ROUTING SLIP DIVISION OF WILDLIFE REFUGES DATE: 1/31 1945

	MR. SALYER		SECTION OF HABITAT IMPROVEMENT:
	MR. ELMER		~~Mr. Griffith~~
			Dr. Bourn WSB 2/5/45
			~~Miss Cook~~ 2-1-45
	SECTION OF OPERATIONS:		SECTION OF LAND MANAGEMENT:
	~~Mr. Krummes~~ WK 2/13		Mr. ~~Bennshaw~~
	Mr. Regan		~~Mr. DuMont~~ PAD 2/14
	Miss Baum		
	SECTION OF STRUCTURES:		STENOGRAPHERS:
	~~Mr. Taylor~~ 2/27		

REMARKS: Lake Mason Easements

Narrative

May-August 1943

Return to:

8825

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DEPT. OF THE INTERIOR
FISH AND WILDLIFE SERVICE
RECEIVED
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RECORDS AND
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DEPT. OF THE INTERIOR
FISH AND WILDLIFE SERVICE
RECEIVED
JAN 29 1945
RECORDS AND COMMUNICATIONS

LAKE MASON NATIONAL WILDLIFE REFUGE
HAILSTONE NATIONAL WILDLIFE REFUGE
HALFBREED NATIONAL WILDLIFE REFUGE
LAMESTEER NATIONAL WILDLIFE REFUGE
REFUGE NARRATIVE REPORT
MAY - JUNE - JULY - AUGUST
1943

I. GENERAL

A. Weather Conditions.

Slightly cooler and drier than normal. Weather reports will be found at the end of the report.

B. Water Conditions.

Hailstone

At the beginning of this period, it was 8" below spill. At the close of the report period, it was approximately 18" below spill.

Halfbreed

Spilled through the early part of this period and was approximately 18" below spill at the close of the period.

Lake Mason

Continued to spill because of the flow of Willow Creek throughout the period.

Miller Lake stayed at its normal level of about 30" below spill.

Lamesteer

This area remained nearly full throughout the period and was down about 5" from spill on August 31st.

C. Fires.

None.

II. WILDLIFE

A. Migratory Birds.

1. Population and Behavior.

The only inspection of these areas through this period was in the early part of August. At this time, there

were approximately 500 ducks on Hailstone, 1500 ducks and 12 geese on Halfbreed, about 2500 ducks on Lake Mason and 30 on Lamesteer.

2. Food and Cover.

Hailstone, Lake Mason and Miller Lake all have an abundance of aquatic growth, Halfbreed has a small amount and Lamesteer very little.

There were no sick or dead birds found on any area through this period.

B. Upland Game Birds.

No Upland Birds were observed on the area through this period.

C. Big Game Animals.

As in the past, antelope were occasional visitors on Hailstone, Halfbreed and Lake Mason Refuges.

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

Lamesteer lake is the only refuge in this group bearing any population of Fur Bearers. There are approximately 60 Muskrats on this area and because of its lack of aquatic growth, is not a good habitat for this species.

E. Fish.

Between 3500 and 4000 Montana Black Spotted Trout were planted in each Hailstone and Halfbreed in June by Mr. A. E. Christenson, Rapelje, Chairman of the Board of County Commissioners, for the Columbus Rod and Gun Club. This was done without the consent or knowledge of either the State Fish and Game Department or the Fish and Wildlife Service.

III. REFUGE DEVELOPMENT AND MAINTENANCE

Practically all of the easily movable property stored in the rented warehouse at Roundup was moved to Fort Peck in late May. This included oil barrels, lumber, cable, miscellaneous hardware and a small amount of well drilling equipment. Because of the condition of the warehouse in which this stuff was stored, this was done as a safety measure to prevent the loss of the property through theft.

IV. PUBLIC RELATIONS

A. Refuge Visitors.

Mr. Kreager and Mr. Willis were over all of the Easement areas on an inspection trip in early August.

Submitted by:

January 11, 1945.

