

SAND LAKE WETLAND MANAGEMENT DISTRICT
Columbia, South Dakota

ANNUAL NARRATIVE REPORT
Calendar Year 1982

NATIONAL WILDLIFE REFUGE SYSTEM
FISH AND WILDLIFE SERVICE
U.S. DEPARTMENT OF THE INTERIOR

REVIEW AND APPROVALS

Sam Waldstein

Feb 8, 1983

Submitted by

Date

Regional Office Review

Date

SAND LAKE NATIONAL WILDLIFE REFUGE AND WETLAND MANAGEMENT DISTRICT



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Nothing to Report

SAND LAKE

WETLAND MANAGEMENT DISTRICT

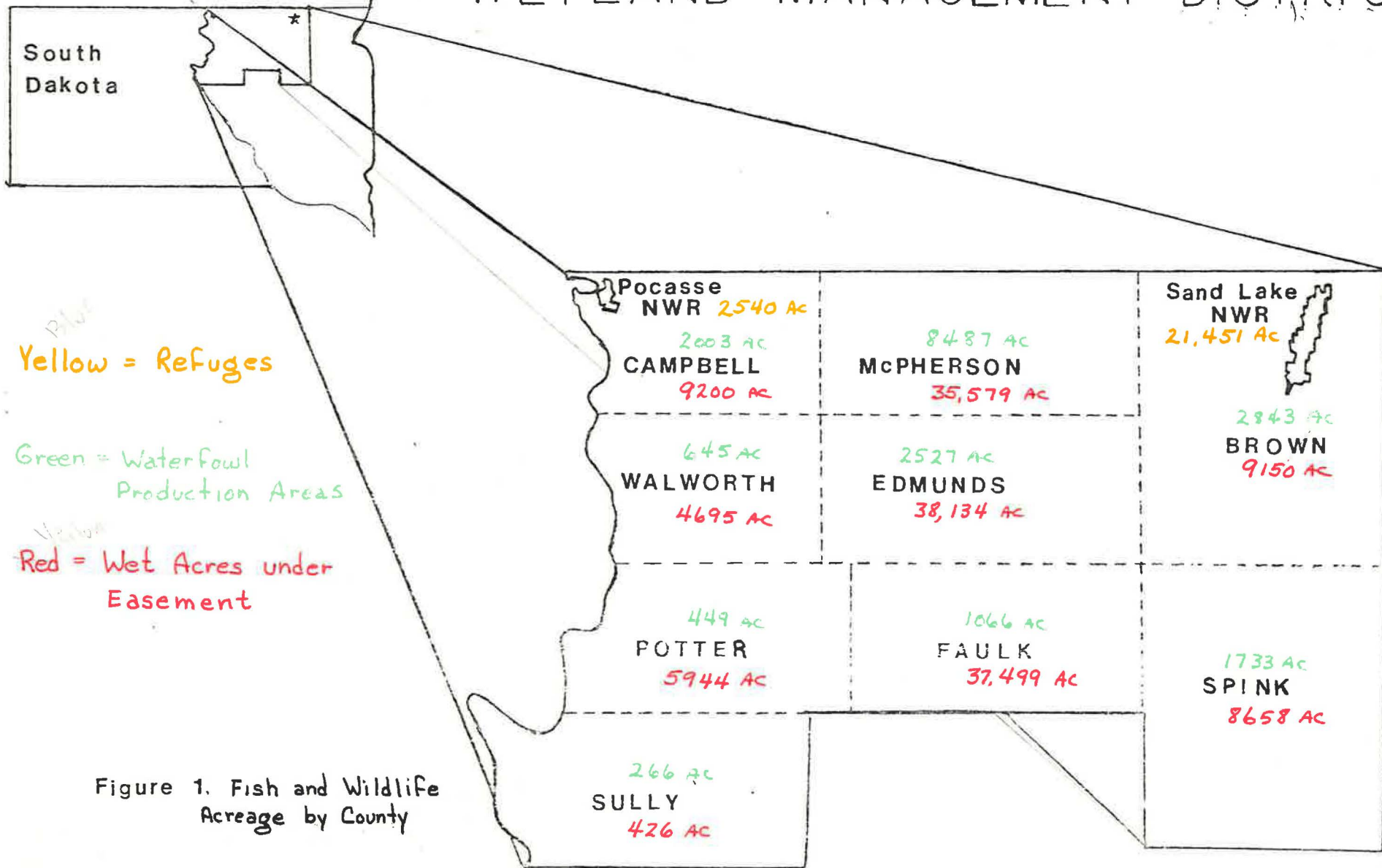


Figure 1. Fish and Wildlife Acreage by County

A. Highlights

Twenty three hundred acres optioned for WPAs (Section C.1)

Messrs. Putz, Baysinger, Drake and Carlsen visited the District. (Section C.2)

Regional Solicitor met with easement violator. (Section F.13)

Waterfowl production over 16,000 on WPAs; over 200,000 on easements. (Section G.3)

General

The 12,000 square-mile Sand Lake Wetland Management District located in north-central South Dakota encloses a rich diversity of wildlife habitat (Figure 1). The nine-county district extends west to the Missouri River and includes part of the James River Basin to the east. The western portion of the District is part of the Coteau de Missouri and is composed of intermediate and short grass prairie. Tall grass prairie and agricultural land comprise the eastern portion. The headquarters is located at Sand Lake National Wildlife Refuge.

B. Climatic Conditions

The Sand Lake Wetlands District received much needed moisture in 1982. Major portions of the district received above average precipitation which filled many wetlands that have been dry during most of the past two nesting seasons. Wetland observations during mated pair counts showed that 68 percent of the wetland basins were wet during the 1982 nesting season.

Upland habitat was greatly improved by the increase of moisture, providing good nesting cover for both waterfowl and pheasants.

C. Land Acquisition

1. Fee Title

No land was purchased this year. Options were taken to purchase three tracts containing almost 2,300 acres. Table 1 shows the trend of purchases since 1961.

Messrs. Plennert and Young from the regional office checked proposed and newly acquired WPAs in May.

2. Easement

Seventy-three easements containing 4,339 wet acres were purchased in 1982.

TABLE 1 - TREND IN FEE ACQUISITION, 1961 - 1982 SAND LAKE WETLAND MANAGEMENT DISTRICT

NUMBER OF FEE TRACTS AND TOTAL ACREAGE

YEAR	BROWN	CAMPBELL	EDMUNDS	FAULK	MCPHERSON	POTTER	SPINK	SULLY	WALWORTH	TOTALS
1961	2 - 143.4	0	3 - 338.3	0	2 - 149.2	0	0	0	0	7 - 630.0
1962	0	0	1 - 50.00	0	5 - 384.01	0	0	0	0	6 - 434.01
1963	1 - 34.62	0	2 - 248.29	0	1 - 30.31	0	0	0	0	4 - 313.22
1964	0	0	0	0	1 - 80.00	0	0	0	0	1 - 80.00
1965	0	0	0	0	2 - 211.94	0	1 - 95.0	0	0	3 - 306.94
1966	0	7 - 361.35	4 - 290.4	5 - 321.92	5 - 179.13	0	3 - 120.53	2 - 160.0	0	26 - 1433.33
1967	0	2 - 123.64	4 - 324.34	0	7 - 372.68	0	3 - 252.72	2 - 106.48	0	18 - 1179.86
1968	0	0	4 - 177.82	0	8 - 496.15	0	2 - 190.04	0	0	14 - 864.01
1969	1 - 318.66	1 - 334.54	0	1 - 200.0	4 - 605.72	2-360.0	2 - 297.4	0	0	11 - 2116.32
1970	5 - 1383.85	1 - 49.93	0	2 - 76.92	12 - 1892.31	1- 48.71	0	0	1 - 80.0	22 - 3531.72
1971	2 - 115.5	0	0	0	4 - 515.0	0	1 - 43.8	0	0	7 - 674.3
1972	2 - 136.5	3 - 204.1	5 - 424.2	1 - 80.0	3 - 250.2	0	1 - 2.5	0	1 - 148.94	16 - 1246.44
1973	0	3 - 214.0	0	0	1 - 30.0	0	0	0	0	4 - 244.0
1974	0	0	0	0	1 - 42.0	0	2 - 200.0	0	0	3 - 242.0
1975	2 - 240.0	0	0	2 - 207.8	0	0	0	0	0	4 - 447.8
1976	0	0	0	1 - 179.6	2 - 973.98	0	0	0	0	3 - 1153.58
1977	0	0	0	0	1 - 320.00	1- 40.0	1 - 11.0	0	0	3 - 371.0
1978	1 - 147.0	0	1 - 80.0	0	1 - 454.00	0	0	0	0	3 - 681.0
1979	1 - 318.0	1 - 20.0	1 - 80.0	0	3 - 700.00	0	0	0	1 - 80.0	7 - 1198.0
1980	1 - 5.0	1 - 454.95	2 - 237.87	0	2 - 640.00	0	0	0	0	6 - 1337.82
1981	0	0	1 - 276.	0	0	0	0	0	0	1 - 276.
1982	0	0	0	0	0	0	0	0	0	0
# Fee Tracts	18	19	28	12	65	4	16	4	3	164 61.35
# Mgmt Units	13	13	15	6	36	2	8	1	3	97
Acres	2842.53✓	1762.51✓	2527.22✓	1066.24✓	8326.63✓	448.71✓	1212.99✓	266.48✓	308.94	18,762.25
BLM		240.03			160.0		520.0		335.71	1,255.74
TOTAL	2842.53	2002.54	2527.22	1066.24	8486.63	448.71	1732.99	266.48	644.65	20,017.99

The status of easement acquisition since 1962 is shown in Table 2.

