

LOSTWOOD

NARRATIVE REPORTS

JANUARY-DECEMBER 1962

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NARRATIVE REPORT ROUTING SLIP

REFUGE LOSTWOOD & EASEMENT REFUGES DIST IVA PERIOD September - December 1962

CHIEF'S OFFICE: Mr. Gillett _____ Mr. Ackerknecht _____
Mr. Fermanich _____ Mr. Goldman _____

WILDLIFE MANAGEMENT: Mr. Banko _____ Mr. Stiles WFS _____

RESOURCE MANAGEMENT: Dr. Morley _____ Mr. Stollberg _____ Mr. Lumb _____

OPERATIONS: Mr. Hickok JMM _____ Mr. Regan _____

PUBLIC USE: Mr. ~~Dalton~~ PAJ _____ Mr. Monson J _____

ADMINISTRATIVE SERVICES: Miss Baum MB _____

NARRATIVE REPORT
SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER, 1962
LOSTWOOD NATIONAL WILDLIFE REFUGE
&
WATERFOWL PRODUCTION AREAS - DISTRICT IVA

Permanent Personnel

Ned I. Peabody	-	Refuge Manager
Donald M. Lee	-	Maintenanceman

Temporary Personnel

Lowell H. Vaage	-	Truck Driver
Darrie E. Lindberg	-	Laborer

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
LOSTWOOD, NORTH DAKOTA

January 20, 1963

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NARRATIVE REPORT
 LOSTWOOD NATIONAL WILDLIFE REFUGE
 LOSTWOOD, NORTH DAKOTA

I. GENERAL

A. Weather Conditions.

	<u>Snowfall</u>	<u>Precipitation</u> <u>This Month</u>	<u>Normal</u>	<u>Max</u> <u>Temp.</u>	<u>Max.</u> <u>Temp.</u>
September	<u>0</u>	<u>.23</u>	<u>1.30</u>	<u>84</u>	<u>24</u>
October	<u>3.1</u>	<u>2.03</u>	<u>.81</u>	<u>75</u>	<u>17</u>
November	<u>1.0</u>	<u>.44</u>	<u>.51</u>	<u>61</u>	<u>11</u>
December	<u>4.1</u>	<u>.38</u>	<u>.44</u>	<u>49</u>	<u>23</u>
Total:	<u>8.2</u>	<u>3.08</u>	<u>3.06</u>	Extremes <u>84</u> 84	<u>23</u>
Annual Total	<u>18.3</u>	<u>20.63</u>	<u>15.37</u>		

Total precipitation for this period approximated the normal of three inches, but the yearly total exceeded the annual average by over five inches. Snowfall has been very light and only a trace of snow remains at the close of the period.

Temperatures were above normal and local residents claim this to be one of the mildest falls in memory. There were only four days in November and 15 days in December when the temperature did not rise above freezing. The first freeze occurred on September 3, the same date as last year.

B. Habitat Conditions.

1. Water.

An estimated 95 percent of the refuge water areas was dry at freeze-up, and only the larger lakes and a few spring-fed sloughs remained

attractive to waterfowl. Thompson, Elbow, and Doc's Lakes are very low and in danger of drying next summer without adequate relief.

All lakes were frozen by November 18, but opened during the following few warm days. Final freeze-up occurred on November 24, three weeks later than last year.

2. Food and Cover.

Food and cover conditions remain excellent due to the dense growth of vegetation last summer. Dependent upon snow depth, ample food and cover exist for deer and upland game bird species. Returning waterfowl and upland game birds should encounter optimum nesting cover this spring.

Daily flights of mallards and Canada geese were observed leaving the refuge to feed in harvested grain fields along the east and north boundaries. Only a few local cases of crop depredation were reported, as most crops were harvested before the arrival of the large flights of mallards.

II. WILDLIFE.

A. Migratory Birds.

1. Waterfowl.

Whistling swan established a new use record this fall, although the peak concentration was slightly less than in 1961. Swan were commonly observed on the Thompson lakes and Upper Lostwood Lake, and remained until the 16th of November. An average of approximately one-third of the flocks was composed of "birds of the year" and two family groups of five young were observed.

Utilization by Canada geese was approximately the same as in the fall of 1961; a substantial decrease from 1960. Canada geese arrived much later than usual, but remained until November 20, commonly resting on the Thompson lakes, Upper Lostwood and School Section Lakes. No white-fronted geese were observed, a drastic decrease from the peak of 95 birds last fall, and only one snow goose was observed.

The following table gives a comparison of the utilization of waterfowl during the fall migration period for the last six years.

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>
Swan						
Use Days	1,000	1,183	952	2,447	2,265	2,800
Peak Pop	60	46	40	103	205	120
Geese						
Use Days	1,150	1,414	1,120	2,891	2,681	1,670
Peak Pop.	150	60	45	115	134	50

Waterfowl Utilization Table (continued)

Ducks	1957	1958	1959	1960	1961	1962
Use Days	895,140	269,736	146,140	708,250	442,875	820,472
Peak Pop	37,100	6,510	3,780	18,060	13,690	19,580
Mallard	25,000	3,200	1,550	7,340	6,530	11,220
Scaup	2,000	2,500	2,340	2,700	10,500	610
Coot						
Use Days	168,000	28,000	16,870	216,230	65,300	90,615
Peak Pop.	5,000	6,510	500	5,600	3,900	3,020

This table reveals that duck use was the greatest since 1957, with a corresponding increase in the peak population of mallards. There was a large influx of most species of dabblers during the first part of September, and the population peak was reached at that time. The number of most species of ducks, including divers, decreased slowly for about four weeks, until another movement into the refuge was observed during the second week of October.

A tremendous increase in both peak population and use days was noted for baldpate, and large numbers of this species continually fed on aquatics in Upper Thompson and Upper Lostwood Lakes. Utilization for most species of divers decreased compared to the fall period of 1960 and 1961, and, as noted in the preceding chart, the number of scaup was greatly reduced.