Thomas C. Horn, Refuge Manager

acting Approval

WB FORM 1030

U. S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

MONTHLY METEOROLOGICAL SUMMARY

STATION Billings, Montana DATE May, 1943

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	HIGHEST VELOCITY	DIRECTION	WEATHER PERCENT OF POSSIBLE SUNSHINE	CHARACTER OF DAY (SUNRISE TO SUNSET)
1	60	45	52	52	.05	0	0	NW	44	NW	1	Cloudy
2	65	40	52	52	0	0	0	NW	24	NW	85	Pt.Cloudy
3	70	40	55	52	0	0	0	NE-SW	17	N	51	Cloudy
4	58	48	53	53	.04	0	0	NW	24	NW	0	"
5	56	38	47	53	T	0	0	NW	32	NW	28	"
6	53	35	44	53	.06	T	0	S	33	NW	31	"
7	48	35	42	54	.28	T	0	N	36	N	0	"
8	50	32	41	54	T	T	0	SW	35	N	54	Pt.Cloudy
9	64	40	52	54	.01	0	0	SW	29	NW	24	Cloudy
10	46	30	38	54	.22	1.0	0	NE	29	NE	0	"
11	36	26	31	55	.25	4.5	T	NE	26	NE	53	"
12	41	26	34	55	0	0	0	E	13	SE	39	"
13	53	28	40	55	0	0	0	SW-NE	15	NE	74	Pt.Cloudy
14	45	37	41	56	.01	0	0	NE	17	NE	1	Cloudy
15	50	32	41	56	0	0	0	NE	17	NE	8	"
16	48	38	43	56	.07	0	0	NE	29	NE	0	"
17	54	36	45	56	.13	0	0	SW	17	SE	77	Pt.Cloudy
18	62	34	48	57	0	0	0	SW	15	SW	100	"
19	68	40	54	57	0	0	0	SW	17	SW	98	Clear
20	74	44	59	57	0	0	0	S	11	SW	86	"
21	77	44	60	58	T	0	0	SW	12	SW	76	Pt.Cloudy
22	71	49	60	58	T	0	0	SW	32	NW	9	Cloudy
23	60	50	55	58	.02	0	0	NW	40	NW	51	Pt.Cloudy
24	66	46	56	58	T	0	0	NW	29	NW	44	Pt.Cloudy
25	67	43	55	59	.07	0	0	SW	29	NW	30	Cloudy
26	73	48	60	59	T	0	0	SW	16	SW	50	Pt.Cloudy
27	85	50	68	59	0	0	0	SW	17	N	74	Clear
28	71	58	64	60	T	0	0	NE-NW	21	NW	40	"
29	79	54	66	60	T	0	0	S	21	S	69	Cloudy
30	79	53	66	60	.03	0	0	SW	31	NW	77	Pt.Cloudy
31	73	51	62	60	T	0	0	SW	42	NW	77	Cloudy
MEAN	61.4	41.0	51.2	------	a 1.24	a 5.5	0	SW	b 44 NW	b 1st	46	Pt.Cloudy
Normal	-	-	56.1	------	-	-	-	-	------	------	-	-

* 5:30 P. M. 105 TH MERIDIAN TIME. T INDICATES A TRACE OF PRECIPITATION aTOTAL bMONTHLY.

midnight to midnight

SUMMARY

BAROMETRIC PRESSURE

Monthly mean 29.94
Highest 30.40, date 8th
Lowest 29.37, date 31st

TEMPERATURE

Highest 85, date 27th
Lowest 26, date 11th and 12th
Extremes this month since 1935; highest 96, lowest 26
Average daily departure -
Average daily departure since January 1, -
Total degree days* 436

PRECIPITATION

Greatest amount in 24 hours 0.47, date 10, 11
Departure from normal this month -
Accumulated departure since -,
Snowfall, greatest 24-hour amount 5.5, date 10, 11;
snow on ground on 15th 0, and at end of month 0

WIND

Prevailing direction SW, average hourly velocity 10.9
Highest wind velocity this month since 1939
56 miles from NW, on 19, in 1939

WEATHER

Number of days clear 4, partly cloudy 10, cloudy 17,
with measurable precipitation (0.01 inch, or more) 13

MISCELLANEOUS PHENOMENA—DATES OF

Hail 6, 7, 16, 17
Fog, light 0 -
Fog, dense 0 Fog, moderate 1
Frost, light 15th, heavy 13th, killing† 12
Sleet -
Thunderstorms 6, 7, 17, 25, 29, 30

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	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	55	1.03	26	58	1.64	38	54	4.09
1879		91		03	46	--	15	54	2.66	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	3.62	05	53	3.86	17	51	4.01	29	53	1.25	41	59	2.00
1882		94	60	1.95	06	57	3.04	18	53	2.44	30	55	0.42	42	52	4.93
1883		95	58	0.55	07	52	4.63	19	58	1.22	31	56	0.67	43	51	1.24
1884		96	56	3.55	08	56	5.37	20	53	2.45	32	56	1.90	44		
1885		97	62	0.20	09	50	1.64	21	55	3.30	33	55	2.63	45		
1886		98	52	5.73	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,
Meteorologist, Weather Bureau.

