

LOSTWOOD NATIONAL WILDLIFE REFUGE
and LOSTWOOD WETLAND MGMT. DISTRICT
Kenmare, North Dakota
ANNUAL NARRATIVE REPORTS
Calendar Year 1976

IN	DATE OUT	REFUGE NAME	MANAGER'S NAME	COMMENTS
	2/25/77	Rosewood	Forrest W. Cameron	Thank God for Calendar Year Narratives (again) Excellent job Forest
3/5	3/11/77	Crosby WMD	Blad Z. Fidler	
3-10	3-23-77	Hoopline WMD FT W. Beaver	David J. Walker	
3-25	3/24/77	Valentine Complex	Bob Ellis	
4/4	4/6/77	Crescent Lake	Rox Perry	
4/8	4/12/77	Lacrust	Hugh H. Bunge	
4/14	4/26	Lake Andes	Gay R. Zahnd	Good photo documentation
4/28	6/4/79	WETLAND MGT. DIST. MADISON, S. DAK. 57047 SAND LAKE NWR COLUMBIA, S. D. 57433	Alan A. Albert	This draws in w/ some of our old NRS. Sorry!
6/6	6/11/79		Sam Waldtem	only a 2 yr. delay!
6/12/79	6/13/79	Waubay NWR	Robert R. Johnson	
6-16-79		Tewaukon NWR	B E Hafley	
6-20-79	6-20-79	Valley City WMD	Royal A. Jones	
6/25/79		Devil Lake WMD		
6/29		Arrowwood NWR	John Foster	This one is sure slow getting around
7-6	7-11	Kulm WMD	Tuck Stone	Good Job How is it going Forest at Rudy's belt??
	7-16	Peter T. Smith	Peter T. Smith	
7/17/79	8/25/79	Audubon	Ken Shupe	
7/26	8/10	E. Clark Salyer Refuge	Jon Malcolm	this is history
8/13/79	8	Upper Souris	Maurice B. Knight	
8-17-79	8-20-79	Per Lee	John Unzeitig	

LOSTWOOD NATIONAL WILDLIFE REFUGE
Kenmare, North Dakota

ANNUAL NARRATIVE REPORT
Calendar Year 1976

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



Vaage

Cameron

Stewart

Personnel

- | | | |
|--|------|----------------------------------|
| 1. Charles S. Peck, Project Leader | GS12 | PFT |
| 2. Forrest W. Cameron, Refuge Manager | GS9 | PFT |
| 3. John F. Stewart, Maintenance Worker | WG8 | PFT (WAE)
3-28-76 to 12-31-76 |
| 4. Lowell H. Vaage, Maintenance Worker | WG8 | PFT (WAE)
3-28-76 to 12-31-76 |

Review and Approvals

<u>Charles S. Peck</u>	<u>02/28/77</u>	Area Office	Date
Submitted by	Date		
<u>Forrest W. Cameron</u>		Regional Office	Date
Refuge			
<u>John F. Stewart</u>		Complex Office	
Complex Office			

TABLE OF CONTENTS

	Page
I. <u>GENERAL</u>	
A. Introduction.	1
B. Climatic and Habitat Conditions	1
C. Land Acquisition.	3
D. System Status	4
II. <u>CONSTRUCTION AND MAINTENANCE</u>	
A. Construction.	6
B. Maintenance	9
C. Wildfire.	9
III. <u>HABITAT MANAGEMENT</u>	
A. Croplands	10
B. Grasslands.	10
C. Wetlands.	14
D. Forestlands	14
E. Other Habitat	14
F. Wilderness and Special Areas.	15
G. Easements for Waterfowl Management.	15
IV. <u>WILDLIFE</u>	
A. Endangered and Threatened Species	15
B. Migratory Birds	15
C. Mammals and Non-Migratory Birds and Others.	21
V. <u>INTERPRETATION AND RECREATION</u>	
A. Information and Interpretation.	23
B. Recreation.	23
C. Enforcement	24
VI. <u>OTHER ITEMS</u>	
A. Field Investigations.	25
B. Cooperative Programs.	25
C. Items of Interest	25
D. Safety.	25

I. GENERAL

A. Introduction

Lostwood National Wildlife Refuge, established in 1935, is in Burke and Mountrail Counties approximately 16 miles west of Kenmare in northwestern North Dakota. It contains 26,747 acres which consist of rolling prairie interspersed with lakes, potholes and sloughs. The refuge is in the region known as the "Coteau du Missouri", meaning hills of the Missouri. The numerous wetland complexes on and adjacent to the refuge lend themselves to accomplishing the primary objective which is waterfowl production.

As of July 1, 1973, Lostwood NWR and WMD were placed under the administration of the Des Lacs National Wildlife Refuge at Kenmare. Lostwood continues to be a staffed refuge with a resident manager and maintenance personnel stationed there.

B. Climatic and Habitat Conditions

	<u>Precipitation</u>			<u>Temperature</u>	
	<u>Month</u>	<u>Normal</u>	<u>Snow</u>	<u>Max.</u>	<u>Min.</u>
Jan. '76	.25	.47	3.0	39	-27
Feb.	.25	.43	5.0	41	-22
Mar.	.61	.76	9.5	51	-24
Apr.	2.36	1.23	.5	75	20
May	.92	2.20		78	22
June	2.40	3.50		85	38
July	1.38	2.05		90	41
Aug.	1.33	1.67		97	36
Sept.	.30	1.30		98	23
Oct.	.02	.81	T	82	7
Nov.	.08	.51	1.5	58	-10
Dec.	.15	.44	4.0	40	-29

TOTAL: 10.05 15.37 23.50
Average annual snowfall: 30.5 inches

By studying the above table and linking the data with weather records contained in the fiscal year 1975, and last half of calendar year 1975 Narrative Reports, I am certain any reader can satisfy all his desires for utter confusion. It is important to unboggle those figures because weather conditions of the past 2½ years have had a tremendous impact upon refuge habitat and its management.

The summer months of 1974 were very wet, preventing most type III potholes from drying. Precipitation diminished through the winter months and stayed below normal until March 1975. From March through June, rainfall came in double its normal amounts

on soil already saturated from rains of the previous fall. That, coupled with melting of snow accumulation caused water levels of marshes and lakes to raise and flood some roads and cropland near the refuge. Summer rains in normal amounts allowed very little drying of potholes. Many marshes in Burke and Mountrail Counties customarily cut for slough hay were too wet to hay.

Heavy snow accumulations and normal rainfall through April 1976 caused severe flooding of croplands, roads and highways. Highway 8 a mile south of the refuge entrance was raised two feet. County road 16 adjoining the north boundary of the Lostwood Wilderness Area was under 40 inches of water and had to be raised about six feet immediately west of the Martin Erickson farm. Such situations prompted local observers to say, for the second straight year, the June water levels were higher than they had ever seen before.

The tower road was under 30 inches of water in one place 2 miles west of the observation tower. The road just north of Goose Pen Slough was inundated by water backing up from Thompson Lake. The isthmus and old road usually separating Thompson Lake and Upper Thompson Lake became flooded in April. Runoff from the Goose Pen Slough area and especially from the Iverson Lake-Iverson Slough complex continued to raise the elevation of Thompson Lake until mid-summer. The isthmus between Thompson and Upper Thompson Lake was flooded by a minimum of six feet of water. The water level reached the bottom of the culvert in the Highway 8 road grade in front of the John Stewart farm. Overall soggy conditions left most refuge roads crying for attention by mid-summer.



After record water levels in the spring of 1976, dry weather and warm, strong winds had topsoil blowing by July, 1976. July, '76 F.W. Cameron

Below normal precipitation occurred every month from May until the end of 1976. Pothole basins that averaged 97% full during the quarter section breeding pair counts of early June 1976 finally showed signs of drying in August. Most of the shallower Type III's were dry by the belated final freeze-up date of November 10.

Past narratives from Lostwood have reflected the concern that Whitetop (Fluminea festucaeae) is choking many wetlands. With high water levels the past three summers and after the extreme drawdown in the summer and fall of 1976, it was noted that many wetland basins had no vegetation rooted anywhere except on the extreme perimeter of the basin. Extreme water depths have reopened many wetlands. *Isn't Mother Nature wonderful.*
TLE

Aspen groves that nearly surround some basins and encroach even farther during dry years were dealt a stunning blow by rising water levels. This is not the case, however, with the more resilient willow species (Salix spp).

C. Land Acquisition

1. Fee Title

The exterior boundary of Lostwood Refuge has gone unchanged for several years now. The interior portions of the refuge began to be of concern in August 1975 when we were informed that Mr. Sanford Edwards had been paying taxes on 5.20 acres of land in Lot 3 Sec. 13 T159N R92W. This lot joins the north shore of Elbow Lake, one mile inside the west boundary of the refuge. Edwards purchased the parcel from Burke County who claimed the title for nonpayment of taxes. Martin Quam homesteaded lots 1,2,4,5 and 6 in Sec. 13. These lots were acquired for Lostwood Refuge in 1935. On contacting the Bureau of Land Management in Billings, Montana, they found no record of lot 3 being homesteaded. Yet Burke County foreclosed on Quam for nonpayment of taxes of 1937, and in 1945 Edwards bought the lot from Burke County for \$10.00. He has paid taxes on it every year since, and at our meeting with him he was sure he had clear title. This must be resolved soon.

The 1975 waterfowl season brought up a problem of ownership along the old Highway 8 right-of-way east of Thompson Lake. Goose hunters lay along the road ditch just outside the refuge boundary fence waiting for the morning flight of geese to fly off the lake. The refuge is closed to hunting as is the private land on the east side of the right-of-way. The ownership of the abandoned right-of-way was questionable. Prior to the 1976 waterfowl season Manager Cameron and Appraiser Raymond Brasch traced ownership of the land involved. A summary is in the Lands file at Lostwood NWR. The results allowed legal posting of the right-of-way with full cooperation from adjacent land owners and hunting along this fence line was not allowed in 1976.

