

DEVILS LAKE WETLAND MANAGEMENT DISTRICT  
Devils Lake, North Dakota

ANNUAL NARRATIVE REPORT  
Calendar Year 1978

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

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Review and Approvals

*De Hemminger*  
Submitted By

3/23/79  
Date

*John J. Schorner* 5/29/79  
Area Office Date

*Devils Lake WDD*  
Refuge

*Marvin L. Almont* 6/12/79  
Regional Office Date

Devils Lake Wetland Management District  
Complex Office

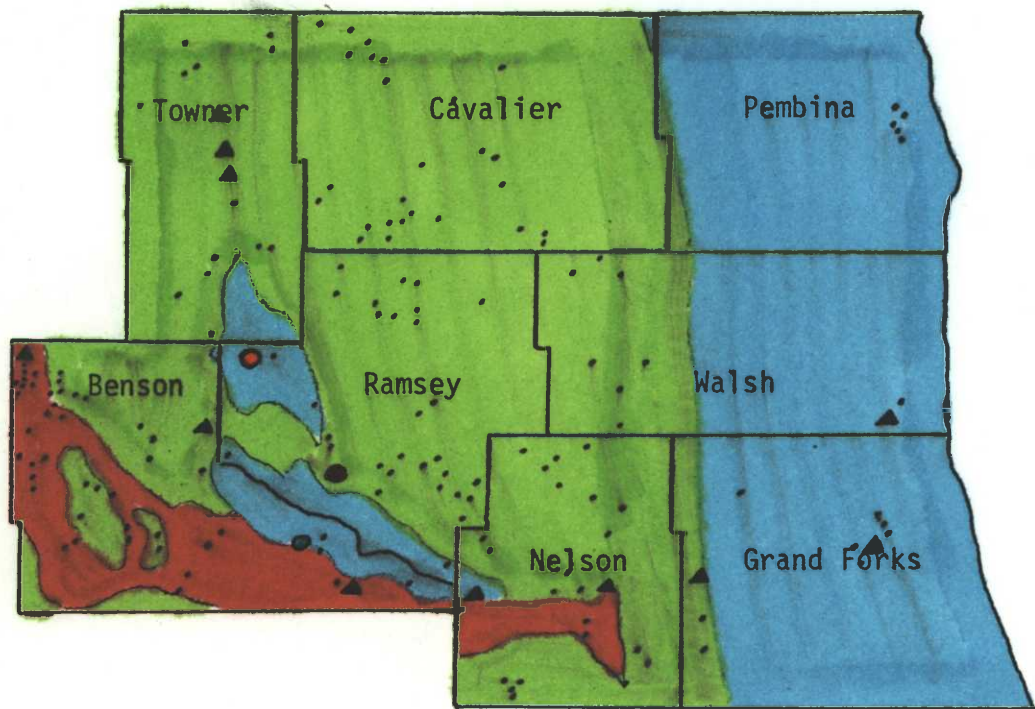
*[Signature]* 234

# Personnel

1. Lyle A. Stemmerman, Project Leader, GS-12 ----- PFT
2. Eugene C. Patten, Ass't. Refuge Manager, GS-11----- PFT  
Transferred to Arapaho NWR, 7/78
3. Willard E. Steffen, Ass't Refuge Manager, GS-9 ----- PFT  
Transferred to Fergus Falls WMD, 5/78
4. Dennis W. Strom, Ass't Refuge Manager, GS-11 ----- PFT  
EOD 6/78 from Necedah NWR.
5. Hilma L. Volk, Ass't Refuge Manager, GS-9 ----- PFT
6. Steven P. Brock, Ass't Refuge Manager (Trainee) GS-5 ----- PFT
7. Irvin A. Nelson, Biological Technician, GS-8 ----- PFT
8. Mary C. Roemmich, Administrative Clerk, GS-5 ----- PFT
9. Wm. J. Kurtenbach, Biological Aid, GS-4 ----- CS  
Transferred to Waubay NWR, 12/78
10. Mark J. Heisinger, Biological Aid, GS-4 ----- PFT  
EOD 5/78
11. Ron N. Berget, Biological Aid, GS-4 ----- CS  
EOD 5/78
12. David Childs, Biological Aid, GS-3 ----- INT  
EOD 5/78, Terminated 10/78
13. Terry A. Messmer, Biological Aid, GS-4 ----- TFT  
5/78 through 11/78
14. Eugene C. Williams, Biological Aid, GS-4 ----- TFT  
5/78 through 11/78
15. Allen R. McKay, Biological Aid, GS-4 ----- TFT  
5/78 through 2/79, Summer Student
16. Sidney J. Konzak, Biological Aid, GS-4 ----- TFT  
5/78 through 12/78, Summer Student
17. Shirley A. Schwab, YACC Enrollee ----- TFT  
EOD 8/78



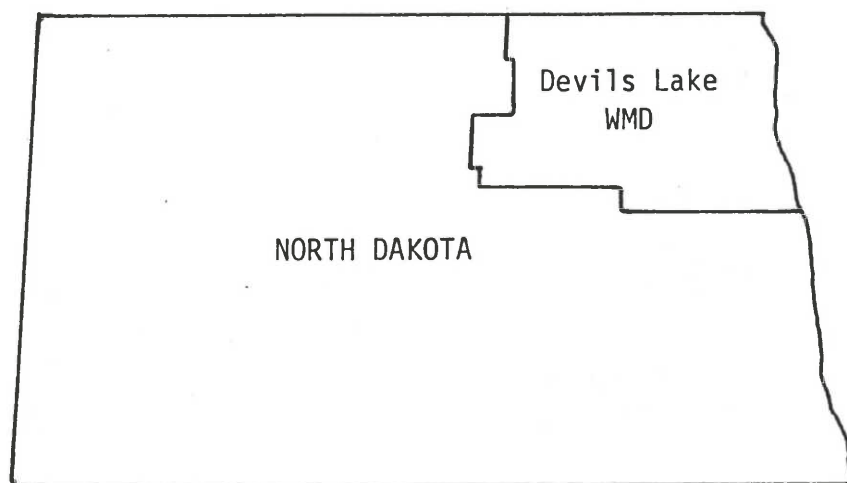
# DEVILS LAKE WETLAND MANAGEMENT DISTRICT



## Legend

- Devils Lake WMD Office
- Sullys Hill N.G.P.
- Lake Alice N.W.R.
- W.P.A.s
- ▲ Easement Refuges

- Glacial Lake Bed
- Drift Plains
- Coteau





Berget, Stemmerman, Brock, Nelson, Roemmich,  
Volk, McKay, Strom, Heisinger, Schwab

## I. GENERAL

### A. Introduction

The Devils Lake Wetland Management District covers eight counties of northeastern North Dakota. The district administers 178 scattered Waterfowl Production Areas comprising 39,122 acres; 2,514 easements covering 148,987 wetland acres; the 1,674 acre Sullys Hill National Game Preserve and eleven easement refuges totaling 20,693 acres.

Sullys Hill NGP and Lake Alice NWR will be discussed in separate narrative reports.

The geology of the district varies from nearly flat prairie to rolling terminal moraine hills, with Wisconsin glacial lake-bed, drift prairie and Coteau. The gently rolling terrain of the drift prairie contains thousands of shallow depressions or "potholes" which normally provide excellent waterfowl production habitat.

### B. Climate and Habitat Conditions

Most North Dakotans called the winter of 77-78 the worst they had ever seen. Characterized by below normal temperatures, above normal precipitation, a succession of blizzards, and drifts up to 20 feet high in shelterbelts, many feared the spring would bring flooding, but March was kind. The usual blizzards never came. Alternating freezing and thawing melted the snow gradually. The wetlands (many dry for the previous two years) filled up, but the spring saw no significant flooding problems.

Rainfall was ample during the growing season. Many farmers had record hay crops and were getting high yields from their main cash crops - wheat, barley and sunflowers.

Precipitation was low during the harvest season, keeping the duck depredation complaints down. The dry fall, however, did allow farmers to cultivate or burn their sloughs. Scrapers and ditchers were busy through the first week in November. Most of the hard-core drainage area (northern Ramsey, southern Cavalier, western Walsh and eastern Towner counties) was a black biological desert by the first snowfall.

All but the main body of Devils Lake was frozen over by November 15. The first heavy snow hit November 12. Precipitation for the year totaled 19.12 inches. The average is 17.

### C. Land Acquisition

#### 1. Fee Title

Only two tracts were acquired in 1978, both in Benson County (tract #442, 40 acres and #684, 90.22 acres), but these may be

the last for some time unless conditions in North Dakota change.

As of July, 1977 state law requires that the Board of County Commissioners shall inspect the site of proposed acquisition and hold a public hearing. An environmental assessment written by the Wetland Acquisition Office and/or the Board (as agreed upon in the county) shall be submitted to the State Planning Commissioner, Area Office and County Board for review prior to the hearing. The Board either approves or disapproves the purchase within 60 days after receipt of the proposal. Approvals are sent to the Governor who can override the decision.

At first several county commissioners disapproved fee purchases, but another blow occurred on April 25, 1978 when Governor Arthur Link announced that he would not approve further land purchases unless the following conditions were met.

- a. The Secretary of the Interior must give the state full credit for the equivalent acreage of land acquired of "mitigation and enhancement" for the Garrison Diversion Unit.
- b. The selling landowner must insert a provision in the deed that fee title shall automatically pass to the State of North Dakota, free from any encumbrances imposed by the Federal Government, if the Garrison Diversion Unit, as authorized in the 1965 Act or as reauthorized in a manner acceptable to the Legislative Assembly and Governor, is not essentially constructed by a certain date (such as the year 2,000).

