

WMD

Devils Lake ~~NWR~~ - Narrative Report p-  
1969

# REFUGE GRAIN REPORT

Refuge Devils Lake WMO

Months of January through December, 1969

(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
Alfalfa	850	-	850		500		500	350	350		
Slender Wheatgrass	625	500	1,125		500		500	625	625		
Western Wheatgrass	315	500	815		255		255	560	560		
Sideoats Grama	325	500	825		275		275	550	550		
Blue Grama	560	220	780		485		485	295	295		
Green Needlegrass	525	880	1,405		880		880	525	525		
Needle & Thread	610	440	1,050		500		500	550	550		
Canada Wild Rye	600	725	1,325		485		485	840	840		
Big Bluestem	315	500	815		255		255	560	560		
Little Bluestem	755	220	975		485		485	490	490		
Switchgrass	450	1,150	1,600		880		880	720	720		
Indiangrass	1,220	440	1,660		880		880	780	780		

(8) Indicate shipping or collection points \_\_\_\_\_

(9) Grain is stored at Sullys Hill N.G.P.

(10) Remarks All weights are PLS - (pure live seed) in pounds

\*See instructions on back.

## 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 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.

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

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Devils Lake WMO County \_\_\_\_\_ 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 Acres	Bu./Tons	Unharvested Acres	Bu./Tons			
Cavalier Oats	20	1,200					20		
Wheat	126	3,792			32	948	158		
Grand Forks Oats	220	13,200			55	3,300	275		
Ramsey Wheat	5	30					5		
Rolette Oats	48	2,880			12	720	60		
Towner Oats		528			2	132	11		
Fallow Ag. Land.									47

No. of Permittees: Agricultural Operations 10 Haying Operations 0 Grazing Operations 0

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	Grazing	Number Animals	AUM'S	Cash Revenue	ACREAGE
None				1. Cattle				
				2. Other				
				1. Total Refuge Acreage Under Cultivation				529
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.

## Devils Lake, WPA

## ANNUAL REPORT OF PESTICIDE APPLICATION

Proposal Number

1 - 69

Reporting Year

1969

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7-15	Canada thistle & Sow thistle	Stautz and Gonshorowski WPA's	178	Dimethyl 2,4D Amine Salt	178 lbs.	1 lb/acre	1 lb. 2,4D & 7 lb. water/acre	Aerial application
6-9/ 7-2	Leafy Spurge	Koch, Boyer, Volk, Carr, Ghost Valley, Tastad, Moore Lake, Pound Lake, Meyer and Waterloo Lake, WPA's (Spot treatment)	4.5	Tordon 212	4.5 Gal.	1½-3 lbs. a.i./A	1 gal. Tordon & 100 gal. water to one acre	Power Sprayer

10. Summary of results (continue on reverse side, if necessary)

Good results on both thistles and Leafy Spurge.

DISEASE

Refuge Devils Lake WMO

Year 1969

Botulism None to report

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	_____	_____

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 \_\_\_\_\_

Kind of disease \_\_\_\_\_

Species affected \_\_\_\_\_

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

Number Recovered \_\_\_\_\_

Number lost \_\_\_\_\_

Source of infection \_\_\_\_\_

Water conditions \_\_\_\_\_

Food conditions \_\_\_\_\_

Remarks \_\_\_\_\_

NARRATIVE REPORT

for

Calendar Year 1969

Devils Lake Wetlands Management District  
Lake Ardoch Easement Refuge  
Kellys Slough Easement Refuge

Permanent Personnel

Victor Hall . . . . .	Trans. 10/6/69 Refuge Refuge Manager
Omer N. Swenson . . . . .	E O D 12/19/69 Refuge Manager
James W. Heinecke . . . . .	Ass't Refuge Manager

Temporary Personnel

Dennis Kirshbaum - 6/4 - 8/15 . . . . .	Student Assistant
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## I. GENERAL

### A. Description of the Area

The Devils Lake Wetland Management area covers ten counties in northeastern North Dakota. It extends from the Minnesota border west halfway through the Turtle Mountains and south from the Canadian border to the northern part of the Sheyenne River. (see Figure 1)

The wetland areas are managed for production of the prairie ducks. Secondary objectives include preservation and restoration of natural ecosystems, including native prairie flora, wetland complexes and indigenous wildlife.