2. Easements

Nothing to report.

3. Other

Nothing to report.

D. System Status

As of July 1, 1973, the administration of the Lostwood NWR and the Lostwood WMD were combined with the Des Lacs NWR and Lake Ilo NWR. Refuge objectives were combined and a single AWP and Program Schedule was prepared. On July 1, 1975, the Crosby WMD was added to the Des Lacs Complex. Crosby objectives and funding were consolidated with those of the rest of the Complex and a single AWP and RPS was prepared. Because of this, the system status of an individual unit will not be discussed independent of the rest of the Complex.

1. Objectives

Combining or integrating the objectives of the stations that had originally set objectives independently of each other raised some substantial problems. The "areas of influence" and the "service areas" of the individual stations overlap. We believe that the attempt to determine demand for Public Use opportunities was one of the weakest points in the objective setting, and still is. Combining objectives of the adjacent stations inflated some objectives from the unrealistic level to the unbelievable. We have revised many of these objectives downward, but due to our continued lack of ability to measure demand, we still lack confidence in them.

At the NFIO level, little development work is possible. Most funds and manpower available at this level must be expended to maintain existing facilities. The highest priority is the maintenance and preservation of facilities and programs related to Wildlife Production and Wildlife Maintenance outputs. Non-Wildlife Recreation is above the objective level, particularly at the Des Lacs and Lake Ilo NWR's; however, since most such activities take place under Cooperative Agreements with local park boards, costs to the refuge are minimal, and we are not taking active steps to eliminate them.

In general, under the "Complex" organizational concept, money and manpower expenditures are made at the stations where Production Efficiency is highest, i.e. waterfowl production habitat development on Lostwood NWR and WMD and Crosby WMD, Interpretation on Des Lacs and Lake Ilo NWR's, etc. All possible administrative activities are handled at the Des Lacs Headquarters, thus allowing field station personnel more

time for operational management.

Specific advices for the complex in 1976 were as follows;
 (1) Develop the Des Lacs Complex for maximum flexibility of manpower, funds and equipment.

(2) Complete the new Grassland Management Plan for implementation at Des Lacs and Lostwood Refuges in 1976.

(3) Perform rehabilitation on the warehouse-shop building.

Advice (1) is a continuing activity. Other advices were accomplished in 1976.

2. Funding

Presented below is a summary of funding showing money and manpower available to the individual stations in the year immediately preceding the formation of the Complex and in the first year after.

<u>Station</u>	<u>Funds</u>	<u>FY 73</u> <u>Manpower</u>	(does not include summer Aides & Work Study Employees)
Des Lacs NWR	\$58,500	1 PFT	
Lake Ilo NWR	24,800	1 PFT	
Lostwood NWR	34,300	1 PFT, 1 PPT, 1 WAE, 1 Intermittent	
Lostwood WMD	10,300		
Total:	127,900	6 PFT, 1 PPT, 1 WAE, 1 Intermittent	

	<u>FY 74</u>
Complex (Des Lacs, Ilo, Lostwood NWR & WMD)	121,100 5 PFT, 2 WAE

	<u>FY 75</u>
Complex (Des Lacs, Ilo, Lostwood NWR & WMD)	128,000 5 PFT, 2 WAE

Crosby WMD	47,000	2 PFT, 1 PPT, 1 WAE
Total:	175,000	7 PFT, 1 PPT, 3 WAE

	<u>FY 76</u>
Complex (Des Lacs, Ilo, Lostwood NWR & WMD, Crosby WMD)	201,250 7 PFT, 1 PPT, 3 WAE
	(Includes \$8,500 Job Ordered Rehab.)

	<u>As of Oct. 1, 1976</u>
Complex	217,000 6 PFT, 1 PPT, 3 WAE
	(Includes \$33,000 Job-ordered Rehab.)

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Four 8 foot cattle guards were built and installed on concrete bases in August and September of 1976. All are located in grazing unit G-6 south of Highway 50. With the reorganization of grazing pastures, two fences south of Highway 50 were no longer usable. This 0.86 miles of fence was removed in May, 1976. All wire and posts were salvaged for reuse.

The spring of 1976 brought a second year of record runoff and Iverson dike, rebuilt in October, 1975, began eroding again. Last fall's freeze-up had not allowed time for immediate rip-rapping of the dike. Placement of about 400 cubic yards of riprap was completed in early June 1976. All dike construction was done force account using the refuge TD-24, motor grader, and dump trucks. Riprap was purchased from a neighbor at 10¢ per yard and loaded with a D-4 Traxcavator from the Des Lacs NWR.



Iverson Dike was raised three feet and widened in October 1975. With the absence of riprap, high water again in April 1976 began eroding the dike's north slope.
May 1976

F.W. Cameron



Riprapping Iverson Dike included widening the north slope with large gravel. . .
June 1976 F.W. Cameron

Isn't there a lowland dog at large and refuge?

RS.

*Not me
D*



and then adding boulders, especially around the two culverts. June 1976 F.W. Cameron

High water levels forced rebuilding and replacement of culverts in two other locations in 1976. A 12 inch culvert in a crossing just north of Goose Pen Slough was replaced by a 24 inch x 24 foot culvert. The crossing was also raised three feet and widened. Rock Lake north of Highway 50 has been a perpetual problem. Three small 12 inch to 16 inch culverts are cemented into the narrow crossing. Large volumes of water must pass through the Rock Lake crossing each spring. Beaver from a nearby lodge continually plug the small culverts and the crossing washes out from water flowing over it. A 24 inch x 24 foot steel culvert was placed here in October 1976 and the crossing was widened. It is hoped the one large culvert will be easier to keep unplugged during the spring runoff.



The Rock Lake crossing was widened using the TD-24 and the motor grader.
October 1976

F.W. Casson



There he is again!!
 do what
 RFP

A single 24 inch culvert replaced the three small culverts so easily plugged by beaver from the dam shown in the background. Oct. '76 F.W. Cameron

B. Maintenance

Lostwood grazing permittees were told in 1975 that in addition to their customary maintenance of interior fencing in their grazing units, they would henceforth maintain all boundary fence in their units. Permittees were told that grazing fees would be adjusted to reflect their additional responsibilities, and the Refuge will continue to supply materials. The only fence repair done for account since July 1975 was installation of additional gates east of Elbow Lake and boundary fence repairs in a high water area at the junction of Highways #8 and #50. Two cattle guards were removed from the Lostwood Wilderness Area and one was removed from the Tower Road two miles from the west boundary. All were salvaged for future use in new grazing units.

C. Wildlife

Lostwood Refuge entered into a cooperative fire fighting agreement with Powers Lake Rural Fire Department on April 15, 1963. The annual charge is now \$100 per year. The Rural Fire Department

agrees to furnish at its own expense equipment and labor for suppression of fires on refuge lands in Burke and Mountzail County. Lostwood Refuge agrees to provide equipment and labor as available for suppression of fire on adjacent private lands in member townships of the Fire Department when requested. The refuge also responds to calls on lands surrounding the refuge and not covered by this agreement as deemed practical by the refuge manager. The refuge fire truck is a Reo 6x6 ideally suited to grassland fires. It is slow, but if we can get to any fire in time to be of any help we respond. Since July 1, 1975, refuge personnel helped suppress 4 fires:

<u>Date</u>	<u>Location</u>	<u>Type of fire</u>	<u>Employees Responding</u>
April '76	Marlin Bryant farm	Shed & farmyard	Cameron
July 30 '76	James Eckert farm	Round hay bale	Cameron & Barnes
Aug 30 '76	Dale Larson farm	Garbage pit & wheat field	Stewart & Vaage
Nov 4 '76	C. Gleave & C. Jepsen farms	Pastureland, arson	Cameron, Stewart, Vaage

The pasture land arson 2 miles north of the refuge was not an isolated instance. It was one of 13 fires started in one night. Lack of any wind kept the grassland fires from becoming serious, but one of the fires completely destroyed a large barn east of Bowbells. Fire trucks from Powers Lake, Flaxton,ignite, Bowbells, Kenmare and Lostwood Refuge responded to the call. Some trucks were recalled on three consecutive days as the smoldering ashes flared up again. Large water tank trucks from Matador Trucking, usually used in local oil drilling operations, were used for pumping slough water and refilling the fire trucks. At the time of these fires the entire state was enduring drought conditions so severe that the few hunting seasons that were allowed to open had to close at noon each day because of the fire hazard. The prime suspect, a young Kenmare resident, was questioned and released because of insufficient evidence. He denied knowledge of the fires and was not caught with the lighted match in his hand. Local landowners took the fires very seriously, and gave the impression that it may be unhealthy to be driving section line roads late at night with so much as a cigarette lighter in your car.

III. HABITAT MANAGEMENT

A. Croplands

No croplands have existed on Lostwood Refuge since 1972.

B. Grasslands

1. Haying

No haying was permitted on the Refuge during this period.

2. Grazing

The maps on the next two pages contrast grazing units prior to 1976 with those established for 1976.

Five photo points were established in the summer of 1976 for monitoring effects of the grazing systems on nesting habitat. Pictures are to be taken on May 1 and Sept. 1 annually to show any changes.

why not use some exclosures

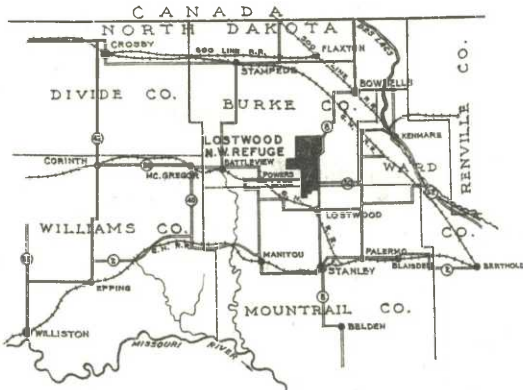


Looks like its already had an effect - no cover. P.W.

