ANNUAL REPORT

LAST MOUNTAIN LAKE WILDLIFE AREA, SASKATCHEWAN

1970

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Project Number 379-4417

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INTRODUCTION

The Last Mountain Lake Wildlife Area has just completed its third year of operation. A brief history of this area has been outlined in earlier reports, (Hatfield, 1965, 1968 and 1969).

The Last Mountain Lake Wildlife Area is a combination of federal Crown land, administered by the Canadian Wildlife Service (CWS) and provincial Crown land, administered by the Province of Saskatchewan. Management of this wildlife area is coordinated by CWS in cooperation with the Fish and Wildlife Branch of the Saskatchewan Department of Natural Resources (DNR) and the Lands Branch of the Saskatchewan Department of Agriculture. A resident project manager conducts field operations.

The Last Mountain Lake Wildlife Area is being developed to alleviate crop depredation to surrounding commercial cereal grain crops by sandhill cranes and waterfowl, to provide marsh and upland habitat for wildlife and to provide public recreation. Changes in land use and development from December 1, 1969 to December 31, 1970 are dealt with in this third annual report.

The objectives of this report are: 1) to describe and evaluate the 1970 operations of the Wildlife Area; 2) to outline 1971 operations; 3) to report significant ecological observations, and 4) to report on public participation in the area.

DESCRIPTION OF AREA

The Last Mountain Lake Wildlife Area (Figure 1) consists of sections 6 except the NE quarter 7, NW 8, 17 except the SE quarter 18, 19, 20 W ½ 21, SW 28, 29, 30, 31 and 32 of Township 27, Range 23; the western

half plus sections S ½ 15, NW 22, 27 except the SE quarter and 34 of Township 28, Range 23; sections 1, 2, E ½ 11, 12, 13, 14 except the SW quarter 23, except the NW quarter 24, 25 and 36 of Township 28 Range 24 and sections 1, 2, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 35 and 36 of Township 27, Range 24 all west of the second meridian, Province of Saskatchewan.

The Wildlife Area lies in typical transition zone between grassland and forest. Topography is predominantly gently to moderately undulating. Soil texture is light with extensive alkaline areas. Animals characteristic of the transition zone are common (Hatfield, 1965) but the most notable feature of native fauna is the variety and abundance of both migratory and resident birds (Anweiler, 1970).

METHODS

Marginal agricultural land has been converted from grain production to wildlife production. Methods of operation of the Last Mountain Lake Wildlife Area are categorized under administration, operations and development.

1. Administration:

All haying and most grazing transactions were conducted from the Area headquarters in 1970. The only exceptions were two grazing permits issued from Regina by DNR and Saskatchewan Department of Agriculture on SW 27-28-23 and section 29-27-23 respectively. It is easier for farmers to complete business transactions from the headquarters of the Wildlife Area. Better farmer relations were noted as a result of conducting negotiations from the headquarters as mutual problems can also be discussed.

The fee system was improved over 1969, by both CWS and DNR following the Saskatchewan Department of Agriculture rates for haying. These were as follows: $4.00 per ton for tame hay and $1.30 per ton for native hay. The only exception was that CWS did not charge a permit fee, while DNR charged $2.00 for a permit.

CWS grazing fees were as follows: $1.20 per month per cow, $.60 per month per calf and $1.80 per month per horse. Saskatchewan has an annual lease on its two grazing permits. The lease on SW 27-28-23 is $50.00 per year, while the charge for the one on section 29-27-23 is unknown to the author.

The hay and grazing permit forms used by the CWS in 1970 are as shown in figures 3 and 4 in the appendix. A special use permit (Figure 5) was also drawn up to cover such activities as training dogs on the wildlife area.

2. Operations:

The operational activities are categorized as 1) lure crops, 2) haying and grazing, 3) public access and participation, and 4) ecological surveys.

2.1 Lure Crops

Seventeen units, each of sixty acres and one unit of one hundred and twenty acres, were established in 1970 to alleviate crop damage to commercial cereal crops surrounding the wildlife area (Figure 1 and Table 1). Fifteen of the fields were divided into thirty acres of summerfallow and thirty acres sown to Conquest barley as a lure crop. The entire sixty acres of one unit were sown to Conquest barley as it had been summerfallowed the previous year (NW 26-27-24). Sixty acres were summerfallowed and sixty acres were sown to Conquest barley on the largest unit (NW 25 and SW 36-28-24).

All the lure crops were sown by June 4, swathed between August 8 and August 21 and left for consumption by cranes and waterfowl. Contracts for these farming operations were let with ten local farmers. Rates paid to the co-operators using their own implements, were as follows: $1.50 for summerfallowing, $1.50 for seeding, $.75 for spraying and $1.25 for swathing on a per acre basis, with seed grain and herbicide supplied by the CWS.

No delivery delays occurred as in 1969 due to abundant supplies of Conquest seed barley on hand (Hatfield, 1969). Conquest is a higher yielding barley than Gateway, therefore is more suitable for lure crops. Cranes and waterfowl cleaned up most of the lure crops by September 30th, (Table 2). A new technique was tried this year on seven lure crop areas. The stubble was disced about the middle of October, turning the stubble and swaths over exposing barley that had been trampled and left by cranes and ducks. There was no noticeable activity on these crops for about a week before they were disced. However, they were no sooner disced then the ducks and geese began feeding on them again. Discing will be tried earlier in 1971 and burning of the stubble will also be tried to prolong the usefulness of lure crops. Burning is not a recommended farming practice so will only be done on a small scale.

