ROUTING SLIP DIVISION OF WILDLIFE REFUGES DATE: 2/2/ 1945

_____ MR. SALYER _____ _____ SECTION OF HABITAT IMPROVEMENT:

_____ MR. ELMER _____ Mr. Griffith DEG 2-2

_____ _____ Dr. ~~Bourn~~ WSB 2-3

_____ _____ ~~Miss Cook~~ JWC 2-28

_____ SECTION OF OPERATIONS: _____ SECTION OF LAND MANAGEMENT:

Mr. Krummes _____ Mr. Earnshaw _____

Mr. Regan _____ Mr. DuMont _____

Miss Baum _____ _____ _____

_____ SECTION OF STRUCTURES: _____ STENOGRAPHERS:

Mr. Taylor _____ _____ _____

_____ _____ _____ _____

REMARKS: Lake Mason and Easements

Narrative

May-Aug. 1944

Return to: _____

8825

INDEX

Re:

LAKE MASON NATIONAL WILDLIFE REFUGE
HAILSTONE NATIONAL WILDLIFE REFUGE
HALFBREED NATIONAL WILDLIFE REFUGE
LAMESTEER NATIONAL WILDLIFE REFUGE
REFUGE NARRATIVE REPORT
MAY - JUNE - JULY - AUGUST
1944

I. GENERAL

A. Weather Conditions.

May was below normal in precipitation. June, with more than 7½" of rain was the wettest ever recorded at the Billings Weather Station. The balance of the period was about average.

B. Water Conditions.

Hailstone

This area filled to within 4" of spill elevation during June; the highest level this lake has yet reached. On August 21st the level had receded to 11" below spill. Water was clear to a depth of three feet.

Halfbreed

This area spilled for about one month, the spill ending about July 15th and on August 20th, it was one inch below spill. Water in this area was clear, but brown.

Lake Mason

Filled to, but did not spill during June and on August 21st was 16" below spill. The water was clear.

Water at Miller Lake was 32" below spill.

Lamesteer

The June rains through this period continued to cause Lamesteer to spill considerable amount and at the close of the report period, was prcbably about one foot below spill.

C. Fires.

None.

II. WILDLIFE

A. Migratory Birds.

1. Population and Behavior.

The only Easement Inspection made through this period of the Roundup Easements, was on August 20th and 21st. The attached NR Form #1 shows the waterfowl that was observed at that time. A careful patrol was made of lake shores at the time of the observations.

Lamesteer was visited on May 30th. The only time through this period.

2. Food and Cover.

The growth of aquatic vegetation in Hailstone Lake, Mason and Miller Lakes was abundant. The growth in Hailstone consists chiefly of Mill Foil, Sago Pond Weed and Plantain. The growth in Lake Mason and Miller Lake is chiefly Sago Pond Weed.

In Halfbreed Lake the aquatic growth has picked up a great deal over what has previously been observed, with large patches of Sago being visible from shore. Plantain is also present. There is very little growth of Roundstem Bullrush on Halfbreed, but along the North shoreline of the Southwest end of the lake, an excellent stand of Spikerush has developed. Some cattails and a start of Paludosis was observed on the area.

An excellent stand of Roundstem has developed on the very North end and approximately one-half mile South on the West shore of Lake Mason. Small bunches of it is growing around other places on the shoreline, which indicates natural propagation. A good strong growth of Roundstem is developing on the North and West sides of Miller Lake.

On Lamesteer Lake approximately 500 feet of shoreline South and West of the Island bears a good stand of Paludosis. This is the only aquatic or emergent species observed on this area.

3. Sickness or Poison.

Although the shorelines on all areas were inspected, no sick or dead ducks were found.

B. Upland Game Birds.

Although the shorelines of the water areas and a considerable portion of the Refuges were covered, no Upland Birds were observed. A complete revision of Upland Bird information on

these areas will be made in the December, 1945 Narrative Report, over that information supplied by Mr. Rodgers in the September-December, 1942 Report.

C. Big Game Animals.

Two antelope were observed near Halfbreed Refuge.

Range conditions were excellent and food was abundant.

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

One Muskrat house was observed on the North side of Hailstone Refuge. Very few muskrat signs, but no muskrat houses were observed on Lake Mason. This is an indication that this species is getting a start on these areas.

There is no predation problem on these areas.

E. Fish.

No information relative to fish or fishing was secured through this period.

III. REFUGE DEVELOPMENT AND MAINTENANCE.

No development nor maintenance work was done on these areas through this period. This type of work being reserved for Fall and when it can be done concurrent with patrol.

IV. ECONOMIC USES

Special Use Permit #6944 was issued to Wallace Scott for the rental of the Lamesteer Patrol Cabin from June 1 to December 31, 1944, without cost.

Submitted by:

January 12, 1945

Thomas C. Horn, Refuge Manager

Approval

WB FORM 1030

U. S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

MONTHLY METEOROLOGICAL SUMMARY

STATION Billings, Montana DATE MAY, 1944

DATE	TEMPERATURE °F				PRECIPITATION			WIND			WEATHER	
	MAXIMUM	MINIMUM	MEAN	NORMAL MEAN	TOTAL (INCHES)	SNOWFALL # (INCHES) P. M. TO P. M. (UNMELTED)	DEPTH OF SNOW ON THE GROUND P. M. *	PREVAILING DIRECTION	b. HIGHEST VELOCITY	DIRECTION	PERCENT OF POSSIBLE SUNSHINE	CHARACTER OF DAY (SUNRISE TO SUNSET)
1	55	42	48	52	0	0	0	N	35	N	84	Cloudy
2	49	40	44	52	T	0	0	N	42	N	35	"
3	57	39	48	52	T	0	0	N	34	N	92	Pt Cloudy
4	68	31	50	53	0	0	0	SW	16	SE	89	"
5	81	37	59	53	0	0	0	N	17	NE	100	Clear
6	56	43	50	53	T	0	0	NE	26	NE	46	Cloudy
7	55	40	48	54	T	0	0	NE	12	NE	59	"
8	67	37	52	54	T	0	0	S	14	S	56	"
9	75	48	62	54	T	0	0	S	20	N	55	"
10	76	45	60	54	0	0	0	SE	20	SE	85	"
11	78	47	62	55	.04	0	0	S	31	NW	73	Pt Cloudy
12	80	45	62	55	.01	0	0	S	24	S	94	"
13	83	50	66	55	T	0	0	S	24	N	75	"
14	87	54	70	56	T	0	0	SE	34	N	71	"
15	87	51	69	56	T	0	0	NE	24	N	86	Cloudy
16	86	58	72	56	0	0	0	N	36	N	72	Pt Cloudy
17	73	50	62	56	.13	0	0	NE	29	NE	50	Cloudy
18	57	48	52	57	.28	0	0	N	25	S	20	"
19	63	47	55	57	.01	0	0	SW	20	N	33	"
20	67	48	58	57	T	0	0	SW	13	SW	72	Pt Cloudy
21	74	48	61	58	0	0	0	S	14	W	89	"
22	65	44	54	58	.20	0	0	N	40	NW	39	Cloudy
23	60	43	52	58	T	0	0	SE	24	N	48	"
24	67	40	54	58	0	0	0	S	24	N	60	Pt Cloudy
25	70	44	57	59	0	0	0	NW	19	NW	91	Clear
26	76	44	60	59	0	0	0	SE	15	SE	100	"
27	81	53	67	59	0	0	0	SE	15	SE	100	Pt Cloudy
28	83	58	70	60	0	0	0	SW	19	SW	89	"
29	87	52	70	60	T	0	0	SW	15	SW	92	"
30	84	60	72	60	.06	0	0	SW	18	SE	58	"
31	78	58	68	60	T	0	0	SW	26	SW	88	Cloudy
MEAN	71.8	46.6	59.2	------	a.73	a 0	0	S	b -	b -	71	Pt Cloudy
Normal	-	-	56.1	------	-	-	-	-	------	------	-	-

midnight to midnight

* 5:30 P. M. 105TH MERIDIAN TIME. T INDICATES A TRACE OF PRECIPITATION aTOTAL bHIGHEST for 5-minute period.

SUMMARY

BAROMETRIC PRESSURE

Monthly mean 29.88
Highest 30.42, date 3rd
Lowest 29.41, date 22nd

TEMPERATURE

Highest 87, date 29
Lowest 31, date 4th
Extremes this month since 1935; highest 96, lowest 26
Average daily departure +3.1
Average daily departure since January 1, +2.0
Total degree days 220

PRECIPITATION

Greatest amount in 24 hours .41, date 17th, 18th
Departure from normal this month -
Accumulated departure since -,
Snowfall, greatest 24-hour amount 0, date -;
snow on ground on 15th 0, and at end of month 0

WIND

Prevailing direction S, average hourly velocity 11.0
Highest wind velocity this month since 1939
45 miles from NW, on 15th, in 1939

WEATHER

Number of days clear 3, partly cloudy 14, cloudy 14,
with measurable precipitation (0.01 inch, or more) 7

MISCELLANEOUS PHENOMENA—DATES OF

Hail 0
Fog, light 17, 18
Fog, dense 17
Frost, light 8, heavy -, killing† -
Sleet 0
Thunderstorms 11, 13, 14, 15, 17, 18, 19, 30, 31.
Duststorms 0

†Frosts not recorded in autumn after first "killing", except in Florida and along immediate coast of the Gulf of Mexico.

MEAN TEMPERATURE AND TOTAL PRECIPITATION THIS MONTH IN—

1875		87		99	54	3.50	11	54	3.24	23	56	2.94	35	52	2.78
1876		88		00	-	--	12	54	2.58	24	53	2.05	36	65	1.07
1877		89		01	63	--	13	54	1.49	25	57	1.44	37	60	0.53
1878		90		02	60	--	14	56	1.96	26	58	1.64	38	54	4.09
1879		91		03	48	--	15	54	2.86	27	50	3.70	39	59	1.75
1880		92		04	-	--	16	52	2.38	28	61	0.75	40	60	0.84
1881		93	49	05	53	3.86	17	51	4.01	29	53	1.25	41	59	2.00
1882		94	60	06	57	3.04	18	53	2.44	30	55	0.42	42	52	4.93
1883		95	58	07	52	4.63	19	58	1.22	31	56	0.67	43	51	1.24
1884		96	56	08	56	5.37	20	53	2.45	32	56	1.90	44	59	0.73
1885		97	62	09	50	1.64	21	55	3.30	33	55	2.63	45		
1886		98	52	10	56	1.48	22	55	2.05	34	65	0.27	46		

Data prior to 1935 from records taken in the city of Billings, subsequent data from records at Airport.