On July 26 and 27 Messrs. Putz, Drake and Carlsen from the Washington Office and Mr. Baysinger from the regional office visited the District for a Wetlands program review.

On July 27th twenty-five people attended a Wetlands Seminar held a Sand Lake.

D. Planning

4. Compliance with Environmental Mandates

In 1981 the Northern Border Pipeline Company placed a gas pipeline through four counties of the District. Prior to putting the line into operation checks were made for possible faulty welds. This involved digging up pipe at various places along the line. The pipeline company agreed to use methods we suggested to protect marsh areas while repairing the faulty welds.

E. Administration

1. Personnel

Table 3 depicts the number of personnel that have been employed at Sand Lake over the past five years.

Year	Full Time	Part Time	Temporary
1983	10	0	0
1982	6	4	0
1981	6	4	0
1980	7	3	2
1979	6	4	4

5. Funding

Funds for the district are included with those for Sand Lake and Pocasse National Wildlife Refuges (Table 4).

Year	Funds	Remarks
1982	\$ 269,800	\$ 51,143 BLHP
1981	276,100	21,900 BLHP
1980	264,300	107,000 BLHP
1979	253,500	787,000 BLPH
1978	224,200	429,000 BLPH Rehab

TABLE 2 - TREND IN EASEMENT ACQUISITION, 1962 - 1982, SAND LAKE WETLAND MANAGEMENT DISTRICT

NUMBER OF EASEMENTS AND WET ACREAGE

YEAR	Number of Easements Purchased										TOTAL WET ACRES
	BROWN	CAMPBELL	EDMUNDS	FAULK	MCPHERSON	POTTER	SPINK	SULLY	WALWORTH	TOTAL	
1962	0	0	0	0	1	0	0	0	0	1	(1)
1963	1	0	17	13	0	0	0	0	0	31	(1)
1964	8	2	93	32	8	0	6	0	8	157	(1)
1965	7	3	81	54	31	1	2	0	13	192	(1)
1966	2	1	68	76	47	2	4	0	2	202	49,286.80
1967	0	1	30	6	51	1	1	0	0	90	56,428.80
1968	11	0	9	27	52	9	1	0	0	109	65,680.50
1969	25	7	16	17	80	7	2	0	0	154	77,083.50
1970	12	2	4	5	37	1	0	2	0	63	80,805.34
1971	12	0	18	19	32	3	25	0	2	111	87,804.34
1972	8	0	11	3	7	11	14	0	0	54	91,581.34
1973	0	0	11	0	1	0	19	0	1	32	94,622.50
1974	1	14	24	11	4	4	4	0	0	65	98,616.50
1975	0	33	1	37	0	0	0	1	1	73	102,081.50
1976	0	7	19	41	19	2	2	0	6	96	107,412.00
1977	1	7	5	50	24	14	1	0	0	102	112,720.00
1978	2	49	49	20	35	11	12	0	12	190	123,917.00
1979	4	48	33	12	47	3	22	0	4	173	130,513.00
1980	43	57	20	9	21	4	4	0	0	158	137,198.00
1981	25	19	28	27	13	9	3	0	2	126	144,930.00
1982	5	4	20	5	2	0	36	1	0	73	149,269.00
TOTALS	167	254	560	464	512	82	158	33	51	2,252	

(1) Data not available

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6. Safety

Safety meetings are held monthly. There were no accidents during the past year.

F. Habitat Management

1. General

Habitat conditions showed a vast improvement overall in the district as compared to the very dry conditions in 1981. A very wet snowfall in March provided excellent run-off which filled marshes throughout the majority of the district.

Grasslands showed very good early growth providing good nesting habitat through the summer.

The much improved conditions were evidenced by the large increase in the waterfowl breeding pair count and subsequent waterfowl production (see Wildlife).

The district is, however, once again in need of moisture since fairly dry conditions through late summer, fall and early winter had dried out the majority of the district's wetlands by year's end.

2. Wetlands

Water conditions improved throughout the District this year due to good spring run-off (Figure 2). During the spring breeding season about two-thirds of the basins were wet, but many of the seasonal wetlands had dried up by late July. Snow cover was non-existent at the end of the year even though some areas of the district had snowfalls of up to six inches in November.

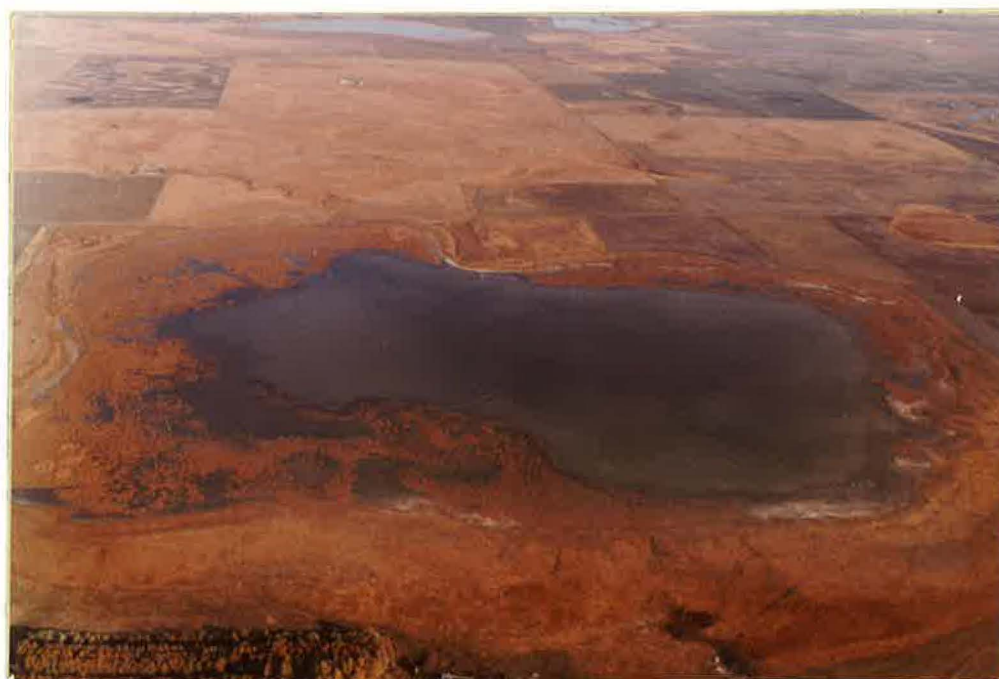


Figure 2. Improved water conditions resulted in two-thirds of the potholes being filled during the nesting season. RLW

4. Croplands

Seven WPAs have food plots established on them. This year cooperators planted 94 acres of corn and 27 acres of wheat: thirty-one acres of corn and nine acres of wheat were left standing.

5. Grasslands

Twenty-five acres on the Long Lake WPA, fifty acres on the Schurr WPA, and one hundred acres on the Mardian WPA were seeded to Dense Nesting Cover (DNC). Cooperators left fifteen acres of wheat standing as the Government share. Twenty-three acres on the Lassle-Biffert WPA were seeded to oats by a neighbor as a nurse crop for DNC which we seeded in the fall. The DNC mix consisted of two pounds of alfalfa, six pounds of tall wheatgrass, and two pounds of intermediate wheatgrass.

10. Pest Control

This past spring we notified weed boards in eight counties of our proposed weed control program. We received one reply asking that we spray one additional tract.

We applied 2,4-D to 127 acres in eight counties to control Canada thistle, sow thistle, wormwood, and leafy spurge.

11. Water Rights

Mr. Robert Green and Ms. Ginger Chesy from the Regional Office visited Eureka, Fisher, Mehlhoff WPAS and Pocasse National Wildlife Refuge on October 5 to obtain water rights information for the Missouri River water rights legal action.

