

HUNTING SEASON REPORT
WELLS GRAY PARK 1953
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I INTRODUCTION

The fall hunting season of 1953 in Wells Gray Park again allowed hunters to take one moose of either sex over one year of age. Season dates were from September 20th to November 30th with an extension to December 14th. This report deals with studies made during this hunting season and with comparisons of last year's hunt.

Checking stations were again operated at Hemp Creek, Mahood, Murtle, and Clearwater Lakes. At Hemp Creek, the checking station was staffed by Park Superintendent L. E. Cook, Assistant Ranger Don Gill, D. McQuaig, and R. Ritcey. Assistant Ranger C. Gaglardi, Patrolman Bob Miller, Jack Norman, and Otto Miller manned the lakes checking stations. The information in this report was gathered by these workers and was supplied by hunters and guides, who also supplied specimens of moose uteri and jawbones. The writer is grateful to all who were of assistance in this work. Mrs. R. Ritcey was responsible for summarizing and tabulating much of the information from hunter questionnaires.

TABLE I: SUMMARY OF GAME CHECKED IN WELLS GRAY PARK, FALL 1953

HEMP CREEK AND CLEARWATER LAKE CHECKING STATIONS

	Total	Male	Female
Moose	119	55	64
Deer	16	16	
Black bear	3	3	
Grizzly bear	3	2	1
Goat	3	1	2
Grouse	8		
Hunters	593		
Known illegal kill: 4 calf moose			
Days hunted per moose:	1952: 12.5		
	1953: 14.7		

MAHOOD LAKE CHECKING STATION

	Total	Male	Female
Moose	5	5	
Deer	4	4	
Hunters	57		

MURTLE LAKE CHECKING STATION

	Total	Male	Female
Moose	3		3
Deer	1	1	

TOTALS FOR PARK

Moose	127 (60 males, 67 females)
Deer	21
Black bear	3
Grizzly bear	3
Goat	3
Grouse	8
Hunters	660

II GAME HARVEST

Table I gives the total take of game in the park by regions, and a comparison of hunting success of this year and last in the south-central part of the park. It is noted that, which the take of moose is up, the success ratio is down; it took more effort this year to secure a moose than it did in the previous year. There was more guiding activity and hunters were generally more experienced than those of last year, so the decrease in the success rate is more serious than it at once apparent.

An increase in the success ratio for park visitors is necessary for an increase in the kill essential for proper management of the park moose herd. On the basis of spring track counts, and of survival to yearling age, it was estimated that 325 moose would be the minimum harvest which could be expected to keep the herd at its present numbers. Successional changes are decreasing the number of animals which can be wintered on key winter ranges and it is imperative that methods of cropping surpluses be found.

INCREASING THE HARVEST

Two methods of increasing the hunter-take of moose are obvious. The first would be to extend the season, and the second would be to increase the efficiency of hunting during the season now in effect. The extension of the season into the winter months presents certain problems and disadvantages and should not be attempted until a serious attempt to increase fall harvests is made. The main objection to winter hunting is that the aesthetic value of the hunt is materially decreased. As winter progresses, the physical condition of the moose becomes poorer, although in mild winters this may not be too serious a factor. The heaviest hunting pressure would be exerted on a few places where moose are relatively available for winter study, and winter work would thus be hampered.

The main problem in increasing the fall kill is to spread hunting pressure over a wider area. Questioning revealed that over fifty percent of the hunters entering the park through Hemp Creek hunted in an area comprising little more than thirty square miles. This area can be roughly described as the area contained between MacLeod Hill, Blackwater Creek, Pyramid Mountain, French Meadow, and Deer Creek. Hunting in this small area is not uniform and is concentrated in certain travelled zones. A system of trails or of roads and trails is necessary to open more hunting areas and to spread hunting pressure in regions used at present.

There are two main types of hunting carried on in the park. The first is by hunters who are strictly on their own and who generally confine their hunting to an area within three miles of road or water transportation. The second group employ guides to take them into territory farther from road or water transportation, and depend on horses for transportation of trophies and equipment.