Eight kill permits were issued to farmers to help protect their crops from crane and waterfowl depredation (Table 3). More lure crops in the wildlife area are needed to further alleviate the depredation problem. This can only be accomplished with the purchase of more land adjacent to the present wildlife area (Anon, 1965, Stephen, 1967, and Hatfield, 1969). Wildlife insurance claims around the north end of Last Mountain Lake have

shown a marked decrease since the wildlife area has been established (Ross MacLelland, Biologist, DNR, Sask., pers. comm.). This fact alone proves the success of lure cropping in a depredation prone area. A new one hundred acre lure crop is proposed to be established in 1971 on NW 27 and SW 34-28-23 (Table 1).

2.2 Haying and Grazing

Twenty-nine haying permits (Table 4) were issued by CWS, compared to twenty in 1969 and eight haying permits were issued by DNR, compared to seven in 1969 (Table 4). Most of the haying permits will be issued by CWS as the market favours tame hay for cattle feed. 675 acres of tame hay has been sown on DNR land, compared to 6,792 acres on CWS land for a total of 7,467 acres to December 31, 1970. Total revenue from haying was $5,318.50 (Table 4).

Ten grazing permits (Table 5) were issued by CWS, compared to eleven in 1969. One co-operator sold his cattle in 1970. Again as in 1969, one grazing lease was issued by DNR. A grazing lease on section 29-27-23 was issued from Regina by the Saskatchewan Department of Agriculture. Total revenue from grazing was $1,768.10, down from $2,061.40 in 1969. The decrease in grazing revenue results from tighter controls on the number of livestock allowed on the various pastures in the wildlife area.

Previous landowners are given first consideration, then other applicants on a nearest neighbour basis. In all cases farmer co-operators were responsible for harvesting of hay and managing their cattle. It is anticipated that revenue from hay sales will increase over the next few years, before it begins to level off, as more tame hay becomes available for sale to a waiting market.

2.3 Public Access and Participation

The public were allowed free access to the wildlife area in 1970. No significant changes were noted from 1969, with a few exceptions. Weekend activity again consisted of swimming, boating, nature study and picnicing (Hatfield, 1969).

Public activity appeared to have decreased slightly over 1969 as water conditions were generally abundant over the southern portion of Saskatchewan.

A lone adult whooping crane was spotted by the author on August 31 in the wildlife area. This forced a complete closure of sandhill crane hunting in game management zone 178 in which the wildlife area is located. As a result no public hunting occurred until the duck season opened on September 14. Public hunting activity remained light throughout the waterfowl season as good duck hunting could be had in most parts of southern Saskatchewan in 1970. However,from September 28 to about October 8 a flurry of activity was evident as people tried to outmaneuver each other in an attempt to bag at least one of the approximately 4,000 geese staging at the north end of Last Mountain Lake at that time. Most goose hunting takes place one to four miles from the wildlife area. No Sunday hunting is allowed in Saskatchewan.

There were 596 visitors to the Last Mountain Lake Wildlife Area headquarters in 1970. They were comprised of 147 farmers, 86 people seeking nature study, 66 hunters, 14 fishermen, 7 fur trappers, 112 other members of the public and 164 officials of other government agencies, industry and colleagues. This compares with 534 visitors in 1969. The increase is due to the active construction program carried out in 1970

when many contractors and technical services personnel came to the headquarters for information.

2.4 Ecological Observations

The spring break up started about April 4 when the temperature rose to the low fourties. The quick and above normal run-off resulted in good catches of water in basins with enough in most cases to last all summer. The first pintails were seen on April 4. After this date the number of bird sightings increased daily until their numbers had pretty well levelled off by the end of April.

The spring was generally a wet one with the last snow storm, about four inches, on April 29. This probably accounts for late duck hatches in 1970 and a decrease in the sharp-tail population. Five more sharp-tailed dancing grounds were found, bringing the total to ten known dancing grounds on the wildlife area (Hatfield, 1969; Figure 2).

With the high spring run-off and water being diverted from the Qu'Appelle River, Last Mountain Lake rose to about the 1,611 foot contour level by July, creating large back marshes at the north end. A survey was conducted among a few of the islands at the north end of Last Mountain Lake on June 20. One Canada goose nest was found, plus about twenty mallard nests and various nests of blue-winged teal, pintail, gadwall and lesser scaup on island number sixteen (SW 31-27-23). The first mallard, pintail and one Canada goose broods were seen among the islands while travelling along in the boat. There were several tern and gull colonies on some of the islands. Ninety-seven double-crested cormorant nests were observed on a small island off Perry's Point (E ½ 24-27-24), however no pelican nests were found. The rising lake levels reduced the size of the

cormorant colony to 54 nests, when visited at a later date. Sightings of white-tailed deer were frequent throughout the year.

The sharp-tailed grouse population was down slightly from 1969 according to a professional dog trainer who trains pointing dogs annually in the area. However,there was a sharp increase in the duck population over 1969, thus providing the best duck hunting season since the mid fifties.

