

60

SLADE NATIONAL WILDLIFE REFUGE
Dawson, North Dakota

ANNUAL NARRATIVE REPORT
Calendar Year 1977

NATIONAL WILDLIFE REFUGE SYSTEM
Fish and Wildlife Service
U.S. DEPARTMENT OF THE INTERIOR

comments

RESOURCE MANAGEMENT ROUTING SLIP

☒ Beaty
☐ Kvernmo
☐ Wills
☐ Brown

☒ Sontag
☒ Fowler
☒ McCrea
☒ Potts

☐ Nelson
☐ Quinter
☐ Bender
☐ Stieglitz

☒ Young
☒ Frickie
☒ Baldacchino
☒ Omani

☒ Adams
☒ Carlsen
☐ Forester

☐ Operations

☐ Planning

From:

Date:

Personnel

1. John R. Foster, Complex Manager, GS-12 PFT, EOD 8/22/77
2. James W. Matthews, Complex Manager, GS-12, Transferred 6/9/77
3. Phillip M. Arnold, Ass't Mgr., GS-11 PFT
4. Peter T. Smith, Slade NWR Manager, GS-9, PFT, EOD 5/22/77
5. Robert L. Wright, Slade NWR Manager, GS-9 Transferred 2/27/77
6. Gloria K. Kosse, Administrative Clerk, GS-5 PFT
7. Theodore Schauer, Maintenceman, GS-7 PFT
8. Alvin L. Hottman, Biological Aid, GS-3 PT 4/11-12/31/77

Review and Approvals

<u>Peter T. Smith</u>	<u>4/5/78</u>	<u>[Signature]</u>	<u>4/13/78</u>
Submitted by	Date	Area Office	Date
<u>Slade NWR</u>		<u>[Signature]</u>	<u>6/9/78</u>
Refuge		Regional Office	Date
<u>[Signature]</u>			
Complex Office			

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I. GENERAL

A. Introduction

Slade National Wildlife Refuge lies in south-central North Dakota. This 3,000-acre area is a remnant of the prairie pothole waterfowl habitat of the glaciated plains. The refuge encompasses five semi-permanent lakes and marshes and numerous small potholes. This general area of North Dakota was well known during the early 1900's for its tremendous numbers of waterfowl. The late George T. Slade, a Northern Pacific Railroad executive, purchased the land around Harker Lake to establish a shooting club. A dedicated conservationist, he spent a considerable sum of money during the drought of the 1930's to maintain resting and feeding areas for waterfowl. In 1940, he donated the entire club for establishment of the Slade National Wildlife Refuge. Today, ducks and geese utilize the refuge seven months of the year. Fall waterfowl numbers peak at 10,000 to 15,000 migrants each year. Shorebirds, gulls, terns, marsh and water birds are abundant during mid-summer offering excellent bird watching opportunities. Because Slade is located in the heart of the Central Flyway, it is an important link in the National Wildlife Refuge System.

Included in this report are Florence Lake National Wildlife Refuge and the following easement refuges: Sunburst Lake, Appert Lake, Springwater Lake, Flickertail, Lake George, Hutchinson Lake and Canfield Lake. All of these refuges are located within the area of Burleigh, Kidder and Emmons counties. Florence Lake contains 1,600 acres and is located in northern Burleigh county. Portions of Sunburst and Canfield easement refuges are held in fee title. All easement refuges are closed to hunting and involve impoundment of water or natural lakes on private land.

B. Climatic and Habitat Conditions

The last six months of 1976 were dry with rainfall amounting to only 44% of normal for that period. The year of 1977 started the same way with only 51% of the expected rainfall during the first five months. Putting both of these water shortages together back to back resulted in one of the poorest waterfowl breeding seasons in recent years. The majority of potholes and smaller lakes were dry throughout the spring and summer. Upland habitat sites lacked vigorous vegetative growth and most cultivated crops had marginal success. Easement refuges were generally in very poor condition with farming, haying and grazing occurring entirely at the owner's discretion. The best cover was offered by weedy fallow fields, marsh vegetation and dense nesting cover plantings

(DNC), in that order.

Rainfall actually amounted to about 19.5 inches or 1.3 inches above normal, but 85% of it fell after June 1. Two rainfalls exceeded 2.0 inches, with 2.38 inches falling on September 18 and 2.10 inches falling on June 5 at Slade.

A localized heavy rainfall near Linton, ND, dumped 4.6 inches in two and a half days. Two earthen dams at Sunburst Lake were completely washed out because of it. This same storm caused considerable bank erosion on Horsehead Creek which passes through Sunburst. We either had not enough water at the wrong time, or too much water in too short of a period.

The high temperature was recorded on July 17 at 103°, and the low occurred on January 12 at -32° at Slade.

C. Land Acquisition

A parcel of land has been purchased adjacent to the Canfield Lake easement refuge. About eight-hundred acres will come under ownership in January 1979. This additional acreage will expand our ownership to include three-quarters of the lake's shoreline. At the present time, there are approximately 120 acres of water, 220 acres of marsh, 160 acres of native prairie and 300 acres of tillable land in the parcel.

Purchase of land is unlikely in the near future.

D. System Status

These areas are part of the Arrowwood NWR complex. Objectives and funding are merged with those of the complex.

II. CONSTRUCTION & MAINTENANCE

A. Construction

There has been no construction this year on any of the areas.

Sunburst Lake will require the repair of two earthen dams and a short dike road this coming spring. The main dam, which has needed work since 1946, may be repaired if the money is available.

B. Maintenance

No major maintenance was attempted this year with the change-over of personnel at the station.

C. Wildfire

No fires were reported or observed on any of the areas this year.

III. HABITAT MANAGEMENT

A. Croplands

A total of 187 acres were farmed on Slade NWR this year by two permittees. The refuge share of small grain was 52 acres, which was left standing in the fields. The yield was so poor because of the drought that the permittees also left 53 acres unharvested. Refuge personnel worked 170 acres into summer fallow for spring seeding of DNC in 1978. The management trend at Slade is to get away from farming and increase DNC plantings. A total of 364 acres has been planted in the last four years.

Florence Lake had one permittee working 85 acres. The refuge share was 26 acres of corn and sunflowers which were left standing in the fields. The number of acres farmed has been reduced the last two years with the planting of DNC.

The Service has no control over farming on the easement refuges.

B. Grasslands

Emergency haying was allowed this year on Slade due to drought conditions. A total of 72 acres were released on five different sites. The names of interested parties were drawn from a hat. The first name drawn had first choice of a site and so on down the line. Each permittee was charged four dollars per acre for a total refuge revenue of \$288.00. All sites were former farm fields which contained tame grasses and old DNC plantings with marginal wildlife value.

No haying was allowed on Florence Lake; and easement refuges are managed by the landowner.

The controlled burn that was scheduled on 100 acres of native prairie on Slade was cancelled due to lack of personnel.

The grazing program at Slade was eliminated in 1972. Florence Lake was grazed by two permittees for a total of 241 animal unit months (AUM's). This was the first year of a three-year grazing program. Under this system, a permit is issued to a cattleman to graze two months out of each year on the refuge. Three grazing periods were established from May-June, July-August, and September-October. Each area to be grazed has a maximum number of AUM's that can be used. At the end of the third year, the habitat can be examined to determine future management needs.