### B. Status of the Acquisition Program

#### 1. Fee Title Program

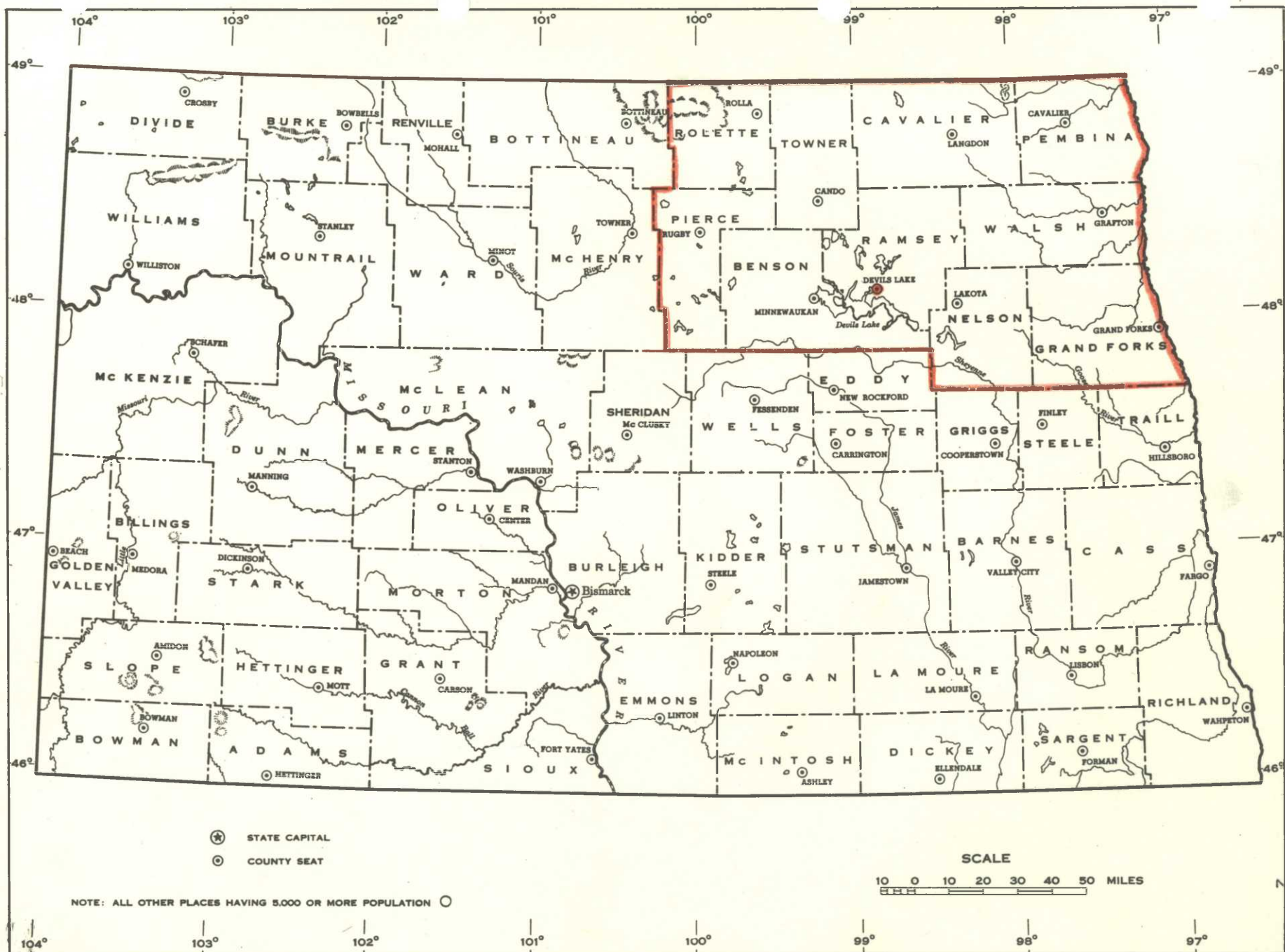
At the end of 1969, there were an estimated 178 management units totaling 24,761 acres in the district. This is an increase of 3,378 acres over 1968. An accurate count of management units cannot be made at this time because of a backlog of filing and posting due to recent personnel changes and high priorities assigned to other matters.

The rate of purchase has increased slightly over the last few months, however, the year as a whole was similar to 1968 when 3,419 acres were added.

#### 2. Easement Program

Closed cases now number 2,841. They cover 162,733 wetland acres on 976,398 total acres. The rate of easement purchase has been steadily declining and the trend is expected to continue as nearly all contracts have been made. In future operations more emphasis will be placed on the fee title program.

Figure 1



# NORTH DAKOTA

Table 1

## FEE TITLE AND EASEMENT ACQUISITION STATUS

County	Fee Title		Easement		Total Acres(est)
	No. Mgmt Units	Acres	No. Easements	Wetland Acres	
Benson	49	5,768.3	440	25,126	150,756
Cavalier	13	2,755.28	200	12,625	75,750
Grand Forks	4	2,277.29	40	538	3,228
Nelson	16	2,521.80	480	27,614	165,684
Pembina	0	-	1	25	150
Pierce	40	4,975	480	25,520	153,120
Ramsey	16	2,607.31	400	23,047	138,282
Rolette	20	1,656.84	280	16,705	100,230
Towner	11	1,097	360	23,975	143,850
Walsh	6	1,101.47	160	7,558	45,348
Total	175	24,761.	2,841	162,733	976,398

C. Weather Conditions

The snows during the winter of 1968 - 69 were some of the heaviest on record. Temperatures as low as -15\* were recorded during the last week of March. Cold weather retarded runoff until the week of April 7 when most of the snow left in just a few days. Rainfall was light all summer and into the fall. About 5 - 6 inches of snow was on the ground at the end of the year.