Pictures taken at a 30 foot distance from a cover board at five different locations will be used to document the effects of Lostwood's new grazing system. Sept. '76. F.W. Camron

The following table shows acres grazed, AUM's utilized and fees charged for the past 5 year's grazing on Lostwood Refuge.

Year	Ac. Grazed	Ac. in System	AUM's	Fee	Revenue
1976	7,175	11,097	3234.82	2.80	\$ 9,057.49
1975	14,445	14,445	2744.23	2.60	7,134.96
1974	16,944	16,944	2702.01	4.75	12,830.46
1973	16,944	16,944	2953.00	3.85	11,370.78
1972	16,944	16,944	2909.28	3.15	9,280.68



LOCATION MAP
SCALE
0 5 10 20 30 MILES
FIFTH PRINCIPAL MERIDIAN

PROGRESS STATUS

- PROJECTS PROPOSED
- " UNDER CONSTRUCTION
- " COMPLETED

LEGEND

- REFUGE BOUNDARY ———
- FENCE LINES - - - - -
- PRIMARY ROADS ———
- SECONDARY ROADS - - - - -
- TRAILS - - - - -

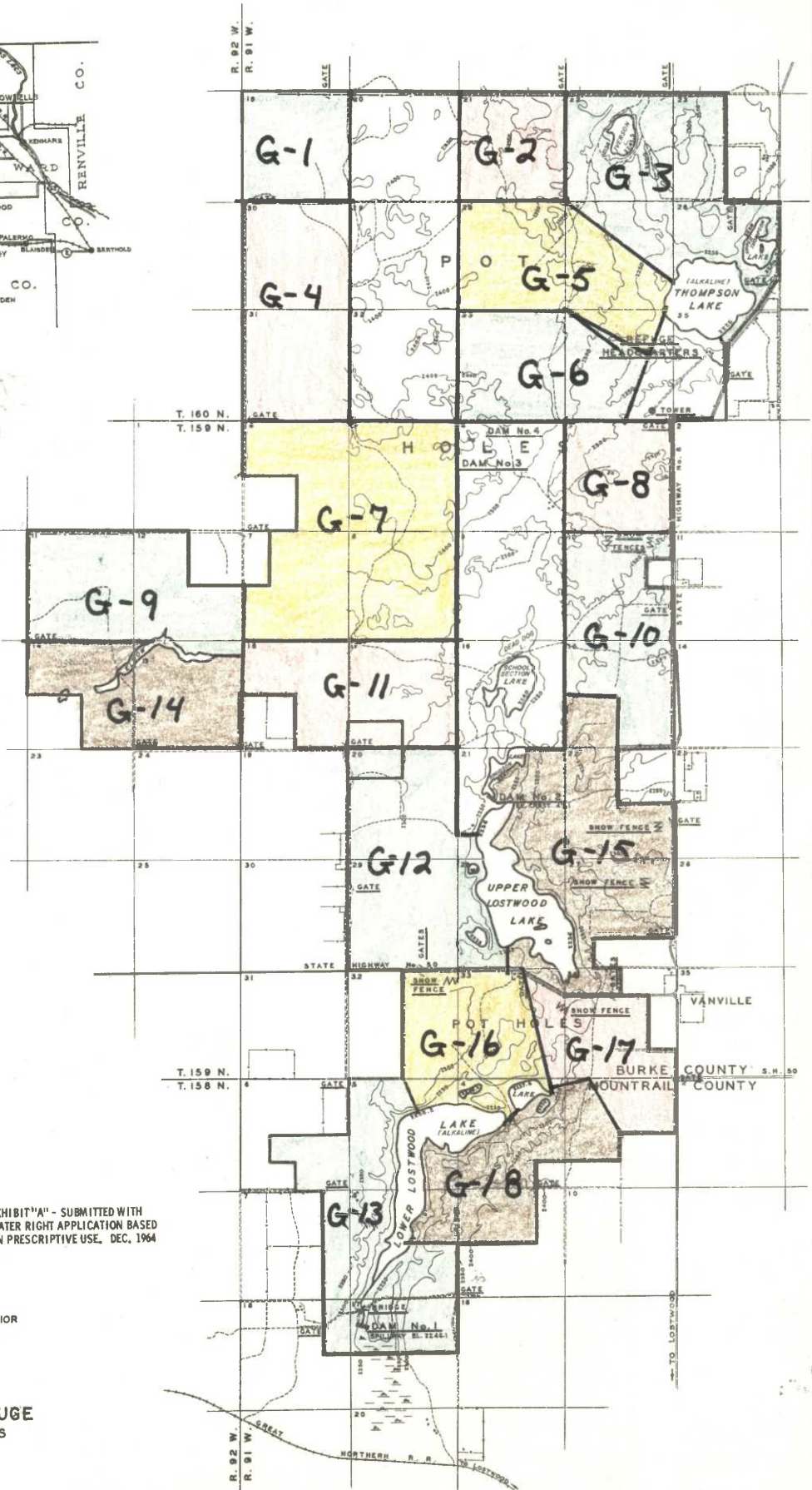
CONTOUR INTERVAL 50 FT.
DATUM IS MEAN SEA LEVEL



EXHIBIT "A" - SUBMITTED WITH
WATER RIGHT APPLICATION BASED
ON PRESCRIPTIVE USE, DEC. 1964

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
GENERAL MAP
LOSTWOOD
NATIONAL WILDLIFE REFUGE
BURKE & MOUNTRAIL COUNTIES
NORTH DAKOTA

SCALE
0 5 10 20 30 MILES
WASHINGTON, D. C., DECEMBER 1936
REVISED JANUARY, 1937



3. Herbicides

A spring application of Ureabor was used for vegetative control in the "boneyard" and the equipment parking area. Banvel and 2-4D was applied to 65 scattered spots totalling about 40 acres of leafy spurge June 9-17. In 1976, for the first time a fall application was used on all known areas of leafy spurge. The spraying was done September 17 to 23. The growth form of spurge at this time was tall and vigorous even in places sprayed in June. The plants are harder to spot because their color is not as distinctly in contrast with surrounding vegetation as it is in the spring. By the fall spraying dates many plants had gone to seed. A fall spraying date at least a week earlier would probably produce a better kill.

Despite annual spraying the number of infestations of leafy spurge continues to increase gradually each year, especially in the area of Iversen Lake.

C. Wetlands

No active management of wetland habitat was done this period. The natural fall drying of wetland basins allowed cattle to graze the lush marsh vegetation. Cattle in fall pastures grazed all such vegetation to within a few inches of the ground.

Water level manipulation was done only in conjunction with repairs of road grades. Culverts were placed at levels thought to be optimum high water marks for the affected wetland basins.

D. Forestlands

Increased activity by beaver has severely set back many aspen stands that surround several potholes on Lostwood Refuge. Often every aspen tree near the pothole is cut to provide materials for the beaver den. At Elbow Lake all large cottonwood trees had been girdled and were dying by the spring of 1976. Only one tree on the north shore produced leaves this year even though it was completely girdled. The leaves were formed only from the sap existing in the xylem. Beaver populations will be discussed in Section IV. C.

E. Other Habitat

Upland brush species such as silverberry (Elaeagnus argentea) and backbrush (Symphoricarpos occidentalis) have spread vigorously into the native grasslands of Lostwood Refuge in recent years. Winter feeding habits of the expanding porcupine population may hold the key to stopping the spread of silverberry. The refuge's estimated 175 porcupine were observed to be feeding heavily on the bark of silverberry. In examining thick silverberry stands up to 50 feet in diameter, it was often difficult to find a plant that had not been completely girdled by a

We had poor kills with 240 on 65, but good success with Tordon + Banvel RLP-Crescent Lake

by a hungry porcupine. The phenomenon was evident throughout the Lostwood Refuge by early spring.

F. Wilderness Area

No management plan has been formulated for the Lostwood Wilderness Area. No grazing has been allowed on the 5577 acres since 1974. Wilderness guidelines condemning permanent fencing makes vegetative manipulation through grazing impractical, since the grazing could not be controlled so as to maintain native cover.

Nine miles of fence with steel posts and three strands of barbed wire plus two miles of old fence with wood posts and barbed wire has yet to be removed from the wilderness area. The fate of six miles of bladed trail has yet to be decided. The wilderness area management plan must also deal frankly with methods for control of noxious weeds and methods of fire prevention and suppression.

G. Basements for Waterfowl Management

Nothing to Report.

IV. WILDLIFE

A. Endangered or Threatened Species

Whooping cranes fly over or near Lostwood on their spring and fall migrations.

B. Migratory Birds

1. Waterfowl

a. Ducks

Duck production for 1974 was compiled from the data of quarter section counts done in the Crosby WMD for those years. Comparability of the Crosby WMD with the Lostwood area was questionable. Consequently, beginning in 1976, a count of breeding pairs on 18 quarter sections (a 10.17% sample) was used as the basis for calculating production figures and most monthly duck and coot populations for Lostwood NWR, Shell Lake NWR and Lostwood WMD. The counts were completed during the last week of May and the first week of June with the help of personnel from Des Lacs NWR. In addition to the primary objective of the breeding pair counts this more intensive census method gives excellent reliability on percentage of occurrence by species of ducks. The resulting figures are also a solid base from which to project accurate spring waterfowl population figures.

Possibly because of extreme drought conditions in South Dakota and eastern North Dakota and excellent water conditions here, the area around Lostwood Refuge had a very good production year. Estimated production for Lostwood Refuge was 24,160 ducks and 2,460 coots. A table comparing duck production in recent years will not be presented since in the past four years, three different methods have been used to determine annual duck production. I have no doubt that the 1976 figure has the greatest reliability if for no other reason than the method involved the most man days of field work.