A new census method, initiated this period, is believed to give a more accurate census of the refuge during drought years. The primary revision in this technique is to keep the census and subsequent projection for lakes and potholes separate. A more definite picture of the total refuge habitat and any differences between waterfowl utilization of similar habitat must be determined, so census techniques may be further refined.

2. Waterbirds, Shorebirds.

The primary migration of sandhill cranes passed through the area during October 18 - 24, but only limited use was made of refuge habitat.

Dowitchers were the most common shorebird and their number reached a peak during the middle of September. Large flocks of 75 - 500 birds could be seen on the larger sloughs that were drying up.

Franklin's gulls reached peak numbers at the end of the preceding period and decreased rapidly from that time. There was a noticeable absence of black and common terns over refuge lakes.

3. Doves.

Mourning doves appeared to reach peak numbers during the latter part of August and were very common in the headquarter's area. No noticeable increase or movement was observed this period, and this species was last seen on October 5.

B. Upland Game Birds.

Sharp-tailed grouse are very numerous on the refuge and large flocks numbering 20 - 30 birds were commonly observed during the deer hunting season. Hungarian partridge are not as abundant and are more commonly found along the refuge boundary. The late hatching date of some upland game birds this summer was evidenced on September 13 by the observation of a brood of 13 young partridge that were not fully feathered and only about two-thirds the size of an adult.

Ring-necked pheasants were observed on several occasions in the vicinity of the headquarters. This was the first observation of this species since September 1, 1961.

C. Big Game Animals.

The pre-season refuge white-tailed deer population was estimated to number 300 animals. It is estimated that 110 deer were removed during the five and one-half day season, leaving a refuge population of 180 - 200 animals. The following chart indicates the sex and age of the 64 deer checked by refuge personnel during the hunting season.

Adult Bucks	20		
Adult Does	18	38 adults
Buck Fawns	14	26 young
Doe Fawns	12		
	<u>64</u>	totals	<u>64</u>

This data reveals a sex ratio of 113 : 100, males : females. The 26 fawn would represent 41 percent of the known kill, suggesting good production. The susceptibility of fawn to gun pressure, hunter preference for bucks, and other factors known to influence the kill must be considered in analysing the above data. All deer appeared to be in good condition with an abundance of fat tissue.

Several mule deer were reported seen on the refuge, both prior to and during the hunting season, but none were found in the bag.

D. Fur Animals, Rodents, Predators, and other Mammals.

Muskrat, mink, and weasel are believed present in very low numbers. No muskrats have been seen on the refuge since the fall of 1961, and permittee trappers reported very little sign of mink and weasel.

Active beaver colonies are known to exist in Dead Dog Slough, Elbow and Iverson Lakes. The lodge constructed in Knudsen Slough last fall was abandoned.

Skunk are quite numerous throughout the refuge, and badger and porcupine are present in moderate numbers. Raccoon remain common but appear to have decreased, evidenced by Bureau and permittee trapping operations: 12 in 1961; and four in 1962.

Red fox are common and one coyote was seen in the vicinity of Upper Thompson Lake.

White-tailed jackrabbits are increasing slowly from a cyclic low in 1961.

E. Hawks, Eagles, Owls, Crows and Magpies.

Marsh hawks were the most common hawk observed during the fall period and were present until November 25. The only other species of hawk commonly observed was the American rough-legged.

Golden eagles were observed regularly from November 5 - 22, but no Bald eagles were sighted. Great Horned and Barred owls are believed common, but sight observations are few.

The migration of crows reached a peak during the middle of October, with flocks numbering 75 - 400 birds utilizing the refuge. The migration of crows was less than observed last fall, and magpies are not as common as in this period of 1961.

F. Other Birds.

Nothing significant to report.

G. Fish.

None

H. Reptiles.

Nothing significant.

I. Disease.

No evidence.

III. REFUGE DEVELOPMENT AND MAINTENANCE.

A. Physical Development.

Soil and Moisture funds were expended in the excavation of 13 stock watering dugouts within eleven refuge grazing units. Two bid invitations were issued for this contract, without response, and a contract was finally negotiated with the F.L. Neshem Construction Company of Berthold, North Dakota. Twenty-two sites had been previously selected, but many sites had to be relocated, tested and staked, due to poor soil conditions encountered.

Specified dimensions of the dugouts were 130'X60'X11' with 4:1 end slopes and 2:1 side slopes. The location, depth, and cubic yards of earth removed, and the cost of the individual dugouts is listed in the following table:

<u>Unit</u>	<u>Location</u>	<u>Water Depth</u>	<u>Cubic Yards</u>	<u>Cost</u>
1.	NW $\frac{1}{4}$, SE $\frac{1}{4}$, Sec. 19, T160N, R91W	11.0	1772.9	443.20
2.	SE $\frac{1}{4}$, SE $\frac{1}{4}$, Sec. 21, " "	11.0	1578.4	394.60
3.	NW $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 23, " "	10.9	1724.3	431.08
4.	NE $\frac{1}{4}$, Sec. 30, " "	11.0	1532.3	383.08
5.	SW $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 28, " "	11.9	1616.4	404.10
6.	SW $\frac{1}{4}$, Sec. 33, " "	12.3	1511.4	377.85
7.	NE $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 8, T159N, R91W	10.3	1466.7	366.68
7.	S $\frac{1}{2}$, NW $\frac{1}{4}$, Sec. 5, " "	11.6	1570.7	392.68
8.	NW $\frac{1}{4}$, NE $\frac{1}{4}$, Sec. 3, " "	11.0	1487.1	371.78
9.	SW $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 11, T159N, R92W	11.5	1476.0	369.00
10.	NW $\frac{1}{4}$, Sec. 10, T159N, R91W	7.0	1091.6	272.90
10.	NW $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 15, " "	11.0	1531.2	382.80
14.	SW $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 13, T159N, R92W	10.4	1507.4	376.85
		<u>Totals</u>	19,866.4	4,966.60

All headquarter's buildings, consisting of four frame and three cinder block buildings, were painted during the first part of this period. All frame buildings required two coats, as did the cinder block residence. (See Plates 1 & 2) All storm windows and most case windows were reputtied, and the loose surface of the residence necessitated the removal of all old paint. The cinder block residence was painted with a styrene butadiene base, self-cleaning, exterior masonry paint, while other cinder block buildings were painted with a water soluble powder paint. Contrary to belief, there appeared to be no great advantage or saving of time by using the s-butadiene base paint, but durability and other factors will be compared for future reference.