It is impossible for either of these groups to effect an adequate harvest of the moose crop. The first group has such a restricted hunting territory that they alone cannot kill the desired percentage of the moose herd. The second group is restricted in that their numbers are too small to kill enough animals, although they range over a large area. If their numbers were increased to a great extent, their hunting success would decline, and they would no longer pay for the privilege of hunting the back country. A trail program should be designed to improve the hunting of both of these groups to ensure a maximum kill.

The choice hunting areas of low country are already serviced by trails of some sort, and are heavily hunted. Construction of trails in these places should be given low priority. A new trail to the Pyramid this year was the only access development for moose hunting. Kill in this region fell from twenty-four in the previous fall to nine this season (Table III). The decrease cannot be attributed to the presence of the trail but it is clear that the construction of this trail was not warranted as a hunting trail when other areas were in need of trail construction. Emphasis should be placed on opening somewhat poorer areas which are relatively inaccessible and are hardly hunted.

For all practical purposes, it can be said that elevations of 4000' and over are un hunted in the park as far as moose are concerned. Two regions above this elevation which would probably contribute considerably to the kill are the Kostal Lake flats and Indian Valley. Hunting here in the early season would alleviate pressure in the low country and late migrants would be killed as well as those moose which tend to migrate early.

IV TRAIL RECOMMENDATIONS

There have been several trails suggested by park personnel, guides, and hunters. The following trail system would probably be the minimum necessary to appreciably increase the moose kill in

the fall hunting season. Other uses of the trails are listed, and the trails are listed in order of priority.

1. Trail from south end of Clearwater Lake into the Cranberry Lake flats. Fire protection.
2. Trail from region of Zellar's Lake through the flats near Five Finger Lake and thence to Kostal Lake flats. Fire protection, scenery, access for biological work.
3. Trail from Murtle Lake trail near the northeast end of MacLeod Hill to Stevens Lakes, passing through Indian Valley. This work dependent on Battle Mountain extension. Access for biological work, fire protection, and scenery.
4. Extension of lookout trail on Green Mountain to the west side of Green Mountain.
5. Extension of Pyramid trail to Pyramid Lakes. Fishing, access for biological work.
6. Trail from Murtle River trail opposite Pyramid to the Murtle Lake trail near the southern end of MacLeod Hill. Use as track counting line in spring moose census.

V WINTER HUNTING SEASON

If hunting throughout the fall season does not produce an adequate harvest, it will be necessary to have a winter hunt on an experimental basis at least. The hunt should not be begun until the animals have begun to concentrate on their winter ranges and should be preceded by a reconnaissance to determine whether such a hunt would be likely to kill enough animals to make it a worthwhile undertaking.

The season should be terminated when the desired kill is achieved, or when the physical condition of the moose becomes too poor to make them attractive to the hunter.

Tagging regulations should be altered so that only a Park Division tag would be required for the special hunt. Game Commission tags from the previous season would not be valid, and if the hunter had to use a tag for the forthcoming season, he may be reluctant to enter the hunt.

Since the required kill and the actual kill of the fall season cannot be determined in advance, no recommendations on dates or length of the winter hunt can be made. However, the winter hunt should be separate from the fall season and not merely an extension of it. At present, only early migrants are being shot each year and in a restricted area. Delaying the winter hunt until late migrants have arrived would help distribute hunting pressure over a larger group of animals and lead ultimately to a larger kill.

VI CONDITION OF MOOSE

Moose were again in excellent shape throughout the hunting season with cows having heavy deposits of fat in body cavities and over the rump. Bulls were also in good condition but lacked the fat deposits of the females.

Fourteen cases believed to be hydatid infections were reported, suggesting that there is little decrease in the incidence of this parasite. Cysticerci were reported in seventeen cases but there is a strong probability that most cases of these larval tapeworms were overlooked.