13. WPA Easement Monitoring

There are 149,269 wetland acres protected by 2,252 easement contracts in the Sand Lake District.

This past fall thirty-eight possible violations were noted during the aerial flight. Ground checks and record checks eliminated all but four - one involving draining, one filling and two burning. The two burning incidents concerned owners who were breaking up sod prior to farming. The filling incident concerns an individual who has been using the area as a dump. The draining incident concerns a person who bought the land from his father, the original easement seller.

Three cases remain from last year and one remains from 1980. Contacts have been made with landowners. Two cases (Faulk 101X and Brown 93X) have been referred to the Solicitor. Mr. Curt Menefee, Assistant Regional Solicitor, visited the District in December to get a first hand look at one of the violations. He was taken to the area of Brown County easement 93X. While there he met the landowner who "explained" the situation to the Solicitor.

G. Wildlife

2. Endangered and/or Threatened Species

This past April we received reports that nine whooping cranes were seen in Campbell County (on easement 12X), and two over the headquarters pool at Sand Lake NWR.

In late October and early November we picked up several radio transmissions of a whooping crane aerial/ground tracking team as they monitored the fall migration of the cranes. We first heard them when they encountered the birds near the town of Eureka. Susequent contacts found the birds on Swan Lake, near Schaeffer WPA in Walworth County, where they were joined by another "whooper". The last transmission we received on the following day located the cranes near Fisher WPA (Cottonwood Lake and Stone Lake area) in Sully County.

3. Waterfowl

a. Ducks

Duck production this year increased markedly as an estimated 16,600 ducks were hatched on the 22,300 acres owned in fee. Quarter-section pair counts were used to estimate production.

Changes in the species composition of the pair counts and in the duck population are shown in Tables 5 and 6.

Dabblers			Divers		
Species	1982	1981	Species	1982	1981
Mallard	13.5%	24.7%	Redhead	12.0%	3.0%
Gadwall	12.0	16.9	Canvasback	1.5	0.9
American wigeon	0.5	0.8	Lesser scaup	0.5	1.0
Green-winged teal	2.0	3.9	Ruddy	4.5	9.7
Blue-winged teal	23.5	16.9			
Shoveler	18.0	6.5			
Pintail	12.0	13.0			
Wood duck	0	1.7			

TABLE 6. Duck Production on WPAs 1982 - 1981					
Dabblers			Divers		
Species	1982	1981	Species	1982	1981
Mallard	2,245	260	Redhead	1,996	65
Gadwall	1,996	146	Canvasback	249	11
American wigeon	83	10	Lesser scaup	83	15
Green-winged teal	333	54	Ruddy	748	120
Blue-winged teal	3,909	170	Ring-necked duck	0	4
Shoveler	2,994	80			
Pintail	1,996	130			
Wood duck	0	22			
	13,556	872		3,076	215

Production on easements was estimated at 201,612 ducks.

This is the first time a random $\frac{1}{4}$ section count was used on easements. Four hundred fifty-seven pairs were counted on 655 basin acres surveyed. This was extrapolated to a total of 104,734 pairs on easements in the entire district. The productivity rate was assumed to be 0.35 broods per pair. Production was estimated at 5.5 ducks per brood.

Production is estimated as follows:

$$104,734 \text{ pairs} \times \frac{0.35 \text{ broods}}{\text{pair}} \times \frac{5.5 \text{ ducks}}{\text{brood}} = 201,612 \text{ ducks}$$

b. Geese

Seven Canada goose broods were seen on McPherson County WPAs. These are the result of Canadas hatched at Sand Lake Refuge and released in various places by the South Dakota Department of Game, Fish and Parks. Six goslings were seen in a nest built on a flax bale on the Highland WPA. Paul Mammenga (SDGF&P) reported seeing eight broods on Eureka Lake.

c. American Coot

The coot population responded favorably to the change in habitat conditions. A breeding population of 4,800 produced 5,100 coots compared to 650 produced in 1981.

4. Marsh and Water Birds

The increase in water resulted in more marsh and water birds using the district. Use days for the year more than doubled from 287,000 to 775,000. This year the sandhill crane peak was nearer the usual time. An estimated 18,000 were here on the twentieth of October. Last year the peak population didn't occur until mid-November.

5. Shorebirds, Gulls, Terns and Allied Species

This group also reflected the presence of improved habitat. Total use-days for the year increased 55% from 397,000 to 617,000.

6. Raptors

Raptorial birds, as a group, were more plentiful than in 1981. However, bald and golden eagle numbers showed almost no change. There were 64 golden eagle use-days in 1982 vs. 61 days in 1981. There were 60 bald eagle use-days in 1982 vs. 63 days in 1981. Overall raptor use increased to 115 thousand use-days from 75 thousand.

7. Other Migratory Birds

Mourning doves peaked at about 5,000 this year - nearly the same as in each of the past five years.

This is the second consecutive year that a dove season has been held in the district since the state was reopened to dove hunting. Opposition to dove hunting has decreased since last year perhaps due to restrictions that went with the dove season, e.g., no dove hunting on or within 50 yards of a public road, no one under 18 years can hunt doves unless accompanied by an adult, and no shooting of doves unless they are in flight (to stop the shooting of doves from telephone or power lines). This year the season was increased in length by ten days to include all of September. The bag limit was increased to 12 daily/24 possession from 10 daily/20 possession.

8. Game Mammals

In the past years white-tailed deer populations have increased throughout all the district. Depredation problems developed in Brown and Campbell counties (Figure 1). In Campbell County we cooperated with South Dakota Game, Fish and Parks in hauling corn to feed deer near Pocasse National Wildlife Refuge and near Fisher/Metzger WPA in southeastern Campbell County.

In Brown County the state scheduled two deer reduction seasons between January 23 and 31. The first season (January 23 - 26) opened during a blizzard so an additional season (February 6 - 14) was set for those who didn't get deer during the earlier seasons. Brown County was divided into two units for the special season. Originally there were to be 150 licenses inside and

150 licenses outside the refuge for each of the two seasons. During the February season all unfilled licenses were valid.

With the exceptions of Brown and Spink Counties, the regular firearms season ran from November 27 through December 5. Brown and Spink Counties had a split season running from November 27 - 30 and from December 4 - 12. A reduction season is planned for February, 1983 in Brown County.

10. Other Resident Wildlife

Ring-necked pheasants (Figure 3) showed little fluctuation in numbers this year except in the northeast corner of the district where populations dropped about 50%. Good cover and a mild winter should result in an increased population next year.



Figure 3. The ring-necked pheasant population was stable in 1982 except in the northeast portion of our district where numbers dropped about 50%.

Sharp-tailed grouse (Figure 4) continue to show an increase, particularly in the part of the district near the North Dakota border. Over 180 sharptails were using Hayes WPA in Brown County during the fall. Sharptails were observed regularly on Perch Lake, Long Lake and Fisher WPAs in McPherson County.



Figure 4. The sharp-tailed grouse population has been steadily increasing during the past few years.

An unusual species (Figure 5) was sighted on a WPA and may provide future hunting if other species decline.



Figure 5. Can you identify this possible future game bird? SJW

11. Fisheries Resources

South Dakota Game, Fish and Parks stocked 650 perch in Lake Pocasse in March and another 1,700 in April. The perch, which were salvaged from an over stocked lake, ranged in size from a few inches to over a pound. Lake Pocasse is used as a source of northern eggs by both Federal and State Hatcheries. This year egg taking was hindered by late ice breakup. *also 2980 adult black crayfish*
Took 1,140,000 eggs from northern

A die-off of northern pike occurred on the Schmitt WPA during the winter of 1981-82.

12. Wildlife Propagation and Stocking

South Dakota Game, Fish and Parks continued their Canada goose restoration program. Goslings hatched at Sand Lake are raised and then released by the Department in various parts of the state. This year the state released forty-nine goslings on Mehlhoff I and Hoffman-BLM WPAs.

H. Public Use

1. General

a. Public Relations

With the closure of the Pierre Area Office, a program was initiated to continue small wetlands public relations at the local level. We worked with the Aberdeen Wetland Acquisition Office to develop strategies that could be used by any field station in South Dakota.

Some of these strategies involve annual contact with agencies which deal with landowners who may have wetland easements on their land. We began by working with the Soil Conservation Service and County Agents.

County maps showing areas under wetland easement were updated for each Soil Conservation Service office. During the course of conversation we informed each office who to contact in case of inquiries regarding easements. We feel that it is important to maintain contact with SCS since they deal with many landowners.