Installation of three cattle guards on the heavily traveled Tower Trail will greatly facilitate movement throughout the refuge. (See plates 3 & 4). Additional cattle guards are planned for other widely used trails.

The more important maintenance and development operations accomplished this period are listed below:

1. Interior of residence painted.
2. Kitchen floor of residence retiled.
3. Entrance trails bladed and mowed.
4. New gasoline tank and pump installed.
5. 49 miles of exterior fence checked, repaired, and posted.
6. Shop winterized in preparation for winter work.
7. 35 miles of refuge trails mowed
8. All refuge vehicles serviced, winterized, and minor repairs made.
9. "No Vehicle" signs erected at all exterior gates, and removed following the deer hunting season.

B. Plantings.

None accomplished this period.

C. Collections and Receipts.

None.

D. Control of Vegetation.

None accomplished this period. Report of control operations accomplished this year is included on the following form.

E. Planned Burning.

None.

F. Fires.

The fire danger became critically high after the tall grass growth became ^{dried} ~~dried~~, and relief in snow cover was slow in coming. The barn on the Duane Lindberg farm, located three miles south of refuge headquarters on State Highway # 8, burned on October 5. Strong winds from the southeast carried sparks into the refuge, and refuge personnel and equipment stood by. Fire trucks from three neighboring towns answered the call, but could only stand by to protect the other buildings and the refuge. The barn, 3,000 bales of hay, three calves, and equipment were loss.

IV. RESOURCE MANAGEMENT

A. Grazing.

Approximately 14,743 acres within 13 refuge grazing units were utilized by 1,311 head of livestock for a total of 3,040 Animal Unit Months of grazing.

PEST PLANT CONTROL REPORT

Lostwood Refuge, Calendar Year 1962
 (To be inserted in the September-December Narrative Report.)

Plot No.	Acres	Species Treated	Growth Stage	Date of Treat.	Chem. or Method Used	Dilut. or Carrier	Rate Per Acre	Water Depth	Cost			Total	Per Acre	% Kill last Observ.	Date last Observ.		
									Material *	Labor	Equipment						
1	0.1	Leafy Spurge Flower	Flower	5/22	2,4-D	Dry	19 lbs	Upland	.50	1.00	-	1.50	15.00	50%	6/1		
1	0.1	Leafy Spurge Flower	Flower	6/7	2,4-D	Water	40 lbs	Upland	1.00	1.00	-	2.00	20.00	95%	8/14		
2	0.1	Leafy Spurge Flower	Flower	5/22	2,4-D	Water	19 lbs	Upland	.50	2.00	.50	3.00	30.00	35%	6/1		
2	0.1	Leafy Spurge	Full Leaf	6/7	2,4-D	Water	40 lbs	Upland	1.00	2.00	.50	3.50	35.00	90%	8/14		
												10.00	100.00	25.00			

Method of Treatment of the above?

8

INSTRUCTIONS ON REVERSE SIDE

Additional forms will be supplied by Regional Office upon request.

Remarks: Include any important information not given in above columns, including No. of years an area has been treated where repeated treatments have been made.

*Chemical used above was 95% monohydrate Sodium salt of 2,4-D - 82% acid equivalent

Cost of this chemical is unknown and figures listed above are estimated

Plot #1 treated five consecutive years beginning in 1958

Plot #2 first treated in 1961 and treatment continued this year.

INSTRUCTIONS

1. Plot No: Number used to identify the area of infestation in the field and on maps.
2. Acres: Use decimals, not fractions.
3. Species Treated: Use common and scientific names. LIST ONE SPECIES - THE PRIMARY ONE.
4. Growth Stage: i.e., Bud, half leaf, full leaf, early flower, full flower, etc.
5. Date of Treatment: Dates applications were made, using a separate line for each area treated. If more than one treatment is made on the same area during the summer, a separate line is used for each application.
6. Chemical or Method Used: Show type of herbicide; i.e., 2,4-D ester, etc., also mechanical methods (mowing, plowing, burning etc.)
7. Diluent or Carrier: Show diluent or carrier used plus stickers, spreaders, etc.
8. Rate Per Acre: Give lbs. acid equivalent per acre - not lbs. of herbicide or total mix. Check the label for % of acid equivalent.
9. Water Depth: Give depth in inches.
10. Cost, Material: Include herbicide and carrier.
11. Cost, Labor: Take from Application form.
12. Cost, Equipment: Take from Application form.
13. Total Cost: Take from Application form.
14. Cost per Acre: Take from Application form.
15. % Kill: Show percent dead plants with no regrowth showing at last observation.
16. Date Last Observation: Last date plants were checked following mechanical treatment or application of herbicide. If the same area is treated more than once during the same season, a new entry should be made on a separate line for each separate treatment. If the same area has been treated for several years, this should be shown in the space for remarks, giving the number of years the area has been treated.

S.M. 105 1174 - 104-3

Renewal rights for Mr. John J. Nelson in unit G-4 were terminated for non-use. Turn-out was effected on or before October 31, and several permittees removed stock earlier because of the high fire hazard. Three cows were killed by lightning in unit G-10, and two yearlings were lost in unit G-7.

A grazing utilization inspection conducted in all units revealed general light use in most units, with only small areas receiving moderate to heavy use. Several units had only one or two stock watering sites available at the end of the season, with a resultant poor grazing distribution. Dugouts excavated in units G-4 and G-5 during the fall of 1961, were practically full at the close of this grazing season. Thirteen additional dugouts constructed this fall should help alleviate improper grazing distribution.

