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MADISON WETLAND MANAGEMENT DISTRICT

MADISON, SOUTH DAKOTA

ANNUAL NARRATIVE REPORT

Calendar Year 1981

U. S. Department of the Interior  
Fish and Wildlife Service  
NATIONAL WILDLIFE REFUGE SYSTEM

MAY 18 1982



PERSONNEL (left to right - 1,2,3,4)

- |                        |   |
|------------------------|---|
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| 3. Earl R. Hyink       | Biological Technician GS-7 PFT                        |
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| 5. Harry T. Jones      | Tractor Operator WG-6 (Career Seasonal) 3/30-11/28/81 |
| 6. Susan Tomscha       | YACC 1/1/81 - 3/3/81                                  |
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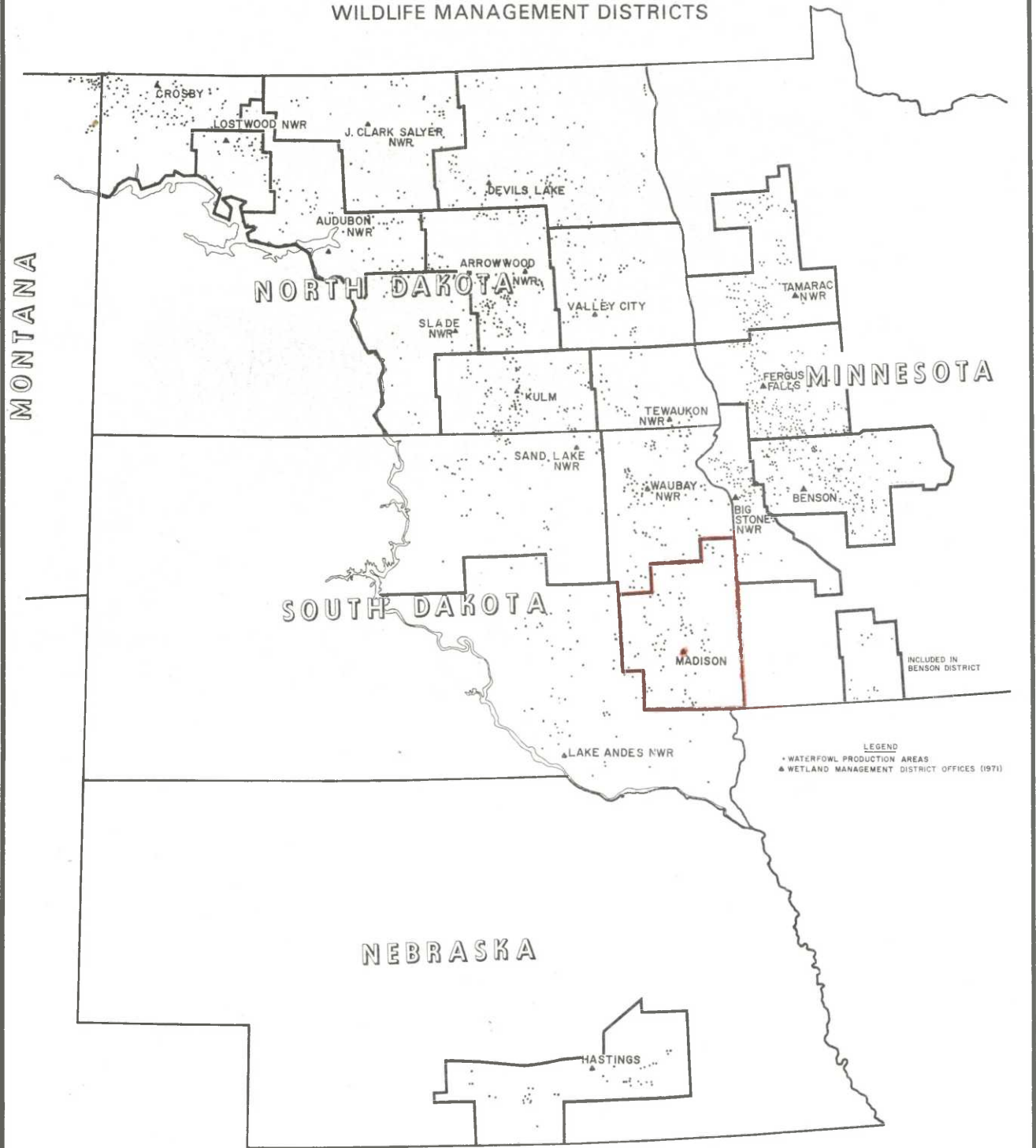
"Tranquillity" is having a view like this out  
your office window. Occasionally the scene  
becomes less than tranquil on either side of  
the office window.

81/46-3

11/18/81 BTS



WATERFOWL PRODUCTION AREAS  
UNITED STATES DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
WILDLIFE MANAGEMENT DISTRICTS





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#### A. HIGHLIGHTS

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. The district lies in the western edge of the tall grass prairie zone. Average annual rainfall is 24½ inches.

Due to funding limitations, the Madison District had the smallest staff ever, since its beginning in 1969. We had a total staff of six people during the summer of 1981. Previous staffs have totaled at least nine. (Section K.)

Biological Technician Earl Hyink received a well-deserved step increase during the year. Since coming aboard right after the station began in the fall of 1969 as a Maintenceman, Earl has grown with the station through Biological Technician Grades 5 and 6 to his present GS-7 level.

The wetland acquisition program declined sharply in 1981. No fee purchase was acquired. (Section C.1.) Easement wetland acres for the year totaled 700 acres. (Section C.2.)

Easement violations were down from 1980. (Section F.13.)

We are getting well settled in our new headquarters. It is proving to be an excellent facility. (Section I.1.)

The pheasant population was the highest in recent years; hunting was very good. (Section G.10)

Grassland management receives increased emphasis, especially native grasslands. (Section F.5)

#### B. CLIMATIC CONDITIONS

1981 was dry, but another good year for wildlife. January temperatures in the 30s were common with very little snow. Sioux Falls had a record 67° on January 24; our headquarters low 60s in mid-February.

Precipitation at Madison totaled 17.79", 6.36" below normal (1980 precipitation was 7½" below normal). Other areas in the district were similar. Summer precipitation varied by as much as 4" at eight reporting stations in the district, ranging from 6.7" at Madison to 10.6" at Brookings for the June-August period.

Table 1. 1981 Weather Data, Madison Research Farm (USDA)

Month	Precipitation (inches)		Temperatures		
	1981	Normal	High	Low	Mean
January	.15	.49	66	-10	19
February	1.13	.38	64	-21	42
March	3.07	2.12	68	12	37
April	1.51	2.26	83	25	54
May	.88	3.18	84	25	54
June	2.35	3.93	93	46	66
July	2.73	3.15	97	48	72
August	1.43	3.17	92	45	70
September	1.12	2.20	93	33	61
October	2.07	1.65	71	14	44
November	2.36	.92	64	8	35
December	.28	.70	39	-20	14
Total	19.08	24.15			

C. LAND ACQUISITION1. Fee Title

Fee acquisition was halted during the year by a self-imposed moratorium. The direct reason was the uncertain status of revenue sharing funds. County Commissioners are very concerned about payments to make up for lost taxes. Funds for acquisition were also short, and realty staffs have been drastically reduced. At year-end, Congress passed a revenue sharing bill. We are hoping to acquire several important roundout areas in the coming months.

Table 2. Fee Acres

County	Total Acres Optioned FY 80	Total Acres Optioned FY 81	Total Fee Acres
Brookings	3460.88	0	3460.88
Deuel	2856.46	0	2856.46
Hamlin	2376.31	0	2376.31
Kingsbury	3014.03	0	3014.03
Lake	4278.11	0	4278.11
McCook	2902.89	0	2902.89
Miner	1578.09	0	1578.09
Minnehaha	3562.05	0	3562.05
Moody	1466.74	0	1466.74
Total	25495.56	0	25495.56

2. Easements

Available acquisition funds were used to increase the wetland acreage protected by easement. Appraisers are still very successful in finding willing sellers of easements despite opposition to the program. Major resistance is due to the perpetual status and possible conflict with future irrigation or water development projects, and the lack of an annual payment or benefit to later landowners.

Table 3. Easement Acres

County	Easement	Easement
	Wetland Acres FY 80	Wetland Acres FY 81
Brookings	2306	2307
Deuel	4048	4048
Hamlin	4118	4127
Kingsbury	14625	14775
Lake	2176	2214
McCook	3612	3823
Miner	7174	7060 *
Minnehaha	412	672
Moody	31	212
Total	38502	39238

\* Three easement options were dropped due to ownership changes or other reasons.