The Department of the Interior will not acquire tracts subject to the above conditions.

Governor Link did approve tracts which were optioned prior to April 25, 1978, but disapproved those optioned after that date.

One tract in Ramsey County and two in Towner County were disapproved by the County Commissioners. The two in Towner would have been approved if the FWS agreed not to buy land in the county for two years. The FWS did not agree to those stipulations.

## 2. Easements

Easement buying came to a dead halt July 1, 1977 following passage of a state law stating that landowners could negotiate the time length of the easement. In addition, these would terminate upon the death of the landowner or sale of his property.



The Fish and Wildlife Service has refused to take easements under the terms of this law.

3. Other

Nothing to report.

D. Systems Status

1. Objectives

The major objective of this station is to maximize waterfowl production.

Most 1240 activities are associated with the information, interpretive and YCC programs at Sullys Hill NGP. Most 1220 funds are also associated with the big game at Sullys Hill NGP.

In 1210 a major emphasis is in enforcing the terms of the easement contracts to protect wetlands from illegal drainage, filling and burning. Another main thrust is the establishment and rejuvenation of Dense Nesting Cover (DNC) on Service owned lands.

Programs required by state law or local ordinance include noxious weed control and roadside mowing of township roads for snow removal purposes. These areas had been a source of complaints from local farmers and officials and has only recently received full attention. The large number of fee tracts in the district make this a major effort.

This station has no activities out of phase with approved objectives.

2. Funding

Funding and manpower at this station during five fiscal years, including the transition quarter (TQ), are presented briefly in Table I.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Thorson WPA (Cavalier County) was the site for construction of a 2½ foot dike with a spillway. With the spillway operational, the water level of the existing slough will be raised approximately 1 foot. Great Plains Contracting of Edinberg, ND performed the construction. Work was completed in October, 1978. This water

TABLE I

FY	1210	1220	Only 1200	1500 or 1240	Rehab	Special or BLHP	Total Funds	Man Power Permanent Personnel
79	183,500	4,000		59,000		232,000	478.5	10
78	151,000	14,000		54,000	33,000	151,900	403,900	8
77	110,000	5,000		23,500	124,000	19,600	282,100	6
TQ	32,000	900		6,370	23,000		62,370	7
76	113,000	4,500		24,000	20,000	4,000	165,000	7
75			97,000	25,000	43,000		165,000	7

The above funding and manpower includes Sullys Hill National Game Preserve and Lake Alice National Wildlife Refuge since these stations do not have their own budget.

project should enhance brood habitat in an area where brood habitat is at a minimum.



The new airboat never did get used in the district but provided its worth during the botulism outbreak on Long Lake NWR.

During the calendar year 1978 this station received 3 new vehicles, a 4 x 4 half ton pickup, a 4 x 2 half ton pickup, and an economy size passenger sedan. All three vehicles will provide for better coordination in accomplishing widely scattered work projects for the coming year.

A 500 gallon water tank and trailer were purchased in late spring to aid in our weed control efforts. The purchase of this tank alleviated the problem of contacting neighboring farmers to fill the sprayers with water. The County Commissioners also mentioned that in previous years water was taken from surrounding sloughs and wetlands where chemicals were inadvertently spilled into the wetlands killing the vegetation. The purchase of this tank resolved both problems.

The only fence construction in the district was .4 miles of four strand barbed wire fence at Kelly's Slough WPA (Grand Forks County). This was a recently purchased tract of land which severed the landowner's pasture.

## B. Maintenance

Twelve thousand, six hundred dollars was spent to bury rock piles and junk on Waterfowl Production Areas in Benson County. A total of 77 rock piles and junk piles were buried on 22 WPAs. All sites were eyesores and their cleanup will hopefully contribute to more nesting cover as the sites will be seeded to DNC mixture in the spring of 1979. We also felt the elimination of these sites will decrease predation by raccoons and skunks, hopefully resulting in a small increase in waterfowl production. In many cases safety hazards to the visiting public were also eliminated.

There is a state law whereby road ditches, along critical school bus and mail routes, must be mowed to minimize snow drifting in the winter time. Subsequently many miles of roadsides were mowed adjacent to WPAs. Some mowing was done by force account, however, most of the roadsides were mowed by neighboring farmers at a cost to this station of \$30 per roadside mile.

The Young Adult Conservation Corp (YACC) stationed at Nekoma, North Dakota was given the responsibility to properly post the boundaries of the Waterfowl Production Areas throughout our district. It is necessary to repost some units year after year as some taxpayers have open season on public signs.

## C. Wildfire

During October and early November a series of wildfires on various WPAs resulted in the burning of approximately 500 acres of wildlife habitat in areas where this habitat is scarce. Some of these fires appear to be "accidental" as neighboring farmers were burning their own roadside ditches. However, some of the units burned were in areas where there is great animosity towards the Fish and Wildlife Service. It is not uncommon for several units to be burned off each fall.

# III. HABITAT MANAGEMENT

## A. Cropland

Initial seeding of dense nesting cover (DNC) was accomplished on 116 acres on four Waterfowl Production Areas. This was done by cooperative agreement with local farmers in which the farmer received 90% of the nurse crop to compensate for the grass seeding operation.

DNC was reestablished on 361 acres on four WPAs through cooperative agreement. Except for a 70 acre tract on which the farmer received 90% of the nurse crop, the cooperators were allowed 100% of the crop for planting the DNC mixture.



Generally the seeding was done as a separate operation with an ordinary drill with a grass seed attachment.

One hundred eight acres on Stinkeoway WPA are being farmed on a rotation basis to accommodate a water study by North Dakota State University (see the section on field investigations). When the study is completed, the land will be cooperatively seeded to DNC (1980).

The initial objective for a newly acquired parcel of land is to convert the former cropland, if there is any, to waterfowl nesting cover. Although the acquisition program has come to a standstill, farmer use rights on some tracts continue through 1980.

#### B. Grasslands

Approximately 375 acres of poor nesting cover on five WPAs, which were broken up in the fall of 1977, were summer-fallowed in 1978. According to cooperative agreement, these areas will be cropped in 1979 (cooperator's option), planted to DNC with a nurse crop in 1980 and mowed for weed control in 1981. The farmers receive 100% of the crop for the breakup, summer-fallow and seeding operations. It is a long, slow process which has long term benefits such as increased waterfowl production.

Under the same kind of agreement, 256 acres on four tracts were broken up in the fall of 1977.

Weed control by way of the herbicide 2-4,D was undertaken on approximately 2,600 acres. Sixty-one WPAs received treatment on anywhere from small patches up to 440 acres. Target species included leafy spurge, Canada thistle, sow thistle and musk thistle. Bids were taken from various aerial sprayers where the area to be sprayed was greater than 20 acres. Aerial sprayers treated about 1,300 acres, primarily to control sow thistle. Any area which was stripped or less than 20 acres was sprayed by force account. Each year sees an increase in weed control expenditures. We try our best but even then we invariably receive hostile criticism for our efforts. In contacts with private landowners, township supervisors and county commissioners, weed control is always a topic which is discussed since state law requires the control of noxious weeds.

Grasshopper complaints seem to be an upward trend. This calendar year we received five complaints on grasshoppers by the adjacent landowners. According to one landowner our fee title lands produce more grasshoppers than any other land in the area. This is probably true due to the fact that these are the only plots of cover in the area. This year we contacted Keith Winks of the USDA

who inspected a couple of the complaint areas and stated that "our grasshoppers" were not damaging the adjacent crops which was contrary to the adjacent landowners complaints. Hopefully, with the help of Mr. Winks and the USDA we can get a handle on the problem before it mushrooms much more.

We allowed three units to be hayed after July 15, 1978. Two of these units were hayed for noxious weed control. The third unit, Stinkeoway WPA (Cavalier County) was hayed to reduce the legume dominance (sweetclover) found throughout this unit. This unit will be closely watched in 1979 to determine if the affects of mowing did reduce the legume dominance.

C. Wetlands

On Roppel WPA (Cavalier County) an existing ditch was plugged which should raise the water level within the marsh system by 1-3 feet making the maximum depth of the marsh approximately 3.2 feet. This project was carried out in cooperation with an adjacent landowner. The ditch plug will also flood an existing marsh on his property. The request for this project came from the property owner, which is very unusual in this district. The result of the plug will hopefully increase brood habitat in this area.

D. Forest Lands

Nothing of significance to report.

E. Other Habitat

Nothing of significance to report.

F. Wilderness and Special Areas

The Nature Conservancy showed interest in Rush Lake in Cavalier County, but like the National Park Service inspection in 1977 to see if the area met criteria for a National Historical Site, we have heard nothing further.

G. Easements for Waterfowl Management

Fall easement checks in 1977 noted 143 suspected easement problems. Ground checks by Wetland Office personnel were necessary on 117 easements in 1978. When the dust settled and blue smoke cleared, 19 scraper ditch violations were noted, 9 plow furrow cases and 6 filling cases were followed up and resolved.

Generally compliance was accomplished with contacts and follow-up letters. This office was involved with only two U.S. Magistrate

Court appearances this year. Three Forfeitures of Collateral were issued. The results are on the following table.