*Species composition
I would like to see the formula used for this
HAB*

B. Geese

Canada goose production estimates for Lostwood are based on observations of known nesting sites and by checking nests for hatching success. Records of brood sightings prior to the time of moult are also kept and these figures give a nearly direct count of broods hatched on Lostwood. Goose production for recent years is shown below.

Goose Production

	<u>Lostwood NWR</u>	<u>Adjacent Private Land</u>
1976	110	100 (25 broods)
1975	130	80 (22 broods)
1974	100	unknown
1973	100	unknown

Goose production was down slightly on Lostwood Refuge. I attribute this to high water levels that flooded many previously used nest sites which forced nesting in less desirable locations. Nest predation was noted in 3 of 16 nests checked. In all these cases the islands chosen by the geese were separated from land by very shallow water allowing easy predator access.

Geese pioneering from the Lostwood flock to adjacent private land accounted for an estimated production of 100 birds from the following areas: Lee Edwards farm, west of the refuge, 3 broods (15 young); Charles Gleave farm, 4 broods (15 young); John Gleave farm, 5 broods (22 young); Les Mariner farm, 3 broods; Julius Staal farm, 3 broods (15 young); Jack Lucy's area, 6 broods, Lowell Vaage farm, 1 brood.

An aerial census of goose nests would be beneficial on parts of Lostwood Refuge, especially in the Wilderness Area. It should be done in the first half of May and the census route for the winter aerial deer census should be used. This method was used in 1975 and followed by a post-hatching ground check. Once a nesting site is spotted and recorded, it should be ground checked each year for nesting activity. One problem with scheduling spring flights here is that the month of May keeps local

pilots busy with crop spraying, and very windy days are the only times the pilots are available.

Thirty eight large round straw bales were hauled out and placed on frozen sloughs in January 1975. Twenty one of these bales were functional as nesting structures in the spring of 1975 and 6 were used by geese. The 18 non-functional bales were either flooded or broke apart. In the 1976 nesting season only 10 of the original 38 bales were still usable and 3 of them were used. Fifty four round straw bales were placed on sloughs in December, 1975 and January 1976, and 48 were usable for the 1976 nesting season. Two were used by geese. Ducks successfully nested on 16 of the bales. The bales were banded with 3/4 inch strap steel after they were placed on the ice in hopes the bales would not break up and become non-functional as rapidly as those bales set out in January, 1975. The bales did hold their shape very well. With a total of 58 functional nesting bales available for the 1976 nesting season and only 5 used by geese, I conclude that high water levels made many bales unattractive as goose nesting sites this year. *What was percentage successful nest. TLF*

Over the past three years different methods were used to haul the bales into place on the sloughs. At first all bales were hauled using two stake trucks. Travel was difficult in snow and more shovelling was done than I care to remember. The second year with heavy snow cover, two 4 wheel drive pickups were used and the tractor with end loader was used to break through deeper drifts. This worked well and even with time taken to open roads, two men placed 12 to 16 bales per day.



During the 1975-76 winter, 4 wheel drive pickups were used to haul large round straw bales out onto ice for use as goose nesting structures.
January 1976 P.W. Cameron



The IHC 2606 tractor with end loader helped make trails passable and removed heavy snow accumulations along marsh edges. Jan. '76 F.W. Cameron



Bales were stood on end on the ice often near other delapidated nesting structures.
January 1976 F. W. Cameron

The 14 large round hay bales put out in December, 1976 were all banded with steel strap before they were loaded and hauled from the field. With little snow cover, three 4 wheel drive pickups were adequate for hauling bales out into place and use of the loader tractor was not necessary.

On December 30, 1976, snow cover still presented no obstacle to travel on the refuge, so hauling straw bales to fill platform type nesting structures was begun. Though normal ice thickness was 24 inches by that date, we managed to find one portion of Hook lake with considerably less ice cover.



Light snow cover and 24 inches of ice on the last work day of 1976 should have made an easy task of filling goose nesting structures. Shallow ice over a beaver run gave us more work than we wanted on a day with temperatures of 22° below.
 December 1976 F.W. Cameron



The winch from the refuge fire truck was rapidly summoned for the retrieval before the pickup got iced in for the winter. Maintenancemen Yeage and Stewart ponder the problem.
December 1976 F.W. Cameron

Leave the
Pickup Box
P. GOOSE NESTING
STRUCTURE.

Under ice activity by a family of beaver from a nearby dam kept ice only three to four inches thick over one of their primary runways. The weak ice was impossible to detect visually but a loaded pickup had no trouble finding it.

c. Banding

On July 14 and 16, 1976, with the additional help and equipment from Mike Johnson, North Dakota Game and Fish Department, Des Lacs Complex personnel banded 17 geese on Thompson Lake. One alibi for the poor catch could be the high water levels which made placement of nets for the drive trap difficult. The most desirable trap site could not be used. But probably the most poignant problem was that the nets were not tall enough. Birds thought to be flightless kept flying over the trap. An earlier banding date will be set for 1977.

2. Marsh and Water Birds

Only two species are worthy of mention here. Populations of black-crowned night heron and great blue heron have increased

notably in 1975 and 1976 in the vicinity of Lostwood Refuge. The estimated peak was in August 1976 when 50 night herons and 30 great blue herons were using the refuge daily. Two years of record high water levels and the resulting abundance of leopard frogs, garter snakes and tiger salamanders are given the credit for the increase.

3. Shorebirds, Gulls, Terns and Allied Species

Populations of gulls and most shorebirds have dropped in recent years. The reason may be inundation of prime feeding areas and in the case of the Franklin and ring-billed gulls, complete flooding of their customary nesting areas.

4. Raptors

Two adult bald eagles were commonly viewed hunting over the refuge between October 31 and November 20. A golden eagle remained on or near the refuge for three weeks in mid November.

5. Other Migratory Birds

Nothing to report.

C. Mammals and Non-Migratory Birds and Others

The deer population declined slightly from 1975 to 1976. The March, 1975 aerial census showed 239 deer counted and the population was judged to be 250 during the winter months. In January 1976 the population was estimated at 250 to 300 animals. During February and March the heavy snow accumulation exerted tremendous stress on the herd. Deep snow with a thick crust made young deer more susceptible to predation. Many deer moved out of the cover of the refuge and into stubble fields and farm yards. Complaints were heard from many landowners who disliked sacrificing their haystacks to herds of 30 to 100 deer. Five fawn carcasses were found within a mile of headquarters in late February and early March. All were evidently killed in the deep snow by coyotes. By the March 12, 1976 aerial deer census only 40 deer could be found on the refuge.

The rigors of winter adversely affected the 1976 fawn crop. Does with twin fawns were not commonly seen. In contrast, the 1975 fawn crop was very good with twin fawns being the rule rather than the exception.

Eleven fox and ten coyotes were counted on Lostwood Refuge during the March aerial deer census. I believe this to be a reliable count. No trapping of these or any other furbearers was done on the refuge this year. Neighboring ranchers occasionally lost sheep to coyotes. An agreement was made with the

local district field assistant that during his pursuit of an offending animal, usually with aircraft, he may follow the animal a reasonable distance inside the refuge boundary if necessary to take the animal.

The population of beaver continues its increase. There are nine areas on the refuge where dens are known to be active.

2. Other Mammals

The March aerial deer census yielded an amazing head count of 127 porcupines. Flying at 150 to 200 feet, the observers would often see three and four porcupines at one time. Tracks were seen in the new snow many times when no porcupine was spotted because of the dense brush. This was especially true in the deeper coulees sloping into Lower Lostwood Lake. The refuge population was estimated at 175 porcupines. Keep eating that brush!

3. Resident Birds

No counts were made of sharptail grouse dancing grounds in 1976. 187 grouse were recorded on the aerial deer census, but the results from this count can in no way be considered an accurate population estimate. A figure of 800 birds was used for the August peak. During the fall hunting season a flock of up to 100 grouse flew west from the refuge daily to feed in nearby wheat stubble. While the grouse population showed an increase in 1976, the Hungarian partridge population on the refuge appeared to decline.

Pheasants are still struggling against the odds to establish themselves here. Two cocks and a hen range within a mile of headquarters. Cock pheasants were heard crowing near the River farm adjacent to the south edge of the refuge in October 1975. Additional birds were seen recently near Art Lindberg's farm, and a half dozen pheasants remained near the west end of tower road for the last three months of 1976. A total of 25 birds may reside on Lostwood Refuge.

4. Other Animal Life

In 1975 wood ticks were active into the first week of August and in 1976 they finally became scarce during the third week of July. Wet springs caused the longer than usual duration and the bumper crops of the crawly oritters. The same was true for garter snakes, leopard frogs and tiger salamanders. After a heavy summer dew or light rain as many as 50 salamanders might be found along a typical mile of local highway.

V. INTERPRETATION AND RECREATION

A. Interpretation and Information

1. On-Refuge

An off-shoot of the 1975 Society for Range Management tour of Lostwood Refuge was the filming of some refuge grassland areas in July 1976. The footage is to be included in a film on grassland management sponsored by the Society for Range Management.

The summer of 1976 was an active time for birders. Thirty nine more-than-novice birders representing 12 states and Australia visited the refuge. Many of these people were accompanied by Dr. and Mrs. R. T. Gemmill of Kamare.

2. Off-Refuge

Wildlife and conservation-oriented films, information and literature was provided to schools in Bowbells and Powers Lake during "Wildlife Week", March 14 to 20, 1976.