The first significant snow fall (one inch or more) came on October 27, 1970, but only remained for a day. About November 20 the temperature dropped below zero for the first time. The north end of Last Mountain Lake froze over completely, chasing the remaining ducks out. Snow began to remain on the ground after this date and it began to look like we were going into an above average snow fall by the end of December.

3. Development

The development activities are categorized as 1) forage crops, 2) disposal of surplus buildings, 3) construction, 4) land purchase, and 5) wildlife plantations.

3.1 Forage Crops

A Canada No. 1 mixture of crested wheatgrass, brome and alfalfa in the proportion 2:4:2 (Anon, 1969) was seeded on 230 acres in 1970 at the rate of eight pounds per acre (Table 1). The forage was seeded with standard seed drills to a depth of approximately one-half inch. The forage seeding was completed by June 30, as it was delayed due to wet weather. Again, all forage seeding was done under contract on a previous owner basis. The co-operators, using their own implements, were paid $1.50 per acre for seeding, with CWS supplying the forage seed. An additional sixty acres (NW 20-28-23) will be seeded to forage in 1971.

3.2 Disposal of Surplus Buildings

A total of twelve buildings were sold through public tender by Crown Assets Disposal Corporation (CADC). The removal date for these buildings was not until March 15, 1971. To December 31, 1970 one cabin had been removed. The two sites where the buildings are located are on W ½ 36-27-24 and SW 2-28-24. There are still a few private cabins and boat houses located on the wildlife area. The owners will be asked to remove them during the summer of 1971.

Piles of debris, such as fence posts and building remains, were burned during the winter months. In August, six farmsteads were bulldozed level, with basement excavations filled and concrete pads buried. The buildings on these farmsteads had been sold in 1969. Five garbage pile sites were also buried and leveled. A forage mixture was sown on all of the exposed sites to prevent erosion and weed infestation.

One local student was hired from June to October, with another student during July and August to help clean up all fences and debris around former farmsteads. Approximately twenty-four miles of old fences were removed in 1970. There will be four former farmsteads to clean up in 1971, NW 36-27-24, SW 2-28-24, NW 27-28-23 and NE 30-27-23. Several garbage sites and more surplus fences will be cleaned up as well. No power installations were dismantled in 1970. The two licenses of occupation on NE 34 and N½ 9-28-23 are still living on these sites.

3.3 Construction

1970 may be termed the year of construction on the Last Mountain Lake Wildlife Area. Twenty-three miles of fence were erected, to P.F.R.A. standards, around the perimeter of the wildlife area (Figure 2). Four

miles of fireguard trails were constructed at the north end of the area (Figure 2). Two miles of road along the north-east boundary of the area were rebuilt to grid road standards by Wreford Municipality. This will provide better all-weather access to the wildlife area from highways 15 and 20.

A picnic site was selected on NE 33-28-23, with construction of a shelter starting late in 1970 and scheduled for completion by February 28, 1971. Construction of an eighty-four by thirty-two foot storage shed got under way in December and is also scheduled for completion by the end of February 1971. A portion of the shed will be insulated for a heated workshop. The fireguard, picnic shelter, storage shed and ten miles of fencing were financed under a winter employment generating program.

A renovation program was started on the headquaters house (a former farm house) and will be carried through into 1971. There is still exterior work to be done, such as stuccoing and painting.

A total of eight dams were constructed by Ducks Unlimited on the wildlife area in 1970 (Figure 2). Three of the dams were for satellite ponds on NE 36-28-24, SE 25-28-24 and SE 23-28-24. A concrete structure was constructed on Lanigan Creek to create a new marsh of 586.7 acres, NW 20-28-23 (Figure 2). Water manipulations will now be feasible behind four of the dams. Hopefully surveying along with the necessary engineering can be done on a possible twelve more satellite ponds along the eastern side of the wildlife area in 1971 by Ducks Unlimited personnel.

3.4 Land Purchase

No land was purchased in 1970 by either CWS or DNR for the Last Mountain Lake Wildlife Area.

3.5 Wildlife Plantations

A new management scheme was implemented in 1970 for the wildlife area in cooperation with the Federal Department of Regional Economic Expansion, Tree Nursey at Indian Head, Saskatchewan. A double row, one of caragana and one of Hanson's hedge rose, will be planted around most of the perimeter and along a few of the internal roads of the area, over the next ten years. The caragana will provide nesting shelter and some feed and the rose will provide winter feed and some nesting cover for a variety of birds. An experimental plot will be planted in 1971 to provide information on various tree and shrub species as to survival in this area and desirability by wildlife. This plot will be located on NE 5-28-23. Future plans call for the planting of one to two acre size plots scattered around the open areas for upland wildlife. Willow plantings will be done around the satellite ponds.

In 1970 just over 13,000 hedge roses were planted along side existing caragana rows parallel to the north-south road leading to the headquarters, and a double row of hedge rose was planted along the north boundary of section 36-28-24. Approximately three miles of a double row, one of caragana and one of rose, will be planted in sections 25 and 36-28-24 in 1971.

RESULTS

Although the sharp-tailed grouse population dropped slightly from 1969, due to the wet spring and high water, there were still ample birds for hunters. The waterfowl hunting was the best in years. No significant population changes were noted among the other birds.

Wildflowers benefited from the wet spring as they grew in profusion throughout the wildlife area in 1970.

