

• Madison Wetland Management District
• Annual Narrative - C.Y. 1980
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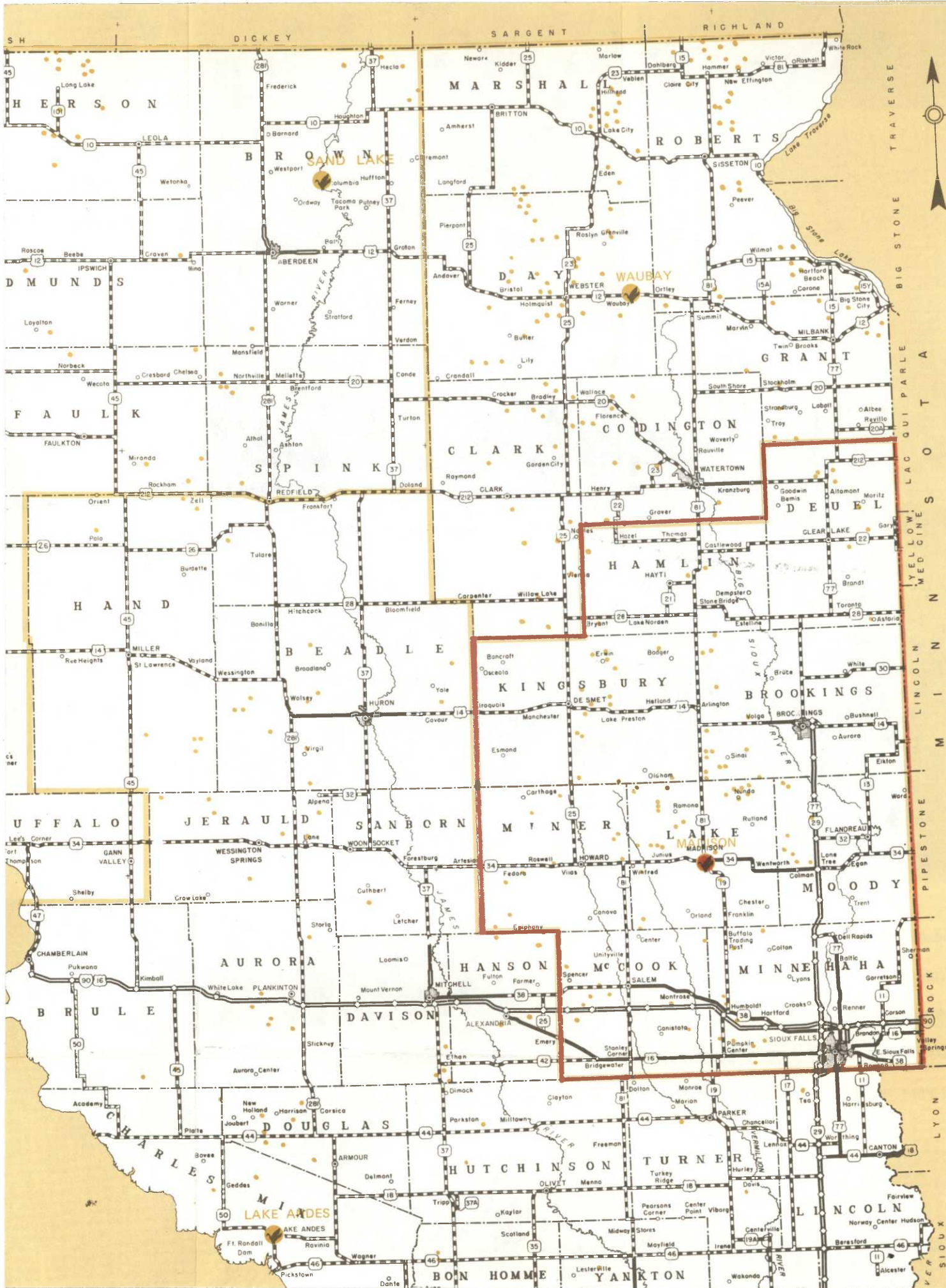
MADISON WETLAND MANAGEMENT DISTRICT
Madison, South Dakota

ANNUAL NARRATIVE REPORT
Calendar Year 1980

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

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HERSON
MARSHALL
ROBERTS
D MUND S
FAULK
SPINK
CLARK
CODINGTON
GRANT
H AND
BEADLE
KINGSBURY
HAMLIN
DEUEL
BROOKINGS
UFFALO
JERAULD
SANBORN
MINER
LAKE MADISON
MOODY
BRULE
AURORA
HANSON
MCCOOK
MINNEHAHA
DAVISON
DOUGLAS
HUTCHINSON
TURNER
LINCOLN
BON HOMME
YANKTON

TRVERSE
BIG STONE
LAC QUI PARLE
YELLOW
MEDICINE
LINCOLN
M I N N
PIPESTONE
ROCK
LYON
SIOUX



OUTLINE FOR ACT

Preserve Natural W

by purchase

by easement

by dedication

by bequest

Reclaim wetlands

by plugging d

by construction

by purchase

by lease

State Wildlife W

by donation

by deposit

by purchase

by lease



Coteau Prairie Waterfowl Production Area (Deuel County)
Probably the finest piece of "virgin" native prairie
that remains in the district.

80/29-9

7/21/80 DLG



PERSONNEL

- | | |
|------------------------|--|
| 1. David L. Gilbert | Refuge Manager GS-11 (PFT) |
| 2. Bruce T. Schoonover | Asst. Refuge Manager GS-9 (PFT) |
| 3. Earl R. Hyink | Biological Technician GS-7 (PFT) |
| 4. Dorothy E. Tomscha | Refuge Assistant (Steno) GS-5 (PPT) |
| 5. Harry T. Jones | Tractor Operator WG-6 (PFT/CS) 4/7/80 - 11/28/80 |

REVIEW AND APPROVALS

David L. Gilbert 3-2-81
 Submitted by _____ Date _____

James W. Salzer
 Area Office _____ Date _____

David J. Wilson 5/18/81
 Regional Office _____ Date _____



1.	Kevin Heppler	Laborer	WG-2	5/05/80 - 8/30/80
2.	Jim Groeneveld	Laborer	WG-2	5/05/80 - 9/29/80 10/6/80 - 11/28/80
3.	Gary Breuer	Laborer	WG-2	5/05/80 - 8/30/80
4.	Keith Dimmett	Biological Aid	GS-5	5/19/80 - 8/15/80
5.	Susan Tomscha	YACC		3/03/80 - 12/31/80
6.	Wanda Corbin	Student Intern		May - June

NARRATIVE REPORT

I. GENERAL

A. Introduction

Madison Wetland Management District administers Waterfowl Production Areas (WPAs) and wetland easements in nine east central South Dakota counties. Most of the Madison District, which contains two hundred management units, lies within the glaciated Prairie Coteau region, elevation 1450 - 1850 feet MSL.