Many easement refuges in private ownership are plagued by over-grazed conditions. Sunburst Lake easement refuge has 580 acres in fee title. A grazing permit was issued for 200 AUM's during May and June of this year. Future grazing intensity will be reduced because an examination revealed erosion problems in the rough terrain.

Slade refuge has a program of noxious weed control. There remains a few scattered clumps of leafy spurge which were hand sprayed twice with 2,4-D.

C. Wetlands

Water levels are not controlled on Florence Lake. Sunburst Lake has six low dikes and one dam that hold high water flows from Horsehead Creek and its tributaries. Two of these dikes were washed out on June 16 due to heavy rains. Despite these problems and the fact that the creek slowed to a trickle, water levels remained good on the easement.

Slade maintained adequate water levels in the five major lakes and marshes. All other sites normally wet, were dry in May.

In September, a complete overhaul of existing goose nesting structures was made on Slade. This project was initiated by Mike Johnson, a graduate student from the University of Minnesota, and six YCC students. Mike's interest stems from his thesis work conducted on hand-reared Canada Geese released in North Dakota. All nests were inspected and about twenty-five structures were removed for rehabilitation. Depredation to nests has increased in recent years due to the poor condition of the structures. Mike marked new nesting sites for the rehabilitated structures based on his past experience at Slade.

Water levels are not controlled on Florence Lake. Most marshes and potholes were dry during the spring and summer.

D. Forestlands

There were no shelterbelts planted this year.

A joint project undertaken by the Plant Material Center of the Soil Conservation Service and the Fish and Wildlife Service was begun on Florence Lake. The experiment involves a new method of planting trees and shrubs on areas previously sprayed with herbicides to kill all vegetation. This procedure, if perfected, could save planting time and periodic weed cultivation each year. The dead vegetation would inhibit weed

growth while protecting the soil from erosion as the plantings become established.

A quarter-acre site on Florence Lake was sprayed and will be planted to trees in the spring of 1978.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Nothing to report.

G. Easements for Waterfowl Management

The management of easements is limited to maintenance of boundary signs and law enforcement activities during the hunting seasons.

IV. WILDLIFE

A. Endangered and/or Threatened Species

Observations of four Whooping Cranes on October 31 were made at Long Lake NWR which is nineteen miles southwest of Slade. An unconfirmed sighting of one Whooping Crane was made on September 4 at Crystal Springs, ND, about twelve miles east of Slade.

B. Migratory Birds

1. Waterfowl

The first Canada Goose this spring was observed flying over Slade on March 9. At the end of the month, the goose population peaked at 300 birds.

Ducks were first observed at Slade on March 17. Early migrants were predominantly diving ducks (Redhead, Scaup, Ringneck and Canvasback). Puddle ducks were best represented by Mallards, Gadwall, Blue-Winged Teal and Shovelers. Despite dry conditions, breeding populations of Mallards, Gadwall, Pintail, Blue-Winged Teal, Redhead, Canvasback and Ruddy ducks were observed on Harker Lake.

The Canada Goose spring population was thirty-five adults with eight active nests. Four nests were destroyed by predators and four hatched producing twenty-one goslings. There have been no captive geese on Slade since 1972. The parents of the twenty-one goslings are remnants

of the captive flock or their descendents. The goose flock has decreased in size and productivity since 1971. Because of this fact, an effort was begun to upgrade all nesting structures to reduce predation to a minimum.

Peak fall duck populations were around 2,200 birds in mid-October. Duck numbers in the area were noticeably down according to local hunters. Goose numbers approached 3,200 birds during the third week of October.

Figures are not available for waterfowl use on Florence, George, Canfield and Sunburst Lakes but both ducks and geese use these areas in varying degrees. The remaining four easement refuges have little, if any, use.

2. Marsh and Water Birds

Nothing to report.

3. Shorebirds, Gulls, Terns and Allied Species

Nothing to report.

4. Raptors

Nothing to report.

5. Other Migratory Birds

Nothing to report.

C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

Slade has a White-tailed deer population of about fifteen animals. This hunting season, November 11-20, an estimated seven deer were harvested during fifty hunter visits. In late December, the wintering deer herd had expanded to thirty.

Hunting is not allowed on Florence Lake or any of the easement refuges. Florence Lake has a deer population of between six and twelve animals. All of the easement refuges have a few deer with the exception of the Flickertail and Hutchinson areas.

Fur bearer trapping permits were issued on Springwater, Sunburst and Florence Lake this year.

Trappers experienced bad weather conditions with deep snows and frequent blowing snow hampering their activities. Reports indicate little, if any, furs were taken by the three permittees.

2. Other Mammals

Nothing to report.

3. Resident Birds

Generally, upland bird numbers have been on the increase on Slade and most easement areas for the past two years. DNC plantings on Slade and Florence Lake and recent mild winters have contributed to this increase. Unfortunately, the winter of '77-78 proved to be severe as early as December. Two blizzards and a freezing rain have taken a heavy toll on pheasants and some song birds. Prolonged winter conditions can only make matters worse for all birds.

4. Other Animal Life

Nothing to report.

V. INTERPRETATION & RECREATION

A. Information and Interpretation

1. On-Refuge

This spring, the Kidder County SCS conducted a field trip to Slade. Their main objective was to learn about the nesting geese and other forms of wildlife on Slade. Manager Jim Matthews from Arrowwood NWR presented a program for the eighty students from Steel and Tappen, ND.

Two other programs were conducted on Slade during the spring and summer. Mike Johnson, a graduate student from the University of Minnesota, presented a wildlife slide program to thirty-five grade school students. Greg Simonson, Animal Damage Control, US Fish & Wildlife Service, demonstrated trapping techniques to a 4-H group.

2. Off-Refuge

Nothing to report.

B. Recreation

1. Wildlife Oriented

Slade probably had no more than 250 visits all year. Approximately fifty visits were due to the fall deer hunt, which is the only hunt that is allowed. Trapping is allowed by permit only, but no one was interested during the winters of '76-77 or '77-78.

A small number of local people and out-of-state visitors stopped during the course of the year to view wildlife.

2. Non-Wildlife Oriented

Slade has a developed area bordering on Lake Isabel which is used as a swimming and picnic area. A few years back, the refuge turned the management of this area over to the Kidder County Water Management Board. Use of the area has decreased in recent years with possibly only 150 visits this summer.

C. Enforcement

No violations were observed on Slade or any of the easement refuges this year.

VI. OTHER ITEMS

A. Field Investigations

Northern Prairie Wildlife Research Center continues to monitor the Canada Goose release program that was established on Slade in 1969. A thesis by Mike Johnson entitled Productivity of Hand-Reared Canada Geese Released in North Dakota is on file in the refuge office.

B. Cooperative Programs

Nothing to report.

C. Items of Interest

Manager Bob Wright transferred to Sand Lake NWR, South Dakota, in February. Maintenance man Ted Schauer maintained the refuge until June 3, 1977 when Peter Smith came aboard as the new manager.