Crippling loss is still believed to be low. Six hunters reported crippling moose this season. Several others mentioned firing at moose which they did not get, making it probably that there were other

cripples besides the ones reported as such. It is not known how many of the crippled animals survive. Two moose were taken which had previously been hit by bullets. One of these had a serious spinal injury which did not seem to affect its mobility. The other had only a superficial wound which would not cause any permanent disability. It is unlikely that crippling losses would exceed five percent of the legal kill.

Eight moose were reported as having been injured by fighting, which probably took place during the rutting season. These injuries included two cases of broken ribs, one of which showed internal scars, one had a broken leg, and one had split ears.

Of fifty-one cow moose which hunters examined for lactating condition, 10 had milk and 41 were without milk. The last case where a significant quantity of milk (about one cup) was reported in the udder was on October 5th. One cow still had a trace of milk in the udder on December 8th. It is possible that opening dates for cow moose should be delayed until the calves are more independent of the mother's milk supply. Further study is necessary to enable us to fix this date with some degree of accuracy. Of fifty-one hunters questioned on whether there was a calf with the cow they shot, thirteen, or twenty-five percent, answered yes.

Table II gives the sex and age classification of moose and deer from hunter sighting reports. The very small percentage of animals classified as calves, or as fawns in the case of deer, shows the inability of the hunter to age-classify game. In the spring of 1953, our moose inventory workers had similar difficulties. However, after winter losses, calves made up over twenty percent of the age-classified herd as compared to sixteen percent of the fall herd age classified by hunters. In the fall of 1953, eleven percent and four percent of the age classified moose and deer were young of the year. Such low figures for the calf and fawn crop show that hunters are obviously unable to age-classify moose or deer in most cases. Of adult moose classified, sixty percent were cows and forty percent bulls, compared with sixty-three percent and thirty-seven percent of last year.

There was an increase of 4.6" in the mean spread of antlers passing through the central checking stations. This is probably due in part to greater hunting activity in the previously lightly hunted country around Clearwater Lake. Mean antler spread of 48 bulls checked at Clearwater Lake and Hemp Creek was 35.6". The smallest recorded spread was 20 1/4" with the maximum being 58". Mean number of points was 7.12 for the left side and 7.02 for the right side. The mean maximum basal diameter of 40 specimens was 2.01" left and 1.95" right. Basal diameters were measured approximately 1/2 to 1 inch above the burr.

The first instance of shed antlers was on December 7th when a large bull was shot with both antlers missing. A second bull shot on that date had one antler so loosened that a slight kick was sufficient to remove it. Six bulls shot after this date had complete sets of antlers.

TABLE II: GAME SIGHTING RECORD OF HUNTERS CHECKED
AT HEMP CREEK - CLEARWATER LAKE

Moose		Deer	
Bulls	210	Bucks	107
Cows	320	Does	297
Calves	79	Fawns	22
Unclassified adults	91	Unclassified deer	71

Unclassified moose	112	Unclassified adults	8
Total	812	Total	505

TABLE III: HUNTING SUCCESS AT LOCAL HUNTING AREAS

Area	No. Hunters (1953)	Moose Taken		Success Ratio (1953)
		1952	1953	
Clearwater Lake	100	2	25	25%
Deer Creek	38	1	19	50%
Ray Place	95	7	1	1%
Green Mountain	32	10	6	19%
Blackwater - Murtle River Trail	62	12	5	8%
French Meadow	35	26	29	83%
Pyramid	163	24	9	5%
MacLeod Hill	21	13	11	52%

GRAPH I: MOOSE KILLED PER DAY IN TWO WEEK PERIODS THROUGH SEASON
HEMP CREEK - CLEARWATER LAKE

VII HUNTING SUCCESS

Graph I showing the moose kill per day by sex for two week periods throughout the season points out the kill differential favouring bulls in the early part of the season. This can be explained by greater activity during the rutting season. The reason for a second peak in the bull kill is not known. November and December were again the best hunting months. The daily kill rose in early November as it did last year, and this increase could not be attributed to heavier hunting pressure at that time. The arrival of early migrants on winter ranges probably accounts for the increase in hunting success.