#### D. PLANNING

##### 4. Compliance with Environmental Mandates

Environmental assessments were prepared as part of the permit issuance process for several minor projects, e.g. powerlines, water lines, etc. through WPAs.

##### 5. Research and Investigation

Madison NR 81 - Brood Pond Study. One project was begun in 1981 by Beth Giron, graduate student at SDSU. The study is to determine the benefits of dugout brood pond complexes constructed in 1977.

Paired developed and undeveloped marshes were selected, air photos taken, baseline biological information and waterfowl census taken. The drought was so severe, however, that even the 4 ft. deep ponds were dry by late summer. This year's work won't likely provide much information on the value of ponds in the moderately dry years for which they were designed.

#### E. ADMINISTRATION

##### E. 1. Personnel

Due to funding levels, the station staff was the smallest since establishment in 1969. All personnel were experienced at this station, however, so that staff days available were applied to field work rather than training new people.

Table 4. Staffing FY 77 - 81.

	PFT (SD)	PPT (SD)	TEMP (SD)	OTHER (YACC, INTERN)
FY 1981	3 (780)	2 (380)	1 (130)	1 (60)
FY 1980	3 (780)	2 (379)	4 (341)	2 (210)
FY 1979	2 (520)	3 (638)	(150)	
FY 1978	2 (440)	3 (638)	(147)	
FY 1977	2 (522)	3 (688)	(80)	



## E.2. Youth Programs

Susan Tomscha, our one YACC, finished up her one-year tour of duty during early 1981. One of her main projects was a long, tedious job of plotting WPAs and easements on new sets of county maps for office display and staff members.

## E.5. Funding

Operations funding in 1981 had to be used to complete many items of construction and settling in to our new headquarters. Many of these, such as development of the entrance road, etc., were planned as part of construction, but building cost over-runs used up the money.

Table 5. Funding.

FY	1210	1220	1240	Construction	Total
1981	134,300	500	8,800		143,600
1980	113,300	1,800	8,800	190,000	313,900
1979	113,200	900	7,000	221,000	342,100
1978	98,200	600	5,300	24,500	128,600
1977	77,575	1,030	6,500	103,840	188,945

## E.6. Safety

Hyink served as Safety Chairman during 1981. There were no accidents or injuries requiring treatment during the year. The station continued its record of no lost time accidents in its 12-year existence.

Hyink received training in fire safety. We continued our station practice of providing training to any employees operating equipment new to them. Monthly safety meeting topics focused on safe driving and equipment operation as well as safety in on-going operations at this station. (Table 6)

Table 6. Safety Meetings 1981.

Month	Topic
January	"You and Office Safety"
February	"Survival Kit, Parts I and II" wilderness survival.
March	Hyink discussed safety tips learned at a Fire School he attended. Safety items associated with spring work.
April	Lawn mower safety.
May	General discussion of safety and potential hazards.
June	"Speaking Without Words" deals with supervisor attitude and employee accidents.
July	"Front End Loader Safety"
August	Chemical exposure, battery charging.
September	"Perspective on Pesticides" and "do-it-yourself" auto mechanics.
October	"Rural Driving"
November	"Rollover" (safe driving).
December	"Safety Times Three" (safe driving).

Safety activities and corrections included the following:

- Fire extinguishers in shop, pole building, and new vehicles.
- Pick-up rear window screens painted black to reduce sun glare.
- Entrance road approach widened.
- 2,4-D barrel recycling.
- Drop off in storage yard sloped to prevent rollover of vehicle.
- Safety rail added to shop overhead storage.
- Emergency shovels added to vehicles.

## F. HABITAT MANAGEMENT

### F.1. General

40% of our 25,000 acres is wetland: Type I 240 acres, 2.4%, Type III 3,000 acres, 29%; Type IV 5900 acres, 58%; Type V 1000 acres, 10%.

The 15,000 acres of upland includes 4200 acres native, 2600 acres seeded native grasses, 4100 acres grass/legumes, 2600 acres other grasslands, 400 acres trees, 65 acres brush. 900 acres was cropped in 1981, in preparation for seeding or to provide wildlife winter feed.

### F.2. Wetlands

Nearly all wetlands in the district are natural basins, and we have no ability to manipulate water levels. Extremely dry conditions throughout much of the district in 1981 were confirmed by aerial surveys conducted on September 10th and 29th. Of 110 WPAs surveyed, 74 or 67% were completely dry. Another 6 were categorized as "poor" water conditions, for a total of 73% that were dry or nearly dry in the survey. When one considers the fact that WPAs usually contain the more permanent water in the district, the percentage of dry wetlands on other than public owned lands was probably even higher. Rains in the late fall of 1981 tended to improve the situation. While the rain didn't actually improve water levels in many wetlands, it did tend to soak up the dry bottoms and add ground water, so that with reasonable water run-off in the spring of 1982, the water conditions in the district should be greatly improved.

The dry conditions did allow us to accomplish earthwork developments in wetlands on the Noordsy and Cassutt WPAs, that should result in increased pair use on these areas in the future. For additional narrative and photos of these developments, refer to Section I.1.

An adjacent neighbor to the R. Anderson WPA in Kingsbury County contacted us in the fall of 1981 with a request to cross-dike a wetland we own in common, with the purpose of drying up a large portion of the wetland on his property. His intention is to consolidate water on drier years, so that a portion of the wetland can be farmed. While the WPA does not need extra water most years, the project does give us additional water on drier years when it is needed. On wetter years when we don't need the water, the dry portion of the wetland would also have so much water that no pumping will be done or farming attempt made. Considering this and the fact that the neighbor gave us access across his dike to a corner of the WPA we could not previously reach, we agreed to the proposal. (Figure 1).



Figure 1. This dike, on private land adjacent to the R. Anderson WPA, will allow the farmer to consolidate water so he can farm a portion of the wetland, and provide additional water to the WPA on dry years, while providing us permanent access to an isolated corner of the WPA.

81/34-8a

10/23/81 BTS

### F.3. Forest Lands

No true forest land exists in the district. Several WPAs do have shelterbelts, and trees surrounding old building sites. Volunteer willows and cottonwoods are commonly found around the marsh edges. The only tree planting that occurred in 1981 was around the new headquarters complex. Several silver maple, ash, cottonwood, plum and chokecherry bushes were transplanted with the new Regional tree spade. These are all native species to this area.

### F.4. Croplands

#### Food Plots

All food plots are put in by cooperative farmers, and are typically 30 to 45 acres in size. The larger plots 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. The smaller plots are usually only 2-field, with 1/2 corn and 1/2 small grain. The farmer's share is generally all of the small grain and 1/2 of the corn. The government's share is left in the field as winter food for resident species such as pheasant and deer. Increasing fall tillage on private land, and increasing populations of pheasants, partridge,



and deer over the past several years have made these areas heavily utilized and extremely valuable. (Figure 2).



Figure 2. Hyink inspects the food plot on the Madison WPA, which was almost 100% utilized by December 21, 1981.

81/52-21a

12/21/81 BTS

Many of our WPAs have a low upland/water ratio and submarginal quality cropland, and are not suitable for establishing food plots. Presently, ten food plots are in effect. These are on the Bjornlie, Lake Henry, Buffalo Lake, Murfield, Madison, Updahl Slough, Hyde, R. S. Anderson, Kindt and Plum Lake WPAs.

Also, in 1981, a 30-acre wetland basin on the Lukes WPA had dried up in the spring sufficiently to allow farming, and was planted to corn by Cooperator Dale Bucher, who left the governments' 10-acre share standing. (Figure 3). This type of food plot will receive heavy use by resident pheasants and deer during the winter of 1981, and heavy duck use in the spring of 1982 when the wetland refills with water.



Figure 3. This 30-acre wetland on the Lukes WPA, center photo, was seeded to corn to provide food for pheasants and deer in the winter of 1981, and ducks in the spring of 1982.

81/24-8

9/10/81 DLG

#### F.5. Grasslands

Documentation of trends in habitat condition by photopoints and annual grassland transects was continued in 1981. In addition to established photopoint photos being taken for record throughout the year, grassland transects were taken in the fall on the Madison, Schuldt and Lost Lake WPAs. The technique used for the grassland transects is the Dobbermier Method, which is designed to measure canopy, density, and species frequency.