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU

STATION Billings, Montana DATE May, 1943 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	51.0	46.1	42	70	46.8	44.0	41	82	57.0	44.0	30	35	58.3	44.1	28	46
2	46.8	38.8	29	49	40.4	34.3	26	55	58.1	43.1	25	27	62.7	45.2	25	23
3	48.1	39.5	29	47	43.1	36.8	29	56	64.0	45.6	24	21	67.2	49.7	33	28
4	57.5	46.0	34	41	47.8	43.5	39	72	58.0	49.5	42	56	56.3	50.0	45	66
5	49.8	39.2	26	38	43.2	33.9	20	37	52.1	38.5	19	25	50.8	40.0	27	38
6	40.1	35.3	29	63	36.8	33.8	30	75	45.3	39.1	32	59	52.0	42.0	30	42
7	39.8	37.6	35	83	39.8	36.6	32	73	43.9	39.6	35	70	41.5	40.0	38	88
8	35.2	34.0	33	90	31.5	29.2	26	78	40.6	35.2	28	60	50.0	40.8	30	45
9	39.9	36.0	31	70	40.0	35.1	29	64	54.9	42.8	29	36	60.4	47.0	34	36
10	48.1	41.0	33	55	40.8	39.5	38	90	41.8	39.6	37	84	35.8	35.0	34	93
11	30.0	29.9	30	99	27.2	27.0	27	99	31.0	29.9	28	88	36.1	32.0	26	65
12	30.0	28.0	25	79	25.8	25.1	24	92	36.9	31.9	25	59	40.0	33.7	25	52
13	34.6	32.0	29	78	27.8	27.3	27	94	43.9	37.2	29	54	50.3	40.3	28	41
14	44.7	38.7	31	59	39.3	38.0	37	90	40.9	39.1	37	86	42.0	39.3	36	80
15	38.2	37.0	36	91	33.0	32.2	31	92	44.3	38.4	31	60	48.6	40.2	30	48
16	42.3	38.8	35	75	39.1	37.0	34	83	45.2	40.2	34	65	42.7	39.2	35	75
17	39.8	37.5	35	83	36.2	35.0	34	90	50.5	42.5	34	54	52.0	43.9	36	53
18	42.1	39.3	36	79	33.7	33.0	32	93	55.0	44.0	32	41	60.4	44.0	24	24
19	49.9	42.1	33	52	41.8	37.1	31	66	63.5	48.2	33	32	67.8	48.0	27	20
20	54.6	44.5	34	45	44.6	40.0	35	68	67.0	53.1	42	40	73.1	52.0	32	22
21	60.6	49.1	39	45	43.9	40.6	37	77	70.1	53.6	40	34	75.9	55.2	38	26
22	60.5	49.5	40	46	51.3	45.1	39	63	63.0	52.4	44	50	68.2	53.8	43	40
23	59.1	50.8	44	58	51.9	45.2	39	61	58.4	46.1	33	39	58.9	45.6	31	34
24	51.9	43.1	34	49	46.7	41.7	36	69	63.0	47.3	31	30	64.2	48.8	34	32
25	55.4	44.2	32	41	44.8	40.2	35	68	68.1	52.0	40	39	65.3	52.0	41	41
26	50.2	47.9	46	86	47.6	46.1	45	90	64.2	53.8	46	52	72.0	53.9	39	30
27	60.8	51.9	45	56	52.4	47.2	43	70	76.9	59.6	49	37	83.6	58.0	38	20
28	69.0	55.3	45	43	62.2	50.8	41	43	65.0	53.9	46	50	70.4	55.0	43	38
29	64.8	53.2	44	48	58.2	50.1	44	58	72.7	61.1	54	52	73.5	58.2	48	41
30	58.7	54.6	52	79	53.9	50.1	47	78	71.0	55.8	45	39	69.3	57.0	49	48
31	57.0	51.8	48	72	51.3	46.0	41	68	65.0	53.2	44	46	71.2	53.5	39	31
Mean	46.7	42.5	35.9	63.5	42.7	38.8	34.5	74.1	55.8	45.5	35.4	49.1	58.7	46.4	34.4	44.1

Previous Day

GENERAL SUMMARY

The month as a whole was cloudy and cool; both sunshine and precipitation were below the average.

The extreme minimum temperature of 26°, which occurred on the 5th, was the lowest recorded during May since a minimum of 21° was recorded in 1931.

The snowfall of 5.5 inches during 22 hours on May 10 and 11 was the largest amount recorded in May since 1900. The previous high was 5.0 inches on May 30, 1917.

DEPARTMENT OF THE INTERIOR
RECEIVED
JUN 14 1943
FORT PECK GAME RANGE
FISH AND WILDLIFE SERVICE

WB FORM 1030

U. S. DEPARTMENT OF COMMERCE

WEATHER BUREAU

MONTHLY METEOROLOGICAL SUMMARY

STATION Billings, Montana DATE June, 1943

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	HIGHEST VELOCITY	DIRECTION	WEATHER PERCENT OF POSSIBLE SUNSHINE	CHARACTER OF DAY (SUNRISE TO SUNSET)
1	66	50	58	60	0.03	0	0	N-NE-SW	23	N	52	Cloudy
2	57	38	48	61	0.76	0	0	NW	34	NW	14	"
3	42	32	37	61	0.86	T	0	N	29	N	0	"
4	45	36	40	61	0.12	0	0	NE	18	E	13	"
5	51	40	46	62	0.11	0	0	NE	14	NE	39	"
6	65	37	51	62	0	0	0	SE-S	10	NE	96	Clear
7	65	45	55	62	0.02	0	0	SE	26	N	81	Pt.Cloudy
8	68	47	58	62	T	0	0	E	13	N	89	"
9	75	47	61	63	T	0	0	NE	25	SW	80	Cloudy
10	75	53	64	63	T	0	0	SW	15	NW	80	Pt.Cloudy
11	73	54	64	63	0.01	0	0	N	18	N	73	"
12	62	50	56	64	0.72	0	0	NE	32	NE	14	Cloudy
13	59	50	54	64	0.42	0	0	NE	22	W	11	"
14	71	50	60	64	0.01	0	0	N	31	NW	69	"
15	67	46	56	65	T	0	0	N	29	N	81	Pt.Cloudy
16	74	53	64	65	T	0	0	NW	23	NW	94	"
17	82	52	67	66	0	0	0	SW	16	W	81	Cloudy
18	84	58	71	66	0.05	0	0	NE	33	N	82	Clear
19	87	53	70	66	0.07	0	0	NE	26	NE	67	Cloudy
20	77	54	66	66	0	0	0	NE	21	NE	90	Pt.Cloudy
21	81	53	67	67	0	0	0	NE	18	NE	100	Clear
22	89	58	74	67	0	0	0	SW	35	N	73	Pt.Cloudy
23	73	56	64	67	0	0	0	NE	17	E	70	"
24	79	55	67	68	0	0	0	NE	25	NE	76	"
25	79	57	68	68	0	0	0	NE	18	N	75	"
26	77	59	68	68	T	0	0	NE	22	NE	82	"
27	68	54	61	68	.05	0	0	NE	22	N	35	Cloudy
28	73	48	60	69	0	0	0	E	13	SE	97	Pt.Cloudy
29	80	52	66	69	T	0	0	SE	19	E	70	"
30	83	59	71	69	T	0	0	SW	32	NW	64	"
31												
MEAN	70.9	49.9	60.4	------	a3.28	aT	0	NE	b 35N	b22nd	65	Pt.Cloudy
Normal	-	-	64.9	------	-	-	-	-	------	------	-	-