Greg Simonson, a Fish and Wildlife Service employee with Animal Damage Control, moved from refuge housing on Slade to take a new position in western North Dakota in September.

D. Safety

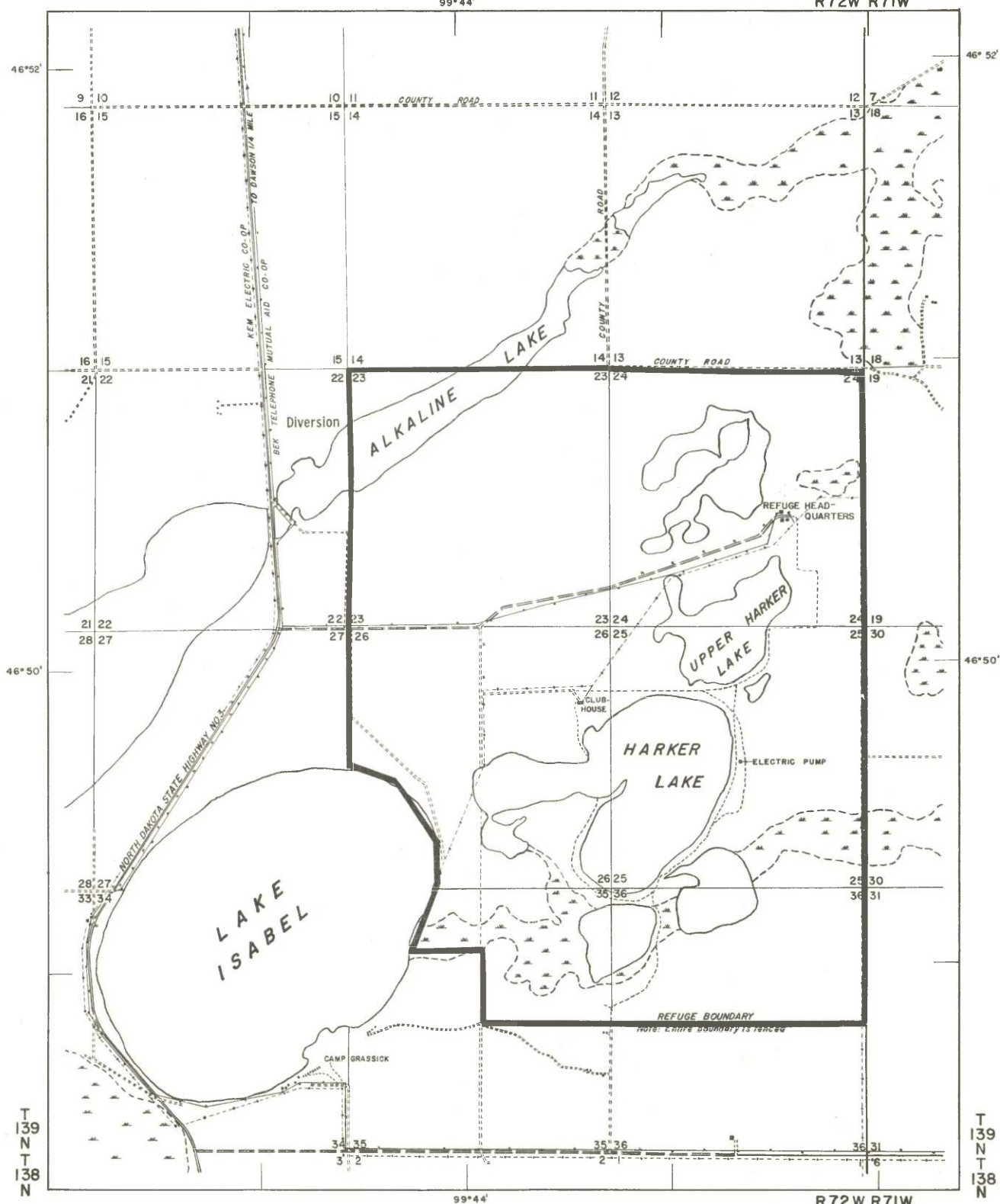
Refuge employees and the using public enjoyed an accident-free year.

SLADE NATIONAL WILDLIFE REFUGE

KIDDER COUNTY, NORTH DAKOTA

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
R72W R71W



COMPILED IN THE BRANCH OF ENGINEERING
FROM OFFICIAL PLATS OF THE B.L.M. AND
FROM SURVEYS BY THE U.S.G.S. AND B.S.F.&W.
MINNEAPOLIS, MINNESOTA MARCH, 1960

FIFTH PRINCIPAL MERIDIAN
Scale 20 0 20 40 60 CHAINS
1/4 0 1/4 1/2 3/4 MILES

10	11	12
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28	29	30
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34	35	36

TOWNSHIP
DIAGRAM

TRUE NORTH
MAGNETIC N.

MEAN
DECLINATION
1960

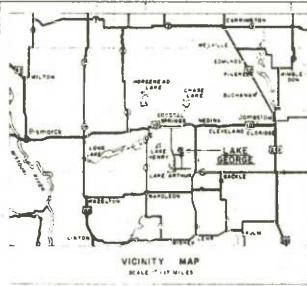
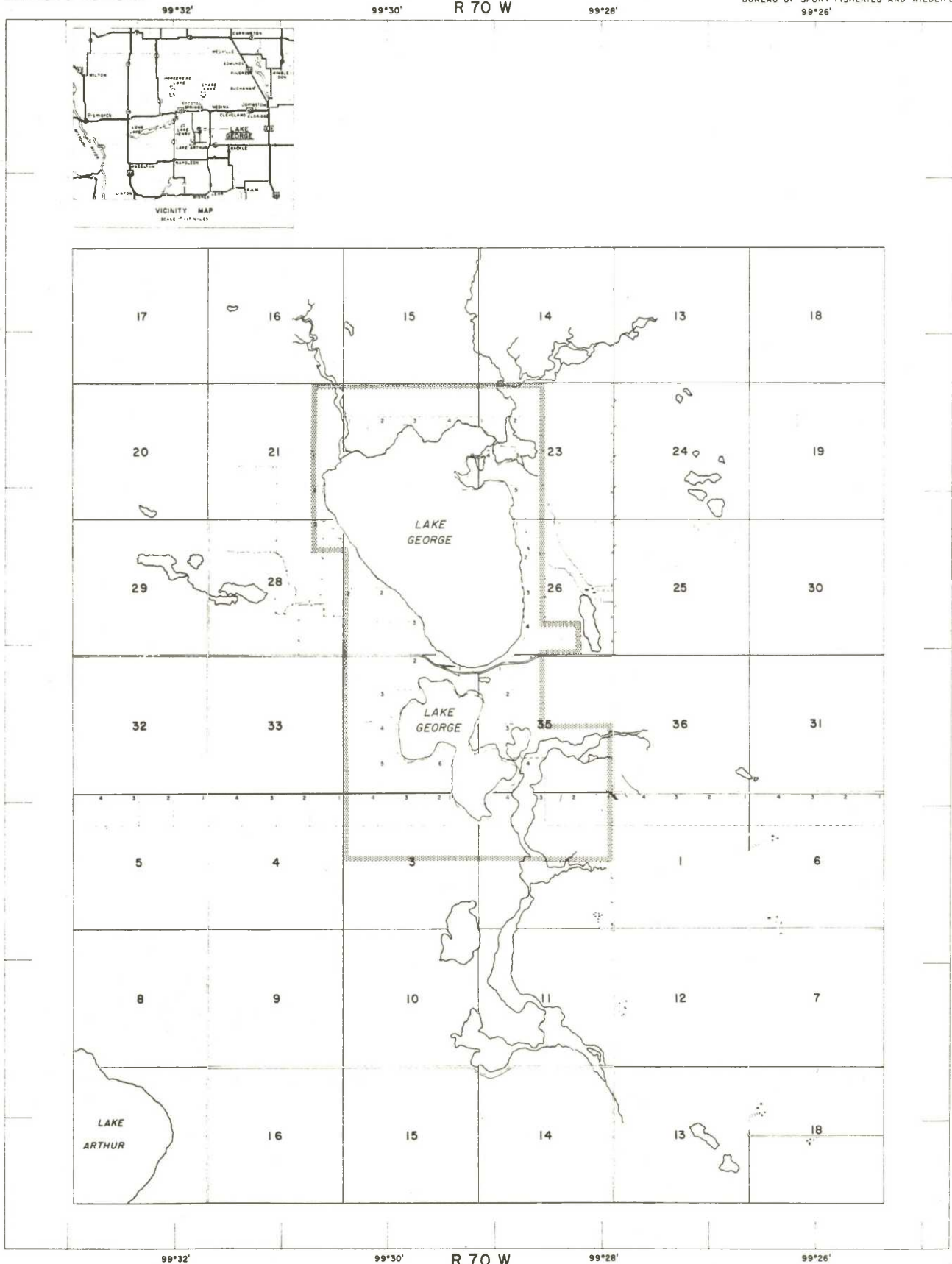
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PURCHASE BOUNDARY LAKE GEORGE NATIONAL WILDLIFE REFUGE