A grassland photopoint on the Schuldt WPA in 1980 showed a heavy mulch condition and a very high incidence of Kentucky bluegrass. This confirmed the need for management, and the area was heavily grazed during the period of July 10 - 30, 1981, at a rate in excess of  $1\frac{1}{2}$  AUMs per acre. By the fall of 1981, the same grassland photopoint showed that with the reduction of mulch and Kentucky bluegrass competition, the incidence and vigor of the native species, especially Big and Little bluestem, had increased dramatically. (Section F.7. Figures 7, 8 and 9).

#### Plantings

Generally, all upland that is purchased with a WPA that can possibly be farmed, has been. Much of the upland is generally of marginal farming quality and is critical to nesting needs for maximum waterfowl production. As discussed in previous Narrative Reports, in the past we have planted a grass/legume mixture as a nesting cover because it produced a lot of ducks, was relatively cheap to plant, and establishment was fast. We found that while spraying these seedings to control noxious weeds, we were also killing the legumes in the mixture, and seriously reducing the quality of the cover. Then farming and reseeding the



areas became necessary. For this reason, we have gone almost exclusively to a native grass mixture in recent years. The mixture of native grass costs more to establish initially, but it is a one-time expense, because with proper management the nesting quality continues to improve and no reseeding will be necessary. Also, spraying to control noxious weeds does not harm the native grasses and nest dragging results in 1979 and 1980 indicates duck production is comparable to the grass/legume mixture. (Figure 4.)



Figure 4. Schoonover looks over a native grass seeding on the Lost Lake WPA that was seeded in 1979. Response was excellent, as evidenced by the vigor of the Big bluestem plant in Schoonover's hand. 81/24-18  
10/8/81 DLG

Mixtures are listed below: (Table 7)

Table 7. Native Grass

Species	Lbs./Acre PLS	% of recommended full seeding for each species
Side oats grama	.3	5.0
Big bluestem	.5	10.0
Little bluestem	.6	15.0
Indiangrass	1.0	20.0
Western wheatgrass	2.1	30.0
Slender wheatgrass	.2	4.0
Switchgrass	1.4	40.0
Green needlegrass	1.5	25.0
Total	7.6	149.0%



Farming on WPAs in preparation for the native grass seeding is done by cooperators. Most farmers' grain drills are not equipped to handle fluffy native grass seed, so as soon as the nurse crop is planted, we seed the native grass seed right over it with our John Deere grassland drill. In the 11 years we have been doing this, several farmers have questioned the possible reduction of their crop by our seeding method, but none have claimed their concerns were valid, or complained of yield reduction at the time of harvest. In the spring of 1981, the cooperator on the Garrett WPA (McCook County) questioned our seeding method, and immediately claimed we had caused crop damage to his field of oats. A field inspection by the farmer, Wetland Manager Gilbert, and County Agent Ed Gray on April 29 showed sprouting plants to be fairly thin, but no determination was made as to how much of this was due to the on-going drought conditions or to our seeding activities. Mr. Gray pointed out that a thinner seeding under drought conditions was actually more desirable. Manager Gilbert took a "wait and see" position, and told the cooperator if it was obvious at the time of harvest that we had caused him a yield reduction by comparing his yield to other fields in the area, then compensation would be made. The cooperator did not readily accept this, and phoned Gilbert's home at night several times to demand immediate compensation, namely free grazing. He said that if compensation was not immediate, he would spray the field with Roundup and kill the grass seed we had planted. An inspection of the field on June 19 showed the oats crop to be excellent considering the drought conditions, and in fact, to be one of the better stands in the area. No further complaint was received from the cooperator after harvest, so he apparently was satisfied, but a different cooperator will be considered for future use on the area. (Figures 5 and 6).



Figure 5. The cooperator on the Garrett WPA claimed we had damaged his  
oats by our native grass seeding activities. 81/12-7  
4/29/81 DLG



Figure 6. A check of the same field on June 19 showed the oats crop to  
be one of the best in the area. 81/23-11  
6/19/81 DLG

In 1981, a total of 277 acres was seeded to permanent native grass cover using the mixture mentioned earlier. (Table 8)

Table 8. Native Grass Plantings 1981

WPA	County	Acres	Cooperator
Wenk	Brookings	10	Melvin Risty
Boeder	Hamlin	52	George Wheelhouse
Neu	Kingsbury	28	Lloyd Neu
Plum Lake	Kingsbury	52	Jim Doyle
Kattke	Kingsbury	22	Leo Kattke
Children's	Lake	10	Ray Hyland
Garrett	McCook	44	Dan Kappenman
Muller	Miner	39	Bill Muller
Munce	Minnehaha	20	Dale Bucher
Total		277	

In addition, 25 acres on the Dahl WPA and 8 acres on the Leith WPA were interseeded to native grass. The John Deere 1550 interseeder is used in areas that cannot be farmed due to soil or erosion conditions, or in areas that already have some native species present. One drawback with the inter-seeder is that we are unable to seed several desirable species, such as Big bluestem, because the fluffy seed will not feed through the drill.

Mixtures used in the interseeder are listed below: (Table 9)

Table 9. Native Grass Mixture

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





Figure 7. This photopoint on the Schuldt WPA in September of 1980 showed a very high incidence of Kentucky bluegrass and excessive mulch.

80/34-23a

9/25/80 BTS



Figure 8. So the area was heavily grazed from July 10-30, 1981.

81/12-33

5/8/81 BTS



Figure 9. The reduction of Kentucky bluegrass and Brome and the increase in the incidence of native grass species, such as Switchgrass and Big and Little bluestem was dramatic.  
81/36-1  
10/28/81 DLG

#### F.7. Grazing

Grazing as a grassland management tool for the removal of mulch and the reduction of Kentucky bluegrass, Quackgrass, and Bromegrass in native grass stands has become a major program at this station. Increasingly, we are relying on grazing to accomplish necessary grassland management because it returns some benefits to the public sector, accomplishes our objectives regardless of the weather conditions, and allows us to treat the necessary areas in our nine county district in the relatively short period of time available.

In the past, the grazing period we had established was usually the month of May, with slight variations depending on the area and the weather. The purpose was to reduce the cool season grass invaders and mulch accumulation, so that the vigor and incidence of warm season natives would increase. The grazing fee was generally a charge by AUM rate.

With the drought conditions in 1981, also came a tremendous increase in the demand for grazing. While our existing practice of spring grazing improved the nesting cover for future nesting, there was an obvious and direct conflict with nesting that was occurring at the time of grazing use. For this reason, in 1981, in addition to spring use, we also set up agreements that allowed for periods of use during the summer and early fall. The main purpose was to increase vigor and reduce mulch. Also, the method of charge was modified in

most cases. Instead of charging by the AUM, we estimated the amount of available feed on an AUM basis, and then modified it into a charge per acre. The AUM rate for 1981 was \$8.50, so if we estimated there was  $1\frac{1}{2}$  AUMs per acre of available feed, then we charged \$12.75 per acre and allowed the co-operator to control the number of head he held on the area during the grazing period, as long as overgrazing or other conflicts did not occur.

In the past, if we stocked an area heavy in order to reduce an extra large mulch accumulation or an especially bad non-native grass invasion, the cooperator was charged for each cow, and was reluctant to graze the area as completely as we wanted, because he felt he was not getting his moneys-worth toward the end of the grazing period. By going to a charge per acre, we charge for available feed, and if the cooperator puts in extra cattle to graze the area harder, he is not penalized by extra charges, and we benefit by improved grazing results.

Collections for grazing this year totaled \$14,920.82. (Table 10)