Approximately ten thousand five hundred dollars in cash employment was provided to local residents in 1970. This included farming operations on the lure crops, general labour, caretaker duties and bulldozer operations. An additional $70,000 will have been spent on construction of new sheds, fences and house renovations by March 31, 1971. The construction of eight dams by Ducks Unlimited added another $60,000 into the local economy. Five dams will add approximately eight hundred acres of surface water to the wildlife area. Three dams built on the two western "fingers" of the north end of Last Mountain Lake will allow water manipulations in three compartments. The total surface acreage of these compartments is 587.8 acres.

Sandhill cranes and ducks took advantage of the lure crops and had them pretty well cleaned up by the end of September.

DISCUSSION

New policies and programmes were implemented in 1970 to further improve the administration and operation of the Last Mountain Lake Wildlife Area. Some of these programmes have been discussed.

There is a need for signs around the perimeter of the wildlife area for public information. Also, new signs should be erected around the border of the sanctuary within the wildlife area. The advantage of posting would allow closure of only the wildlife area to sandhill crane hunting, should whooping cranes be spotted within the wildlife area, instead of requiring the closure of the whole of game management zone 178, as in 1970. Consideration should be given to complete closure of the wildlife area to sandhill crane hunting because of the lure crop program.

LITERATURE CITED

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Stephen, W. J. D. 1967. Bionomics of the Sandhill Crane. Canadian Wildlife Service Report Series - Number 2. 48 pp.

Figure 1.

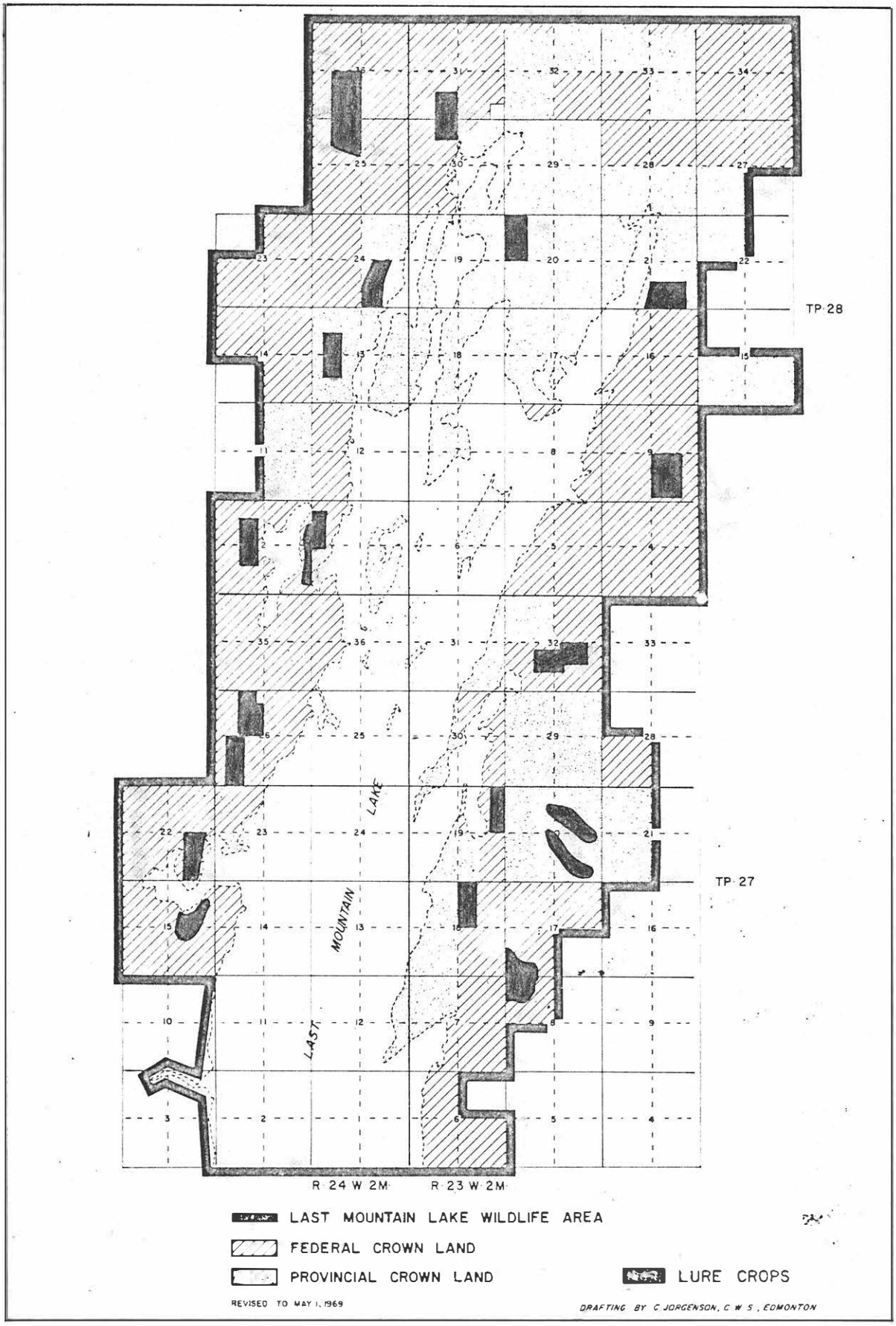
TP 28
TP 27
LAST MOUNTAIN LAKE
R 24 W 2M
R 23 W 2M
LAST MOUNTAIN LAKE WILDLIFE AREA
FEDERAL CROWN LAND
PROVINCIAL CROWN LAND
LURE CROPS
REVISED TO MAY 1, 1969
DRAFTING BY C JORGENSON, C W S, EDMONTON

Figure 2.