Name	Date	Ease. #	County	Violation	Disposition	Results
Maurice Howatt	6/22/78	202X	Cavalier	Filling, Drainage	\$100 Court fine	Fill removed, ditches closed
Gary Tollefsen	6/22/78	119X	Ramsey	Drainage	\$100 Court fine	Ditches filled
Laverne Blake	10/23/78	212X	Ramsey	Drainage	FOC \$100	
Wayne Simon	7/20/78	291X	Ramsey	Drainage	FOC \$100	Ditches filled
Herbert Seiler	9/28/78	40X	Towner	Drainage	FOC \$100	Ditches filled
Joe Bosch	9/29/78	27X	Walsh	Drainage	FOC \$100	Ditches filled

On August 21, 1978 this office was informed that the Eighth District Court had ruled in favor of the Government in an appeal by the "Right to Farm, Incorporated" group. The suit brought by this group involved government negotiators who the group stated had, during negotiations for easements, said plow furrows could be used to drain small potholes. This lawsuit had been initiated in 1975 and had held plow furrow ditch enforcement in abeyance since the issue was in court.



An example of an unenforceable problem. Drainage of co-owned wetlands covered by waterfowl easement. Many examples of this are noted every year.

S. Brock

This decision now opens the way for active enforcement of plow furrow type ditches. Three years of non-enforcement of plow furrow type ditches leaves quite a backlog of work. Future enforcement contacts will be enlightening.

Along with this decision, the Government again held out the olive branch to the original plaintiffs in the law suit, who had qualified under renegotiation procedures. Eight people were eligible and renegotiations were completed with seven covering eleven easement tracts.

This suit involved plow furrow type ditches, but the obvious intent of the suit was a direct attack on the easement contract. Considering the large amounts of waterfowl easements in this district and others in North Dakota, if this court had ruled differently, the affects would have been far reaching.

#### IV. WILDLIFE

##### A. Endangered and/or Threatened Species

Although no pinnate grouse were observed by us this year, small remnant populations do exist on private and state owned lands in Grand Forks County near Service lands. A nesting pinnate female was discovered in Nelson County last year.

There was an unverified report in April of two migrating whooping cranes in Morris Township, Ramsey County.

##### B. Migratory Birds

###### 1. Waterfowl

The first waterfowl observed in spring were pintails on March 29th. Mallards, Canada geese, snow and blue geese were first noticed three days later. By April 7th geese and ducks were in the district in good numbers.

Waterfowl production was up this year over 1977 because of good water conditions due to heavy snow runoff and adequate moisture throughout the summer. Production was estimated at 70,000 ducks.

Geese are usually present only during spring and fall in our district. However, this summer a flock of about 40 non-breeding giant Canadas were frequently sighted on and around Lake Alice NWR. No nesting geese were reported outside of the Sullys Hill NGP display flock.

Due to a reported poor hatch in the Arctic, fall migrations of



snow and blue geese were down this year. The flocks contained a high percentage of adult birds. The first arrivals in the fall were noted in early September with the peak of 154,000 snows and blues occurring the week of October 11th. Peak Canada migration occurred at the same time with 50,870 birds in the district. Most of the geese had left by the second week in November when cold snowy weather set in.

## 2. Marsh and Water Birds

We produced another bumper crop of coots with the high water levels experienced this summer.

Several cattle and common egrets were sighted in the district again this summer. The cattle egrets seem to be getting more numerous.

## 3. Shorebirds, Gulls and Terns

A blackbellied plover was sighted in late July on Lake Alice NWR.

## 4. Raptors

Eighteen eagle sightings were reported, 6 were identified as bald, 3 were identified as golden. The other 9 were not specifically identified. One golden and one bald eagle were reported killed by power lines in the district.

Several active raptor nests were located this year. Four were red tailed hawks, one Swainsons, one great horned owl, and one short eared owl.

In December, snowy owls began moving into the area. One osprey was sighted in September at Lake Alice NWR. A prairie falcon was also seen at Lake Alice in September.

## 5. Other Migratory Birds

Steve Brock, Mark Heisinger and Dennis Strom participated in the Christmas bird count. Seventeen species were seen. The only slightly unusual species was the observation of 3 cowbirds.

Snowy owls were observed relatively frequently toward the end of the year.

Mountain bluebirds were seen in the district last March, the fifth year in a row. A common raven was sighted this November at Sullys Hill NGP.

As sunflower acreage increases so does blackbird depredation. Seventy-four complaints were received this year compared to 47 in 1977 and 12 in 1976. Sunflower acreage in North Dakota is predicted to increase 52% in 1979.

### C. Mammals and Non-Migrating Birds and Others

#### 1. Game Mammals

Last winter was a difficult one for resident wildlife. Heavy snows, an ice crust and extended periods of extremely cold temperatures all worked to take their toll on wildlife. Some white tailed deer died on Service lands.

Moose were again seen in the Devils Lake area this year. They probably moved in from the Pembina Hills portion of our district where there is a sizable population. The State Game and Fish Department held its second moose season this fall, issuing 15 permits.

#### 2. Resident Birds

Nothing to report.

#### 3. Other Mammals

Trapping pressure was again heavy on furbearers this year with prices going higher than ever. A good red fox brought as much as \$90, a raccoon sold for about \$35, a badger \$40.

## V. INTERPRETATION AND RECREATION

### A. Information and Interpretation

#### 1. On-Refuge

Gene Patten spent a day with George Harrison from Sports Afield Magazine photographing brood habitat for an article on waterfowl production.

Other on-refuge programs are reported in the Sullys Hill and Lake Alice narratives.

#### 2. Off-Refuge

During National Wildlife Week, 15 programs were presented in 14 schools to over 1000 students. Movies from the "Vanishing Prairie" series were shown.

Presentations were made to a Farmers Union Camp, a conservation camp, senior citizen groups, wildlife clubs, and Girl Scouts.

Topics ranged from a conducted bird hike, to talks on goose migration, wetlands and waterfowl production, to FWS policy on vehicle and snowmobile use on WPAs.

Laura Riley interviewed Irv Nelson for the book the Rileys will author entitled Guide to the National Wildlife Refuges.

Lyle Stemmerman and Dennis Strom participated on the Devils Lake Basin Advisory Commission.

News releases were put out on Waterfowl Production Areas open to hunting and snowmobile restrictions on WPAs. Other releases on Sullys Hill and Lake Alice are mentioned in those respective reports.

## B. Recreation

### 1. Wildlife Oriented

Waterfowl hunting, deer hunting, small game hunting and fur trapping are the primary wildlife oriented activities associated with WPAs. This fall a large number of WPAs had sufficient water for duck hunting. Hunting pressure is scattered and variable. Management plans are being made to control off-road vehicle use while permitting access on the higher use areas.

### 2. Non-Wildlife Oriented

The flight to survey encroachment problems on WPAs revealed that Ziegler WPA had particularly high RV use.

## C. Enforcement

The major portion of game law enforcement occurs during the fall. A meeting was held prior to the waterfowl season to coordinate with State Wardens and Federal personnel. The initial effort is to get all enforcement in the field during opening day and the first two weekends to cover problem areas. Thereafter station personnel operate on a voluntary basis.

The following is a summary of cases made and the total fines paid:

Hunting after legal shooting time	4	\$188.00
Take redhead during closed season	4	185.00
Take protected species	1	25.00
Unplugged shotgun	2	100.00
Trespass on refuge	2	100.00

Additional cases made at Lake Alice are discussed in that section. In addition, four juveniles were apprehended trespassing on Snyder Lake NWR but prosecution was declined. All of the above cases were handled by Forfeiture of Collateral to the U.S. District Court, although several cases were contested.

## VI. OTHER ITEMS

### A. Field Investigations

#### 1. Habitat Inventory

This station undertook to update its ripcard habitat inventory system this summer. The information on the old cards was outdated and many WPAs hadn't been done yet. Instead of patching up the old McBee cards it was decided to do the whole thing over using a slightly different system.

The information concerning habitat types and physical property was collected in the field. Acreages of each habitat were determined in the office using 8"/mile aerial photos and a polar planimeter. Distances were determined by using a map measure or ruler on the same above photos. This information was then recorded in the office on the forms shown (see next two pages). This form was copied on the front of EZ Sort 3810D ripcards using a 3100 LDC Xerox photocopy machine adapted to heavy cards. A copy of a 4"/mile aerial photo of the WPA is photo copied on the back of each card. At least three cards are prepared for each WPA: A habitat inventory card, a physical property inventory card and a remarks card on which management suggestions and miscellaneous notes are made.

One career seasonal bio aide and four summer students did the work. The 178 WPAs, one NWR and one NGP took about four months to complete.

#### 2. WPA Aerial Survey

All Waterfowl Production Areas were flown in October, primarily to determine vehicle problems. Other things that were noted were encroachment problems and adequacy of brood water. Most WPAs were photographed.

From this survey a vehicle access plan is being made which will determine which WPAs would require "no vehicle stickers", blocked approaches, parking lots, fencing and designated travel routes.