* 5:30 ~~xxxxx~~ P. M. 105 Standard TH MERIDIAN TIME. T INDICATES A TRACE OF PRECIPITATION aTOTAL bMONTHLY.

midnight to midnight

SUMMARY

BAROMETRIC PRESSURE

Monthly mean 29.86

Highest 30.21, date 27th

Lowest 29.40, date 2nd

TEMPERATURE

Highest 89, date 22nd

Lowest 32, date 3rd

Extremes this month since 1934; highest 102, lowest 32

Average daily departure -4.5

Average daily departure since January 1, -

Total degree days, 178

PRECIPITATION

Greatest amount in 24 hours 1.52, date 2, 3

Departure from normal this month -

Accumulated departure since -,

Snowfall, greatest 24-hour amount T, date 3;

snow on ground on 15th 0, and at end of month 0

WIND

Prevailing direction NE, average hourly velocity 10.8

Highest wind velocity this month since 1939

57 miles from N, on 23rd, in 1939

WEATHER

Number of days clear 3, partly cloudy 15, cloudy 12,

with measurable precipitation (0.01 inch, or more) 13

MISCELLANEOUS PHENOMENA—DATES OF

Hail -

Fog, light 2, 6, 13

Fog, dense 6 Fog, moderate 6, 13

Frost, light -, heavy -, killing† -

Sleet 4

Thunderstorms 1, 7, 9, 12, 18, 19, 27, 30

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	4.31	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
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, Weather Bureau.

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU

STATION Billings, Montana DATE June, 1943 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	57.4	50.8	46	45	50.7	48.0	46	83	63.2	53.0	45	51	60.4	53.5	49	65
2	51.8	50.6	50	93	49.9	47.3	45	84	53.2	50.7	49	85	42.0	40.0	38	85
3	39.3	38.5	38	96	34.3	34.0	34	95	36.2	35.7	35	95	39.0	37.5	36	89
4	38.3	36.3	34	84	37.3	36.0	34	89	41.5	39.2	37	84	43.0	40.4	38	82
5	40.7	39.9	39	94	39.8	39.0	38	94	44.5	42.0	39	81	51.2	44.6	38	60
6	43.9	42.0	40	87	37.1	37.0	37	100	57.1	49.1	42	68	63.3	50.3	39	40
7	53.9	48.0	43	66	45.5	43.9	42	89	61.8	53.1	46	56	59.0	51.0	45	59
8	49.8	47.1	45	83	47.2	46.2	45	92	61.5	52.0	45	55	67.3	54.2	44	43
9	56.1	49.1	43	62	47.9	44.8	42	80	63.5	54.2	47	55	72.1	60.0	53	50
10	59.7	53.0	48	65	53.3	51.5	50	88	68.5	56.2	48	47	74.8	55.0	39	28
11	62.0	53.0	46	56	53.8	48.0	43	66	66.8	55.4	47	50	68.9	53.8	42	38
12	58.4	47.8	38	47	55.2	49.0	44	66	54.3	50.1	47	75	62.3	54.5	49	62
13	51.0	49.8	49	93	51.7	51.0	51	96	58.1	54.4	52	80	56.0	55.0	54	93
14	51.0	50.7	51	98	51.4	48.5	46	82	67.3	51.1	37	32	67.2	52.0	39	35
15	51.3	47.0	43	73	46.5	45.0	44	90	62.6	52.0	44	50	64.3	53.0	44	48
16	56.3	51.1	47	71	53.5	47.7	43	66	67.4	53.0	42	39	71.5	52.9	37	28
17	61.4	50.6	43	51	52.5	49.0	41	67	76.1	52.5	43	31	79.0	60.3	48	34
18	68.3	55.0	45	44	57.9	52.0	43	57	73.7	59.7	51	45	80.6	67.0	61	51
19	59.5	55.3	53	79	55.1	52.7	51	86	69.3	60.0	55	60	75.1	64.0	58	56
20	61.9	55.7	52	70	54.8	47.2	40	58	70.0	54.0	41	35	76.1	59.0	48	37
21	60.5	49.5	40	46	54.5	46.5	39	55	70.0	57.2	49	47	81.1	68.0	62	52
22	70.8	64.0	61	71	60.0	57.9	57	89	84.7	61.6	47	27	74.9	61.7	54	49
23	63.8	53.1	45	50	56.9	48.1	40	53	68.2	55.5	46	44	71.8	56.1	45	38
24	62.0	52.1	44	52	55.0	46.1	38	52	72.9	54.9	41	33	78.9	61.7	52	38
25	65.1	58.0	54	67	58.7	54.9	52	80	70.1	60.8	56	60	77.4	64.0	57	49
26	65.2	61.1	59	80	60.4	57.0	55	82	73.4	61.4	55	53	75.2	58.0	46	35
27	61.4	52.0	45	54	60.5	50.9	43	53	57.6	53.8	51	79	65.8	53.8	45	47
28	58.1	51.9	47	67	48.9	47.0	45	88	67.4	56.1	48	50	72.0	55.0	42	34
29	60.4	51.3	44	55	52.2	47.0	42	69	72.2	60.6	54	53	76.6	62.6	55	47
30	66.0	58.3	54	64	59.6	55.3	53	78	78.0	63.1	55	45	77.4	59.9	49	37
Mean	56.8	50.8	46.2	69.4	51.4	44.3	44.1	77.6	64.4	53.7	46.5	55.5	67.5	55.3	46.9	50.3

