us are interested, and also some statistical matter which you will find interesting.

As you know from your several trips to Washington the past two months, Congress has not completed action on any appropriation bill for fiscal 1960 for water resources projects. Therefore, items appearing herein are but estimates recommended by the President in next year's budget, unless otherwise indicated.

Because of the economy-conscious leadership, it is not proposed to ask Congress for more than one or two small items not recommended in the budget.

BUREAU OF RECLAMATION ACTIVITIES

Garrison Diversion Unit:

There really is nothing new in connection with the Garrison Diversion Unit to report. Your close relation to those in the Government having to do with this project enables you to obtain the same information which I receive.

Since you personally delivered the requested informational material from the Governor to the Bureau of the Budget officials on the 10th of this month, I have learned that that agency has requested still more information, this time from the Bureau of Reclamation. The additional information, I understand, concerns the need for and the feasibility of irrigation in the Missouri River Basin, and the overall payout studies which have been made thereon. I have been informed it will take about ten days to two weeks to supply the information requested.

After the additional information is in the hands of the Budget Bureau it will take at least a week to analyze and evaluate it. After that the Budget Bureau will want to confer with representatives of the Interior on this new and other information recently provided the Budget.

All this additional time required to come up with a final determination on the Budget Bureau's position on the project will take it past the time when Congress can schedule and hold hearings on the project report, assuming that the Budget Bureau's comments are favorable, during the present session. At least, that is my personal opinion.

There is an estimate in the Budget of \$550,000 for next fiscal year to carry on with the work of preparation of definite plan reports for service areas, completing the report on the Oakes Section, and substantial completion of the report on the LaMoore Section. It will also enable field work on the Warwick-McVile area and the Souris Section.

Buford-Trenton Project:

The budget has an item of \$40,611 for completing work on laterals and drains of the Buford-Trenton Project.

Transmission Division:

Included in a basin-wide estimate of \$15,508,000 for transmission lines, is an item for building several transmission lines in North Dakota. These include: a 99-mile line from Dawson County, Montana, to Bismarck, with certain terminal facilities; initiation of construction on a new 140-mile line from Garrison Powerplant to Jamestown; on a new 83-mile line, Jamestown to Fargo; on a new 114-mile line, Garrison to Rugby; and on a new 110-mile line Jamestown to Grand Forks; and other transmission work.

There is some speculation here that Congress will not approve all of these transmission line funds, and may cut them deeply or eliminate all of them.

CORPS OF ENGINEERS ACTIVITIES

Estimates for work by the Corps of Engineers in the State for fiscal 1960 include:

Construction:

Fargo local protection works .....	\$ 386,000	
Lower Heart River flood protection, at Mandan.....	800,000	
Garrison Dam and Reservoir project.....	<u>5,050,000</u>	\$ 6,236,000

Investigations:

James River, North and South Dakota .....	\$ 15,700	
Missouri River bank stabilization, between Garrison and Oahe Dams.....	15,000	
Red River Basin, Devils Lake area .....	16,600	
Souris River, at and in vicinity of Minot .....	<u>no estimate</u>	\$ 47,300

Operation and Maintenance:

Baldhill Project .....	\$ 22,600	
Garrison Project.....	580,000	
Homme Project.....	<u>9,400</u>	\$ 612,000

Pembina River Project: No funds requested.

Bowman-Haley Project: No funds requested.



FISH AND WILDLIFE SERVICE

Budget estimates for next year for activities of the Fish and Wildlife Service include:

Hatcheries, Operation, Maintenance and Replacement:

Baldhill Dam .....	\$ 2,790	
Valley City.....	<u>19,060</u>	\$ 21,840

Wildlife Refuges, Operation, Maintenance & Development:

Arrowwood.....	\$ 20,100	
Long Lake.....	18,870	
Lostwood.....	7,500	
Lower Souris.....	51,400	
Sullys Hill.....	13,620	
Upper Souris.....	<u>23,275</u>	\$ 134,765

Law Enforcement:

Enforcement of the Migratory Bird and Lacey Acts and related management activities.....	\$ 9,965	\$ 9,965
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Control of Predatory Animals and Injurious Rodents:

Not broken down by states, but the Dakotas- Nebraska district, North Central region.....	\$ 119,000	
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Soil and Moisture Conservation Work (There are 9,275,571 acres in the continental system of national wildlife refuges:

DesLacs.....	\$ 1,950	
Long Lake .....	1,000	
Lostwood.....	600	
Lower Souris.....	1,250	
Slade.....	250	
Snake Creek.....	500	
Upper Souris.....	<u>1,450</u>	\$ 7,000

Wildlife Facilities:

Arrowwood.....	\$ 17,000 <sup>1/</sup>	
Upper Souris.....	58,000 <sup>2/</sup>	\$ 75,000

1/ "The Arrowwood, Chase Lake, and Hobart Lake refuges are administered as one unit and are located in central North Dakota in an important waterfowl production section. The Chase Lake refuge, comprising approximately 4,560 acres, is an important waterfowl production and resting area as well as the only important nesting area for white pelicans in North Dakota. Funds are requested in the amount of \$10,000 for boundary fencing to provide the necessary control and management of the area. At the Hobart Lake refuge a reliable source of water is required to enable this area to fulfill its potential for waterfowl production; \$7,000 is requested for water development, including improvement of water supply by spring development and well-drilling for additional diking."

2/ "In the restoration of refuges on the loop of the Souris River, Lake Darling was built on the 32,000-acre Upper Souris refuge. Its primary purpose is to furnish a regulated supply of water to smaller marshy impoundments downstream and especially to those large marshes on the Lower Souris refuge, about 50 miles to the east. The lake was designed to hold a 2-year supply of water in case

drought periods threatened the lower marshes. The dam has made it possible to reduce the flow during period of flooding and to release increased amounts during period of low flow. This refuge is now 24 years old, and many of the original structures have deteriorated to the point where they must have substantial repairs since large volumes of water are handled during the spring, summer, and fall months at this point. For replacing "A" spillway with a concrete spillway, since it takes the entire flow of the Upper Souris Reservoir, \$50,000 is required; \$8,000 is needed for the replacement of the west gate in structure 83, which is essential for adequate water manipulation of Lake Darling. The dikes and water control structures on the entire project must be carefully maintained since the town of Minot lies below this refuge, with a large part of the business and residential part of the city in the path of any flood or accidental release of waters from the Souris River."

#### SOIL CONSERVATION SERVICE

Representative Lester R. Johnson of Wisconsin's 9th congressional district on March 5, 1959, said that "economic studies by the agricultural colleges have proved many times that farmers who practice soil conservation realize more income per acre than farmers on similar land who do not try to save the soil. The small watershed program provides opportunity for farmers to work together with their neighbors in town to prevent devastating floods and conserve the soil by bringing the entire watershed under control."

Watershed improvements have by a Wisconsin editor recently been described as a program to "Teach running water to walk."

Works of improvement in small watershed areas are undertaken under the authority of the Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress), as amended. There is much interest in this program in North Dakota as evidenced by the many applications for watershed development.

#### Watershed Projects (As of March 18, 1959):

Federal assistance in the installation of works of improvement has been authorized in four watersheds. The following shows the watershed name, area in acres, location by county, names of local sponsors, date approved, and estimated cost:

Watershed	Area Acres	County	Sponsoring Local Organizations	Date approval for operations	Estimated Installation Costs		
					Federal	Non-Federal	Total
Elm River	221,696	Traill Steele Cass	West Traill SCD, East Traill SCD, Steele County SCD, Traill County Water Conservation and Flood Control District	7-7-58	\$762,608	\$726,710	\$1,489,318
Swan- Buffalo	203,520	Cass	Maple River SCD, Northwest Cass SCD, Rush River SCD, Southeast Cass SCD, Maple River Water Conservation & Flood Control District	5-16-58	\$717,289	\$900,806	1,618,095
Tewaukon	93,782	Sargent, N.Dak. Marshall, S.Dak.	Wild Rice SCD, Sargent County Water Conservation & Flood Control District, Marshall County SCD	2-2-59	\$520,299	\$431,486	951,785
Wild Rice Creek	233,522	Sargent, N.Dak. Marshall, S.Dak.	Wild Rice SCD, Sargent County SCD, Sargent County Water Conservation and Flood Control District, Marshall County SCD	6-19-58	\$671,929	\$576,361	1,248,290*

\*Wild Rice Creek project is partly in North Dakota and partly in South Dakota. Federal cost for the portion in North Dakota is estimated at \$4,930 and the non-Federal cost is estimated at \$155,053.

