

LOSTWOOD AND EASEMENTS 4A

I. GENERALA. Weather Conditions.

The 1949-50 winter in the neighborhood of this refuge was not nearly as rugged as it has been the past few years. Both the 1947 and 1948 winters with their accompanying blizzards and heavy snowfall made travel to and from the Lostwood Headquarters a matter of conjecture as you could never depend on either getting to the refuge or leaving it at any picked time. Possibly because we did not have personnel stationed at the refuge this year, old man winter thought it would be a good time to ease up to some extent. In other words little difficulty due to heavy or blowing snow was experienced in making our weekly trips to the refuge to see if everything was going right. We do not wish to intimate that Lostwood had mild weather all winter as such a statement would be far from the truth inasmuch as over 40" of snow in total was received and below zero weather in January and February was pretty much the order of the day each week. March was more normal than any of the other three months in the report period, but April has been disagreeably cold and wet with up to 16" of snow being received, plus additional precipitation in the form of sleet and rain. Frankly, we welcomed the additional precipitation which stopped the ever increasing fire hazard.

Following is a table showing precipitation, snowfall and temperature extremes for the period and for the previous year.

			Temperatures	
			Max.	Min.
<u>1950</u>	<u>Snowfall</u>	<u>Precipitation</u>		
January	7.00	.71	17	-34
February	4.00	.30	42	-21
March	8.00	.81	49	-16
April	13.00	1.62	65	6
	<u>32.00</u>	<u>3.44</u>	<u>65</u>	<u>-34</u>
<u>1949</u>				
January	12.4	1.12	32	-36
February	12.8	1.16	39	-40
March	10.6	.90	36	-12
April	None	None	80	20
	<u>35.8</u>	<u>3.18</u>	<u>80</u>	<u>-40</u>

Comparing the two tables for this year and the previous year it is apparent that snowfall was much the same as was the precipitation. Blizzard conditions were not as prevalent this year with the 3 to 4 day blizzard which is more or less common in North Dakota not putting in it's appearance this year. State Highway #8 leading past the Refuge Headquarters was blocked on several occasions, but never in the manner of last year when it required three bulldozers and two regular truck snowplows to open it on one occasion.

B. Water Conditions.

While our precipitation this year was much the same as last year we are inclined to believe that water conditions this year are much more satisfactory. This statement is not based entirely on our own assumption, but mostly from the thinking of individuals living in the Lostwood locality for a number of years. It is their belief, and ours, that the potholes as well as the lakes are carrying a higher water level at this time than one year ago and there is still a considerable quantity of snow from our April storms that will melt and increase the levels slightly more.

C. Fires.

We are pleased to report that no fires occurred on the refuge this period. The potential fire hazard was being increased daily up to April 16 and the Lostwood Jeep was placed in readiness for any emergency, however a 16" snowfall on Monday and Tuesday April 17 and 18, plus an additional 3" fall on April 30 has greatly improved the fire hazard for the time being. Pending the assignment of permanent refuge personnel to Lostwood it is our plan to station the Student Assistant at the refuge so that we will have immediate notification of any impending fire.

II. WILDLIFE

A. Migratory Birds.

1. Population and Behavior. The additional snow received in April, which again blocked up refuge trails has made it difficult to secure as good a picture as we would like of migratory birds. Observations we have been able to make indicate that the present year is one of the poorest on record, as is the case in most of North Dakota, due to the cold, wet spring.

Our observations indicate that the first noticeable migration of waterfowl began on Saturday April 15 and increased only slightly as the month progressed. Extremely cold nights during late March and the first half of April retarded migration considerably and we have given considerable thought as to whether the bulk of the migrants have gone through without stopping, have passed to the east or west of this area, or are still to the south of us. While it is true that all waterfowl species common to the refuge have been recorded prior to the end of April, they are present in only small numbers.

Pintails and Mallards were the first waterfowl observed, having been recorded on April 9.

Green-winged teal and Canvasback joined the above two on April 17 with Gadwall, Blue-winged teal, Redheads, Shovellers, Baldpate, Scaup, Buffle-head, Golden-eye, Ruddy and a few Ring-necked ducks following about a week later.