County agents were contacted in each of the nine counties for which we are responsible to discuss the Small Wetland Acquisition Program. Our main emphasis was on easement purchases. We explained the program and told them who to contact in case of questions or inquiries,

The program also involved a segment to inform landowners regarding the value of wetlands.

Feature articles explaining the importance of wetlands were printed in publications with statewide circulation.

The wetland film, "American's Wetlands" was shown or loaned to many interested groups.

2. Outdoor Classrooms - Students

Several school groups visited the Proud Waterfowl Production Area. Many school teachers are using the environmental education activities and materials as a result of the workshop in June of 1981. Most of these activities are being used in the school yards or in parks near their schools.

8. Hunting

Hunting accounted for 55 percent of the 38,445 visits received in 1982 as shown in Figure 6.

Pheasant hunting was a challenge in 1982 because of the heavy cover. Waterfowl hunters had much better hunting in 1982 due to the simple fact that the wetlands had more water in them this year. Use by waterfowl hunters increased to 4,100 visits as compared to 2,600 in 1981.

Deer hunting accounted for 16% of the total use.

9. Fishing

Fishing was good in our district as was reflected in the 12,835 visits we totaled in 1982. Fishing on Pocasse National Wildlife Refuge was excellent through most of the year and thousands of northern pike were caught. Fishermen also caught yellow perch at Bergerson WPA and bullheads at Zell Lake WPA.

10. Trapping

Trapping for upland predators and some muskrats generated 3,450 visits or nine percent of the 1982 use. The red fox (Figure 7) is one of the more sought after species.

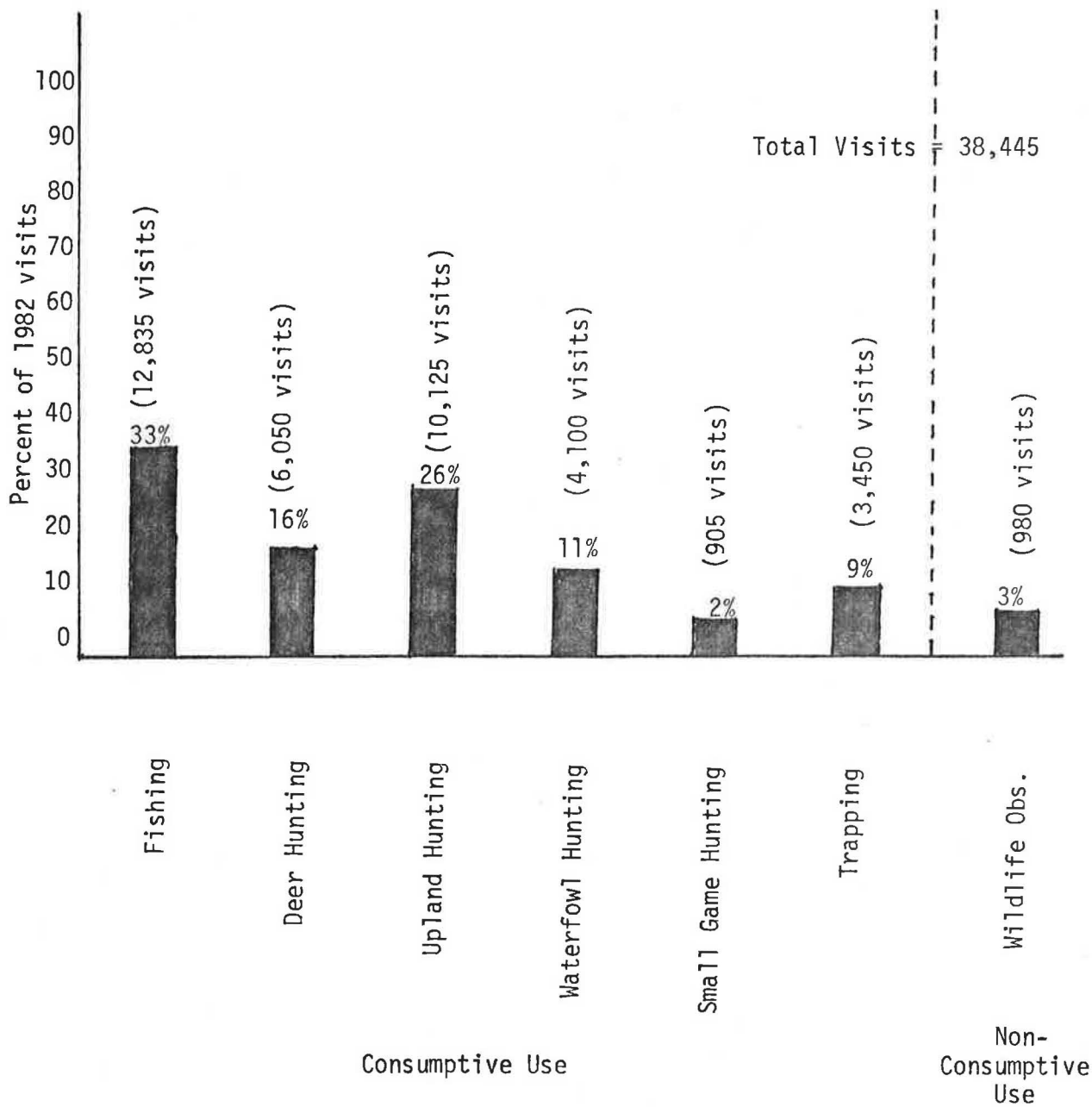


Figure 6. Visits To The Sand Lake WMD in 1982



Figure 7. The red fox is one of the main predators that is trapped in our district. WAS

11. Wildlife/Wildlands Observation

Non-consumptive use amounted to sightseers and photographers which totaled 980 visits.

I. Equipment and Facilities

1. New Construction

Portions of the boundary on four WPAs were fenced. The WPAs fenced were: Schurr (Edmunds Co.) 535 rods, Schmitt (McPherson Co.) 80 rods, Imberri (McPherson Co.) 170 rods, and Cooper (Campbell Co.) 80 rods.

Interior fencing was built on two tracts: Hayes (Brown Co.) 160 rods and Bergerson (McPherson Co.) 565 rods.

Figure 8 shows a nesting island on the Vilhauer WPA in McPherson County.



Figure 8. Recently constructed nesting islands provide secure waterfowl nesting habitat on many WPAs in the Sand Lake District. RLW

J. Other Items

2. Items of Interest

Revenue sharing for the last five years is shown in Table 7. The amounts scheduled to be paid to the counties for 1982 are about 92% of full payment.

We obtained old copies of aerial photos from ASCS and SCS offices in five counties. These are used in easement enforcement work. We purchased additional photos for the remaining four counties.

TABLE 7. Revenue Sharing, Sand Lake Wetland Management District 1978 - 1982					
County	1978	1979	1980	1981	1982
Brown *	\$ 17,298.78	16,448	29,916	26,220	**
Campbell	534.90	509	1,681	2,130	
Edmunds	691.14	744	1,574	2,808	
Faulk	575.34	546	1,107	970	
McPherson	3,458.83	3,569	8,226	9,831	
Potter	315.03	298	605	530	
Spink	680.45	647	1,313	1,151	
Sully	86.78	99	200	175	
Walworth	94.61	90	276	365	
	\$ 23,735.86	22,950	44,898	44,180	

* The Brown County money includes that paid for Sand Lake Refuge.

**Data not available; indications are that the counties will receive 92% of full payment.

3. Credits

Bob Edens wrote parts B and H, Bob Wright parts, A, C, D, E, F, G, I and J and editing was done by everyone. Ramona Cantwell typed the manuscript.