B. Recreation

1. Wildlife Oriented

a. Deer Hunt

The 1976 refuge deer hunt was changed to a permit system with 200 hunters being issued permits. Information gathered from hunters to the time of this writing showed that only three fourths of the hunters with refuge permits actually hunted on the refuge. Success was about 25% on the refuge with 35 to 40 deer harvested. Average visit was 5.35 hours. Several hunters that did not hunt on the refuge had hunted elsewhere in the unit and filled their tags. Many hunters disliked the permit system because they said there weren't enough hunters on the refuge to keep the deer moving around. Others said we should run a deer hauling service as was the practice a few years ago.

The intent of the permit deer season was to accomplish three things:

- (1) Reduce hunter density to a safer level.
- (2) Spread hunter use more evenly throughout the season.
- (3) Increase the quality of the hunt.

The first objective was accomplished and strides were made in the right direction on the second objective. On the third objective, "quality" is a nebulous term. My interpretation of it is at odds with some of the local hunters. During the 1975 season, deer

were observed on a continuous run. Once they were jumped, every attempt they made to flee from a group of hunters resulted in running into another group of hunters. The hunter who worked to jump the deer was seldom the one that got to use his tag on it. There must be a more direct relationship between hunter and prey, and the prey must be allowed a reasonable opportunity of escape or there is no "hunt".

poor shots?

Deer hunting applicants are made aware of the refuge's present deer hunting policy and there are no plans to change it.

b. Sharptail Grouse and Hungarian Partridge Hunt

That portion of Lostwood Refuge south of Highway 50 is open for the entire grouse and partridge season in accordance with state laws. The remainder of the refuge opens the day after deer season closes. As usual, opening day success was good and the veterans of the first volley make succeeding visits less profitable. During 430 hours of hunting from 135 hunter visits, 50 sharp-tails and about four partridge were bagged.

2. Non-Wildlife Oriented

Nothing to Report.

c. Enforcement

During the opening of the 1975 and 1976 waterfowl seasons Rolland Krieger from the Des Lacs Refuge helped patrol lands adjacent to Lostwood Refuge and protect the sanctity of the refuge boundaries.

With the advent of the permit deer season in 1976 an increased patrol effort was made mostly to provide more information and answer more questions from hunters. Ronald Stromstad from the Crosby WMD was a valuable aid to the Lostwood Refuge staff in the busy first two days of the hunt. A result of the intensive patrol during this initial permit deer season should be a better understanding of the permit regulations and fewer problems in next year's hunt. The following list summarizes apprehensions made this year.

<u>Violation</u>	<u>F.O.C.</u>	<u>Disposition</u>	<u>Agent</u>
	<u>Date</u>		
Taking waterfowl on closed refuge	10/2/76	\$100.00	Cameron
Taking waterfowl on closed refuge	10/2/76	100.00	Krieger
Hunting w/o valid permit	11/12/76	50.00	Cameron
Possession of firearms on refuge	11/12/76	25.00	Stromstad
Possession of firearms on refuge	11/13/76	25.00	Cameron
Possession of firearms on refuge	11/13/76	25.00	Cameron
Possess deer illegally	11/13/76	Issue deer, warning (juvenile)	Cameron

VI. OTHER ITEMS

A. Field Investigations

A plant collection of about 150 species occurring on Lostwood and Des Lacs Refuges was made in 1976 by summer student Sandra Barnes.

B. Cooperative Programs

Nothing to report.

C. Items of Interest

Maintenanceman Lowell H. Vaage was presented a 10 year service pin in August 1976.

Sections IA and ID were written by Chuck Peck. The remainder of this report was written by Forrest Cameron. Editing was done by Rollie Krieger and typing by Molly Hansen, both of the Des Lacs Refuge Complex staff.

Excellent job by all.

D.H. 085

TLF

D. Safety

A major reason for having a permit deer season on Lostwood Refuge in 1976 was to reduce the hunter density to a safer level in an area where high powered rifles rather than shotguns are used. This was no consolation for one deer hunter who died of a gunshot wound when his own gun went off during the 1976 permit season. A poorly built, homemade sling and a faulty safety on the 1903-A3 Springfield .30-06 rifle pictured on the following page can be credited for the results.

Hunting accident in Lostwood Refuge

Killed in the accidental shooting near Bowbells was Sgt. Ronald Shrier, who was from Lansford and had been assigned to duty at the nearby air base.

Burke County authorities said Shrier was hunting Saturday with another base military man.

A.I.C. Kenneth Gross when the death occurred. The pair were seeking deer at Lostwood Refuge near Bowbells.

Investigators said that when

the two spotted a deer Shrier, in attempting to get his gun into firing position, broke the sling on his rifle and the weapon hit the ground butt first and discharged. The bullet hit the sergeant in the back. He was dead on arrival at a Stanley hospital.

Shrier was a son of Mr. and Mrs. Ronald Shrier Sr. of Lansford. He is survived by his parents and his wife, according to base information.

He had been assigned to the 5th Field Maintenance Squadron at the base.

Burke County Tribune
November 17, 1976



Overview of borrowed gun used by Ron Shrier in his last deer hunt. Sling was nylon strap wired to the weapon's forearm and lashed together with twine.
November 1976 C.S. Peck



Closeup view of the safety on the above Springfield rifle Model 1903-A3 showing the obstruction caused by the scope lens. Safety tang must be turned clockwise to the 3 o'clock position to be fully safe. Low mounting of the scope with no modification of the safety tang allowed tang to be raised only to near 11 o'clock position. Note the wire through the forearm used to hold the sling's front end in place. November '76. C.S. Peck

One motor vehicle accident occurred during the period and that was on the last working day of the year, December 30, 1976. No injuries were sustained by the driver, Lowell Vaage. See Wildlife Section IV B for details.

No lost time accidents occurred during the period.

Regular monthly safety meetings are held in conjunction with Des Lacs Refuge.

Vaage, Stewart and Cameron attended the 8 hour National Safety Council Defensive Driving Course held at Kenmare in June.

LOSTWOOD NATIONAL WILDLIFE REFUGE
Kenmare, North Dakota

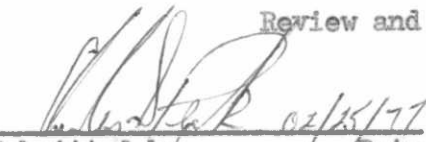

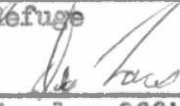
NARRATIVE REPORT
July 1 - December 31, 1975

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

Personnel

1. Charles S. Peck, Project Leader GS12 PFT
2. Forrest W. Cameron, Refuge Manager GS9 PFT
3. John F. Stewart, Maintenance Worker WG8 PFT (WAE)
4. Lowell H. Vaage, Maintenance Worker WG8 PFT (WAE)

Review and Approvals


 Submitted by _____ Date 02/25/77 _____ Area Office _____ Date _____

 Refuge _____ Regional Office _____ Date _____

 Complex Office _____

I. GENERAL

Heavy snows of October through December and the wet snows already experienced in the spring of 1975 left northwest North Dakota with record annual snowfall. A billowing 79.2 inches was recorded at Lostwood for 1975.

Month	Precip.	Normal	Snow	Temperature	
				Max.	Min.
July	1.68	2.051		99	47
Aug.	2.36	1.67		89	40
Sept.	5.26	1.30		82	29
Oct.	2.50	.81	20.0		
Nov.	1.66	.51	17.5	70	-11
Dec.	.72	.44	9.0	45	-25
	14.18	6.78	46.5	99	-25

II. CONSTRUCTION AND MAINTENANCE

Construction of 9.04 miles of interior fence was done force account beginning in July 1975. The fencing was necessary for the implementation of the new grazing program discussed later. All fences were three strand barbed wire with steel line parts

and wood corners. Wood line posts were used in wet places and in crossing shallow wetlands. By 1976 it was evident that use of wood posts in wet areas was a mistake since steel posts even if they must be longer, will not heave out as readily during the spring thaw and subsequent high water levels.

Prior to 1975 most interior fencing at Lostwood was done on section lines. We chose not to in most cases this year for two reasons. (1) The four-pasture rest rotation and the two-pasture alternate year use system both require pastures with units of about the same acreage for the same AUM stocking rate. Fencing on section lines would not allow this in most cases. (2) A series of high water levels since 1969 has shown the undesireably high maintenance effort involved in repairing fences built on north-south or east-west section lines which pass through tree groves and wetland basins. Consequently fences were planned so as to avoid such obstacles. Fences were built around all but the shallowest type III wetlands. All fence construction was completed by October, 1975.

In the spring of 1975 water from Iverson Lake flowed through Iverson dike via one 18 inch culvert and into Iverson slough. The culvert was inadequate for the record flood level of 1975 and severe dike erosion was the result. In October 1975 a second 18 inch culvert was installed and both were lengthened to 36 feet. Iverson dike was then widened to an 18 foot surface and raised three feet. Work was done by Jerry Felch from Des Lacs Refuge with the Lostwood TD-24.

III. HABITAT MANAGEMENT

Preparation for a drastic change in grazing provisions began as early as 1973 at Lostwood. The goal was to allow grazing only when and where it could be of benefit to wildlife production and management activities. A target date for the 1976 grazing season was set and current grazing permittees were notified of the ensuing changes. A grassland evaluation team consisting of Range Ecologist Hugh Cosby, Biologist Ralph Town, and refuge managers presented alternative grazing methods. Four public meetings were held in North Dakota in the spring of 1974 and 315 people attended and furnished comments. Most ranchers in the area accepted a rest-rotation grazing system and preferred a lottery permittee selection system. Grazing units were revised to three 4-pasture rest-rotation units and three 2-pasture alternate year use units. Ranchers operating within 10 miles of the refuge boundary were eligible to apply for permits. In September 1975 a lottery drawing was held for each of the six grazing units. Permits are for a set number of AUM's, for specific times in each pasture, and for the 1976 through 1980 grazing seasons.

In 1975, 2,744.23 AUM's were grazed on 14,445 acres. The fee

charged was \$2.60 per AUM resulting in \$7,134.96 in revenue.