B. Haying.

None.

C. Fur Harvest.

The six refuge trapping units were divided equally between three permittee trappers for the regular state season of November 16 through December 9. The State kept the season closed on muskrats, and the refuge allowed no beaver to be taken. No mink or weasel were trapped, so the refuge's share was nil. A total of 20 skunk, six fox, two badger, and two raccoons was taken.

D. Timber Removal.

None

E. Commercial Fishing.

None.

F. Other Uses.

None.

V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

A. Canada Goose Restoration Program.

Four 1961 Lostwood goslings and 27 geese acquired from Carl Strutz of Jamestown, North Dakota, in 1961 were moved from the summer holding pen into the barn. The geese are driven into connecting exercise pen on suitable days and back into the barn at night. Weekly trips are made to Stanley, North Dakota, to collect greens for this flock. Four skunk and one feral cat

were removed from the trap line maintained around the perimeter of the summer holding pen.

Dr. Harold Hanson of the Illinois Natural History Survey is currently studying the occurrence and distribution of the giant Canada goose, Branta canadensis maxima. While accompanied by Mr. Harvey Nelson of Regional Office, Dr. Hanson identified several of the birds in the Strutz flock as being of this superior sized strain. It is hoped that production will be augmented by this semi-domesticated stock, as little success has been achieved with birds captured at the SwanLake Refuge.

VI. PUBLIC RELATIONS.

A. Recreational Use.

Recreational use of the refuge was limited to deer hunting and an occasional trip by bird watchers.

B. Refuge Visitors.

<u>Date</u>	<u>Name</u>	<u>Affiliation</u>	<u>Purpose</u>
9/4	M. Hammond	FWS, Lower Souris Refuge	Analyse brood data
9/12	J. Carlson	AAO, Minot, N.D.	Courtesy call
9/13	P. Dinkins	P&RC, Max, N.D.	Predator reports
9/17	H. Cosby	SCS, Minot, N.D.	Clip plot studies
9/20	"	"	"
9/27	Conover	Weather Bureau, Bismark, N.D.	Inspect weather station
10/2	C. Estheimer	AAO, Minot, N.D.	Courtesy call
	F. Dvorak	AAO, Minot, N.D.	" "
10/9	J. Johnson	Rosebud Tel. Co.	Surplus telephone line
	P. Dinkins	P&RC, Max, N.D.	Courtesy call
10/13	L. McEwen	Den. Wildl. Research Cent.	Pesticide study
10/15	H. Cosby	SCS, Minot, N.D.	Clip plot studies.
	R. Howey	SCS, Minot, N.D.	Soil tests
10/19	W. Eisenlohr	Geological Survey, Denver	Hydrology study
	M. Hammond	FWS, Lower Souris Refuge	" "
10/21	H. Hanson	Ill. Nat. History Survey	Goose management
	H. Nelson	FWS, Regional Office	" "
11/17	C. Estheimer	AAO, Minot, N.D.	Courtesy call
	H. Benson	FWS, Regional Office	" "
11/9	M. Hammond	FWS, Lower Souris Refuge	Grazing use inspection
11/15	V. Cunningham	P&RC, Cando, N.D.	Predator control
	P. Dinkins	P&RC, Max, N.D.	" "
12/13	J. Thompson	FWS, Aggazi Refuge, Minn.	Courtesy call
	D. Olson	FWS, Aggazi Refuge, Minn.	" "
	R. Wright	FWS, Tamarac Refuge, Minn.	" "

Personnel of the Bowbells and Kenmare office of the Soil Conservation Service made frequent trips for the selection, testing, staking, and measuring of stock watering dugout sites.

C. Refuge Participation.

Permanent personnel of Des Lacs and Lostwood Refuges met with U.S.G.M.A. John Waters of Minot, North Dakota, for a pre-season law enforcement conference and training session. The discussion of enforcement procedures was especially beneficial to Mr. Lee, the new maintenanceman at this station.

The refuge manager attended a public relations meeting at the AAO in Minot, North Dakota, to discuss the possibility of producing a regular series of television shows. Five branches of the Bureau were represented, and initial planning was accomplished. Although an acceptable time slot could not be obtained from either station for this winter, the program may materialize at a later date.

Refuge personnel attended a Radiological Monitoring School conducted by the Ward County Civil Defense Department. Although the allotted time of two afternoons was insufficient to become proficient with the "tools of this trade", a basis understanding of the fundamentals of atomic energy and operation of monitoring equipment was acquired.

D. Hunting.

The entire refuge, with exception of a closed area around the headquarter's buildings, was opened to deer hunting during the regular five and one-half day, either sex, state season of November 20-25.

Approximately 355 hunter days were expended with an estimated harvest of 110 animals. Refuge gates were locked and posted, and all hunters were required to walk. Refuge personnel were aided by personnel of the Des Lacs Refuge in patrolling and hauling deer. A total of 64 deer were hauled for grateful hunters, 41 on the first half day.

Several large trophy bucks were taken and two bucks with dressed weights of 190 and 220 pounds were reported. The lack of snow cover hampered the tracking of wounded deer, and crippling loss was probably fairly high for this open country.

There appeared to be a more active interest in upland game bird hunting, due in part to the restrictive regulations of the waterfowl season, and grouse and partridge hunting continued long past the usual opening weekend pressure. It was very difficult to find duck hunters in the surrounding area, even on the opening weekend, although fair populations of ducks were present on the few remaining water areas.

E. Violations.

Scheduled patrol during the waterfowl season was discontinued due

to the extremely light hunting pressure. Only 12 hunters were checked in two full days of patrol.

Out of season deer hunting and spotlighting are not believed to be common in this area, although a few cases are reported annually. One wounded deer, shot before the season, was salvaged and delivered to the Baptist's Old Folks Home in Kenmare. The two deer confiscated during the hunting season were donated to the Stanley Community Hospital.