It was decided that this survey should be done every year. Performing the survey in different seasons will give us a feel for such things as brood water conditions, snowmobile use,



Complex: WPA

Name: Neer

County: Benson

Aerial Photo #: CWK-1HH-87

1 of 1

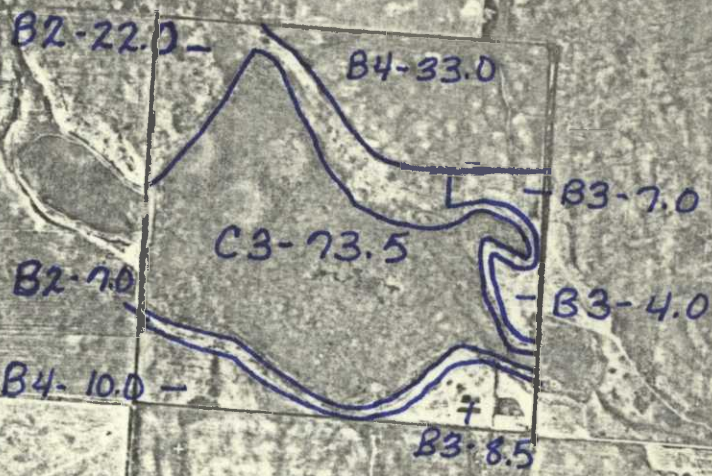
TRACT IDENTIFICATION AND ACREAGE

Tract #	Total Acres	Planimetered A.	Tract #	Total Acres	Planimetered A.
35	160.0	161.0			
			Totals	160.0	161.0

HABITAT TYPES AND ACREAGES

bol	Card #	Type	Acres	Symbol	Card #	Type	Acres
A-1	3	Headquarters Area		B-7	16		
A-2	4	Farm Site		B-8	17		
A-3	5	Road and Parking Area		Wildlife Habitat, Land			TOTAL 87.5
A-4	6	Recreation Area		C-1	18	Dug Outs	
A-5	7			C-2	19	Impoundments	
A-6	8			C-3	20	Type 3	
A-7	9			C-4	21	Type 4	1 73.5
Non-Wildlife Habitat TOTAL				C-5	22	Type 5	
-1	10	Crop Lands		C-6	23	Streams	
B-2	11	Native Grasslands	29.0	C-7	24		
B-3	12	Tame Grasslands	15.5	C-8	25		
B-4	13	DNC	43.0	C-9	26		
B-5	14	Woodlands		C-10	27	Type 10	
B-6	15			Wldlf. Habitat Wetlnd. TOTAL			1 73.5





Neer WPA Benson Co.  
1 of 1 T151R68 CWK1HH87

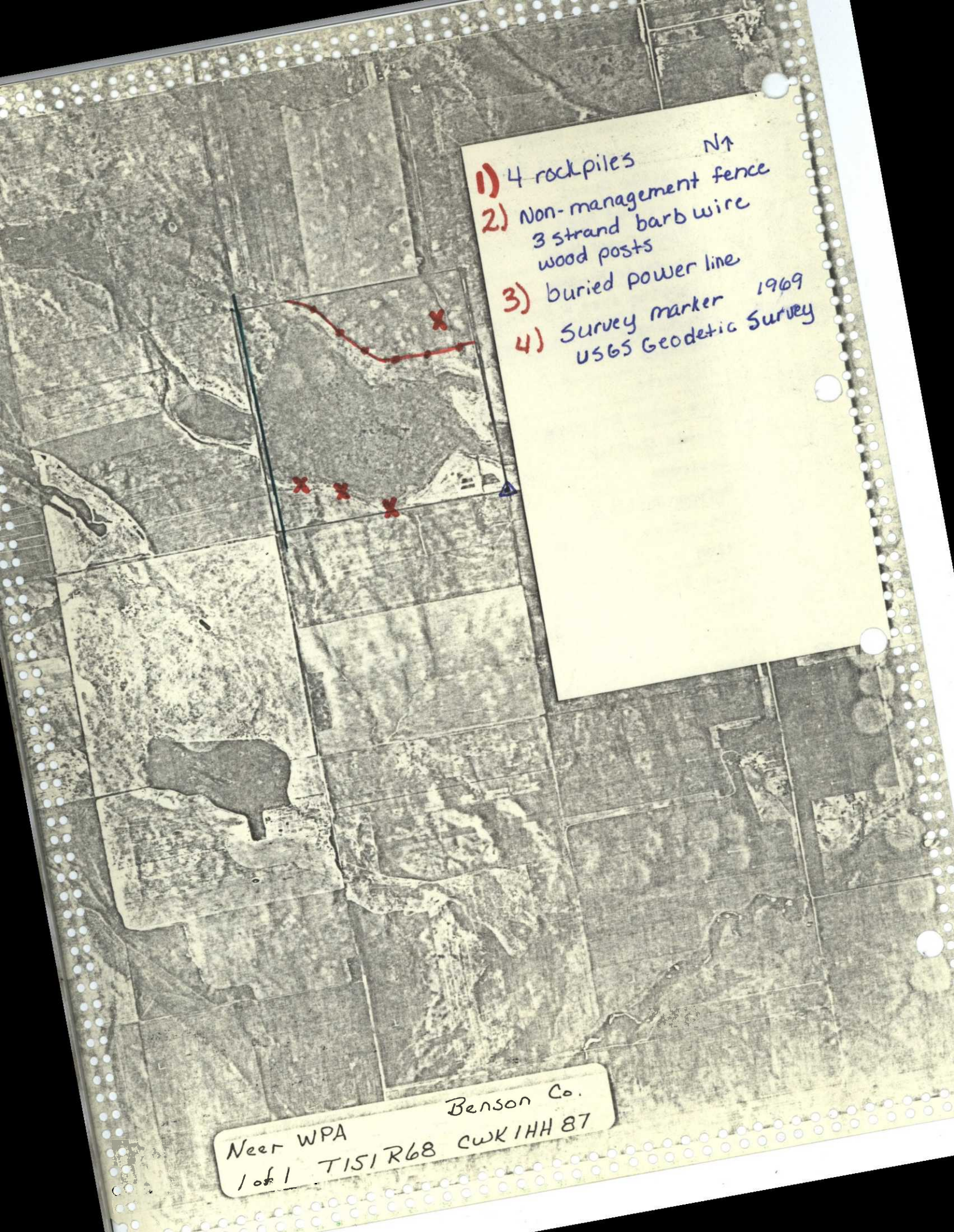


Name: Neer WPA County: Benson Aerial Photo # CWKIHH87 of 1

CODE	ITEM	SYMBOL	COLOR	EA	UNIT	QUANTIT
3	Management Fence		Red	<input checked="" type="checkbox"/>	Mile	
4	Non-Management Fence		Red	<input checked="" type="checkbox"/>	"	.37
5	Cattle Guard		Red	<input checked="" type="checkbox"/>		
6	Surfaced Road		Purple	<input checked="" type="checkbox"/>	Mile	
7	Unsurfaced Road		Purple	<input checked="" type="checkbox"/>	"	
8	Roadside Mowing		Red	<input checked="" type="checkbox"/>	"	
9	Parking Area - Surfaced		Black		Sq. Yd.	
10	Parking Area - Unsurfaced		Black		" "	
11	Bridges		Black	<input checked="" type="checkbox"/>		
12	Culverts		Black	<input checked="" type="checkbox"/>		
13	Low water Crossing		Black	<input checked="" type="checkbox"/>		
14	Picnic Shelter		Green		Sq Ft	
15	Restroom		Green		" "	
16	Refuge Building		Orange		" "	
17	Non-refuge Building		Orange	<input checked="" type="checkbox"/>		
18	Ditch		Blue		lin Ft	
19	Ditch Plug		Blue	<input checked="" type="checkbox"/>		
20	Dike		Blue		lin Ft	
21	Spillway		Blue	<input checked="" type="checkbox"/>		
22	Water control structure		Blue		# Acres	
23	Dugout		Blue	<input checked="" type="checkbox"/>		
24	Well		Blue	<input checked="" type="checkbox"/>		
25	Survey Corner		Red	<input checked="" type="checkbox"/>		
26	Survey Marker		Blue	<input checked="" type="checkbox"/>		1
27	Bench Mark		Orange	<input checked="" type="checkbox"/>		
28	Rock Pile/ Dump		Red	<input checked="" type="checkbox"/>		4
29	Power line - poles		Green	<input checked="" type="checkbox"/>	Mile	
30	Power line - buried		Green	<input checked="" type="checkbox"/>	"	.5
31	Telephone line - poles		Orange	<input checked="" type="checkbox"/>	"	
32	Telephone line - buried		Orange	<input checked="" type="checkbox"/>	"	
33	Missile Cable		Blue	<input checked="" type="checkbox"/>	"	
34	Buried Pipeline		Blue	<input checked="" type="checkbox"/>	"	
35						
36						

100+



- 
- An aerial photograph of a landscape, possibly a wetland or marsh area, with a survey line and markers. The survey line is a red line with several red 'X' marks. A blue triangle marker is also visible. The background shows a mix of light and dark patches, likely representing different types of vegetation or water. A small building is visible in the middle ground.
- 1) 4 rock piles N↑
  - 2) Non-management fence  
3 strand barb wire  
wood posts
  - 3) buried power line
  - 4) Survey marker 1969  
USGS Geodetic Survey

Neer WPA Benson Co.  
1 of 1 T151R68 CWK1HH87



deer hunter and trapper vehicle trespass and possibly habitat conditions.

### 3. Pilot Waterfowl Production Habitat Leasing Programs

This study is designated to evaluate the response of prairie grouse, ring-necked pheasants, red fox and waterfowl to dense nesting cover (DNC). Twelve plots are under 10 year leases in each of two treatment blocks. One of the treatment blocks lies in Nelson County which is in the Devils Lake Wetland Management District. The treatment block is a township in size and there is also a control block of the same size.

The fields were seeded to DNC in the spring and summer of 1975 by this station. The study is being done by Northern Prairie Wildlife Research Center of Jamestown, North Dakota.

In 1978, the fourth year of field work, three pilot cover and one water bank field were checked.

Nineteen male sharp-tail grouse were seen on four dancing grounds in block 1 this spring. One nest and one brood were seen in block 1 while searching for waterfowl nests.

No pheasants or prairie chickens were observed.

Fox were in low density in 1978; 24 families were found during aerial searches as compared to 20 in 1977 and 35 in 1976.