IV. WILDLIFE

With the help of personnel from Crosby WMD, Des Lacs NWR and Upper Souris NWR, 35 resident giant Canada geese were banded at Thompson Lake on July 11, 1975.

V. INTERPRETATION AND RECREATION

Lostwood hosted a day long Society for Range Management tour during the chapter's annual meeting October 3, 1975. The tour was led by Range Ecologist Hugh Cosby. In addition to his presentation, the new Lostwood grazing program was explained and grassland management methods as they concern waterfowl nesting habitat were discussed.

The following list summarizes apprehensions made during this period.

<u>Violation</u>	<u>Date of F.O.C.</u>	<u>Disposition</u>	<u>Agent</u>
Overlimit of geese	10/7/75	\$35.00	Krieger & Cooper
Hunting in closed area	11/15/75	\$25.00	Krieger & Cooper Cameron
Hunting in closed area	11/15/75	\$25.00	Krieger & Cooper Cameron

During the 1975 deer season Lostwood Refuge was open to all people drawn for the proper state unit permit. The result was that the refuge had 751 hunter visits for 4506 activity hours in a 9½ day season, and 65 white tailed deer were killed on the 26,747 acre refuge. 82% of the hunter visits occurred in the first 2½ days. Opening day saw a hunter density of one hunter per 95 acres. Discounting large lakes and the closed area around headquarters the figure approached a hunter for each 80 acres.

LOSTWOOD WETLAND MANAGEMENT DISTRICT
and SHELL LAKE NATIONAL WILDLIFE REFUGE

LOSTWOOD WETLAND MANAGEMENT DISTRICT
Kenmare, North Dakota

ANNUAL NARRATIVE REPORT
Calendar Year 1976

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

Personnel

- | | | | |
|--|------|-----------|---------------------|
| 1. Charles S. Peck, Project Leader | GS12 | PFT | |
| 2. Forrest W. Cameron, Wetland Manager | GS9 | PFT | |
| 3. John F. Stewart, Maintenance Worker | WG8 | PFT (WAE) | 3-28-76 to 12-31-76 |
| 4. Lowell H. Vaage, Maintenance Worker | WG8 | PFT (WAE) | 3-28-76 to 12-31-76 |

Review and Approvals

<u><i>Forrest W. Cameron</i></u>	<u><i>03/25/77</i></u>	Area Office	Date
Submitted by	Date		
<u><i>Forrest W. Cameron</i></u>		Regional Office	Date
Refuge			
<u><i>Loell H. Vaage</i></u>		Complex Office	
Complex Office			

TABLE OF CONTENTS

	Page
<u>I. GENERAL</u>	
A. Introduction.	1
B. Climatic and Habitat Conditions	1
C. Land Acquisition.	2
D. System Status	4
<u>II. CONSTRUCTION AND MAINTENANCE</u>	
A. Construction.	5
B. Maintenance	5
C. Wildfire.	6
<u>III. HABITAT MANAGEMENT</u>	
A. Croplands	6
B. Grasslands.	6
C. Wetlands.	7
D. Forestlands	7
E. Other Habitat	7
F. Wilderness and Special Areas.	7
G. Easements for Waterfowl Management.	7
<u>IV. WILDLIFE</u>	
A. Endangered and Threatened Species	8
B. Migratory Birds	8
C. Mammals and Non-Migratory Birds and Others.	10
<u>V. INTERPRETATION AND RECREATION</u>	
A. Information and Interpretation.	11
B. Recreation.	11
C. Enforcement	11
<u>VI. OTHER ITEMS</u>	
A. Field Investigations.	11
B. Cooperative Programs.	11
C. Items of Interest	11
D. Safety.	12

I. GENERAL

A. Introduction

The Lostwood Wetland Management District encompasses all of Mountrail County and the nine northernmost townships in the gooseneck of Ward County. It contains 38 Waterfowl Production Areas totaling 6049.49 acres of fee title land in Mountrail County and 4 WPA's totaling 631.22 acres of fee title land in Ward County. The Service also inherited ownership of 8 unpatented U.S. tracts from the Bureau of Land Management.

Situated in the prairie pothole region of northwestern North Dakota, these fee areas are a balanced mixture of upland and Type I, III, IV and V Wetlands providing the land base for excellent nesting habitat. The average WPA in the district is 39% wetland habitat.

Easements for Waterfowl Management Rights are bought from local landowners and prohibit them from burning, filling or draining any natural or recurring wetland. These perpetual easement contracts now cover about 26,066 wetland acres in Mountrail County and about 4,500 wetland acres in the Ward County gooseneck.

The first acquisition in the district was the Ralph Kjallberg WPA (tract 10) in December, 1962. The first easement was tract 10x also purchased from Ralph Kjallberg in December of 1962.

Much of the district lies in an area of terminal glacial moraine called the Coteau du Missouri, meaning hills of the Missouri. The thin and rocky soil in this region serves better as pasture land than cropland and most WPA's are managed as native prairie with old cropland being used to support stands of dense nesting cover.

B. Climatic and Habitat Conditions

The weather throughout the district was similar to that reported for the Lostwood Refuge. Heavy winter snow accumulations melted to overflow wetland basins that had barely receded from the 1975 floods. The result was the most severe flooding and highest water levels in anybody's memory. Section line and township roads were flooded in places too numerous to count. Road crews labored all summer to raise and repair road grades. One road in the Helland Slough area north of Stanley was raised and repaired for the fourth time in the last five years.

Landowners react differently to such crises. Many farmers who have seen wet and dry cycles before understand that drainage of floodwaters only compounds the severity of a flood. Others think the problem is solved as quickly as the water can be drained off their land.

Ample water and an excellent year for sweet clover prepared nesting cover that supported another bumper crop of waterfowl. Below normal precipitation every month since July 1976 allowed for the natural drying cycle of most Type I and III wetlands by the final freeze-up date around November 15.

C. Land Acquisition

1. Fee Title

The last fee title area acquired in Mountrail County had a purchase agreement date of September 22, 1972 and brought the total in fee to 6,049.49 acres. This was 65.8% of the 9,200 acres set as the original goal for the county. The new land acquisition goal for the extended period of 1977-1983 is 3,150 acres.

Delays in a road project in the White Earth Valley of Mountrail County annoyed the county commissioners and they named the Fish and Wildlife Service the villains. Since then no tracts were approved for purchase by the commissioners. The few that were bought in 1972 were cleared by the governor despite commissioner opposition.

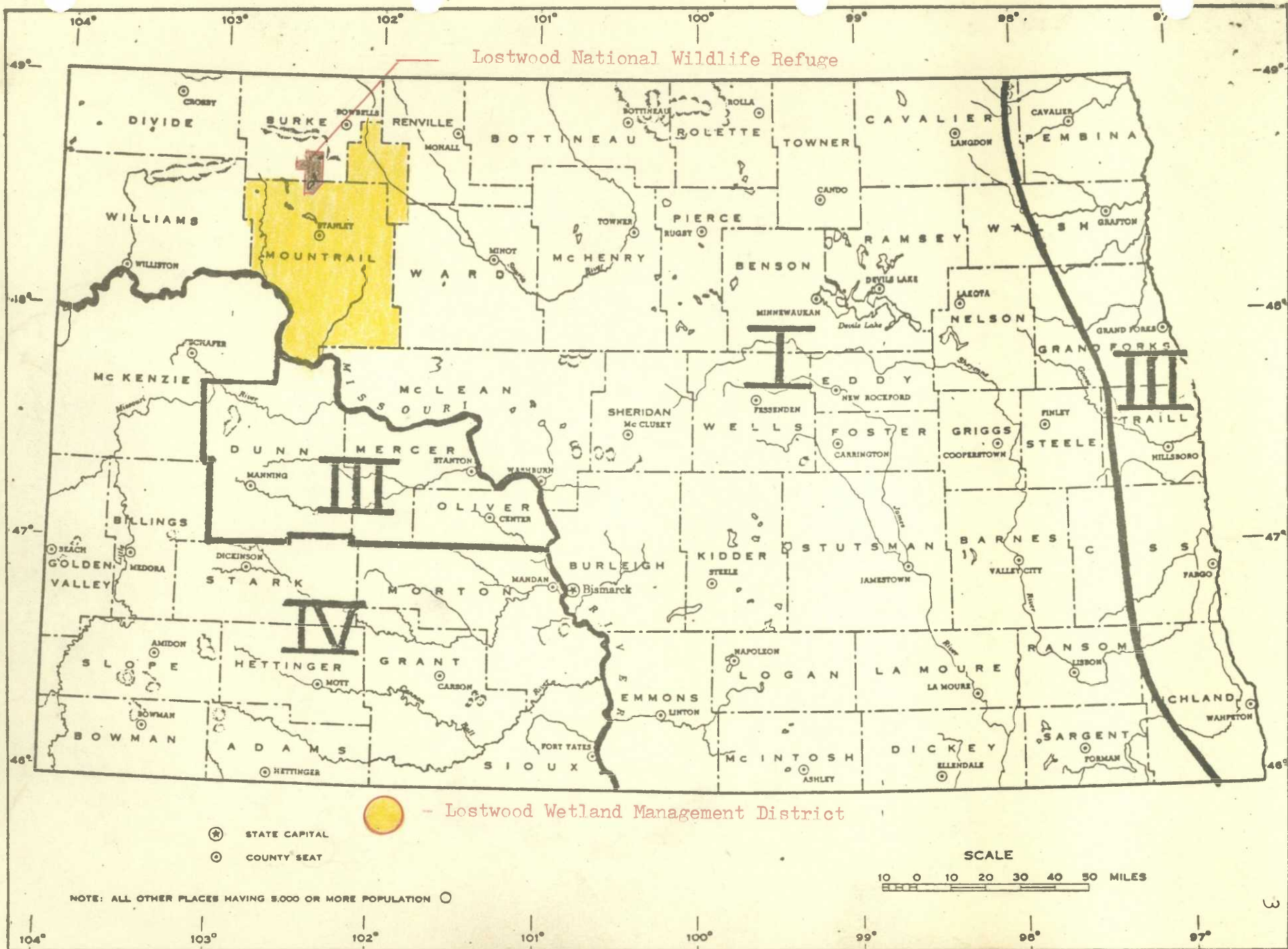
The big stumbling block to acquisition was road rights-of-way. Recent high water levels instilled fears of the county being forced to raise road grades and disturbing more than the statutory 66 foot right-of-way. Commissioners wanted to allow no chance for that extra land to be under FWS ownership because of EIS paperwork and construction delays. Their disapproval of fee tracts was automatic until November 8, 1976. At a meeting on that date they agreed to keep a 150 foot right-of-way, 75 feet on each side of a section line, and approved purchase of the three tracts presented. They felt the 150 feet would provide the latitude needed to simplify all future road projects adjoining the FWS land. We hope this is the beginning of a positive trend in local land acquisition.