B. Climatic and Habitat Conditions

During nearly all of January, the ground was bare of snow as it had been in December as well. Old timers said it was the most open winter in memory. Temperatures were moderate, ranging from -18° F. to 51° . Conditions during February and March were similar with up to 4 inches of snow on the ground during much of February.

The spring was exceptionally dry. By the end of May, precipitation totalled 4.64 inches at Madison; nearly 4 inches below normal. $2\frac{1}{2}$ inches of rain fell in June; the deficit increased to $5\frac{1}{2}$ inches below normal.

July was hot with the average high being 85° . The hottest day of the year was 96° on the 24th. August was not far behind with an average high of 80° . July rain totalled 2.1 inches, August 6 inches. In September it rained $\frac{1}{2}$ inch, 5.3 inches below normal at the end of the month.

Late summer wetland conditions ranged from good in Deuel County in the northeast to poor in Miner County on the west side of the district. McCook County in the southwest went into the season with very good water conditions resulting from excellent precipitation the previous two years. By summer's end wetlands were rapidly drying up. On 40 WPAs checked in early October, water conditions were good to excellent on 15, poor to fair on 14. 11 were dry except for stock dugouts.

The fall was mild and dry. The first frosts began on September 22. We received a half inch of rain in September, $1\frac{1}{2}$ inches of rain in October, including a 3 inch snow on the 27th. That snow quickly melted, and no precipitation was received during November. In early November we were still getting days with highs in the 50's. A winter storm on December 1 brought 4 inches of snow and a low of -6° . The lakes froze over. By December 4 we were having fine weather again. At year end our total precipitation was 17.55 inches, nearly 7 inches below the normal of 24.31.

C. Land Acquisition1. Fee Title

Fee acquisition was down radically from the past. Some purchases

optioned in 1979 were completed. The largest of these was 449 acres in Kingsbury County (Plum Lake and Neu WPAs). Governor Janklow approved the acquisition over the County Commissioners. The present anti-government sentiment and opposition to other agency wetland acquisition for project mitigation have carried over to our program. Concern that our revenue sharing won't equal former taxes is the most frequent specific objection raised. (Table 1.)

Table 1. Fee Acreage

<u>County</u>	<u>Total Acres Optioned FY 79</u>	<u>Total Acres Optioned FY 80</u>	<u>Total Fee Acres</u>
Brookings	3460.88	---	3460.88
Deuel	2856.46	---	2856.46
Hamlin	2256.31	120.00	2376.31
Kingsbury	3019.65	---	3019.65
Lake	4279.10	---	4279.10
McCook	2902.89	---	2902.89
Miner	1578.09	---	1578.09
Minnehaha	3543.05	20.00	3563.05
Moody	1466.74	---	1466.74
TOTALS:	25363.17	140.00	25503.17

2. Easements

Wetland easement acquisition was also down dramatically from past years with 518 wetland acres taken in 1980. A bill for force F&WS to offer a 20 year easement to landowners was defeated in the state senate. (Table 2)

Table 2. Easement Acreage

<u>County</u>	<u>Easement Wetland Acres FY 79</u>	<u>Easement Wetland Acres FY 80</u>
Brookings	2,285	2,306
Deuel	4,006	4,048
Hamlin	4,118	4,118
Kingsbury	14,464	14,625
Lake	2,096	2,176
McCook	3,556	3,612
Miner	7,072	7,174
Minnehaha	356	412
Moody	31	31
TOTALS:	37,984	38,502

D. System Status1. Objectives

In 1980 station objectives remain unchanged since major revision in 1977. No major change in current outputs has occurred. Some increases resulted from expansion of acres. (Table 3)

Table 3. 1980 Objectives

<u>Output</u>	<u>Objective Level</u>	<u>Current Level</u>
Interpretation	3,600 A.H.	600
Education	350	150
Recreation WL-Consumptive	143,000	100,000
Recreation, Non-Cons.	13,000	9,000
Recreation, Non-Wildlife	100	100
F&W Information	400	300
Studies	1 Each	0
Co-op Programs	5	5
Nat. Env. Preserved	65,000 Acres	64,000
Threatened Spp. Maint.	50 U.D.	50
W. F. Maint.	21,000,000	15,000,000
Other Mig. Bird Maint.	5,000,000	4,000,000
Waterfowl Production	85,000	60,000
Species Donated	10 Each	10
Economic Benefits	\$6,000	\$6,000

2. Funding and Staffing

FY 80 funding and manpower is tabulated in Tables 4 and 5.

Table 4. Funding

<u>FY</u>	<u>1210</u>	<u>1220</u>	<u>1500</u>	<u>Constr.</u> <u>2821-6M</u>	<u>8821-</u> <u>64</u>	<u>Total</u>
77	77,575	1,030	6,500	12,800 (vehicles)	89,860 87,360 (Brood Ponds)	\$188,289
78	<u>1210</u> 98,200	<u>1220</u> 600	<u>1240</u> 5,300	<u>2721-G3</u> 24,500		\$128,600
79	<u>1210</u> 113,200	<u>1220</u> 900	<u>1240</u> 7,000	<u>2821-TX (BLHP) *</u> 221,000 (Headquarters Construction)		\$342,100
80	<u>1210</u> 113,300	<u>1220</u> 1,800	<u>1240</u> 8,800	<u>2821-6U (BLHP) *</u> 190,000 (fencing, new shop, radio tower, entrance road, equipment truck & trailer, pole building)		\$313,900

* Bicentennial Land Heritage Program

Table 5. Mandays

<u>FY</u>	<u>PFT</u>	<u>PPT</u>	<u>TEMP.</u>	<u>TOTAL</u>
77	522	688	80	1290
78	440	638	147	1225
79	520	638	150	1308
80	780	379	341	1497