KIDDER COUNTY, NORTH DAKOTA

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



COMPILED IN THE BRANCH OF REALTY
FROM AERIAL PHOTOGRAPHS AND MAPS OF
THE U.S. DEPARTMENT OF INTERIOR FISH
& WILDLIFE SERVICE

WASHINGTON, D. C. MAY, 1960

FIFTH PRINCIPAL MERIDIAN



6 5 4 3 2 1
7 8 9 10 11 12
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25 26 27 28 29 30
31 32 33 34 35 36

TOWNSHIP
DIAGRAM

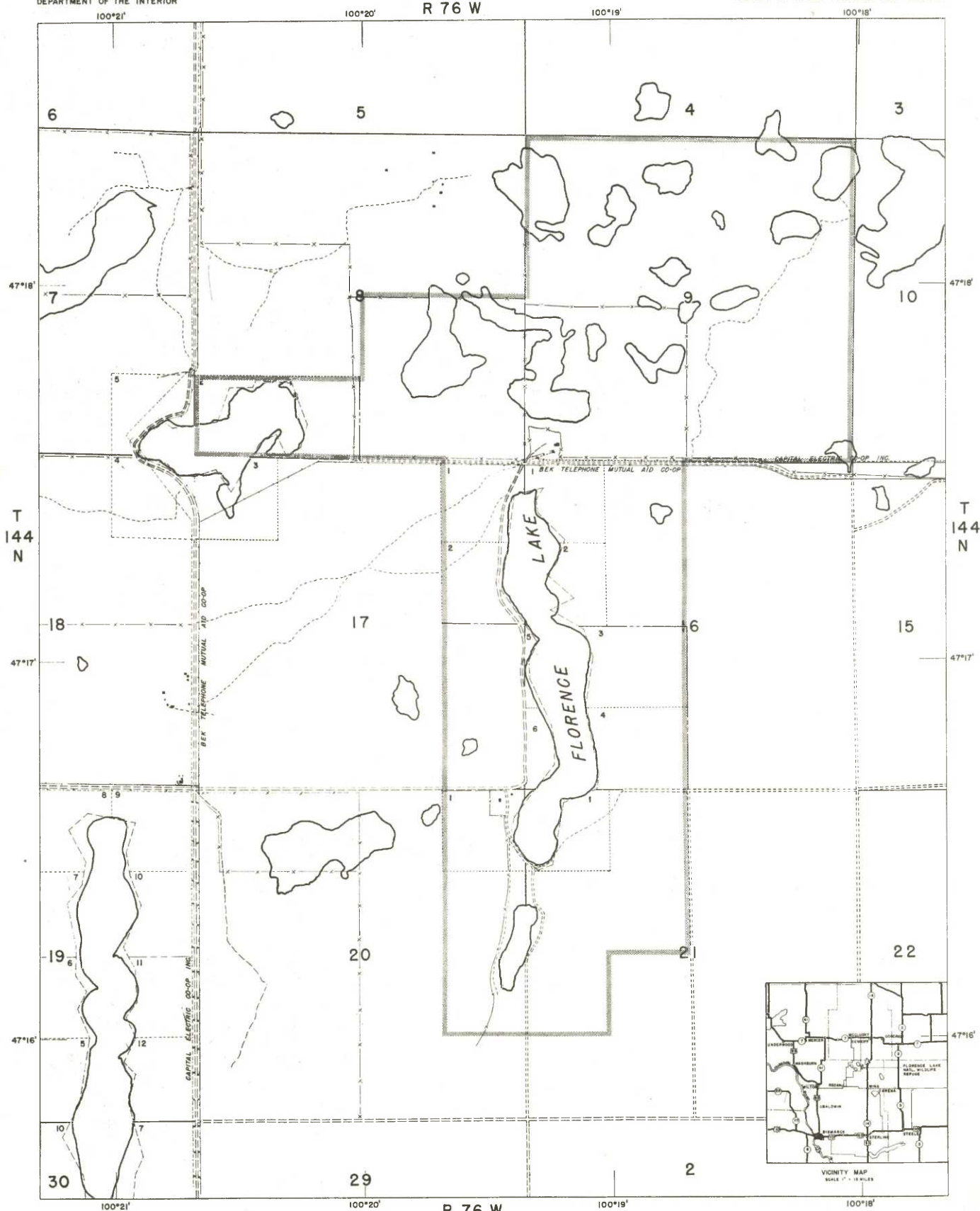
MEAN
DECLINATION
1955

PURCHASE BOUNDARY FLORENCE LAKE NATIONAL WILDLIFE REFUGE

BURLEIGH COUNTY, NORTH DAKOTA

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



COMPILED IN THE BRANCH OF REALTY
FROM AERIAL PHOTOGRAPHS AND OFFICIAL
PLATS OF B.L.M.

WASHINGTON, D. C.