Previous Day

GENERAL SUMMARY

The month as a whole was characterized by more than usual cloudiness, slightly subnormal temperatures, and generous rainfall. There were only 9 days entirely free from rainfall; and amounts during the first week were substantial, greatly improving growing conditions throughout this section. On the 3rd a trace of snow fell, this being the second time since the beginning of record in 1894 that snow has been recorded in Billings in June. The very slight damage caused by snow and 32 degree temperature was more than offset by the moisture received, most of which soaked into the soil, relieving a near drought condition remaining from the last half of May.

Temperatures were 4.5 degrees below normal on the average, the highest being 89 on the 22nd, and the lowest 32 on the 3rd.

* * *

DEPARTMENT OF THE INTERIOR
RECEIVED
JUL 28 1943
FORT PECK GAME RANGE
FISH AND WILDLIFE SERVICE

WB FORM 1030

U. S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

MONTHLY METEOROLOGICAL SUMMARY

STATION Billings, Montana DATE July, 1943

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	HIGHEST VELOCITY	DIRECTION	WEATHER PERCENT OF POSSIBLE SUNSHINE	CHARACTER OF DAY (SUNRISE TO SUNSET)
1	76	53	64	70	0.03	0	0	N	30	N	73	Pt.Cloudy
2	84	51	68	70	0	0	0	SW	16	SW	95	Clear
3	83	59	71	70	0.02	0	0	SW	37	NW	85	Cloudy
4	76	56	66	70	T	0	0	NW	22	NW	68	Pt.Cloudy
5	83	50	66	70	0	0	0	E	13	NE	100	Clear
6	92	56	74	71	0	0	0	SW	24	S	81	Clear
7	95	58	76	71	T	0	0	SW	26	NE	84	Pt.Cloudy
8	94	60	77	71	0	0	0	SW	22	N	85	Pt.Cloudy
9	94	60	77	71	0	0	0	NE	26	N	83	Pt.Cloudy
10	87	62	74	72	0	0	0	N	13	NE	87	Clear
11	78	60	69	72	0	0	0	N	31	N	81	Clear
12	70	52	61	72	0	0	0	NE	54	N	35	Cloudy
13	79	51	65	72	0	0	0	NW	26	NW	99	Clear
14	90	51	70	72	0	0	0	SW	13	E	90	Clear
15	73	55	64	72	0.03	0	0	NE	34	NW	34	Cloudy
16	77	51	64	72	0.01	0	0	N	19	N	73	Pt.Cloudy
17	85	48	66	73	0	0	0	SW	24	N	86	Pt.Cloudy
18	89	57	73	73	0	0	0	N	16	N	97	Clear
19	97	58	78	73	0	0	0	SW	16	NW	88	Pt.Cloudy
20	91	62	76	73	0	0	0	SW	17	SW	95	Pt.Cloudy
21	95	66	80	73	T	0	0	SE	20	NW	66	Pt.Cloudy
22	91	63	77	73	0.38	0	0	SW	34	N	57	Cloudy
23	89	58	74	73	0	0	0	SW	18	NW	86	Clear
24	93	59	76	73	T	0	0	SW	29	NW	69	Pt.Cloudy
25	96	61	78	73	0	0	0	SW	23	W	81	Pt.Cloudy
26	84	65	74	73	T	0	0	NE	26	N	85	Pt.Cloudy
27	95	60	78	73	0.01	0	0	SW	29	N	73	Pt.Cloudy
28	91	62	76	73	0	0	0	SW	16	NW	97	Clear
29	87	58	72	73	0	0	0	N	20	N	96	Clear
30	93	54	74	73	0	0	0	SW	11	S	100	Clear
31	101	59	80	73	T	0	0	SW	34	SW	89	Clear
MEAN	87.1	57.3	72.4	-------	a0.48	a 0	0	SW	b54N	b12	81	Pt.Cloudy
Normal	-	-	72.0	-------	-	-	-	-	-------	-------	-	-

Midnight to Midnight

*5:30 ~~XXXXX~~ P. M. 105 TH MERIDIAN TIME. T INDICATES A TRACE OF PRECIPITATION aTOTAL bMONTHLY.