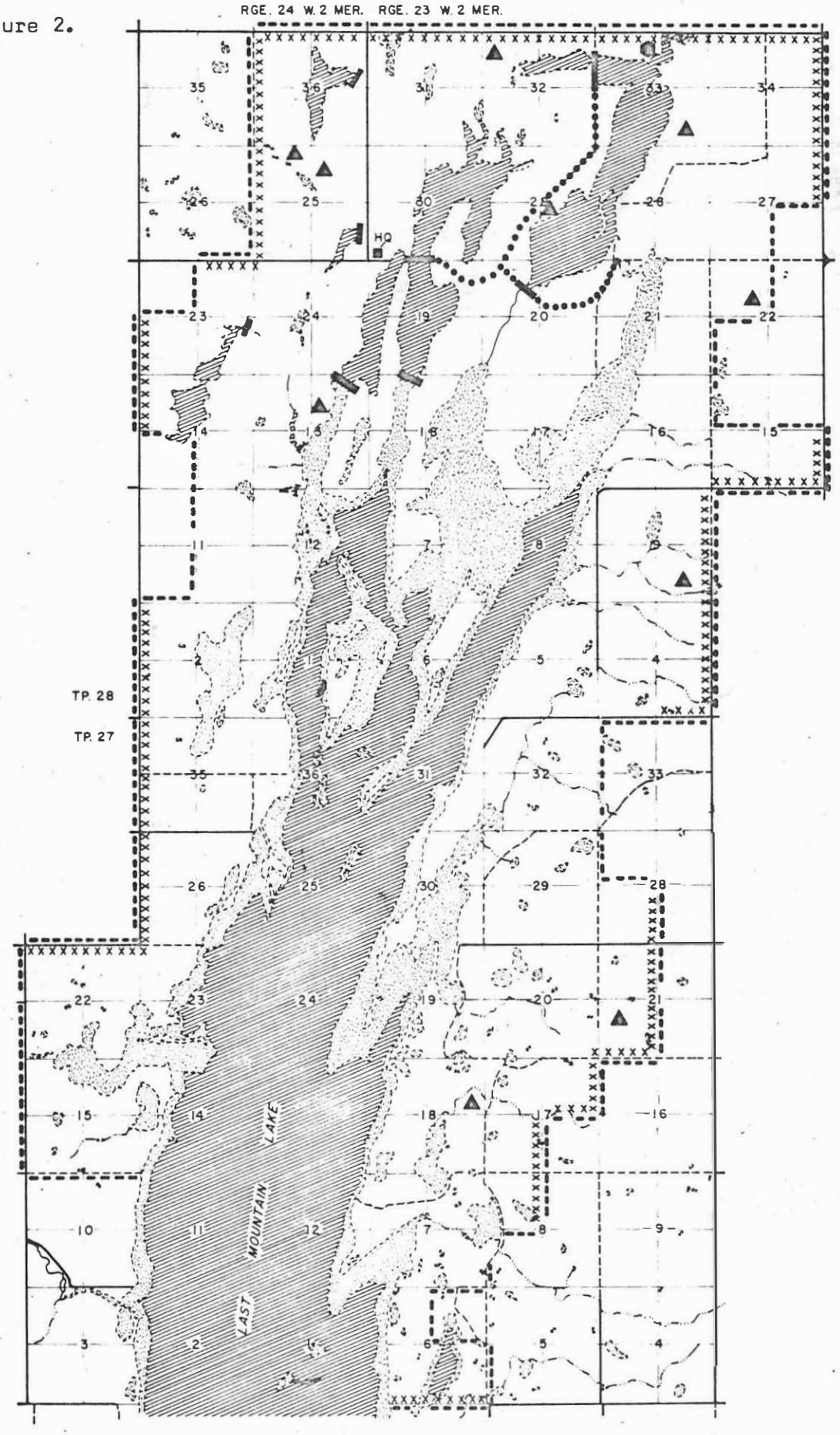
RGE. 24 W. 2 MER.
RGE. 23 W. 2 MER.
HQ
TP. 28
TP. 27
LAST MOUNTAIN LAKE
BOUNDARY - LAST MOUNTAIN LAKE WILDLIFE MANAGEMENT AREA
PERMANENT WATER AREAS
INTERMITTENT WATER AREAS
ROAD
TRAIL
FIREGUARD
DAMS CONSTRUCTED IN 1970
FENCES CONSTRUCTED IN 1970
PICNIC SITE
SHARPTAILED GROUSE DANCING GROUNDS

Figure 3.