L. T. Pierce,

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU

STATION Billings, Montana DATE May, 1944 WB Form 1030

Psychrometric Data

Date	# 11:30 p.m.				5:30 a.m.				11:30 a.m.				5:30 p.m.			
	Dry	Wet	Dew Pt.	Rel Hum	Dry	Wet	Dew Pt.	Rel Hum	Dry	Wet	Dew Pt.	Rel Hum	Dry	Wet	Dew Pt.	Rel Hum
1	52.5	39.9	24	31	44.7	34.2	18	31	54.8	40.2	30	24	49.1	38.1	24	35
2	41.9	34.1	24	45	40.2	35.0	28	60	48.2	38.5	26	40	45.2	37.7	28	50
3	42.9	37.5	31	62	39.6	35.0	29	64	50.0	35.8	12	19	56.4	41.7	23	26
4	42.5	35.9	27	46	32.8	28.2	20	55	60.9	43.8	23	22	67.6	47.8	26	20
5	50.8	40.3	28	39	36.7	33.2	29	71	74.1	53.5	36	25	79.0	55.6	29	15
6	55.3	45.1	35	45	50.4	43.8	37	41	53.8	45.4	37	71	50.8	44.1	37	59
7	43.4	39.6	35	73	40.9	37.9	34	76	49.3	41.0	32	51	54.7	43.1	30	38
8	42.6	36.2	28	55	37.8	34.0	29	69	60.1	45.4	29	30	66.5	49.4	33	28
9	54.9	48.1	42	62	50.3	45.3	41	70	64.3	52.0	42	44	69.5	48.7	27	19
10	52.0	45.9	40	64	45.3	39.8	34	64	65.7	50.8	38	36	74.7	52.8	33	22
11	61.5	50.2	41	47	47.7	42.9	38	69	72.0	55.2	37	29	67.1	49.3	35	28
12	57.3	49.8	44	62	45.6	43.2	41	83	70.6	55.5	44	58	76.3	54.7	37	24
13	63.6	52.3	44	46	50.9	45.9	41	70	74.9	57.2	45	35	75.8	55.7	40	28
14	62.9	51.2	42	46	55.9	49.0	43	62	76.8	58.3	46	34	82.3	58.7	42	24
15	61.6	51.1	43	50	55.1	48.8	43	64	77.8	56.3	40	26	80.2	54.8	32	37
16	68.4	52.1	38	33	61.2	50.8	42	49	78.0	58.1	44	30	77.1	55.1	37	24
17	59.0	54.4	50	73	52.1	50.1	49	88	63.5	56.8	53	69	67.5	59.9	56	66
18	53.7	53.2	53	98	50.2	49.2	48	93	49.5	49.0	49	98	53.0	49.9	48	82
19	49.2	47.9	47	90	48.1	46.4	45	89	58.0	51.2	46	64	55.6	50.1	46	69
20	51.8	49.0	47	83	49.2	44.4	40	71	61.5	49.8	40	45	66.1	50.8	37	34
21	57.2	48.0	40	52	48.1	45.0	42	79	67.0	54.2	45	45	72.9	53.2	36	26
22	63.0	49.8	38	40	45.2	40.5	35	67	52.6	42.5	31	43	50.2	44.9	40	68
23	46.0	42.0	38	73	43.1	38.8	34	70	53.7	43.2	32	43	52.9	44.5	36	52
24	49.1	45.4	42	76	42.1	41.7	41	96	57.8	44.6	30	34	64.9	45.6	23	19
25	53.0	42.5	31	41	44.8	38.2	30	55	60.2	45.2	29	30	69.8	49.9	30	22
26	56.8	45.3	34	41	46.8	41.8	36	66	69.8	52.8	39	33	75.5	51.7	28	17
27	62.1	51.8	44	51	54.8	48.9	44	67	77.1	58.0	45	32	79.1	56.8	40	25
28	66.0	53.1	43	45	59.3	50.3	43	55	78.6	56.0	38	23	81.9	56.5	36	19
29	72.0	52.0	34	24	54.9	48.2	42	62	79.0	57.2	41	26	85.2	59.3	40	20
30	73.4	56.0	43	34	62.8	53.3	46	54	80.0	62.2	52	38	76.2	57.7	45	33
31	63.8	56.0	51	63	61.3	54.6	50	66	74.0	55.2	40	30	77.9	55.5	37	23
Mean	55.8	47.0	39	54	48.3	43.2	38	67	65.0	50.4	38	39	67.8	50.7	35	34

Previous day.

Contact Weather	724.6
Instrument Weather	11.5
Closed Weather	7.9

WB FORM 1030

U. S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

MONTHLY METEOROLOGICAL SUMMARY

STATION Billings, Montana DATE June, 1944

DATE	TEMPERATURE °F MAXIMUM	MINIMUM	MEAN	NORMAL MEAN	PRECIPITATION TOTAL	SNOWFALL (INCHES)	DEPTH OF SNOW ON THE GROUND P. M. *	WIND PREVAILING DIRECTION	HIGHEST VELOCITY b.	DIRECTION	WEATHER PERCENT OF POSSIBLE SUNSHINE	CHARACTER OF DAY (SUNRISE TO SUNSET)
1	75	52	64	60	T	0	0	SW	26	N	65	Cloudy
2	70	54	62	61	.18	0	0	N	31	SE	48	"
3	57	44	50	61	1.41	0	0	N	35	N	0	"
4	45	40	42	61	.57	0	0	N	24	N	0	"
5	58	38	48	62	.07	0	0	N	16	N	67	"
6	67	39	53	62	0	0	0	E	13	E	83	Pt Cloudy
7	60	49	54	62	.48	0	0	NE	17	E	35	Cloudy
8	60	47	54	62	.07	0	0	E	24	E	10	"
9	62	49	56	63	.08	0	0	NE-E	20	NE	19	"
10	66	48	57	63	T	0	0	NE	16	SW	65	"
11	74	49	62	63	.08	0	0	SW	24	SW	69	Pt Cloudy
12	68	50	59	64	T	0	0	SW-NW	30	NW	62	"
13	73	50	62	64	T	0	0	SW	25	W	81	"
14	79	50	64	64	.29	0	0	N	34	SW	65	"
15	77	51	64	65	T	0	0	NE	34	NW	71	"
16	69	48	58	65	.69	0	0	N	27	N	42	Cloudy
17	51	42	46	66	1.20	0	0	N	31	N	0	"
18	64	42	53	66	.17	0	0	SW	24	NE	70	Pt Cloudy
19	74	46	60	66	0	0	0	N	18	NW	89	"
20	75	55	65	66	T	0	0	NW	34	NW	87	"
21	60	52	56	67	.30	0	0	SE	18	E	5	Cloudy
22	68	52	60	67	.09	0	0	SW	18	N	31	"
23	78	50	64	67	0	0	0	SW	13	SW	100	Clear
24	89	54	72	68	0	0	0	SW	16	SW	98	"
25	90	63	76	68	0	0	0	SW	24	NE	82	"
26	69	51	60	68	.90	0	0	N	25	NE	0	Cloudy
27	58	48	53	68	1.05	0	0	N	18	N	25	"
28	70	51	60	69	.01	0	0	S	20	NW	70	Pt Cloudy
29	82	51	66	69	0	0	0	S-SW	9	E	97	Clear
30	94	60	77	69	0	0	0	SW	18	SE	100	"
31												
MEAN	69.4	49.2	59.3	------	a7.64	a 0	0	N	b -	b -	55	Pt Cloudy
Normal	-	-	64.9	------	-	-	-	-	------	------	-	-

* 5:30 ~~A.M.~~ P. M. 105 TH MERIDIAN TIME. T INDICATES A TRACE OF PRECIPITATION a TOTAL b ~~HOURLY~~ for 5-minute period.
# midnight to midnight

SUMMARY

BAROMETRIC PRESSURE

Monthly mean 29.85
Highest 30.33, date 5th
Lowest 29.39, date 2nd

TEMPERATURE

Highest 94, date 30th
Lowest 38, date 5th
Extremes this month since 1934; highest 102, lowest 32
Average daily departure -5.6
Average daily departure since January 1, +0.3
Total degree days* 204