The following violations were apprehended on the refuge during the deer season and processed through State Court:

<u>Name</u>	<u>Address</u>	<u>Violation</u>	<u>Fine</u>
Richard Hettinger	Palermo, N.D.)	No	\$50.00
Martin Erickson	Kenmare, N.D.))	Red	\$50.00 (40.00 suspended)
Roxana Enneking	Stanley, N.D.)	Clothing	\$50.00 (40.00 suspended)
Lauren Kristianson	Coteau, N.D.)	Hunting	\$10.00 plus 5.00 cost **
Dennis Gullickson	Bowbells, N.D.)))	In	\$10.00 plus 5.00 cost **
Russel Christianson	Bowbells, N.D.)))	Closed	\$10.00 plus 5.00 cost
Larry Kristianson	Bowbells, N.D.))	Area	\$10.00 plus 5.00 cost

** deer confiscated.

F. Safety.

The following joint safety meetings conducted at Des Lacs Refuge were attended by all personnel:

<u>Date</u>	<u>Topic</u>	<u>Leader</u>
9/24	Hidden Factors of Automobile Accidents	Felch
10/22	Gasoline - Farm Explosive	Film
11/20	Storage of Inflammable Liquids	Film

No accidents occurred this period, resulting in a record of 4,141 accident-free days.

The furnace in the residence was checked and cleaned by qualified servicemen. All chimneys were repaired and cleaned prior to painting. The Panama fire pump unit and all back-pack pumps, maintained at readiness throughout the critical fire danger period, have been drained and serviced.

Two handyman jacks were purchased and carried in refuge vehicles for emergencies. The small screw jacks previously used were inadequate and unsafe for use in other than ideal conditions. Four new back-pack pumps were acquired from surplus property of the Minot Air Force Base. Carrying boxes will be constructed this winter to carry these and other fire-fighting equipment.

VII. OTHER ITEMS.A. Items of Interest.

Refuge personnel effected the transfer of a 1952 GMC Stake truck from the Naval Supply Depot, Ogden, Utah. This surplus unit is in good condition and used only one quart of oil on the 1,100 mile return trip. Surplus property acquired from the Minot Air Force Base included a wall locker, miscellaneous assortment of new hand tools, painting supplies, a large steel tank to be used as a stock tank, steel grates to be used as basement well covers, and the before mentioned back-pack pumps.

The refuge manager accompanied the surveying crew from the AAO, Minot, North Dakota, on an inspection of wetland tracts 10, 12, 13, and 14 in Mountrail County. Steel posts were erected at all corners and additional stakes used to mark the boundary lines. A realignment of responsibilities of wetland tracts acquired in this area is proposed to be accomplished this winter, and this station will be assigned the active management of wetland tracts at that time.

B. Photographs.

Photographs of refuge operations and development are appended at the end of the narrative portion of this report.

DISTRICT IVA WATERFOWL PRODUCTION AREASLAKE ZAHLI. General.

Water levels north of State Highway #50 were greatly improved this summer and remained stable throughout this period. The large impoundment of Lake Zahl, south of the highway, has been dry since early June.

Native grass cover has greatly improved and should provide suitable nesting cover for returning waterfowl next spring. The yield of agricultural crops was exceptionally high throughout the area, and waste grain provided abundant food for field-feeding waterfowl and upland game birds. An inspection of the refuge's share of 24 acres of unharvested barley revealed very limited use by waterfowl, but this grain will be available next spring.

II. Wildlife.

The results of three waterfowl censuses conducted at Lake Zahl are recorded below:

<u>Species</u>	<u>10/4</u>	<u>10/24</u>	<u>11/6</u>
Whistling swan		16	23
White-fronted goose			1
Mallard	1,315	1,360	290
Black duck			2
Gadwall	520	78	6
Pintail	485	19	20
Green-winged teal	110		6
Blue-winged teal	40		
Baldpate	<u>2,025</u>	20	7
Shoveler	740	6	164
Redheads	130	46	14
Canvasback	515	95	17
Scaup	124	226	580
Goldeneye			2
Bufflehead	30	15	
Ruddy	<u>500</u>	<u>16</u>	<u>20</u>
Total Ducks	6,534	1,881	1,128
Coot	1,785	32	0

The number of young swan observed with the two small flocks was quite high - 12 young with 11 adults in one flock, and 10 young with six adults in the second flock. It is interesting to note that baldpate were observed in greater numbers than any other species, and that coot outnumbered mallards on the earliest count.

No other unusual observations of wildlife were recorded for this period.

III. Refuge Development and Maintenance

The yield of grain crops seeded in unit A-1 were greatly reduced due to severe weed growth. Aerial application of herbicide was accomplished too late in the growth stage to be effective. Wheat and barley average approximately 17 bushels per acre, and the grass-legume cover strip seeding was unsuccessful.

The very light sandy soil of unit A-2 produced a good yield of grain crops with wheat averaging 25 bushels per acre, and barley 35 bushels per acre. The proposed grass-legume cover strips were not seeded, and summer-fallowing was not accomplished as this unit will be retired and seeded into grass cover next spring.

IV. Resource Management.

Approximately 1,600 acres of grassland within four grazing units were utilized by 84 head of cattle for a total of 164 Animal Unit Months of grazing. Units G-1 and G-2 were utilized to the allowable maximum, but units G-3 and G-4 received only approximately 35 percent of their allowable use.

A grazing utilization inspection revealed general light use throughout all grazing units with only limited areas in units G-1 and G-2 exhibiting moderate use. Excessive quantities of fringed sagewort, broom snakeweed, and other forbs and annuals in all units except G-4 indicate the poor condition and deterioration from continued overuse in the past.

Cattle escaped from unit G-3 early in the grazing season, and the permittee made no attempt to further utilize the unit. Trespass horses were a constant problem within this unit the rest of the fall. The new boundary fence was thoroughly inspected and found sound, so escape and illegal trespass had to be accomplished through manipulation of the gate. The mentally unbalanced owner of the horses has been previously warned by refuge personnel, grazing permittees, and the local sheriff, but the problem still exists.