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Headquarters

After being headquartered in an inadequate, rented facility for 11 years, with the help of Bicentennial Land Heritage Program (BLHP) funding, we relocated our headquarters on the Payne WPA. (Figure 3)



Figure 3. The new headquarters complex is a vast improvement over the inadequate, rented facilities that were previously used. 80/33-14
10/8/80 DLG

The location is four miles from Madison, 3/4 mile south of the Hwy. 34 and Hwy. 19 intersection. The new solar heated office was occupied in August 1980. The facility has 1,960 square feet of usable space, a full basement, and a heat pump to back up the solar system. (Figure 4)



Figure 4. The new solar heated office was occupied in August 1980.
81/1-14
1/23/81 BTS

The shop was established temporarily in an existing storage building at the new headquarters location. A new 36' x 50' shop, being built by Fiegen Construction of Sioux Falls at a cost of \$93,000 (BLHP funded) is presently under construction. The building, nearly finished by the end of 1980, has a wash bay, main shop area with hoist, office, bathroom, and is equipped with propane radiant heat. (Figure 5)



Figure 5. This new shop, a Christmas present for the Biological Technician who has used inadequate facilities for 11 years, will be ready for use early in 1981.

81/1-16

1/23/81 BTS

A new 36' x 48' pole shed was built force account at a cost for material of \$4,150.00 to store equipment. The much needed building was filled to capacity even before the last nail was pounded. (Figure 6)



Figure 6. This 36' x 48' pole shed was built force account for additional storage space.

81/1-19

1/23/81 BTS

In addition to the building construction that was accomplished at the new District Headquarters in 1980, a 1/4 mile entrance road and a parking lot was constructed and gravelled, a sidewalk from the parking lot to the office entrance was built, a new 30' flag pole erected, the court yard area was landscaped and gravelled, a 250' security fence was constructed, three fuel tanks (total 2,500 gallon capacity) were buried by the new shop, and a 190' radio tower was erected for base reception of our new two-way radios.
God Bless BLHP!!



Figure 7. Security fence was constructed to prevent theft and vandalism in the storage area.

81/1-18

1/23/81 BTS

Fencing

A total of 3,060 rods of new fence was constructed; 620 rods of old fence was replaced with new fence, and existing fence was repaired where needed in the district in 1980. (Figure 8 and Table 6)



Figure 8. Harry Jones constructs new fence on the Payne WPA in Lake County.
80/32-18a
9/10/80 BTS

Table 6. Fencing 1980

<u>New Fence Construction</u>			
<u>WPA</u>	<u>County</u>	<u>Type Fence</u>	<u>Rods Fenced</u>
Geardink	Brookings	4 strand barb	120
H. Johnson	Deuel	4 strand barb	535
Mundahl	Deuel	3 strand barb	165
Severson	Deuel	4 strand barb	100
Warne	Kingsbury	3 strand barb	375
Austad	Kingsbury	3 strand barb	160
Children's	Lake	Woven - 3 strand barb	30
Children's	Lake	4 strand barb	135
Ramsey	Lake	4 strand barb	205
Madison	Lake	3 strand barb	25
Hyde	McCook	4 strand barb	640
Lukes	McCook	4 strand barb	190
Muller	Miner	Woven - 3 strand barb	80
Ristensund	Miner	4 strand barb	300
Total rods new fence:			3060

Fence Replaced

<u>WPA</u>	<u>County</u>	<u>Type Fence</u>	<u>Rods Replaced</u>
Cox	Hamlin	3 strand barb	40
Payne	Lake	4 strand barb	80
Windedahl	Miner	4 strand barb	250
Ordal	Minnehaha	4 strand barb	80
Schaefer	Minnehaha	4 strand barb	150
Wise	Minnehaha	4 strand barb	<u>20</u>
Total Rods Fence Replaced:			620

To add security to the new headquarters complex, 250 feet of 6' security fence was constructed at places of easy access into the storage area.

B. Maintenance1. Signs and Posting

Replacement of boundary signs destroyed by vandalism is a yearly project at this station. With 200 WPAs scattered over nine counties, there are a lot of boundary and regulatory signs required. It seems every fall a portion of the hunters feel they must take out their poor luck on our signs, causing an unnecessary expense to the FWS and a poor impression to the visiting public.

Three new purchases were posted in 1980. These were the I. Johnson, Hyde and L. Kattke WPAs.

2. Site Clean-ups

Two building sites were cleaned up and buried on the Lost Lake and Lake Henry WPAs. (Figure 9)



Figure 9. Berle Meyers from Sand Lake NWR assisted with the clean-up of building sites on Lost Lake and Lake Henry WPAs. 80/21-17
6/19/80 BTS

3. Earthwork

Because of the demand on our time with the new headquarters construction, easement enforcement, and general district management, very little earthwork was accomplished in 1980. A TD-14 International Cat was transferred from Sand Lake NWR so we can accomplish earthwork development and wetland restoration or creation on WPAs as needed in the future.

4. Roads

Roadsides were mowed on all Township roads adjacent to WPAs. County roads were mowed by the counties. A 1/4 mile entrance road into the new headquarters site was constructed and gravelled. (Figure 10)



Figure 10. Local contractors (Reinicke) construct the entry road into our new office.

80/32-13a

9/8/80 BTS

C. Wildfires

A wildfire on March 18, 1980, burned approximately 3 acres on the Nold WPA in Lake County. The fire apparently was started by the sun shining through a bottle, and was put out by the Madison Fire Department. The burned area was an older DNC planting, and was approximately 50% alfalfa and 50% bromegrass. While no real benefits were noted from the fire, no permanent damage was caused, either. (Figure 11)



Figure 11. This 3 acre fire on the Nold WPA was apparently caused by the sun shining on a bottle.

80/1

BTS

Another wildfire burned approximately 45 acres on the Kasperson WPA in Brookings County. This burn was discovered in the spring of 1980, but apparently occurred on November 19, 1979. It was caused by a farmer burning in an adjacent field, and was contained by the Sinai Fire Department. The fire burned approximately 15 acres of upland (mostly bromegrass) and 30 acres of marsh, which was a heavily choked Type IV containing roundstem bullrush and cattail. This area is pair-counted each spring, and in the spring of 1979, the marsh in the area that burned was so choked you could almost walk on top of it. No diver use was noted in the area. In the spring of 1980, where the fire had burned, the marsh was much more open with new growth beginning, and a canvasback nest containing 9 eggs was discovered. The nest was apparently the direct result of the fire reducing the choked condition of the marsh. (Figure 12)



Figure 12. This canvasback nest (center photo) was found in a choked Type IV marsh that was partially opened by a fire.