Of one hundred and nineteen moose shot in the central district, twenty-eight were taken out by hunters themselves, eighty-six were brought out by packers or guides, and the remaining were unclassified as to method of transportation. The use of toboggans was attempted this year for bringing out kills, and found to be satisfactory when used on good trails.

VIII RESEARCH STUDIES

Moose uteri and jawbones were collected through the cooperation of guides and hunters. The collection was somewhat smaller than was hoped for, and additional effort will have to be made to ensure cooperation next year. The data on productivity obtained from study of jawbones and uteri is vital to a proper understanding of the population dynamics of our herd. The results of the study of this year's collection of jawbones and reproductive tracts will be given in a special report.

IX MULE DEER

The mule deer kill within the park was small, but increased from seventeen in 1952 to twenty-one in 1953. Most of these were killed in November, after the beginning of the rutting season and after movement to winter ranges had begun. Deer are shot mostly by moose hunters taking a second choice.

The mean antler spread of nine deer was 11.1" with the smallest being 6" and the largest 19.5". The mean number of points of eleven deer were 2.6 left and 2.5 right. No jawbones were collected but data from these few animals and from animals shot south of the park boundaries indicates that there is a large population of young animals in the herd, suggesting a rapidly increasing population. Deer sightings increased from 288 to 505, tending to confirm this belief.

X MOUNTAIN GOAT

Three goat were taken in the high country above Azure and Clearwater Lakes. None of these were trophy animals with the maximum horn length being 8".

Expected hunting pressure on goats in the region made accessible by the Clearwater Lake road did not materialize. The possibility still exists that the goats in this region may be seriously depleted by overhunting. For the present, it appears unlikely that unguided hunters will be a threat to the goat population. A restriction of four goats per season to parties of each holder of a Guiding Park Use Permit should ensure that these animals are not overhunted.

XI GRIZZLY

Three grizzly were killed during the fall hunt, two mature males and a mature female. All three were taken by guided hunters. One was shot on a moose kill, and there were reports of other grizzlies eating remains of moose killed in the French Meadow and Deer Creek areas. It is quite possible that hunting over moose kills could quite easily result in overshooting of the grizzly population. This is equivalent to hunting over a bait, a type of hunting which has proved destructive in other areas. Since guided hunters will probably be responsible for most of this type of hunting, restriction of guiding activity in regard to grizzly hunting should be sufficient to protect this animal. It is recommended that Guiding Park Use Permits restrict holders to a limit of two grizzly per year for their hunting parties.

While the above restrictions are purely arbitrary, the writer feels that they are necessary to protect the park goat and grizzly until further data is available for their management.

XII BLACK BEAR

Only three black bear were taken through the hunting season. Hunter interest in these animals is small and no efforts should be made to increase the kill as they are primarily a scenic attraction.

XIII SUMMARY AND RECOMMENDATIONS

The moose kill, although showing a slight increase over last year, was less than half of the take necessary for good management of the park moose population. The know illegal kill of calf moose was the same as in last season, and hunters are still unable to differentiate between calves and yearlings in many cases. The general condition of the moose was excellent.

Kill of other big game animals was light, but measures for the protection of goat and grizzly are needed.

It is recommended that:

1. A trail program be initiated to attempt to increase the moose kill and to develop access for recreation, fire protection, and study in the southern part of the park.
2. Moose hunting next year should be open from September 20th to December 15th, and th allow the hunting of any moose. If such a season does not produce the desired kill, a special winter season should be held, commencing some time in January.
3. Park Use Permits for guiding should restrict holders to allow their parties to take a maximum of four goats per season, and to take a maximum of two grizzly per year.
4. The Battle Mountain extension be brought into effect before next hunting season.