Six other watersheds have been approved for planning. The names, size in acres, location by county, and the date planning was authorized are:

<u>Watershed</u>	<u>Area Acres</u>	<u>County</u>	<u>Date authorized for planning</u>
Louse Creek	240,000	Grant Morton	4-15-55
Elk Creek-Storm Lake	210,000	Richland Sargent Ransom	6-20-56
North Branch, Forest River	119,600	Walsh	4-30-57
Lower Forest River	240,700	Walsh Grand Forks	8-1-57
Middle-South Branch Forest River	190,886	Walsh Nelson Grand Forks	8-1-57
North Walhalla Tributaries of the Pembina River	48,100	Pembina Cavalier	8-1-57

Planning assistance has been terminated on the Louse Creek Watershed because a feasible watershed plan could not be developed at this time. Planning has been suspended on the Elk Creek-Storm Lake Watershed because of inadequate local interest. Studies necessary for the development of a work plan are under way on the other watersheds.

Twenty-two other applications for assistance have been received from North Dakota. Their names, size, location by county, and date received are as follows:

<u>Watershed</u>	<u>Size (acres)</u>	<u>County</u>	<u>Date Received</u>
Antelope	237,320	Richland	2-7-55
Crooked Creek	110,000	Sargent	2-7-55
Duck Creek	116,480	Adams	2-7-55
Edmore Coulee	237,440	Ramsey, Cavalier and Walsh	3-29-56
Flood Plains of the Park River	233,330	Pembina, Walsh	4-15-57

<u>Watershed</u>	<u>Size-acres</u>	<u>County</u>	<u>Date Received</u>
Lower Maple River	249,000	Barnes, Ransom and Cass	2-7-55
Lower Turtle River	216,600	Grand Forks	6-18-56
Maple River (West Branch)	86,400	Dickey LaMoure	7-6-56
Middle Maple River	211,840	Cass, Barnes	2-7-55
North Branch of the Park River	144,813	Cavalier, Pembina	4-15-57
Oak Creek	137,600	Bottineau, Mc- Henry, Rolette	2-7-55
Ox Creek	199,680	Bottineau, Mc- Henry, Rolette	2-7-55
Salt Lake Branch- Forest River	127,600	Grand Forks Walsh	6-18-56
Square Butte Creek	195,200	Oliver, Morton	2-7-55
South Branch of the Park River	243,302	Cavalier, Pem- bina, Walsh	4-15-57
Starkweather Coulee	244,000	Ramsey, Cavalier	2-7-55
Upper Maple River	140,800	Barnes, Cass, Steele	2-7-55
Upper Turtle River	149,320	Grand Forks	6-18-56
Upper West Souris River	223,000	Renville, Ward	6-18-56
Veblen	115,000	Sargent, N.D. Marshall, S.D.	2-7-55
Wild Rice "B"	230,000	Richland	2-7-55
Willow Creek	166,400	Bottineau, Rolette, McHenry	2-7-55

To the above list should be added the Tongue River Watershed Project designated as eligible for Federal assistance under the Watershed Protection item in the appropriation bill for fiscal year 1954. This project is located in Cavalier and Pembina Counties and was one of the original 58 pilot projects for watershed development.

## STANDARD QUADRANGLE MAPPING IN U.S.

### Status - Completion:

After making allowances for the different scales of mapping and after eliminating areas covered by maps that are out of date, the area covered by what the agency calls adequate maps is approximately 43 percent of the total area excluding Alaska.

### Selection of Areas for Mapping:

Work is carried on on about 5,500 quadrangle maps, including beginning work on 1,100 new maps.