DEPARTMENT OF INDIAN AFFAIRS
AND NORTHERN DEVELOPMENT
- CANADIAN WILDLIFE SERVICE

CANADA

AGREEMENT

AGREEMENT NUMBER 51

under Public Lands Leasing and Licensing Regulations – P.C. 1969-2346

_____ WILDLIFE AREA _____
(area) (province)

I, _____ OF _____
(name and initials) (post office address)

MAKE APPLICATION FOR AGREEMENT TO CUT AND REMOVE HAY:

during the period _____, 197__ to _____, 197__

on lands described below: (show land description) _____

SCHEDULE OF HAYING CHARGES:

			$
_____ Tons Tame Hay	at $	per ton	
_____ Tons Wild Hay	at $	" "	
_____ Tons _____	at $	" "	
_____ Tons _____	at $	" "	
			$ _____

NOTE

PAYMENT FOR HAY CUTTING AND REMOVAL CHARGES ARE PAYABLE BY CHEQUE, IN ADVANCE, TO THE RECEIVER GENERAL OF CANADA.

PAYMENT RECEIVED BY _____

RECEIVED BY ACCOUNTS _____
(date and initial)

RECEIPT NUMBER ISSUED _____

The applicant agrees to the following terms and conditions:

- The Minister reserves the right to designate approved hay cutting and removal areas within the Wildlife Area
- No hay will be cut or removed within an area 50' from the shoreline of water bodies situated on above lands.
- No portion of the hay cut on the above lands or removed from the above lands may be bartered or sold.
- All hay cutting and removal agreements are subject to cancellation and rebate of charges paid for uncut and unremoved hay if adequate hay is unavailable for any reason.
- The applicant agrees to indemnify and save harmless Her Majesty from and against all claims, demands, loss, costs, damages, actions, suits or other proceedings by whomsoever made, brought or prosecuted in any manner based upon, occasioned by or attributable to activities of the applicant and his employees or agents under this agreement.
- The applicant may not assign or sublet any rights conferred by this agreement.
- Hay cutting and removal approved by this agreement will be carried out to the full satisfaction of the officer responsible for authorizing agreements on behalf of the Minister.
- The Minister reserves the right to terminate the rights granted under this agreement by rebate of the portion of the cutting and removal charges applicable to the number of tons of uncut and unremoved hay at the date of termination.

For MINISTER OF INDIAN AFFAIRS
AND NORTHERN DEVELOPMENT

_____, 197 _____ _____
(date) (signature of applicant)

Figure 4.

DEPARTMENT OF INDIAN AFFAIRS
AND NORTHERN DEVELOPMENT
-CANADIAN WILDLIFE SERVICE

CANADA

AGREEMENT

AGREEMENT NUMBER 51

under Public Lands Leasing and Licensing Regulations – P.C. 1969-2346

WILDLIFE AREA

(area) (province)

I, _____ OF _____
(name and initials) (post office address)

MAKE APPLICATION FOR AGREEMENT TO GRAZE:

_____ Cows _____ Calves _____ Horses _____ Other _____ Other _____

livestock during the period _____, 197__ to _____, 197__

on lands described below: (show land description) _____

SCHEDULE OF GRAZING CHARGES:

			$
_____	Cows	at $1.20 per month	
_____	Calves	at $ .60 " "	
_____	Horses	at $1.80 " "	
_____		at " "	
			$ _____

NOTE

PAYMENT FOR GRAZING CHARGES ARE PAYABLE BY CHEQUE IN ADVANCE, TO THE RECEIVER GENERAL OF CANADA.

PAYMENT RECEIVED BY _____

RECEIVED BY ACCOUNTS _____
(date and initials)

RECEIPT NUMBER ISSUED _____

The applicant agrees to the following terms and conditions:

- The Minister reserves the right to designate approved grazing areas within the Wildlife Area.
- All livestock grazed under this agreement is owned by the applicant.
- All grazing agreements are subject to cancellation and rebate for the unexpired grazing period if adequate grass is unavailable for any reason.
- The applicant agrees to indemnify and save harmless Her Majesty from and against all claims, demands, loss, costs, damages, actions, suits or other proceedings by whomsoever made, bought, or prosecuted in any manner based upon, occasioned by, or, attributable to activities of the applicant, his employees, agents and/or his livestock under this agreement.
- The applicant may not assign or sublet any rights conferred by this agreement.
- Grazing approved by this agreement will be carried out to the full satisfaction of the officer responsible for authorizing agreements on behalf of the Minister.
- The Minister reserves the right to terminate the rights granted under this agreement by rebate of that portion of the grazing charges applicable to the unexpired portion of the grazing period shown above.

For MINISTER OF INDIAN AFFAIRS
AND NORTHERN DEVELOPMENT

_____, 197 _____ _____
(date) (signature of applicant)

Figure 5.

DEPARTMENT OF INDIAN AFFAIRS
AND NORTHERN DEVELOPMENT
-CANADIAN WILDLIFE SERVICE

CANADA

AGREEMENT NUMBER 101

AGREEMENT

under Public Lands Leasing and Licensing Regulations – P.C. 1969 – 2346

WILDLIFE AREA

(area) (province)

I, _____ OF _____
(name and initials) (post office address)

MAKE APPLICATION FOR AGREEMENT TO: _____
(specify activities)

_____

_____

ON WILDLIFE AREA LANDS DESCRIBED AS _____
(show land description)

_____

DURING PERIOD _____, 197__ to _____, 197 __

The applicant hereby agrees to indemnify Her Majesty from and against all claims, demands, loss, costs, damages, actions, suits or other proceedings by whomsoever made brought or prosecuted in any manner based upon, occasioned or attributable to activities of the applicant, his employees or agents described in this agreement.