Table 2

WEATHER DATA  
Precipitation

	<u>Devils Lake</u>	<u>Langdon</u>	<u>Park River</u>	<u>Rugby</u>	<u>Average</u>
January	1.25	2.01	1.16	1.35	1.44
February	1.24	1.16	1.20	1.02	1.13
March	.29	.47	.27	.30	.33
April	..39	.38	.42	.39	.39
May	1.31	1.43	.70	1.36	1.20
June	3.17	3.06	3.34	4.11	3.42
July	2.42	2.10	1.79	4.02	2.58
August	.68	.94	.32	1.11	.76
September	2.49	.85	1.88	.25	1.36
October	.98	1.65	1.76	1.53	1.48
November	.10	..20	.02	.09	.10
December	<u>.51</u>	<u>.64</u>	<u>.24</u>	<u>.60</u>	<u>.50</u>
Total	14.83	14.89	13.10	16.13	
Annual Average	16.98	18.48	17.27	15.73	

Temperature

	<u>Max.</u>	<u>Min.</u>	<u>Max.</u>	<u>Min.</u>	<u>Max.</u>	<u>Min.</u>	<u>Max.</u>	<u>Min.</u>
January	30	-26	26	-29	29	-25	32	-26
February	32	-28	32	-30	36	-24	32	-26
March	40	-16	42	-24	41	-13	39	-20
April	68	1	68	0	74	6	69	6
May	95	29	92	22	97	28	95	32
June	79	32	78	25	81	33	81	30
July	97	45	93	39	97	44	96	46
August	98	47	93	42	97	47	96	44
September	93	32	87	27	91	32	90	34
October	64	16	56	13	60	20	66	17
November	62	3	58	-7	56	2	62	0
December	<u>59</u>	<u>-15</u>	<u>51</u>	<u>-14</u>	<u>60</u>	<u>14</u>	<u>52</u>	<u>-10</u>
Extremes	98	-28	93	-30	97	-25	96	-26

#### D. Habitat Conditions

##### 1. Water

Due to the heavy and concentrated runoff, all pothole types were full to overflowing. In contrast to the usual situation, the western half of the district had generally higher water levels than did the eastern half. Summer rains were somewhat less than average. However, most type III and IV wetlands had at least some water at the time of freeze-up. Many had excellent levels.

##### 2. Food and Cover

With soil bank land eliminated and very little land in the CAP program, grassland for nesting cover in the district continued to dwindle. Remaining grass is generally reduced in value for nesting by disturbance.

The trend to more intensive land use continues; farm sites, tree plantings, pastures and wetlands were converted to crop production during the year. Fall tillage, burning and ditching were especially heavy this year.

Seed production on wetland plant species was excellent due apparently to high water levels and marsh basin regeneration. Invertebrates appeared to have had a very good year also.

## II WILDLIFE

### A. Migratory Birds

#### 1. Waterfowl -(Anseriformes)

Waterfowl began arriving during the week of April 7, with 13 bluebills seen on April 8. About 700 pintails and 100 Blue and Snow geese were observed near Lake Alice on April 10th. Large flocks of geese were seen passing over Devils Lake on April 11th with frequent sightings the weekend of the 12th and 13th. A mass migration occurred the night of April 15th. By the 1st of May, most of the geese had left the district.

In cooperation with the Jamestown Research center, duck breeding populations were sampled via a one count, walk-wade breeding pair survey on a random sample of 22 quarter sections scattered throughout the district. Also included were two of our study blocks from previous years. Each of these blocks includes a large WPA brood area plus the surrounding potholes community on private land. On these two study blocks, a total of 229 pairs were counted in 1969 as compared to 297 in 1968. We are sure that this comparison is misleading and ~~does~~ not present an accurate index of the district breeding population. In 1968, breeders were poorly distributed and concentrated on the larger marshes. Each of these two study blocks has a large type IV and we suspect that many did not breed because of drought conditions. 1969, on the other hand, had an abundance of temporary wetlands which aided in dispersal and caused a corresponding drop in our counts. We believe that duck production was considerably above that of 1968. No organized brood counts were made, however, random observations were far in excess of 1968.

The fall migration commenced with a buildup of an estimated 350 Blue-winged teal on the Schaan WPA Ramsey Co during the first week of August. First goose observations were 150 Snow geese at Lake Alice on September 25 and 200 Snow geese on Moore Lake, WPA, Towner Co., on September 30. The hunting season was more impressive than 1968 with more juvenile geese evident in hunters bags, indicating a more successful breeding season than 1968. Most geese had left the area by the middle of November. Waterfowl hunting was generally improved throughout the entire district. Some of our western marshes had larger than average concentrations of ducks.

The special Canvasback inventory was conducted on assigned areas in late October. About 200 Cans were observed on Cherry Lake.

Whistling swans were present in good numbers during both migr-

ation periods. One flock of about 150 was seen at Pelican Lake WPA, Ramsey Co. through October.