MAY, 1960

FIFTH PRINCIPAL MERIDIAN

SCALE 0 10 20 40 60 80 CHAINS 1 MILE

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36	35	34	33	32	31

TOWNSHIP
DIAGRAM



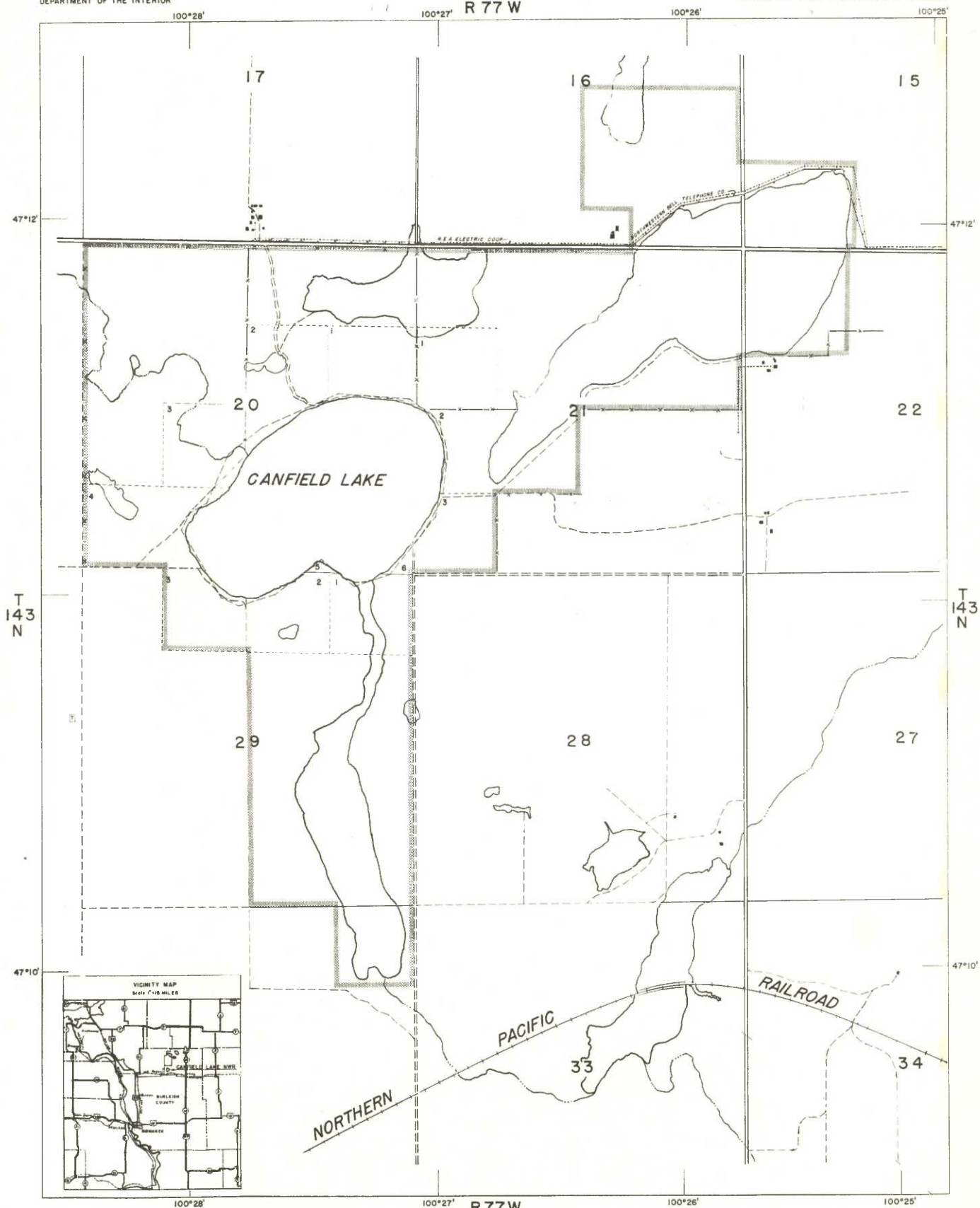
TRUE NORTH
MAGNETIC

MEAN
DECLINATION
1959

PURCHASE BOUNDARY
CANFIELD LAKE NATIONAL WILDLIFE REFUGE
 BURLEIGH COUNTY, NORTH DAKOTA

UNITED STATES
 DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
 BUREAU OF SPORT FISHERIES AND WILDLIFE



COMPILED IN THE BRANCH OF REALTY
 FROM AERIAL PHOTOGRAPHS AND OFFICIAL
 PLATS OF B.L.M.

WASHINGTON, D. C. MAY, 1960

FIFTH PRINCIPAL MERIDIAN



6 5 4 3 2 1
 7 8 9 10 11 12
 13 14 15 16 17 18
 19 20 21 22 23 24
 25 26 27 28 29 30
 31 32 33 34 35 36

TOWNSHIP
 DIAGRAM

TRUE NORTH
 MAGNETIC N

DECLINATION
 1955

SLADE WETLAND MANAGEMENT DISTRICT
Dawson, North Dakota

ANNUAL NARRATIVE REPORT
Calendar Year 1977

NATIONAL WILDLIFE REFUGE SYSTEM
Fish and Wildlife Service
U.S. DEPARTMENT OF THE INTERIOR

Comments

RESOURCE MANAGEMENT ROUTING SLIP

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8. Alvin L. Hottman, Biological Aid, GS-3 PT 4/11-12/31/77

Review and Approvals

<u>Peter T. Smith</u>	<u>4/5/78</u>	<u>James W. Matthews</u>	<u>4/13/78</u>
Submitted by	Date	Area Office	Date
<u>Slade WMD</u>		<u>Gerald J. Wilson</u>	<u>6/9/78</u>
Refuge		Regional Office	Date
<u>John R. Foster</u>			
Complex Office			

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I. GENERAL

A. Introduction

The Slade Wetland Management District is situated in Burleigh, Emmons and Kidder Counties. These counties are located in south-central North Dakota bordering the east bank of the Missouri River. This district is a part of the Arrowwood Wetland Complex. Within the three-county area, wetland production areas (WPA's) and wetland easements are managed or protected for waterfowl production.

Years ago it became evident that the prairie potholes of North Dakota needed protection to preserve waterfowl breeding grounds. Many potholes were being drained or filled by farmers to increase cultivated acreage. To combat this problem, the Fish & Wildlife Service developed three methods of protecting wetlands, namely, the national wildlife refuge system, wetland production areas and wetland easements on private lands. This report deals with the latter two methods of protection on the Slade Wetland Management District.

B. Climatic and Habitat Conditions

The three-county area was generally very dry the first six months of 1977 and the last six months of 1976. When rains did relieve the drought in June, most of the damage to waterfowl had already been done. When the migrating waterfowl arrived in the spring, they found seven out of ten wetland areas dry. Birds were forced elsewhere to find suitable habitat. Throughout the summer and early fall water conditions improved until by October most wetland sites were holding water. Fall migrants found ample resting and feeding areas on their way south.

Many farmers experienced poor crops and were cutting slough grass for winter forage needs. Vegetation growth was relatively short even on WPA's. Snowfalls were heavy during November and December. A brief warm spell accompanied by rain covered everything with ice in December. Resident game birds, particularly pheasant, were hard pressed to find suitable cover. The winter of 1977-78 had all the elements of a bad winter for wildlife.