Table 10. Grazing 1981

WPA and County	Period of Use	Permittee	Acres Grazed	AUMs
Brookings				
Dahl	4/28 - 5/15	Lowell Gisselbeck	25	38
Dahl	4/17 - 5/31	Lowell Dahl	37	56
Wenk	4/24 - 6/1	Melvin Risty	46	69
Larsen	6/15 - 7/27	Danny Madsen	56	84
Kasperson	7/1 - 7/21	Hjalmer Kasperson	39	59
Lund	7/12 - 8/15	Bill Santema	56	70
Deuel				
Nordquist	4/16 - 6/1	Arnold Krause	35	52
Nordquist	4/24 - 5/31	Lynn Nordquist	10	10
Schafer	5/23 - 6/27	Luvern Schafer	42	63
Hamlin				
Cox	5/1 - 8/15	Merrill Seefeldt	220	260
Kingsbury				
Loriks	7/15 - 8/8	Gene Austad	10	10
Apland	4/13 - 5/31	Vincent Spader	25	38
Jensen	7/16 - 8/15	Bob Montross	27	33
Hojrup	4/1 - 9/1	Frank Virchow	66	92
Jensen	6/26 - 7/31	Daniel Jensen	30	50
Lake				
Lake Henry	6/15 - 7/15	Ron Hodne	146	183
Alquire	4/30 - 6/13	Milton Pederson	42	63
Madison	4/1 - 5/31	Tom Wolf	58	58
Hankins	7/31 - 8/31	Martin Severson	32	9
McCook				
Sabers	4/1 - 5/31	LeRoy Streff	60	90
Schuldt	3/14 - 5/31	Elmer Haupt	66	82
Lukes	3/14 - 5/31	Dale Bucher	87	150
Reif	4/1 - 5/31	Ray Weber	30	45
Urell	4/3 - 5/31	Jimm Kressman	33	49
Gottlob	6/22 - 7/15	James Gottlob	27	40
Holm	6/15 - 7/15	Hilmar Holm	32	48
Hamilton	7/1 - 7/31	Terry Wagner	32	32
Miner				
Hein	4/15 - 5/20	C. E. Banks	63	63
Raesley	6/15 - 7/31	Bernard Muller	84	56
Minnehaha				
Schaefer	4/20 - 6/1	John Schaefer	80	120
Munce	6/2 - 6/25	LeRoy Harden	26	39
Ordal	7/1 - 7/31	Roger Fods	46	69
Wise	7/1 - 7/31	Mrs. Dean Becker	39	59
Voelker II	6/20 - 7/20	Bob Zimmer	36	54
Kindt	6/20 - 7/20	Dale Bucher	20	30
Graham	8/3 - 8/31	Wilmer Peterson	56	35
Acheson	6/20 - 7/20	Paul Vander Vliet	15	15
Total			1,834	2,373

#### F.8. Haying

Drought conditions over much of the district in 1981 caused a sharp increase in the demand for hay. Normally, hay on our areas is considered to be of poorer quality, and we have trouble finding cooperators interested in taking it. In 1981, we took advantage of the demand, and hayed many areas we felt would benefit by weed control, mulch reduction, marsh edge opening for increased pair use, and areas scheduled for farming in the spring of 1982. (Figures 10 and 11)

A total of 1,340 acres was hayed on 43 WPAs in 1981, as compared with 178 acres hayed on 7 WPAs in 1980. (Table 11)



Figure 10. Marsh edge haying on the Sterr WPA (Kingsbury County) was done to control noxious weeds (Canadian thistle), but should also result in increased duck pair use in the spring of 1982.  
 (East) 81/28-20  
 9/10/81 DLG



Figure 11. The west portion of the Kopperud WPA in Kingsbury County was hayed prior to farming in 1982. No farmers in the area wanted to do the farming, but when we used that as a stipulation for removing the hay, we immediately found a cooperator.  
 (North) 81/28-17  
 9/10/81 DLG

Table 11. Haying 1981

County	WPA	Permittee	Acres
Brookings	Brookings	Gary Madsen	50
	Dahl	Lowell Dahl	19
	Dahl	Charles Christensen	27
	Henrikson	Darrell Larsen	18
	Henrikson	Danny Madsen	6
Deuel	Erichsen	Art Seefeldt	39
	Coteau Prairie	Luvern Schafer	54
Hamlin	Cox	Gary Bransrud	12
	Halligan	Herbert Gustafson	10
	Opdahl	Larry Noem	31
Kingsbury	Kopperud	George Johnson	33
	Loriks	Gene Austad	10
	Noyes	William Carlson	11
	Noyes	Doug Kazmerzak	10
	Shutler	LeRoy Penney	26
	Sterr	Francis Hendricks	26
	Bickett	Mike Bickett	25
	Crandall	Don Jensen	25
Lake	Habeger	Jeff Lentsch	11
	Kattke	LeRoy Erickson	17
	Kattke	Harold Kattke	50
	Krug	Jack Casanova	25
	Lentsch	Jeff Lentsch	11
	Murfield	Kermit Murfield	35
	Nold	Thompson Brothers	26
	Ramsey	Milton Pederson	25
	Ravenburg	Karine Hagenman	23
	Bank	Russel Leisinger	35
	Holm	William Rayman	30
	Lounsberry	Bob Lounsberry	13
	Lukes	Bob Kueter	55
	Reif	Ray Weber	37
Miner	Schuldt	Elmer Haupt	48
	Beyer	John Carmichael	32
	Corbin	Gordon Hansen	20
	Hein	Louis Hein	23
	Swanson	Robert Beyer	28
	Windedahl	Floyd Lund	50
Minnehaha	Buffalo Lake	Roger Fods	40
	Fods	Neal Busser	36
	Hartle	Paul Kaffer	32
	Hartle	Bill Dooley	18
	Hartle	Henry Heinson	10
	Johnson	Neal Even	32
	Jordan	Arvid Jordan	15
	Lost Lake	John Petri	29
	Kindt	Dale Bucher	10
	Munce	LeRoy Harden	19
	Munce	Dale Bucher	44
	R. Petri	Arlie Rehfeldt	24
Total			1,340

## F.9. Fire Management

### Prescribed Burning

For the second consecutive year, no prescribed burning was accomplished in the district because drought conditions made the fire danger extremely high.

### Wildfire

A wildfire on February 21, 1981, burned approximately 12 acres on the Heinrich WPA in Moody County. Apparently some local youngsters were having a party adjacent to the WPA on a deadend section-line road. The fire spread to the WPA from a bonfire, and was controlled by the Colman Fire Department. (Figure 12)



Figure 12. The Heinrich WPA burn started from a bonfire at a party.

81/3-12

3/13/81 ERH

While investigating the fire, we discovered the party-goers had gotten together a fairly comfortable party setting. There was wood for warmth, a picnic table for socializing, a toilet for relief, and a WPA for garbage. We cleaned up and made repairs. The Sheriff's Department has since made periodic checks. No serious problem has recurred. (Figure 13)





Figure 13. Debris left on, and adjacent to, the Heinrich WPA was cleaned up by station personnel. (North) 81/3-11  
3/13/81 ERH

Another wildfire burned approximately three acres on the Hart WPA in Lake County on April 21, 1981. The fire was started by a neighbor burning garbage on a windy day, and was put out by the Madison Fire Department. (Figure 14)



Figure 14. Hart WPA burned strip resulted from trash burning. (West) 81/20-0  
5/20/81 DLG



No serious or permanent damage was felt to have been done by either fire, and in fact habitat was improved by the mulch reduction and increased vigor of the new growth.

#### F.10. Pest Control

##### Weed Control

South Dakota state law requires landowners to control noxious weeds on their property. County Commissioners in our district have used weed control as a major consideration in approval of fee title purchases. Consequently, control of noxious weeds is one of our largest management programs. 2,4-D in amine and low volatile ester formations is used exclusively for weed control because of its relatively low cost and safety around water.

Weed control begins in mid-May with the spraying of Leafy spurge, Wormwood sage, and Musk thistle with low volatile ester. During early June, two 300-gallon units are kept busy full time spraying Canada thistle with amine, and then low volatile ester after mid-June. By early July, one unit is able to handle complaints and patches missed earlier. Spraying is not very effective for Canada thistle after mid-July because it is forming seed, and the weather is hot and dry. We then clip them with a mower to prevent seed production. By early September, fall rains and cooler weather usually trigger regrowth of the mowed areas, and fall spraying is effective on areas mowed earlier. (Table 12)

Table 12. Weed Control 1981 - Spraying

County	Acres Musk Thistle	Acres Canada Thistle	Acres Leafy Spurge	Acres Wormwood Sage
Brookings	0	152	145	0
Deuel	0	16	93	0
Hamlin	0	62	1	0
Kingsbury	0	205	2	12
Lake	3	277	100	10
McCook	0	265	1	78
Miner	54	40	0	3
Minnehaha	80	302	47	43
Moody	0	94	135	0
Total	137	1,413	524	146

Table 13. Weed Control 1981 - Mowing

County	Acres Mowed
Deuel	14
Lake	79
Miner	3
Minnehaha	11
Total	107 *

\*An additional 230 acres was hayed by cooperators primarily for weed control. These acres are included in Table 11, Haying 1981.