80/17

BTS

III. HABITAT MANAGEMENT

A. Croplands1. Food Plots

Food plots are typically 30 to 45 acres, and put in by cooperative farmers. The larger plots (45 acres) are generally set up in a 3-field rotational system, with 1/3 being corn, 1/3 small grain, and 1/3 standing sweet clover in any one year. Smaller plots of around 30 acres are usually only 2-field, with 1/2 corn and 1/2 small grain. The government's share is usually 1/2 the corn, and is left standing as winter food for resident species such as pheasant and deer.

Many of our WPAs have a low upland/water ratio and submarginal quality cropland, and are not suitable for establishing food plots. In 1971, seven food plots were in effect on the Bjornlie, Lake Henry, Buffalo Lake, Murfield, Madison, Updahl Slough and Hyde WPAs. In 1980, two additional food plots were established on the R. S. Anderson and Kindt WPAs.

2. Plantings

Typically, when a new WPA is purchased, anything that can possibly be plowed, has been. Much of the upland is generally of marginal farming quality and is critical to nesting needs for maximum waterfowl production. We have two options to consider for the type of upland nesting cover to plant. They are a grass/legume mixture and a mixture of native grasses. We used to go more with the grass/legume mixture because the seed is cheaper, establishment is faster, and it provides excellent cover. We found that in trying to control noxious weeds, we were also killing the legumes we had planted for cover. For this reason, we have gone more, in recent years, to a native grass mixture. The mixture of native grasses costs more to establish initially, but the seeding is a one-time expense, and with proper management, the nesting quality continues to improve. Also, spraying does not affect the native grasses, so noxious weeds can be controlled without harming the cover.

Mixtures are listed below:

<u>GRASS/LEGUME</u>	
<u>Species</u>	<u>Lbs./Acra PLS</u>
Sweet clover	.5
Ranger alfalfa	1.5
Red clover	1.0
Tall wheatgrass	2.5
Switchgrass	1.0
Green needlegrass	<u>.5</u>
	7.0

NATIVE GRASS

<u>Species</u>	<u>Lbs./Acre PLS</u>	<u>% of full seeding for each species</u>
Blue grama	.01	.5
Side-oats grama	.3	5.0
Big bluestem	.5	10.0
Little bluestem	.6	15.0
Indiangrass	1.0	20.0
Buffalo	.01	.5
Western wheatgrass	2.1	30.0
Slender wheatgrass	.2	4.0
Switchgrass	1.4	40.0
Green needlegrass	1.5	25.0
	7.62	150%

In 1980, a total of 64 acres was seeded to nesting cover on three new WPAs. The native grass seeding was done by us with our John Deere grassland drill because cooperator-owned grain drills are not equipped to handle fluffy native grass seed. The grass/legume mixture was seeded by a cooperator. (Table 7)

Table 7. Nesting Cover Plantings 1980

<u>WPA</u>	<u>County</u>	<u>Acres</u>	<u>Type</u>	<u>Cooperator</u>
Leo Kattke	Kingsbury	17	NG	Leo Kattke
Hyde	McCook	7	NG	Joe Tschetter
Eyekamp	Miner	40	G/L	Richard Soma

Total acres nesting cover planted -- 64 *

* 40 acres grass/legume; 24 acres native grass

On a trial basis, 15 acres of perennial grain seed was planted on the Regan WPA. The seed is expensive at \$50 per acre. It is hoped it will provide nesting cover at the same time it provides food for resident wildlife species.

Also, in 1980 a John Deere interseeder was purchased. It is used to plant legumes into depleted grass/legume seedings, and to plant additional native grass species into areas where some native species exist and we don't want to break it, but where introduction of additional seed would be beneficial. (Figure 13)



Figure 13. Hyink seeds a native grass mixture on an 18-acre island on the Madison WPA with our new John Deere interseeder. 80/21
6/11/80 BTS

The interseeder seems to work well in most cases. At first it plugged easily when excessive Kentucky bluegrass mulch existed, but several adjustments to the machine seemed to greatly improve the problem. Also, we can not seed several desirable species, such as Big bluestem, because the fluffy seed will not feed through the drill. A total of 110 acres was rejuvenated with the interseeder in 1980.

Mixtures used in the interseeder were:

<u>Species</u>	<u>NATIVE GRASS</u>	
	<u>Lbs./Acre PLS</u>	<u>% of full seeding for each species</u>
Green needlegrass	1.5	25
Western wheatgrass	2.1	30
Slender wheatgrass	.2	5
Switchgrass	1.4	40
Side-oats grama	.3	5
	5.5	105%

B. Grasslands

Documentation of trends in habitat condition is generally accomplished by permanent photopoints and annual grassland transects. (Figure 14)



Figure 14. This photopoint and grassland transect line on the Madison WPA helps us evaluate habitat trends, and aids in determining future management needs.
80/35-21a
10/2/80 DLG

The technique for the grassland transects was recommended to us by Blake Smith, former Regional Range Ecologist, using ^{the modified} ~~the~~ ~~Dobbermeyer~~ Method. It is designed to measure the canopy, density and species frequency. (Figure 15)

Daubenmire



Figure 15. Gilbert and Hyink perform a grassland transect to evaluate habitat trends on the Lost Lake WPA using the ~~Dobbermeier~~ Method.