Areas are very largely selected from two annual surveys of map requirements. One is prepared by the Bureau of the Budget and is based on statements of needs from all the agencies of government that use or require topographic maps. Each of these agencies submits annually tabulations of their map requirements, and lists the priority for each map. The Bureau of the Budget compiles these and gives the Geological Survey the assembled tabulations.

The second mechanism used is for the GS to solicit, again with priorities, from State mapping committees the map needs of State, local and industrial groups. These committees are made up of State and county officials, and individuals representing engineering and industrial organizations.

These provide a list of requirements and their priorities. The two lists are then put together and the GS can reach a reasonable and sensible unification of these two sets of requirements, which are then scheduled as new starts.

Among the new geologic and mineral resource surveys and mapping for 1960 is the Little Missouri escarpment in North Dakota where uranium deposits are present in coalbeds.

## BUREAU OF MINES

### Petroleum Reserves:

The Director of the Bureau of Mines, Mr. Marling J. Ankeny, supplied the House committee on appropriations with an interesting statement on the estimate of the quantity of crude oil underground and the number of years of supply. A copy of the statement is attached as Annex "A".

## SUGAR LEGISLATION

The present Sugar Act expires December 31, 1960. Sugar beet and sugar cane growers in the United States have been working for more than a year on proposed legislation for the extension of the Act.

Senator Ellender and 47 other Senators have introduced S. 187. A few House

bills have also been introduced. All propose to extend the present law without an expiration date. No hearings have been scheduled as yet. Those in charge of the legislation wish to wait to see what develops in Cuba in connection with its sugar production, a large amount of which is exported to the United States.

CONCLUSION

I hope that this lengthy report may have some value as reference material.

Sincerely yours,

/s/ Fred J. Fredrickson

Fred J. Fredrickson  
Planning Coordinator

(ANNEX "A")

"An estimate of the quantity of crude oil underground involves much uncertainty. A total of 300 billion barrels has been mentioned in a report by the Department of the Interior as an ultimate recovery reasonably to be expected from the United States and the adjoining continental shelves. This includes about 60 billion barrels that has already been produced and about 30 billion barrels in the proved recoverable reserve. The remainder of 210 billion barrels, out of the estimate of 300 billion barrels, represents oil yet to be discovered. Much of the more easily found oil has already been discovered and future discovery will be at increasing effort and expense.

"Although improved methods, resulting from research by the Bureau and other organizations, and application of the increased knowledge by the industry, is raising the percentage of recovery, on the average current practices recover only about 30 percent of the oil originally contained in the underground formations. In some fields the recovery will be much higher than 30 percent but in others it will be lower. Therefore, the estimate of 300 billion barrels of ultimate recovery implies that geologic formations under the United States and its continental shelves originally contained about 1,000 billion barrels, but the greater part of that oil is unrecoverable.

"Because of the way oil occurs in the oil-bearing rock and adheres to it, and because the natural energy associated with the oil will move only a part of it to producing wells, only a portion of the oil now considered to be unrecoverable can be recovered at reasonable cost. However, advances in technology can raise the percentage of recovery well above the present level. A major objective of the Bureau's research on petroleum production is to provide basic information concerning underground conditions in oilfields and the behavior of the fields under producing conditions, and to collaborate with oil operators in devising and applying methods, based on such information, to increase the percentage of recovery.

"Estimates of proved reserves can be discussed with far more certainty than estimates of ultimate recoverable reserves or of oil in the ground. The estimates of proved reserves represent the quantities estimated to be produced in the future, under economic conditions like those of the present and by operating methods now being used, from fields that have been discovered and delineated. These estimates do not include oil and gas to be discovered in the future nor increases in recovery that may result from changes in operating practice.

"Estimates of proved reserves at the end of 1958 have not yet been completed but the total will not differ greatly from the estimate at the end of 1957. The estimated proved reserve of crude oil as of December 31, 1957, was 30.3 billion barrels. That was about 11.8 times the production in 1957 of approximately 2.56 billion barrels. This does not mean, however, that the United States will be out of oil in 12 years nor that the present proved reserves would supply the United States even for 2 or 3 years if additional discoveries were not to be made.