In 1981, a low profile, 300-gallon fiberglass tank was designed by station personnel and custom built by Fiberglass Unlimited of Watertown at a cost of \$700.00. The baffled tank is designed to allow visibility out the rear window, provides two feet of space in front of the tank for chemical storage, and is much more stable than the higher round tanks we have used in the past. (Figure 15)

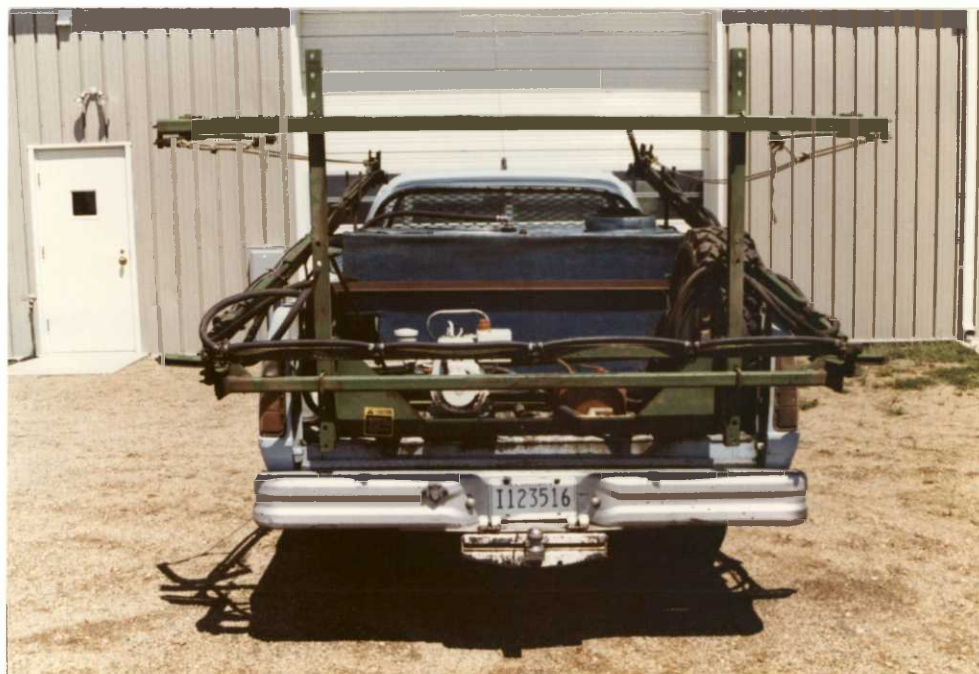


Figure 15. This 300-gallon tank was designed by station personnel for increased visibility, stability, and chemical storage area.

81/25-19

7/17/81 BTS

Dry conditions in 1981 seemed to be responsible for decreased weed spraying effectiveness in the district. Many areas were sprayed with apparent success, but when visited again several weeks later, a whole new crop of weeds was discovered. When an area is grazed and the mulch removed, weeds can be a potential problem; in 1981 it seemed almost all areas grazed in the spring had a following growth of noxious weeds. (Figure 16)

We don't consider the weeds to be a result of grazing, but rather from the same problems that created the need for grazing. This is especially true where excess mulch has created patches of bare ground beneath.



Figure 16. The Urell WPA in McCook County exploded with Canadian thistle following a spring graze in 1981, as did many other WPAs in the district.

81/23-5

6/19/81 DLG

Weed problems also occurred when many wetlands that normally would have had water in them began to dry up in the spring and summer. They got just dry enough to grow a very healthy crop of weeds, but not dry enough to drive in for spraying. Many of these areas were finally dry enough for mowing by late summer. The weed mowing done in the wetlands will hopefully serve a dual purpose by providing openings in the marshes in the spring of 1982 for duck pair use. (Figure 17)





Figure 17. The mowing done to prevent Canadian thistle from seeding in this marsh on the Hankins WPA will also provide open water for duck pair use when the wetland fills with water again in the spring of 1982.

81/27-20a

9/10/81 DLG

#### F.13. WPA Easement Monitoring

A total of 39,238 acres of wetlands under private ownership are currently protected by easement in this district. The easements are perpetual contracts that are purchased by the FWS with a one-time payment to the landowner. The easement contract prohibits the burning, draining, and filling of wetlands but all other property rights remain with the landowner.

The A.W.P. Program Advices establish the surveillance and enforcement of easements as a Priority I item. A great deal of time and money goes into flying and file searches to detect easement violations, ground checking the violations for photos and record data, contact with the landowners, more ground checks to insure satisfactory compliance, and sending certified letters to record progress. The majority of the violations seem to be committed by tenants and new landowners who are "unaware of" or "didn't understand" the provisions of the easement. Some violations include destruction of all wetlands in entire fields, involving large scraper ditches and fill. However, the majority of the violations are plow ditches or small scraper ditches. Restoration compliance is generally fair to good. (Figures 18 and 19)



Figure 18. Lake County 112X. This scraper ditch completely drained several Type III wetlands, and was over 1500 ft. long and up to 5 ft. deep in places. Even though the farmer was the original easement seller, he still claimed not to understand its provisions. (North) 80/63-23a  
12/5/80 BTS



Figure 19. Lake County 112X. Just when it seems like we are fighting a consistently losing battle against wetland destruction, the easement gives us the legal weapon to prevent it. In this case, two valuable Type III wetlands will again be productive. (North) 81/23-15  
6/22/81 BTS



An easement violation on Lake County 21X involving a ditch and fill in a wetland was highlighted in the 1980 Narrative Report as one finally restored after a 2½ year effort. Easement surveillance in the fall of 1980 turned up several more violations on the same easement, with one ditch being only 100 ft. from the restored violation. When contacted, the farmer said he remembered we had told him the rest of his land was also protected by easement, but he had thought we were "joking" with him. After several like this, you tend to lose your sense of humor. After the violation was corrected, a \$100 F.O.C. was issued.

All of the 32 violations that remained in the winter of 1980 were satisfactorily resolved in the spring of 1981. One \$100 citation was issued to the landowner of Lake County 21X for a repeated violation. (Figure 20)



Figure 20. Lake County 21X. This ditch (center photo) was dug in the fall of 1980 within 100 ft. of the restoration done in the summer of 1980 to correct a 2½ year old violation (top photo).

(East) 80/67-19  
12/17/80 BTS

During the fall 1981 surveillance flights, photos were taken of about 100 possible violations. File checks eliminated 60. Lower flights and ground checks further reduced the number of cases to 12 actual easement violations including plow and scraper ditches, and fill in wetlands. Contacts with the landowners of these easements will be made in the winter of 1981, and spring compliance dates given.



It should be noted that the 12 easement violations discovered in the fall of 1981 is a sharp decrease from the 32 violations that occurred in the fall of 1980. We hope that the decrease is in part due to a consistent and efficient surveillance and enforcement effort, but the weather was also a factor. The fall of 1980 was extremely mild and free of snow. The frost was very late, and tillage and drainage operations were observed in late December. By contrast, the fall of 1981 was wet and cold, and the ground froze earlier. Up to nine inches of snow had been received by November 30, and all field operations had ceased.

## G. WILDLIFE

### G.1. Wildlife Diversity

Our mid-continent location is somewhat of a transition zone between eastern woodland species and those of the west. Our prairie rather than woods should indicate western characteristics. Actually, our list of species is dominated by eastern varieties. For example, virtually no mule deer occur here and very few coyotes. All our bird species would be included in an eastern field guide.

### G.2. Endangered and/or Threatened Species

The only recorded eagle observation during 1981 was an immature Bald eagle observed in a tree about 5 miles northeast of the office on December 23 during the Audubon Christmas Bird Count. The range for the Prairie and Peregrine falcons extends into a portion of our district, but none were observed in 1981.

On October 14, two Sioux Falls hunters reported they had observed four Whooping cranes on Whitewood Lake in Kingsbury County. We immediately visited the lake, arriving approximately 1½ hours after the hunters had seen the birds, but an hour of searching by car and plane proved futile. Even though we were unable to confirm the report, we do consider it to be a possible sighting, based on the physical and behavioral characteristics the birds apparently displayed, and the reliability of the hunters making the report. The hunters reported the sighting to the Sioux Falls news media, and the story was covered on radio stations and newspapers throughout most of eastern South Dakota.

Another reported sighting of seven possible Whooping cranes on Reynolds Slough on November 7 in Lake County is believed to have been Sandhill cranes, based on other reported sightings of seven Sandhill cranes in the area on the same day.

### G.3. Waterfowl

The first geese recorded in 1981 were 200 Giant Canada geese observed flying north over the office on February 25. Approximately 1,000 Snow and Blue geese were seen on the same day in Minnehaha County by FWS Realtor Roy Milliken. By March 1, migration was in full swing, with sightings of northbound ducks and geese being common.

Drought conditions throughout much of the spring and summer of 1981 left many WPAs in the district dry of water by fall. Fall migration appeared to begin around October 15, and during November 6 - 8, thousands of Snow and Blue geese were recorded in Kingsbury County. Due to the drought conditions, most migratory stopping-over occurred on the larger lakes and open water areas, and many birds seemed to overfly the district without stopping at all. The last record of migrating geese was on November 5, when six flocks totaling 10,000 birds were observed northeast of Madison.