2. Water and Marsh Birds - (Gaviiformes, Podicipediformes, Pelicaniformes, Ciconiformes, and Gruiformes)

Coots appeared to have had a very good year as young were plentiful on nearly any marsh visited. We believe that the aggressive coot provides formidable competition for over water nesters.

Sora rails and pied billed grebes are abundant in the district. Black-crowned night herons and American bitterns were commonly seen in the marshes. White pelicans and great blue herons were occasional visitors.

Sandhill cranes were present in Western Benson and Pierce Co's from early August to the middle of October. No large concentrations were seen and apparently they were not as numerous in the district as in 1968.

3. Shorebirds, gulls and terns - (Charadriiformes)

Common summer residents include Willets, Avocets, upland plovers, Killdeer, Yellowlegs, Marbled godwits, Wilsons phalaropes, black and common terns, and Franklins and herring gulls.

4. Doves - (Columbiformes)

Mourning doves are a common to abundant nester throughout the district. No hunting was allowed in the state this year.

B. Upland Game Birds

Gray partridge and sharp-tailed grouse populations vary from very low over much of the district to moderate in the western portions.

Ruffed grouse appear to be increasing in the Turtle Mountains and Pembina Hills again this year. Pheasants continue to be rare in the district. During the summer two were seen on the Rice WPA, Benson Co. All species are feeling the pressure of more intensive land use.

C. Other Birds (Falconiformes, Strigiformes, Passeriformes)

Swainsons and red-tailed hawks both nested in the district. Short eared and snowy owls are normal winter visitors. Great horned owls were present on old tree plantings. One was regularly seen at Billings Lake, WPA, Cavalier Co.

Red-winged and yellow headed blackbirds are abundant in the district. Eastern and western kingbirds are summer residents.

D. Big Game Animals

Most fee areas have some off and on white-tailed deer use. Basswood Lake WPA, Nelson Co., usually winters about 20-25 deer. No known moose sightings occurred in the districts this year.

E. Fur Animals, Predators, Rodents and Other Mammals

Muskrat populations appeared to have remained about the same as 1968 but were much more spread out due to higher water levels. Porcupines are seen occasionally in the larger marshes. Regularly occurring species on fee areas include raccoon, mink, red fox, long-tailed weasel, white-tailed jackrabbit, badger and striped skunk. Grey and fox squirrels, beaver, snowshoe hares, cottontails and coyotes are present on a few areas.

Meadow voles, pocket gophers, thirteen-lined and Richardson ground squirrels are among the most common small rodents.

Red-fox numbers were severely reduced due to last years high fur price and consequent heavy aerial and snowmobile hunting pressure. One Devils Lake aerial hunter took over 1000 foxes during the 1968-69 winter. Many area farmers blame this for extremely high rodent populations this summer.

One coyote was seen on the Kilgore Lake WPA in Pierce Co. carrying a Jackrabbit on January 1st.

F. Rare, Endangered and Status Undetermined Species

On the Stewart Lake WPA in Grand Forks Co. there is on and off use by Pinnate grouse. A remnant pinnate population exists on some slightly disturbed grassland in this area, however, it is believed to be losing ground. The surrounding area was closed to hunting this year due to previous heavy hunting pressure from the Grand Forks Air Force Base.

G. Fish

Nothing to report.

H. Reptiles and Amphibians

Leopard frogs, garter snakes and Dakota toads were common on fee areas.



# I. Disease

Nothing to report

## III. W.P.A. DEVELOPMENT AND MAINTENANCE

### A. Physical Development

The two small coulee dams constructed during the fall of 1968 on the Rose Lake WPA in Nelson County washed out this spring due to very heavy runoff this spring. These two dams were repaired and the spillway on the larger dam was heavily rip-rapped by hand with assistance from Sully's Hill Personnel~~X~~ and NYC boys. This was done on force account for about \$200.

Spring run-off also washed out the dike surrounding our wildlife development on the Gonshorowski WPA in Walsh Co. This development was part of the wildlife mitigation of the Forest River Watershed and the SCO has been asked to repair it.

Attempts at prohibiting cattle trespass on several WPA's by providing the landowner involved with fencing materials if he agreed to do the fencing has been less than successful. Most will have to be recontacted and the material picked up. It looks like we will have to fence it ourselves.

Our large backlog of areas to be posted was relieved somewhat when we received the new WPA signs in late summer. About 60 miles of posting was carried out on 40 management units.

### B. Plantings Including Soil and Moisture Activity

#### 1. Aquatics and Marsh Plants

Nothing to report.

#### 2. Trees and Shrubs

Nothing to report.

#### 3. Grasslands

Our Nisbet grass drill was put to good use again this year. About 6400 pounds of native grass seed mixture was seeded into about 490 acres of retired cropland. Most of the seeding was done during the spring with about 90 acres being seeded in the fall.