Besides the 6049.49 fee acres in Mountrail County, additional U.S. tracts and four WPA's in the Ward County gooseneck are also administered by the Lostwood District. A map of the regions of acquisition priority is attached to show the Lostwood WMD.


2. Easements

Mountrail County had 26,066 wetland acres under easement as of the end of 1976. An additional 10,000 wetland acres is the goal for 1977-1983.

The revised 1976 payment schedule for easement contracts and the encroachment of floodwater into croplands has made the Easement for Waterfowl Management Rights an attractive alternative for financial return on less productive land.

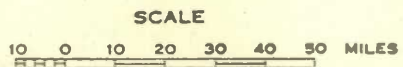


Lostwood National Wildlife Refuge

 - Lostwood Wetland Management District

-  STATE CAPITAL
-  COUNTY SEAT

NOTE: ALL OTHER PLACES HAVING 5,000 OR MORE POPULATION 



NORTH DAKOTA

D. System Status

As of July 1, 1973, the administration of the Lostwood NWR and the Lostwood WMD were combined with Des Lacs NWR and Lake Ilo NWR. Refuge objectives were combined and a single AWP and Program Schedule was prepared. On July 1, 1975, the Crosby WMD was added to the Des Lacs Complex. Crosby objectives and funding were consolidated with those of the rest of the Complex and a single AWP and RPS was prepared. Because of this, the system status of an individual unit will not be discussed independent of the rest of the Complex.

1. Objectives

Combining or integrating the objectives of the stations that had originally set objectives independently of each other raised some substantial problems. The "areas of influence" and the "service areas" of the individual stations overlap. We believe that the attempt to determine demand for Public Use opportunities was one of the weakest points in the objective setting, and still is. Combining objectives of adjacent stations inflated some objectives from the unrealistic level to the unbelievable. We have revised many of these objectives downward, but due to our continued lack of ability to measure demand, we still lack confidence in them.

At the NFIO level, little development work is possible. Most funds and manpower available at this level must be expended to maintain existing facilities. The highest priority is the maintenance and preservation of facilities and programs related to Wildlife Production and Wildlife Maintenance outputs. Non-Wildlife Recreation is above the objective level, particularly at the Des Lacs and Lake Ilo NWR's; however, since most such activities take place under Cooperative Agreements with local park boards, costs to the refuge are minimal, and we are not taking active steps to eliminate them.

In general, under the "Complex" organizational concept, money and manpower expenditures are made at the stations where Production Efficiency is highest, i.e. waterfowl production habitat development on Lostwood NWR and WMD and Crosby WMD, Interpretation on Des Lacs and Lake Ilo NWR's, etc. All possible administrative activities are handled at the Des Lacs Headquarters, thus allowing field station personnel more time for operational management.

- Specific advices for the complex in 1976 were as follows:
- (1) Develop the Des Lacs Complex for maximum flexibility of manpower, funds and equipment.
 - (2) Complete the new Grassland Management Plan for implementation at Des Lacs and Lostwood Refuges in 1976.
 - (3) Perform rehabilitation on the warehouse-shop building.
- Advice (1) is a continuing activity. Other advices were

accomplished in 1976.

2. Funding

Presented below is a summary of funding showing money and manpower available to the individual stations in the year immediately preceding the formation of the complex and in the first year after.

<u>Station</u>	<u>Funds</u>	<u>FY 73</u> <u>Manpower</u> (does not include summer Aides and Work Study Employees)
Des Lacs NWR	\$58,500	4 PFT
Lake Ilo NWR	24,800	1 PFT
Lostwood NWR	34,300	1 PFT, 1 PPT, 1 WAE, 1 Intermittent
Lostwood WMD	10,300	- - -
Total	127,900	6 PFT, 1 PPT, 1 WAE, 1 Intermittent

		<u>FY 74</u>
Complex (Des Lacs, Ilo, Lostwood	121,100	5 PFT, 2 WAE NWR & WMD)

		<u>FY 75</u>
Complex (Des Lacs, Ilo, Lostwood	128,000	5 PFT, 2 WAE NWR & WMD)

Crosby WMD	47,000	2 PFT, 1 PPT, 1 WAE
Total	175,000	7 PFT, 1 PPT, 3 WAE

		<u>FY 76</u>
Complex (Des Lacs, Ilo, Lostwood NWR & WMD, Crosby WMD)	201,250	7 PFT, 1 PPT, 3 WAE
		(Includes \$8,500 Job Ordered Rehab.)

		<u>As of October 1, 1976</u>
Complex	217,000	6 PFT, 1 PPT, 3 WAE
		(Includes \$33,000 Job Ordered Rehab.)

II. CONSTRUCTION AND MAINTENANCE

A. Construction
Nothing to report.

B. Maintenance

Boundary surveys were completed on the Martinson WPA (tract 376), Cvancara WPA (tract 301,a), Spooner WPA (tract 103 and Walstad WPA (tract 383). All units were posted immediately following completion of the surveys.

RIP (Resource Inventory Planning System) cards were completed for the Vaage WPA (tract 198) and Spooner WPA. Other cards were updated.

- C. Wildfire
Nothing to report.

III. HABITAT MANAGEMENT

- A. Croplands
Nothing to report.

- B. Grasslands

Many requests to hay and graze WPA's were received but permission was denied in all cases.

A suspected case of trespass grazing was investigated beginning in November of 1975. Some of the 114 head of cattle are shown in the photo below.



Looking north from the south end of the H.D. Johnson WPA, this photo shows some of the 114 cattle counted using a water lane. The lane is to be fenced so as not to encompass the entire 160 acre tract. Nov. '75 F.W. Cameron

After meeting with H.D. Johnson, owner of the cattle, it was decided that he had a right to a water lane from his pasture to the west and south of the H.D. Johnson WPA. Fencing materials were supplied to Mr. Johnson on August 11, 1976. He is to build fence to our specification to confine his cattle to the water lane.

Noxious weeds were sprayed with a Banvel and 2-4D mix on five WPA's. Leafy spurge was sprayed in June and September on the Nellie Johnson, J. Cvancara, Lundt and Grinnolds WPA's. Canada and perennial sow thistle were sprayed in June and September on the Graichen WPA. A total of 10 acres was treated for leafy spurge and 20 acres for thistle.

C. Wetlands

No manipulation of wetland habitat was done in 1976.

D. Forestlands

Many cottonwood, aspen and ash trees growing around the perimeter of wetlands have been killed by flooding in recent years. The dead trees provide nesting and roosting sites for a rapidly increasing population of double-crested cormorants and black-crowned night herons.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Nothing to report.

G. Easements for Waterfowl Management

Compliance was gained on all 1975 violations by the field check date of June 11, 1976.

In April, neighbors near easement 55x suggested that the easement be checked for illegal ditches. Nine freshly dug backhoe ditches were draining wetlands, consolidating wetlands and contributing to the flooding of a township road. The ditcher was then hired by the county to use the same backhoe-end loader to load dump trucks. And, yes, the trucks were hauling fill to raise the road that he had flooded. He was given seven days to complete restoration of the wetland. He met the deadline.

The fall 1976 surveillance flights and ground checks showed violations on 11 easements: Seven plow furrows, two scraper ditches and two backhoe ditches. Landowner contacts were not made by the end of the year but the compliance date will be May 30, 1977.



Above is a double plow furrow two feet deep made in 1975 and closed as ordered prior to the 1976 deadline. Plow furrows are not as spectacular as the scraper ditches detected on some easements in 1976, but they still very effectively drain wetlands. Nov.'75 F.W. Cameron

Agreed.- A single plow furrow is just as serious as a scraper ditch if it drains the wetland!! HS. Amen

Burning of sloughs was a minor problem in 1976. In 1974 landowner contacts were made on many burning violations. In 1975 certified letters were sent out to the more serious violators. This year no letters will be sent out for burning violations. Burning seems to be a regional activity. Very little of it is done by Mountrail County easement holders. But in the gooseneck of Ward County it is a common practice influenced, I believe, by the popularity of this custom with their non-easement-holding neighbors.

IV. WILDLIFE

A. Endangered and/or Threatened Species
Nothing to report.

B. Migratory Birds

1. Waterfowl

Excellent water conditions existed in the district throughout the 1976 hatching season. Other portions of the prairie pothole

region east and south of here were suffering drought and poor habitat conditions. The northwestern part of North Dakota was benefited by an influx from these less desirable nesting areas.

Duck production estimates for the district were derived by using the sum of two different methods. For fee areas the habitat conditions, species composition and productivity were assumed to be similar to that of Lostwood NWR during the nesting season. Therefore the quarter section breeding pair count done on Lostwood Refuge was the basis of duck production figures for fee title land in the district. The direct ratio of:

$$\frac{\text{Ducks produced - Lostwood NWR}}{\text{Acres of habitat-Lostwood NWR}} = \frac{\text{Ducks Produced - Lostwood WMD}}{\text{Acres of habitat-Lostwood WMD}}$$

yielded 6280 ducks produced on fee title land in the district.