PRECIPITATION

Greatest amount in 24 hours 1.72, date 26th, 27th
Departure from normal this month -
Accumulated departure since -,
Snowfall, greatest 24-hour amount 0, date -;
snow on ground on 15th 0, and at end of month 0

WIND

Prevailing direction N, average hourly velocity 10.4
Highest wind velocity this month since 1939
57 miles from N, on 23rd, in 1939

WEATHER

Number of days clear 5, partly cloudy 10, cloudy 15,
with measurable precipitation (0.01 inch, or more) 17

MISCELLANEOUS PHENOMENA—DATES OF

Hail 14, 16
Fog, light 3, 17, 18, 27
Fog, dense 3, 10
Frost, light -, heavy -, killing† -
Sleet -
Thunderstorms 2, 11, 13, 14, 15, 16, 19, 20, 21, 22, 28,
Duststorms -

†Frosts not recorded in autumn after first "killing", except in Florida and along immediate coast of the Gulf of Mexico.

MEAN TEMPERATURE AND TOTAL PRECIPITATION THIS MONTH IN—

1875		87		99 64	--	11 66	1.59	23 63	2.68	35 64	0.80
1876		88		00 74	--	12 64	0.73	24 61	1.74	36 70	1.80
1877		89		01 60	--	13 66	2.15	25 64	3.11	37 64	4.93
1878		90		02 62	--	14 61	1.31	26 63	0.67	38 67	5.23
1879		91		03 60	--	15 58	5.22	27 64	3.34	39 60	5.31
1880		92		04 --	--	16 61	2.50	28 59	1.67	40 67	2.49
1881		93 58	2.83	05 62	5.31	17 61	2.17	29 63	1.06	41 64	3.09
1882		94 67	3.81	06 64	0.82	18 70	0.83	30 64	0.79	42 60	2.30
1883		95 61	3.08	07 62	1.17	19 69	0.36	31 69	0.79	43 60	3.28
1884		96 70	1.33	08 63	1.40	20 63	1.80	32 64	4.58	44 59	7.64
1885		97 64	2.61	09 63	2.89	21 69	2.42	33 71	0.40	45	
1886		98 63	4.59	10 67	0.50	22 68	2.40	34 66	2.52	46	

Data prior to 1935 from records taken in City of Billings, subsequent data from records at Airport.

L. T. Pierce, Meteorologist

UNITED STATES DEPARTMENT OF COMMERCE

WEATHER BUREAU

STATION Billings, Montana DATE June, 1944 WB Form 1030

Psychrometric Data

	# 11:30 p.m.				5:30 a.m.				11:30 a.m.				5:30 p.m.			
Date	Dry	Wet	Dew Pt.	Rel Hum	Dry	Wet	Dew Pt.	Rel Hum	Dry	Wet	Dew Pt.	Rel Hum	Dry	Wet	Dew Pt.	Rel Hum
1	63.5	50.0	38	39	53.2	48.2	44	83	68.1	53.5	42.	39	73.5	54.5	39	29
2	59.4	50.0	42	53	55.2	46.9	39	54	60.3	49.5	40	47	66.1	54.9	47	50
3	55.7	54.5	54	93	53.7	53.5	53	98	55.3	53.7	53.	91	54.2	50.9	48	81
4	45.2	44.3	43	92	41.6	40.4	39	95	43.9	42.5	41.	90	43.3	42.0	40	87
5	40.1	38.2	36	85	39.4	37.9	36	88	49.8	43.5	37	61	50.5	46.3	36	46
6	46.7	43.2	40	76	40.7	38.8	37	86	63.2	50.3	39.	41	66.2	54.1	45	47
7	57.3	51.6	47	69	50.0	48.9	48	93	57.0	51.0	46	67	52.9	46.4	40	62
8	49.3	48.6	48	96	48.9	47.2	46	89	54.2	49.9	46	75	59.0	51.8	46	61
9	52.0	48.1	45	77	49.1	45.1	41	75	54.3	49.1	45	71	61.2	53.5	48	62
10	54.1	51.7	50	87	49.2	48.6	48	95	60.8	53.8	49.	65	66.2	56.1	49	55
11	52.2	50.9	50	92	48.7	44.5	41	75	63.7	53.0	47	54	59.2	55.8	54	82
12	53.0	51.3	50	90	51.8	50.0	49	90	62.3	54.8	49	62	62.1	53.1	46	56
13	57.7	51.1	46	65	51.5	49.5	48	88	66.5	55.3	48	53	70.6	55.2	44	38
14	58.2	52.4	48	70	51.0	48.9	47	87	70.3	58.5	51	50	76.5	58.8	47	35
15	56.0	52.8	51	82	53.9	51.5	50	86	69.0	58.7	52.	55	69.8	59.0	52	54
16	63.8	57.7	54	71	55.8	52.0	49	79	64.0	55.9	50.	61	54.9	53.6	53	93
17	52.2	49.1	47	82	50.1	49.8	50	98	47.3	46.8	46.	95	45.1	44.2	43	94
18	42.2	41.2	40	92	42.9	42.5	42	98	51.9	46.2	41	66	62.7	53.1	46	55
19	50.4	48.2	46	86	47.2	46.0	45	92	62.6	56.8	53	58	71.1	60.0	53	54
20	63.9	57.2	53	68	56.7	50.2	45	65	67.6	53.7	43	41	72.4	54.8	41	32
21	60.0	54.7	51	73	54.5	51.5	49	82	55.5	53.6	52.	88	53.4	53.2	50	72
22	53.1	51.0	49	86	53.2	51.9	51	92	58.0	55.0	53	84	64.2	56.3	51	62
23	60.3	53.2	48	64	50.1	47.8	46	86	70.2	55.3	46	47	78.0	58.8	46	32
24	68.6	57.4	50	52	54.0	52.3	51	90	79.0	61.8	52	39	89.0	61.3	44	21
25	72.8	59.8	52	48	63.1	52.2	44	51	81.1	60.0	46.	29	87.2	59.4	39	18
26	69.9	57.8	50	50	62.9	53.1	46	54	55.8	55.0	54	95	53.9	52.4	51	92
27	52.2	50.8	50	91	50.0	49.4	49	96	50.0	48.3	47.	90	57.2	51.0	46	67
28	53.9	51.1	49	84	52.6	50.1	48	85	63.6	53.1	45	51	67.8	54.5	45	44
29	60.2	53.8	49	67	51.2	50.2	50	94	70.2	59.3	53	54	81.8	62.4	51	34
30	70.5	60.9	56	59	60.0	56.9	55	83	78.0	65.2	59	52	88.8	66.0	54	31
31																
Mean	56.5	51.4	48	75	51.4	48.5	46	84	61.8	53.5	48	62	65.7	54.5	46	55

Previous day.