Native Grass Seed Mix

<u>Type</u>	<u>% of Mixture</u>
Slender Wheat	8
Western wheat	4
Sideoats Grama	4
Blue Grama	8
Green Needle	12
Needle and Thread	8
Canada Wild Rye	8
Alfalfa	8
Big Bluestem	4
Little Bluestem	8
Switchgrass	14
Indiangrass	14

C. Cultivated Crops

Five hundred twenty nine acres of fee land was farmed as a prelude to reseeding to native grass. (See NR-8 for details) Sharing arrangements were 70 percent to the cooperator and 30 percent left unharvested for our share. When the cooperator seeded a native grass mixture provided by us, he received 80% of the crop with 20 percent left standing.

D. Collections and Receipts

1. Seed or other Propagules

Nothing to report

2. Specimens

Nothing to report

3. Building Disposal

Attempts to have building disposal and site clean-up work done as summer camp projects by the North Dakota National Guard have again been unsuccessful.

E. Control of Vegetation

Canada and Sow thistle control was accomplished on 178 acres with (2,4-D amine) Tordon 212 was used in spot treatment of 4.5 acres of Leafy Spurge. We are getting many complaints regarding our weed control. Our efforts will have to be greatly expanded as soon as manpower and funds become available.

TABLE 3

## GRASSLAND SEEDING SUMMARY, 1969

Management Unit	County	Acres Seeded	Seeding Mixture	Rate of Application	Method Method	Date Seeded	Results
Tennison	Grand Forks	85	See Table	14 lbs. per acre	Nisbet	5/69	
Allard	Rolette	60	See Table	14 lbs. per acre	Grass attachment	5/69	
Lake Legreid	Benson	19	See Table	14 lbs. per acre	Nisbet	5/69	
Hiltner	Cavalier	43	See Table	14 lbs. per acre	Nisbet	10/69	
Amoth	Cavalier	50	See Table	14 lbs. per acre	Grass Attachment	10/69	
Rice	Benson	100	See Table	14 lbs. per acre	Nisbet	5/69	
Trimmer	Benson	34	See Table	14 lbs. per acre	Nisbet	5/69	
J. Neer	Benson	42	See Table	14 lbs. per acre	Nisbet	5/69	
Hillary	Cavalier	28	See Table	14 lbs. per acre	Nisbet	5/69	
Moore Lake	Towner	7	See Table	14 lbs. per acre	Broadcast	5/69	
Noonan twp BLM	Ramsey	9	See Table	14 lbs. per acre	Nisbet	5/69	
Seitz	Ramsey	5	6 lbs. mix/acre & 60 lbs. Alfalfa		Nisbet	5/69	
Total		482					

F. Fires

Nothing to report

IV RESOURCE MANAGEMENT

A. Grazing

No grazing permits were issued this year. There are relatively few cattle in the district and very little interest in grazing.

B. Haying

None

C. Fur Harvest

Trapping is allowed on fee areas in accordance with state laws. Interest in trapping is up this year as evidenced by several requests for information concerning trapping on WPA's.

V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

A. Wildlife Management Studies

Implementation of the nesting cover width study being carried on in cooperation with the NPWRC, Jamestown, N. D. was set back one year because the brome grass strip did not develop properly. We will try again in 1970.

Another study being conducted in cooperation with NPWRC deals with effects of land use on waterfowl and other wildlife populations. The primary objective of this project is to determine the interrelationship of predation and mechanical destruction as they affect duck nesting success on croplands. Secondary objectives are to determine: (1) the relative attractiveness of cropland nesting cover to ducks (2) the relative predator activity during the duck nesting period in cropland; (3) the possible difference of depredation between spring and fall seeded croplands.

The tests will consist of comparisons of (1) duck nesting success on "treated" (cropland with agricultural operations reduced) and "normal" or "control" (croplands with agricultural

operations continued) croplands. (2) duck nesting densities on croplands and non-croplands (3) predator activity and predation rates on croplands and non-croplands and (4) depredation by ducks on spring and fall seeded croplands,

This project is being conducted on the Agnes Marsh WPA in Grand Forks County.

#### B. Informal Biological Activities

This station participated in the teal banding program which preceded the special teal season. Our quota was 200 teal which we fulfilled on the Schaan WPA in Ramsey Co.

### VI. EASEMENT ADMINISTRATION

Our annual aerial easement inspection project began on November 14 with the assistance of Sully's Hill personnel. To date, we have flown 12 actual air hours while inspecting about 45% of our easements or about 450,000 acres. Our procedure remained the same as last year in that we flew at 1500 ft. with two observers each inspecting a strip a mile in width on his side of the airplane. Areas flown were those with a past history of high density violations.

Marsh burning, heavier in some areas than others, was generally severe in all areas flown. Only the most severe cases were noted. 151 suspected ditching violations were observed, however, only a small portion of these have been ground checked to date. One ditching project travels through two townships and violates at least 14 different easements. Investigations on this and other cases continue.

Our ditching violations have become more numerous and more severe each year. Present methods of investigation and prosecution are inadequate to cope with the situation. In the future, greatly increased manpower and effort will be needed to achieve a satisfactory compliance.

Excess water on an easement from increased drainage upstream continues to cause problems. These situations become extremely complex, and in some cases, almost unsolvable without damaging the marsh in question. It is usually impossible to identify the source of excess water. With drainage continuing, this situation will become more severe.