DAUBENMIKE 80/34-20a

9/28/80 BTS

1. Haying

Due to increased demand because of the dry conditions 1980 provided an excellent opportunity to do some haying for weed control and mulch removal. Normally, we have trouble even trying to give this poorer quality hay away. A total of 178 acres on seven WPAs was hayed after July 12. (Table 3)

Table 8. Haying 1980

<u>County</u>	<u>WPA</u>	<u>Permittee</u>	<u>Acres</u>
Kingsbury	Isaacson (134)	Roger Page	4
Kingsbury	Isaacson (137)	Steve Page	13
McCook	Herting (142)	Barney Roling	26
Miner	Corbin (136)	Gordon Hanson	30
Minnehaha	Munce (35)	Dale Bucher	20
Moody	Benson (25)	Larry Miles	38
Moody	Benson (25)	Robert Groos	27
Moody	Fannie Anderson (31)	James Van Hecke	20
Total acres hayed:			178 acres

2. Grazing

Increasingly, we are using grazing for mulch removal and the reduction of Kentucky bluegrass, quackgrass, and brome grass in native grass stands. (Figures 16 and 17)



Figure 16. Schoonover checks Kentucky bluegrass mulch on the Alquire WPA. This area is scheduled for grazing in 1981. 80/19-2
5/19/80 DLG



Figure 17. Cattle remove Kentucky bluegrass mulch on the Madison WPA to promote the growth of native grass. 80/17-1
5/80-DLC

We usually graze during late April and the month of May for the reduction of the cool season invader species, and then remove the cattle by June 1, which is normally when the warm season native grass species begin their growth. This period of use will vary slightly from year to year depending upon moisture and weather conditions. The purpose, of course, is to increase the vigor and incidence of warm season native grass species by reducing the undesirable competition. In 1980, we generally grazed at the average of 1.15 AUM per acre, with the grazing fee being \$7.00 per AUM. Collections for grazing this year totalled \$5,109.99. (Table 9)

Table 9. Grazing 1980

<u>County & WPA</u>	<u>Period of Use</u>	<u>Permittee</u>	<u>Acres Grazed</u>	<u>AUMs</u>
<u>Brookings</u>				
Dahl (#43)	May 1 - May 31	Lowell Gisselbeck	25	25
<u>Kingsbury</u>				
R. S. Anderson (#162, #197)	April 17- June 1	Frank Virchow	70	85
<u>Lake</u>				
Madison (#43, #44, #97)	April 20 - May 31	Tom Wolf	72	82
<u>McCook</u>				
Bollinger (#112)	May 1 - May 31	Ron Stahl	62	62
Gottlob (#39)	April 30 - May 31	Bud Gottlob	27	27
Janssen (#56)	May 1 - May 31	Ron Stahl	62	62
Johnson (#17)	April 25 - May 20	Neal Even	19	32
Reif (#128)	May 1 - May 31	Ray Weber	30	34
Sabers (#16a)	May 1 - May 31	LeRoy Streff	60	88
<u>Miner</u>				
Corbin (#136)	April 29 - June 7	Gordon Hanson	64	55
Foos (#138)	May 12 - June 5	Mike Sibson	70	89
Hepner (#87)	May 11 - June 7	Ray Ristensund	70	78
Sullivan (#12)	May 1 - May 31	Martin Connor	22	34
Windedahl (#44)	May 2 - June 7	Floyd Lund	41	55
<u>Minnehaha</u>				
Fods (#41)	April 28 - June 7	Roger Fods	63	64
Schaeffer (#43)	April 27 - June 7	John Schaeffer	40	40
Total Acres Grazed:			785	900

3. Prescribed Burning

In 1980, no prescribed burning was done in the district. We had planned spring burning (April - May) on approximately 10 WPAs and totalling around 300 acres, but the extremely dry spring conditions caused the "Fire Danger" to be extremely high. We felt that while burning would have been very beneficial for mulch removal and control of Kentucky bluegrass and brome grass in native grass stands, public relations could be improved by instead offering grazing or haying to our neighbors. Also, a prescribed burn that got away from us under such conditions would have caused an editorial and political "heyday".

4. Weed Control

South Dakota state law requires us, as a landowner, to control noxious weeds on our land. Weed control has also been used as a major consideration

by some County Commissioners in our district for approval of fee title purchases. Consequently, weed control has developed into a major management project at this station. 2,4-D in the amine and low volatile ester formulations was used exclusively for weed control in 1980.

Two 4x4 mounted 300 gallon boom sprayers with hand hoses, and a 150 gallon unit with hand hose are used in the weed control effort. The weed control project usually begins in mid-May with the treatment of Leafy spurge and Wormwood sage, using low volatile ester. Both 300 gallon units are kept busy through June spraying Canada thistle with amine and then low volatile ester after mid-June. During early July, one unit is able to handle complaints and patches missed earlier. Canada thistles are forming seed by mid-July and spraying is not very effective. Seed production is then prevented by clipping them with a mower. During the hot, dry summer, spraying is not very effective. By early September, fall rains and cooler weather usually trigger regrowth of the mowed areas, and fall spraying of these areas becomes necessary. (See Table 10)

Table 10. Weed Control 1980

County	Spraying		
	Acres Canada & Musk thistle	Acres Leafy spurge	Acres Wormwood sage
Brookings	524	176	13
Deuel	173	64	0
Hamlin	79	0	0
Kingsbury	37	2	3
Lake	57	30	7
McCook	318	1	228
Miner	127	0	11
Minnehaha	691	12	99
Moody	50	53	1
	2056	338	362

Total acres weeds sprayed = 2,756

County	Mowing
	Acres Mowed
Lake	35
McCook	97
Miner	88
Minnehaha	15

Total acres mowed = 235

One incident occurred during the weed control program in 1980 that caused concern. One of our summer employees, Gary Breuer, mistakenly sprayed Canada thistle on private land adjacent to the Kreger WPA in Deuel County. (Figure 18)



Figure 18. This Canada thistle on private land was
mistakenly sprayed by a FWS employee. 80/29-15
7/21/80 DLG

An inaccurate map and several other factors caused the error. The shocking thing about the incident was that the farmer discovered Gary, stopped for coffee on a field road, and fired a rifle shot over his head. We felt this would constitute assault on a Federal employee. We believe if we hire an individual to do a job that may endanger his life, we should offer him protection under the law. After checking, we found that we could defend Gary if the farmer sued for trespass, but we couldn't bring suit against the farmer, even had Gary been shot, because Gary didn't have law enforcement authority. If Gary wanted to press charges, he would be completely on his own, using his own money and resources. What this means is that we have an awful lot of permanent full-time employees out in the field every day doing work that could bring them into a similar situation, and they are completely on their own.

5. Bee Keeping

No bee keeping permits were issued in the district in 1980.