The Pintail at the present time makes up the bulk of the population, followed by the Mallard, Canvasback and Scaup. Most of the waterfowl are paired off at this time, but many of the pothole areas are barren of any ducks and the larger lakes on the refuge are still covered by ice and snow.

The opening up and then refreezing of the potholes has apparently not been to the liking of shorebirds since they have been entirely conspicuous by their absence. Killdeer have been seen and are fairly numerous, but such birds as the Willett, Avocet, Sandpipers, Phalarope, etc. have not put in their appearance to date.

The migration of geese over the refuge during the April 20-21 period was excellent and compared very favorably to one year ago.

Whistling Swan were observed on April 16 using a small open water patch on Thompson's Lake, but the actual numbers using the refuge this year are somewhat less than last year.

Five White Pelicans were noted hovering over Thompson Lake on April 23 but they were not observed actually using this part of the refuge.

The American Merganser, both the Horned and Eared Grebe appeared on the scene prior to the end of April, but Bitterns, Herons and Cormorants are still absent. Sandhill Crane's were as abundant as last year and a number of flocks used some of the agricultural fields for a stop-over.

Ring-billed gulls and Franklin's Gulls have been present but are much fewer in numbers than last year.

2. Food and Cover. Such pothole areas as have opened up and waste grain fields provide the major source of food and cover for migratory birds, although securing sufficient food during the heavy snow storm of April 17 and 18th must have proven a problem for several days.

3. Botulism. No evidence.

4. Lead Poisoning and Other Diseases. No evidence.

B. Upland Game Birds.

1. Population and Behavior. The past winter while not being mild was satisfactory from a standpoint of upland game bird survival and all species present on the refuge have possibly experienced the lowest mortality from this factor than for the past few years. The area surrounding the refuge was open to the hunting of sharptail grouse and fair hunting success was experienced.

Ring-necked Pheasant. The rugged winters have apparently been too much for this bird as they are present in very limited numbers and can be seen only very infrequently. The winter of 1949-50 should not have reduced their small population to any great extent, but the loss of ten or more birds by any means could completely wipe out the present refuge population. Inasmuch as the State has given up attempts at restocking by transplanting live birds from other areas it will be years before any substantial increase in pheasant will be noted in this area, and favorable winters will be a deciding factor in this regard.

Sharptail Grouse. Hunting pressure last fall as we have indicated does not appear to have reduced the numbers of this grouse. They are present in excellent sized flocks near almost every grain field and it is expected that an open hunting season this fall will again be the picture.

European Partridge. While these birds are not increasing by leaps and bounds they do show a slight increase. Winter kill this year has been negligible.

Prairie Chicken. Winter kill also was light for this bird, but it is in about the same category as the pheasant in regard to numbers. The loss of a dozen birds or so would again completely wipe out the refuge population.

2. Food and Cover. Waste grain field, weed seeds, rose hips and buds provide sufficient food for upland game birds providing snow conditions are not too severe.

3. Disease. No evidence.

C. Big Game Animals.

1. Population and Behavior. An airplane census of big game animals on the refuge was accomplished January 20, 1950 with the following results.

24 - White-tailed deer - in area north of headquarters to north boundary.

37 - White-tailed deer - in area of Lower Lostwood Lake.

61 - Total.

A comparison of the count this year with one year ago indicates that our deer population has been better than doubled over 1949. No mule deer have been observed on the refuge.

2. Food and Cover. Although the deer population has been better than doubled over the previous year there is no apparent lack of food and cover and from observations made this spring we do not believe there has been any winter loss from malnutrition. Although our snow cover was heavy many of the aspen groves both on and off the refuge remained accessible to the deer throughout most of the winter. Cover, rather than food is lacking on the refuge since the few aspen groves we do

have do not offer the best of protection during the periodic blizzards experienced during the winter months. The deer population on this refuge should not be permitted to exceed 150 animals to prevent mortality during the winter months.