Duck pair counts were conducted between May 26 and June 3. (Figure 21) We are in the process of transferring from the stratified random sampling method we have used in the past, in which we counted randomly selected samples of Type I, III, IV and V wetlands, to a quarter-section sampling system established by Biologist Ralph Town in North Dakota in 1973. For the transition period in 1981, we used both sampling methods so totals could be compared. The pair count total (stratified system) of 13,270 pairs was a 34% increase over the 9,868 pairs recorded in 1980. (Table 14)



Figure 21. Jim Groeneveld assists with the 1981 pair count. Jim seemed unconvinced that "all" our waders were leaking.  
81/16-15

The total pair count figured up to 1.31 pairs per wetland acre. The total 1981 WPA waterfowl production of 47,770 ducks was estimated by using 13,270 pairs x an estimated 60% productivity x 6 ducks per brood. The productivity and ducks per brood were decreased from the 70% and 7 respectively used in 1980, because drought conditions in 1981 caused a decreased quality in nesting habitat and a lack of brood water that adversely affected production.

The pair count species composition was as follows: BWT 53%, Mallard 24%, Pintail 4%, Gadwall 8%, Shoveller 4%, Redhead 5%, with GWT and Wood duck each less than 3%. No Widgeon, Canvasback, or Ruddy ducks were seen on the pair count, but were known to nest in the district.

Table 14.

Land Type	Total Wetlands	# of Wetlands	Total District Acres	Pairs Per Wetland Acre	Total WPA Pairs
I	3	2	244	0	0
Small III	39	4	919	1.14	1,048
Large III	90	3	2,046	.01	20
Small IV	124	5	1,969	.50	985
Large IV	233	3	3,929	2.39	9,390
V	73	1	1,004	1.82	1,827
Total	562	18			13,270

The quarter-section samples were chosen by random drawing. Fifteen samples totaling 304 wetland acres were selected in 1981. More samples will be selected in 1982 when the old stratified sampling is abandoned. The quarter-section pair count figured up to 1.22 pairs per wetland acre. Using this method, the 1981 WPA waterfowl production figured up to be 44,545 ducks using 12,373 pairs x 60% productivity x 6 ducks per brood. (Table 15)

Table 15.

WPA	Total Wetland Acres	# of Wetlands	Pairs Per Wetland Acre
Hojrup	34	2	38
Lounsbery	7	1	25
Liljegren	23	1	3
Glatz	27	1	9
Madison	7	1	13
Wobig	33	2	47
Cotton	6	1	9
Delbridge	30	3	0 *
Jorgenson	23	2	74
Kindt	26	13	0 *
Heinricy	12	1	11
Graham	23	2	77
Costello	23	1	7
Molskness	19	1	40
Bennett	11	1	19
Total	304	33	372

\* dry

$$\frac{372 \text{ pairs}}{304 \text{ sample wet-land acres}} = \frac{x \text{ pairs}}{10,111 \text{ WPA wet-land acres}} = 12,373 \text{ pairs}$$



#### G.4. Marsh and Water Birds

A Great Blue heron was observed on Bourne Slough adjacent to the office on January 23. It is unknown why the bird was in the area at that time of the year, as all water areas were frozen solid. Another Great Blue heron was sighted near headquarters on March 31, as spring migration began, and by mid-April sightings of many species of marsh and water birds, including Double-crested cormorants, White pelicans, Common egrets, Western grebes and Horned grebes were common. Pelicans, Cormorants, and Western grebes, while common in the district, restrict their use of WPAs to those several with Type V marshes. Although none were sighted on WPAs, 12 Cattle egrets and 6 White-faced ibis were observed on a private wetland several miles south of Lake Preston in Kingsbury County on July 15.

#### G.5. Shorebirds, Gulls, Terns, and Allied Species

Yellowlegs, Sandpipers, Marbled godwits, Dowitches, and Willets are all common to the district. On April 23, a sighting of 40 Avocets was recorded several miles west of the office. Many gulls were noted for a brief period of time during spring migration, and the majority of them were thought to be Franklin's gulls. After close observation, we discovered the birds were not Franklin's gulls, but were in fact Bonaparte's gulls. Up to 100 were recorded at one time. Dry conditions in the spring and summer caused many WPAs to dry up completely and forced water-dependent bird species to other areas. Some wetlands that remained wet were left with exposed shoreline ideal for shorebird use. Overall use did not seem to increase noticeably, mainly because so many wetlands went completely dry and received no use at all.



Figure 22. This exposed shoreline on the Lounsbery WPA, McCook County, is reflective of the improved shorebird habitat on many WPAs in 1981, due to dry conditions.

81/12-17

4/29/81 BTS

#### G.6. Raptors

The only recorded eagle observation was an immature Bald eagle observed in northern Lake County on December 23, 1981. Snowy owls are only occasionally observed this far south, but none were seen in the district in 1981. On October 14, many migrant hawks were noted in the area. Redtail and Swainson's hawks were the most common.

#### G.8. Game Mammals

##### White-tailed Deer

The deer population was sharply reduced in 1976 from disease brought on by drought conditions. The population has steadily increased since, with the mild winters of 1979 and 1980 giving an additional boost. Many fawns were noted in the spring of 1980, and reproduction appeared quite high. Deer use on WPAs is high, as is hunter activity, both rifle and archery.

##### Muskrats

Muskrat populations were reported to be showing a rapid increase in 1980, but the drought conditions over much of the district in 1981 changed all that. Many WPAs dried up completely and others nearly dried up, so that muskrat habitat was all but eliminated over much of the district. At this point, we know that the muskrat population decreased sharply in 1980, but just how much is uncertain.

##### Red Foxes

Even with the heavy trapping pressure, the population of fox seems to be high. Active dens with young were recorded on the Voelker II, Jensen, Bickett and Isaacson WPAs. Occasional fox observations were made throughout the year.

##### Raccoons

No observations were recorded in the district in 1981. Tracks and other raccoon signs were seen from time to time, and based on information from trappers using WPAs, the population seems to be moderate. High fur prices in recent years has led to heavy trapping pressure, which may tend to hold the population in check.

#### 10. Other Resident Wildlife

The Ring-neck pheasant population remained high in 1981, following another mild winter and good nesting conditions. The population seemed to show a slight increase throughout most of the district. Food and habitat conditions seemed to control the population, which was said to be over four million in South Dakota in 1980, and even higher in 1981. Excellent reproduction was verified during the hunting season when young bird ratios averaged 10 to 1, with some areas as high as 18 young for each adult taken. The average ratio is 6 to 1.



The Gray partridge population also continues the increase first reported in 1978. Observations of the "Hun" are common throughout the district.

#### G.11. Fishery Resources

Not many WPAs have wetlands deep enough to support fish life. Fish do occur on the Bollinger, Janssen, and Gottlob WPAs in McCook County, and the R. Petri WPA in Minnehaha County.

#### G.15. Animal Control

An estimated five complaints of blackbird damage, primarily to sunflowers, were received. These were handled by providing information and reference to County Agents who have training in control methods including Avitrol, a chemical frightening agent.

#### G.17. Disease Prevention and Control

No disease outbreaks were recorded in the district in 1981.

### H. PUBLIC USE

#### H.1. General

Interpretive facilities, including interpretive center with pictures and historical data, were constructed in 1970 on the Brookings and Madison WPAs, shortly after the district was formed. Use of the Brookings WPA facility has always been low, mostly due to its distance from community or educational interests. Use of the Madison WPA center has been variable, and while it gets some use from the local and surrounding communities, the greatest use seems to come from passing motorists.

In 1981, Bob Edens, Outdoor Recreation Planner from Sand Lake NWR, spent several days at our station visiting the Madison WPA and studying the existing facilities and the possibilities for improvement. (Figure 23). He has given us several sound proposals for improving our communication to the public, including a different type of signing and a more natural approach, using the WPA as a blackboard. These will be blended into the interpretive effort on the Madison WPA beginning in 1982 as the budget allows.



Figure 23. Bob Edens, Outdoor Recreation Planner from Sand Lake NWR, looks over the interpretive display on the Madison WPA to gain ideas for improvement.

81/35-3a

10/27/81 BTS

#### H.2. Outdoor Classrooms - Students

As far as we know, none of the school systems in the district have formal Environmental Education programs. Some years ago, all schools in Lake County did have an active program, but it has since been displaced by other emphases. Some individual classroom teachers are still conducting EE activities on their own initiative using the Madison Demonstration Area and other WPAs. Often this activity is now being conducted on other lands which are near the schools.