Production on easement land is based upon the number of wetland acres under easement. During the 1976 breeding season 27,733 wetland acres, Mountrail County, and 4,486 wetland acres, Ward County gooseneck, gave the district 32,219 wetland acres under easement. The Lostwood quarter section breeding pair survey showed that wetland basins were actually 97% wet in this area giving a corrected figure of 32,252 actual wet acres for the district. The questionable standard constant of 0.5 ducks produced per wet easement acre is applied giving 15,626 ducks produced on easement land in 1976.

Production - fee title	6,280
Production on easement	<u>15,626</u>
Total WMD Production	21,900

Production by species is about 44% blue winged teal, 19% mallard, 16% gadwall, 6% widgeon, 5% lesser scaup and 10% others.

Coot production at 3515 birds remains low compared to past years perhaps due to spring flooding of emergent vegetation resulting in fewer attractive nesting sites.

Canada geese from the Lostwood Refuge flock have pioneered extensively into the district. Production estimates are a result of observation of known nesting areas and reports from area landowners. Waterfowl Production Areas known to have hatched or reared broods this year are the Kjallberg, Erickstein, Howell and Graichen WPA's. Sixty young Canada geese were produced on these areas.

2. Marsh and Water Birds

Trees being flooded and dying along the edge of the wetlands

have created nesting and roosting habitat for many double-crested cormorants and black-crowned night herons. An abundance of mud puppies, actually the neotenic stage of the tiger salamander, Ambystoma tigrinum, provides ample food for the booming cormorant population.

On April 30, 1976 a call was received from Ralph Kjallberg near Tagus, ND, complaining of night herons around his farm. My subsequent visit left me in amazement. A mature and flooded shelterbelt of willows and ash was playing host to over 1000 night herons within 200 yards of Kjallberg's home. Kjallberg said he had that many in the spring of 1975 also but by fall they had multiplied to near 10,000 birds and left his farmyard white. The stench was horrendous and he and his wife could not sleep due to the deafening din created by the birds. Though they both enjoy wildlife and bird watching, the elderly couple did not think they could endure enjoying another summer of such activity. Shell crackers were used immediately to herd the birds less than two miles to the Rehfeld WPA where they successfully nested.

3. Shorebirds, Gulls, Terns and Allied Species

Nothing to report.

4. Raptors

Bald eagles were seen in November and December using the Halvorson and North Dakota #2 WPA's.

5. Other Migratory Birds

Nothing to report.

C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

Complaints from some farmers were heard in March, 1976 when heavy snow cover forced deer herds into farmyards to eat on haystacks.

2. Other Mammals

Nothing to report.

3. Resident Birds

Nothing to report.

4. Other Animal Life

Nothing to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

Nothing to report.

B. Recreation

1. Wildlife Oriented

All WPA's in the district were open to all hunting and trapping seasons subject to state regulations. The high population of fox, coyote, muskrat and mink and the commensurate inflated fur prices made trapping the most popular activity on WPA's in 1976. Nearly every area had two visits a day from trappers in the height of the season. With areas open to any and all trappers the anticipated hard feelings developed between long-time trappers and those unprincipled individuals who began trapping because the price was right rather than because they enjoyed it. Local prices for unskinned animals ranged around \$50.00 for fox, \$60.00 for coyote, \$3.00 for muskrat, \$35.00 for male mink, \$30.00 for badger, \$25.00 for raccoon and \$2.50 for skunks.

2. Non-Wildlife Oriented

Nothing to report.

C. Enforcement

A patrol of WPA's on the second day of deer season only proved it was easy to be in the right place at the wrong time as far as apprehending violators. Vehicle trespass is the prominent violation as local hunters often prefer to experience their wildlife thrills from the seat of their pickup. No citations were written in the district this year.

We wrote quite a few vehicle trespass citations (F.O.C.) in the Madison Dist. People payed how to hunt! nlp

VI. OTHER ITEMS

A. Field Investigations

Nothing to report.

B. Cooperative Programs

Several days were spent working with the Mountrail County Water Management Board regarding road projects and drainage requests affecting Service lands. I also served in an advisory capacity for Water Bank proposals in Mountrail County through the Soil Conservation Service Office.

C. Items of Interest

This report was written by Forrest W. Cameron with the exception

of I. A and I. D written by Des Lacs Refuge Complex manager Charles S. Peck. Thanks also go to chief editor Rollie Krieger and head typist Molly Hansen.

The staff photo for the district is the same as for Lostwood NWR and can be viewed in that narrative report if you are so inclined.

D. Safety

Monthly safety meetings were held in conjunction with other Des Lacs Refuge Complex personnel.

SHELL LAKE NATIONAL WILDLIFE REFUGE
Kenmare, North Dakota

ANNUAL NARRATIVE REPORT
Calendar Year 1976

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

Review and Approvals

<i>Forrest W. Cameron</i> Submitted by	02/25/77 Date	Area Office	Date
Shell Lake		Regional Office	Date
Mrs. Lars		Complex Office	

Shell Lake is an unmanned refuge managed as a unit of The Des Lacs National Wildlife Refuge Complex with direct responsibility assigned to Forrest W. Cameron, the manager of the Lostwood Refuge and Wetland Management District.

TABLE OF CONTENTS

	Page No.
I. General	1
II. Construction and Maintenance.	1
III. Habitat Maintenance	1
IV. Wildlife.	1
V. Interpretation and Recreation	2

I. GENERAL

The following table and narrative explains the current land status of Shell Lake NWR.

Tract #	Date	Fee Title Acreage	Tract #	Flowage Easement Acreage
10	12/22/58	528.9	2	532.5
12	11/19/58	127.8	3	75.0
18	4/10/61	53.5	5	22.6
			7	40.0
			8	80.0
			10	80.0
			11a	141.9
			13	152.9
TOTALS;		710.2		1124.9

Original flowage easements were taken in 1934 and 1935. At that time the tract numbers were 2,3,5,6,7,8,9,10,11,11a,12 and 13. Tract 5 was originally 120.0 acres and is now 22.6 acres. The remaining 97.4 acres are now included in fee tract 10. Tract 6 (53.5 acres) is now in fee tract 18. Tract 10 (160.0 acres) is now 80.0 acres. The remaining 80.0 acres are now included in fee tract 10. Tracts 11 and 11a combined were 299.2 acres. Tract 11 (157.3 acres) is now included in fee tract 10. Tract 11a (141.9 acres) remains under flowage easement. Tract 12 (127.8 acres) is now a fee tract. Tracts 2,3,7,8 and 13 remain as flowage easements in their entireties.

II. CONSTRUCTION AND MAINTENANCE

No construction or maintenance was done at Shell Lake in 1976.

III. HABITAT MANAGEMENT

All farm fields at Shell Lake were planted to DNC by the fall of 1974 and cooperative farming agreements were terminated. No haying or grazing is allowed on the refuge.

Banvel and 2-4D was applied to two spots of leafy spurge totaling two acres on June 17, 1976. For the first time a fall application of the same spray was used at Shell Lake. Only the larger of the two spots visible in the spring was treated. The other smaller spot had produced no above ground vegetation. Treatment date was September 23 which was one to two weeks later than desired.

IV. WILDLIFE

During an October 28, 1976 easement compliance flight Krieger and Cameron spotted four adult and two juvenile whooping cranes

in flight two miles southwest of Shell Lake Refuge. Their heading was southeasterly.

Waterfowl production figures for Shell Lake result from quarter section breeding pair surveys done on Lostwood Refuge. Estimates for 1976 totaled 1690 ducks and 175 coots produced.

Two thousand snow geese were using Shell Lake water areas during the October 27 aerial inspection of the refuge.

V. INTERPRETATION AND RECREATION

One trapping permit was issued for the 1976 furbearer season. It went to Jim Moen Jr. for trapping land owned by his father and under flowage easement to the Fish and Wildlife Service.

No hunting or fishing of any type is permitted on Shell Lake Refuge.

LOSTWOOD WETLAND MANAGEMENT DISTRICT
Kenmare, North Dakota

NARRATIVE REPORT
July 1 - December 31, 1975

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

for him to build a water lane to the dugout in 1976.

III. HABITAT MANAGEMENT

No farming, grazing or haying was allowed in the District during the period.

Fall easement surveillance flights revealed four draining violations and several burning violations. All drains were by means of a plow furrow.

IV. WILDLIFE

Geese began using WPA's in the district more this year than ever before. Especially noteworthy were the Martinson and Lumley WPA's immediately south of Lostwood Refuge where 200 to 300 snow geese spent considerable time during October 1975. On October 13, 1975, 5000 whitefronts were observed on the Martinson WPA.

Production estimates of 17,145 ducks; 5185 coots and 15 Canada geese made 1975 a good year for waterfowl in the district. Figures are based upon quarter section breeding pair counts done in the Crosby WMD.

V. INTERPRETATION AND RECREATION

All WPA's were open to hunting and trapping in accordance with state seasons and regulations. An increased interest is being exhibited toward trapping in the district. Higher fur prices, more snowmobiles and more 4 wheel drive vehicles are the prime factors behind the heightened activity.

VI. OTHER ITEMS

With the workforce concentrated on fencing Lostwood Refuge, working at Des Lacs Refuge, and cleaning up WPA's in the Crosby WMD, very little time during this period was expended in the Lostwood WMD.

This concise summary of activity in the Lostwood WMD was assembled by Forrest W. Cameron, made literate by Rollie Krieger, Des Lacs Refuge, and made legible by Molly Hansen, Des Lacs Refuge clerk.