3. Disease. No evidence.

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

Fur-bearing animals on the refuge have shown no marked population increases over one year ago and it has not been necessary for the past few years to make any removals either by refuge personnel or under a share-trapping plan, with the exception of predators. Coyote and Fox have been removed by one of the Predator & Rodent Control planes, but to date we have not received information regarding the actual number taken. This information will be included in the next report. Several 1080 stations were established near the refuge by Predator and Rodent Control after they had received complaints of predation on sheep. From information obtained on these stations to date they apparently were quite successful.

Muskrats. Population remains low with less than 20 houses on the entire refuge.

Mink. About same population as last year. No removal necessary.

Weasel. Slight increase in population. In good balance for control of rodents.

Badger. Not overpopulated, but control by refuge personnel should be maintained to preclude a definite increase.

Skunk. Numbers on refuge remain low. In good balance as compared to other mammals present.

Rabbits. The cottontail has shown a slight increase, with the Jack and Snowshoe remaining about the same. The population generally is very low and we are hopeful of a general increase to bring them into proper balance with other wildlife.

Raccoon. Observed only infrequently.

Porcupine. Continued control necessary to preserve tree life on the refuge.

Franklin's ground squirrel. Fairly common.

Coyote. Our low population of rabbits could mean that our coyote population has been too high, but continued control of this animal during recent years through the medium of airplane hunters and poisoning

leads us to believe that we are merely in one of the low rabbit "cycles". Continued control of coyote may be necessary to "appease" neighboring farmers, but otherwise is not necessary.

Red Fox. The population on the refuge is small. Little if any control required.

Beaver. None have been observed on the refuge.

E. Predacious Birds, including Crows and Magpies.

The first crows were observed on the refuge March 21 with the main migration not arriving until the second week in April. Migration of the crow through this area appears to be about the same as one year ago. Magpies have been common throughout the winter, but our Hawk population during the winter months has practically been non-existent. No Hawks were observed during January, February and the first two weeks in March. The third week in March produced a number of American rough-legged, followed ten days later by a few Swainson's and Marsh Hawks. Sparrow Hawks have become very numerous during the late part of April.

Our winter population of Horned Owls remained about the same and a few Short-eared Owls have been observed on several occasions during the last week in April. Three Golden Eagles were observed during airplane census of January 20. They have also been observed on occasion throughout the winter as have the Snowy Owl.

F. Fish.

No fish life to our knowledge is existent on the Refuge.

III. REFUGE DEVELOPMENT - MAINTENANCE

A. Physical Developments.

We do not have much to report in the way of maintenance or development work, performed on the refuge during the period. The refuge was not staffed during the winter months, but weekly inspections of the refuge were accomplished by Des Lacs personnel to safeguard buildings and equipment.

All Lostwood automotive equipment has been kept up in good condition, the light plant was recharged on frequent occasions, the farming program for the coming season was worked up and the planting program discussed with the permittees. Generally the refuge could be considered in a state of hibernation for the winter, but the work program will be stepped up as soon as weather and roads will permit.

The present 32 volt electric system is scheduled to be replaced by REA and contacts have been made for an inspection of the wiring system

with the definite plan to have all building repaired before June 30. REA plans to hook up to the headquarters in mid-summer.

B. Plantings.

1. Aquatics and Marsh Plants. None.

2. Trees and Shrubs. None.

3. Upland Herbaceous Plants. None.

4. Cultivated Crops. All crop permittees were called into refuge headquarters in early April to discuss the planting program for the coming season. All units will be planted this year and a general plan of crop rotation and summer fallowing will be followed. We have had an increased demand for crop land and have been unable to satisfy the requests we have received to date. Apparently the good prices being obtained for small grains has stepped up the demand for crop land. We are cooperating with the County Agricultural Conservation Committee in reduction of wheat to be grown by the permittees for their share.

C. Collections.

1. Seed and other Propagules. None.

2. Specimens. None.

D. Receipts of Seed and Nursery Stock. None.

IV. ECONOMIC USE OF REFUGE.

A. Grazing.

As in the case of crop land there has also been an increased demand for grazing privileges on the refuge. Late fall rain and snow, plus a satisfactory amount of snow during the winter and late spring should start our pasture land out in excellent condition and permit their normal use at least during the first part of the season. A majority of the permittees will again use units available to them last year with the only change being in Unit G-2.