"Nature limits the rate at which oil may be produced from a well, and the rate of production declines with age. Some of the oil in the reserve now proved may not be produced for 50 years. Additional oil is constantly being discovered and must be discovered, at increasing effort and expense, to meet the demand for domestically produced oil."



MEMO TO: Milo W. Hoisveen, Chief Engineer  
FROM: Victor E. Ziegler, Investigation Engineer  
SUBJECT: Altman-Seelig Water Dispute - Lisbon, N.D.  
DATE: April 3, 1959

I checked into the situation of the Altman-Seelig case and hereto attach Exhibits "A" and "B" to help explain the situation. I will give the situation as I saw it and any decision as to action can be discussed with Mr. Acker so that a reply can be given the people interested.

EXHIBIT "B"

*T. 135 R. 54*  
The water channel is the same channel as was in question in the Froemke-Parker case in 1919. The channel or low area is farmed across and in most cases is not very prominent and machinery moves over it with ease. Generally the low runs northeasterly through Section 23, 24 of T. 135 N., Range 55 W., and across Section 18, ~~T. 134, Rge. 55~~ where it terminates in a slough which is completely cultivated and dry. In order for the water to reach the Shyenne River a ditch 25 to 30 feet deep would have to be excavated. In fact an old ditch was cut through back in the 1920's but is partially filled in and in-operative.

This low runs through several flat areas which at one time could have been very shallow sloughs and they are all under cultivation, there is another low coming from the northwesterly direction and connects to the other low in the SW $\frac{1}{4}$  of Section 24, Twp. 135, Rge. 55. The problem in question is the drainage of the SE $\frac{1}{4}$  of Sec. 23, Twp. 135, Rge. 55, which is being drained into the low and which has an easterly gradient. The water flows across the SW $\frac{1}{4}$  of Section 24, T. 135, Rge. 55, and when it reaches the center of this section is stopped by a ridge which evidently developed back in the thirties along the fence. This causes the water to move over into the Seelig pothole in the SE $\frac{1}{4}$  of Section 24. It is very flat in this area and the water could cause considerable damage if it gets to this area. There are several other flat areas farther down.

EXHIBIT "A"

The case involves this water from the SE $\frac{1}{4}$  of Section 23 getting to Section 24, which I will show in Exhibit "A". The Soil Conservation Service assisted in the ditching of Ditches #1, #2 and #4. The other ditches were made by the landowner.

Maximum cuts in the respective ditches are approximately as follows:

Ditch 1 - 2.8 feet deep  
Ditch 2 - 2.5 feet deep  
Ditch 3 - 1.3 feet deep  
Ditch 4 - 2.2 feet deep  
Ditch 5 - 1.0 feet deep  
Ditch 6 - 2.0 feet deep.

Ditch #7 merely drains the water from one pothole to another and does not have an outlet so it does not contribute to the problem.

Altman-Seelig Case

April 3, 1959

The drains were initially dug in 1951 and were plowed open this past fall. A stock pond was also dug in 1958 in ditch #1 and has a volume storage of 1,030 cubic yards. The total yardage in the ditching amounted to about 1,730 cubic yards and the spoil was hauled into the potholes to raise them and accelerate drainage. The extensive drainage on this quarter now removes water from approximately 140 acres and if this drainage were not present, the water reaching the 12 inch culvert would not exceed 40 or 45 acres. The only way to clearly show this would be to make a detailed topographic map of this quarter.

I estimate that the drainage has been enhanced considerably and this drainage system dumps at least three times the water on Section 24 from Section 23 than would be the case if the ditching were not there.

I contacted the Soil Conservation Service Office and the plaintiff's attorney and looked at the maps presented and no topographic maps were present. The engineer for Seelig's has relative elevations from the culvert as evidence of the drainage to the culvert.