C. Land AcquisitionI. Fee Title

Four new wetland production areas (WPA's) were added in 1977. In addition to these, eight areas were purchased and will be under Fish and Wildlife ownership by December 1978. The following table represents the present status of wetland production area ownership as of December 31, 1977.

Burleigh County

<u>WPA</u>	<u>Mgt. Unit</u>	<u>Tract No.</u>	<u>Acres</u>	<u>Date of FWS Ownership</u>
Adams, G.	1	86	160.00	Dec. 1968
Adams, J.	2	250	160.00	Dec. 1976
Adams, J.		250a	157.00	Dec. 1977
Adams, J.		250b	.51	Dec. 1977
Berg C.	3	138	77.00	Dec. 1971
Gellner R.		140	10.00	Dec. 1971
Bernhardt W.	4	46	160.00	Dec. 1967
Bryan W.	5	178	22.81	Dec. 1973
Bryan W.		178a	7.43	Dec. 1973
Mohler O.		185	52.00	Jan. 1974
Clizbe D.	6	141	160.00	Dec. 1971
Haid A.	7	142	43.37	Dec. 1971
Leno D.	8	40	60.00	Oct. 1966
North Daktoa	9	2	160.00	Jan. 1975
Public Domain Land	10	1a	40.00	
Public Domain Land	11	1b	8.50	
Rachel R.	12	70	41.34	Sept. 1967
Hoff A.		37	84.85	June 1967
Rohrbach C.	13	69	64.00	June 1967
Schauer V.	14	147	204.54	Dec. 1971
Slovarp D.	15	134	90.09	Jan. 1971
Small R.	16	226	285.00	Dec. 1974
Seven Day Advent.	17	253	221.70	Dec. 1976
Trusty L.	18	11	87.30	June 1965
Public Domain Land		1	80.00	
Uhde W.	19	10	83.60	Dec. 1961
Uhde W.		10a	68.10	Dec. 1961
YMCA	20	150	160.00	Dec. 1971
Crimmins H.	21	109a	22.20	Dec. 1976
Crimmins H.		109b	205.90	Dec. 1976
Crimmins H.		109c	238.20	Dec. 1976
Crimmins H.		109d	667.18	Dec. 1976
Crimmins H.		109e	417.60	Dec. 1976

Burleigh County (cont.)

<u>WPA</u>	<u>Mgt. Unit</u>	<u>Tract No.</u>	<u>Acres</u>	<u>Date of FWS Ownership</u>
Ryberg, T.	22	242	30.00	Dec. 1975
Wonnenberg L.	23	240	228.11	Dec. 1975
Wonnenberg L.		241	305.48	Dec. 1975
Wonnenberg L.		241a	318.00	Dec. 1975
Wonnenberg L.		243	203.31	Dec. 1975
Oswald D.	24	255	309.68	Dec. 1977

TOTAL BURLEIGH CO. 24 units 5,694.80 acres

Kidder County

Albright D.	1	75	454.46	Dec. 1965
Almer A.	2	129	280.00	April 1971
Bechhold W.	3	11	240.00	Dec. 1961
Bechhold W.		11a	560.00	Oct. 1962
Bertsch W.	4	14	160.00	July 1962
Morrison B.		69	40.00	Dec. 1967
Morrison B.		69a	17.00	Dec. 1967
Gaub J.	5	389	132.82	Nov. 1968
Gaub J.		389a	.76	April 1971
Hoots N.		407	2.00	Dec. 1971
Goldsmith C.	6	158	460.00	Dec. 1966
Kleppe H.	7	228	74.00	Dec. 1967
Kleppe H.	9	228a	86.23	Dec. 1975
Kleppe H.	8	228b	252.87	Dec. 1975
Lang G.	9	245	162.12	Dec. 1975
Martin I.	10	268	60.15	Dec. 1967
Martin I.		268a	40.10	Dec. 1967
Public Domain Land	11	1	280.00	
Public Domain Land	12	1a	80.00	
Public Domain Land	13	1b	40.00	
Public Domain Land	14	1c	40.00	
Public Domain Land	15	1d	40.00	
Personius G.	16	405	304.00	Dec. 1971
Plieness W.	17	12	160.00	Dec. 1962
Schmidt R.	18	32	60.00	Oct. 1965
Stark B.	19	404	67.58	Dec. 1971
Thacker S.	20	10	80.00	Sept. 1960
Vogel A.	21	229	386.00	Dec. 1967
Morrison H.	22	73	40.00	Dec. 1967
Whitman P.	23	506	1.00	Dec. 1977

TOTAL KIDDER CO. 23 units 4,601.09 acres

Emmons County

<u>WPA</u>	<u>Mgt. Unit</u>	<u>Tract No.</u>	<u>Acres</u>	<u>Date of FWS Ownership</u>
Delzer H.	1	14	68.00	Dec. 1963
Foell Q.	2	13	630.27	Dec. 1963
Haak J.	3	17	20.28	Dec. 1964
Mattern B.	4	41	160.00	Dec. 1969
Rohrich F.	5	124	153.01	Dec. 1972
Walther M.		125	187.66	Dec. 1972
Weiszhaar H.		197	149.86	Dec. 1973
Schiermeister J.	6	10	580.84	Dec. 1961
Silvernagle M.	7	15	80.00	Dec. 1964
Sisco L.	8	11	640.00	Dec. 1962
Fallgatter A.		12	213.52	Dec. 1962

TOTAL EMMONS CO. 8 units 2,883.44 acres

The status of WPA acquisition compared to FWS goals is represented in the following table:

<u>County</u>	<u>Mgt. Units</u>	<u>1976</u>		<u>Mgt. Units</u>	<u>1977</u>		<u>Goal</u>
		<u>Acres</u>			<u>Acres</u>		
Burleigh	21	5,136		24	5,695		10,000
Emmons	8	2,883		8	2,883		7,700
Kidder	21	4,600		23	4,601		13,400
TOTALS	50	12,669		55	13,179		31,100

The North Dakota Legislature passed Senate Bill 2016 this year requiring new state procedures in purchasing WPA's. In the past, county commissioners reviewed the purchases giving recommendations to the Governor for his final decision. The new bill required the commissioners to hold public hearings and to physically inspect each site. An environmental assessment must be made by the FWS, and a county agent, or similar individual, must prepare a socio-economic impact analysis for the county's review. All of these steps require more time and involvement in the purchasing process. Before this new law, commissioners dealings on land purchases were not as actively pursued with county residents. The sentiments and feelings are now a part of the decision making process. In general, the FWS image in North Dakota is not as bright as it could be for various reasons. The effect of all this, due to the new bill, has been a slowdown in acquisition and in some areas it has stopped altogether.

The North Dakota realty staff was able to purchase a number of areas before Senate Bill 2016 went into effect. The following properties were purchased in 1977 and will come under management in December 1978.