No requests for trapping permits were received, and the previous permittee trappers expressed no interest after an unsuccessful season last year.

SHELL LAKEI. General.

The water gauge reading on October 25 was 0.56, indicating an approximate two foot increase in depth compared to last fall. The small sloughs along the southwest end of the lake and in the overflow drainage retained water throughout the period.

Upland grass cover is in excellent condition, and waste grain provided an abundance of food for waterfowl. Very little waterfowl use was made of the refuge's share of 82 acres of unharvested barley, but these fields should provide excellent feeding next spring.

II. Wildlife.

Two complete censuses made during the period revealed the following waterfowl utilization: A dense fog prohibited a complete census on October 14, but an attempt was made to count the number of geese.

<u>Species</u>	<u>10/5</u>	<u>10/14</u>	<u>10/25</u>
Whistling swan			(6 young) 52
Canada goose	4	17	
White-fronted goose		175	
Snow goose		2	
Mallard	275		<u>6,260</u>
Gadwall	80		20
Pintail	55		1
Green-winged teal	10		
Baldpate	<u>1,300</u>		5
Shoveler	32		
Redhead	215		10
Canvasback	<u>1,225</u>		120
Scaup	80		115
Bufflehead	15		
Ruddy	81		
Total Ducks	3,368		6,531
Coot	575		0

Seven Western Grebes and two Cormorants were observed on the lake October 5, but no other shorebirds or waterbirds were seen during this period.

Five antelope and one white-tailed deer were observed feeding in the unharvested barley fields of unit A-2, and several large covies of Hungarian Partridge were also seen along the west side of the lake.

III. Refuge Development and Maintenance.

Bid invitations for the sale of buildings on the Ole Moen Tract # 10 were issued by Regional Office, with all buildings included in one lot.

See Plate # 5. The lone bid of Mr. James Moen, in the amount of \$30.00, was accepted, and Mr. Moen has begun dismantling operations. The removal of these rapidly deteriorating buildings will eliminate an eyesore and predator sanctuary from the refuge.

The proposed construction of three and one-half miles of boundary fence was not accomplished as scheduled, but will be planned for this spring.

The acreage and yield of grain crops grown on the four agricultural units are tabulated on form NR-8, appended to this report. There was no significant difference in the yields of the different units, as Vintage Barley, seeded in units A-2, 3, and 4, averaged 25 bushels per acre. The yield of wheat varied with species and ground preparation as noted below:

<u>Wheat Species</u>	<u>Bushels/Acres</u>	<u>Remarks</u>
Duram	25	Fallowed
Selkerk	20	Fallowed
Lee	20	Fallowed
Lee	15	Unfallowed

SIGNATURE PAGE

Submitted by:

Ned I. Peabody
(Signature)

Ned I. Peabody
Refuge Manager
Title

Date: January 21, 1963

Approved, Regional Office:

Date: 1-23-63

[Handwritten Signature]
(Signature)

Regional Refuge Supervisor



Oil house at headquarters
before painting



Oil house at headquarters
after painting



Plate # 3
Two section concrete foundation
for cattle guards



OCT 1982

Plate # 4
Installation of cattle guard
completed on Tower Trail



Plate # 5
Rapidly deteriorating buildings
at Shell Lake Refuge sold by bid

W A T E R F O W L

REFUGE Logwood

MONTHS OF September 1 TO December 31, 19 62

(1) Species	(2) Weeks of reporting period									
	9/2-8 1	9/9-15 2	9/16-22 3	9/23-26 4	9/30-10/6 5	10/7-13 6	10/14-20 7	10/21-27 8	10/28-11/3 9	11/4-10 10
Swans:										
Whistling Trumpeter						4	50	120	81	75
Geese:										
Canada Cackling Brant White-fronted Snow Blue Other										
Ducks:										
Mallard	9,870	4,100	3,560	3,560	5,060	7,010	7,135	11,220	1,800	1,000
Black	50					35				
Gadwall	2,185	2,175	1,590	1,590	355	1,005	1,670	110	200	100
Baldpate	2,045	1,335	1,670	1,670	2,245	3,715	2,095	1,940	800	200
Pintail	2,185	795	385	385	115	390	30	5	10	5
Green-winged teal	520	215	1,620	1,620	500	920	120	80	85	50
Blue-winged teal	1,015	1,995	1,805	1,805	70	20				
Cinnamon teal										
Shoveler	380	840	195	195	380	1,300	605	230	360	250
Wood										
Redhead	100	275	165	165	80	105	530	80	75	50
Ring-necked	5	5	10	10	5	55	90	10	10	10
Canvasback	60	160	190	190	95	90	60	10	5	
Scaup	300	60	25	25	65	210	610	460	325	350
Goldeneye										
Bufflehead	15	10	5	5	15	20	15	5	10	15
Ruddy	550	990	450	450	620	1,005	225	65	20	25
Other Hooded merg.		5								
American merganser		1								
Total	19,580	13,560	11,970	11,970	9,635	15,880	13,185	14,515	3,700	1,955
Coot	2,390	3,020	2,800	2,800	640	1,010	275	10		

3 -1750a
 Cont. NR-1
 (Rev. March 1953)

WATERFOWL
 (Continuation Sheet)

REFUGE Lostwood

MONTHS OF September 1 TO December 31, 1962

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	11/11-17	11/18-24	11/25-31	12/1-7	12/8-14	12/15-21	12/22-28	12/29-31		
Swans:										
Whistling Trumpeter	70								2,800	
Geese:										
Canada	50	30							1,666	
Cackling Brant										
White-fronted Snow		1							4	
Blue Other										
Ducks:										
Mallard	560	200							385,625	
Black									595	
Gadwall	10								83,230	
Baldpate									124,005	
Pintail									30,345	
Green-winged teal	10								40,180	
Blue-winged teal									46,970	
Cinnamon teal										
Shoveler	180	35							38,850	
Wood										
Redhead	10								11,445	
Ring-necked	5								1,505	
Canvasback									6,020	
Scaup	365	20							19,705	
Goldeneye										
Bufflehead	20								945	
Ruddy	30								31,010	
Other Hooded merg.									35	
American merganser									7	
Total	1,190	286							820,472	820,472
Coot:									90,615	

All water areas frozen over and no waterfowl remain in the area.