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NORTH DAKOTA STATE WATER CONSERVATION COMMISSION  
 MULTIPLE PURPOSE FUND  
 May 15, 1959

Balance, May 15, 1959 . . . . .	\$211,854.78
Refund not deposited as of 5/15/59 . . . . .	<u>140.36</u>
	211,995.14

Anticipated Refunds:

Pembina Drain #13(Pembina Co.)	1,272.52	
Spring Lake #486(Williams Co.)	<u>1,204.63</u>	
TOTAL ANTICIPATED REFUNDS		<u>2,477.15</u>

Less Outstanding Invoices:

Krider Equipment Co., Inc.	15,045.00	
Schultz Machinery Co.	2,255.80	
Larsen's Blacksmithing	45.55	
Stude's Mill Works	48.75	
Dakota Plumbing & Heating	34.50	
Keen Travel Agency	<u>62.90</u>	
TOTAL OUTSTANDING INVOICES		<u>17,492.50</u>

BALANCE BEFORE COMMITMENTS 196,979.79

Committments made by SWCC to date:

Bottineau Co.-Overgaard Lateral	12,000.00	
Bowman Co.-Scranton Flood Control	15,000.00	
Cass Co.-Drain #12-Lateral #1	1,107.34	
Cass Co.-Drain #19	1,320.42	
*Cass Co.-Drain #45	1,368.00	
Cass Co.-Drain #49	4,000.00	
McHenry Co.-Oak Willow Creek Clearing	3,000.00	
McHenry Co.-Eaton Drainage Ditch #2	432.80	
McKenzie Co.-Lewis & Clark Irrigation	17,500.00	
McKenzie-Williams Co.-Ancient Mo. River	13,900.00	
*Pembina Co.-Drain #43	1,041.47	
Pembina Co.-Rhineland Drain	2,882.88	
Pembina Co.-Walhalla Park Cutoff	2,000.00	
Richland Co.-Drain #2	2,880.00	
Slope Co.-Marmarth Flood Control	15,000.00	
Stutsman Co.-Jamestown Flood Control	8,800.00	
Traill Co.-Drains #4 & 14	8,366.91	
Traill Co.-Drain #35	8,632.00	
General Investigations	3,500.00	
Equipment-Truck	9,552.00	
Steel	<u>11,000.00</u>	

TOTAL COMMITMENTS . . . . . 143,283.82

UNENCUMBERED BALANCE . . . . . 53,695.97

\*Pending further investigation by SWCC.

NORTH DAKOTA STATE WATER CONSERVATION COMMISSION  
MONTHLY REPORT OF APPROPRIATIONS AS OF APRIL 30, 1959  
1957-1959 APPROPRIATIONS

Fund No.	Available July, 1957	Expended To Mar 31, 1959	Expended Apr, 1959	Balance Apr. 30, '59
1. Commissioners' Per Diem and Expenses . . . . .	6,000.00	4,721.37	208.35	1,070.28
2. Administration . . . . .	47,000.00	37,510.34	1,584.12	9,874.06
Refunds and Deposits . . . . .	1,968.52			
3. Maintenance of Dams. . . . .	105,000.00	166,734.95	5,719.08	21,592.06
Refunds and Deposits . . . . .	89,046.09			
4. International and Interstate Commissioners' Conference Expenses. . . . .	8,000.00	7,405.05	288.87	320.93
Refunds and Deposits . . . . .	<i>14.85</i>			
5. Topographic Surveys, Cooperation with U. S. G. S.. . . .	30,000.00	24,961.67	- -	5,038.33
6. Hydrographic Surveys, Cooperation With U. S. G. S. . . .	27,500.00	23,949.26	- -	3,550.74
7. Engineering and Geological Surveys and Demonstrations. .	37,500.00	36,178.26	1,429.36	5,199.19
Refunds and Deposits . . . . .	5,306.81			
8. Cooperation with U. S. Departments and for Organizing Conservation and Irrigation Districts. . . . .	50,000.00	37,305.03	2,211.37	10,493.60
Refunds and Deposits . . . . .	10.00			
9. Small Projects, Investigations, Surveys, Etc.. . . . .	118,000.00	103,385.96	3,837.74	13,151.28
Refunds and Deposits . . . . .	2,374.98			
10. Administration of Water Laws . . . . .	6,000.00	5,703.90	71.40	224.70
11. OASIS Refunds. . . . .	3,800.00	6,370.84	1,087.68	882.72
Transfer from Contingency Fund . . . . .	4,541.24			
	<u>\$542,062.49</u>	<u>\$454,226.63</u>	<u>\$16,437.97</u>	<u>\$71,397.89</u>