B. Haying.

Permits will be issued for all approved hay land units on the refuge. Demand again in this case is greater than the supply.

C. Fur Harvest. No furs harvested during period.

D. Timber Removal. One permit has been in effect for the removal of approx. 20 cords of dead and down aspen, to be used as fire wood.

E. Other Uses. None.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

Grazing-nesting studies are being carried on at the present time under the direction of Biologist Hammond. Our Student Assistant Lindmeier is carrying out the studies to determine the effect grazing has on waterfowl nesting populations, populations generally, nesting success, etc.

VI. PUBLIC RELATIONS

A. Recreational Uses. None.

B. Refuge Visitors. Permittees, M.C. Hammond, Ray Glahn.

C. Refuge Participation. None during the period.

D. Fishing. None.

E. Hunting. None.

VII. OTHER ITEMS

A. Items of Interest.

Clarence Nelson was to assume regular duties at the Lostwood Refuge in April as Refuge Manager, but illness has delayed his arrival for the time being.

Prepared and submitted by:

Carl V. Fermanich

Carl V. Fermanich
Refuge Manager

May 8, 1950

Approved: 

Date: Acting Regional Director MAY 11 1950

WATERFOWL

REFUGE Lostwood Refuge, Lostwood, N. Dak.MONTHS OF January to April, 19 50

(1) Species Common Name	(2) First Migrants Seen		(3) Peak Concentration		(4) Last Migrants Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
1. <u>Swans:</u>									
Whistling swan	6	4/16	15	4/28-29					15
2. <u>Geese:</u>									
Canada goose	25	4/6	250	4/20-21					350
Cackling goose									
Brant									
White-fronted goose	30	4/6	300	4/20-21					400
Snow goose									
Blue goose									
3. <u>Ducks:</u>									
Mallard	10	4/9	400	4/20-30					500
Black Duck									
Gadwall	2	4/25	20	4/25-30					25
Baldpate	4	4/23	30	4/20-30					50
Pintail	30	4/9	600	4/20-30					800
Green-winged teal	1	4/17	20	4/17-25					30
Blue-winged teal	2	4/23	30	4/23-30					50
Cinnamon teal									
Shoveller	14	4/23	150	4/23-30					300
Wood duck									
Redhead	4	4/20	50	4/20-30					100
Ring-necked duck	None observed.								
Canvas-back	8	4/17	300	4/20-30					400
Scaup	50	4/23	400	4/23-30					500
Golden-eye	1	4/27	10	4/27-30					10
Buffle-head	4	4/27	20	4/27-30					30
Ruddy duck	4	4/27	20	4/27-30					30
4. <u>Coot:</u>									
	2	4/23	100	4/23-30					300

3-1750

(June 1949)

Form NR-17

(over)

SUMMARIES

Total Production:

Geese

Ducks

Coots

Total waterfowl usage during period 3,990Peak waterfowl numbers 2,715Areas used by concentrations Open pothole areas.

Principal nesting areas this season

Reported by Refuge Personnel - Des Lacs

INSTRUCTIONS

(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) First Seen:

The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration:

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 in the reporting period.

(5) Young Produced:

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.

(6) Total:

Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since the data are necessarily based on an analysis of the rest of the form.

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge LostwoodMonths of January to April194 50

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Holboell's Grebe	None observed to date.									
Horned Grebe	2	4/25	10	4/25-30						10
Western Grebe	None observed to date.									
Pied-billed Grebe	None observed to date.									
White Pelican	5	4/23	15	4/23-30						25
Double-crested Cormorant	None observed to date.									
Great blue Heron	"	"	"							
Black-crowned night Heron	"	"	"							
American Bittern	"	"	"							
American Merganser	30	4/25	50	4/23-30						50
Red-Breasted Merganser	None observed to date.									
Sandhill Crane	300	4/23	700	4/23-25						1000
Common Loon	None observed to date.									
Eared Grebe	4	4/25	10	4/25-30						10
II. <u>Shorebirds, Gulls and</u>										
- <u>Terns:</u>										
Killdeer	2	4/17								20
Wilson's Snipe	None observed to date.									
Willet	"	"	"							
Greater Yellow-Legs	"	"	"							
Lesser Yellow-legs	"	"	"							
Avocet	"	"	"							
Northern Phalarope	"	"	"							
Ring-Billed Gull	"	"	"							
Franklin's Gull	"	"	"							
Marbled Godwit	"	"	"							
Dowitcher	"	"	"							
Sandpiper	"	"	"							