(over)

	(5)	(6)	(7)	SUMMARY
	Total Days Use	Peak Number	Total Production	
Swans	2,800	120		Principal feeding areas <u>Ducks and geese fed in fields east</u>
Geese	1,670	50		<u>of refuge, Upper Thompson, Thompson, and Upper Lostwood Lake</u>
Ducks	820,472	19,580		Principal nesting areas _____
Coots	90,615	3,020		
				Reported by _____

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751

Form NR-1A
(Nov. 1945)MIGRATORY BIRDS
(other than waterfowl)Refuge... Lostwood Months of September to December 1962

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Eared Grebe	Present				2	10/10				200
Pied-billed Grebe	Present				2	10/10				50
Cormorants	2	10/18	Only observation							2-5
Sandhill Crane			*250	10/20	*(flying over)					60
II. <u>Shorebirds, Gulls and Terns:</u>										
Lesser Yellowlegs					1	10/18				100
Dowitcher	Present		800	9/19	95	10/10				1,500
Marbled Godwit	Present				3	9/12				30
Wilson's Phalarope	Present		Preceding period		10	9/19				100
Franklin's Gull			1,000	9/5	1	10/18				2,000
Ring-billed Gull	Present		75	9/19	3	11/13				250

(over)

(1)	(2)		(3)		(4)		(5)			(6)
III. <u>Doves and Pigeons:</u>										
Mourning dove	Present				1	10/5				150
White-winged dove										
IV. <u>Predaceous Birds:</u>										
Golden eagle	1	11/5	3	11/20	2	11/22				3-4
Duck hawk										
Horned owl	Resident Species									75
Magpie	Resident Species									200
Raven										
Crow	1	3/20								7,500
Red-tailed hawk	1	4/27								15
Swainson's hawk										20
Rough-legged hawk	1	4/17			1	10/31				30
Marsh hawk	2	4/4			1	11/25				50
Sparrow hawk	1	4/23								15
Snowy Owl	1	4/5								2-5
Barred Owl	Resident Species									25

Reported by Wald I. Peabody

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

UPLAND GAME BIRDS

Refuge Lostwood

Months of September to December, 19 62

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
	Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.		Estimated Total	Hunting	For Re- stocking		
Sharp-tailed Grouse	24,341 acres of upland habitat	"							1,000	Large flocks observed this fall Observed around headquarters First observation since 9/1/61 Increasing around perimeter of the refuge
Ring-necked Pheasant									3-10	
Gray Partridge									250	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- | | |
|---------------------|--|
| (1) SPECIES: | Use correct common name. |
| (2) DENSITY: | Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks. |
| (3) YOUNG PRODUCED: | Estimated number of young produced, based upon observations and actual counts in representative breeding habitat. |
| (4) SEX RATIO: | This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available. |
| (5) REMOVALS: | Indicate total number in each category removed during the report period. |
| (6) TOTAL: | Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons. |
| (7) REMARKS: | Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested. |

* Only columns applicable to the period covered should be used.

3-1753
Form NR-3
(June 1945)

BIG GAME

Refuge Lostwood

Calendar Year 1962

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions	(7) Estimated Total Refuge Population		(8) Sex Ratio	
			Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss		Number	Source		At period of Greatest use
Common Name	Cover types, total Acreage of Habitat	Number												
White-tailed Deer	24,341 acres of upland habitat	80-90	110									300	180-200	*M:F 113:100
Mule deer												2-5		

Remarks: *As indicated by total of 64 deer hauled during hunting season

Reported by Ned I. Peabody

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) **SPECIES:** Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) **DENSITY:** Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) **YOUNG PRODUCED:** Estimated total number of young produced on refuge.
- (4) **REMOVALS:** Indicate total number in each category removed during the year.
- (5) **LOSSES:** On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) **INTRODUCTIONS:** Indicate the number and refuge or agency from which stock was secured.
- (7) **TOTAL REFUGE POPULATION:** Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) **SEX RATIO:** Indicate the percentage of males and females of each species as determined from field observations or through removals.

DISEASE

Refuge Lostwood National Wildlife Refuge Year 19 62

Botulism

Lead Poisoning or other Disease

Period of outbreak _____

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) _____

Condition of vegetation and invertebrate life _____

Remarks No evidence

Kind of disease _____

Species affected _____

Number Affected Species	Actual Count	Estimated
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks No evidence

PUBLIC USE

Refuge Lostwood

Calendar Year 1962

Total Use Visitor-Days	Hunting Use	Fishing Use	Miscellaneous Use
845	355	0	490

Where practical, by means of occasional spot checks, or other methods, show by percent and visitor-days the breakdown of the above figures and other related information:

Hunting (on refuge lands):	Percent	Visitor-Days	Acres	Miscellaneous	Percent	Visitor-Days
Waterfowl				Recreation*	15	75
Upland Game				Official	54	* 265
Big Game	100	355	25,000	Economic Use	51	** 150
Supervised by Refuge XXX		By State	No. of Blinds	Other		

Hunting (off
refuge Lands: Estimated man-days of hunting on lands
Adjacent to the refuge 150 (These figures
should not be included in hunting-use totals above).

Fishing:
Acres of ponds or lakes 0 and miles of streams
0 open to fishing.

Comments:

<u>Official</u>	
Visitors	80
Denver Rab. personnel	115
SCS & contractors	70
	265
<u>Economic Use</u>	
Grazing permittees	120
Trapping permittees	30
	150

* including picnicking, swimming, boating, camping, viewing wildlife, and photographing.