SUMMARY

BAROMETRIC PRESSURE

Monthly mean 29.90
Highest 30.20, date 26th
Lowest 29.57, date 15th

TEMPERATURE

Highest 101, date 31st
Lowest 48, date 17th
Extremes this month since 1935; highest 106, lowest 44
Average daily departure +0.2
Average daily departure since January 1, -
Total degree days 7

PRECIPITATION

Greatest amount in 24 hours .38, date 22
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
Highest wind velocity this month since 1939
61 miles from NW, on 9, in 1940

WEATHER

Number of days clear 13, partly cloudy 14, cloudy 4,
with measurable precipitation (0.01 inch, or more) 6

MISCELLANEOUS PHENOMENA—DATES OF

Hail -
Fog, light 23
Fog, dense 23
Frost, light -, heavy -, killing† -
Sleet -
Thunderstorms 1, 3, 6, 15, 22, 25, 27

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	0.90	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	0.37	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	3.13	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	06	75	0.30	18	68	1.63	30	72	1.20	42	72	0.56
1883		95	70	07	69	1.63	19	72	0.75	31	72	0.58	43	72	0.48
1884		96	74	08	70	0.23	20	74	0.55	32	72	0.42	44		
1885		97	68	09	70	2.16	21	74	0.79	33	75	0.38	45		
1886		98	72	10	72	0.65	22	70	2.24	34	74	1.17	46		

Data prior to 1935 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 July, 1943 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	60.0	54.8	51	72	57.0	52.2	49	74	70.0	57.4	49	47	74.9	56.6	43	32
2	62.8	54.3	48	58	53.9	49.0	45	72	76.7	57.8	45	32	83.9	59.8	43	24
3	68.7	58.0	51	54	61.8	53.1	47	58	73.1	59.9	52	48	82.0	60.1	46	28
4	61.7	59.0	57	86	58.6	52.2	47	66	69.3	54.8	44	40	75.6	56.2	42	30
5	61.5	50.1	40	46	52.8	46.4	41	64	71.3	54.9	42	34	81.5	60.5	47	30
6	67.2	54.2	44	44	57.1	51.0	46	67	80.1	62.9	53	39	83.4	62.0	49	30
7	74.8	60.6	52	45	59.0	54.0	51	74	83.5	63.5	52	34	87.2	62.1	46	24
8	74.4	59.0	49	41	65.4	55.8	49	56	84.8	62.2	55	36	90.0	65.1	51	27
9	73.9	60.0	52	46	64.6	55.3	49	57	89.0	69.1	60	38	87.5	69.0	60	40
10	68.8	59.0	53	57	62.1	50.3	40	44	78.5	61.1	50	37	87.2	66.1	55	34
11	72.9	61.9	56	56	60.2	50.1	42	50	70.8	57.1	48	44	77.1	60.0	49	37
12	60.0	51.3	44	56	57.4	49.7	43	58	59.0	51.1	45	60	59.1	49.8	42	53
13	51.8	44.0	36	55	54.8	45.2	35	48	69.2	53.1	40	34	77.9	56.0	39	24
14	65.7	50.2	36	33	52.7	45.0	35	52	79.2	56.2	38	23	87.1	58.0	34	15
15	73.2	53.0	35	27	63.0	53.6	47	56	69.8	57.0	48	46	67.1	59.1	54	64
16	55.9	50.8	47	72	52.0	48.2	45	77	67.0	54.0	44	44	76.3	55.2	38	25
17	61.8	49.9	40	44	49.4	45.0	41	72	74.2	57.3	45	36	82.5	58.1	40	22
18	69.2	53.7	42	36	59.0	50.0	43	54	77.3	58.0	45	54	89.0	60.1	39	17
19	70.7	51.0	32	24	61.3	52.0	45	55	85.0	61.0	47	28	95.1	63.1	42	16
20	80.5	58.4	43	26	62.5	53.0	46	55	80.6	62.0	51	36	90.7	63.1	46	21
21	71.9	55.9	44	37	68.2	56.7	49	50	83.8	64.6	54	36	93.8	65.2	48	21
22	76.3	61.9	54	45	67.2	60.5	57	69	85.0	66.0	56	37	81.3	65.0	56	43
23	63.4	63.0	63	98	59.5	59.0	59	98	77.3	65.9	60	56	87.9	62.8	47	25
24	74.5	61.1	53	48	61.8	55.0	50	66	81.6	64.5	55	41	82.1	62.0	50	33
25	68.6	57.1	49	50	61.6	53.2	47	59	84.5	62.3	49	29	93.8	64.8	48	21
26	75.3	60.1	51	42	71.5	56.6	46	40	77.2	59.7	49	37	83.7	61.6	48	28
27	66.2	57.1	51	59	60.1	54.3	51	72	81.0	64.2	55	41	89.8	63.8	48	24
28	70.4	60.1	54	56	63.8	54.5	48	56	83.9	59.2	41	42	89.9	60.4	39	17
29	69.0	57.8	51	52	59.7	48.0	37	43	82.0	58.1	40	23	85.9	58.0	36	17
30	70.7	52.9	38	30	53.9	47.0	41	61	78.2	58.9	46	32	91.7	63.2	45	20
31	76.8	55.0	37	24	62.9	42.9	37	38	85.5	62.8	49	29	100.5	64.2	40	12
Mean	68.3	56.0	46.9	49.0	59.8	51.8	45.4	60.0	77.6	60.0	48.6	37.8	84.4	61.0	45.5	27.5