NORTH DAKOTA STATE WATER CONSERVATION COMMISSION  
MONTHLY REPORT OF APPROPRIATIONS AS OF APRIL 30, 1959  
1955-1957 APPROPRIATIONS

Fund No.	Available July, 1955	Expended To Mar. 31, '59	Expended Mar., '59	Balance Apr. 30, '59
1. Commissioners' Per Diem and Expenses . . . . .	6,000.00	6,390.63		270.40
Collections and Refunds. . . . .	661.03			
2. Administration . . . . .	40,000.00	42,453.03		41.19
Collections, Refunds, Transfers. . . . .	2,494.22			
3. Maintenance of Dams. . . . .	100,000.00	220,556.13		38.53
Collections and Refunds. . . . .	120,594.66			
4. International and Interstate Commissioners' Conference Expenses . . . . .	8,000.00	8,040.42		.18
Collections and Refunds . . . . .	40.60			
5. Topographic and Conservation Cooperation with U.S.G.S. . . . .	30,000.00	30,000.00		NIL
6. Hydrographic and Conservation Cooperation with U.S.G.S. . . . .	25,000.00	25,000.00		NIL
7. Engineering and Geological Surveys and Demonstrations . . . . .	35,000.00	35,223.93		NIL
Transfer from Number 1 . . . . .	223.93			
8. Cooperation with U. S. Departments and for Organizing Conservation and Irrigation Districts. . . . .	40,400.00	40,374.92		25.08
9. Small Projects and Investigations and Surveys. . . . .	106,000.00	125,994.37		NIL
Collections and Refunds . . . . .	19,994.37			
10. Water Right Investigations. . . . .	12,000.00	11,994.23		5.77
	<u>\$546,408.81</u>	<u>\$546,027.66</u>		<u>\$381.15</u>

NORTH DAKOTA STATE WATER CONSERVATION COMMISSION  
 MONTHLY REPORT OF APPROPRIATIONS AS OF APRIL 30, 1959  
 (CONTINUING APPROPRIATIONS)

Appropriation Title	Balance July, 1957	Expended To Mar. 31, '59	Expended Apr., 1959	Balance Apr. 30, '59
Construction Bond Guaranty Fund . . . . .	70,541.00	NIL	NIL	76,998.44
Deposit of Income from Investments and Retirement . . . . .	6,457.44			
Multiple Purpose Fund . . . . .	384,892.93	192,666.87	7,003.28	206,475.27
Collections, Refunds, Transfers . . . . .	21,252.49			

NORTH DAKOTA STATE WATER CONSERVATION COMMISSION  
 DEPOSITS IN THE BANK OF NORTH DAKOTA  
 APRIL 30, 1959

Source of Deposits	Transit Number	Amount Deposited	Expended To Apr. 30, '59	Balance Apr. 30, '59
Collections on Yellowstone Pumping Irrigation District \$3,500 Warrant. Tax collections for partial payment of interest and principal to April, 1958.	501-118	2,451.22		2,451.22
Contributions to January 1, 1957: \$35,600.10				
Contributions for Ground Water Surveys:				
Berthold		\$1,500.00		
Drake		750.00		
Ellendale		500.00		
Gackle		1,500.00		
Hatton		1,000.00		
Hillsboro		1,000.00		
Jamestown		1,500.00		
Lehr		1,000.00		
Leeds		1,000.00		
Linton		1,500.00		
Max		1,500.00		
Medina		1,000.00		
Michigan		1,500.00		
Minot		3,500.00		
Strasburg		1,000.00		
Stutsman County	501-128	61,651.66	52,133.53	<u>9,518.13</u>
<b>TOTAL OF ALL BANK OF NORTH DAKOTA DEPOSITS AS OF APRIL 30, 1959</b>				<u><u>\$11,969.35</u></u>