Waterfowl pairs ranged from 99 pairs per square mile to 33 pairs per square mile. Breeding pairs were higher than at any time since evaluation began in 1975.

Brood counts increased in all blocks except one. Cable chains were used to search 794 acres. A total of 653 nests were located.

### 4. Water Quality Study in Relationship to Wetland Drainage

This study is a direct result of the Devils Lake Basin Advisory Committee. The lack of data relating to water problems in the basin evolved into a three year study by North Dakota State University in cooperation with the U.S. Fish and Wildlife Service. It was initiated in the fall of 1976. The site is Stinkeoway WPA in Cavalier County. This WPA was selected because the characteristics of certain wetlands were ideal for the study and because it had not yet been seeded to dense nesting cover. Two wetlands were temporarily drained in the fall of 1976. The water quality of all runoff water will be monitored to determine the effects of wetland drainage on the water quality



in relation to the surrounding land use. No data was obtained in the spring of 1977 because there was no runoff.

In 1978 tests were run in the spring to determine dissolved and particulate substances in the runoff. No measurements were taken in the summer. The study will continue through 1979 when the findings will be evaluated.

#### B. Cooperative Programs

Lyle Stemmerman and Dennis Strom participated on the Devils Lake Basin Advisory Committee. Environmental assessments were completed on telephone and power line projects along WPAs. Three drainage referral inspections were made on proposals to the U.S. Department of Agriculture.

#### C. Items of Interest

This was a year of staff turnover at Devils Lake. On May 7, 1978 Will Steffen transferred to the Fergus Falls Wetland Management District to take on easement enforcement in Minnesota. Will's comments on farming activities, especially draining, will be missed at the Devils Lake Office.

On July 2, Gene Patten, patriarch of the Devils Lake district drainage wars, transferred to Arapahoe NWR in Colorado as project leader. Gene's eight years at the Devils Lake WMD saw the foundation laid for current easement enforcement. We wish Gene well in his "retirement".

Ron Berget, Mark Heisinger, Bill Kurtenbach and Dave Childs received career conditional appointments on May 1.

On June 18, Dennis Strom transferred from Necedah NWR to Devils Lake. Denny, his wife and two girls reside at the Lake Alice residence.

William Kurtenbach transferred to Waubay NWR on December 17 to take the refuge manager trainee position. Congratulations to Bill on his promotion and marriage, all in the same week!

Lyle Stemmerman took a Water Law Short Course at Billings, Montana. Hilma Volk attended the Refuge Manager Academy at Beckly, West Virginia. Irv Nelson took Supervision and Group Performance in Fargo, North Dakota. Gene Patten and Steve Brock went to the Controlled Burning Symposium in Jamestown, North Dakota. Hilma Volk and Irv Nelson attended the Bison Workshop held at the National Bison Range. Mary Roemmich took Secretarial Decision Making in Denver, Colorado. Steve Brock participated in the Wing Bee at Fort Collins, Colorado and Gene Patten went to the Ducks Unlimited Convention in New Orleans, Louisiana.

This report was written by Ron Berget, Hilma Volk, Dennis Strom, Mark Heisinger and Mary Roemmich, edited by station personnel and typed by Geline Johnson.

D. Safety

"Almost" monthly safety meetings were held in conjunction with personnel from the Wetland Management District Office. Most of the staff received an 8 hour course in Defensive Driving.

## ITEMS OF INTEREST

## "The Continuing Saga of Channel A"

Last year's narrative left us hanging as of 5/2/78 as to whether or not Channel A would be stopped or proceed with spring breakup.

Channel A is a locally supported drain to reduce sheetwater flooding on agricultural lands by providing more rapid runoff of spring sheetwater. Sound familiar?

The National Wildlife Federation had brought suit to halt construction of Channel A because of the failure to obtain necessary Section 10 permits from the Department of the Army. The Corps of Engineers had stated that the project didn't require a Section 10 permit and the Wildlife Federation had disagreed and brought court action to halt construction. A temporary restraining order was denied, so work proceeded as the judge reviewed the case.

The judge got sick and failed to turn the case over to another federal judge. This went on from mid-winter until July 7, 1978. The judge resigned as an active judge. In the meantime, construction on Channel A continued "post haste".

On August 7, 1978, the case was turned over to a new judge. On August 18 the judge ruled the project indeed did need Section 10 permits and ordered a halt to construction. The order made its way through the bureaucracy and on September 1, 1978 the Corps of Engineers ordered the Ramsey County Watershed Board "to cease and desist from all construction activities on the Channel A Project".

On September 6, the Corps of Engineers authorized the Ramsey County Water Management Board "to complete construction of the Channel A Project up to but not including approximately 200 feet from the Dry Lake end portion of the channel." This leaves a million dollar plus project completed but unable to drain anything until the E.I.S. is completed as required in the Section 10 permit.

As can be expected, local supporters of the project are quite vocal in the delays in getting the necessary permit. Of course, the "Wildlife" has gotten all the blame for halting the project.

To further add fuel to the fire, the local watershed boards notified landowners of assessments on their lands to pay for the construction of Channel A even if Channel A is never permitted to operate. The assessments are not cheap. Examples follow:

Ramsey County's basic assessment on a quarter section of land was \$768.00. If the land is covered by a waterfowl easement, the assessment is only \$384.00.

Cavalier County's basic assessment on a quarter section of land was \$683.00. If the land is covered by a waterfowl easement, it is \$341.00.

In other words, a landowner with a waterfowl easement is required to pay for Channel A even if he is prevented from drainage by the easement. Can anyone see any future problems for the USFWS in easement enforcement in this? Pass out the flack jackets and hard hats.

There is quite a bit of undrained lands within the basin that remain prime waterfowl habitat. Now with the owners being required to pay for the drain even if they have never drained, will their lands remain undrained? Not likely.

The E.I.S. will require looking at many questions which have not been addressed by the sponsors of Channel A, such as future increased drainage within the watersheds.

With the only thing stopping the operation of the project being a little dirt plug, it is hard to believe the 1.3 million dollar project will not be permitted to operate. The E.I.S. review and comment will possibly give opportunity to regulate future drainage and establish lake levels in the Devils Lake basin.

Watch for next year's installment of the "Continuing Saga of Channel A".



View of Channel "A" in area where the cat nears Highway 35.  
Looking north. 10/1/78



Channel "A" water control structure below Dry Lake. Note unfinished segment of channel between structure and the lake--the infamous "200 ft. plug".



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### Review and Approvals

<u>Submitted By</u>	<u>Date</u>	<u>Area Office</u>	<u>Date</u>
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<u>Sullys Hill Nat'l Game Preserve</u>		<u>Regional Office</u>	<u>Date</u>
<u>Refuge</u>			

Devils Lake Wetland Management District  
Complex Office

## I. GENERAL

### A. Introduction

The 1674 acre preserve is mainly large wooded terminal moraine hills, located on the south shore of Devils Lake, in northeast North Dakota. The largest of the hills was named for General Alfred Sully, who led a campaign against the Sioux in 1865.

1978 public use totaled 90,000 visitors. The majority of these visitors used the self-guided tour route through the big game enclosure, which afforded them the opportunity to view buffalo, elk, white-tailed deer and prairie dogs. Also receiving much public use was the 60 acre Sweetwater Lake recreation area.

The area, established as a national park in 1904, is rich in Indian and early military history. Ten years later Congress established it as a big game preserve. Primary emphasis in management today is placed on outdoor education and wildlife oriented recreation.

Since 1970, Sullys Hill National Game Preserve has been operated as a substation of the Devils Lake Wetland Management District.

### B. Climatic and Habitat Conditions

Refer to Devils Lake Wetland Management District narrative report.

### C. Land Acquisition

#### 1. Fee title

Nothing to report.

#### 2. Easements

Not applicable.

#### 3. Other

Not applicable.

### D. System Status

#### 1. Objectives

Primary emphasis in management of the preserve is placed on outdoor education and wildlife oriented recreation. Public use during 1978 totaled 90,000, most of whom used the self-guided auto tour route. Summer big game herds during 1978 totaled 37 buffalo, 23 elk and 38 white-tailed deer. The 60 acre Sweetwater Lake Recreation area

contains picnic grounds, a 1 mile interpretive foot trail and a 12 acre lake with a display flock of native waterfowl.

## 2. Funding

See narrative report for the Devils Lake Wetland Management District.

## II. CONSTRUCTION AND MAINTENANCE

### A. Construction

Sullys Hill was closed from July 28 to August 12 to enable local contractors to blacktop the five miles of road going through the preserve. This project greatly improved the aesthetics of the picnic area and the big game enclosure by eliminating the dust and dirt on the surrounding vegetation and picnic facilities. The blacktop also cut down the soil erosion and vehicle noise throughout the preserve.

Residence (1) and (2) got a new face lift this summer. Local contractors painted both residences but instead of the old white and green colors, earth tones were used.

With the energy crunch bearing down on us and with the higher cost of heating fuel, residence 1 had more cellulose insulation blown into the attic and residence 2 had foam insulation put in the walls and in the attic. The extra insulation has made a significant difference in the fuel bills.

The Youth Conservation Corps constructed two stone pillars for the tour route sign at the entrance to the big game enclosure. This made the sign more presentable and also more visible to the public.

Steps and several benches were constructed on the nature trail, which made the trail safer and easier to traverse.

A new 50 foot wooden flag pole was put up by the YCC replacing a 15 foot steel pipe flag pole.

### B. Maintenance

Routine maintenance of facilities and equipment was carried on during the year.