C. Wetlands

To gain additional benefits from the haying done in 1980, we had several dry Type I's and the edges of several Type III and IV wetlands hayed to open them up for duck pair use. While we would have liked to have done quite a lot of this, most of the choked marsh that could have benefitted from the haying were too wet to allow access at the time of haying. (Figure 19)



Figure 19. The edge of this choked Type IV marsh (Lukes WPA) was opened by haying for increased pair use in the spring.

80/36-18

10/8/80 BTS

Additionally, in late December of 1980, Hyink used the Bobcat to open up about twenty 40x40 ft. openings in a choked Type III marsh on the Nold WPA (Figure 20). Similar marsh clearing will be done on the Madison and Noordsy WPAs in early 1981. These pair-use openings will be evaluated in the spring of 1981 to see what additional waterfowl benefits were gained from them.



Figure 20. Schoonover inspects an opening created in a choked Type III (Nold WPA) to encourage increased pair use in the spring.

81/1-3

1/14/81 DLG

D. Forest Lands

No actual forest land exists in the district. Shelterbelts and trees that surrounded old building sites are found on several WPAs, and volunteer willows and cottonwoods are commonly found around marsh edges.

E. Other Habitat

N/A

F. Wilderness

N/A

G. Easements for Waterfowl Management

Easements to protect wetlands under private ownership have been purchased by the Fish & Wildlife Service since the early 1960's. The easement contract stipulates these wetlands will not be drained, filled or burned but all other property rights remain with the landowner. The enforcement of these easements is a priority activity at this station. Much time and money is spent flying and checking files to detect easement violations, ground checking the violations for photos and record data,

contacts with the landowners, more ground checks to insure satisfactory compliance, and sending certified letters to record progress. Most violations are by tenants that were unaware of the easement, or new landowners that were "unaware" or "didn't understand" the provisions of the easement. Most violations are plow ditches or smaller scraper ditches, and restoration compliance is generally fair to good. (Figures 21 and 22)



Figure 21. McCook County 40X. This scraper ditch was dug by a new owner that said he knew of the easement, but thought only the "big wetland" was protected.

79/51-7
12/6/79 BTS



Figure 22. McCook County 40X. Compliance in this case was excellent, and a valuable Type III wetland is once again productive.

80/14-2
5/6/80 BTS

One easement, Lake County 21X, was reported in the 1979 Narrative as an ongoing problem. The landowner never "refused" to fill the scraper ditch he dug, he just never got it done. Meanwhile, we waited over two years for a solicitors opinion so we could take the case to court. Finally, in the summer of 1980, he got a letter from the court and realized his bluff was called, and notified us he had filled the ditch. An inspection showed his fill turned out to be a "plug", and was determined to be unsatisfactory. (Figure 23)



Figure 23. Lake County 21X. This type of ditch plug has been unsatisfactory, and is not acceptable restoration compliance.

80/29-23

7/22/80 DLG

The landowner was contacted again and told to fill the ditch to the agreed upon length of 550 feet, or we would proceed with the court action. He agreed, and this time Schoonover and Special Agent Jim Klett were present on the ground to insure the work was done satisfactorily. The ditch was filled and the case finally closed on July 23, 1980. (Figure 24)



Figure 24. After 2½ years, compliance was finally gained on Lake County 21X, and the case closed.

80/31-7

8/8/80 DLG

All but one of the 14 violations that remained in the winter of 1979 were satisfactorily resolved in the spring of 1980. Compliance was gained on the final 1979 violation in the fall of 1980. One \$100.00 citation was issued to Mr. Jerry Hoffman (McCook County 30X) for a repeated violation. The 1980 fall surveillance flight and ground checks has uncovered 32 new easement violations, including plow and scraper ditches, fill violations, and burning. At year's end, two contacts have been made, and the rest will be made in the winter of 1980, with spring compliance dates given.

IV. WILDLIFE

A. Endangered and/or Threatened Species

We received a report of three Bald eagles at a stock pond on private land south of Madison in December 1980. No other eagle observations were reported in 1980. The range for the Prairie and Peregrine falcons extends into a portion of our district, although none were observed in 1980. A report was received of an individual having a ferret in captivity that was thought to be the endangered Black-footed ferret. Pictures were taken and sent to our Area and Regional levels, where Endangered Species

specialists determined it was the common European species of ferret.
(Figure 25)



Figure 25. This ferret was determined to be the European species because of the large percent of black on its tail and the length of its guard hairs.

80/32-5a

9/4/80 BTS

B. Migratory Birds

1. Waterfowl

The first geese recorded in 1980 was on March 11. By March 14, numerous small flocks of mallards and pintails were noted in the area, and flights of Snow and Blue geese were heard flying north at night. An aerial waterfowl census of the district on March 25 indicated 100,000 geese, mostly Snow's and Blue's, and over 100,000 ducks were in the area.

A mild fall in 1980 caused the fall migration to be quite late for the second year in a row. When the migration did occur, most birds seemed to overfly the district, and it went by almost unnoticed. The main migration of geese seemed to take place between November 14 - 16.

One highlight to report was the release of approximately 250 Giant Canada geese in the four northern counties of the district in the

spring of 1980 (Hamlin, Deuel, Kingsbury and Brookings). These releases are an effort by the State and the Fish & Wildlife Service to establish nesting Giant Canadas in this area of the prairie pothole region where they were historically native, but had been eliminated due to habitat loss and hunting pressure. The program has been a big success in other portions of the state, and the same success is expected in our district.

Duck pair counts were conducted May 28 - 30. (Figure 26). The pair count of 9,868 was a continued decrease from the 10,406 pairs recorded in 1979, and 12,965 pairs in 1978. (See Table 11)

The total pair count figured up to 1.01 pairs per wetland acre. The total 1980 production was calculated by using 9,868 pairs x an estimated 70% productivity x 7 ducks per brood.

The pair count species composition was as follows: BWT 53%, Mallard 21%, Pintail 5%, Gadwall 3%, Shoveller 5%, Redhead 9%, with Canvasback, Ruddy, and Wood Duck each averaging around 2% or less. No GWT or Widgeon were seen in the pair count, but are known to nest in the district.

Table 11.