#### H.4. Interpretive Foot Trails

The Madison WPA Demonstration unit is our only area with formal interpretive foot trails. It has a foot trail to a marsh overlook, and a second trail through a woods area. Both trails need considerable updating and maintenance, if funding were available. Use of the marsh trail is moderate, and the woods trail, low.

#### H.5. Interpretive Tour Routes

None of the WPA auto trails actually qualify as tour routes because they lack interpretive information. Approximately eight WPAs have auto trails, one-half to one mile long, which are open to the public. Use is generally low, except during the hunting season. Two trails, totaling 1½ miles on the Madison WPA, receive high use.

#### H.6. Interpretive Exhibits/Demonstrations

The Madison WPA and Brookings WPA Demonstration Areas each have information shelters. (Figure 23). Interpretive panels in both should be updated when funding is available. Use of the Brookings display is low, and at Madison, moderate.

Interpretive information booths were manned by station personnel at County Farm and Home Shows in Howard and Madison during February and March.

#### H.7. Other Interpretive Programs

Other programs were presented on a request basis. Groups visiting the station included Scouts, Church, and County Commissioners. Off-refuge programs were presented to Service Clubs, and an Outdoor Recreation Class at Dakota State College.

#### H.8. Hunting

The district did not offer a great amount of duck hunting, because most wetlands were dry. Those units having adequate water provided excellent hunting for the first few days of the season. Thereafter, the waterfowl moved out and congregated mainly on larger lakes. Nearly all goose hunting occurs on private lands rather than the heavy cover areas of the WPAs. A few geese are taken there incidental to duck hunting.

Mourning dove hunting was reauthorized in South Dakota for the first time in recent years as a result of a referendum to the voters of the state. Dove hunting on those WPAs still having water, at least in dugouts, was excellent. Use was relatively low.

Pheasant hunting was excellent. The population was the best in many years. Hunting pressure is very high and often exceeds the capacity of the units, at least while offering a high quality experience. Recent changes in South Dakota's hunting code now require all hunters to have permission on private lands. This has added to the pressure on public lands.

We have noted another phenomenon which is adding pressure to already crowded public lands. Many private landowners entertain non-resident hunters for the opening days of the pheasant season. Since their own private lands are not open to public hunting, there is no hurry to hunt them. Instead they take their parties to the most promising public hunting areas, and hunt through it just as the days' season opens, usually noon. Then later in the day they can, at their own leisure, go back and hunt their own land.

Success by White-tailed deer hunters was good, both for bow hunting and rifle seasons. We believe success by bow hunters continues to increase. There are many more skilled bow hunters afield now than a dozen years ago.

#### H.9. Fishing

About eight WPAs provide at least some fishing in normal years. In 1981, however, due to drought and winterkills in other recent years, most of these areas provided little, if any, fishing. Some of them were completely dry.

The Petri WPA in Minnehaha County was apparently providing success for bull-head fishermen in the spring, however. We received complaints from a Township Board member regarding fishermen's cars blocking the road grade so he wasn't able to cross with his farm equipment. Since there were already signs prohibiting parking on the grade, and we had an adjacent parking lot on the WPA, there didn't seem to be much more we could do. We did inspect the parking lot to insure it was usable, and contacted the Sheriff's Department for assistance in hazing the fishermen off the road.

#### H.10. Trapping

As in the case of hunting, the WPAs are open to trapping during the normal State season. No special limits or restrictions apply other than the same motor vehicle prohibitions which apply at any other time. Trapping interest runs high and there is considerable competition on some WPAs. This has been especially true in the case of muskrats and particularly during the recent dry years with populations low or restricted to a few units. (Figure 24)



Figure 24. A local trapper tries his luck on the Payne WPA in Lake County. Trapping success for muskrats on wetlands still supporting a muskrat population is reported to be "very high".

81/52-14a  
12/15/81 BTS



#### H.11. Wildlife Observation

Most wildlife observation takes place from vehicles either on the approximately eight miles of vehicle trail on various WPAs or from dozens of public roads that pass or frequently bisect a WPA unit. These few existing WPA auto trails receive moderately heavy use and we often receive favorable comments. We believe they are well worthwhile where they don't create other conflicts and problems.

#### H.14. Picnicking

We have a couple of picnic tables at the Madison WPA Interpretive Area. These receive moderate use, mostly by passers-by on Highway 19, using the area as a rest stop.

#### H.16. Other Non-Wildlife Oriented Recreation

The principal use is taking plums from our tree plantings, during the years when they produce. 1981 was not one of these, due to a late spring frost. Other recreational activities include limited amounts of sledding, cross-country skiing, and ice skating.

#### H.17. Law Enforcement (See also Easement Section)

With 200 WPAs scattered over a nine-county district, trespass and abuse by neighbors is always a problem. This includes farming encroachment, grazing trespass, and junk and rock piles. It does seem that in recent years, with continued enforcement and neighbor contacts, this type of problem occurs less often. In 1981, the adjacent neighbor, who was also the original owner of the Ristesund WPA in Miner County was discovered to be grazing sheep on the WPA in trespass. (Figure 25). When contacted, he said our realtor had told him we would put up a "sheep-tight" fence, and he could continue to graze it till we did. Even though we had put up a new woven-wire fence in 1980, he said if his sheep got through it, it obviously wasn't sheep-tight, and we hadn't fulfilled our portion of the agreement. The fence had been put up by temporary summer employees, and when we inspected it, we found several places where they had done an inadequate job. We decided to have the farmer remove his sheep, we fixed the fence in the places needing repair, and we started over with the understanding that we would each maintain our right half of the fence as required by State Law, and any future trespass problems would result in a citation and possible legal action.



Figure 25. Sheep graze in trespass on the Ristesund WPA. The farmer said a sheep-tight fence was part of the sale, and if the sheep got through it, it wasn't sheep-tight!!!

81/19-17a

6/5/81 BTS

Vehicle trespass by hunters and trappers, although still a problem, declined significantly in 1981. Increased enforcement, hunter contacts, and news media releases have gotten the word out; and boat access lanes on the Nold and Lost Lake WPAs, that were continuing trespass problems, were fenced in 1981. All this helped, but it seems as though the new regulatory signs (Discussed in I.3. Signs and Posting, page 46) had the greatest impact. These signs were placed in areas of past or potential future trespass problems, and enforcement patrols turned up very few problems. Only one F.O.C. for vehicle trespass was issued in the fall of 1981, and a \$25.00 bond was forfeited.

Many WPAs were dry by the opening of waterfowl hunting season and did not provide waterfowl hunting. Those areas with water were hunted fairly heavily for the first several weeks of the season. The use of WPAs by pheasant and deer hunters has increased steadily in recent years to the point where they are rapidly reaching their hunter capacity. On the opening day of pheasant season, there were hunting groups at every WPA checked. Routine enforcement throughout the season indicated a continuing hunting pressure on WPAs well into the season.

Different methods of enforcement were applied. An airplane was used on season openings to estimate use and look for problems, such as vehicle trespass. Also, routine enforcement patrols were conducted on the ground throughout the

season, both undercover as hunters, and visibly in uniform.

We were assisted in our enforcement efforts by FWS 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, the State has assigned full-time Conservation Officers to most of our nine counties. Communication and assistance from these individuals has been excellent. They issue citations for violations encountered on our areas, and inform us of any problems we might be unaware of.

## I. EQUIPMENT AND FACILITIES

### I. 1, 2, 3. New Construction, Rehabilitation and Major Maintenance

#### Headquarters

The new office was actually occupied in September 1980, but with the need to finish other construction projects and the approach of winter, the landscaping around the office was not completed. In April of 1981, additional fill dirt was brought into the office site to give it the final touches, and in May, the yard area was seeded to Buffalograss, a short warm season native grass. (Figure 26)



Figure 26. Hyink puts the final touches to the landscaping around the office in preparation for seeding to Buffalograss.

81/8-24a

4/2/81 DLG



The office solar heat is very effective on the direct collector to space heat cycle, and is able to keep up in any weather when the sun is out. The crushed rock storage system is moderately effective, able to provide heat through the night in clear weather except during the coldest shortest days of December and January. We believe the water storage systems are easier to insulate and more efficient.

The new shop, nearly complete at the end of 1980, was finally occupied in the spring of 1981. While "little" delays in construction seemed unnecessary and frustrating at the time, the wait was apparently worth it. The building is well constructed, energy efficient, and has saved numerous trips to town for washing and repairing vehicles. (Figure 27)



Figure 27. The new shop was finally occupied in the spring of 1981.