<u>WPA</u>	<u>Tract No.</u>	<u>Acres</u>	<u>County</u>
Braun A.	500	160.00	Kidder
Guthmiller R.	376	160.00	Kidder
Mayer C.	501	157.42	Kidder
Neustal H.	503	160.00	Kidder
Whitman W.	92	320.00	Kidder
Basaraba J.		820.00	Burleigh
Thorstad L.		160.00	Burleigh
Victor F.		639.74	Burleigh
Totals	8 units	2,577.16 acres	

2. Easements

The present status of the easement program is as follows:

<u>County</u>	<u>1975 Wet Acres</u>	<u>1976 Wet Acres</u>	<u>1977 Wet Acres</u>	<u>Goal</u>
Burleigh	22,930	23,068	23,092	19,500
Emmons	10,864	11,339	11,339	7,000
Kidder	59,835	60,823	61,221	53,000
TOTALS	93,629	95,230	95,652	79,500

As mentioned earlier, the state of North Dakota passed legislation this year which altered acquisition of WPA's and easements. Under Senate Bill 2016, "easements shall terminate upon the death of a landowner or upon change of ownership". This precludes the procurement of perpetual wetland easements which was the custom of all acquisitions. Under these circumstances, the FWS has temporarily suspended easement acquisition in North Dakota and has referred the matter to the Interior and Justice Departments in Washington.

Easement and agriculture have co-existed in relative harmony since the program began. The farmer or rancher agreed under the easement program not to drain, fill or burn his wetlands. Normal farming practices such as grazing, hay cutting, plowing and cropping wetlands are possible if the wetland is dry of natural causes.

In the last few years, farms have continued to get bigger and technology has added new farming methods in North Dakota. During this same period, prices for farm products during a period of drought have declined. Each farmer has tried to maximize the efficiency of his farm unit to offset low prices. In this process, easement violations due to draining and filling have started to increase. Probably the biggest impact is yet to be felt. Ground water irrigation with center pivot sprinklers is becoming popular. Just how easements and irrigated areas will function together is yet to be seen.

D. System Status

The Burleigh, Kidder and Emmons counties management unit is part of the Arrowwood NWR complex. The objectives and fundings are merged with those of this complex.

II. CONSTRUCTION & MAINTENANCE

A. Construction

Three fences were constructed on WPA's. The Haid tract was fenced to protect against trespass farming, the Thacker tract was fenced to protect it from sheep and cattle grazing, and the Berg-Gellner tract was fenced to protect the habitat from vehicle trespass.

Four areas were posted for the first time as their use reservations expired. These included the Adams, Small, Seventh Day Adventist and Crimmins tracts. The Crimmins tract was completely surveyed before posting by the Service's Jamestown survey crew.

B. Maintenance

Fences and gates were repaired on the Walther, Bechhold, Wonnenberg, Thacker, Crimmins and Leno tracts. Probably half of the WPA's had some wetland signs replaced during the year.

Two artesian wells on the Sisco-Fallgatter tract were dug up and new pipes were installed. This is the only WPA in the district being grazed. Fences are maintained by the permittee who is supplied with government materials.

All WPA's are maintained by surveillance two or three times during the summer to detect maintenance problems.

Easements require no maintenance but are checked each year for violations.

C. Wildfire

A fire occurred on the Bryan-Mohler tract in early May. The entire slough bottom was burned on both sides of the road including some private acreage. The adjacent landowner said the fire was intentionally started, but he had no idea who did it. The fire probably did more good than harm.

III. HABITAT MANAGEMENT

A. Croplands

The Walther WPA in Emmons County has a ten-acre field that was planted to corn. The Linton Sportsman's Club provided the seed and planted the crop for wildlife. WPA areas that formerly were croplands are normally planted to dense nesting cover (DNC) mixtures. This mixture includes alfalfa, sweet clover, and two grasses -- usually tall and intermediate wheat grass. Nesting habitat on WPA's is far more important than cultivated crops.

B. Grasslands

About 31% of all WPA acreage is native prairie. These areas will continue to be managed to maintain the prairie habitat.

Grazing was allowed on the Sisco-Fallgatter WPA to maintain a tame and native grass area. A total of 227 AUM's were used on this WPA for a total revenue of \$791.11.

When times get rough farmers and ranchers turn to government lands for aid in feeding livestock. An emergency haying program on WPA's was initiated this year because of wide spread drought. Areas released contained tame grasses or old DNC-type plantings that needed rejuvenation.

The program went like this: the former landowner, if actively farming, was given the first opportunity to hay the WPA. Other farmers interested in haying were selected by drawing names from a hat. Each WPA in the program offered a variety of haying sites ranging from ten to forty-three acres. Once a farmer selected a site, he was issued a haying-farming permit that provided the following agreement:

1. In 1977, hay could be taken from the permittee's assigned WPA unit at a cost of \$5.00 per acre. The unit was then broken out to summer fallow.
2. In 1978, the unit is to be planted to a small grain with the permittee harvesting the entire crop as payment for breaking the old field out.
3. In 1979, the unit is to be seeded to DNC with a nurse crop. The permittee harvests the nurse crop as payment for planting the DNC. The DNC seed mixture is supplied to the permittee by the Service.

The following table gives a more detailed account of the emergency haying program.

WPA	Permits Issued	Haying Units	Acres Hayed 1977	Acres Farmed 1978	Acres Planted DNC 1979
Adams	1*	2	60	-	-
Albright	3	3	61	61	61
Bernhardt	1*	1	21	-	-
Bechhold	5	5	149	145	145
Crimmins	2	2	60	60	60
Foell	1*	2	18	-	-
Goldsmith	1*	2	50	50	50
Personius	1*	3	61	61	61
Small	2	2	41	-	-
Vogel	1*	3	74	74	74
TOTALS	18	25	597	451	451

* The former landowner or tenant was given the first opportunity to hay this WPA.

The Service collected \$2,631.00 in fees for haying on WPA's. The hay that was released on WPA's did not satisfy everyone in need. Approximately fifty unsolicited requests came in during the summer. The Service was able to keep some neighbors happy without sacrificing the better habitat (hay) areas. It also provided an opportunity to improve the quality of cover on distant WPA's..

The Berg-Gellner and Gaub WPA's have a small leafy spurge problem. Both sites were sprayed twice with 2,4-D in an effort to eradicate the "weed".

One beekeeper was given a permit to place bees on the Seventh Day Adventist WPA.

C. Wetlands

Many of the wetlands were drylands during the waterfowl breeding and nesting period. Of the fifty-four WPA's in the district, possibly only a dozen had any usable water supplies.

D. Forestlands

The U.S. Fish & Wildlife Service and the Soil Conservation Service signed a joint agreement dealing with the field evaluation of woody plants. The Fish & Wildlife Service's role is to provide tracts of land where trees and shrubs can be planted. Two WPA's were selected near Bismarck, ND for this purpose. A total of thirty-eight acres has been committed on the Small WPA and six acres on the Seventh Day Adventist WPA. Plantings will begin in the spring of 1978.

A joint project was undertaken by the Plant Materials Center of the Soil Conservation Service and the Fish and Wildlife Service on the Wonnenberg WPA. The experiment involves a new method of planting trees on areas previously sprayed with herbicides to kill all vegetation. The theory being that the dead vegetation would inhibit weed growth while protecting the soil from erosion as the plantings become established.