POCASSE
6-4571-PCS

LAND CLASSIFICATION	ACREAGE
I. DETAILED CLASSIFICATIONS	
WETLAND TYPES	
INLAND FRESH AREAS	
DEEP FRESH MARSHES	864
OPEN FRESH WATER	636
UPLAND TYPES	
GRASSLANDS	
NATIVE GRASSLANDS	908
NATIVE GRASSLANDS-RESTORD	25
GRASSLANDS INTRODUCED	35
DENSE NESTING COVER	57
FORESTLANDS	
NON-COMMERCIAL FORESTS	15
TOTAL ACRES	2,540
II. SUMMARY CLASSIFICATIONS	
INLAND FRESH AREAS	1,500
WETLAND TYPES	1,500
GRASSLANDS	1,025
FORESTLANDS	15
UPLAND TYPES	1,040

REGISTER OF RMIS REPORTS
12 REPORTING MONTHS OF FY-82

REPORT NAME	REFUGEE NUMBER		REFUGEE NAME										
	OCT	NOV	DEC	JAN	FEB	MARCH	APR	MAY	JUNE	JULY	AUG	SEPT	
	64572	SDW	SAND LAKE W.M.D.										
PUBLIC USE REPORT	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	
PROFESSIONAL SERVICES												REC'D	
ENVIRONMENTAL PRESERVATION	***											REC'D	
MONTHLY WATERFOWL POPULATIONS	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	REC'D	
ANNUAL WATERFOWL PRODUCTION												REC'D	
HUNT REPORT	***											REC'D	
MISCELLANEOUS WILDLIFE OUTPUTS	***											REC'D	
ECONOMIC BENEFITS AND LAND USE												REC'D	
LAND TYPE INVENTORY												REC'D	
MARSH & WATER BIRDS			REC'D			REC'D			REC'D			REC'D	
SHOREBIRDS,GULLS,TERNs & ALLIED SPECIES			REC'D			REC'D			REC'D			REC'D	
RAPTORIAL BIRDS			REC'D			REC'D			REC'D			REC'D	
OTHER BIRDS-MIGRATORY & RESIDENT												REC'D	
MAMMALS												REC'D	
REPTILES,AMPHIBIANS,FISH&OTHER WILDLIFE	***											REC'D	

***: SUBMISSION OF THIS REPORT IS OPTIONAL

DATE 02/28/83

NATIONAL WILDLIFE REFUGE SYSTEM
WILDLIFE USE REPORT
WILDLIFE USE REPORT - WATERFOWL
(USE DAYS, HARVEST, & PRODUCTION)
FY-82

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SAND LAKE W.M.D.
6-4572-SDW

SPECIES NAME	LINE CODE	*****-----USE DAYS-----*****					FY-NO. PRODUCED	FY-NO. HARVESTED	FY-PEAK POPULATION	DATE
		OCT-DEC 81	JAN-MAR 82	APR-JUN 82	JUL-SEP 82	FY TOTAL				
WATERFOWL PRODUCTION										
NON-OUTPUT SPECIES										
AMERICAN COOT	080 2210	0	0	0	0	0	5100	0	0	
TOTAL NON-OUTPUT SPECIES		0	0	0	0	0	5100	0		
TOTAL WATERFOWL PRODUCTION		0	0	0	0	0	5100	0		
WATERFOWL MAINTENANCE										
SWANS										
WHISTLING SWAN	711 1800	3600	0	150	0	3750	0	0	200	10/31
TOTAL SWANS		3600	0	150	0	3750	0	0		
GEESE										
SNOW GOOSE	712 1690	37500	150	135000	1800	174450	0	0	30000	04/05
WHITE-FRONTED GOOSE	712 1710	450	60	4500	60	5070	0	0	600	04/15
CANADA GOOSE	712 1720	13200	900	34050	17400	65550	0	0	2200	04/05
TOTAL GEESE		51150	1110	173550	19260	245070	0	0		
DUCKS										
COMMON MERGANSER	713 1290	60	360	2370	0	2790	0	0	280	04/10
HOODED MERGANSER	713 1310	180	0	30	0	210	0	0	30	10/25
MALLARD	713 1320	162000	24000	657000	766500	1609500	0	0	25000	04/10
BLACK DUCK	713 1330	0	0	0	600	600	0	0	100	09/30
GADWALL	713 1350	76200	1500	432000	676500	1186200	0	0	13200	05/05
AMERICAN WIGEON	713 1370	27150	600	57900	61200	146850	0	0	3500	04/15
GREEN-WINGED (COMM.) TEAL	713 1390	22740	90	30600	61650	115080	0	0	2300	04/20
BLUE-WINGED (CINN.) TEAL	713 1400	9000	0	690000	1221000	1920000	0	0	19500	05/01
NORTHERN SHOVELER	713 1420	72900	120	546000	903000	1522020	0	0	12400	04/10
PINTAIL	713 1430	60300	22500	636000	627000	1345800	0	0	27000	04/10
WOOD DUCK	713 1440	30	0	930	4350	5310	0	0	80	09/05
REDHEAD	713 1460	46500	300	243000	504000	793800	0	0	7000	09/30
CANVASBACK	713 1470	9600	120	24300	53100	87120	0	0	1500	04/15
LESSER SCAUP	713 1490	19800	750	141900	41400	203850	0	0	12000	04/15
RING-NECKED DUCK	713 1500	1200	90	15300	1560	18150	0	0	2000	04/15
COMMON GOLDENEYE	713 1510	90	150	3600	0	3840	0	0	450	04/10
BUFFLEHEAD	713 1530	270	60	3180	960	4470	0	0	350	04/10
RUDDY DUCK	713 1670	45000	0	112500	310500	468000	0	0	5000	09/30
TOTAL DUCKS		553020	50640	3596610	5233320	9433590	0	0		

DATE 02/28/83

NATIONAL WILDLIFE REFUGE SYSTEM
WILDLIFE USE REPORT
WILDLIFE USE REPORT - WATERFOWL
(USE DAYS, HARVEST, & PRODUCTION)
FY-82

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SAND LAKE W.M.D.
6-4572-SDW

SPECIES NAME	LINE CODE	*****-----USE DAYS-----*****				FY TOTAL	PRODUCED	FY-NO. HARVESTED	FY-NO. POPULATION	FY-PEAK DATE
		OCT-DEC 81	JAN-MAR 82	APR-JUN 82	JUL-SEP 82					
WATERFOWL MAINTENANCE										
TOTAL WATERFOWL MAINTENANCE		607770	51750	3770310	5252580	9682410	0	0		
OTHER MIG. BIRD MAINT.										
MARSH & WATER BIRDS										
AMERICAN COOT	721 2210	28800	60	687000	1399500	2115360	0	0	18500	09/30
TOTAL MARSH & WATER BIRDS		28800	60	687000	1399500	2115360	0	0		
TOTAL OTHER MIG. BIRD MAINT.		28800	60	687000	1399500	2115360	0	0		
WATERFOWL PRODUCTION										
GEESE										
GIANT CANADA GOOSE	802 1723	0	0	0	0	0	20	0	0	
TOTAL GEESE		0	0	0	0	0	20	0		
DUCKS										
MALLARD	803 1320	0	0	0	0	0	2162	0	0	
GADWALL	803 1350	0	0	0	0	0	1996	0	0	
AMERICAN WIGEON	803 1370	0	0	0	0	0	83	0	0	
GREEN-WINGED (COMM.) TEAL	803 1390	0	0	0	0	0	250	0	0	
BLUE-WINGED (CINN.) TEAL	803 1400	0	0	0	0	0	3825	0	0	
NORTHERN SHOVELER	803 1420	0	0	0	0	0	2827	0	0	
PINTAIL	803 1430	0	0	0	0	0	1996	0	0	
REDHEAD	803 1460	0	0	0	0	0	1830	0	0	
CANVASBACK	803 1470	0	0	0	0	0	250	0	0	
LESSER SCAUP	803 1490	0	0	0	0	0	499	0	0	
BUFFLEHEAD	803 1530	0	0	0	0	0	166	0	0	
RUDDY DUCK	803 1670	0	0	0	0	0	748	0	0	
TOTAL DUCKS		0	0	0	0	0	16632	0		
TOTAL WATERFOWL PRODUCTION		0	0	0	0	0	16652	0		
GRAND TOTAL		636570	51810	4457310	6652080	11797770	21752	0		