<u>Land Type</u>	<u>Total Acres</u>	<u># of Wetlands</u>	<u>Total District Acres</u>	<u>Pairs Per Wetland Acres</u>	<u>Total WPA Pairs</u>
I	3	2	240	3.30	792
Small III	39	4	907	1.71	1551
Large III	90	3	2023	.64	1295
Small IV	124	5	1969	.77	1516
Large IV	233	3	3868	1.03	3984
V	<u>73</u>	<u>1</u>	603	1.21	<u>730</u>
	562	18			9868



Figure 26. Keith Dimmett keeps his eyes watchful and his feet wet during pair count of 1980. Behind Keith is one of 20 pair ponds constructed on Pearson WPA in 1977. 80/17-19
5/30/80 DLG

A waterfowl die-off came with the spring of 1980. A total of 240 birds, mostly Snow geese, were picked up in the district. (See Figure 27). Of those birds diagnosed, the main cause of death appeared to be Avian Fowl Cholera contracted in the Rainwater Basin of Nebraska. There was no known actual transmission of the disease in this district.



Figure 27. Fish & Wildlife Service and State personnel work together to pick up dead birds on State-owned Davis Slough in Lake County.

80/8-8

7/5/80 DLG

The migration was watched closely with fear of a large die-off, but a mild spring tended to open up wetlands fairly rapidly, causing a quick dispersal of birds, with no real large concentrations developing. Most of the dead birds were picked up on State and privately owned marshes in Kingsbury County.

Transportation of dead birds is a risky business because of possible spread of disease. Proper disposal of the birds on site was almost impossible because of access problems, and the fact that so many different areas were involved, both State and private. For this reason all birds were sealed in thick garbage bags, and then transported to the Madison WPA for complete disposal. An 8 ft. deep hole was dug approximately 1/3 mile from water on high ground. The birds were burned individually with old tires and diesel fuel, and then buried. (Figure 28) Equipment and personal gear used were sterilized with Clorox.



Figure 28. Hyink and Jones dispose of birds killed by Avian Fowl Cholera. The carcasses were burned as completely as possible, and then buried.

80/8-18

4/5/80 DLG

2. Marsh and Water Birds

Two Black-crowned night herons were seen on State-owned Davis Slough in Lake County on April 5. Forty-five Cattle egrets were sighted in a privately owned pasture several miles west of Arlington (Kingsbury County) on September 22. Pelican and Cormorant use was restricted to several of the WPAs with Type V marshes.

3. Shorebirds, Gulls, Terns, and Allied Species

Yellowlegs, Sandpipers, Marbled Godwits, Dowitcher, and Willets are

common to the district. Black terns were present on most WPAs throughout the district in the spring of 1980. Lack of moisture in portions of the district in the spring and summer caused many wetlands to go temporarily dry, especially in Kingsbury and Miner counties, and water-dependent bird species were forced to move to areas with available water.

4. Raptors

Three Bald eagles were reported on private land south of Madison in December 1980. Snowy owls usually don't get quite this far south, and none were seen in 1980, but the State reported 32 sightings in eastern South Dakota during a census they conducted in December of 1980. Other raptor sightings occur occasionally, with Red-tailed hawks probably being the most common. Short-eared and Great-horned owls regularly use the shelterbelt plantings and trees around old building sites that exist on many of our WPAs.

C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

White-tailed Deer

The deer population appears to be continuing a gradual population increase since a sharp decline due to diseases brought on by the drought of 1976. The mild winter was extremely favorable to the deer population, and numerous fawns, many of them twins, were seen during spring work. Deer use on WPAs is high, and hunter activity, both rifle and archery, seems to be increasing.

Muskrats

Muskrat populations are continuing to show rapid increases following near elimination in the district during the 1976 drought. During 1980, muskrat houses were observed on most WPAs with suitable water, and on privately owned marshes throughout the district. (Figure 29)



Figure 29. This privately owned marsh in Brookings County reflects the increase in the muskrat population that has occurred throughout the district.

80/56-2a

11/24/80 BTS

Raccoons

No raccoon observations were recorded in the district in 1980. Tracks and other raccoon signs were seen from time to time, and the population is moderate. Trapping pressure on all fur-bearers has been heavy in recent years, due to high fur prices which tends to hold the population in check.

Other

One rare sighting in the district in 1980 was that of a Woodchuck found dead on the highway in Deuel County, approximately one mile south of Tunerville. In Peterson's Field Guide to Mammals, we are west of the Woodchuck's range. Biological Technician Hyink has lived in South Dakota for 34 years and never seen one, so the observation could be termed as "unusual". (Figure 30)



Figure 30. This Woodchuck was found dead on a highway in Deuel County. While not the first observation in the district, it is quite unusual.

80/25-20

7/2/80 BTS

2. Resident Birds

The population of Ring-neck pheasants, following a mild winter and good nesting conditions, was reported to have surpassed the four million mark in the State. The population in the district, while notably increased, was somewhat spotty with larger numbers in certain areas, apparently related to the food and habitat conditions. Gray partridges have continued to increase in population as first reported in 1978, and now are commonly seen throughout the district. The "Hun" appears to be most common in McCook and Miner Counties.

An unusual observation was recorded on the Ordal WPA in Minnehaha County. While nest dragging native grass in the spring of 1980, two turkey nests were discovered on the WPA. While wild turkeys have been transplanted to a few locations in the district by the State, none have been sighted on any WPAs in the past. We are not sure if these turkeys are wild or domestic, but no domestic turkeys are known to be in the area. Only a "brave" or "dumb" individual would include a picture of what is probably so obvious, but find below a picture (Figure 31) for those of you with "turkey experience" to identify as wild or domestic, if possible.



Figure 31. Two turkey nests were discovered on the Ordal WPA while nest dragging. They are believed to be "wild". 80/20-14a
6/11/80 BTS

3. Other Animal Life

Most WPAs don't have wetlands deep enough to sustain fish life, but fish do occur on the Bollinger, Janssen and Gottlob WPAs, all in McCook County. The Bollinger and Janssen WPAs were restocked with fish in 1978 after a complete winter kill in 1976. The fishing activity on these areas has remained light, and apparently success has been poor.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

Interpretive facilities, including interpretive center with pictures and historical data, were constructed in 1970 on the Brookings and Madison WPAs just after the district was formed. Use on the Brookings WPA has always been low, but use on the Madison WPA is variable, receiving most of its use on weekends by passing motorists.