Contact Weather . . . . . 674.0 hours
Instrument Weather. . . . 39.8 "
Closed Weather. . . . . 6.2 "

WB FORM 1030

U. S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

MONTHLY METEOROLOGICAL SUMMARY

STATION Billings, Montana DATE July, 1944

DATE	TEMPERATURE °F MAXIMUM	MINIMUM	MEAN	NORMAL MEAN	PRECIPITATION TOTAL	(INCHES)	SNOWFALL # (INCHES) P. M. TO P. M. (UNMELTED)	DEPTH OF SNOW ON THE GROUND P. M. *	WIND PREVAILING DIRECTION	b. HIGHEST VELOCITY	DIRECTION	WEATHER PERCENT OF POSSIBLE SUNSHINE	CHARACTER OF DAY (SUNRISE TO SUNSET)
1	96	62	79	70	0		0	0	S	24	N	81	Pt Cloudy
2	76	59	68	70	0		0	0	N	19	N	91	"
3	76	53	64	70	0		0	0	NE	16	NE	96	Clear
4	82	57	70	70	T		0	0	NE	16	SW	77	Pt Cloudy
5	78	55	66	70	.04		0	0	SW	45	NW	45	Cloudy
6	85	53	69	71	0		0	0	SW	42	NW	94	Clear
7	66	54	60	71	T		0	0	NE	24	N	61	Pt Cloudy
8	75	49	62	71	T		0	0	SW	16	SW	69	"
9	73	53	63	71	T		0	0	NE	23	N	66	"
10	62	52	57	72	.63		0	0	NE	25	NE	22	Cloudy
11	79	49	64	72	0		0	0	SW	16	SW	100	Clear
12	85	54	70	72	T		0	0	SW	26	NW	93	Pt Cloudy
13	80	59	70	72	.05		0	0	SW	23	N	87	Clear
14	78	54	66	72	0		0	0	N-NW	15	NE	100	"
15	86	51	68	72	0		0	0	SE	12	SE	90	"
16	89	66	78	72	0		0	0	SW	24	NW	87	Pt Cloudy
17	86	60	73	73	0		0	0	N	20	N	97	Clear
18	84	59	72	73	0		0	0	NE	17	NE	91	"
19	86	61	74	73	0		0	0	E-NE	18	NE	96	Pt Cloudy
20	84	56	70	73	0		0	0	N	17	SW	97	"
21	86	62	74	73	T		0	0	SW	36	N	80	"
22	84	57	70	73	.42		0	0	SW	31	NW	82	"
23	86	56	71	73	0		0	0	SW	15	SW	100	Clear
24	88	59	74	73	T		0	0	SW	34	NW	93	Pt Cloudy
25	78	58	68	73	.08		0	0	SW	29	NE	44	Cloudy
26	85	56	70	73	0		0	0	SW	20	NW	89	Pt Cloudy
27	86	57	72	73	0		0	0	NE-SW	15	SW	100	Clear
28	92	61	76	73	0		0	0	SW	16	SW	91	"
29	91	64	78	73	T		0	0	SW	45	NW	74	Pt Cloudy
30	84	58	71	73	.06		0	0	NE-W	43	NW	76	Cloudy
31	77	54	66	73	.01		0	0	NW	34	W	77	Pt Cloudy
MEAN	82.0	56.7	69.4	-------	a1.29		a0	0	SW	b-	b-	82	Pt Cloudy
Normal	-	-	72.0	-------	-		-	-	-	-------	-------	-	-

*5:30 Mountain P. M. 105TH MERIDIAN TIME. T INDICATES A TRACE OF PRECIPITATION aTOTAL bMONTHLY for 5-minute period
midnight to midnight

SUMMARY

BAROMETRIC PRESSURE

Monthly mean 29.93
Highest 30.23, date 18th
Lowest 29.54, date 1st

TEMPERATURE

Highest 96, date 1st
Lowest 49, date 11th
Extremes this month since 1935; highest 106, lowest 44
Average daily departure -2.6
Average daily departure since January 1, +0.3
Total degree days 20

PRECIPITATION

Greatest amount in 24 hours 0.63, date 10th
Departure from normal this month -
Accumulated departure since -,
Snowfall, greatest 24-hour amount 0, date -;
snow on ground on 15th 0, and at end of month 0

WIND

Prevailing direction SW, average hourly velocity 9.7
Highest wind velocity this month since 1939
61 miles from NW, on 9th, in 1940

WEATHER

Number of days clear 11, partly cloudy 16, cloudy 4,
with measurable precipitation (0.01 inch, or more) 7

MISCELLANEOUS PHENOMENA—DATES OF

Hail 22
Fog, light -
Fog, dense -
Frost, light -, heavy -, killing† -
Sleet -
Thunderstorms 4, 5, 8, 10, 13, 22, 30, 31
Duststorms -

†Frosts not recorded in autumn after first "killing", except in Florida and along immediate coast of the Gulf of Mexico.

MEAN TEMPERATURE AND TOTAL PRECIPITATION THIS MONTH IN—

1875			87			99	72	-	11	67	0.20	23	75	2.41	35	76	1.90
1876			88			00	75	-	12	66	3.39	24	69	1.96	36	81	0.96
1877			89			01	78	-	13	67	1.27	25	72	1.80	37	76	0.67
1878			90			02	70	-	14	72	0.87	26	72	0.57	38	72	2.07
1879			91			03	66	-	15	64	2.61	27	69	1.51	39	74	0.11
1880			92			04	73	-	16	72	5.13	28	69	2.27	40	75	0.53
1881			93			05	70	0.61	17	74	1.00	29	72	0.95	41	73	1.17
1882			94	72	0.43	06	75	0.30	18	68	1.03	30	72	1.20	42	72	0.56
1883			95	70	0.51	07	69	1.63	19	72	0.75	31	72	0.58	43	72	0.48
1884			96	74	0.81	08	70	0.23	20	74	0.55	32	72	0.42	44	69	1.29
1885			97	68	0.78	09	70	2.16	21	74	0.79	33	75	0.58	45		
1886			98	72	1.41	10	72	0.65	22	70	2.24	34	74	1.17	46		

Data prior to 1935 from records taken in City of Billings.