DATE 02/28/83

NATIONAL WILDLIFE REFUGE SYSTEM
WILDLIFE USE REPORT
SPECIAL RECOGNITION SPECIES
(EXCLUDING WATERFOWL)
FY-82

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SAND LAKE W.M.D.
6-4572-SDW

SPECIES NAME	LINE CODE	*****-----USE DAYS-----*****				FY TOTAL	FY-NO. PRODUCED	FY-NO. HARVESTED	FY-PEAK POPULATION	DATE
		OCT-DEC 81	JAN-MAR 82	APR-JUN 82	JUL-SEP 82					
NON-OUTPUT SPECIES										
OTH BIRD-MIG & RES										
GRAY PARTRIDGE	071 2881	0	0	0	0	140000	0	0	600	07/15
SHARP-TAILED GROUSE	071 3080	0	0	0	0	44500	0	0	180	07/15
RING-NECKED PHEASANT	071 3091	0	0	0	0	736000	0	0	4000	07/15
TOTAL OTH BIRD-MIG & RES		0	0	0	0	920500	0	0		
MAMMALS										
MULE DEER	072 8530	0	0	0	0	1080	0	0	12	07/01
WHITE-TAILED DEER	072 8540	0	0	0	0	168000	0	0	800	07/01
TOTAL MAMMALS		0	0	0	0	169080	0	0		
TOTAL NON-OUTPUT SPECIES		0	0	0	0	1089580	0	0		
THREATENED SPECIES										
ENDANGERED										
SOUTHERN BALD EAGLE	701 3521	18	20	15	0	53	0	0	5	03/15
TOTAL ENDANGERED		18	20	15	0	53	0	0		
PERIPHERAL										
FERRUGINOUS HAWK	703 3480	75	0	850	1700	2625	0	0	30	08/20
TOTAL PERIPHERAL		75	0	850	1700	2625	0	0		
STATUS-UNDETERMINED										
N. GREATER PRAIRIE CHICKEN	704 3050	0	0	0	0	1950	0	0	10	07/15
WESTERN BURROWING OWL	704 3781	0	0	1250	2510	3760	0	0	40	07/10
TOTAL STATUS-UNDETERMINED		0	0	1250	2510	5710	0	0		
TOTAL THREATENED SPECIES		93	20	2115	4210	8388	0	0		
OTHER MIG. BIRD MAINT.										
MARSH & WATER BIRDS										
WESTERN GREBE	721 0010	90	0	18000	22500	40590	0	0	450	07/15
HORNED GREBE	721 0030	0	0	900	950	1850	0	0	60	04/30
EARED GREBE	721 0040	0	0	55500	69000	124500	0	0	1500	07/01
PIED-BILLED GREBE	721 0060	550	0	35250	67500	103300	0	0	1200	07/01
DOUBLE-CRESTED CORMORANT	721 1200	140	0	6450	14500	21090	0	0	250	08/01
WHITE PELICAN	721 1250	0	0	2400	6750	9150	0	0	180	08/15

NATIONAL WILDLIFE REFUGE SYSTEM
WILDLIFE USE REPORT
SPECIAL RECOGNITION SPECIES
(EXCLUDING WATERFOWL)
FY-82

SAND LAKE W.M.D.
6-4572-SDW

SPECIES NAME	LINE CODE	*****-----USE DAYS-----*****				FY TOTAL	FY-NO. PRODUCED	FY-NO. HARVESTED	FY-PEAK POPULATION	DATE
		OCT-DEC 81	JAN-MAR 82	APR-JUN 82	JUL-SEP 82					
OTHER MIG. BIRD MAINT.										
MARSH & WATER BIRDS										
AMERICAN BITTERN	721 1900	130	0	9500	15150	24780	0	0	300	07/15
GREAT BLUE HERON	721 1940	300	40	15000	22050	37390	0	0	420	08/15
GREEN HERON	721 2010	0	0	0	120	120	0	0	2	07/01
BLACK-CROWNED NIGHT HERON	721 2020	225	0	16500	26250	42975	0	0	550	07/15
LESSER SANDHILL CRANE	721 2050	148600	0	0	0	148600	0	0	10200	11/07
VIRGINIA RAIL	721 2120	0	0	9800	21300	31100	0	0	380	07/15
SORA	721 2140	0	0	17500	49500	67000	0	0	810	07/15
TOTAL MARSH & WATER BIRDS		150035	40	186800	315570	652445	0	0		
SHRBIRDS, GULLS, TERNS										
HERRING GULL	722 0510	300	175	2800	2300	5575	0	0	200	04/10
RING-BILLED GULL	722 0540	800	800	10200	17600	29400	0	0	800	09/05
FRANKLIN'S GULL	722 0590	2700	0	22200	137500	162400	0	0	5500	08/20
FORSTER'S TERN	722 0690	0	0	17500	22500	40000	0	0	600	07/30
BLACK TERN	722 0770	0	0	22500	40500	63000	0	0	950	07/15
WILSON'S PHALAROPE	722 2240	0	0	19500	18000	37500	0	0	820	08/20
AMERICAN AVOCET	722 2250	0	0	4550	4100	8650	0	0	130	07/15
COMMON SNIPE	722 2300	990	0	6300	22000	29290	0	0	900	09/01
LONG-BILLED DOWITCHER	722 2320	0	0	2150	1600	3750	0	0	175	09/01
PECTORAL SANDPIPER	722 2390	0	0	1650	15200	16850	0	0	1250	09/01
WHITE-RUMPED SANDPIPER	722 2400	0	0	0	2350	2350	0	0	280	09/01
DUNLIN	722 2430	0	0	1450	1100	2550	0	0	100	05/15
SEMIPALMATED SANDPIPER	722 2460	0	0	0	5400	5400	0	0	450	09/01
WESTERN SANDPIPER	722 2470	0	0	0	800	800	0	0	75	09/01
SANDERLING	722 2480	0	0	0	550	550	0	0	50	09/01
MARbled GODWIT	722 2490	0	0	5100	5400	10500	0	0	200	07/15
GREATER YELLOWLEGS	722 2540	0	0	1950	950	2900	0	0	110	05/01
LESSER YELLOWLEGS	722 2550	0	0	9500	9200	18700	0	0	850	09/01
WILLET	722 2580	0	0	4000	6800	10800	0	0	250	07/15
UPLAND (PLOVER) SANDPIPER	722 2610	0	0	10900	12600	23500	0	0	350	07/15
SPOTTED SANDPIPER	722 2630	0	0	1250	550	1800	0	0	80	05/15
KILLDEER	722 2730	280	225	43500	74800	118805	0	0	1100	08/15
TOTAL SHRBIRDS, GULLS, TERNS		5070	1200	187000	401800	595070	0	0		
RAPTORIAL BIRDS										
MARSH HAWK	723 3310	3200	450	9000	21500	34150	0	0	400	09/15
RED-TAILED (HARLAN) HAWK	723 3370	1100	270	2700	6400	10470	0	0	120	09/20
SWAINSON'S HAWK	723 3420	1350	0	3440	9200	13990	0	0	180	09/15
ROUGH-LEGGED HAWK	723 3470	425	240	75	55	795	0	0	15	12/15
GOLDEN EAGLE	723 3490	25	16	10	0	51	0	0	4	11/25
AM. KESTREL(SPARROW HAWK)	723 3600	650	700	1350	5100	7800	0	0	110	09/01

DATE 02/28/83

NATIONAL WILDLIFE REFUGE SYSTEM
 WILDLIFE USE REPORT
 SPECIAL RECOGNITION SPECIES
 (EXCLUDING WATERFOWL)
 FY-82

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SAND LAKE W.M.D.
 6-4572-SDW

SPECIES NAME	LINE CODE	*****-----USE DAYS-----*****					FY TOTAL	FY-NO. PRODUCED	FY-NO. HARVESTED	FY-PEAK POPULATION	DATE
		OCT-DEC 81	JAN-MAR 82	APR-JUN 82	JUL-SEP 82						
OTHER MIG. BIRD MAINT.											
RAPTORIAL BIRDS											
SHORT-EARED OWL	723 3670	900	200	4800	4500	10400	0	0	80	04/30	
GREAT HORNED OWL	723 3750	2100	4800	10800	9900	27600	0	0	150	05/10	
SNOWY OWL	723 3760	8	8	0	0	16	0	0	3	11/20	
TOTAL RAPTORIAL BIRDS		9758	6684	32175	56655	105272	0	0			
OTHER BIRDS MIG & RES											
MOURNING DOVE	724 3160	0	0	0	0	675000	0	0	5000	08/15	
TOTAL OTHER BIRDS MIG & RES		0	0	0	0	675000	0	0			
TOTAL OTHER MIG. BIRD MAINT.		164863	7924	405975	774025	2027787	0	0			
GRAND TOTAL		164956	7944	408090	778235	3125755	0	0			

NATIONAL WILDLIFE REFUGE SYSTEM
 WILDLIFE USE REPORT
 ENDANGERED SPECIES REPORT
 FY 1982 SURVEY
 FY-82

SAND LAKE W.M.D.
 6-4572-SDW

SPECIES NAME	LINE CODE	*****-----USE DAYS-----*****				FY TOTAL	FY-NO. PRODUCED	FY-NO. HARVESTED	FY-PEAK POPULATION	DATE
		OCT-DEC 81	JAN-MAR 82	APR-JUN 82	JUL-SEP 82					
THREATENED SPECIES										
ENDANGERED										
SOUTHERN BALD EAGLE	701 3521	18	20	15	0	53	0	0	5	03/15
TOTAL ENDANGERED		18	20	15	0	53	0	0		
TOTAL THREATENED SPECIES		18	20	15	0	53	0	0		
GRAND TOTAL		18	20	15	0	53	0	0		