For MINISTER OF INDIAN AFFAIRS
AND NORTHERN DEVELOPMENT

_____, 197 _____ _____
(date) (signature of applicant)

Table 1. Crop rotations on the Last Mountain Lake Wildlife Area

Location	1970	Proposed 1971	Cooperator	1970 Costs
E½ 15-27-24	30SF* & 30G	30G & 30SF		$ 330.00
SE 22-27-24	30SF & 30G	30G & 30SF		330.00
	Rock Picking		E. Baht	75.00
SW 26-27-24	30SF & 30G	30G & 30SF	F. Ulmer	330.00
NW 26-27-24	60G	30SF & 30G	E. Gustafson	210.00
W½ 1 & E½ 2-28-24	30SF & 30G	30G & 30SF		285.00
W½ 2-28-24	30G, 30SF & 55F	30SF & 30G	H. Gullacher	367.50
W½ 13-28-24	30SF & 30G	30G & 30SF		330.00
SE 24-28-24	30SF & 30G	30G & 30SF		285.00
SW 36 & NW 25-28-24	60G & 60SF	60SF & 60G		570.00
	Rock Picking		M. Gullacher	225.00
SW 31 & NW 30-28-23	30SF & 30G	30G & 30SF		330.00
NW 20-28-23	30G & 30SF	60F	C. Gingrich	330.00
SE 21-28-23	30SF & 30G	30G & 30SF	C. Johnson	330.00
Sec. 20-27-23	175F, 30G & 30SF	30SF & 30G	J. Campbell	723.75
S½ 32-27-23	30G & 30SF	30SF & 30G		330.00
SE 9-28-23	30SF & 30G	30G & 30SF		330.00
SW 34 & NW 27-28-23	-	100SF	A. Perry	Nil
NE 18 & NE 19-27-23	30G & 30SF	30SF & 30G		330.00
NW 8 & SW 17-27-23	30G & 30SF	30SF & 30G		330.00
	Rock Picking		C. Perry	75.00
			Total -	$6,446.25

*G - refers to grain

F - refers to forage

SF - refers to summerfallow

Table 2. Dates of Lure Crop Farming Operations, 1970.

Location	Seeding	Spraying	Swathing	Cleaned Up*	Remarks
E½ 15-27-24	May 26	June 20	Aug. 15	Sept. 15	Heavy use
SE 22-27-24	May 26	June 20	Aug. 15	Sept. 15	Heavy use
SW 26-27-24	May 18	June 15	Aug. 10	Sept. 30	
NW 26-27-24	May 25 & 26	June 18	Aug. 8 & 10	Sept. 30	
W½ 1 & E½ 2-28-24	May 18	June 18	Aug. 11	Sept. 15	
W½ 2-28-24	May 18	June 18	Aug. 11	Sept. 30	
W½ 13-28-24	May 19	June 18	Aug. 10	Sept. 15	Heavy use
SE 24-28-24	May 19	June 18	Aug. 11	Sept. 15	Heavy use
SW 36 & NW 25-28-24	May 20	June 18	Aug. 10	Sept. 15	Heavy use
SW 31 & NW 30-28-23	June 4	June 29	Aug. 20	Sept. 15	Heavy use
NW 20-28-23	June 5	June 29	Aug. 21	Oct. 15	
SE 21-28-23	May 29	June 20	Aug. 17	Sept. 15	
SE 9-28-23	May 19	June 20	Aug. 17	Sept. 15	Heavy use
S½ 32-27-23	May 19	June 20	Aug. 17	Sept. 30	
NE 19 & NE 18-27-23	May 18	June 20	Aug. 17	Sept. 15	Heavy use
SW 17 & NW 8-27-23	May 18	June 20	Aug. 17	Sept. 15	Heavy use
20-27-23	May 18	June 17	Aug. 17	Sept. 30	

* Clean up dates are approximate

Table 3. Kill Permits issued by Canadian Wildlife Service at Last Mountain Lake in 1970

Name	Date Issued	Location (all W2)	Species causing depredation
L. Greenfield	Aug. 23	SW 18-28-22*	Sandhill cranes
J. Rintoul	Aug. 26	NW 26 & SW 28-28-24	Sandhill cranes, mallards and pintails
C. Gingrich	Aug. 27	6-29-23	Sandhill cranes, mallards and pintails
B. Lakness	Aug. 27	SE 24-28-22*	Sandhill cranes
C. Lakness	Aug. 27	E½ 23-28-22*	Sandhill cranes
J. Lightle	Sept. 6	SE 21-28-24	Sandhill cranes
L. Brown	Sept. 8	14-25-29 W½ 11 & NW 2-29-26	Mallards and pintails
K. Hicks	Sept. 11	S½ 9-30-27 NW 27 & SE 28-29-27 W½ 27-28-27	Mallards and pintails