3-1757
Form NR-7
(April 1946)

PLANTINGS
(Marsh - Aquatic - Upland)

Refuge..... Lostwood National Wildlife Refuge Year ~~1955~~ **1962**
(Lake Zahl Refuge)

Species	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount & Nature of Propagules	Date of Planting	Survival	Cause of Loss	Remarks
Crested wheatgrass	Lake Zahl Field #3	6 lbs/ac	10 acres	60 lbs seed	May 3	Very Poor	Seeded too deep, and extreme competition with weeds	These three species seeded together w/ 1/2 bushel of Betz barley for nurse crop.
Slender wheatgrass	Unit A-1	2 lbs/ac	"	20 lbs seed	"	"		
Alfalfa	"	2 lbs/ac	"	20 lbs seed	"	"		

TOTAL ACREAGE PLANTED:

Marsh and aquatic.....
Hedgerows, cover patches..... **10 acres**
Food strips, food patches.....
Forest plantings.....

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Lostwood County Burke State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water-fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
							Fallow Ag. Land		

No. of Permittees: Agricultural Operations 0 Haying Operations 0 Grazing Operations 13

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	1,220	2,811.89	4,217.89	13,450
				2. Other				
				1. Total Refuge Acreage Under Cultivation				
Hay - Wild				2. Acreage Cultivated as Service Operation				

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Lostwood County McMurrill State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water-fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
								Fallow Ag. Land	

No. of Permittees: Agricultural Operations 0 Haying Operations 0 Grazing Operations 1

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	91	228.26	342.40	1,293
				2. Other				
				1. Total Refuge Acreage Under Cultivation				
Hay - Wild				2. Acreage Cultivated as Service Operation				

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Lake Zahl County Williams State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water-fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
Wheat (Duram)	54	1,206 bu.					54		
Barley (Bets)	17	451 bu.			24	786 bu.	41		
Totals	71				24		95		
								Fallow Ag. Land	
								20	

No. of Permittees: Agricultural Operations 2 Haying Operations 0 Grazing Operations 4

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	84	164.02	246.04	1,595
				2. Other				
				1. Total Refuge Acreage Under Cultivation				115
Hay - Wild				2. Acreage Cultivated as Service Operation				

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

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Total Acreage Planted - Report all acreage planted, including crop failures.

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Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

3-1758
 Form NR-8
 (Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Shell Lake County Mountrail State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water-fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
Wheat (Duram)	23	575 bu.					23		
Wheat (Selkirk)	15	300 bu.					15		
Wheat (Lee)	47.5	800 bu.					47.5		
Barley (Vintage)	80	2,000 bu.			82.5	2,063 bu.	162.5		
Totals	165.5				82.5		248		
								Fallow Ag. Land	34

No. of Permittees: Agricultural Operations 1 Haying Operations 0 Grazing Operations 0

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle				
				2. Other				
				1. Total Refuge Acreage Under Cultivation				282
Hay - Wild				2. Acreage Cultivated as Service Operation				

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

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Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

REFUGE GRAIN REPORT

Year - 1962

Refuge Lostwood

Months of _____ through _____, 195_____

(1) VARIETY*	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Wheat (Duram)	0	41	41			41	41	0			
Mixed Grain (Barley & wheat)	100	225	325			110	110	215		215	
Corn (Ear)	95	40	135			25	25	110		110	
Mixed Seed											
Crested wheat		135 lbs.	135 lbs.		60 lbs.		60 lbs.	75 lbs.	75 lbs.		
Slender wheat		50 lbs.	50 lbs.		20 lbs.		20 lbs.	30 lbs.	30 lbs.		
Alfalfa		50 lbs.	50 lbs.		20 lbs.		20 lbs.	30 lbs.	30 lbs.		

(8) Indicate shipping or collection points Headquarters of Lostwood, or Stanley, North Dakota

(9) Grain is stored at Headquarter's granary

(10) Remarks Corn received from Lake Iles; mixed grain, crested wheat and alfalfa received from Das Laas;

*See instructions on back.

Wheat received from ASC, penalty grain; Slender wheat purchased w/ S&M funds

(10) Remarks **NR-8a**

(8) Grain is stored at

REFUGE GRAIN REPORT

(8) Indicate shipping or collection points

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

16-61482-1 U. S. GOVERNMENT PRINTING OFFICE

AVAILABILITY	ON HAND	RECEIVED	TOTAL	GRAIN DISPOSED OF			END OF PERIOD ON HAND	PROPOSED OR SUITABLE USE	
				Seed	Feed	Other		Seed	Feed
(1)	(2)	(3)	(4)	(5)			(6)	(7)	

Refuge Month of through 192

REFUGE GRAIN REPORT

Year - 192

3-1759
Form NR-9
(April 1946)

COLLECTIONS AND RECEIPTS OF PLANTING STOCK
(Seeds, rootstocks, trees, shrubs)

Refuge Lostwood National Wildlife Refuge Year 1962

Species	Collections				Receipts		Total Amounts on Hand	Amount Surplus
	Amount	Date or Period of Collection	Method	Unit Cost	Amount	Source		
Crested * wheatgrass	3,150 lbs	8/20/62	Combine	Unknown			2,500 lbs.	2,500
Brome grass	3,275 lbs.	8/20/62	Combine	Unknown			0	
Crested wheatgrass					135 lbs.	Des Lacs	75 lbs	These three species mixed.
Slender wheatgrass					50 lbs.	Purchased	30 lbs	
Alfalfa					50 lbs.	Des Lacs	30 lbs	
<p>* The Crested wheatgrass and Brome grass was harvested by the Hall Seed Company of North Platte, Nebraska, under S.U.P. # 35098</p> <p>Tests indicate that the seed of both species is infested w/ a high percentage of quack grass resulting in unuseable seed.</p>								
<p>Interior Duplicating Section, Washington 25, D.C. 17261</p>								