The trimming of trees and the cleanup of dead and fallen trees is a never ending chore which is important to the safety of picnickers and other visitors.



Newly blacktopped road at entrance to Sullys Hill Game Preserve



Stone pillars built by YCC



C. Wildfire

A wildfire which started outside the preserve fence burned 4 acres of wooded area. It was extinguished very easily with help from the Bureau of Indian Affairs.

III. HABITAT MANAGEMENT

A. Croplands

Nothing to report.

B. Grasslands

Hay production was good. The one cutting produced a total of 390 tons compared to the total of 120 tons in 1977, when high winds and hail destroyed most of the hay crop.

The haying is done by a local farmer who receives two-thirds of the hay crop. Under this agreement our one-third must be moved to the hay storage area in the big game enclosure.

To improve grazing in the big game enclosure, 40 acres of buck brush was mowed with the rotary mower. We also spread about 180 tons of manure on the meadows in the enclosure. The manure had been cleaned up around the feeding area and piled up for several years.

C. Wetlands

Nothing to report.

D. Forest Lands

In December the preserve was opened to the public for the purpose of gathering firewood. About fifty cords of firewood were taken out.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Nothing to report.

G. Easements for Waterfowl Management

Nothing to report.

#### IV. WILDLIFE

##### A. Endangered and/or Threatened Species

Nothing to report.

##### B. Migratory Birds

###### 1. Waterfowl

A display flock of giant Canada geese, small Canada geese, snow and blue geese and whistling swans are maintained at the preserve for public viewing and environmental education purposes.

Nine Canada goslings were hatched and raised on the preserve in 1978. Five of the goslings migrated in the fall.

Free flying geese return to the preserve or surrounding area every spring. This spring 8 geese came to the preserve. It is assumed that they were some that were raised here.

Two mallard broods were noted on the preserve this year. Very few ducks use Sweetwater Lake during the summer months. Major duck use was in October and November when migrating flocks of mallards utilized the preserve to feed on grain fed to the captive flock of geese and swan.

###### 2. Marsh and Water Birds

Double-crested cormorant, great blue herons, bitterns, black-crowned night herons and white pelicans are frequent visitors.

###### 3. Shorebirds, Gulls and Allied Species

Ring-billed gulls, Franklin gulls and terns were seen throughout the summer.

###### 4. Raptors

One bald eagle was seen on March 25th. Red-tailed, marsh, coppers, sparrow, broad-winged, sharp-shinned and rough-legged hawks were all observed on the preserve during the year.

###### 5. Other Migratory Birds

Nothing unusual to report

##### C. Mammals, Non-migratory Birds and Others

###### 1. Game Animals

At the beginning of 1978 the buffalo herd totaled 30 animals. The herd increased by 7 new calves in April and by 8 on May 18. The eighth calf was found dead on June 19. It had been gored in the chest. The five year old bull was found dead in early November. He had had numerous fights with the two older bulls for herd supremacy during the breeding season and it is believed he died of injuries he received in one of the fights.

During the disposal program in November, we removed 3 cows and 4 two-and-one-half year old bulls. This left us with a total of 29 animals at the end of 1978.

The elk herd totaled 20 animals at the beginning of 1978. One cow which had been sickly for some time, died in January and her calf was found dead the same day. Another calf was injured by the buffalo and had to be butchered. Six calves were born in May and June which increased the herd to 23 animals.

During the disposal program, we removed 1 spike bull and 3 cows which left us with a total of 19 animals at the end of 1978.

The deer herd at the start of 1978 was 24. Reproduction success was very good and included 2 sets of twins. Nine deer were removed and donated to the Community Action Program at Fort Totten. An aerial survey in January indicated the number of deer to be 28 which is a few more than necessary to carry over.

## 2. Other Mammals

### a. Black-Tailed Prairie Dogs

Black-tailed prairie dogs were first introduced on the preserve in the spring of 1974. The large reproduction of prairie dogs each year necessitates the removal of about 25 to 35 animals each year in order to keep the population under control.

### b. Rabbits and Hares

Cottontail numbers have increased over the past several years. No jackrabbits or snowshoes have been observed.

### c. Squirrels

Both the fox and gray squirrels are abundant, with the gray squirrels being observed more frequently.

### d. Red Fox

The red fox population stays about the same. Four foxes were observed during the past year.



Prairie dogs came out the first mild days in February.



An injured rough-legged hawk brought here by state warden was nursed back to good health and released.

e. Raccoons

The raccoons are very abundant. Because of their nocturnal habits, they are seldom seen by the visitors, but their presence is definitely known by the way they dig through and scatter the garbage in the picnic grounds.

f. Beaver

The beaver lodge on the preserve still is home for several beavers. The lodge that is partly in the highway road ditch is also right next to a good food supply of poplar trees.

g. Muskrats

The muskrat population remains relatively good. Six or more are often seen at one time near the goose feeder on Sweetwater Lake.

h. Skunks and Badgers

The striped skunk population has increased this past year. Road kills were common along Highway 57. A mother skunk and 4 young were seen near the preserve garbage pit. No badgers were observed.

3. Resident Birds

Nothing to report.

4. Other Animal Life

Nothing to report.

## V. INTERPRETATION AND RECREATION

### A. Information and Interpretation

1. On Refuge

Public use declined the last two years from an all time high of 97,020 visitors in 1976 to 90,000 in 1978.

The visitor figures are based on data provided by an automatic counter that counts all cars entering the area. The accompanying graph illustrates the increase in public use since 1968 when the self-guided tour route was fully operational for the entire year.





Benson County 4-H Club spent an evening picnicking and touring preserve.



Visitors enjoying scenery at Devils Lake overlook.

## 2. Off Refuge

Four news articles were prepared by the staff for local newspapers. The articles covered the opening and closing of Sullys Hill for the season, when it was closed for blacktopping the road and when it would be open to the public for gathering firewood. Several news articles about the progress of the Youth Conservation Corps were also prepared for local newspapers.

## B. Recreation

### 1. Wildlife Oriented

Most of the visitors that use the auto tour route are more interested in the animals and scenery than in the interpretive aspects of the tour. Most of the visitors would be involved with some form of wildlife/wildlands appreciation.

### 2. Non-Wildlife Oriented

The main non-wildlife oriented use is picnicking. This is closely associated with wildlife and wildlife appreciation in that many of the visitors come to picnics because of the wildlife. Twenty percent of the visitors are estimated to have picnicked on the preserve.

## E. Enforcement

Two men were apprehended by Biological Technician Irvin Nelson for driving off established tour route. Jay Tabor was driving while intoxicated approximately one-half mile from the established road and doing damage to vegetation. The case was presented by Attorney Evan Heustis, was fined \$200.00 and given a two day suspended jail sentence. Daniel Johnson was issued an FOC and fined \$25.00.

Evening and weekend patrol, as well as locking the gate every night at sunset is necessary to control vandalism and numerous other problems associated with public use.

## VI. OTHER ITEMS

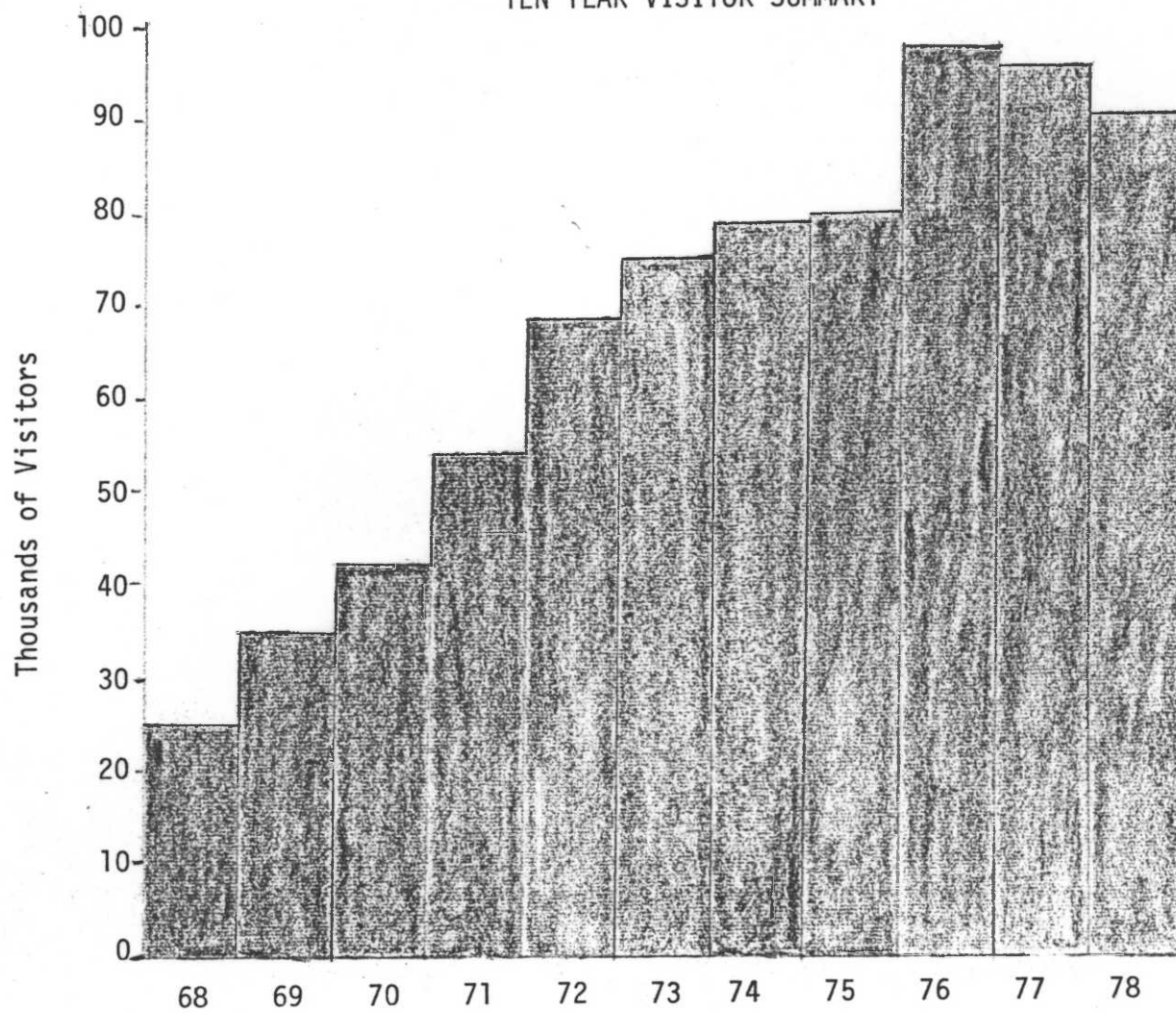
### A. Field Investigations

Nothing to report.