This procedure, if perfected, could save planting time and periodic weed cultivation each year. Two quarter-acre sites were sprayed with Round-Up herbicide and will be planted to trees in 1978.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Nothing to report.

G. Easements for Waterfowl Management

Easements are checked each year by air for compliance. This wetland district has traditionally had few violations. Out of approximately 675 easements covering 95,652 acres, only two violations were detected in 1975. In 1976, there were nine and this year, 1977, there will be eighteen areas investigated. Deep snow cover has prevented ground checks of the eighteen air-sighted violations. It appears violations are on the increase, possibly due to the dry conditions during the past two years.

One violation still pending from 1976 deals with a center pivot sprinkler system. The operator filled a type I wetland to remove standing water in his field. The operator has consented to removing the fill when field conditions permit.

Another area of concern deals with the lowering of ground water tables by irrigation systems. Small wetland areas under easement may be affected by this water removal as irrigation becomes more popular.

IV. WILDLIFE

A. Endangered and/or Threatened Species

There were no whooping cranes observed on WPA's this year, although birds were sighted in the three-county area. Long Lake NWR recorded four whoopers on October 31, with a lone whooper being sighted three days earlier on October 28. One of these birds was observed resting in a slough a quarter mile south of the Adams WPA. An unconfirmed report of a whooper in the McKenzie Slough area placed it near the Slovarp and Clizbe WPA's on October 24.

B. Migratory Birds

1. Waterfowl

This was one of the poorest production years in recent memory. To begin with, about seven out of ten wetland areas were dry during the breeding and nesting period. Some of those that were wet had little value because of extensive mud flats. The waterfowl breeding population was reduced 80% because of the drought. Ducks producing young were generally less successful than other years considering the brood sizes observed.

It is hoped that breeding waterfowl that flew over the three-county area found suitable nesting habitat.

The fall migration was predictably reduced compared to other years. During the two-week period, October 10-24, ducks were fairly abundant. Before and after these dates, ducks were not found in large numbers even though wetlands had been filled by fall rains.

2. Marsh and Water Birds

Good rains during the summer and fall eventually filled wetland sites as the fall migration began. Marsh and water birds made good use of these areas, particularly sandhill cranes. Large numbers of cranes used Horsehead Lake and its vicinity in northern Kidder County.

3. Shorebirds, Gulls, Terns and Allied Species

Bird watchers on WPA's had excellent conditions for observations this year. Extensive mudflats between shoreline vegetation and the water provided this opportunity.

4. Raptors

Nothing unusual to report.

5. Other Migratory Birds

Nothing unusual to report.

C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

White-tailed deer probably frequent most WPA's during the year. There are about seven tracts that have a resident population.

Many WPA's provide den sites for fox and a few may have a coyote or two. Furbearers of interest to trappers on WPA's include mink, muskrats, badger, raccoon and weasel. Muskrat and mink are not abundant and vary drastically with water conditions.

2. Other Mammals

Nothing to report.

3. Resident Birds

The most wide-spread and common resident game bird is the sharp-tailed grouse. Hungarian partridge are found occasionally throughout the area.

Pheasant have been increasing in numbers over the past two years and are found on many WPA's. The present winter will undoubtedly hurt the pheasant population because of deep snow accumulations.

4. Other Animal Life

Nothing to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Wetlands

There are no interpretive areas, nature trails or centers located on WPA's. Most of these activities take place on the National Wildlife Refuges in the area.

2. Off-Wetlands

Nothing to report.

B. Recreation

1. Wildlife Oriented

The vast majority of WPA's are open to the public for hiking, bird watching, wildlife photography, trapping and hunting.

Two exceptions include the Berg-Gellner tract near Wing, ND and the Bryan-Mohler tract near Bismarck, ND. Both are closed to hunting because of their proximity to private residences.

It appears that waterfowl hunting and upland game bird hunting were the most popular activity on WPA's with about 2,000 visits occurring for each activity. Other consumptive uses included: small game hunting, 30 visits; other game, 70 visits; and trapping, 170 visits. An estimated 210 visits were recorded during the deer season. The deer harvest was in the neighborhood of ten animals.

2. Non-Wildlife Oriented

There is very little non-wildlife oriented use. The Berg-Gellner tract near Wing, ND had a vehicle trespass and litter problem before it was fenced this summer.

C. Enforcement

Violations dealing with WPA's are easy to detect but are hard to prove in most cases. Three WPA's were discovered with grazing trespasses during the course of the summer. Two individuals were given warnings on the Bechhold and Walther tracts, and the third was fined \$100.00 on the Thacker tract.

Once in a while a farmer will extend his field into a WPA a little more each year. In a case like this, a farmer is asked to plant our DNC grass mixture and a fence is constructed to prevent future trespass. Three areas with this problem included Rohrbach, Haid and Slovarp WPA's.

It was discovered that the Wonnenberg, Crimmins, Berg-Gellner and YMCA tracts had vehicle trespass problems. One individual paid a \$25.00 fine for vehicle trespass on the YMCA tract.

Waterfowl hunting violations on WPA's included shooting over the daily bag limit (one case) and hunting after closing hours (two cases).

VI. OTHER ITEMS

A. Field Investigations

Northern Prairie Wildlife Research Center continues to monitor the Canada goose release program in the three-county area.

B. Cooperative Programs

The U.S. Fish and Wildlife Service and the Soil Conservation Service are conducting field evaluations on woody plants. In addition, the plant materials center of the Soil Conservation Service and the U.S. Fish and Wildlife Service are experimenting with tree planting methods on two WPA's. Details of these studies can be found under Forestlands in the Habitat Management section of this report.

C. Items of Interest

The Bureau of Reclamation has been studying the feasibility of irrigating portions of Burleigh, Kidder and Emmons counties. An area known as the Winona-Horsehead Flats in Emmons County has been shelved until public demand persuades the Bureau to seek construction funding.

The Burleigh and Kidder County portions of the irrigation studies are presently being considered. One of the problems that must be dealt with is waterfowl easement areas. If irrigation affects an easement area, the law requires mitigation on an acre-for-acre replacement on private wetlands. This replacement must be an equal exchange. All easements in existence were purchased under perpetual arrangements. The North Dakota legislature in 1977 passed a law (Senate Bill 2016) stating "easements shall terminate upon the death of a landowner or upon change of ownership". An easement taken under these circumstances does not represent an equal exchange with those purchased under perpetual agreements. It is not possible under state law to mitigate wetland easements drained as a result of irrigation projects. Burleigh County has 600 acres of easements within the irrigation project as it now stands. Kidder County with 61,000-easement acres has a large portion of easements within the 150,000-acre irrigation project.

Three revenue sharing checks were distributed to the counties for lands held by the Fish and Wildlife Service in fee title.

<u>County</u>	<u>1976 Payment</u>	<u>1977 Payment</u>	<u>1977 Acreage</u>
Burleigh	\$13,196.19	\$11,664.00	15,800.27
Emmons	2,666.93	2,166.40	2,898.81
Kidder	7,183.03	6,258.52	10,416.83

D. Safety

No accidents to personnel or to the using public occurred this year.