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU

Station Billings, Montana Date July, 1944 WB Form 1030

Psychrometric Data

# 11:30 p.m.					5:30 a.m.				11:30 a.m.				5:30 p.m.			
Date	Dry	Wet	DP	RH	Dry	Wet	DP	RH	Dry	Wet	DP	RH	Dry	Wet	DP	RH
1	75.1	56.9	44	33	66.5	57.2	51	58	81.1	65.0	57	43	94.8	68.5	55	27
2	71.0	60.4	54	55	60.0	51.3	45	57	67.1	51.7	39	36	74.0	52.4	32	22
3	59.1	48.4	39	47	53.3	47.9	43	68	70.4	56.8	47	43	75.9	61.1	52	44
4	63.2	58.8	56	78	57.2	54.5	53	85	73.8	63.0	57	56	78.1	64.7	58	50
5	67.1	60.3	56	69	59.8	54.7	51	73	73.7	57.7	47	39	70.8	60.7	55	58
6	60.0	53.5	49	67	54.0	49.4	46	73	74.1	57.2	45	36	82.3	60.5	46	28
7	59.2	52.5	48	66	54.8	47.5	41	60	61.4	48.2	36	38	63.1	50.0	38	40
8	55.0	47.0	40	56	50.2	45.0	40	68	66.1	52.2	41	40	75.3	55.8	41	29
9	57.0	52.8	50	77	55.2	51.8	49	80	72.2	56.8	46	40	65.2	55.4	49	56
10	60.2	53.8	49	67	53.9	50.7	48	82	61.0	54.9	51	69	55.3	54.3	54	96
11	52.9	51.2	50	90	50.9	48.2	46	83	67.9	57.9	52	57	79.0	59.1	46	31
12	65.4	54.8	47	52	54.6	51.8	50	83	75.6	59.7	50	40	82.4	61.2	48	30
13	70.4	56.0	46	41	59.9	56.2	54	92	74.8	55.4	40	29	80.1	59.6	46	30
14	66.9	52.0	39	36	54.0	45.5	37	52	68.2	49.3	30	24	77.2	54.2	34	21
15	62.8	50.8	41	44	52.0	48.6	46	79	73.3	57.1	46	38	83.5	60.1	44	25
16	71.8	60.4	54	53	66.7	55.3	48	51	81.7	61.8	50	33	86.8	63.0	49	27
17	70.2	58.0	50	49	62.6	55.0	50	63	78.9	56.8	40	25	83.2	59.2	42	24
18	66.9	54.7	46	47	59.1	49.4	41	51	77.5	59.9	49	36	83.7	59.4	42	23
19	67.1	54.8	46	47	60.9	51.2	43	52	80.0	60.1	47	32	85.2	58.3	37	18
20	66.2	56.0	49	54	58.0	51.8	47	68	78.2	61.1	51	38	78.2	60.8	50	37
21	70.0	57.2	49	47	63.5	55.0	49	59	75.8	57.4	44	33	85.1	58.3	37	18
22	67.7	55.7	47	48	61.8	53.2	47	58	77.2	55.2	37	23	77.0	63.9	57	50
23	62.8	56.0	52	67	56.2	53.5	52	85	75.0	58.5	48	38	85.4	58.7	38	19
24	73.0	58.0	48	41	61.6	54.0	49	63	80.1	61.9	51	36	82.2	57.6	39	21
25	67.8	53.0	41	38	62.2	52.0	44	51	77.0	57.8	44	31	64.3	58.4	55	72
26	58.0	56.5	56	93	56.2	54.5	53	90	72.1	60.6	54	53	83.7	59.0	41	22
27	68.4	57.8	51	54	59.9	53.8	50	69	78.8	61.9	52	40	85.6	61.2	45	25
28	72.0	57.9	49	44	61.1	54.6	50	70	83.0	63.5	52	35	90.2	61.9	43	19
29	74.1	57.1	45	35	66.2	55.0	47	50	82.3	62.6	51	34	82.8	60.7	46	28
30	68.8	57.0	49	49	60.8	52.8	47	60	82.2	59.2	43	25	77.6	60.3	49	37
31	60.6	58.2	57	87	55.6	55.0	55	97	72.5	61.8	56	56	75.7	62.1	55	48
Mean	65.5	55.4	48	56	58.3	52.1	47	69	74.6	58.2	47	39	78.8	59.4	46	35

#Previous Day

Flying Weather

Contact . . . . . 743.1 hours

Instrument. . . . . 0.9 "

Closed. . . . . 0.0 "