Previous Day

GENERAL SUMMARY

The month was characterized by prolonged fair weather and semi-drought conditions. Total rainfall was 0.49 inch as compared with an average of 1.38 for the 44 years of precipitation measurements in Billings. Of these 44 July amounts, only 6 were smaller than in 1943, the smallest being a trace in July 1899. In spite of this deficit in rainfall, crops throughout this section maintained satisfactory growth with the exception of dryland beans. This was due both to the ample carry-over of moisture from ample June rains, and to the cool nights during which the rate of moisture loss was checked. Temperatures averaged slightly below normal, with only one maximum of 100 degrees--101 on the 31st.

DEPARTMENT OF THE INTERIOR
RECEIVED
AUG 14 1943
FORT PECK GAME RANGE
FISH AND WILDLIFE SERVICE

WB FORM 1030

U. S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

MONTHLY METEOROLOGICAL SUMMARY

STATION Billings, Montana DATE August, 1943

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	HIGHEST VELOCITY	DIRECTION	WEATHER PERCENT OF POSSIBLE SUNSHINE	CHARACTER OF DAY (SUNRISE TO SUNSET)
1	90	69	79	73	T	0	0	NE	32	NE	55	Pt.cloudy	
2	76	56	66	73	0.30	0	0	NE	26	N	32	Cloudy	
3	81	54	68	73	0	0	0	N-NW	29	N	84	Clear	
4	84	58	71	73	T	0	0	NE-S	16	NE	82	Pt.Cloudy	
5	91	56	74	73	0	0	0	NE	13	NE	92	Pt.Cloudy	
6	89	61	75	73	0	0	0	N	29	N	70	"	
7	95	63	79	72	T	0	0	SW	32	NW	60	"	
8	85	65	75	72	0	0	0	N	21	N	97	Clear	
9	85	54	70	72	T	0	0	N	30	N	100	"	
10	88	58	73	72	0	0	0	NE	14	NE	100	"	
11	87	57	72	72	0	0	0	SW	14	N	100	"	
12	92	58	75	72	0	0	0	NE	26	NE	100	"	
13	86	56	71	72	0	0	0	N	15	N	100	"	
14	80	58	69	72	0	0	0	NE	31	NE	80	"	
15	76	53	64	71	0	0	0	NE	18	NE	75	Pt.Cloudy	
16	86	53	70	71	T	0	0	SW	11	SW	98	Clear	
17	94	58	76	71	T	0	0	SW	17	W	94	Pt.Cloudy	
18	87	63	75	71	0	0	0	SW	42	SW	49	Cloudy	
19	82	63	72	70	T	0	0	W	16	E	69	Pt.Cloudy	
20	89	59	74	70	0	0	0	SW	16	NE	84	Clear	
21	90	57	74	70	T	0	0	NE	17	N	91	"	
22	85	58	72	70	0	0	0	NE	22	N	93	"	
23	80	57	68	69	0	0	0	NE	17	NE	100	"	
24	87	56	72	69	0	0	0	NE	19	NE	64	Pt.Cloudy	
25	68	57	62	69	0.06	0	0	N	28	N	17	Cloudy	
26	83	51	67	68	0	0	0	SW	17	W	100	Clear	
27	91	52	72	68	0	0	0	W	15	W	94	"	
28	87	56	72	68	0	0	0	E	15	NW	100	Clear	
29	92	56	74	68	T	0	0	SW	28	NW	63	Cloudy	
30	82	53	68	67	0.32	0	0	W	37	NW	21	"	
31	73	54	64	67	T	0	0	NW	34	NW	55	Pt.Cloudy	
MEAN	85.2	57.4	71.3	-------	[a]0.68	[a] 0	0	NE	[b]42SW	[b]18th	78	Pt.Cloudy	
Normal	-	-	70.6	-------	-	-	-	-	-------	-------	-	-	

* 5:30 P. M. 105 TH MERIDIAN TIME. T INDICATES A TRACE OF PRECIPITATION [a]TOTAL [b]MONTHLY.

midnight to midnight

SUMMARY

BAROMETRIC PRESSURE

Monthly mean 29.83
Highest 30.18, date 15th
Lowest 29.49, date 30th

TEMPERATURE

Highest 95, date 7th
Lowest 51, date 26th
Extremes this month since 1934; highest 107, lowest 40
Average daily departure +0.7
Average daily departure since January 1, -
Total degree days -

PRECIPITATION

Greatest amount in 24 hours 0.32, date 30th
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 -

WIND

Prevailing direction NE, average hourly velocity 10.2
Highest wind velocity this month since 1939
50 miles from N, on 21st, in 1942

WEATHER

Number of days clear 16, partly cloudy 10, cloudy 5,
with measurable precipitation (0.01 inch, or more) 3

MISCELLANEOUS PHENOMENA—DATES OF

Hail 0
Fog, light 0
Fog, dense 0
Frost, light 0, heavy 0, killing† 0
Sleet 0
Thunderstorms 1, 2, 4, 9, 17, 25, 29, 30
Number of hours contact weather 743.3
Duststorms " " " instrument weather 0
closed weather 0.7