2. Off-Refuge

Off-refuge programs have been mostly on a request basis, but we have invited ourselves to several activities, including the local Izaak Walton League to explain some of our management practices such as grazing and burning. In recent years we have invited ourselves to several County Farm Shows to explain our program and publicize our easement program. Public reception has been good, and this type of activity will continue. (Figure 32)



Figure 32. Gene Mack, Biologist from the Huron Acquisition Office, explains our easement program to an interested farmer at the Madison Farm Show.

80/3-4

3/14/80 DLG

We have provided films to several local schools for their environmental classes, and speak several times a year to the Outdoor Recreation Class at Dakota State College. Station staff members have been active in several community organizations, including Toastmasters, Rotary, Boy Scouts, Sportsmen's Clubs, etc.

B. Recreation

1. Wildlife Oriented

Hunting is the primary recreational use on WPAs in our district. Deer hunting, both rifle and archery, continues to increase. Several

local hunters have expressed their appreciation for the hunting opportunities that exist on WPAs in the area. Probably the most intense hunting pressure comes from the duck and pheasant hunters. (Figure 33)



Figure 33. Over 30 cars line the road and parking areas for the opening day of duck hunting on the Buffalo Lake WPA.

80/35-22a

10/4/80 DLG

Duck hunting was quite good the first two weeks in the district, until the "locals" had been shot or moved out of the area. Generally, the fall migration begins about the time the "locals" are becoming scarce, and hunting continues to be fairly good. In 1980, the fall migration was late because of the mild weather and no great numbers of birds stopped in our area. Duck hunting after the first couple of weeks was fair, at best. Pheasant hunters enjoyed an improved hunting year in 1980. The state-wide population was said to have topped the four million mark, and success in the district by those that were not afraid to work a little was quite good.

Trapping use on WPAs in recent years has been high. The high price of furs has apparently inspired many novice trappers to give it a try. The increase in the muskrat population has also caused some old trappers who had hung it up to take their traps out of the basement.

2. Non-Wildlife Oriented

Not a lot of non-wildlife oriented use occurs on our WPAs. Asparagus pickers in the spring and wild plum pickers in the fall probably comprise the majority of this type of use. Occasional picnickers use the picnic tables provided on the Madison WPA.

C. Enforcement (see also Easement Section)

When there are over 200 WPAs scattered over a nine county district, neighbor trespass and abuse is always going to be a problem. Why drive around when you can drive through, or why throw rocks on your land when you can throw them over the fence on FWS land? With continued enforcement and neighbor contacts, this type of problem seems to be improving at least some. In the spring of 1980, a neighbor to the Halligan WPA decided it would be much easier to push a very large rock pile onto the WPA than bury it in his field. He was contacted and given one week to remove it before legal action was taken. A ground check on May 15 revealed he had pushed the rocks back over to his side of the line and buried them in his freshly sprouted oats field. (Figure 34)



Figure 34. A neighbor to the Halligan WPA in Hamlin County buried a rock pile in his oats field after having pushed it onto the WPA.

80/17-7a
5/15/80 BTS

Also, an individual found the city dump closed and thought "what better place" to dump his garbage than the Madison WPA. (Figure 35) Names on correspondence in the garbage led us to the culprit. He removed the garbage and was issued a F.O.C. for \$50.



Figure 35. When asked why he had dumped his garbage on FWS land, he said he did it because the city dump was closed!

80/18-22a

6/3/80 BTS

We continue to have problems with vehicle trespass by hunters and trappers. The problem was especially bad in the late fall and early winter of 1980, probably because of lack of snow. Three new regulatory signs were designed and ordered in an effort to reduce the vehicle trespass problem. The vehicle trespasser is hard to catch, and only one F.O.C. for vehicle trespass was issued during the fall of 1980. The individual requested a court hearing, but was found guilty and paid a \$25.00 fine.

The WPAs were patrolled from both air and ground during the hunting season, primarily during the first couple weeks of the season openings. Numerous WPAs were visited, many hunters checked, but only the above mentioned F.O.C. was issued by station personnel during hunting enforcement.

In addition to the hunting enforcement done by the station personnel, much appreciated assistance was given to us by Special Agents stationed in Pierre and Watertown, who spent many hours patrolling the canvasback

and redhead areas in the northern portion of our district. Also, most of our nine counties have full-time State Conservation Officers. These State C. O.s issue citations for violations encountered on our areas, and keep us informed of any problems we might be unaware of.

VI. OTHER ITEMS

A. Cooperative Programs

Three personnel from this station, and Gene Mack from the Huron Acquisition Office, participated in the Audubon Christmas Bird Count done on December 23 in this area.

Realty personnel in the Aberdeen and Huron Acquisition Offices were given assistance on several fee and easement purchases.

The Ecological Services staff in Pierre was assisted with several field inspections and Environmental Impact Statement preparations on several electrical transmission line and road improvement projects that occurred in the district.

Schoonover and Hyink assisted Animal Damage Control in Pierre with a Blackbird Depredation Study they are conducting in eastern South Dakota.

B. Items of Interest

Assistant Manager Schoonover spent January 13 to February 11 in Glynco, Georgia receiving his four weeks law enforcement training.

C. Safety

Hyink served as Safety Chairman throughout 1980. No lost-time accidents have occurred at this station in its 11 year existence.

The following table lists the topics discussed at monthly safety meetings.

Table 12. Safety Meetings 1980

<u>Month</u>	<u>Topic</u>
January	- Vehicle Safety Equipment Re: Nylon tow rope, fire extinguisher. Discussed fire hazard associated with catalytic converters.
February	- "Survival in the Winter Storm"
March	- Vehicle Brakes - Use under different road conditions.
April	- "Tailgating, How Close is Too Close"
May	- "Whiplash"
June	- "School Shop Safety"
July	- Potential Accidents - Proper First Aid Measures
August	- General discussion on past safety hazards and potential problems.
September	- Safety hazards occurring in the fall of the year were discussed.
October	- "Safety Depends on You" - use of hand tools.
November	- "What Will You Do If"
December	- "Safe or Sorry" - Causes and prevention of accidents while walking and driving.

D. Credits

Schoonover wrote nearly all of the report.

Gilbert edited and wrote sections on habitat, acquisition and budget.

Tomscha assisted with data collection, typing and assembly.