### B. Cooperative Programs

Sullys Hill Game Preserve hosted a Youth Conservation Corps Camp for the 5th year. The non-resident camp with a staff of five had 20 enrollees.

## TEN YEAR VISITOR SUMMARY





View of preserve and Devils Lake looking to the northwest  
from top of Sullys Hill.

Major projects for the enrollees were the construction of pillars for the tour route sign and steps and benches for the nature trail. Weekly cleanup of the picnic facility and routine maintenance gave the enrollees an appreciation of the work required to maintain a public use facility. The clearing of fallen trees and branches from picnic areas and along roads is a never ending job that has involved the YCC every year. The enrollees also helped cut and lay sod for lawn and weeded the newly planted shelterbelt at Lake Alice.

C. Items of Interest

For personnel action, see narrative report for Devils Lake Wetland Management District. This narrative report was prepared by Irvin Nelson, edited by the staff and typed by Geline Johnson. All photographs were taken by Irvin Nelson.

D. Safety

Twelve fire extinguishers were checked over and recharged. Several new extinguishers were also placed in the YCC building, office and new residence at Lake Alice. Monthly safety meetings are held in conjunction with the Devils Lake Wetland Management District.



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Review and Approvals

Submitted By	Date	Area Office	Date
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Lake Alice Nat'l Wildlife Refuge  
Refuge

Regional Office      Date

Devils Lake Wetland Management District  
Complex Office

## I. GENERAL

### A. Introduction

Lake Alice National Wildlife Refuge is located approximately 18 miles northwest of Devils Lake, North Dakota. The refuge area totals 11,511 acres, with 11,011 acres in Ramsey County and 500 acres in Towner County.

The refuge lies within the Western Lake Section (glacial lake Cando) of the Central Lowland Province, an area of glacial drift and lacustrine plains formed by continental ice sheets during the latter part of the Wisconsin glaciation. The topography is nearly level to gently undulating with many shallow swales separated by low, irregular-shaped rises. Depressions containing poorly drained soils and marshes occur throughout the landscape.

Two major drainages enter Lake Alice: The Mauvis Coulee from the northwest with a 885 square mile drainage and the combined outlet for three watersheds from the east totaling 1121 square miles. This totals 2006 square miles of drainage through Lake Alice NWR. In most years, this large drainage area gives more than adequate water supply to fill up Lake Alice proper.

### B. Climatic and Habitat Conditions

The heavy winter snows and good runoff conditions brought water levels back up in Lake Alice, Chain of Lakes and Mike's Lake. Ice left the channel at the control structure the second week in April. Water was at 1441.9 on April 13. By April 20 the reading was at normal summer operating level, but quite a bit of runoff was still going through. On June 26, 1978 all radial gates were closed and gates were set at 1442.5. The water level on Lake Alice was maintained at the desired level all summer.

Evaporation due to extremely hot weather in late August and September reduced water levels to 1441.5 by October 23. Freeze-up occurred on the 10th and 12th of November and radial gates were opened on November 12.

Adequate to abundant summer rains with July totaling 6.40 inches helped maintain operating water levels on Lake Alice. Precipitation totaled 19.12 which is about 2.5 above normal.

The fall was extremely dry with little or no rain. Abundant moisture will be needed in the spring to permit much run-off.

### C. Land Acquisition

#### 1. Fee Title

Land acquisition activities came to a complete standstill in 1978. Appraisals and additional negotiations were made on remaining properties in preparation for possibly filing declarations of taking in 1979 if negotiations fail.

Refuge acreages is as follows:

	<u>Acres</u>
Fee land from approval date of 6/28/72 to 12/31/78	-7,069
Meandered land	-3,415
Fee land purchased in 1978	- 0
Fee land left to acquire (6 landowners)	<u>-1,527</u>
Total	-12,011

2. Easements

All former easement refuge lands within the new approved refuge boundary have been purchased with the exception of the NW¼ of section 36, T. 157 N., R. 66 W.

3. Other

Nothing to report.

D. System Status

1. Objectives

The refuge has the following specific objectives:

- a. Produce 5,000 ducks annually with emphasis on mallards, canvasbacks and redheads.
- b. Provide spring and fall migrational habitat (food, water and sanctuary) for 120,000 ducks, 50,000 geese, 1,000 swans and various numbers of other water birds.
- c. Establish quality soil cover and land use practices to protect basic resources from wind and water erosion and demonstrate value of these practices to the public.
- d. Provide wildlife-oriented opportunities for the visiting public. This includes both consumptive and non-consumptive forms varying from hunting to bird watching to nature interpretation.
- e. Maintain and improve the existing diversity of wildlife.

2. Funding

Please see narrative report for Devils Lake Wetland Management District as Lake Alice National Wildlife Refuge is operated as a substation of the District and is not assigned a specific funding level.

## II. CONSTRUCTION AND MAINTENANCE

### A. Construction

Two hunter-information signs were constructed and erected on Lake Alice NWR. The signs were placed in areas which receive heavy goose hunting pressure. The signs have a leaflet dispenser explaining the hunting regulations associated with Lake Alice.

Other projects completed during the year were the construction of seven new parking lots on the public use area, the erection of two outdoor-convenience facilities more commonly known as outhouses which were bought for \$400 each, and posting the "no vehicles allowed" signs throughout the boundaries of Lake Alice to help minimize vehicle trespass problems.

### B. Maintenance

Approximately .6 miles of four-strand barbed wire fence was removed on the closed boundary of Lake Alice NWR. This fence was removed to allow the road to be maintained. This road "North Duck" Road) along with the road to Lake Alice water control structure was re-graveled with about 1700 yards of gravel from Miller's Sand and Gravel from Cando, North Dakota.

The recently built modular home at Lake Alice is now inhabited. To help in the reduction of wind erosion around the house, an area around the house was sodded. The Youth Conservation Corp (YCC) assisted in the sodding operation. The YCC was also responsible for cultivation of the newly planted tree rows located around the perimeter of the house. Eight yards of concrete were poured in front and on the sides of the house to allow vehicles to enter the garage. Lake Ready-Mix of Devils Lake was awarded the contract for around \$450.00. It was also necessary to haul shale on the driveway leading to the house as the existing driveway was predominantly clay and nearly impassable when it rains. Approximately 600 yards of shale were purchased from Miller's Sand and Gravel from Cando, North Dakota.

### C. Wildfire

This fall approximately 30 acres of vital habitat was burned on the north end of Lake Alice NWR. It was apparently started by a neighboring farmer who was burning his roadside ditch and the fire escaped his control and burned about 30 acres. Unbeknown to us until now, two fire departments showed up to fight the blaze.



New hunter information - helping to eliminate confusion.



The Lake Alice house had its share of troubles - from mixed up blue prints, a forced layover in a Hurdsville farmfield, getting stuck in the snow, snow in the basement, problems with subcontractors, a multitude of title surprise problems and a decision not to build the rest of a headquarters at Lake Alice.

### III. HABITAT MANAGEMENT

#### A. Cropland

This year the cooperative farming program involved a total of 692 acres. Corn, sunflowers and milo were planted by cooperative farmer on 45 acres but the planting was late and it was not a good crop - 100% of this was left for wildlife.

Small grain was planted as a nurse crop for Reed's canary grass on 41 acres, for Garrison creeping foxtail on 44 acres and DNC on 80 acres. The cooperators received 100% of the grain crop for seeding ours. The 80 acres had been poorly summer fallowed the year before resulting in a fine stand of quack grass which the cooperator asked if we would buy his stand of barley from him since his crop was not very good due to "hail damage". He was told he could harvest the grain if he wished but we would not buy it. We would have to break it up again because of the poor DNC that was resulting and that we would find someone else to do it. The barley remained unharvested, except by the deer and pheasants. Twenty-five acres were in summer fallow by cooperators and 489 acres were in small grain only. The refuge received 10% of this crop on 232 acres.

In addition, 43 acres on the west side were farmed by force account because one cooperator did not wish to drive the distance for that small acreage. Corn, sunflowers and milo were planted on 25 acres and 18 acres were summer-fallowed.

Around the new house at Lake Alice, 16.5 acres of millet and 10 acres of milo were planted by force account.

Force account planting will not be done in the future unless necessary.

#### B. Grassland

Providing nesting cover for waterfowl and other wildlife species has been one of the major management goals since the refuge was established.