**PAYROLL**  
**NORTH DAKOTA STATE WATER CONSERVATION COMMISSION**  
**APRIL 30, 1959**

**PERMANENT EMPLOYEES**

Name	Position	Pay Grade	Salary April	With. Tax	Soc. Sec.	Hosp. Ins.	Savings Bonds	Net Pay	Remarks
Hoisveen, Milo W.	State Engineer	O-6	881.67	132.00	22.04	12.60	18.75	696.28	Inc Apr '59
Baesler, Gordon	Draftsman	F-2	326.17	48.30	8.15	- -	- -	269.72	Inc Mar '59
Cooper, Vernon S.	Ass't Secretary	YM-4	363.84	71.00	9.10	12.60	- -	271.14	Inc Mar '59
Fredrickson, Fred	Coordinator	F-5	350.00	32.60	8.75	- -	- -	308.65	Inc Feb '58
Gehring, Edna	File Clerk	B-10	211.67	37.80	5.29	5.45	- -	163.13	Inc Jan '59
Grindberg, Alan	Engineer	H-5	466.67	74.60	11.67	- -	- -	380.40	Inc Dec '58
Johnson, Lloyd	Const. Foreman	F-9	170.16	22.23	4.25	- -	- -	143.68	Quit Apr '59
Krebsbach, Joseph	Instrumentman	F-6	364.17	25.50	9.10	12.60	- -	316.97	Inc Apr '58
Putz, Roy	Material Expert	A-9	185.00	13.50	4.63	5.45	- -	161.42	Inc Dec '57
Reiners, Ernest	Rodman	D-5	183.37	11.33	4.58	- -	- -	167.46	Quit Apr '59
Reiter, Daniel	Const. Foreman	F-9	392.67	31.30	9.82	12.60	18.75	320.20	Inc Mar '59
Sackman, Eugene	Instrumentman	F-5	354.67	14.00	8.86	12.60	- -	319.21	Inc Mar '59
Sandwick, Hazen	Engineer	K-5	634.67	61.60	15.87	12.60	37.50	507.10	Inc Mar '59
Schulz, Jim	Bookkeeper	E-5	298.67	44.00	7.47	- -	- -	247.20	Inc Jan '59
Schweigert, Luella	Chief Steno	F-5	354.67	64.10	8.87	- -	- -	281.70	Inc Jan '59
Schwinkendorf, Donald	Rodman	B-8	168.05	22.00	4.20	- -	- -	141.85	Sta Apr '59
Schwinkendorf, Glenn	Rodman	A-9	154.15	19.60	3.85	- -	- -	130.70	Sta Apr '59
Silbernagel, Jacob	Rodman	A-9	154.15	19.60	3.85	- -	- -	130.70	Sta Apr '59
Silbernagel, Joseph	Rodman	A-9	111.00	14.10	2.78	- -	- -	94.12	Sta Apr '59
Timm, Robert J.	Asst. St. Engr.	K-7	668.67	68.80	16.72	12.60	- -	570.55	Inc Mar '59
Walterson, Howard	Const. Foreman	F-9	392.67	61.30	9.82	12.60	- -	308.95	Per Mar '59
Walterson, Jean	Clerk-Typist	D-3	238.50	12.80	5.96	- -	18.75	200.99	Inc Jan '59
Ziegler, Victor	Engineer	J-3	547.67	79.00	13.69	12.60	- -	442.38	Inc Dec '58

**TEMPORARY EMPLOYEES**

Burkhardtmeier, Albert	Operator	1.85	279.35	40.80	6.98	- -	- -	231.57	Hourly Pay
Johnson, George T.	Operator	1.60	7.20	.95	.18	- -	- -	6.07	" "
Knutson, Lewis	Driller	1.95	526.50	85.40	13.17	- -	- -	427.93	" "
Lauinger, Anton B.	Operator	1.80	241.20	36.50	6.04	- -	- -	198.66	" "
McMaster, George	Driller	2.50	695.00	106.00	17.38	- -	- -	571.62	" "
Randall, Robert	Operator	1.95	374.40	58.70	9.37	- -	- -	306.33	" "
Renville, Harry	Operator	1.85	351.50	53.90	8.79	- -	- -	288.81	" "
Urness, Joseph G.	Operator	1.80	280.80	41.30	7.03	- -	- -	232.47	" "