WB FORM 1030

U. S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

MONTHLY METEOROLOGICAL SUMMARY

STATION Billings, Montana MONTH August, 1944

DATE	TEMPERATURE °F MAXIMUM	MINIMUM	MEAN	DEPARTURE FROM NORMAL	DEGREE DAYS BASE 65°	PRECIPITATION TOTAL (INCHES)	SNOWFALL (INCHES) P.M. TO P.M. (UNMELTED) #	DEPTH OF SNOW ON THE GROUND P.M. *	WIND PREVAILING DIRECTION	HIGHEST VELOCITY b.	DIRECTION	WEATHER PERCENT OF POSSIBLE SUNSHINE	AVERAGE CLOUDINESS SCALE 0 TO 10
1	82	56	69	+ 4	4	.22	0	0	NE	35	E	87	4
2	84	58	71	+ 2	0	.02	0	0	SW	21	N	84	5
3	71	51	61	-12	4	.62	0	0	W	24	NW	34	8
4	81	52	66	- 7	0	0	0	0	SW	17	SW	99	1
5	89	53	71	- 2	0	0	0	0	SE	14	SW	96	1
6	94	58	76	+3	0	0	0	0	SW	32	NW	95	3
7	89	59	74	+2	0	0	0	0	SW	24	N	95	2
8	85	59	72	0	0	0	0	0	SW	19	N	81	3
9	90	56	73	+1	0	0	0	0	SW	25	NW	90	2
10	88	52	70	- 2	0	0	0	0	NW	36	NW	100	2
11	90	61	76	+4	0	0	0	0	SW	17	SW	99	1
12	92	65	78	+6	0	0	0	0	W	29	W	97	2
13	72	54	63	- 9	2	0	0	0	NE	29	NE	91	5
14	62	51	56	-16	9	.01	0	0	NE	19	NW	25	8
15	76	43	60	-11	5	.01	0	0	S	24	N	72	7
16	72	53	62	- 9	3	.01	0	0	NE	17	N	100	3
17	85	48	66	- 5	0	0	0	0	NE	11	NE	98	1
18	94	54	74	+3	0	0	0	0	N	29	N	88	2
19	80	55	68	- 2	0	0	0	0	N	15	NW	90	1
20	81	54	68	- 2	0	0	0	0	N	16	N	99	1
21	84	52	68	- 2	0	T	0	0	N-SW	23	NE	82	3
22	72	54	63	- 7	2	0	0	0	NE	45	N	88	4
23	81	53	67	- 2	0	T	0	0	NE	20	NE	86	4
24	82	57	70	+1	0	T	0	0	NE	35	NW	81	8
25	76	58	67	- 2	0	0	0	0	NW	35	NW	93	3
26	78	55	66	- 2	0	0	0	0	NW	17	NW	100	3
27	82	52	67	- 1	0	0	0	0	SW	14	SW	100	1
28	86	53	70	+2	0	.08	0	0	SW	45	NW	64	8
29	70	53	62	- 6	3	T	0	0	NW	34	NW	76	7
30	75	54	64	- 3	1	0	0	0	SW	18	N	100	2
31	81	46	64	- 3	1	0	0	0	NE	13	E	100	1
MEAN	81.4	54.2	67.8	------	a30	a.97	a0	0	SW	b -	b -	87	3
Normal			70.6	------	------	-	-	-	-	------	------	-	-

105TH MERIDIAN TIME. T INDICATES A TRACE OF PRECIPITATION aTOTAL bMONTHLY for 5-minute period
cSUNRISE TO SUNSET: 0 TO 3, CLEAR; 4 TO 7, PARTLY CLOUDY; 8 TO 10, CLOUDY.
*5:30 p.m.
#midnight to midnight

SUMMARY

BAROMETRIC PRESSURE (SEA LEVEL)

Monthly mean 29.88
Highest 30.18, date 22nd
Lowest 29.53, date 24th

TEMPERATURE

Highest 94, date 6th
Lowest 43, date 15th
Extremes this month since 1934: highest 107, on 3rd, in 1934; lowest 40, on 10th, in 1939
Average daily departure -2.8
Average daily departure since January 1, -0.1

PRECIPITATION

Greatest amount in 24 hours .64, date 2nd, 3rd
Departure from normal this month -
Accumulated departure since -,
Snowfall, greatest 24-hour amount 0, date -

WIND

Prevailing direction SW, average hourly velocity 10.5
Highest wind velocity this month since 1939
50 miles from N, on 21st, in 1942

WEATHER

Number of days clear 20, partly cloudy 7, cloudy 4,
with measurable precipitation (0.01 inch, or more) 7

MISCELLANEOUS PHENOMENA—DATES OF

Hail 3, 28
Fog, light -
Fog, heavy -
Frost, light -, heavy -, killing† -
Sleet -
Thunderstorms 1, 2, 3, 24, 28
Duststorms -

†Frosts not recorded in autumn after first "killing", except in Florida and along immediate coast of the Gulf of Mexico.

MEAN TEMPERATURE AND TOTAL PRECIPITATION THIS MONTH IN—

1875		87		99 67	-	11 63	0.89	23 68	2.08	35 72	0.46
1876		88		00 70	-	12 63	0.95	24 66	0.12	36 73	0.47
1877		89		01 72	-	13 69	1.41	25 67	0.32	37 74	0.18
1878		90		02 69	-	14 66	0.22	26 68	1.02	38 71	1.07
1879		91		03 65	-	15 69	1.37	27 64	1.79	39 69	0.76
1880		92		04 70	-	16 67	0.83	28 65	0.99	40 74	0.13
1881		93		05 73	0.25	17 67	0.26	29 72	0.23	41 71	1.10
1882		94 71	0.50	06 75	2.99	18 66	1.28	30 72	1.35	42 68	1.07
1883		95 72	1.51	07 69	1.21	19 69	0.58	31 70	0.59	43 71	0.68
1884		96 -	-	08 65	0.94	20 73	0.79	32 70	1.39	44 68	0.97
1885		97 -	-	09 70	0.96	21 71	0.51	33 70	3.86	45	
1886		98 71	1.07	10 64	1.28	22 74	0.32	34 71	0.31	46	

Data prior to 1934 from records taken in City of Billings. Subsequent data from records at Airport.

L. T. Pierce,
Meteorologist.

Weather Bureau.