The 88 acres planted to Garrison creeping foxtail and Reed canary-grass under nurse crop has not come up enough to determine whether the stand will catch. Since much of the refuge is subject to flooding, alternatives to the standard DNC mixtures are still being tried. On the 104 acres seeded to a mixture of western wheatgrass, switch grass and green-needlegrass in 1977, the wheatgrass almost exclusively dominated. Whether this switch and needlegrass will be able to pull through if a year of flooding drowns out the wheatgrass is yet to be determined. This year, 3 two-acre patches were experimentally mowed.

P-5797 Basin wild ryegrass seed received from the Soil Conservation



Service was planted on five acres on June 6. There is no indication that any of it grew, however, the site will be managed another year.

We also received SD-149 and NDG-965-98 switchgrass from the SCS and planted five acres of each around the new house. These stands are doing well.

One third of a first year DNC field was hayed in strips in early July, another third was rotary mowed and one third was left standing and a second cutting was made on two of the hay strips. This DNC was very dense, dominated by sweet clover and alfalfa. It was mowed to determine if the grasses might be stimulated by mowing the legumes.

Two other first year DNC acres were rotary mowed with a control strip left in the center (approximately 20 acres).

Approximately 50 acres of wheatgrass dominated DNC was swathed and combined for seed. The seed is to be cleaned by the YACC at Nekoma. Germination tests ran 51% for tall wheatgrass, 80% for intermediate wheatgrass and 35%, 30% hard alfalfa.

Control of noxious weeds was conducted on 350 acres. Three hundred acres were aerial sprayed and 20 acres ground applied for sow thistle. About 25 acres of spurge and 5 acres of Canada thistle were sprayed. In addition an estimated 60 acres of young cottonwoods were sprayed to hold down the encroachment into grassland. Application rates were 1/2 lb. active ingredient/acre by air and 1 lb./acre by ground of 2,4-D.

#### C. Wetlands

Water conditions were good to excellent for the year. Spring level peaked at the Lake Alice control structure at 1442.6 in mid-May. Radial gates were closed and lift gates were set at 1442.3 on June 26. Rains through early August kept a flow through the gates most of the summer. Gates were opened October 23.

Lake Alice which is normally a 3,415 acre Type IV marsh, has not recovered from the spring floods of 1974 and 1975 which eliminated a major portion of the emergent vegetation in the center of the lake.

Emergent and submergent vegetation did make a comeback on the portions of Chain Lakes which had become mud flats the year before. Submergents may have increased a little on the edges of Lake Alice.

Traynor Lake which had been dry in 1977 had wet soil most of the summer but no open water. This and several other lowland areas were primarily sow thistle. Plans for water impoundments on some portions and a planting of reeds on other areas are being made.

D. Forest Land

A seven acre shelterbelt was planted around the new house. Deer and rabbits are hampering establishment of the grove.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Nothing to report.

G. Easements for Waterfowl Management

Does not apply.

## IV. WILDLIFE

A. Endangered and/or Threatened Species

Nothing to report.

B. Migratory Birds1. Waterfowl

Other than weekly aerial goose counts conducted in the fall, no other waterfowl population or production census has been implemented on the refuge.

Ducks and geese began arriving on the refuge toward the end of March. At the end of the first week in April, all species of ducks and geese were present in good numbers.

The fall goose migration began arriving about the second week of September. Fall aerial goose counts began September 25. The results are as follows:

<u>Date</u>	<u>Number of Snows/Blues</u>	<u>Number of Canadas</u>
09/26/78	5,900	1,700
10/04/78	3,700	800
10/11/78	22,500	5,000
10/19/78	18,000	400
10/25/78	43,000	200
11/01/78	9,000	150
11/08/78	5,300	600
11/15/78	0	freeze up 0

The geese began to leave the refuge the last week in October. By the 15th of November, the lakes were frozen over and only a few cripples remained.

No serious waterfowl depredation occurred this year in or around Lake Alice NWR. This fall was warm and dry and crops were removed early.

About 40 non-breeding Canada geese summered on Lake Alice this year. Three blues and one snow goose were seen on the refuge the first week of August. We suspect they spent the summer there also.

In 1977 six wood duck boxes were erected on the refuge by YCC. These were checked this year and none were in use. On August 22nd about 20 woodies were seen on the refuge.

## 2. Marsh and Water Birds

A few cattle and common egrets were seen this year again. Pelicans and great blue herons were very common. About 200 to 300 sandhill cranes were on the refuge in September.

## 3. Shorebirds, Gulls, Terns and Allied Species

A black bellied plover was observed on the refuge in July.

## 4. Raptors

Two prairie falcons were seen in September. An osprey was also observed that month. Snowy owls started showing up in November.

## 5. Other Migratory Birds

Nothing to report.

# C. Mammals and Non-Migratory Birds and Others

## 1. Game Mammals

White-tailed deer are abundant on the refuge. On an aerial survey conducted January 12th, we counted 320 deer using the refuge. There were 200 in 1977 and 120 in 1976. Thus a 100% increase in two years. The winter of 77-78 was a harsh one. We had record snow and record cold in the area. Freezing rains in December put an impenetrable crust over everything. Six small grain food stacks were available on the refuge and heavily used throughout the winter. The herd seemed to fare very well, only a few carcasses were found and reproduction appeared to be good this spring with several sets of twins observed.

The surrounding country-side is bleak in wintertime with food and cover restricted to one-row shelterbelts and farmsteads. It is likely the difficult winter that drove the surrounding deer population into the only food and cover left. This may account for some of the increase over last year. However, the herd has been steadily building since the creation of the refuge. Plans are being made to open the refuge to deer hunting. The final decision will be made after the 1979 aerial survey.

There appears to be a family group of coyotes on the refuge. This is the third year numerous sightings have been made.

A moose sighting was reported by a deer bowhunter early in the fall. One or two moose usually wander through the area each year. A small herd is thriving in the northeast corner of the state in the Pembina Hills area.

## 2. Other Mammals

Nothing to report.

## 3. Resident Birds

On April 21, ten cocks and ninety pheasants were released at scattered sights throughout the refuge. Pheasants were first re-introduced in May of 1976 in cooperation with the North Dakota Game and Fish Department.



Steve Brock releasing pheasants at Lake Alice.

The population in the fall of 1977 had reached about 400-500 birds, a real success story. However, the winter of 1978 took its toll so that by spring only about 40 survived. There was some reproduction this summer and the population appears to be on the upswing once again.

In August the North Dakota Game and Fish Department, with our assistance, released 200 surplus cocks in the open hunting area on the refuge. Hunting pressure was moderate and coupled with the excellent cover, many survived. Males now comprise 50% of the population.

Hungarian partridge are present on the refuge but are not plentiful. Sharptailed grouse are just beginning to return to the area, this being only the second year they have been observed.

#### 4. Other Animal Life

Nothing significant to report.

### V. INTERPRETATION AND RECREATION

#### A. Information and Interpretation

##### 1. On Refuge

The Boy Scouts held a Camporee at Lake Alice NWR, May 5-7. About 150 scouts attended. Steve Brock, Mark Heisinger and Hilma Volk assisted with the tree planting and cover evaluation portion of the program.

There are no developed trails or contact stations on the refuge other than the two hunter information signs and hunting leaflet dispensers.

##### 2. Off Refuge

Two news releases were prepared during the year. One covered the pheasant release program and the other pertained to hunting on the public use area.

Hunting leaflets were distributed to Devils Lake sporting goods and hardware stores.

#### B. Recreation

##### 1. Wildlife Oriented

Wildlife oriented activities on the refuge are basically hunting

along with wildlife observation. The public hunting area, approximately 3,167 acres, is open to public hunting with a retrieval zone established between the open area and the closed area of the refuge.

The public hunting area is open to all species for which the state has a season and is open only concurrently with those seasons. The major hunting use is orientated towards goose and deer hunting. The goose hunting is basically a "firing line" situation practice. A fair population of ring-necked pheasants afforded a fair hunting opportunity and a good carry-over of birds was noted after the season was over.

## 2. Non-Wildlife Oriented

None.

## C. Enforcement

The refuge was patrolled by the Devils Lake Wetland Management District staff, North Dakota Game and Fish Department law enforcement personnel and U.S. Game Agents.

S.R.A. Scrafford made a good case on three Minnesota hunters who had successfully walked in on a large flock of geese roosting in a small slough in the open area and, at the first minute of open season, blasted them on the water. S.R. Agent Scrafford got in the swing of things and helped pick up dead and crippled birds. The roundup was made and a count on the pile of geese came to 29, nine geese over the daily possession limit. Agent Scrafford shunned the offer that anything over 15, he could have. S.R. Agent Scrafford confiscated the whole bunch and issued tickets to the stunned hunters- Something to that "right place at the right time" saying.

Four cases were made on trespassing on the refuge. One case of over possession of Canada geese. Two cases of unplugged shotguns and two cases of swan shooting.

The new Devils Lake Agent, Agent Reynolds, made several cases on untagged birds and trespassing.

Considering the large amount of hunters visiting the refuge to hunt, violations do not appear to be too apparent. Either the enforcement is better or the hunters are getting smarter.

## VI. OTHER ITEMS

### A. Field Investigations

Nothing to report.



B. Cooperative Programs

See Croplands, Grasslands, Mammals and Non-Migratory Birds for specific programs.

C. Items of Interest

This report was written by Hilma Volk, Ron Berget and Mark Heisinger; edited by station personnel and typed by Geline Johnson.

D. Safety

Monthly safety meetings are held at the Wetland Management District Office.