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	None observed to date.				
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Golden eagle	Observed occasionally during winter.				4
Duck hawk	None observed to date.				
Horned owl	8 Permanent Residents.				8
Magpie	Common - Mostly during winter.				20
Raven					
Crow	6	3/21	600	4/15-25	800
Sparrow Hawk	3	4/15	20	4/15-30	20
Red-tailed Hawk	None observed to date.				
Red shouldered Hawk	"	"	"	"	
Cooper's Hawk	"	"	"	"	
Swainson's Hawk	4	4/23	20	4/23-30	20
Marsh Hawk	8	4/17	40	"	40
Am. Rough Legged Hawk	6	4/17	20	4/17-30	20
Snowy Owl	Occasional during winter.				
Reported by <u>Carl V. Fermanich</u>					

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.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Lestwood

Months of January to April, 1944 50

(1) Species	(2) Density	Acres per Bird	(3) Young Produced	Number broods obs'd.	Estimated Total	(4) Sex Ratio	Percentage	(5) Removals	Hunting	For Re- stocking	For Research	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat											Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	18,000 acres up- land, 3,000 acres	2330										10	Pheasants and prairie chicken are only occasionally ob- served.
Sharptail Grouse	brush, 2,300 acres agri. land.	29										800	
European Partridge	23,300 total cover.	110										200	
Prairie Chicken		2300										12	

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.

SMALL MAMMALS

Refuge Lostwood

Year ending April 30, 1950

(1) Species	(2) Density	(3) Removals	(4) Disposition of Furs										(5) Total Popula- tion	
Common Name.	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
								Permit Number	Trappers Share	Refuge share				
Muskrat	5500 acres Marsh	150			No removals.									40
Mink	"	150			"									35
Weasel	21,000 acres upland	215			"									30
Skunk	"	380			"									60
Badger	"	550			"									60
Porcupine	"	230			"									90
Coyotes	"	2100			?	No report	as yet.							10
Fox	"	10000			?	No report	as yet.							4
Franklin Gr. Sq.	"													Fairly Common.
Cottontail Rabbit	"	550			"									50
Jack Rabbit	"	520			"									40
Snowshoe Rabbit	"	520			"									40
Raccoon	"	2100			"									10
* List removals by Predator Animal Hunter														

* List removals by Predator Animal Hunter

REMARKS:

Reported by Carl V. Fermanich

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
 - (2) DENSITY: Applies particularly to those species considered in removal programs. 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, bottom land 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) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
 - (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprime-ness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
 - (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

REFUGE GRAIN REPORT

Refuge Lostwood

Months of January thru April 194 50

(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 USE		
				TRANS- FERRED	SEEDED	FED	TOTAL		SEED	FEED	SURP.
Wheat	739	--	739	488.96		2.04	491	248		48	200
Barley	644	--	644	80		3.0	83	561		61	500
Broome Grass Seed	730 lbs.	--	730 lbs.					730 lbs.			
Sweet Clover	300 lbs.		300 lbs.					300 lbs.			

(8) Indicate shipping or collection points.....

(9) Grain is stored at Headquarters, Knudson Cabin & Brattlein Barn.

(10) Remarks Grain shipment made to Bowdoin and Ft. Peck Game Refuges on January 20, 1950.

NR-8a

REFUGE GRAIN REPORT

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 lbs., Corn (ear)—70 lbs., Wheat—60 lbs., Barley—50 lbs., Rye—55 lbs., Oats—30 lbs., Soy Beans—60 lbs., Millet—50 lbs., Cowpeas—60 lbs., and Mixed—50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. 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 breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.