## VII. PUBLIC RELATION

### A. Recreational Uses

Uses other than hunting were minimal on fee title areas. The Stewart Lake WPA in Grand Forks County was used by the University of North Dakota biology and Wildlife classes.

Birdwatchers are seen occasionally on various easement refuges and WPA's. Snowmobile tracks are becoming a common sight on fee areas.

### B. Refuge Visitors

A list of non-routine visitors is recorded in Table

### C. Refuge Participation

January 8 - Hall met with Grand Forks SCS and water board concerning Lake Ardoch.

January 9 - Hall met with Walsh County SCS and water board and Bob Randall concerning Lake Ardoch.

January 20 - Hall and Heinecke attended Defensive driving course by Lyle Miller.

January 23 - Hall attended Monsanto Chemical retailers meeting.

January 28 - Hall met with Bob Randall RB Bismarck and E.

Madden WO Supervisor regarding Fairdale watershed.

March 25 & 26 - Hall and Heinecke attended burning seminar at NPWRC.

April 1, 2 & 3 - Hall and Heinecke attended Wetland Managers.

April 7/ April 25 - Hall attended Refuge managers course at Arden Hills

July 9 - Heinecke and Kirshbaum presented rifle safety program to 96 4-H youths at the Wood Lake Youth Camp.

July 12 - Heinecke presented rifle safety program to 66 4-H youths at the Wood Lake Youth Camp.

August 20 - Hall met Walsh County water management board at Lake Ardoch.

August 29 - Hall and Heinecke attended law enforcement seminar at NPWRC.

September 16 - Heinecke and D. Goeke conducted tour of Sully's Hill for 13 women from Warwick, N.D. garden club.

### D. Hunting

Hunting pressure on Waterfowl Production Areas continues to increase. Waterfowl received the most pressure but hunting for big game and upland species was also noted. Vehicle hunting for big game appears to have diminished somewhat in response

TABLE  
VISITOR LIST - 1969

<u>Date</u>	<u>Name</u>	<u>Identification</u>	<u>Address</u>	<u>Purpose</u>
1/2	Chris Amoth	Farmer	Langdon, N.D.	WPA land use
1/8	V. Blazevic	USGMA	Devils Lake, N.D.	Eagle killing investigation
1/15	Kenneth Yule	Farmer	Lakota, N.D.	Easement modification
2/6	Chris Amoth	Farmer	Langdon, N.D.	Farming agreement
2/17	Marvin Ness	Farmer	unknown	Easement questions
2/17	R. Spent	Farmer	Loma, N.D.	Billings Lake Dam repair
2/17	E.A. Walter	Farmer	Devils Lake, N.D.	Prices on Dam repair material
2/18	Tom Klett	NPWRC	Jamestown, N.D.	Land use study
2/18	Ken Higgins	NPWRC	Woodworth, N.D.	Land use study
3/11	Jim Novak	Grand Forks Wildlife Club	Grand Forks, N.D.	Lake Ardoch
3/11	Bill Bair	Area Biologist	Towner, N.D.	Pinnate grouse in Grand Forks Co.
3/14	John Selly	Bremen	Well's Co.	Grazing inquiry
3/17	Joe Ziegler	Farmer	Rohrville	Farming agreement
3/21	Floyd Allan	Farmer	Benson Co.	Bldg. site cleanup, note WPA
3/24	Leith Wood	Farmer	Grand Forks Co.	Farming agreement
3/28	Dennis Price	Farmer	Egeland	Grazing on Oen WPA
4/7	Michael Hiltner	Farmer	Droden, N.D.	Farming agreement
5/1	Gordon Bolstad	Farmer	Ramsey Co.	Easement problem
5/6	Mr. Konzak	Farmer	Ramsey Co.	Grazing on Pelican Lake
5/9	Boyd Wass	Farmer	Cavalier Co.	Easement problem
5/9	Curtis Wold	Farmer	Cavalier Co.	Easement problem
5/9	Chris Amoth	Farmer	Langdon, N.D.	Farming agreement
5/12	Duane Nelson	Farmer	Benson Co.	Grazing on Mission
5/13	Conrad Adahl	Farmer	Ramsey Co.	Grass seeding
5/13	Bruce Hagen	Landowner	Bismarck, N.D.	Easement on Rice land
6/10	Mel Blessum	Farmers	Pierce Co.	Spurge on BLM Area
6/10	Mr. Comer	Farmer	Eddy Co.	Re tract building problem
6/18	George Haug	Farmer	Fairdale, N.D.	Ditch maintainance request
6/30	Mr. Karges	Farmer	Langdon, N.D.	Water bank Program
7/14	Robert Burns	Farmer	York, N.D.	Hay on Knot WPA