* Next to Wreford P.F.R.A. Pasture

Table 4. 1970 Hay Permits issued - Last Mountain Lake

Cooperator	Location	Tonnage	Fee
G. Harding	NW 9-28-23	40 tame	$ 160.00
R. Garner	W½ 25 & SW 36-28-24	100 tame	400.00
R. Allan	NE 25-28-24	80 tame	320.00
		5 wild	6.50
A. Greenfield	E½ 34, NW 27 & SW 35-28-23	50 tame	200.00
C. Perry	S½ 32, SW 28, E½ 19	40 tame	160.00
	E½ 18 & SE 30-27-23	15 wild	19.50
R. Ediger	N½ 28 & SW 33-28-23	20 tame	80.00
		5 wild	6.50
J. Turner	S½ 9 & E½ 8-28-23	25 tame	100.00
J. Cardinal	SW 12 & W½ 1-28-24	5 tame	20.00
	W½ 36 & E½ 35-27-24	15 wild	19.50
R. Reynolds	W½ 34 & NW 27-28-23	60 tame	240.00
R. Gullacher	NE 14-28-24	20 tame	80.00
		10 wild	13.00
L. Baht	N½ 22 & NW 15-27-24	50 tame	200.00
J. Van Damme	NW 14-28-24	45 tame	180.00
C. Davis	NE 5-28-23	40 tame	160.00
	NE 32, NE 7 & NW 8-27-23		
M. Gullacher	NW 2-28-24	43 tame	172.00
H. Stewart	NE 36-28-24	35 tame	140.00
P. Stewart	N½ of NW 36-28-24	17.5 tame	70.00
W. Waldow	SE 15-27-24	30 tame	120.00
R. Emde	SW 15-27-24	40 tame	160.00
E. Gustafson	N½ 26-27-24	10 tame	40.00
R. Hill	W½ 35-27-24	90 tame	360.00
W. Roney	SE 25-28-24	55 tame	220.00

Table 4. cont'd

Cooperator	Location	Tonnage	Fee
R. Easton	S½ of NW 36-28-24	40 tame	$ 160.00
Van-Rae Farms Ltd.	SW 23-28-24	90 tame	360.00
R. McFadyen	SE 6-27-23	15 tame	60.00
C. Gingrich	SE 36-28-24 W½ 31, NE 31 & NW 30-28-23	100 tame	400.00
R. Brewer	SE 7-27-23	30 tame	120.00
Lakness Bros.	SE 32-28-23	35 tame 5 wild	140.00 6.50
K. Webster	SW 22-27-24	10 tame	40.00
D. Kelln	SE 6-27-23	18 tame	72.00
Canadian Wildlife Service sub-total		1,233.5 tame 55 wild	$5,005.50
H. Smith	SE 15-28-23	15 wild	21.50
R. Lasher	SW 15-28-23	5 wild	8.50
C. Perry	W½ 21-27-23	10 wild	15.00
A. Perry	SE 21-28-23	10 tame	42.00
A. Stahl	S½ 28 & W½ 20-28-23	20 wild	28.00
J. Henry	E½ 19, SW 29 & NE 20-28-23	70 wild	93.00
J. Campbell	20-27-23	10 wild	15.00
G. Potts	NE 24-28-24	22 tame	90.00
Saskatchewan Department of Natural Resources sub-total		32 tame 130 wild	$ 313.00*
	GRAND TOTAL	1,265.5 tame 185 wild	$5,318.50

* Includes $2.00 permit fee

Table 5. 1970 Grazing Permits issued - Last Mountain Lake

Cooperator	Location	Period	No. of Livestock	Fee
A. Greenfield	NE 27-28-23	1.5.70 to 31.10.70	39 cows 10 calves & 2 horses	$ 338.40
R. Gullacher	SE 14 & NW 12-28-24	8.5.70 to 21.10.70	46 cows 25 calves & 2 bull (3 mos.)	394.50
E. Kerr	SE 2-29-23	1.6.70 to 31.10.70	10 cows	60.00
C. Gingrich	SE 31 & W½ 30-28-23	8.6.70 to 31.10.70	48 cows 40 calves & 1 bull (3 mos.)	412.80
L. Baht	NW 15-27-24	25.5.70 to 25.9.70	11 cows	52.80
C. Davis	SE 5-28-23	16.5.70 to 16.9.70	15 cows 1 bull & 15 calves	112.80
R. McFadyen	W½ 6-27-23	7.7.70 to 30.9.70	17 cows & 9 calves	77.40
W. Conlin	NE 16-28-23	1.8.70 to 30.9.70	8 horses	28.80
R. Watson	NW & E½ 16-28-23	1.6.70 to 1.10.70	28 cows & 24 calves	192.00
W. Watson	NW & E½ 16-28-23	1.7.70 to 1.10.70	11 cows & 5 calves	48.60
Canadian Wildlife Service Sub-total				$1,718.10
W. Henry, SW 27-28-23, special lease				50.00
Saskatchewan Dept. of Natural Resources Sub-total				50.00
			GRAND TOTAL	$1,768.10

Table 6. Disposal of surplus buildings - Last Mountain Lake

Location	Type of Building	Disposal*
SW 2-28-24	House	Sold
	Chicken House	"
	Large Granary	"
	Small Granary	"
	Garage	"
	Old Garage	"
NW 36-27-24	Hotel	Sold
	Storage Shed	"
	Out Houses	"
	Cabin and Garage	"
	Cabin	Sold and removed whole

* The final clean up date was set at March 15, 1971, so most buildings have not been removed at December 31, 1970.

Table 7. Numbers of Sandhill Cranes observed during aerial census at Last Mountain Lake in 1970

Date	Sandhill Cranes*
Aug. 31	3,810
Sept. 3	5,543
Sept. 4	5,614
Sept. 6	9,532
Sept. 8	7,115
Sept. 10	10,148

* All counts started one-half hour before sunrise