UNITED STATES DEPARTMENT OF COMMERCE

WEATHER BUREAU

STATION Billings, Montana DATE August, 1944 WB Form 1030

Psychrometric Data

Date	# 11:30 p.m.				5:30 a.m.				11:30 a.m.				5:30 p.m.			
	Dry	Wet	Dew Pt.	Rel Hum	Dry	Wet	Dew Pt.	Rel Hum	Dry	Wet	Dew Pt.	Rel Hum	Dry	Wet	Dew Pt.	Rel Hum
1	61.0	55.5	52	72	56.0	53.8	52	88	75.4	59.9	50	42	80.2	63.3	54	40
2	63.8	55.1	49	59	60.0	56.0	53	78	74.1	60.2	52	46	79.0	62.2	52	39
3	68.0	61.1	57	68	60.4	53.6	49	66	67.0	57.8	52	59	57.0	53.1	50	78
4	57.3	53.1	50	77	55.5	49.8	45	68	71.9	59.8	53	51	81.0	58.4	42	25
5	68.4	54.9	45	43	56.8	51.2	47	69	74.0	60.2	52	46	86.8	62.5	47	25
6	74.1	58.3	48	40	59.8	53.2	48	66	81.2	60.5	47	30	89.2	63.8	49	25
7	68.9	55.2	45	42	63.1	53.2	46	53	79.5	60.3	48	33	84.9	59.8	42	22
8	66.9	54.0	44	43	60.0	52.3	47	61	71.8	60.2	53	52	84.9	62.5	49	29
9	73.3	60.1	52	47	57.2	53.2	50	77	73.4	62.6	57	56	84.3	59.8	42	23
10	67.0	54.9	46	47	55.4	48.0	41	58	80.0	56.4	38	22	84.2	58.3	39	20
11	68.3	54.1	43	40	62.6	52.0	44	50	77.8	60.0	49	36	87.8	62.2	46	24
12	74.2	54.9	40	29	72.2	52.1	34	24	85.6	57.4	34	16	90.8	58.2	30	11
13	69.3	54.7	44	40	56.3	49.2	43	62	68.4	55.2	46	44	67.0	56.0	48	51
14	56.2	51.0	47	71	53.2	50.7	49	85	60.0	53.0	48	64	61.0	52.8	47	60
15	51.4	47.6	44	77	45.8	44.2	43	89	62.0	51.7	44	51	74.5	55.5	41	30
16	57.8	53.8	51	78	56.1	49.1	43	62	66.4	50.3	36	32	69.8	53.4	40	34
17	56.0	48.9	43	62	50.3	46.2	43	75	68.0	54.8	45	44	83.6	60.5	45	26
18	69.3	55.6	46	43	54.2	50.2	47	77	79.9	61.6	51	36	91.2	61.7	42	18
19	72.9	53.4	37	27	57.1	47.3	38	49	70.9	51.3	33	25	80.0	54.8	32	18
20	63.6	50.6	40	41	56.0	45.3	34	43	73.2	54.5	40	30	78.4	55.1	35	21
21	61.1	51.1	43	51	55.0	48.1	42	61	71.6	57.6	48	43	84.2	60.2	44	24
22	67.8	51.5	37	32	56.1	52.0	49	77	67.3	55.8	48	49	70.1	57.0	48	46
23	61.1	53.9	49	64	54.1	52.0	50	87	70.4	58.8	52	52	78.0	63.1	55	45
24	64.8	58.5	55	70	58.2	55.3	54	84	66.2	61.7	59	78	82.2	65.3	57	42
25	69.5	59.7	54	57	58.2	47.1	36	44	69.2	51.2	35	28	74.4	52.2	31	20
26	61.5	48.3	36	38	56.4	46.2	36	46	69.8	51.5	35	28	76.4	53.8	34	21
27	61.1	49.0	38	42	55.0	45.8	37	50	73.3	56.5	44	35	81.7	58.2	41	24
28	68.2	51.9	38	34	58.1	50.0	43	58	78.9	60.7	49	35	58.0	53.6	50	76
29	56.7	51.2	47	70	55.0	49.5	45	69	60.3	52.1	46	59	69.0	53.5	41	36
30	59.2	50.1	43	54	53.9	49.0	45	72	70.7	55.1	43	37	72.6	54.6	40	32
31	60.9	48.9	38	43	47.2	44.4	42	82	69.1	54.4	43	39	80.2	57.2	40	23
Mean	64.5	53.6	45	52	56.6	50.0	44	65	71.8	56.9	46	42	78.1	58.1	44	33

Previous Day

Flying Weather

Contact . . . . . 742.6 hours

Instrument. . . . . 0.0 "

Closed. . . . . 1.4 "

Form NR-1

MIGRATORY BIRDS

Refuge Fort Peck Easement Refuges Months of May to August, 1944

1612

(1) Species	(2) First Observed		(3) Became Common	(4) Peak Concentration		(5) Last Observed		(6) Young Produced			(7) Total
Common Name	Number	Date	Date	Number	Date	Number	Date	No. Broods Obsvd.	Avg. Size	Esti-mated Total	Number Using Refuge
Hailstone:											
Calif. orRing Bill Gull						40					
Mallard						1800				700	2,500
Baldpates						300				150	450
B. W. Teal						1800				800	2,600
Shovellers						300				150	450
Blue Heron						40					40
Yellow legs						400					400
Halfbreed:											
Mallard						800					400
Baldpate						400					200
B. W. Teal						300					150
Canada Geese						40					40
Blue Heron						20					20
Killdeer						80				25	80
Lake Mason:											
Mallard						8000				2000	10,000
B. W. Teal						1200				600	1,800
Shoveller						1000				600	1,600
Pintail						2500				1000	3,500

REMARKS: (Pertinent information not specifically requested)

Lamesteer:
Mallards 30 15 45
Shovellers 30 15 45

Only inspection on first 5 Refuges--8/20-21/44
Only inspection on Lamesteer--5/30/44
It is believed that Canada Geese are nesting on Hailstone but no nests could be found. Still uncertain.

INSTRUCTIONS

Form NR-1 - MIGRATORY BIRDS (Include species in families Gaviidae through Strigidae; also doves and woodcocks)*

In case a resident form occurs, such as mottled duck on the Gulf Coast, use only the columns that apply.

(1) SPECIES: Use correct common names as found in the A.O.U. Check List, 1931 Edition, and list in A.O.U. order. General terms are to be avoided, such as "scaup", "teal", etc.; use "green-winged teal" or "lesser scaup".

(2) FIRST OBSERVED: The first refuge record for the species during spring migration, fall migration, wintering, or summering, and the number observed. In the case of resident species this column may be disregarded.

(3) BECAME COMMON: The date the species became common on the refuge.

(4) PEAK CONCENTRATION: The greatest number of the species present on any one date or limited interval of time.

(5) LAST OBSERVED: The last refuge record for the species during the spring or fall migration, wintering, or summering, and the numbers observed exclusive of obvious cripples or non-migrants.

(6) YOUNG PRODUCED: Estimated number of young produced based upon 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 are to be omitted.

(7) 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 manner in which birds come through; i.e., in waves or all at once. On refuges representing the terminus of the flight lane, the figures would probably be the same in many cases.

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

Form NR-2 UPLAND GAME BIRDS 1613

Refuge **Fort Peck Easement Refuges** Months of **May** to **August**, 1944

(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	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
None Observed.										

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

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.