Table continued

<u>Date</u>	<u>Name</u>	<u>Identification</u>
7/15	Richard Spenst	Farmer
7/18	Ralph Mackie	Farmer
7/18	Theo. Hoiland	Farmer
7/22	Norris Grahovd	Farmer
7/22	Richard Spenst	Farmer
8/6	Tony Englehart	Farmer
8/6	Dan Wakefield	Flight Service operator
9/16	Keith Ballweg	Farmer
10/1	Thomas Striefel	Farmer
10/8	Morris Schwan	Farmer
10/27	Florian Kasprick	Farmer
10/27	Richard Spenst	Farmer
10/31	Nels Berg	Farmer
12/3	John Lindvall	Farmer
12/3	Ole Orseth	Farmer
12/3	Thor Thompson	Farmer
12/22	V. Blazevic	USGMA
12/31	O.D. Herbel	Landowner

Table continued

<u>Address</u>	<u>Purpose</u>
Loma, N.D.	Work on Billings Lake WPA
Brocket, N.D.	Easement problem
Alsen, N.D.	Easement problem
Nekoma, N.D.	Weeds on Roppel WPA
Loma, N.D.	Billings Lake weeds
Minnewaukan, N.D.	Spraying emergents on Marvias
Devils Lake, N.D.	" " " Coulee
Langdon, N.D.	Cattle on Billings Lake
Esmond, N.D.	Questions on easement
Devils Lake, N.D.	Grazing request on Seitz WPA
Grafton, N.D.	Lake Ardoch
Loma, N.D.	Billings Lake dam repair
Towner Co.	Easement problem
Nelson Co.	Easement question
Nelson Co.	Smart Lake WPA boundry
Lillehof twp	G. Berg activities
Devils Lake, N.D.	Easement violation enforcement
Rolla, N.D.	Prosecution Munich to Hampden ditch

to the new state law prohibiting vehicle travel on other than established roads and trails during the deer season.

E. Violations

No violators were apprehended on Waterfowl Production Areas.

F. Safety

Monthly safety meetings of the Wetlands Office were attended. We have had no accidents since the station was initiated in 1963.

G. Revenue Sharing

		Comparison of	
		Recent Years	Current Year
		1967	1969
Cavalier	Cavalier	\$832.77	\$1521.69
	Grand Forks	410.48	839.25
	Nelson	600.84	659.68
	Pierce	113.74	328.75
	Ramsey	456.93	1086.26
	Rolette	291.72	654.44
	Towner	190.94	328.82
	Walsh	593.24	649.48

County treasurers are usually anxious to receive this money, however, comments from landowners in the various communities indicate that many don't consider the payment high enough.

## VIII. OTHER ITEMS

A. Items of Interest

Wetland manager Vic Hall transferred to Lacreek NWR Martin, S. D. on October 6. Omer Swenson assumed the duties of Wetland Manager on December 22. Mr. Swenson was previously the Wetland manager at Crosby, N. D. and was on temporary assignment at Horicon NWR.

Our student assistant for the summer was Dennis Kirshbaum who came to the prairies from Southern Wisconsin. His enthusiastic help was appreciated on several projects such as the artificial nest success survey, the McBee card system, brood counts, vegetation control and teal banding.

Large scale wetland drainage continued at a high rate in the district. No end is in sight as land values continue to spiral upward.

B. Credit

1. This report was prepared by assistant manager James Heinecke.
2. This report was typed and assembled by Mary C. Pake.



### KELLY'S SLOUGH NWR

Kelly's Slough NWR, located in Grand Forks county, is comprised of 1540 acres; 680 of which are Government owned. The remainder is under refuge and flowage easement.

The primary value of Kelly's Slough is to provide a rest area for migrating waterfowl. No breeding pairs or brood counts were made this year.

Because of the close proximity to the Grand Forks Air Base, fence maintenance and snowmobile trespass are a continuing problem.

### LAKE ARDOCH NWR

Lake Ardoch NWR is located in Walsh County. It is composed of 288 acres of fee owned land and 2,388 acres of land covered by refuge and flowage easements.

Although this area has some value as a production area, its primary value is also as a rest area for migrating waterfowl.

The lake was dry for the second straight year as the water control structure continues to be non-functional. The Bureau is attempting to get funds for a new structure. The Walsh County water board has agreed to purchase the required land and turn it over to us for management.

## SIGNATURE PAGE

Submitted by:

James W. Heinecke  
James W. Heinecke

Asst. Refuge Manager

Approved by:

Omer N. Swenson  
Omer N. Swenson

Date: April 6, 1970

Refuge Manager

Approved, Regional Office

Date: 4-13-70

W. Carlson  
Regional Refuge Supervisor

ANNUAL REPORT OF PESTICIDE APPLICATION

Proposal Number

1 - 69

Reporting Year

1969

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7-15	Canada thistle & Sow thistle	Stautz and Gonshorowski WPA's	178	Dimethyl 2,4D Amine Salt	178 lbs.	1 lb/acre	1 lb. 2,4D & 7 lb. water/acre	Aerial application
6-9/ 7-2	Leafy Spurge	Koch, Boyer, Volk, Carr, Ghost Valley, Tastad, Moore Lake, Pound Lake, Meyer and Waterloo Lake, WPA's (Spot treatment)	4.5	Tordon 212	4.5 Gal.	1½-3 lbs. a.i./A	1 gal. Tordon & 100 gal. water to one acre	Power Sprayer

10. Summary of results (continue on reverse side, if necessary)

Good results on both thistles and Leafy Spurge.

