

WILDLIFE HABITAT MANAGEMENT IN WELLS GRAY PARK: PROGRESS AND EVALUATION

Ralph Ritcey 1971, Unpublished Report

INTRODUCTION:

This three-part report presents data and conclusions from a habitat improvement program carried out in Wells Gray Park from 1966 through 1971. The divisions are as follows:

Part I: a brief history, rationale, impressions, and conclusions to date, and provides a general picture for those not interested in specifics of the program.

Part II: a more detailed outline presenting data on burning conditions, techniques, and plant response, and serves to consolidate data that has been gathered.

Part III: a habitat management plan for the southern part of the park, advanced for consideration of the Parks Branch and the Fish and Wildlife Branch. This partitioning should help readers to reject sections irrelevant to their interest.

PART I

RATIONALE

Many forms of wildlife are dependent on early stages of forest succession and in order to maintain these species in abundance, it is necessary to perpetuate significant areas of young stages. In Wells Gray Park, moose and mule deer, as well as many lesser animal species, have declined in abundance because the low elevation burns on which they depend have grown too old to produce significant amounts of high quality winter forage. Further, because of fire protection efforts, the burns are no longer being renewed.

If varied plant and animals communities are to be maintained in the park, either natural fires will have to be permitted or a program of vegetation management will have to be implemented. It is probably unrealistic to expect that natural fires would be allowed to burn uncontrolled in the heavily used southern section of the park, but some fire is necessary to maintain biotic diversity. It is a legitimate management objective of the Parks Branch to maintain a varied flora and fauna within Wells Gray Park, including an abundance of big game animals and their dependent predator populations. Prescribed burning appears to be the best means of accomplishing this.

The Fish and Wildlife Branch has been involved because it has been responsible, with the Parks Branch, for regulations governing hunting in the park. There has been a high demand for animals in the park by hunters. It should be valid to attempt to meet this demand of a special group of recreationists by producing more animals, provided that the costs incurred (considering all resource values) do not exceed the benefits. The practical results obtained, and techniques learned, from prescribed burning in this area will be applicable to other areas in the province. The Fish and Wildlife Branch has no direct control of land, so the Wells Gray situation provides a unique opportunity to develop prescribed burning techniques with minimum interference from the Forest Service. A realistic assessment of Forest Service policy is that prescribed burning for wildlife winter range will be on a very restricted scale until it can be demonstrated that the risk of burning commercially-valuable timber is practically non-existent.

PROJECT ORIGIN

Wells Gray Provincial Park was established in 1939 as a class "B" park with wildlife, waterfalls, and wilderness as its major attractions. Deer and moose, numerous at the time the park was established, became less and less abundant with aging of the large burns that were their winter range. The decline in browse production responsible for lowered moose populations is well-documented as a result of ecological studies initiated by the Parks Branch in 1950 (Martin 1950; Edwards 1953; Ritcey 1965).

Concern was expressed by hunters, local residents of the park area, and by park personnel for the obvious decline of big game populations. In 1964, approval was obtained by the Director, Fish and Wildlife Branch, from the Minister of Recreation and Conservation, and from the Director, Parks Branch, to begin a program of prescribed burning to maintain Wells Gray winter ranges in a state of high productivity.

OBJECTIVES

It was soon realized that the first objective -- to maintain a high moose population in Wells Gray Park through winter range improvement -- was too narrow. The present objectives may be stated as follows:

- (1) To maintain early seral stages of forest succession at low elevations in Wells Gray Park, thus adding diversity to the park landscape and increasing wildlife populations dependent on early seral vegetation.
- (2) To observe and record broad vegetational changes induced by prescribed burning.
- (3) To record animal response to improved winter range.
- (4) To study techniques of controlled burning.

RESUME OF PROGRESS TO DATE

4,202 acres have been burned over in 10 locations during six fire sessions (Table I and Fig. II). The burned areas, with on possible exception, now produce more available winter forage than previous to the fires. All burns are used by game, either moderately or heavily. Winter use is heavier than summer use, although in one burn (foot of McLeod Hill) summer use has been heavy enough to severely inhibit growth of willows. Heavy use by domestic livestock in one burned area outside the park has resulted in virtual elimination of willow reproduction, and establishment of heavy weed growth. We have avoided construction of artificial fire guards in order to reduce costs and to prevent unnecessary landscape scarring. Burning areas and times were chosen so that the fires would be contained by physical barriers (rivers, creeks, etc.) or by different vegetation types with lesser inflammability. This method of fire control generally has been successful. Only one fire exceeded predesignated boundaries, and no significant damage was incurred in this incident.

There has been no noticeable erosion resulting from any of the burns, even in steep topography. Most burns in the steep areas were of low intensity and were carried out at a time when soil moisture was fairly high.

The fires have caused some scarring of the landscape and subsequent loss of aesthetic values. This loss should be of relatively short duration and a relatively small area is visible to most park

visitors. Burning the south end of Green Mountain resulted in a more attractive appearance with the enlargement of grassy openings and removal of decadent brushy vegetation.

Smoke haze from mid-summer burns has caused some deterioration of air quality over several weeks of time. Spring burning has caused little visual pollution because temperature inversions are rare during this period, and smoke is usually quickly dissipated. The spring burns have been carried out before heavy summer tourist use begins.

Direct costs of the prescribed burns have varied (see Part II) but, in general, they proved economical provided that two conditions were met:

- (1) No prior fuel preparation was necessary.
- (2) No artificial guards had to be constructed. As stated earlier, environmental damage is minimized when burns are carried out without these precautions.

A tentative conclusion from work to date is that much of the Wells Gray winter range will be unsuitable for economical burning (Part III). Mechanical treatment is suggested as an alternative method of habitat improvement in the areas unsuited to burning.

FIGURE 1: LOCATIONS OF PRESCRIBED BURNS IN WELLS GRAY PARK

	<u>acres</u>
1	63
2	30
3	125
4	725
5	152
6	507
7	2000
total:	4,202

TABLE I: LOW ELEVATION BURNS IN WELLS GRAY PARK 1966 - 1971

Year	Location	Month of Burning	Estimated acres covered by fire	
1966	foot of McLeod Hill lower Blackwater Creek	May	63	93
		July	<u>30</u>	
1967	McLeod Hill upper Blackwater Creek foot of Battle Mountain*	June, August	125	1,002
		July, August, September	725	
		August	<u>152</u>	
1968	Green Mountain northeast	May	507	
1969	Green Mountain south	May	800	
1970	Green Mountain south	May	250	
1971	Green Mountain southwest	May	<u>950</u>	
Total acreage			4,202	

* Incendiary - not connected with the burning program