†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	06	75	2.99	18	66	1.28	30	72	1.35	42	68	1.07
1883		95	72	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		
1885		97	-	09	70	0.96	21	71	0.51	33	70	3.86	45		
1886		98	71	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, 1943 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	83.6	59.2	42	23	73.7	57.8	47	39	89.8	62.3	44	21	79.7	60.8	49	34
2	68.7	57.7	51	53	61.8	56.5	53	73	65.7	62.1	60	83	66.1	63.4	62	87
3	58.6	55.7	54	84	54.0	51.9	50	88	74.6	59.9	51	44	80.4	59.7	46	25
4	65.0	54.8	48	53	57.8	54.5	52	81	74.8	62.0	55	50	80.9	60.8	48	32
5	69.3	57.8	50	51	56.8	53.1	50	79	80.0	61.6	50	36	90.9	68.0	57	32
6	74.5	62.0	55	51	62.5	55.2	50	64	80.7	62.0	51	36	81.9	62.6	51	35
7	68.4	59.8	55	62	64.0	58.1	54	71	83.0	65.8	57	41	90.3	65.8	52	28
8	72.7	58.2	49	43	65.0	52.9	44	46	75.0	58.0	46	36	83.4	57.7	37	19
9	68.8	51.3	36	30	56.2	47.0	38	51	76.0	55.7	40	27	85.1	58.6	38	19
10	66.7	53.8	44	44	60.5	51.2	44	54	78.0	58.1	44	30	86.7	60.7	43	22
11	68.9	54.7	44	41	60.6	50.8	43	52	80.0	58.8	44	28	87.0	60.4	42	21
12	70.2	54.3	42	36	59.3	49.9	42	53	82.9	60.0	45	26	88.0	60.0	40	18
13	66.0	54.2	46	48	57.6	49.1	42	56	74.5	57.1	45	35	86.0	59.0	39	19
14	73.4	55.0	40	31	66.8	52.9	42	40	74.1	56.8	44	34	79.0	58.1	43	28
15	60.0	49.5	40	48	53.6	45.6	38	55	68.8	52.1	38	32	71.6	53.0	37	28
16	60.4	48.6	38	43	53.1	46.5	40	62	72.3	55.8	44	36	86.0	60.0	42	21
17	71.9	55.0	42	34	61.7	50.2	40	45	81.2	59.4	45	28	93.2	62.6	42	17
18	82.3	58.2	40	22	66.0	51.9	40	38	84.5	61.3	46	27	80.1	62.0	51	36
19	73.0	55.3	42	33	65.1	52.2	42	43	75.5	53.9	35	23	79.0	55.1	35	20
20	68.8	54.8	44	41	60.6	50.0	41	48	78.9	60.3	48	34	86.0	58.5	37	18
21	68.2	52.7	40	35	59.9	50.1	42	51	75.4	58.2	46	36	90.0	62.2	44	20
22	71.4	55.4	44	37	57.5	50.4	45	62	79.2	57.1	40	25	83.1	59.8	44	25
23	64.9	47.0	27	24	57.0	43.2	27	30	72.2	51.2	31	21	79.5	55.2	34	19
24	64.0	48.3	32.	30	58.4	46.0	33	38	74.1	56.8	44	35	85.4	64.8	54	34
25	68.2	56.7	49.	50	57.9	53.4	50	76	68.1	58.2	52	57	61.6	56.3	53	73
26	57.8	52.3	48	71	52.2	48.5	45	78	71.8	58.2	49	45	81.6	58.1	41	24
27	68.5	55.0	46	44	55.1	49.7	45	69	78.7	62.1	52	40	90.5	60.1	37	16
28	70.6	55.2	44	38	56.1	48.8	43	60	79.3	56.3	38	23	86.8	59.0	38	18
29	72.7	55.0	41	32	60.5	49.7	40	47	76.8	58.0	45	32	86.7	60.2	41	20
30	76.1	56.3	41	34	67.5	54.5	45	44	78.7	57.7	42	28	65.5	56.2	50	57
31	53.7	52.0	51	90	54.3	49.8	46	74	68.0	55.0	46	44	73.1	55.0	41	31
Mean	68.6	54.7	44	43.7	59.8	51.0	43.6	57.0	76.5	58.[illegible]	45.7	35.3	82.1	59.8	44.1	28.9

Previous Day

DEPARTMENT OF THE INTERIOR
RECEIVED
SEP 10 1943
FORT PECK GAME RANGE
FISH AND WILDLIFE SERVICE

Form NR-1

MIGRATORY BIRDS

Refuge Fort Peck Easement Refuges Months of May to August, 194 3

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
Railstone:											
Mallard										150	
Lake Mason:											
Mallards											
Gadwalls										400	
Shovellers										300	
										300	
Lamesteer:											
Mallards											
Shovellers										20	
										20	

REMARKS: (Pertinent information not specifically requested)

The above information supplied from one inspection in August.

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

Refuge Fort Peck Easement Refuges Months of May to August, 1943

(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 specifioally requested. List introductions here.
	None Observed.									

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.

RECEIVED JAN 15 1945 DEPARTMENT OF THE INTERIOR REGIONAL DIRECTOR WILDLIFE SERVICE