81/12-22

5/6/81 DLG

The security fence, partially completed in 1980, was finished in the spring of 1981. (Figure 28)





Figure 28. Jones and Groeneveld finish construction of the security fence, making the storage area more theft and vandal resistant.

81/21-31a

5/21/81 DLG

The headquarters complex, in slightly over a year, has become a well-equipped and functional facility, and is basically complete. One remaining item is the remodeling of the old existing storage building mentioned in the 1980 N.R. The building is built of 2" tongue-and-groove redwood, and is basically a sound and solid building, but has a leaky roof and needs new doors. It is used for grass seed and equipment storage and was scheduled for remodeling with BLHP funds. The funds intended for this project were used to cover cost over-runs on the new office and shop, so the remodeling remains undone. (Figure 29)



Figure 29. The remodeling of this storage building to include a new roof, siding, and doors, is one of the remaining "uncompleted" projects at the headquarters complex. It will be done in the future as money becomes available.

81/12-25

5/6/81 DLG

### Fencing

New fence is built in the district either to prevent or solve trespass farming, grazing, or vehicles, or for our management purposes, primarily grazing. In 1981, a total of 1,115 rods of new fence was constructed, and 128 rods of existing fence was repaired. (Figure 30 and Table 16)



Figure 30. Hyink and Jones build a cross-fence on the Madison WPA to divide it into separate units for rotational grazing.

81/9-18a

4/10/81 DLG

Table 16. Fencing 1981 - New Fence Construction

WPA	County	Type Fence	Rods Fenced
LeClair	Hamlin	4-strand barb wire	90
Ivon Johnson	Kingsbury	4-strand barb wire	375
Plum Lake	Kingsbury	4-strand barb wire	70
Madison	Lake	4-strand barb wire	120
Children's	Lake	4-strand barb wire	220
Johnston	Miner	4-strand barb wire	240
Total			1,115

#### Fence Repaired

WPA	County	Type Fence	Rods Repaired
Madison	Lake	4-strand barb wire	90
Acheson	Minnehaha	4-strand barb wire	3
Hartle	Minnehaha	Woven - 2 strand barb	35
Total			128

#### Signs and Posting

An increased vehicle trespass problem was noticed in the fall and winter of 1980. The majority of the problem was apparently caused by trappers and deer hunters, and was especially bad because of the unusual lack of snow. To help get a handle on the problem which is a violation of State and Federal law, we designed and ordered three new regulatory signs and several stick-ons from the FWS sign shop. (Figure 31)





Figure 31. Three new regulatory signs, white with brown lettering, were designed to control an increasing vehicle trespass problem.

81/9-20a

4/10/81 DLG

The signs were placed in problem or potential problem areas throughout the district in the summer and fall of 1981. They appear to be very effective, as the vehicle trespass problem in the fall of 1981 was greatly reduced. (Figure 32)



Figure 32. The signs, used in places of present or potential vehicle trespass, appear to be very effective in reducing the trespass problem.

81/24-19

10/8/81 DLG



Replacement of vandalized regulatory and boundary signs continues to be a costly and time-consuming project at this station. Posting and replacement of signs is generally saved for those days when weather conditions won't allow other work to be done.

Three WPAs were posted in 1981. They were the Cox WPA (Hamlin County), Roe WPA (Deuel County) and Johnston WPA (Miner County).

#### Site Clean-ups

Old building sites were cleaned up and buried on the Bothwell and Pickering WPAs.

#### Earthwork

Wetland developments were accomplished on the Noordsy and Cassutt WPAs in 1981. Both have wetlands that are typically choked and seldom provide open water in the spring for pair use. In the fall, the TD-14 Cat and the Bobcat were used in the dry wetlands to scrape down below the vegetation root level to form semi-permanent pair ponds. 404 permits were obtained prior to construction. (Figures 33, 34 and 35)



Figure 33. When filled with water, this opening in the Noordsy WPA will provide an opportunity for increased pair use and offer at least some brood water in normal water years.

81/43-18

11/5/81 BTS



Figure 34. The TD-14 Cat and the Bobcat were used to make several small pair ponds (left marsh edge) and one brood pond on the Cassutt WPA, which should result in increased pair use in the future.

81/43-12

11/5/81 BTS



Figure 35. Hyink puts the finishing touches on a small nesting island created during the development of the brood pond on the Cassutt WPA.

81/35-6a

10/28/81 BTS

## Roads

We mow all Township roads adjacent to WPAs each fall as prescribed by state law, primarily to help prevent the roads from drifting shut with snow. County roads are mowed by the counties.

Portions of the headquarters courtyard received additional gravel, and then it and the quarter-mile entrance road were graded.

### I.4. Equipment Utilization and Replacement

A new 2½ Ton diesel truck and 24 ft. pintle hitch trailer were received during 1981 for equipment transport. The unit will replace a 1970 2-Ton 22 ft. tilt-bed truck. Still to be added to the truck are a short, low, steel bed with hoist and winch.

A Horizon 4-door hatchback was received to replace our 1971 Ford full-sized Wagon. The 4-cylinder Horizon is an excellent addition to our fleet, and its 30 mpg plus performance is a great help in allowing us to do our work and still remain within fuel and dollar constraints.

A 10-year old Mott flail mower for our 2020 John Deere has provided excellent service for both weed control and road mowing. It was replaced with another Mott 88. The new one has a 14" offset to overlap the side-mounted bar mower.

A 12 ft. International flail mower designed for stalk-chopping was purchased several years ago, primarily for weed mowing with the 3020 John Deere tractor. It was not very reliable and broke down frequently. Apparently the weed mowing was too much for it. The flail mower was replaced with a 10 ft. John Deere gyro mower in 1981.

### I.5. Communications System

Prior to construction of our new office and headquarters, the station had no two-way radio. At present, we have four vehicles with radios. The 190 ft. tower, 2 element antenna provide coverage of about 75% of the WPA units. One more mobile radio is needed for the equipment truck.

### I.6. Energy Conservation

The vehicle fuel allotment for 1981 was met. Since this was our first year in our own space, we are still establishing a base for building energy consumption.

Our office was designed with solar heat including hot air transfer of heat from collectors to space, and to a crushed-rock storage. This system functions very well on the direct collector to space mode. Some problems have occurred with the rock storage system leaking heat through the return air ducts to space. Most of this problem was corrected by some additional work by the contractor. We still do not believe the rock storage is near as efficient as a liquid storage system. Heat lost to space through the 3½" fiberglass insulation is considerable and we believe there is a substantial radiant heat loss through the concrete floor which is not insulated from the storage rock.

## J. OTHER ITEMS

### J.1. Cooperative Programs

The Ecological Services staff in Pierre was assisted with several field inspections of highway work or other proposed construction.

Station personnel participated in the Annual Audubon Christmas Bird Count for this area.

### J.2. Items of Interest

Biological Technician Earl Hyink received Fire Management training in Manhattan, Kansas.

Manager Gilbert received his 20-year pin during FY 81.

### J.3. Credits

Bruce Schoonover wrote most of the report. Gilbert edited and reviewed, and wrote Sections H, I, J and K. Dorothy Tomscha provided data for numerous statistical sections, assisted with the editing and reviewing, and typed and assembled the report.

## K. FEEDBACK

During 1981, the station operated with the smallest staff since its beginning in 1969. During these 12 years, the acreage in the district has nearly tripled. Actual dollars available for management have also nearly tripled; however, purchasing power of these same dollars has declined drastically. While the decline in purchase of new areas has reduced the requirement for construction of new fences, etc., maintenance needs on the enlarged existing ownership more than compensated.

Fences continue to deteriorate, and repair and replacement is needed on the old units. Noxious weed control, required by state law, is a never ending and expensive program. We have found this to be particularly true, in this district of excellent soils and moderately good moisture, where we have been maintaining grass/legume stands for nesting cover. Spraying treatments which the legumes can tolerate do not reduce the weed infestation. Spray treatments which will kill the weeds, remove the legumes from the stand so that rehabilitation and reseeding of the cover is necessary. We have been replacing legume mixtures on many of our lands with native grass mixtures which can be sprayed without destroying the cover. The initial cost of this reseeding and necessary management, especially during the early years of establishment, is also expensive.

Our principal means of coping with the gap between necessary management and the funding available has been the use of cooperators. We have worked out farming agreements with neighbors to aid in seeding down areas, and also increased the use of grazing, haying, etc. for grassland management. These practices can save the station time and money and still provide valuable management. There is a point, however, when further management through cooperators will detract from, rather than enhance, the benefits produced by our lands.