ACT HRS BY MONTH

SAND LAKE W.M.D.
6-4572-SDW

ACTIVITY NAME	OCT-81	NOV-81	DEC-81	JAN-82	FEB-82	MAR-82	APR-82	MAY-82	JUN-82	JUL-82	AUG-82	SEP-82	12 MONTH TOTAL
INTERPRETATION													
RECREATION-WILDLIFE CONSUMPTIVE													
HUNTING MIGRATORY BIRDS													
GENERAL WATERFOWL	4950	2850	0	0	0	0	0	0	0	0	0	0	7800
HUNTING MIG BIRDS-OTHER	0	0	0	0	0	0	0	0	0	0	0	500	500
HUNTING RESIDENT GAME													
UPLAND GAME BIRDS	15000	14250	1650	0	0	0	0	0	0	0	0	0	30900
BIG GAME, DEER-GUN													
WHITE-TAILED DEER	0	4500	2400	300	0	0	0	0	0	0	0	0	7200
BIG GAME, DEER-BOW													
WHITE-TAILED DEER	3375	3600	3800	0	0	0	0	0	0	0	0	0	10775
SMALL GAME	550	450	300	0	0	0	0	0	0	0	0	0	1300
TRAPPING	0	6300	750	0	0	0	0	0	0	0	0	0	7050
FISHING													
WARMWATER	3800	2400	6800	3400	1500	1800	6000	8600	8400	2250	1500	2550	49000
RECREATION-WILDLIFE NON-CONSUMPTIVE													
WILDL/WILDLANDS OBSERV													
FOOT	100	75	0	0	0	0	75	35	25	15	0	65	390
LAND VEHICLE	0	0	0	0	0	0	0	0	0	125	85	0	210
PHOTOGRAPHY	50	50	0	0	0	0	100	70	10	35	25	45	385
TOTAL INTERPRETATION	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EDUCATION	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL HUNTING	23875	31950	8900	300	0	0	0	0	0	0	0	500	65525
TOTAL FISHING	3800	2400	6800	3400	1500	1800	6000	8600	8400	2250	1500	2550	49000
TOTAL OTHER CONS WILDL. REC	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL NON-CONSUMPTIVE REC	150	125	0	0	0	0	175	105	35	175	110	110	985
TOTAL NON-WILDLIFE REC	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL PUBLIC USE	27825	34475	15700	3700	1500	1800	6175	8705	8435	2425	1610	3160	115510
TOTAL WILDLIFE ORIENTED	27825	34475	15700	3700	1500	1800	6175	8705	8435	2425	1610	3160	115510
TOTAL NON-WILDLIFE ORIENTED	0	0	0	0	0	0	0	0	0	0	0	0	0
NO. VISITS TO REFUGE	9425	11575	4900	950	375	600	1625	2305	2135	925	610	1210	36635

VISITS BY MONTH

SAND LAKE W.M.D.
6-4572-SDW

ACTIVITY NAME	OCT-81	NOV-81	DEC-81	JAN-82	FEB-82	MAR-82	APR-82	MAY-82	JUN-82	JUL-82	AUG-82	SEP-82	12 MONTH TOTAL
INTERPRETATION													
RECREATION-WILDLIFE CONSUMPTIVE													
HUNTING MIGRATORY BIRDS													
GENERAL WATERFOWL	1650	950	0	0	0	0	0	0	0	0	0	0	2600
HUNTING MIG BIRDS-OTHER	0	0	0	0	0	0	0	0	0	0	0	250	250
HUNTING RESIDENT GAME													
UPLAND GAME BIRDS	5000	4750	550	0	0	0	0	0	0	0	0	0	10300
BIG GAME, DEER-GUN													
WHITE-TAILED DEER	0	1500	800	100	0	0	0	0	0	0	0	0	2400
BIG GAME, DEER-BOW													
WHITE-TAILED DEER	1125	1200	950	0	0	0	0	0	0	0	0	0	3275
SMALL GAME	550	150	150	0	0	0	0	0	0	0	0	0	850
TRAPPING	0	2100	750	0	0	0	0	0	0	0	0	0	2850
FISHING													
WARMWATER	950	800	1700	850	375	600	1500	2150	2100	750	500	850	13125
RECREATION-WILDLIFE NON-CONSUMP													
WILDL/WILDLANDS OBSERV													
FOOT	100	75	0	0	0	0	75	35	25	15	0	65	390
LAND VEHICLE	0	0	0	0	0	0	0	50	0	125	85	0	260
PHOTOGRAPHY	50	50	0	0	0	0	50	70	10	35	25	45	335
TOTAL INTERPRETATION													
TOTAL EDUCATION	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL HUNTING	8325	10650	3200	100	0	0	0	0	0	0	0	250	22525
TOTAL FISHING	950	800	1700	850	375	600	1500	2150	2100	750	500	850	13125
TOTAL OTHER CONS WILDL. REC	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL NON-CONSUMPTIVE REC	150	125	0	0	0	0	125	155	35	175	110	110	985
TOTAL NON-WILDLIFE REC	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL PUBLIC USE	9425	11575	4900	950	375	600	1625	2305	2135	925	610	1210	36635
TOTAL WILDLIFE ORIENTED	9425	11575	4900	950	375	600	1625	2305	2135	925	610	1210	36635
TOTAL NON-WILDLIFE ORIENTED	0	0	0	0	0	0	0	0	0	0	0	0	0
NO. VISITS TO REFUGE	9425	11575	4900	950	375	600	1625	2305	2135	925	610	1210	36635

AVERAGE MONTHLY WATERFOWL POPULATIONS

SAND LAKE W.M.D.
6-4572-SDW

SPECIES NAME	OCT 81	NOV 81	DEC 81	JAN 82	FEB 82	MAR 82	APR 82	MAY 82	JUN 82	JUL 82	AUG 82	SEP 82
WATERFOWL MAINTENANCE												
SWANS												
WHISTLING SWAN	90	30	0	0	0	0	5	0	0	0	0	0
GEESE												
SNOW GOOSE	900	350	0	0	0	5	4500	0	0	0	0	60
WHITE-FRONTED GOOSE	15	0	0	0	0	2	150	0	0	0	0	2
CANADA GOOSE	400	40	0	0	0	30	1000	60	75	120	190	270
DUCKS												
COMMON MERGANSER	0	2	0	0	0	12	75	2	2	0	0	0
HOODED MERGANSER	2	4	0	0	0	0	1	0	0	0	0	0
MALLARD	4000	1400	0	0	0	800	11500	4800	5600	7500	8250	9800
BLACK DUCK	0	0	0	0	0	0	0	0	0	0	0	20
GADWALL	2500	40	0	0	0	50	2000	7200	5200	6650	7400	8500
AMERICAN WIGEON	900	5	0	0	0	20	1400	250	280	510	650	880
GREEN-WINGED (COMM.) TEAL	750	8	0	0	0	3	480	190	350	580	625	850
BLUE-WINGED (CINN.) TEAL	300	0	0	0	0	0	2000	12300	8700	13100	15600	12000
NORTHERN SHOVELER	2400	30	0	0	0	4	5100	6100	7000	9300	10000	10800
PINTAIL	2000	10	0	0	0	750	12300	4000	4900	6300	6700	7900
WOOD DUCK	1	0	0	0	0	0	1	10	20	45	60	40
REDHEAD	1300	250	0	0	0	10	1800	3000	3300	5000	5600	6200
CANVASBACK	270	50	0	0	0	4	300	200	310	540	580	650
LESSER SCAUP	450	210	0	0	0	25	4000	450	280	430	450	500
RING-NECKED DUCK	30	10	0	0	0	3	500	5	5	12	15	25
COMMON GOLDENEYE	0	3	0	0	0	5	120	0	0	0	0	0
BUFFLEHEAD	4	5	0	0	0	2	90	10	6	10	10	12
RUDDY DUCK	1500	0	0	0	0	0	1250	1200	1300	2700	3450	4200
OTHER MIG. BIRD MAINT.												
MARSH & WATER BIRDS												
AMERICAN COOT	950	10	0	0	0	2	3200	8900	10800	14750	15200	16700
TOTAL SWANS												
	90	30	0	0	0	0	5	0	0	0	0	0
TOTAL GEESE												
	1315	390	0	0	0	37	5650	60	75	120	190	332
TOTAL DUCKS												
	16407	2027	0	0	0	1688	42917	39717	37253	52677	59390	62377
TOTAL WATERFOWL												
	17812	2447	0	0	0	1725	48572	39777	37328	52797	59580	62709