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Devils Lake WMD County \_\_\_\_\_ 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			
<b>Cavalier</b>	<b>Oats</b>	20	1,200				20		
	<b>Wheat</b>	126	3,792			32	948	158	
<b>Grand Forks</b>	<b>Oats</b>	220	13,200			55	3,300	275	
<b>Ramsey</b>	<b>Wheat</b>	5	30					5	
<b>Bolette</b>	<b>Oats</b>	48	2,880			12	720	60	
<b>Towner</b>	<b>Oats</b>		528			2	132	11	
Fallow Ag. Land.									47

No. of Permittees: Agricultural Operations 10 Haying Operations 0 Grazing Operations 0

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	Crazing	Number Animals	AUM'S	Cash Revenue	ACREAGE
None				1. Cattle				
				2. Other				
				1. Total Refuge Acreage Under Cultivation				529
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.

# REFUGE GRAIN REPORT

Refuge Devils Lake WFO

Months of January through December, 1969

(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
Alfalfa	850	-	850		500		500	350	350		
Slender Wheatgrass	625	500	1,125		500		500	625	625		
Western Wheatgrass	315	500	815		255		255	560	560		
Sideoats Grama	325	500	825		275		275	550	550		
Blue Grama	560	220	780		485		485	295	295		
Green Needlegrass	525	880	1,405		880		880	525	525		
Needle & Thread	610	440	1,050		500		500	550	550		
Canada Wild Rye	600	725	1,325		485		485	840	840		
Big Bluestem	315	500	815		255		255	560	560		
Little Bluestem	755	220	975		485		485	490	490		
Switchgrass	450	1,150	1,600		880		880	720	720		
Indiangrass	1,220	440	1,660		880		880	780	780		

(8) Indicate shipping or collection points \_\_\_\_\_

(9) Grain is stored at Sullys Hill N.G.P.

(10) Remarks All weights are PLS - (pure live seed) in pounds

\*See instructions on back.



## 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 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.

REFUGEE CIVIL REPORT



## DISEASE

Refuge Devils Lake NNDYear 1969Botulism None to report

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 \_\_\_\_\_

Kind of disease \_\_\_\_\_

Species affected \_\_\_\_\_

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

Number Recovered \_\_\_\_\_

Number lost \_\_\_\_\_

Source of infection \_\_\_\_\_

Water conditions \_\_\_\_\_

Food conditions \_\_\_\_\_

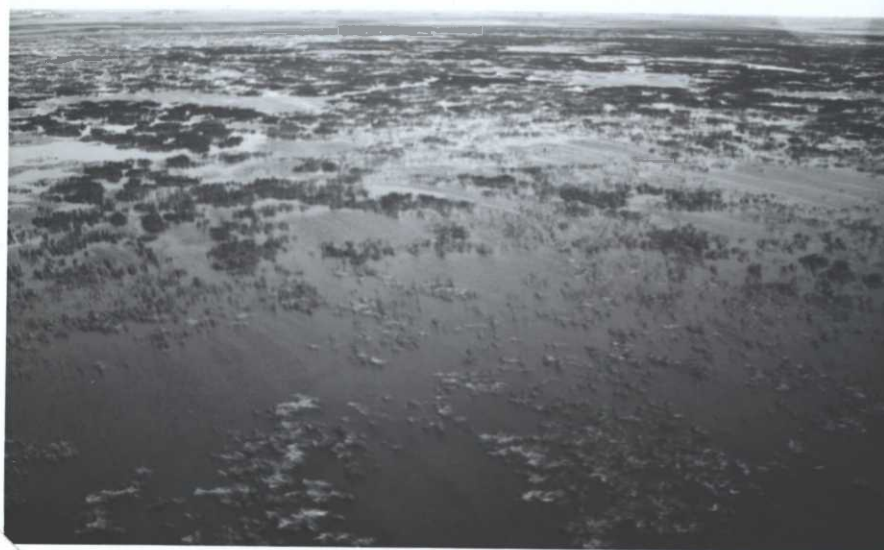
Remarks \_\_\_\_\_



NYC crew from Sullys Hill NGP upon completion of rip-rapping spillway on Rose Lake, WPA, Coulee Dam Nelson Co. Indian youths were very reluctant to have their pictures taken.

JWH

7-69



An aerial view of Lake Alice NWR- one of our better easement refuges.

VMH

8-69



Old settlers family cemetary on Rose Lake WPA. Nelson Co.  
Graves are arranged around this monument like the spokes of  
a wheel. Three young members of the family passed away in  
1888, one of the worst winters on record. JWH 7-69



MAR • 70

Water control structure at Lake Ardoch NWR as water began to recede following spring run off. JWH 4-69



• MAR 70 •

Small farm scrapers such as this have had a tremendous impact on wetland drainage. They are readily available and lower drainage costs considerably. JWH 10-68