PEAK MONTHLY WATERFOWL POPULATIONS

SAND LAKE W.M.D.
6-4572-SDW

SPECIES NAME	OCT 81	NOV 81	DEC 81	JAN 82	FEB 82	MAR 82	APR 82	MAY 82	JUN 82	JUL 82	AUG 82	SEP 82
WATERFOWL MAINTENANCE												
SWANS												
WHISTLING SWAN	200	200	0	0	0	0	40	0	0	0	0	0
GEESE												
SNOW GOOSE	1500	1200	0	0	0	200	30000	0	0	0	0	400
WHITE-FRONTED GOOSE	100	0	0	0	0	50	600	0	0	0	0	15
CANADA GOOSE	550	210	0	0	0	400	2200	90	100	150	220	350
DUCKS												
COMMON MERGANSER	0	12	0	0	0	250	280	10	2	0	0	0
HOODED MERGANSER	30	20	0	0	0	0	20	0	0	0	0	0
MALLARD	6000	5800	0	0	0	7500	25000	5400	7100	7800	8500	12000
BLACK DUCK	0	0	0	0	0	0	0	0	0	0	0	100
GADWALL	3200	300	0	0	0	1200	10600	13200	6200	7000	7600	9800
AMERICAN WIGEON	1100	80	0	0	0	750	3500	600	400	600	720	1050
GREEN-WINGED (COMM.) TEAL	900	130	0	0	0	75	2300	210	550	600	660	1200
BLUE-WINGED (CINN.) TEAL	700	0	0	0	0	0	19000	19500	11200	14400	16500	18000
NORTHERN SHOVELER	3000	210	0	0	0	200	12400	7700	8500	9800	10200	11500
PINTAIL	2800	150	0	0	0	7000	27000	5200	6000	6500	6800	9000
WOOD DUCK	10	0	0	0	0	0	20	25	35	50	70	80
REDHEAD	1800	1100	0	0	0	400	4000	3500	4500	5400	5800	7000
CANVASBACK	320	220	0	0	0	150	1500	250	500	570	600	750
LESSER SCAUP	1000	800	0	0	0	800	12000	900	400	450	450	600
RING-NECKED DUCK	50	40	0	0	0	100	2000	15	10	15	15	40
COMMON GOLDENEYE	0	18	0	0	0	100	450	0	0	0	0	0
BUFFLEHEAD	40	25	0	0	0	50	350	30	10	10	10	15
RUDDY DUCK	2000	0	0	0	0	0	3000	2500	2250	3100	3600	5000
OTHER MIG. BIRD MAINT.												
MARSH & WATER BIRDS												
AMERICAN COOT	2500	50	0	0	0	30	11500	10200	14500	15000	15500	18500
TOTAL SWANS												
	200	200	0	0	0	0	40	0	0	0	0	0
TOTAL GEESE												
	2150	1410	0	0	0	650	32800	90	100	150	220	765
TOTAL DUCKS												
	22950	8905	0	0	0	18575	123420	59040	47657	56295	61525	76135
TOTAL WATERFOWL												
	25300	10515	0	0	0	19225	156260	59130	47757	56445	61745	76900

WATERFOWL USE DAYS

SAND LAKE W.M.D.

6-4572-SDW

SPECIES NAME	OCT 1981- DEC 1981	JAN 1982- MAR 1982	APR 1982- JUN 1982	JUL 1982- SEP 1982	12 MONTH TOTAL
WATERFOWL MAINTENANCE					
SWANS					
WHISTLING SWAN	3,600	0	150	0	3,750
GEESE					
SNOW GOOSE	37,500	150	135,000	1,800	174,450
WHITE-FRONTED GOOSE	450	60	4,500	60	5,070
CANADA GOOSE	13,200	900	34,050	17,400	65,550
DUCKS					
COMMON MERGANSER	60	360	2,370	0	2,790
HOODED MERGANSER	180	0	30	0	210
MALLARD	162,000	24,000	657,000	766,500	1,609,500
BLACK DUCK	0	0	0	600	600
GADWALL	76,200	1,500	432,000	676,500	1,186,200
AMERICAN WIGEON	27,150	600	57,900	61,200	146,850
GREEN-WINGED (COMM.) TEAL	22,740	90	30,600	61,650	115,080
BLUE-WINGED (CINN.) TEAL	9,000	0	690,000	1,221,000	1,920,000
NORTHERN SHOVELER	72,900	120	546,000	903,000	1,522,020
PINTAIL	60,300	22,500	636,000	627,000	1,345,800
WOOD DUCK	30	0	930	4,350	5,310
REDHEAD	46,500	300	243,000	504,000	793,800
CANVASBACK	9,600	120	24,300	53,100	87,120
LESSER SCAUP	19,800	750	141,900	41,400	203,850
RING-NECKED DUCK	1,200	90	15,300	1,560	18,150
COMMON GOLDENEYE	90	150	3,600	0	3,840
BUFFLEHEAD	270	60	3,180	960	4,470
RUDDY DUCK	45,000	0	112,500	310,500	468,000
OTHER MIG. BIRD MAINT.					
MARSH & WATER BIRDS					
AMERICAN COOT	28,800	60	687,000	1,399,500	2,115,360
TOTAL-SWANS	3,600	0	150	0	3,750
TOTAL-GEESE	51,150	1,110	173,550	19,260	245,070
TOTAL DUCKS	553,020	50,640	3,596,610	5,233,320	9,433,590
TOTAL WATERFOWL AND COOTS	636,570	51,810	4,457,310	6,652,080	11,797,770

SAND LAKE W.M.D.
6-4572-SDW

LAND CLASSIFICATION	ACREAGE
I. DETAILED CLASSIFICATIONS	
WETLAND TYPES	
INLAND FRESH AREAS	
SEASONLY FLOOD BASIN/FLAT	49,295
SHALLOW FRESH MARSHES	54,022
DEEP FRESH MARSHES	50,587
UPLAND TYPES	
CROPLANDS	
NONIRRIGATED - HOT FOODS	219
GRASSLANDS	
NATIVE GRASSLANDS	7,115
NATIVE GRASSLANDS-RESTORD	500
GRASSLANDS INTRODUCED	1,900
DENSE NESTING COVER	2,300
FORESTLANDS	
NON-COMMERCIAL FORESTS	120
OTHER LAND TYPES	
BRUSH	132
ADMINISTRATIVE LANDS	
BLDGS.,RDS.,PARKING LOTS,	38
TOTAL ACRES	166,228
II. SUMMARY CLASSIFICATIONS	
INLAND FRESH AREAS	153,904
WETLAND TYPES	153,904
CROPLANDS	219
GRASSLANDS	11,815
FORESTLANDS	120
OTHER LAND TYPES	132
ADMINISTRATIVE LANDS	38
UPLAND TYPES	12,324

HUNT COST AND ACRE UTILIZATION REPORT

FY-82

ORGANIZATION	HUNT TYPE	WEAPONS PERMITTED	NO. HUNTS	HUNTER BAG	COST OF HUNTS	COST PER BAGGED ANIMAL	HUNTER HOURS	COST PER HUNTER HOUR	HUNTABLE HABITAT (ACRES)	D/C FLAG	OPEN TO ACRES	TO HUNTERS PERCENT
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06-3545-72-SDW

HUNTER EXPERIENCE REPORT

FY-82

SAND LAKE W.M.D.
06-3545-72-SDW

HUNT TYPE	WEAPONS PERMITTED	NO. HUNTS	AVERAGE SEASON LENGTH (DAYS)	NUMBER OF HUNTERS	---VISITS---		-----HUNTER BAG-----			-----HUNTER HOURS-----				
					NUMBER	PER DAY	GAME IN HUNT	NUMBER IN BAG	PER DAY	PER VISIT	NUMBER	PER VISIT	PER BAGGED ANIMAL	
1,0,0	0,0,0,1,0	1		640	3,275				610					
	HUNT/WPN AV	1		640	3,275							10,775	3.3	6.6
1,0,0	3,2,1,0,0	1		852	2,300				610					
	HUNT/WPN AV	1		852	2,300							6,900	3.0	6.6
4,0,0	0,0,3,0,0	1		3,600	10,300				610					
	HUNT/WPN AV	1		3,600	10,300							30,900	3.0	6.6
6,0,0	0,0,4,0,0	1		1,575	2,600				610					
	HUNT/WPN AV	1		1,575	2,600							7,800	3.0	6.6
	ORGANIZATION AV	4		6,667	18,475							56,375	3.1	77.2

1982 Revenue - Sharing

County	"1 st check (FWS Receipts)" ≈ 43%	"2 nd check (Cong. Appropriation)"	Total ≈ 90.6%
BROWN	14032	15724	29756
CAMPBELL	1036	1160	2196
EDMUNDS	1552	1739	3291
FAULK	773	866	1639
MCPHERSON	4783	5360	10143
POTTER	309	346	655
SPINK	1021	1145	2166
SULLY	85	96	181
WALWORTH	<u>178</u>	<u>199</u>	<u>377</u>
	23769	26635	50404